

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: 76740020095007 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (600)  
Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:05	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
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	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

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Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Alksniš i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (462)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:49	08:13	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:21	08:22
	15:46	16:43	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:23	08:24
	15:48	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:42
3	08:48	08:09	07:04	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:46	16:30	15:41
4	08:48	08:07	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	21:00	21:54	22:05	21:20	20:04	18:44	16:28	15:41
5	08:47	08:05	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:29
	15:52	16:52	17:54	19:59	21:02	21:56	22:05	21:17	20:01	18:41	16:25	15:40
6	08:47	08:03	06:56	06:34	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:04	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:01	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:28	07:34	08:32
	15:54	16:57	17:59	20:03	21:06	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:35	05:27	06:29	07:30	07:36	08:33
	15:56	16:59	18:01	20:06	21:08	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:45	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:32	07:38	08:34
	15:58	17:01	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:31	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:34	07:40	08:36
	15:59	17:03	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:38	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:18	22:04	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:49	08:41
	16:06	17:12	18:13	20:18	21:20	22:04	21:56	20:57	19:37	18:18	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:51	08:42
	16:08	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:36
16	08:38	07:41	06:30	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:43
	16:10	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:12	16:04	15:36
17	08:37	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:27	18:07	16:01	15:36
19	08:34	07:33	06:22	06:00	04:53	04:23	04:51	05:49	06:51	07:53	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:33	07:31	06:19	05:57	04:52	04:23	04:52	05:51	06:53	07:55	08:01	08:46
	16:18	17:26	18:26	20:31	21:31	22:08	21:47	20:43	19:21	18:02	15:57	15:37
21	08:31	07:29	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:19	18:00	15:56	15:37
22	08:30	07:26	06:14	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:54	15:38
23	08:28	07:24	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:27	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:35	18:34	20:39	21:38	22:08	21:41	20:33	19:10	17:53	15:51	15:39
25	08:25	07:19	06:06	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:40	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:39	20:43	21:41	22:08	21:37	20:27	19:05	17:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:40	04:26	05:04	06:05	07:07	08:09	08:15	08:49
	16:32	17:41	18:41	20:45	21:43	22:08	21:35	20:25	19:02	17:46	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:17	08:49
	16:35	17:43	18:43	20:47	21:44	22:08	21:34	20:22	19:00	17:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:19	08:49
	16:37		19:45	20:49	21:46	22:08	21:32	20:20	18:57	17:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:48	22:07	21:30	20:17	18:54	17:39	15:44	15:44
31	08:15		06:49		04:35		05:12	06:13		07:18		08:49
	16:41		19:49		21:49		21:28	20:15		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

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0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Apšaukums - Shadow Receptor: 1,0 x 1,0 Azimuth: 3,1° Slope: 90,0° (606)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:34	04:29	05:14	06:15	07:15	07:20	08:22
	15:47	16:43	17:46	19:51	20:53	21:50	22:06	21:25	20:12	18:52	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:46	16:30	15:42
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:34	05:19	04:29	04:33	05:24	06:25	07:25	07:31	08:30
	15:53	16:55	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:26	06:27	07:27	07:33	08:31
	15:55	16:57	17:59	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:51	06:28	05:15	04:28	04:35	05:28	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:26	05:13	04:27	04:37	05:30	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:38
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:34	07:40	08:35
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:37
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:05	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:10	15:36
14	08:40	07:45	06:35	06:13	05:03	04:25	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:13	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:18	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:35	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:37
19	08:34	07:33	06:21	06:00	04:54	04:24	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:53	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:58	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:58	15:54	15:38
23	08:28	07:24	06:11	05:50	04:47	04:24	04:58	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:25	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:52	15:39
25	08:25	07:19	06:05	05:45	04:44	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:40
26	08:23	07:16	06:03	05:43	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:09	08:14	08:48
	16:33	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:46	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:07	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:43	20:47	21:44	22:07	21:33	20:22	19:00	16:43	15:47	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Apšūpes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (478)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March		April	May	June	July	August	September		October		November	December	
1	08:48	08:12	07:09		06:47	05:30	04:34	04:28	05:14	06:15		07:15		18:03 (PrRR3)	07:20	08:22
	15:46	16:43	17:45		19:51	20:53	21:50	22:06	21:25	20:12		18:51	17	18:20 (PrRR3)	16:34	15:43
2	08:48	08:10	07:06		06:44	05:28	04:33	04:29	05:16	06:17		07:17		18:05 (PrRR3)	07:22	08:23
	15:47	16:45	17:48		19:53	20:55	21:51	22:06	21:23	20:09		18:49	14	18:19 (PrRR3)	16:32	15:42
3	08:48	08:08	07:03		06:41	05:26	04:32	04:30	05:17	06:19		07:19		18:07 (PrRR3)	07:25	08:25
	15:49	16:48	17:50		19:55	20:57	21:53	22:05	21:21	20:06		18:46	9	18:16 (PrRR3)	16:30	15:41
4	08:47	08:06	07:01		06:39	05:24	04:31	04:31	05:19	06:21		07:21			07:27	08:27
	15:50	16:50	17:52		19:57	20:59	21:54	22:05	21:19	20:04		18:43			16:27	15:40
5	08:47	08:04	06:58		06:36	05:21	04:30	04:32	05:21	06:23		07:23			07:29	08:28
	15:51	16:52	17:54		19:59	21:01	21:55	22:04	21:17	20:01		18:41			16:25	15:40
6	08:46	08:02	06:56		06:33	05:19	04:29	04:33	05:23	06:25		07:25			07:31	08:30
	15:53	16:54	17:56		20:01	21:03	21:57	22:03	21:15	19:59		18:38			16:23	15:39
7	08:46	08:00	06:53		06:31	05:17	04:28	04:34	05:25	06:27		07:27			07:33	08:31
	15:54	16:57	17:58		20:03	21:05	21:58	22:03	21:13	19:56		18:36			16:21	15:38
8	08:45	07:58	06:50		06:28	05:15	04:27	04:35	05:27	06:29		07:29			07:35	08:33
	15:56	16:59	18:00		20:05	21:07	21:59	22:02	21:11	19:53		18:33			16:19	15:38
9	08:44	07:56	06:48		06:25	05:13	04:27	04:36	05:29	06:31		07:31			07:38	08:34
	15:58	17:01	18:03		20:07	21:09	22:00	22:01	21:08	19:51		18:30			16:17	15:37
10	08:44	07:54	06:45		06:23	05:11	04:26	04:37	05:31	06:33		07:33			07:40	08:35
	15:59	17:03	18:05	6	17:37 (PrRR3)	20:09	21:11	22:01	22:00	21:06		19:48			16:15	15:37
11	08:43	07:52	06:43		06:20	05:09	04:25	04:39	05:33	06:35		07:36			07:42	08:37
	16:01	17:06	18:07	12	17:39 (PrRR3)	20:12	21:13	22:02	21:59	21:04		19:45			16:13	15:37
12	08:42	07:49	06:40		06:18	05:06	04:25	04:40	05:35	06:37		07:38			07:44	08:38
	16:03	17:08	18:09	15	17:40 (PrRR3)	20:14	21:15	22:03	21:58	21:01		19:43			16:11	15:36
13	08:41	07:47	06:37		06:15	05:04	04:24	04:41	05:37	06:39		07:40			07:46	08:39
	16:04	17:10	18:11	19	17:43 (PrRR3)	20:16	21:17	22:03	21:57	20:59		19:40			16:09	15:36
14	08:40	07:45	06:35		06:12	05:03	04:24	04:43	05:39	06:41		07:42			07:48	08:40
	16:06	17:12	18:13	21	17:44 (PrRR3)	20:18	21:19	22:04	21:55	20:57		19:37			16:07	15:36
15	08:39	07:43	06:32		06:10	05:01	04:24	04:44	05:41	06:43		07:44			07:50	08:41
	16:08	17:15	18:15	23	17:44 (PrRR3)	20:20	21:21	22:05	21:54	20:54		19:34			16:06	15:36
16	08:38	07:40	06:29		06:07	04:59	04:24	04:46	05:43	06:45		07:46			07:53	08:42
	16:10	17:17	18:17	23	17:45 (PrRR3)	20:22	21:23	22:05	21:53	20:52		19:32			16:04	15:36
17	08:36	07:38	06:27		06:05	04:57	04:23	04:47	05:45	06:47		07:48			07:55	08:43
	16:12	17:19	18:20	23	17:44 (PrRR3)	20:24	21:25	22:06	21:51	20:50		19:29			16:02	15:36
18	08:35	07:36	06:24		06:02	04:55	04:23	04:49	05:47	06:49		07:50			07:57	08:44
	16:14	17:21	18:22	24	17:44 (PrRR3)	20:26	21:27	22:06	21:50	20:47		19:26			16:00	15:36
19	08:34	07:33	06:21		06:00	04:53	04:23	04:51	05:49	06:51		07:52		18:15 (PrRR3)	07:59	08:45
	16:16	17:23	18:24	23	17:43 (PrRR3)	20:28	21:29	22:07	21:49	20:45	4	18:19 (PrRR3)		18:10 (PrRR3)	15:59	15:36
20	08:32	07:31	06:19		05:57	04:51	04:23	04:52	05:51	06:53		07:54		18:10 (PrRR3)	08:01	08:45
	16:18	17:26	18:26	21	17:42 (PrRR3)	20:30	21:30	22:07	21:47	20:42	13	18:23 (PrRR3)		18:23 (PrRR3)	15:57	15:37
21	08:31	07:28	06:16		05:55	04:50	04:23	04:54	05:53	06:55		07:57		18:08 (PrRR3)	08:03	08:46
	16:20	17:28	18:28	20	17:41 (PrRR3)	20:32	21:32	22:07	21:45	20:40	16	18:24 (PrRR3)		18:24 (PrRR3)	15:56	15:37
22	08:29	07:26	06:13		05:52	04:48	04:24	04:56	05:55	06:57		07:59		18:06 (PrRR3)	08:05	08:47
	16:22	17:30	18:30	17	17:39 (PrRR3)	20:34	21:34	22:08	21:44	20:37	19	18:25 (PrRR3)		18:25 (PrRR3)	15:54	15:38
23	08:28	07:24	06:11		05:50	04:46	04:24	04:57	05:57	06:59		08:01		18:05 (PrRR3)	08:07	08:47
	16:24	17:32	18:32	14	17:38 (PrRR3)	20:36	21:36	22:08	21:42	20:35	21	18:26 (PrRR3)		18:26 (PrRR3)	15:53	15:38
24	08:26	07:21	06:08		05:47	04:45	04:24	04:59	05:59	07:01		08:03		18:04 (PrRR3)	08:09	08:47
	16:26	17:34	18:34	7	17:34 (PrRR3)	20:39	21:38	22:08	21:40	20:32	22	18:26 (PrRR3)		18:26 (PrRR3)	15:51	15:39
25	08:25	07:19	06:05		05:45	04:43	04:25	05:01	06:01	07:03		08:03		18:03 (PrRR3)	08:11	08:48
	16:28	17:37	18:36		20:41	21:39	22:08	21:39	20:30	19:08	23	18:26 (PrRR3)		18:26 (PrRR3)	15:50	15:39
26	08:23	07:16	06:03		05:42	04:42	04:25	05:03	06:03	07:05		08:03		18:03 (PrRR3)	08:13	08:48
	16:30	17:39	18:38		20:43	21:41	22:08	21:37	20:27	19:05	23	18:26 (PrRR3)		18:26 (PrRR3)	15:49	15:40
27	08:21	07:14	06:00		05:40	04:40	04:25	05:04	06:05	07:07		08:02		18:02 (PrRR3)	08:15	08:48
	16:32	17:41	18:40		20:45	21:43	22:08	21:35	20:25	19:02	24	18:26 (PrRR3)		18:26 (PrRR3)	15:47	15:41
28	08:20	07:11	05:57		05:38	04:39	04:26	05:06	06:07	07:09		08:02		18:02 (PrRR3)	08:16	08:48
	16:34	17:43	18:42		20:47	21:44	22:07	21:33	20:22	18:59	23	18:25 (PrRR3)		18:25 (PrRR3)	15:46	15:42
29	08:18		06:55		05:35	04:38	04:27	05:08	06:09	07:11		08:02		18:02 (PrRR3)	08:18	08:49
	16:37		19:45		20:49	21:46	22:07	21:31	20:20	18:57	22	18:24 (PrRR3)		18:24 (PrRR3)	15:45	15:43
30	08:16		06:52		05:33	04:36	04:27	05:10	06:11	07:13		08:03		18:03 (PrRR3)	08:20	08:49
	16:39		19:47		20:51	21:47	22:07	21:29	20:17	18:54	20	18:23 (PrRR3)		18:23 (PrRR3)	15:44	15:44
31	08:14		06:49			04:35		05:12	06:13							08:48
	16:41		19:49			21:49		21:27	20:14							15:45
Potential sun hours	236	266	366		426	507	528	529	469	384		324			248	217
Total, worst case				268						230		40				
Sun reduction				0,39						0,43		0,29				
Oper. time red.				1,00						1,00		1,00				
Wind dir. red.				1,00						1,00		1,00				
Total reduction				0,39						0,43		0,29				
Total, real				105						99		12				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Atvasites - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (553)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:15	06:17	07:17	07:22	08:23
	15:47	16:45	17:47	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:05	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:02	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
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	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:00	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:05	15:36
16	08:37	07:40	06:29	06:07	04:59	04:23	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Avenes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (567)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:29 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:24 21:15	06:25 20:01	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:02	05:26 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:28 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	04:27 22:00	04:37 22:01	05:29 21:08	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:38
10	08:43 15:59	07:54 17:04	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:02	04:40 21:58	05:35 21:01	06:37 19:43	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:56	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:13 20:18	05:03 21:19	04:25 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:54	06:43 19:35	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	04:53 21:29	04:24 22:07	04:51 21:48	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:30	04:24 22:07	04:53 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:07	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:58	08:05 15:54	08:46 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	04:47 21:36	04:24 22:08	04:58 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37	04:25 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:08	08:05 16:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:40	05:40 20:45	04:41 21:42	04:26 22:07	05:05 21:35	06:05 20:25	07:07 19:02	08:09 16:46	08:14 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:43	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 19:00	08:12 16:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:45	04:27 22:07	05:08 21:31	06:09 20:20	07:11 18:57	08:14 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:48		05:12 21:27	06:13 20:14	07:18 16:36			08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Avenaji - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (605)  
Assumptions for shadow calculationsSunshine probability S (Average daily sunshine hours) []  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59No operational time reduction. It is assumed the WTGs are always running  
with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:46 23	10:02 (PrRR3) 10:25 (PrRR3) 16:43	08:13 17:46 17:46	06:47 19:51 20:53	05:31 21:50 21:50	04:34 22:07 21:26	04:28 22:07 21:26	05:14 22:07 21:26	06:15 20:12 18:52	07:15 18:52 16:34	07:20 18:52 16:34	08:22 15:43 17
2	08:48 15:48 23	10:02 (PrRR3) 10:25 (PrRR3) 16:46	08:11 17:48 17:48	06:44 19:53 20:55	05:28 21:52 21:52	04:33 22:06 21:24	04:29 22:06 21:24	05:16 22:09 18:49	06:17 20:09 18:49	07:17 18:49 16:32	07:23 18:49 16:32	08:24 15:42 19
3	08:48 15:49 23	10:03 (PrRR3) 10:26 (PrRR3) 16:48	08:09 17:50 17:50	06:41 19:55 20:57	05:26 21:53 21:53	04:32 22:06 21:22	04:30 22:06 21:22	05:18 22:07 18:46	06:19 20:07 18:46	07:19 18:46 16:30	07:25 18:46 16:30	08:25 15:41 20
4	08:48 15:50 23	10:03 (PrRR3) 10:26 (PrRR3) 16:50	08:07 17:52 17:52	06:39 19:57 20:59	05:24 21:54 21:54	04:31 22:05 21:19	04:31 22:05 21:19	05:20 22:04 21:17	06:21 20:04 18:41	07:21 18:44 16:27	07:27 18:44 16:27	08:27 15:41 20
5	08:47 15:52 22	10:04 (PrRR3) 10:26 (PrRR3) 16:52	08:05 17:54 17:54	06:36 19:59 21:01	05:22 21:56 21:56	04:30 22:04 21:17	04:32 22:04 21:17	05:21 20:01 18:41	06:23 20:01 18:41	07:23 18:41 16:25	07:29 18:41 16:25	08:29 15:40 21
6	08:47 15:53 22	10:05 (PrRR3) 10:27 (PrRR3) 16:54	08:03 17:56 17:56	06:33 20:01 21:04	05:19 21:04 21:57	04:29 22:04 21:15	04:33 22:04 21:15	05:23 19:59 18:38	06:25 19:59 18:38	07:25 18:38 16:23	07:31 18:38 16:23	08:30 15:39 22
7	08:46 15:54 21	10:06 (PrRR3) 10:27 (PrRR3) 16:57	08:01 17:58 17:58	06:31 20:03 21:06	05:17 21:06 21:58	04:28 22:03 21:13	04:34 22:03 21:13	05:25 19:56 18:36	06:27 19:56 18:36	07:27 18:36 16:21	07:33 18:36 16:21	08:32 15:38 22
8	08:45 15:56 21	10:06 (PrRR3) 10:27 (PrRR3) 16:59	07:58 18:01 18:01	06:28 20:05 21:08	05:15 21:08 21:59	04:27 22:02 21:11	04:35 22:02 21:11	05:27 19:53 18:33	06:29 19:53 18:33	07:30 18:33 16:19	07:36 18:33 16:19	08:33 15:38 23
9	08:45 15:58 20	10:07 (PrRR3) 10:27 (PrRR3) 17:01	07:56 18:03 18:03	06:26 20:08 21:10	05:13 21:10 22:00	04:27 22:01 21:09	04:36 22:01 21:09	05:29 19:51 18:30	06:31 19:51 18:30	07:32 18:30 16:17	07:38 18:30 16:17	08:34 15:37 23
10	08:44 15:59 19	10:08 (PrRR3) 10:27 (PrRR3) 17:03	07:54 18:05 18:05	06:23 20:10 21:12	05:11 21:12 22:01	04:26 22:01 21:06	04:38 22:01 21:06	05:31 19:48 18:28	06:33 19:48 18:28	07:34 18:28 16:15	07:40 18:28 16:15	08:36 15:37 23
11	08:43 16:01 18	10:08 (PrRR3) 10:26 (PrRR3) 17:06	07:52 18:07 18:07	06:20 20:12 21:14	05:09 21:14 22:02	04:26 21:59 21:04	04:39 21:59 21:04	05:33 19:45 18:25	06:35 19:45 18:25	07:36 18:25 16:13	07:42 18:25 16:13	08:37 15:37 23
12	08:42 16:03 15	10:10 (PrRR3) 10:25 (PrRR3) 17:08	07:50 18:09 18:09	06:18 20:14 21:16	05:07 21:16 22:03	04:25 21:58 21:02	04:40 21:58 21:02	05:35 19:43 18:23	06:37 19:43 18:23	07:38 18:23 16:11	07:44 18:23 16:11	08:38 15:36 24
13	08:41 16:04 14	10:11 (PrRR3) 10:25 (PrRR3) 17:10	07:47 18:11 18:11	06:15 20:16 21:17	05:05 21:17 22:04	04:25 21:57 20:59	04:42 21:57 20:59	05:37 19:40 18:20	06:39 19:40 18:20	07:40 18:20 16:09	07:46 18:20 16:09	08:39 15:36 24
14	08:40 16:06 11	10:13 (PrRR3) 10:24 (PrRR3) 17:12	07:45 18:13 18:13	06:13 20:18 21:19	05:03 21:19 22:04	04:24 21:56 20:57	04:43 21:56 20:57	05:39 19:37 18:18	06:41 19:37 18:18	07:42 18:18 16:07	07:49 18:18 16:07	08:40 15:36 24
15	08:39 16:08 7	10:15 (PrRR3) 10:22 (PrRR3) 17:15	07:43 18:15 18:15	06:10 20:20 21:21	05:01 21:21 22:05	04:24 21:54 20:55	04:44 21:54 20:55	05:41 19:35 18:15	06:43 19:35 18:15	07:44 18:15 16:06	07:51 18:15 16:06	08:41 15:36 24
16	08:38 16:10 17	10:16 (PrRR3) 10:23 (PrRR3) 17:17	07:42 18:18 18:18	06:09 20:21 21:22	05:00 21:22 22:06	04:24 21:53 20:52	04:44 21:53 20:52	05:41 19:32 18:12	06:44 19:32 18:12	07:45 18:12 16:04	07:52 18:12 16:04	08:42 15:36 24
17	08:37 16:12 18	10:17 (PrRR3) 10:24 (PrRR3) 17:19	07:41 18:20 18:20	06:08 20:22 21:25	04:59 21:25 22:06	04:24 21:52 20:50	04:44 21:52 20:50	05:41 19:29 18:10	06:45 19:29 18:10	07:46 18:10 16:02	07:53 18:10 16:02	08:43 15:36 24
18	08:35 16:14 19	10:18 (PrRR3) 10:25 (PrRR3) 17:21	07:40 18:22 18:22	06:07 20:23 21:27	04:58 21:27 22:07	04:23 21:50 20:47	04:49 21:50 20:47	05:47 19:27 18:07	06:49 19:27 18:07	07:50 18:07 16:01	07:57 18:07 16:01	08:44 15:36 26
19	08:34 16:16 20	10:19 (PrRR3) 10:26 (PrRR3) 17:22	07:39 18:24 18:24	06:06 20:24 21:29	04:57 21:29 22:07	04:23 21:49 20:45	04:51 21:49 20:45	05:49 19:24 18:05	06:51 19:24 18:05	07:52 18:05 15:59	07:59 18:05 15:59	08:45 15:36 28
20	08:33 16:18 21	10:20 (PrRR3) 10:27 (PrRR3) 17:23	07:38 18:26 18:26	06:05 20:25 21:31	04:56 21:31 22:07	04:23 21:47 20:43	04:52 21:47 20:43	05:51 19:21 18:02	06:53 19:21 18:02	07:53 18:02 15:57	08:01 18:02 15:57	08:46 15:37 29
21	08:31 16:20 22	10:21 (PrRR3) 10:28 (PrRR3) 17:24	07:37 18:28 18:28	06:04 20:26 21:33	04:55 21:33 22:08	04:23 21:46 20:40	04:53 21:46 20:40	05:53 19:18 18:00	06:55 19:18 18:00	07:54 18:00 15:56	08:03 18:00 15:56	08:47 15:37 29
22	08:30 16:22 23	10:22 (PrRR3) 10:29 (PrRR3) 17:25	07:36 18:30 18:30	06:03 20:27 21:36	04:54 21:36 22:08	04:23 21:44 20:38	04:54 21:44 20:38	05:55 19:16 17:58	06:57 19:16 17:58	07:55 18:00 15:54	08:05 18:00 15:54	08:48 15:38 30
23	08:28 16:24 24	10:23 (PrRR3) 10:30 (PrRR3) 17:26	07:35 18:32 18:32	06:02 20:28 21:37	04:53 21:37 22:08	04:23 21:42 20:35	04:55 21:42 20:35	05:57 19:13 17:55	06:59 19:13 17:55	07:56 18:00 15:53	08:07 18:00 15:53	08:49 15:38 29
24	08:27 16:26 25	10:24 (PrRR3) 10:31 (PrRR3) 17:27	07:34 18:34 18:34	06:01 20:29 21:38	04:52 21:38 22:08	04:24 21:41 20:33	04:56 21:41 20:33	05:59 19:10 17:53	07:01 19:10 17:53	08:03 18:00 15:51	08:09 18:00 15:51	08:50 15:39 29
25	08:25 16:28 26	10:25 (PrRR3) 10:32 (PrRR3) 17:28	07:33 18:36 18:36	06:00 20:30 21:41	04:51 21:41 22:08	04:25 21:39 20:30	04:57 21:39 20:30	05:59 19:08 16:50	07:03 19:08 16:50	08:05 18:00 15:50	08:11 18:00 15:50	08:51 15:39 26
26	08:23 16:30 27	10:26 (PrRR3) 10:33 (PrRR3) 17:29	07:32 18:38 18:38	06:00 20:31 21:42	04:50 21:42 22:08	04:26 21:37 20:27	04:58 21:37 20:27	05:59 19:05 16:48	07:04 19:05 16:48	08:06 18:00 15:49	08:12 18:00 15:49	08:52 15:40 25
27	08:22 16:32 28	10:27 (PrRR3) 10:34 (PrRR3) 17:30	07:31 18:41 18:41	06:00 20:32 21:43	04:49 21:43 22:08	04:27 21:35 20:25	04:59 21:35 20:25	05:59 19:02 16:46	07:05 19:02 16:46	08:07 18:00 15:48	08:13 18:00 15:48	08:53 15:41 24
28	08:20 16:35 29	10:28 (PrRR3) 10:35 (PrRR3) 17:31	07:30 18:43 18:43	06:00 20:33 21:44	04:48 21:44 22:08	04:28 21:33 20:22	04:59 21:33 20:22	05:59 19:00 16:43	07:06 19:00 16:43	08:08 18:00 15:46	08:14 18:00 15:46	08:54 15:42 24
29	08:18 16:37 30	10:29 (PrRR3) 10:36 (PrRR3) 17:32	07:29 18:45 18:45	06:00 20:34 21:45	04:47 21:45 22:08	04:29 21:32 20:20	04:59 21:32 20:20	05:59 18:57 16:41	07:07 18:57 16:41	08:09 18:00 15:45	08:15 18:00 15:45	08:55 15:43 24
30	08:16 16:39 31	10:30 (PrRR3) 10:37 (PrRR3) 17:33	07:28 18:46 18:46	06:00 20:35 21:46	04:46 21:46 22:08	04:30 21:30 20:17	04:59 21:30 20:17	05:59 18:54 16:39	07:08 18:54 16:39	08:10 18:00 15:44	08:16 18:00 15:44	08:56 15:44 24
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case	282									45		747
Sun reduction	0,13									0,08		0,08
Oper. time red.	1,00									1,00		1,00
Wind dir. red.	1,00									1,00		1,00
Total reduction	0,13									0,08		0,08
Total, real	38									3		63

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Avoti - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (490)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:57	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:05	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:02	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:00	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		05:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Avotini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (412)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February		March	April	May	June	July	August	September	October		November		December
1	08:48	08:12		07:09	06:47	05:31	04:35	04:29	05:14	06:16	07:15		07:20	15:51 (DD3)	08:22
	15:47	16:44		17:46	19:51	20:53	21:50	22:06	21:26	20:12	18:52		16:35	10 16:01 (DD3)	15:44
2	08:48	08:11		07:06	06:44	05:29	04:34	04:30	05:16	06:18	07:17		07:23	15:52 (DD3)	08:23
	15:48	16:46		17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49		16:32	6 15:58 (DD3)	15:43
3	08:48	08:09		07:04	06:42	05:27	04:33	04:31	05:18	06:20	07:19		07:25		08:25
	15:50	16:48		17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:47		16:30		15:42
4	08:47	08:07		07:01	06:39	05:24	04:32	04:32	05:20	06:22	07:22		07:27		08:27
	15:51	16:51		17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44		16:28		15:41
5	08:47	08:05		06:59	06:36	05:22	04:31	04:33	05:22	06:24	07:24		07:29		08:28
	15:52	16:53		17:55	19:59	21:01	21:55	22:04	21:17	20:01	18:41		16:26		15:40
6	08:46	08:03		06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26		07:31		08:30
	15:54	16:55		17:57	20:01	21:03	21:56	22:03	21:15	19:59	18:39		16:24		15:40
7	08:46	08:00		06:53	06:31	05:18	04:29	04:35	05:26	06:28	07:28		07:33		08:31
	15:55	16:57		17:59	20:04	21:05	21:58	22:03	21:13	19:56	18:36		16:22		15:39
8	08:45	07:58		06:51	06:29	05:16	04:28	04:36	05:28	06:30	07:30		07:36		08:33
	15:57	16:59		18:01	20:06	21:07	21:59	22:02	21:11	19:54	18:33		16:20		15:39
9	08:44	07:56	7	16:22 (DD3)	06:48	06:26	05:13	04:28	04:37	05:30	06:32	07:32	07:38		08:34
	15:58	17:02		16:29 (DD3)	18:03	20:08	21:09	22:00	22:01	21:08	19:51	18:31	16:18		15:38
10	08:44	07:54		16:21 (DD3)	06:46	06:23	05:11	04:27	04:38	05:32	06:34	07:34	07:40		08:35
	16:00	17:04	11	16:32 (DD3)	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:16		15:38
11	08:43	07:52		16:19 (DD3)	06:43	06:21	05:09	04:26	04:40	05:34	06:36	07:36	07:42		08:37
	16:02	17:06	15	16:34 (DD3)	18:07	20:12	21:13	22:02	21:59	21:04	19:46	18:26	16:14		15:37
12	08:42	07:50		16:19 (DD3)	06:40	06:18	05:07	04:26	04:41	05:36	06:38	07:38	07:44		08:38
	16:03	17:08	18	16:37 (DD3)	18:09	20:14	21:15	22:02	21:58	21:02	19:43	18:23	16:12		15:37
13	08:41	07:47		16:18 (DD3)	06:38	06:16	05:05	04:25	04:42	05:38	06:40	07:40	07:46		08:39
	16:05	17:11	21	16:39 (DD3)	18:12	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:10		15:37
14	08:40	07:45		16:17 (DD3)	06:35	06:13	05:03	04:25	04:44	05:40	06:42	07:42	07:48		08:40
	16:07	17:13	21	16:38 (DD3)	18:14	20:18	21:19	22:04	21:55	20:57	19:37	18:18	16:08		15:37
15	08:39	07:43		16:18 (DD3)	06:32	06:10	05:01	04:25	04:45	05:42	06:44	07:44	07:51		08:41
	16:09	17:15	21	16:39 (DD3)	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06		15:37
16	08:38	07:41		16:17 (DD3)	06:30	06:08	04:59	04:24	04:47	05:44	06:45	07:46	07:53		08:42
	16:11	17:17	22	16:39 (DD3)	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:05		15:37
17	08:36	07:38		16:18 (DD3)	06:27	06:05	04:58	04:24	04:48	05:46	06:47	07:48	07:55		08:43
	16:13	17:20	21	16:39 (DD3)	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:03		15:37
18	08:35	07:36		16:17 (DD3)	06:24	06:03	04:56	04:24	04:50	05:48	06:49	07:50	07:57		08:44
	16:14	17:22	21	16:38 (DD3)	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:01		15:37
19	08:34	07:33		16:18 (DD3)	06:22	06:00	04:54	04:24	04:51	05:50	06:51	07:53	9 16:54 (DD3)	07:59	08:45
	16:16	17:24	20	16:38 (DD3)	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	17:03 (DD3)	16:00	15:37
20	08:32	07:31		16:19 (DD3)	06:19	05:58	04:52	04:24	04:53	05:52	06:53	07:55	16:52 (DD3)	08:01	08:45
	16:18	17:26	18	16:37 (DD3)	18:26	20:30	21:31	22:07	21:47	20:43	19:21	18:03	17:06 (DD3)	15:58	15:38
21	08:31	07:29		16:20 (DD3)	06:16	05:55	04:50	04:24	04:55	05:54	06:55	07:57	16:50 (DD3)	08:03	08:46
	16:20	17:28	16	16:36 (DD3)	18:28	20:33	21:32	22:07	21:45	20:40	19:19	18:00	17 17:07 (DD3)	15:56	15:38
22	08:30	07:26		16:22 (DD3)	06:14	05:53	04:49	04:25	04:56	05:56	06:57	07:59	16:49 (DD3)	08:05	08:47
	16:22	17:31	12	16:34 (DD3)	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	18 17:07 (DD3)	15:55	15:38
23	08:28	07:24		16:25 (DD3)	06:11	05:50	04:47	04:25	04:58	05:58	06:59	08:01	16:48 (DD3)	08:07	08:47
	16:25	17:33	6	16:31 (DD3)	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	21 17:09 (DD3)	15:53	15:39
24	08:26	07:21		06:08	05:48	04:46	04:25	05:00	06:00	07:01	08:03	16:48 (DD3)	08:09		08:47
	16:27	17:35		18:35	20:39	21:38	22:08	21:40	20:33	19:11	17:53	21 17:09 (DD3)	15:52		15:39
25	08:25	07:19		06:06	05:45	04:44	04:25	05:02	06:02	07:03	08:05	15:47 (DD3)	08:11		08:48
	16:29	17:37		18:37	20:41	21:39	22:08	21:39	20:30	19:08	16:51	21 16:08 (DD3)	15:51		15:40
26	08:23	07:16		06:03	05:43	04:43	04:26	05:03	06:04	07:05	08:07	15:47 (DD3)	08:13		08:48
	16:31	17:39		18:39	20:43	21:41	22:08	21:37	20:27	19:05	16:48	22 16:09 (DD3)	15:49		15:41
27	08:22	07:14		06:00	05:41	04:41	04:26	05:05	06:06	07:07	08:09	15:47 (DD3)	08:15		08:48
	16:33	17:42		18:41	20:45	21:42	22:08	21:35	20:25	19:03	16:46	22 16:09 (DD3)	15:48		15:42
28	08:20	07:11		05:58	05:38	04:40	04:27	05:07	06:08	07:09	08:12	15:47 (DD3)	08:16		08:48
	16:35	17:44		18:43	20:47	21:44	22:07	21:33	20:22	19:00	16:44	21 16:08 (DD3)	15:47		15:43
29	08:18			06:55	05:36	04:38	04:28	05:09	06:10	07:11	08:14	15:48 (DD3)	08:18		08:48
	16:37			19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	20 16:08 (DD3)	15:46		15:44
30	08:16			06:52	05:33	04:37	04:28	05:11	06:12	07:13	08:16	15:48 (DD3)	08:20		08:48
	16:39			19:47	20:51	21:47	22:07	21:29	20:17	18:55	16:39	18 16:06 (DD3)	15:45		15:45
31	08:14			06:50		04:36		05:13	06:14		07:18	15:49 (DD3)			08:48
	16:42			19:49		21:49		21:28	20:15		16:37	14 16:03 (DD3)			15:46
Potential sun hours	236	266		366	426	507	528	528	469	384	324		248		217
Total, worst case			250									238		16	
Sun reduction			0,22									0,29		0,08	
Oper. time red.			1,00									1,00		1,00	
Wind dir. red.			1,00									1,00		1,00	
Total reduction			0,22									0,29		0,08	
Total, real			56									69		1	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Bajari - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (586)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:24 21:15	06:25 19:59	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:02	05:26 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:28 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	04:27 22:00	04:37 22:01	05:29 21:08	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:38
10	08:43 15:59	07:54 17:04	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 19:48	07:34 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:02	04:40 21:58	05:35 21:01	06:37 19:43	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:56	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:13 20:18	05:03 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:54	06:43 19:35	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:01	08:44 15:36
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	04:53 21:29	04:24 22:07	04:51 21:48	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:30	04:24 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:07	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:58	08:05 15:54	08:46 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	04:47 21:36	04:24 22:08	04:58 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37	04:25 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:08	08:05 16:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:40	05:40 20:45	04:41 21:42	04:26 22:08	05:05 21:35	06:05 20:25	07:07 19:02	08:09 16:46	08:14 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:43	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 19:00	08:12 16:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:20	07:11 18:57	08:14 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:48		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Balož i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (547)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Betiški 1 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (576)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:27	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:50	06:28	05:15	04:28	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:38
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: BetiŠ ku kapseta - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (580)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:46	19:51	20:53	21:50	22:06	21:25	20:12	18:52	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:24	06:25	07:25	07:31	08:30
	15:53	16:55	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:50	06:28	05:15	04:28	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:38
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:37
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:05	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:24	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:24	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:52	15:39
25	08:25	07:19	06:05	05:45	04:44	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:40
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:46	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	19:00	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Brenčani - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (501)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running  
 with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December		
1	08:48	08:12	07:09	06:47	05:31	04:34	20:55 (Pr3b)	04:28	20:58 (Pr3b)	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	21:12 (Pr3b)	22:06	21:23 (Pr3b)	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	20:55 (Pr3b)	04:29	20:58 (Pr3b)	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	21:13 (Pr3b)	22:06	21:22 (Pr3b)	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	20:54 (Pr3b)	04:30	20:59 (Pr3b)	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	21:14 (Pr3b)	22:05	21:22 (Pr3b)	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	20:55 (Pr3b)	04:31	20:59 (Pr3b)	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	21:15 (Pr3b)	22:05	21:22 (Pr3b)	21:19	20:04	18:44	16:27	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	20:54 (Pr3b)	04:32	21:00 (Pr3b)	05:21	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	21:15 (Pr3b)	22:04	21:22 (Pr3b)	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	20:54 (Pr3b)	04:33	21:00 (Pr3b)	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	21:16 (Pr3b)	22:03	21:22 (Pr3b)	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	20:54 (Pr3b)	04:34	21:01 (Pr3b)	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	21:17 (Pr3b)	22:03	21:22 (Pr3b)	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:50	06:28	05:15	04:27	20:54 (Pr3b)	04:35	21:01 (Pr3b)	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	21:17 (Pr3b)	22:02	21:22 (Pr3b)	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	20:53 (Pr3b)	04:36	21:02 (Pr3b)	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	21:17 (Pr3b)	22:01	21:21 (Pr3b)	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	20:54 (Pr3b)	04:38	21:02 (Pr3b)	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	21:17 (Pr3b)	22:00	21:21 (Pr3b)	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	20:54 (Pr3b)	04:39	21:04 (Pr3b)	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:18 (Pr3b)	21:59	21:21 (Pr3b)	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	20:54 (Pr3b)	04:40	21:04 (Pr3b)	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:18 (Pr3b)	21:58	21:19 (Pr3b)	21:01	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	20:54 (Pr3b)	04:42	21:05 (Pr3b)	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:19 (Pr3b)	21:57	21:18 (Pr3b)	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	20:54 (Pr3b)	04:43	21:06 (Pr3b)	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:19 (Pr3b)	21:55	21:17 (Pr3b)	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	20:55 (Pr3b)	04:44	21:08 (Pr3b)	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:20 (Pr3b)	21:54	21:16 (Pr3b)	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	20:54 (Pr3b)	04:46	21:11 (Pr3b)	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:19 (Pr3b)	21:53	3 21:14 (Pr3b)	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	20:54 (Pr3b)	04:48	21:05	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:19 (Pr3b)	21:51	21:05	05:47	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	20:54 (Pr3b)	04:49	21:06	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:20 (Pr3b)	21:50	21:07	05:49	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	20:54 (Pr3b)	04:51	21:07	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:20 (Pr3b)	21:48	21:08	05:51	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:23	20:56 (Pr3b)	04:52	21:09	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:21 (Pr3b)	21:47	21:10	05:52	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	20:56 (Pr3b)	04:54	21:11	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:21 (Pr3b)	21:45	21:12	05:54	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	20:56 (Pr3b)	04:56	21:13	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:21 (Pr3b)	21:44	21:14	05:57	19:16	17:57	15:54	15:38
23	08:28	07:24	06:11	05:50	04:47	04:24	20:56 (Pr3b)	04:57	21:15	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:21 (Pr3b)	21:42	21:16	05:59	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	20:56 (Pr3b)	04:59	21:17	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:22 (Pr3b)	21:40	21:18	06:01	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	20:56 (Pr3b)	05:01	21:19	06:01	07:03	07:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:21 (Pr3b)	21:39	21:20	06:03	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	20:57 (Pr3b)	05:03	21:21	06:03	07:05	07:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:22 (Pr3b)	21:37	21:22	06:05	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:26	20:57 (Pr3b)	05:04	21:23	06:07	07:07	07:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:22 (Pr3b)	21:35	21:24	06:09	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	20:58 (Pr3b)	05:06	21:25	06:07	07:09	07:12	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	6 21:06 (Pr3b)	22:07	21:33	21:26	06:09	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	20:58 (Pr3b)	04:27	05:08	21:27	06:10	07:11	07:14	08:18	08:48
	16:37		19:45	20:49	21:46	10 21:08 (Pr3b)	22:07	21:31	21:28	06:11	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	20:57 (Pr3b)	04:28	05:10	21:29	06:11	07:13	07:16	08:20	08:48
	16:39		19:47	20:51	21:47	12 21:09 (Pr3b)	22:07	21:29	21:30	06:12	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35	20:56 (Pr3b)		05:12	21:31	06:13		07:18		08:48
	16:41		19:49		21:49	14 21:10 (Pr3b)		21:27	21:32	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217		
Total, worst case					42	710	286							
Sun reduction					0,56	0,57	0,47							
Oper. time red.					1,00	1,00	1,00							
Wind dir. red.					1,00	1,00	1,00							
Total reduction					0,56	0,57	0,47							
Total, real					24	403	135							

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Brieži i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (476)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:07	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:57	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:38	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:08	21:45	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:34	18:34	20:39	21:38	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:15	08:48
	16:32	17:41	18:40	20:45	21:43	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:08	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Briež udarzs - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (423)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January			February			March			April			May			June		
1	08:48		11:19 (DD3)	08:13		13:51 (DD1)	07:09		15:05 (O3)	06:47		17:26 (O2)	05:31		04:35			
	15:47	107	14:58 (O1.b)	16:44	60	15:44 (O4)	17:46	38	15:43 (O3)	19:51	50	18:16 (O2)	20:53		21:50			
2	08:48		11:20 (DD3)	08:11		13:53 (DD1)	07:06		15:06 (O3)	06:45		17:27 (O2)	05:29		04:34			
	15:48	107	15:00 (O1.b)	16:46	59	15:44 (O4)	17:48	35	15:41 (O3)	19:53	49	18:16 (O2)	20:55		21:52			
3	08:48		11:20 (DD3)	08:09		13:55 (DD1)	07:04		15:08 (O3)	06:42		17:28 (O2)	05:27		04:33			
	15:50	103	15:00 (O1.b)	16:48	56	15:44 (O4)	17:50	31	15:39 (O3)	19:55	46	18:14 (O2)	20:57		21:53			
4	08:47		11:21 (DD3)	08:07		13:59 (DD1)	07:01		15:10 (O3)	06:39		17:28 (O2)	05:24		04:32			
	15:51	97	15:01 (O1.b)	16:51	50	15:44 (O4)	17:53	26	15:36 (O3)	19:57	45	18:13 (O2)	20:59		21:54			
5	08:47		11:22 (DD3)	08:05		15:04 (O3)	06:59		15:14 (O3)	06:37		17:29 (O2)	05:22		04:31			
	15:52	97	15:01 (O1.b)	16:53	39	15:43 (O4)	17:55	20	15:34 (O3)	19:59	43	18:12 (O2)	21:02		21:55			
6	08:46		11:22 (DD3)	08:03		15:04 (O3)	06:56		15:20 (O3)	06:34		17:30 (O2)	05:20		04:30			
	15:54	98	15:02 (O1.b)	16:55	40	15:44 (O3)	17:57	8	15:28 (O3)	20:02	40	18:10 (O2)	21:04		21:57			
7	08:46		11:23 (DD3)	08:01		15:03 (O3)	06:54			06:31		17:32 (O2)	05:18		04:29			
	15:55	98	15:02 (O1.b)	16:57	42	15:45 (O3)	17:59			20:04	37	18:09 (O2)	21:06		21:58			
8	08:45		11:24 (DD3)	07:58		15:03 (O3)	06:51			06:29		17:33 (O2)	05:16		04:28			
	15:57	97	15:03 (O1.b)	17:00	44	15:47 (O3)	18:01			20:06	34	18:07 (O2)	21:08		21:59			
9	08:44		11:25 (DD3)	07:56		15:01 (O3)	06:48		16:53 (O2)	06:26		17:35 (O2)	05:14		04:28			
	15:58	97	15:03 (O1.b)	17:02	46	15:47 (O3)	18:03	10	17:03 (O2)	20:08	29	18:04 (O2)	21:10		22:00			
10	08:44		11:25 (DD3)	07:54		15:01 (O3)	06:46		16:47 (O2)	06:23		17:38 (O2)	05:11		04:27			
	16:00	97	15:04 (O1.b)	17:04	47	15:48 (O3)	18:05	20	17:07 (O2)	20:10	24	18:02 (O2)	21:12		22:01			
11	08:43		11:27 (DD3)	07:52		15:00 (O3)	06:43		16:43 (O2)	06:21		17:41 (O2)	05:09		04:26			
	16:02	95	15:04 (O1.b)	17:06	48	15:48 (O3)	18:07	27	17:10 (O2)	20:12	17	17:58 (O2)	21:14		22:02			
12	08:42		11:28 (DD3)	07:50		15:00 (O3)	06:40		16:41 (O2)	06:18		17:49 (O2)	05:07		04:26			
	16:03	95	15:05 (O1.b)	17:09	49	15:49 (O3)	18:10	32	17:13 (O2)	20:14	1	17:50 (O2)	21:16		22:03			
13	08:41		11:29 (DD3)	07:48		15:00 (O3)	06:38		16:39 (O2)	06:16			05:05		04:25			
	16:05	93	15:05 (O1.b)	17:11	50	15:50 (O3)	18:12	35	17:14 (O2)	20:16			21:17		22:03			
14	08:40		11:30 (DD3)	07:45		14:59 (O3)	06:35		16:36 (O2)	06:13			05:03		04:25			
	16:07	91	15:05 (O1.b)	17:13	50	15:49 (O3)	18:14	39	17:15 (O2)	20:18			21:19		22:04			
15	08:39		11:32 (DD3)	07:43		14:59 (O3)	06:33		16:35 (O2)	06:11			05:01		04:25			
	16:09	88	15:06 (O1.b)	17:15	51	15:50 (O3)	18:16	42	17:17 (O2)	20:20			21:21		22:05			
16	08:38		11:34 (DD3)	07:41		14:58 (O3)	06:30		16:34 (O2)	06:08			05:00		04:25			
	16:11	86	15:06 (O1.b)	17:17	52	15:50 (O3)	18:18	44	17:18 (O2)	20:22			21:23		22:05			
17	08:36		11:35 (DD3)	07:38		14:59 (O3)	06:27		16:32 (O2)	06:05			04:58		04:24			
	16:13	84	15:26 (O4)	17:20	51	15:50 (O3)	18:20	46	17:18 (O2)	20:24			21:25		22:06			
18	08:35		11:39 (DD3)	07:36		14:58 (O3)	06:25		16:32 (O2)	06:03			04:56		04:24			
	16:15	85	15:31 (O4)	17:22	52	15:50 (O3)	18:22	48	17:20 (O2)	20:26			21:27		22:06			
19	08:34		13:39 (DD1)	07:34		14:59 (O3)	06:22		16:30 (O2)	06:00			04:54		04:24			
	16:17	79	15:33 (O4)	17:24	51	15:50 (O3)	18:24	50	17:20 (O2)	20:28			21:29		22:07			
20	08:33		13:39 (DD1)	07:31		14:58 (O3)	06:19		16:29 (O2)	05:58			04:52		04:24			
	16:19	80	15:34 (O4)	17:26	52	15:50 (O3)	18:26	51	17:20 (O2)	20:31			21:31		22:07			
21	08:31		13:41 (DD1)	07:29		14:59 (O3)	06:17		16:29 (O2)	05:55			04:51		04:24			
	16:21	81	15:37 (O4)	17:29	51	15:50 (O3)	18:28	52	17:21 (O2)	20:33			21:32		22:07			
22	08:30		13:41 (DD1)	07:26		14:59 (O3)	06:14		16:28 (O2)	05:53			04:49		04:25			
	16:23	81	15:38 (O4)	17:31	50	15:49 (O3)	18:30	53	17:21 (O2)	20:35			21:34		22:08			
23	08:28		13:41 (DD1)	07:24		15:00 (O3)	06:11		16:27 (O2)	05:50			04:47		04:25			
	16:25	80	15:39 (O4)	17:33	49	15:49 (O3)	18:33	53	17:20 (O2)	20:37			21:36		22:08			
24	08:27		13:42 (DD1)	07:21		15:00 (O3)	06:09		16:27 (O2)	05:48			04:46		04:25			
	16:27	76	15:40 (O4)	17:35	48	15:48 (O3)	18:35	54	17:21 (O2)	20:39			21:38		22:08			
25	08:25		13:42 (DD1)	07:19		15:01 (O3)	06:06		16:26 (O2)	05:45			04:44		04:26			
	16:29	73	15:40 (O4)	17:37	47	15:48 (O3)	18:37	54	17:20 (O2)	20:41			21:39		22:08			
26	08:23		13:43 (DD1)	07:16		15:02 (O3)	06:03		16:26 (O2)	05:43			04:43		04:26			
	16:31	66	15:41 (O4)	17:39	44	15:46 (O3)	18:39	54	17:20 (O2)	20:43			21:41		22:08			
27	08:22		13:44 (DD1)	07:14		15:02 (O3)	06:01		16:25 (O2)	05:41			04:41		04:26			
	16:33	66	15:42 (O4)	17:42	43	15:45 (O3)	18:41	54	17:19 (O2)	20:45			21:43		22:08			
28	08:20		13:45 (DD1)	07:11		15:04 (O3)	05:58		16:26 (O2)	05:38			04:40		04:27			
	16:35	65	15:42 (O4)	17:44	40	15:44 (O3)	18:43	53	17:19 (O2)	20:47			21:44		22:08			
29	08:18		13:46 (DD1)				06:55		17:26 (O2)	05:36			04:39		04:28			
	16:37	64	15:43 (O4)				19:45	52	18:18 (O2)	20:49			21:46		22:07			
30	08:16		13:47 (DD1)				06:53		17:25 (O2)	05:34			04:37		04:28			
	16:40	62	15:43 (O4)				19:47	52	18:17 (O2)	20:51			21:47		22:07			
31	08:14		13:49 (DD1)				06:50		17:26 (O2)				04:36					
	16:42	61	15:44 (O4)				19:49	51	18:17 (O2)				21:49					
Potential sun hours	236			266			366			426			507			528		
Total, worst case	2649			1361			1184			415								
Sun reduction	0,13			0,22			0,39			0,44								
Oper. time red.	1,00			1,00			1,00			1,00								
Wind dir. red.	1,00			1,00			1,00			1,00								
Total reduction	0,13			0,22			0,39			0,44								
Total, real	355			306			463			183								

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Briež udarzs - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (423)  
Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:29 22:07	05:15 21:26	06:16 20:12	17:39 (O2) 18:52 34	07:16 17:19 (O2) 17:53 (O2) 16:35	07:21 14:31 (O3) 15:17 (O3) 15:44
2	04:30 22:06	05:16 21:24	06:18 20:09	17:36 (O2) 18:00 (O2) 18:49 29	07:18 17:21 (O2) 17:50 (O2) 16:32	07:23 14:31 (O3) 15:16 (O3) 15:43
3	04:31 22:06	05:18 21:22	06:20 20:07	17:33 (O2) 18:02 (O2) 18:47 24	07:20 17:23 (O2) 17:47 (O2) 16:30	07:25 14:32 (O3) 15:16 (O3) 15:42
4	04:32 22:05	05:20 21:19	06:22 20:04	17:30 (O2) 18:04 (O2) 18:44 16	07:22 17:27 (O2) 17:43 (O2) 16:28	07:27 14:33 (O3) 15:15 (O3) 15:41
5	04:33 22:04	05:22 21:17	06:24 20:02	17:28 (O2) 18:05 (O2) 18:41 37	07:24 18:05 (O2) 18:26 41	07:29 15:14 (O3) 14:33 (O3) 15:41
6	04:34 22:04	05:24 21:15	06:26 19:59	17:26 (O2) 18:06 (O2) 18:39 40	07:26 18:06 (O2) 18:39 39	07:31 14:35 (O3) 15:14 (O4) 15:40
7	04:35 22:03	05:26 21:13	06:28 19:56	17:25 (O2) 18:07 (O2) 18:36 42	07:28 18:07 (O2) 18:36 51	07:34 13:28 (DD1) 15:14 (O4) 15:39
8	04:36 22:02	05:28 21:11	06:30 19:54	17:23 (O2) 18:08 (O2) 18:34 15	07:30 18:07 (O2) 16:07 (O3) 16:20	07:36 13:25 (DD1) 15:14 (O4) 15:39
9	04:37 22:01	05:30 21:09	06:32 19:51	17:22 (O2) 18:09 (O2) 18:31 23	07:32 18:09 (O2) 16:10 (O3) 16:18	07:38 13:23 (DD1) 15:15 (O4) 15:38
10	04:38 22:00	05:32 21:06	06:34 19:48	17:21 (O2) 18:09 (O2) 18:28 28	07:34 18:09 (O2) 16:12 (O3) 16:16	07:40 13:21 (DD1) 15:15 (O4) 15:38
11	04:40 21:59	05:34 21:04	06:36 19:46	17:19 (O2) 18:08 (O2) 18:26 33	07:36 18:08 (O2) 16:14 (O3) 16:14	07:42 13:21 (DD1) 15:16 (O4) 15:37
12	04:41 21:58	05:36 21:02	06:38 19:43	17:18 (O2) 18:09 (O2) 18:23 36	07:38 18:09 (O2) 16:15 (O3) 16:12	07:44 13:19 (DD1) 15:15 (O4) 15:37
13	04:42 21:57	05:38 20:59	06:40 19:40	17:17 (O2) 18:09 (O2) 18:21 39	07:40 18:09 (O2) 16:16 (O3) 16:10	07:46 13:18 (DD1) 15:15 (O4) 15:37
14	04:44 21:55	05:40 20:57	06:42 19:38	17:16 (O2) 18:09 (O2) 18:18 42	07:42 18:09 (O2) 16:17 (O3) 16:08	07:49 13:18 (DD1) 15:15 (O4) 15:37
15	04:45 21:54	05:42 20:55	06:44 19:35	17:15 (O2) 18:09 (O2) 18:15 43	07:44 18:09 (O2) 16:18 (O3) 16:06	07:51 13:17 (DD1) 15:15 (O4) 15:37
16	04:47 21:53	05:44 20:52	06:46 19:32	17:15 (O2) 18:09 (O2) 18:13 46	07:46 18:09 (O2) 16:19 (O3) 16:05	07:53 13:16 (DD1) 15:14 (O4) 15:37
17	04:48 21:52	05:46 20:50	06:48 19:30	17:14 (O2) 18:08 (O2) 18:10 47	07:48 18:08 (O2) 16:19 (O3) 16:03	07:55 13:16 (DD1) 15:14 (O4) 15:37
18	04:50 21:50	05:48 20:48	06:50 19:27	17:14 (O2) 18:08 (O2) 18:08 48	07:51 18:08 (O2) 16:19 (O3) 16:01	07:57 13:16 (DD1) 15:14 (O4) 15:37
19	04:51 21:49	05:50 20:45	06:52 19:24	17:14 (O2) 18:07 (O2) 18:05 49	07:53 18:07 (O2) 16:20 (O3) 16:00	07:59 13:15 (DD1) 15:13 (O4) 15:37
20	04:53 21:47	05:52 20:43	06:54 19:21	17:13 (O2) 18:07 (O2) 18:03 50	07:55 18:07 (O2) 16:20 (O3) 15:58	08:01 13:16 (DD1) 15:13 (O4) 15:38
21	04:55 21:46	05:54 20:40	06:56 19:19	17:13 (O2) 18:06 (O2) 18:00 51	07:57 18:06 (O2) 16:20 (O3) 15:57	08:03 13:16 (DD1) 15:12 (O4) 15:38
22	04:56 21:44	05:56 20:38	06:58 19:16	17:13 (O2) 18:06 (O2) 17:58 51	07:59 18:06 (O2) 16:20 (O3) 15:55	08:05 13:15 (DD1) 15:10 (O4) 15:38
23	04:58 21:42	05:58 20:35	06:59 19:13	17:13 (O2) 18:05 (O2) 17:56 52	08:01 16:21 (O3) 15:54 78	08:07 13:16 (DD1) 15:10 (O4) 15:39
24	05:00 21:41	06:00 20:33	07:01 19:11	17:14 (O2) 18:04 (O2) 17:53 51	08:03 16:20 (O3) 15:52 85	08:09 11:16 (DD3) 15:08 (O4) 15:40
25	05:02 21:39	06:02 20:30	07:03 19:08	17:14 (O2) 18:03 (O2) 16:51 52	08:11 14:28 (O3) 15:20 (O3) 15:51	08:48 11:13 (DD3) 15:04 (O4) 15:40
26	05:03 21:37	06:04 20:28	07:05 19:05	17:14 (O2) 18:01 (O2) 16:48 51	08:13 14:29 (O3) 15:20 (O3) 15:50	08:48 11:12 (DD3) 14:44 (O1.b) 15:41
27	05:05 21:35	06:06 20:25	07:07 19:03	17:15 (O2) 18:00 (O2) 16:46 51	08:15 14:29 (O3) 15:20 (O3) 15:48	08:48 11:11 (DD3) 14:45 (O1.b) 15:42
28	05:07 21:33	06:08 20:22	07:09 19:00	17:16 (O2) 17:59 (O2) 16:44 51	08:17 14:28 (O3) 15:19 (O3) 15:47	08:49 11:10 (DD3) 14:45 (O1.b) 15:43
29	05:09 21:32	06:10 20:20	07:12 18:57	17:17 (O2) 17:57 (O2) 16:41 50	08:18 14:29 (O3) 15:19 (O3) 15:46	08:49 11:09 (DD3) 14:46 (O1.b) 15:44
30	05:11 21:30	06:12 20:17	07:14 18:55	17:18 (O2) 17:55 (O2) 16:39 49	08:20 14:29 (O3) 15:18 (O3) 15:45	08:49 11:09 (DD3) 14:46 (O1.b) 15:45
31	05:13 21:28	06:14 20:15	17:47 (O2) 17:50 (O2)	07:18 16:37 48	14:29 (O3) 15:17 (O3)	08:49 15:46 109
Potential sun hours	528	469	384	324	248	217
Total, worst case		3	1361	1159	2040	3310
Sun reduction		0,52	0,43	0,29	0,08	0,08
Oper. time red.		1,00	1,00	1,00	1,00	1,00
Wind dir. red.		1,00	1,00	1,00	1,00	1,00
Total reduction		0,52	0,43	0,29	0,08	0,08
Total, real		2	587	336	153	279

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Bruveri - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (434)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:35	04:29	05:14	06:16	07:15	07:21	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:44	05:29	04:34	04:30	05:16	06:18	07:18	07:23	08:24
	15:48	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:18	06:20	07:20	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:47	16:30	15:42
4	08:47	08:07	07:01	06:39	05:24	04:32	04:32	05:20	06:22	07:22	07:27	08:27
	15:51	16:51	17:52	19:57	20:59	21:54	22:05	21:20	20:04	18:44	16:28	15:41
5	08:47	08:05	06:59	06:36	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:28
	15:52	16:53	17:55	19:59	21:02	21:55	22:04	21:17	20:02	18:41	16:26	15:40
6	08:47	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:02	21:04	21:57	22:04	21:15	19:59	18:39	16:24	15:40
7	08:46	08:01	06:53	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:34	08:31
	15:55	16:57	17:59	20:04	21:06	21:58	22:03	21:13	19:56	18:36	16:22	15:39
8	08:45	07:58	06:51	06:29	05:16	04:28	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	16:59	18:01	20:06	21:08	21:59	22:02	21:11	19:54	18:33	16:20	15:39
9	08:45	07:56	06:48	06:26	05:13	04:27	04:37	05:30	06:32	07:32	07:38	08:34
	15:58	17:02	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:31	16:18	15:38
10	08:44	07:54	06:46	06:23	05:11	04:27	04:38	05:32	06:34	07:34	07:40	08:36
	16:00	17:04	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:09	04:26	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:46	18:26	16:14	15:37
12	08:42	07:50	06:40	06:18	05:07	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:12	15:37
13	08:41	07:48	06:38	06:16	05:05	04:25	04:42	05:38	06:40	07:40	07:46	08:39
	16:05	17:11	18:12	20:16	21:18	22:04	21:57	20:59	19:40	18:20	16:10	15:37
14	08:40	07:45	06:35	06:13	05:03	04:25	04:44	05:40	06:42	07:42	07:49	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:56	20:57	19:38	18:18	16:08	15:37
15	08:39	07:43	06:32	06:10	05:01	04:25	04:45	05:42	06:44	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:37
16	08:38	07:41	06:30	06:08	04:59	04:24	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:13	16:04	15:37
17	08:37	07:38	06:27	06:05	04:57	04:24	04:48	05:46	06:48	07:48	07:55	08:43
	16:12	17:20	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:03	15:37
18	08:35	07:36	06:24	06:03	04:56	04:24	04:50	05:48	06:49	07:51	07:57	08:44
	16:14	17:22	18:22	20:26	21:27	22:07	21:50	20:48	19:27	18:08	16:01	15:37
19	08:34	07:34	06:22	06:00	04:54	04:24	04:51	05:50	06:51	07:53	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:37
20	08:33	07:31	06:19	05:58	04:52	04:24	04:53	05:52	06:53	07:55	08:01	08:46
	16:18	17:26	18:26	20:31	21:31	22:07	21:47	20:43	19:21	18:03	15:58	15:37
21	08:31	07:29	06:16	05:55	04:50	04:24	04:55	05:54	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:32	22:08	21:46	20:40	19:19	18:00	15:56	15:38
22	08:30	07:26	06:14	05:53	04:49	04:24	04:56	05:56	06:57	07:59	08:05	08:47
	16:22	17:31	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:55	15:38
23	08:28	07:24	06:11	05:50	04:47	04:25	04:58	05:58	06:59	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:08	21:42	20:35	19:13	17:56	15:53	15:39
24	08:27	07:21	06:08	05:48	04:46	04:25	05:00	06:00	07:01	08:03	08:09	08:48
	16:27	17:35	18:35	20:39	21:38	22:08	21:41	20:33	19:11	17:53	15:52	15:39
25	08:25	07:19	06:06	05:45	04:44	04:25	05:01	06:02	07:03	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	16:51	15:51	15:40
26	08:23	07:16	06:03	05:43	04:43	04:26	05:03	06:04	07:05	08:08	08:13	08:48
	16:31	17:39	18:39	20:43	21:41	22:08	21:37	20:28	19:05	16:48	15:49	15:41
27	08:22	07:14	06:00	05:41	04:41	04:26	05:05	06:06	07:07	08:10	08:15	08:48
	16:33	17:42	18:41	20:45	21:43	22:08	21:35	20:25	19:03	16:46	15:48	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:09	08:12	08:17	08:49
	16:35	17:44	18:43	20:47	21:44	22:08	21:33	20:22	19:00	16:44	15:47	15:42
29	08:18		06:55	05:36	04:38	04:27	05:09	06:10	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:32	20:20	18:57	16:41	15:46	15:43
30	08:16		06:52	05:33	04:37	04:28	05:11	06:12	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:55	16:39	15:45	15:44
31	08:15		06:50		04:36		05:12	06:14		07:18		08:49
	16:42		19:49		21:49		21:28	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Bucinieki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (573)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:09 16:48	07:04 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:07	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:07 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:34 20:01	05:19 21:03	04:29 21:57	04:33 22:03	05:24 21:15	06:25 20:01	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:26 21:13	06:27 20:01	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:28 21:11	06:29 20:01	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	04:27 22:00	04:37 22:01	05:29 21:08	06:31 20:01	07:32 18:30	07:38 16:17	08:34 15:38
10	08:44 15:59	07:54 17:04	06:45 18:05	06:23 20:10	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 20:01	07:34 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 20:01	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:03	04:40 21:58	05:35 21:02	06:37 20:01	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:57	05:37 20:59	06:39 20:01	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:13	06:35 18:13	06:13 20:18	05:03 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 20:01	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:55	06:43 20:01	07:44 18:15	07:50 16:06	08:41 15:36
16	08:38 16:10	07:40 17:17	06:30 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 20:01	07:46 18:12	07:53 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 20:01	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 20:01	07:50 18:07	07:57 16:01	08:44 15:36
19	08:34 16:16	07:33 17:24	06:22 18:24	06:00 20:28	04:53 21:29	04:24 22:07	04:51 21:49	05:49 20:45	06:51 20:01	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:31	04:24 22:07	04:52 21:47	05:51 20:42	06:53 20:01	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 20:01	07:57 18:00	08:03 15:56	08:46 15:37
22	08:30 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 20:01	07:59 17:58	08:05 15:54	08:47 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:37	04:47 21:36	04:24 22:08	04:58 21:42	05:57 20:35	06:59 20:01	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:38	04:24 22:08	04:59 21:40	05:59 20:32	07:01 20:01	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 20:01	08:05 17:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 20:01	08:07 17:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:41	05:40 20:45	04:41 21:43	04:26 22:08	05:05 21:35	06:05 20:25	07:07 20:01	08:09 17:46	08:15 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:43	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 20:01	08:12 17:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:20	07:11 20:01	08:14 17:41	08:18 15:45	08:49 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 20:01	08:16 17:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14	07:18 20:01	08:18 17:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Burtņieki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (566)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:47	16:43	17:46	19:51	20:53	21:50	22:06	21:25	20:12	18:52	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:46	16:30	15:42
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:24	06:25	07:25	07:31	08:30
	15:53	16:55	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:26	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:51	06:28	05:15	04:28	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:26	05:13	04:27	04:37	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:38
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:34	07:40	08:35
	15:59	17:04	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:37
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:05	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:18	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:35	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:24	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:58	15:54	15:38
23	08:28	07:24	06:11	05:50	04:47	04:24	04:58	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:52	15:39
25	08:25	07:19	06:05	05:45	04:44	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:40
26	08:23	07:16	06:03	05:43	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:09	08:14	08:48
	16:33	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:46	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:43	20:47	21:44	22:07	21:33	20:22	19:00	16:43	15:47	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Berzainites - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (591)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January			February			March			April			May			June	
1	08:48	12:51 (DD3)	08:13	12:50 (DD3)	07:09	16:08 (DD1)	06:47	18:33 (O3)	05:31	19:32 (O2)	04:35						
	15:47	66 14:40 (JV1)	16:44	100 15:15 (O5)	17:46	59 17:13 (O4)	19:51	31 19:04 (O3)	20:53	34 20:06 (O2)	21:50						
2	08:48	12:51 (DD3)	08:11	12:50 (DD3)	07:06	16:07 (DD1)	06:45	18:32 (O3)	05:29	19:31 (O2)	04:34						
	15:48	67 14:41 (JV1)	16:46	99 15:15 (O5)	17:48	64 17:14 (O4)	19:53	33 19:05 (O3)	20:55	35 20:06 (O2)	21:51						
3	08:48	12:51 (DD3)	08:09	12:51 (DD3)	07:04	16:06 (DD1)	06:42	18:30 (O3)	05:27	19:31 (O2)	04:33						
	15:50	72 14:50 (O5)	16:48	98 15:15 (O5)	17:50	69 17:16 (O4)	19:55	36 19:06 (O3)	20:57	36 20:07 (O2)	21:53						
4	08:47	12:51 (DD3)	08:07	12:51 (DD3)	07:01	16:05 (DD1)	06:39	18:28 (O3)	05:24	19:30 (O2)	04:32						
	15:51	78 14:54 (O5)	16:51	96 15:14 (O5)	17:52	71 17:16 (O4)	19:57	38 19:06 (O3)	20:59	37 20:07 (O2)	21:54						
5	08:47	12:51 (DD3)	08:05	12:51 (DD3)	06:59	16:04 (DD1)	06:37	18:27 (O3)	05:22	19:30 (O2)	04:31						
	15:52	81 14:55 (O5)	16:53	93 15:13 (O5)	17:55	72 17:16 (O4)	19:59	41 19:08 (O3)	21:01	37 20:07 (O2)	21:55						
6	08:46	12:51 (DD3)	08:03	12:51 (DD3)	06:56	16:04 (DD1)	06:34	18:26 (O3)	05:20	19:29 (O2)	04:30						
	15:54	85 14:57 (O5)	16:55	99 16:22 (O1.b)	17:57	73 17:17 (O4)	20:02	42 19:08 (O3)	21:04	38 20:07 (O2)	21:57						
7	08:46	12:50 (DD3)	08:01	12:52 (DD3)	06:53	16:03 (DD1)	06:31	18:25 (O3)	05:18	19:28 (O2)	04:29						
	15:55	88 14:58 (O5)	16:57	100 16:24 (O1.b)	17:59	74 17:17 (O4)	20:04	43 19:08 (O3)	21:06	39 20:07 (O2)	21:58						
8	08:45	12:50 (DD3)	07:58	12:52 (DD3)	06:51	16:04 (DD1)	06:29	18:25 (O3)	05:16	19:29 (O2)	04:28						
	15:57	89 15:00 (O5)	17:00	100 16:26 (O1.b)	18:01	74 17:18 (O4)	20:06	43 19:08 (O3)	21:08	39 20:08 (O2)	21:59						
9	08:44	12:50 (DD3)	07:56	12:53 (DD3)	06:48	16:03 (DD1)	06:26	18:23 (O3)	05:14	19:29 (O2)	04:28						
	15:58	90 15:01 (O5)	17:02	97 16:28 (O1.b)	18:03	74 17:17 (O4)	20:08	45 19:08 (O3)	21:10	39 20:08 (O2)	22:00						
10	08:44	12:50 (DD3)	07:54	12:54 (DD3)	06:46	16:02 (DD1)	06:23	18:23 (O3)	05:11	19:29 (O2)	04:27						
	16:00	91 15:02 (O5)	17:04	90 16:29 (O1.b)	18:05	74 17:16 (O4)	20:10	46 19:09 (O3)	21:12	39 20:08 (O2)	22:01						
11	08:43	12:50 (DD3)	07:52	12:54 (DD3)	06:43	16:02 (DD1)	06:21	18:23 (O3)	05:09	19:29 (O2)	04:26						
	16:02	94 15:04 (O5)	17:06	82 16:29 (O1.b)	18:07	73 17:15 (O4)	20:12	45 19:08 (O3)	21:14	38 20:07 (O2)	22:02						
12	08:42	12:50 (DD3)	07:50	12:55 (DD3)	06:40	16:03 (DD1)	06:18	18:23 (O3)	05:07	19:29 (O2)	04:26						
	16:03	95 15:05 (O5)	17:09	82 16:30 (O1.b)	18:10	72 17:15 (O4)	20:14	45 19:08 (O3)	21:15	38 20:07 (O2)	22:03						
13	08:41	12:50 (DD3)	07:47	12:56 (DD3)	06:38	16:02 (DD1)	06:16	18:22 (O3)	05:05	19:29 (O2)	04:26						
	16:05	96 15:06 (O5)	17:11	81 16:31 (O1.b)	18:12	72 17:14 (O4)	20:16	45 19:07 (O3)	21:17	38 20:07 (O2)	22:03						
14	08:40	12:50 (DD3)	07:45	12:57 (DD3)	06:35	16:02 (DD1)	06:13	18:23 (O3)	05:03	19:29 (O2)	04:25						
	16:07	97 15:07 (O5)	17:13	80 16:31 (O1.b)	18:14	70 17:12 (O4)	20:18	45 19:08 (O3)	21:19	37 20:06 (O2)	22:04						
15	08:39	12:50 (DD3)	07:43	12:58 (DD3)	06:32	16:03 (DD1)	06:10	18:22 (O3)	05:01	19:30 (O2)	04:25						
	16:09	97 15:08 (O5)	17:15	77 16:31 (O1.b)	18:16	66 17:11 (O4)	20:20	45 19:07 (O3)	21:21	36 20:06 (O2)	22:05						
16	08:38	12:50 (DD3)	07:41	12:59 (DD3)	06:30	16:04 (DD1)	06:08	18:23 (O3)	05:00	19:30 (O2)	04:25						
	16:11	98 15:10 (O5)	17:17	75 16:31 (O1.b)	18:18	61 17:09 (O4)	20:22	44 19:07 (O3)	21:23	36 20:06 (O2)	22:05						
17	08:36	12:50 (DD3)	07:38	13:01 (DD3)	06:27	16:04 (DD1)	06:05	18:22 (O3)	04:58	19:30 (O2)	04:24						
	16:13	97 15:10 (O5)	17:20	71 16:31 (O1.b)	18:20	54 17:06 (O4)	20:24	43 19:05 (O3)	21:25	35 20:05 (O2)	22:06						
18	08:35	12:49 (DD3)	07:36	13:02 (DD3)	06:25	16:05 (DD1)	06:03	18:23 (O3)	04:56	19:31 (O2)	04:24						
	16:15	92 15:10 (O5)	17:22	67 16:30 (O1.b)	18:22	41 16:46 (DD1)	20:26	42 19:05 (O3)	21:27	34 20:05 (O2)	22:06						
19	08:34	12:50 (DD3)	07:34	13:05 (DD3)	06:22	16:06 (DD1)	06:00	18:23 (O3)	04:54	19:31 (O2)	04:24						
	16:17	93 15:12 (O5)	17:24	62 16:30 (O1.b)	18:24	38 16:44 (DD1)	20:28	41 19:04 (O3)	21:29	33 20:04 (O2)	22:07						
20	08:33	12:49 (DD3)	07:31	13:07 (DD3)	06:19	16:07 (DD1)	05:58	18:24 (O3)	04:52	19:33 (O2)	04:24						
	16:19	95 15:12 (O5)	17:26	55 16:28 (O1.b)	18:26	35 16:42 (DD1)	20:31	39 19:03 (O3)	21:31	31 20:04 (O2)	22:07						
21	08:31	12:50 (DD3)	07:29	13:10 (DD3)	06:17	16:09 (DD1)	05:55	18:25 (O3)	04:51	19:33 (O2)	04:24						
	16:21	96 15:13 (O5)	17:29	47 16:27 (O1.b)	18:28	32 16:41 (DD1)	20:33	37 19:02 (O3)	21:32	30 20:03 (O2)	22:07						
22	08:30	12:50 (DD3)	07:26	13:14 (DD3)	06:14	16:11 (DD1)	05:53	18:26 (O3)	04:49	19:34 (O2)	04:25						
	16:23	97 15:14 (O5)	17:31	44 16:34 (DD1)	18:30	28 16:39 (DD1)	20:35	34 19:00 (O3)	21:34	29 20:03 (O2)	22:08						
23	08:28	12:49 (DD3)	07:24	16:14 (O1.b)	06:11	16:13 (DD1)	05:50	18:27 (O3)	04:47	19:34 (O2)	04:25						
	16:25	99 15:14 (O5)	17:33	25 16:39 (DD1)	18:33	22 16:35 (DD1)	20:37	32 18:59 (O3)	21:36	28 20:02 (O2)	22:08						
24	08:27	12:49 (DD3)	07:21	16:17 (DD1)	06:09	16:16 (DD1)	05:48	18:29 (O3)	04:46	19:36 (O2)	04:25						
	16:27	99 15:14 (O5)	17:35	25 16:42 (DD1)	18:35	15 16:31 (DD1)	20:39	38 19:55 (O2)	21:38	25 20:01 (O2)	22:08						
25	08:25	12:49 (DD3)	07:19	16:15 (DD1)	06:06		05:45	18:30 (O3)	04:44	19:37 (O2)	04:26						
	16:29	101 15:15 (O5)	17:37	30 16:45 (DD1)	18:37		20:41	43 19:58 (O2)	21:39	24 20:01 (O2)	22:08						
26	08:23	12:49 (DD3)	07:16	16:13 (DD1)	06:03		05:43	18:32 (O3)	04:43	19:37 (O2)	04:26						
	16:31	101 15:15 (O5)	17:39	33 16:46 (DD1)	18:39		20:43	43 20:00 (O2)	21:41	22 19:59 (O2)	22:08						
27	08:22	12:49 (DD3)	07:14	16:11 (DD1)	06:00		05:41	18:35 (O3)	04:41	19:39 (O2)	04:26						
	16:33	101 15:15 (O5)	17:42	39 17:05 (O4)	18:41		20:45	41 20:02 (O2)	21:43	19 19:58 (O2)	22:08						
28	08:20	12:49 (DD3)	07:11	16:10 (DD1)	05:58		05:38	18:39 (O3)	04:40	19:40 (O2)	04:27						
	16:35	102 15:15 (O5)	17:44	52 17:11 (O4)	18:43		20:47	33 20:02 (O2)	21:44	18 19:58 (O2)	22:07						
29	08:18	12:49 (DD3)			06:55	18:42 (O3)	05:36	19:34 (O2)	04:39	19:42 (O2)	04:28						
	16:37	101 15:15 (O5)			19:45	15 18:57 (O3)	20:49	30 20:04 (O2)	21:46	14 19:56 (O2)	22:07						
30	08:16	12:49 (DD3)			06:52	18:38 (O3)	05:34	19:33 (O2)	04:37	19:44 (O2)	04:28						
	16:40	101 15:15 (O5)			19:47	21 18:59 (O3)	20:51	32 20:05 (O2)	21:47	10 19:54 (O2)	22:07						
31	08:14	12:50 (DD3)			06:50	18:36 (O3)			04:36	19:48 (O2)							
	16:42	100 15:15 (O5)			19:49	26 19:02 (O3)			21:49	3 19:51 (O2)							
Potential sun hours	236		266		366		426		507		528						
Total, worst case	2859		1999		1445		1195		951								
Sun reduction	0,13		0,22		0,39		0,44		0,56								
Oper. time red.	1,00		1,00		1,00		1,00		1,00								
Wind dir. red.	1,00		1,00		1,00		1,00		1,00								
Total reduction	0,13		0,22		0,39		0,44		0,56								
Total, real	383		450		566		528		535								

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Berzainites - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (591)  
Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running  
with worst case wind direction.

	July	August	September	October	November	December
1	04:29	05:15	19:39 (O2) 06:16	18:22 (O3) 07:16	16:42 (DD1) 07:21	12:23 (DD3) 08:22
2	22:06	21:26	38 20:17 (O2) 20:12	19:07 (O3) 18:52	17:54 (O4) 16:35	94 15:58 (O1.b) 15:44
3	04:30	05:16	19:39 (O2) 06:18	18:21 (O3) 07:18	16:41 (DD1) 07:23	12:22 (DD3) 08:24
4	22:06	21:24	39 20:18 (O2) 20:09	19:07 (O3) 18:49	17:54 (O4) 16:32	98 15:57 (O1.b) 15:43
5	04:31	05:18	19:39 (O2) 06:20	18:21 (O3) 07:20	16:40 (DD1) 07:25	12:21 (DD3) 08:25
6	22:05	21:22	39 20:18 (O2) 20:07	19:06 (O3) 18:47	17:54 (O4) 16:30	101 15:55 (O1.b) 15:42
7	04:32	05:20	19:38 (O2) 06:22	18:22 (O3) 07:22	16:40 (DD1) 07:27	12:22 (DD3) 08:27
8	22:05	21:19	39 20:17 (O2) 20:04	19:05 (O3) 18:44	17:54 (O4) 16:28	101 15:54 (O1.b) 15:41
9	04:33	05:22	19:38 (O2) 06:24	18:22 (O3) 07:24	16:40 (DD1) 07:29	12:21 (DD3) 08:28
10	22:04	21:17	39 20:17 (O2) 20:02	19:05 (O3) 18:41	17:54 (O4) 16:26	98 15:51 (O1.b) 15:41
11	04:34	05:24	19:39 (O2) 06:26	18:22 (O3) 07:26	16:39 (DD1) 07:31	12:21 (DD3) 08:30
12	22:03	21:15	38 20:17 (O2) 19:59	19:04 (O3) 18:39	17:53 (O4) 16:24	95 14:44 (O5) 15:40
13	04:35	05:26	19:39 (O2) 06:28	18:23 (O3) 07:28	16:39 (DD1) 07:34	12:21 (DD3) 08:31
14	22:03	21:13	38 20:17 (O2) 19:56	19:03 (O3) 18:36	17:53 (O4) 16:22	95 14:44 (O5) 15:39
15	04:36	05:28	19:39 (O2) 06:30	18:23 (O3) 07:30	16:40 (DD1) 07:36	12:20 (DD3) 08:33
16	22:02	21:11	38 20:17 (O2) 19:54	19:02 (O3) 18:34	17:53 (O4) 16:20	98 14:45 (O5) 15:39
17	04:37	05:30	19:39 (O2) 06:32	18:24 (O3) 07:32	16:40 (DD1) 07:38	12:21 (DD3) 08:34
18	22:01	21:09	36 20:15 (O2) 19:51	19:00 (O3) 18:31	17:52 (O4) 16:18	99 14:46 (O5) 15:38
19	04:38	05:32	19:39 (O2) 06:34	18:25 (O3) 07:34	16:40 (DD1) 07:40	12:21 (DD3) 08:36
20	22:00	21:06	36 20:15 (O2) 19:48	18:59 (O3) 18:28	17:51 (O4) 16:16	100 14:46 (O5) 15:38
21	04:40	05:34	19:40 (O2) 06:36	18:25 (O3) 07:36	16:41 (DD1) 07:42	12:21 (DD3) 08:37
22	21:59	21:04	34 20:14 (O2) 19:46	18:56 (O3) 18:26	17:49 (O4) 16:14	101 14:47 (O5) 15:38
23	04:41	05:36	19:41 (O2) 06:38	18:27 (O3) 07:38	16:41 (DD1) 07:44	12:21 (DD3) 08:38
24	21:58	21:02	33 20:14 (O2) 19:43	18:54 (O3) 18:23	17:47 (O4) 16:12	101 14:47 (O5) 15:37
25	04:42	19:54 (O2) 05:38	19:41 (O2) 06:40	18:29 (O3) 07:40	16:42 (DD1) 07:46	12:21 (DD3) 08:39
26	21:57	8 20:02 (O2) 20:59	32 20:13 (O2) 19:40	18:51 (O3) 18:21	17:45 (O4) 16:10	101 14:47 (O5) 15:37
27	04:44	19:52 (O2) 05:40	19:42 (O2) 06:42	18:32 (O3) 07:42	16:42 (DD1) 07:49	12:22 (DD3) 08:40
28	21:55	12 20:04 (O2) 20:57	30 20:12 (O2) 19:38	18:48 (O3) 18:18	17:42 (O4) 16:08	102 14:48 (O5) 15:37
29	04:45	19:50 (O2) 05:42	18:45 (O3) 06:44	17:44 (O4) 16:06	16:44 (DD1) 07:51	12:22 (DD3) 08:41
30	21:54	15 20:05 (O2) 20:55	36 20:10 (O2) 19:35	18:15 (O3) 17:45	16:46 (DD1) 07:53	101 14:48 (O5) 15:37
31	04:47	19:49 (O2) 05:44	18:41 (O3) 06:46	17:46 (O4) 16:06	16:46 (DD1) 07:53	12:22 (DD3) 08:42
32	21:53	19 20:08 (O2) 20:52	41 20:08 (O2) 19:32	18:13 (O3) 17:43	17:17 (DD1) 16:05	101 14:48 (O5) 15:37
33	04:48	19:48 (O2) 05:46	18:38 (O3) 06:48	17:48 (O4) 16:07	16:47 (DD1) 07:55	12:23 (DD3) 08:43
34	21:51	20 20:08 (O2) 20:50	43 20:06 (O2) 19:30	18:10 (O3) 17:40	17:15 (DD1) 16:03	100 14:48 (O5) 15:37
35	04:50	19:47 (O2) 05:48	18:36 (O3) 06:50	17:51 (O4) 16:09	16:49 (DD1) 07:57	12:23 (DD3) 08:44
36	21:50	23 20:10 (O2) 20:47	43 20:04 (O2) 19:27	18:08 (O3) 17:12	17:12 (DD1) 16:01	99 14:48 (O5) 15:37
37	04:51	19:46 (O2) 05:50	18:34 (O3) 06:52	17:05 (DD1) 07:53	13:51 (DD3) 07:59	12:23 (DD3) 08:45
38	21:49	25 20:11 (O2) 20:45	36 19:59 (O2) 19:24	17:18 (DD1) 18:05	17:09 (DD1) 16:00	99 14:48 (O5) 15:37
39	04:53	19:45 (O2) 05:52	18:32 (O3) 06:54	17:00 (DD1) 07:55	13:44 (DD3) 08:01	12:25 (DD3) 08:45
40	21:47	27 20:12 (O2) 20:43	33 19:05 (O3) 19:21	17:21 (DD1) 18:03	16:57 (O1.b) 15:58	97 14:49 (O5) 15:38
41	04:55	19:44 (O2) 05:54	18:31 (O3) 06:55	16:57 (DD1) 07:57	13:40 (DD3) 08:03	12:25 (DD3) 08:46
42	21:46	28 20:12 (O2) 20:40	35 19:06 (O3) 19:19	17:24 (DD1) 18:00	16:58 (O1.b) 15:57	96 14:48 (O5) 15:38
43	04:56	19:44 (O2) 05:56	18:29 (O3) 06:57	16:54 (DD1) 07:59	13:36 (DD3) 08:05	12:25 (DD3) 08:47
44	21:44	30 20:14 (O2) 20:38	37 19:06 (O3) 19:16	17:25 (DD1) 17:58	16:59 (O1.b) 15:55	95 14:48 (O5) 15:38
45	04:58	19:43 (O2) 05:58	18:28 (O3) 06:59	16:52 (DD1) 08:01	13:34 (DD3) 08:07	12:26 (DD3) 08:47
46	21:42	31 20:14 (O2) 20:35	39 19:07 (O3) 19:13	17:26 (DD1) 17:56	17:00 (O1.b) 15:54	93 14:48 (O5) 15:39
47	05:00	19:43 (O2) 06:00	18:27 (O3) 07:01	16:50 (DD1) 08:03	13:32 (DD3) 08:09	12:27 (DD3) 08:48
48	21:41	32 20:15 (O2) 20:33	40 19:07 (O3) 19:11	17:27 (DD1) 17:53	17:00 (O1.b) 15:52	91 14:48 (O5) 15:40
49	05:02	19:41 (O2) 06:02	18:26 (O3) 07:03	16:48 (DD1) 07:05	12:30 (DD3) 08:11	12:28 (DD3) 08:48
50	21:39	34 20:15 (O2) 20:30	42 19:08 (O3) 19:08	17:28 (DD1) 16:51	16:00 (O1.b) 15:51	97 14:48 (O5) 15:40
51	05:03	19:41 (O2) 06:04	18:25 (O3) 07:05	16:47 (DD1) 07:08	12:29 (DD3) 08:13	12:28 (DD3) 08:48
52	21:37	35 20:16 (O2) 20:28	43 19:08 (O3) 19:05	17:47 (O4) 16:48	16:01 (O1.b) 15:50	98 14:48 (O5) 15:41
53	05:05	19:41 (O2) 06:06	18:24 (O3) 07:07	16:46 (DD1) 07:10	12:27 (DD3) 08:15	12:29 (DD3) 08:48
54	21:35	36 20:17 (O2) 20:25	44 19:08 (O3) 19:03	17:50 (O4) 16:46	16:01 (O1.b) 15:48	97 14:47 (O5) 15:42
55	05:07	19:40 (O2) 06:08	18:24 (O3) 07:09	16:44 (DD1) 07:12	12:26 (DD3) 08:16	12:30 (DD3) 08:48
56	21:33	36 20:16 (O2) 20:22	44 19:08 (O3) 19:00	17:52 (O4) 16:44	16:00 (O1.b) 15:47	97 14:47 (O5) 15:43
57	05:09	19:40 (O2) 06:10	18:23 (O3) 07:11	16:43 (DD1) 07:14	12:26 (DD3) 08:18	12:30 (DD3) 08:49
58	21:31	37 20:17 (O2) 20:20	45 19:08 (O3) 18:57	17:53 (O4) 16:41	16:00 (O1.b) 15:46	97 14:47 (O5) 15:44
59	05:11	19:40 (O2) 06:12	18:23 (O3) 07:14	16:43 (DD1) 07:16	12:24 (DD3) 08:20	12:31 (DD3) 08:49
60	21:30	37 20:17 (O2) 20:17	45 19:08 (O3) 18:55	17:54 (O4) 16:39	16:00 (O1.b) 15:45	95 14:46 (O5) 15:45
61	05:13	19:39 (O2) 06:14	18:22 (O3) 07:15	17:54 (O4) 16:39	12:23 (DD3) 08:21	12:31 (DD3) 08:49
62	21:28	38 20:17 (O2) 20:15	45 19:07 (O3) 18:55	16:37 (O4) 16:37	15:59 (O1.b) 15:45	94 14:46 (O5) 15:46
Potential sun hours	528	469	384	324	248	217
Total, worst case	523	1200	1027	1943	2937	2186
Sun reduction	0,47	0,52	0,43	0,29	0,08	0,08
Oper. time red.	1,00	1,00	1,00	1,00	1,00	1,00
Wind dir. red.	1,00	1,00	1,00	1,00	1,00	1,00
Total reduction	0,47	0,52	0,43	0,29	0,08	0,08
Total, real	247	627	443	563	220	184

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Celinmajas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (574)  
Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:24 21:15	06:25 19:59	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:02	05:26 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:50 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:27 21:10	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	04:27 22:00	04:37 22:01	05:29 21:08	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:38
10	08:43 15:59	07:54 17:04	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:02	04:40 21:58	05:35 21:01	06:37 19:43	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:56	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:13 20:18	05:03 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:54	06:43 19:34	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:01	08:44 15:36
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	04:53 21:29	04:24 22:07	04:51 21:48	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:30	04:24 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:07	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:58	08:05 15:54	08:46 15:38
23	08:28 16:24	07:23 17:32	06:11 18:32	05:50 20:36	04:47 21:36	04:24 22:08	04:58 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37	04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:08	08:05 16:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:40	05:40 20:45	04:41 21:42	04:26 22:07	05:05 21:35	06:05 20:25	07:07 19:02	08:09 16:46	08:14 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:42	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 19:00	08:12 16:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:45	04:27 22:07	05:08 21:31	06:09 20:19	07:11 18:57	08:14 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:48		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Celmalas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (555)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Celtekas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (518)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Cielavinas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (430) Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09									
	15:47	16:44	17:46	16:24 (DD3)	06:47	05:31	04:35	04:29	05:14	06:16	07:15	08:22
2	08:48	08:11	07:06		28	16:52 (DD3)	19:51	20:53	21:50	22:06	21:26	20:12
	15:48	16:46	17:48	27	16:51 (DD3)	19:53	20:55	21:51	22:06	21:24	20:09	18:49
3	08:48	08:09	07:04			16:25 (DD3)	06:42	05:27	04:33	04:31	05:18	06:20
	15:50	16:48	17:50	26	16:51 (DD3)	19:55	20:57	21:53	22:05	21:21	20:07	18:47
4	08:47	08:07	07:01			16:26 (DD3)	06:39	05:24	04:32	04:32	05:20	06:22
	15:51	16:51	17:52	23	16:49 (DD3)	19:57	20:59	21:54	22:05	21:19	20:04	18:44
5	08:47	08:05	06:59			16:27 (DD3)	06:36	05:22	04:31	04:33	05:22	06:24
	15:52	16:53	17:55	20	16:47 (DD3)	19:59	21:01	21:55	22:04	21:17	20:01	18:41
6	08:46	08:03	06:56			16:29 (DD3)	06:34	05:20	04:30	04:34	05:24	06:26
	15:54	16:55	17:57	17	16:46 (DD3)	20:01	21:03	21:56	22:03	21:15	19:59	18:39
7	08:46	08:00	06:53			16:32 (DD3)	06:31	05:18	04:29	04:35	05:26	06:28
	15:55	16:57	17:59	10	16:42 (DD3)	20:04	21:05	21:58	22:03	21:13	19:56	18:36
8	08:45	07:58	06:51			17:26 (DD1)	06:29	05:16	04:28	04:36	05:28	06:30
	15:57	16:59	18:01	6	17:32 (DD1)	20:06	21:07	21:59	22:02	21:11	19:54	18:33
9	08:44	07:56	06:48			17:24 (DD1)	06:26	05:13	04:28	04:37	05:30	06:32
	15:58	17:02	18:03	11	17:35 (DD1)	20:08	21:09	22:00	22:01	21:08	19:51	18:31
10	08:44	07:54	06:46			17:22 (DD1)	06:23	05:11	04:27	04:38	05:32	06:34
	16:00	17:04	18:05	15	17:37 (DD1)	20:10	21:11	22:01	22:00	21:06	19:48	18:28
11	08:43	07:52	06:43			17:20 (DD1)	06:21	05:09	04:26	04:40	05:34	06:36
	16:02	17:06	18:07	19	17:39 (DD1)	20:12	21:13	22:02	21:59	21:04	19:46	18:26
12	08:42	07:50	06:40			17:20 (DD1)	06:18	05:07	04:26	04:41	05:36	06:38
	16:03	17:08	18:09	21	17:41 (DD1)	20:14	21:15	22:02	21:58	21:02	19:43	18:23
13	08:41	07:47	06:38			17:19 (DD1)	06:16	05:05	04:25	04:42	05:38	06:40
	16:05	17:11	18:12	22	17:41 (DD1)	20:16	21:17	22:03	21:57	20:59	19:40	18:20
14	08:40	07:45	06:35			17:18 (DD1)	06:13	05:03	04:25	04:44	05:40	06:42
	16:07	17:13	18:14	22	17:40 (DD1)	20:18	21:19	22:04	21:55	20:57	19:38	18:18
15	08:39	07:43	06:32			17:19 (DD1)	06:10	05:01	04:25	04:45	05:42	06:44
	16:09	17:15	18:16	21	17:40 (DD1)	20:20	21:21	22:05	21:54	20:55	19:35	18:15
16	08:38	07:41	06:30			17:18 (DD1)	06:08	04:59	04:25	04:47	05:44	06:46
	16:11	17:17	18:18	22	17:40 (DD1)	20:22	21:23	22:05	21:53	20:52	19:32	18:13
17	08:36	07:38	06:27			17:18 (DD1)	06:05	04:58	04:24	04:48	05:46	06:47
	16:13	17:20	18:20	20	17:38 (DD1)	20:24	21:25	22:06	21:51	20:50	19:29	18:10
18	08:35	07:36	06:24			17:20 (DD1)	06:03	04:56	04:24	04:50	05:48	06:49
	16:15	17:22	18:22	18	17:38 (DD1)	20:26	21:27	22:06	21:50	20:47	19:27	18:08
19	08:34	07:33	06:22			17:20 (DD1)	06:00	04:54	04:24	04:51	05:50	06:51
	16:16	17:24	18:24	16	17:36 (DD1)	20:28	21:29	22:07	21:49	20:45	19:24	18:05
20	08:32	07:31	06:19			17:22 (DD1)	05:58	04:52	04:24	04:53	05:52	06:53
	16:18	17:26	18:26	12	17:34 (DD1)	20:30	21:31	22:07	21:47	20:43	19:21	18:03
21	08:31	07:29	06:16			17:25 (DD1)	05:55	04:51	04:24	04:55	05:54	06:55
	16:20	17:28	18:28	4	17:29 (DD1)	20:33	21:32	22:07	21:45	20:40	19:19	18:00
22	08:30	07:26	06:14			16:26 (DD3)	06:14	05:53	04:49	04:25	04:56	05:56
	16:23	17:31	18:30			16:25 (DD3)	06:11	05:50	04:47	04:25	04:58	05:58
23	08:28	07:24	06:11			16:25 (DD3)	06:11	05:50	04:47	04:25	04:58	05:58
	16:25	17:33	18:32			16:25 (DD3)	06:08	05:48	04:46	04:25	05:00	06:00
24	08:26	07:21	06:08			16:25 (DD3)	06:08	05:48	04:46	04:25	05:00	06:00
	16:27	17:35	18:35			16:24 (DD3)	06:06	05:45	04:44	04:25	05:02	06:02
25	08:25	07:19	06:06			16:24 (DD3)	06:06	05:45	04:44	04:25	05:02	06:02
	16:29	17:37	18:37			16:53 (DD3)	06:03	05:43	04:43	04:26	05:03	06:04
26	08:23	07:16	06:03			16:24 (DD3)	06:03	05:43	04:43	04:26	05:03	06:04
	16:31	17:39	18:39			16:53 (DD3)	06:00	05:41	04:41	04:24	05:01	06:02
27	08:22	07:14	06:00			16:24 (DD3)	06:00	05:41	04:41	04:24	05:01	06:02
	16:33	17:42	18:41			16:53 (DD3)	06:00	05:41	04:41	04:24	05:01	06:02
28	08:20	07:11	05:58			16:24 (DD3)	05:58	05:38	04:40	04:27	05:07	06:08
	16:35	17:44	18:43			16:53 (DD3)	05:58	05:38	04:40	04:27	05:07	06:08
29	08:18		06:55				06:55	05:36	04:39	04:28	05:09	06:10
	16:37		19:45				19:45	05:34	04:37	04:28	05:11	06:12
30	08:16		06:52				19:47	05:34	04:37	04:28	05:11	06:12
	16:40		19:47				19:47	05:34	04:37	04:28	05:11	06:12
31	08:14		06:50				19:49	05:34	04:37	04:28	05:11	06:12
	16:42		19:49				19:49	05:34	04:37	04:28	05:11	06:12
Potential sun hours	236	266	292	366	426	507	528	528	469	384	324	248
Total, worst case			292	380						146	531	217
Sun reduction			0,22	0,39						0,43	0,29	
Oper. time red.			1,00	1,00						1,00	1,00	
Wind dir. red.			1,00	1,00						1,00	1,00	
Total reduction			0,22	0,39						0,43	0,29	
Total, real			66	149						63	154	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Dadziš i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (485)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:15	06:17	07:17	07:22	08:23
	15:47	16:45	17:47	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:05	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:02	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:00	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:05	15:36
16	08:37	07:40	06:29	06:07	04:59	04:23	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Dauguli - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (493)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Driveniš ki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (449)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	
1	08:48	08:13	07:09	06:47	05:31	04:35	05:37 (P19.2b)
	15:47	16:44	17:46	19:51	20:53	21:50	19 05:56 (P19.2b)
2	08:48	08:11	07:06	06:45	05:29	04:34	05:37 (P19.2b)
	15:49	16:46	17:48	19:53	20:55	21:51	19 05:56 (P19.2b)
3	08:48	08:09	07:04	06:42	05:27	04:33	05:38 (P19.2b)
	15:50	16:49	17:50	19:55	20:57	21:53	17 05:55 (P19.2b)
4	08:47	08:07	07:01	06:39	05:25	04:32	05:39 (P19.2b)
	15:51	16:51	17:53	19:57	20:59	21:54	17 05:56 (P19.2b)
5	08:47	08:05	06:59	06:37	05:22	04:31	05:40 (P19.2b)
	15:53	16:53	17:55	20:00	21:01	21:55	15 05:55 (P19.2b)
6	08:46	08:03	06:56	06:34	05:20	04:30	05:40 (P19.2b)
	15:54	16:55	17:57	20:02	21:04	21:57	14 05:54 (P19.2b)
7	08:46	08:01	06:54	06:31	05:18	04:29	05:42 (P19.2b)
	15:56	16:58	17:59	20:04	21:06	21:58	12 05:54 (P19.2b)
8	08:45	07:58	06:51	06:29	05:16	04:29	05:42 (P19.2b)
	15:57	17:00	18:01	20:06	21:08	21:59	11 05:53 (P19.2b)
9	08:44	07:56	06:48	06:26	05:14	04:28	05:43 (P19.2b)
	15:59	17:02	18:03	20:08	21:10	22:00	9 05:52 (P19.2b)
10	08:44	07:54	06:46	06:24	05:12	05:41 (P19.2b)	04:27 05:44 (P19.2b)
	16:00	17:04	18:05	20:10	21:12	10 05:51 (P19.2b)	22:01 8 05:52 (P19.2b)
11	08:43	07:52	06:43	06:21	05:10	05:39 (P19.2b)	04:27 05:46 (P19.2b)
	16:02	17:06	18:08	20:12	21:14	13 05:52 (P19.2b)	22:02 6 05:52 (P19.2b)
12	08:42	07:50	06:41	06:18	05:08	05:37 (P19.2b)	04:26 05:47 (P19.2b)
	16:04	17:09	18:10	20:14	21:15	17 05:54 (P19.2b)	22:03 2 05:49 (P19.2b)
13	08:41	07:48	06:38	06:16	05:06	05:36 (P19.2b)	04:26
	16:05	17:11	18:12	20:16	21:17	18 05:54 (P19.2b)	22:03
14	08:40	07:45	06:35	06:13	05:04	05:36 (P19.2b)	04:25
	16:07	17:13	18:14	20:18	21:19	20 05:56 (P19.2b)	22:04
15	08:39	07:43	06:33	06:11	05:02	05:35 (P19.2b)	04:25
	16:09	17:15	18:16	20:20	21:21	21 05:56 (P19.2b)	22:05
16	08:38	07:41	06:30	06:08	05:00	05:34 (P19.2b)	04:25
	16:11	17:18	18:18	20:22	21:23	23 05:57 (P19.2b)	22:05
17	08:36	07:38	06:27	06:06	04:58	05:34 (P19.2b)	04:25
	16:13	17:20	18:20	20:24	21:25	24 05:58 (P19.2b)	22:06
18	08:35	07:36	06:25	06:03	04:56	05:34 (P19.2b)	04:25
	16:15	17:22	18:22	20:26	21:27	24 05:58 (P19.2b)	22:06
19	08:34	07:34	06:22	06:01	04:54	05:33 (P19.2b)	04:25
	16:17	17:24	18:24	20:29	21:29	24 05:57 (P19.2b)	22:07
20	08:33	07:31	06:19	05:58	04:53	05:33 (P19.2b)	04:25
	16:19	17:26	18:26	20:31	21:31	25 05:58 (P19.2b)	22:07
21	08:31	07:29	06:17	05:55	04:51	05:33 (P19.2b)	04:25
	16:21	17:29	18:29	20:33	21:32	25 05:58 (P19.2b)	22:07
22	08:30	07:26	06:14	05:53	04:49	05:33 (P19.2b)	04:25
	16:23	17:31	18:31	20:35	21:34	25 05:58 (P19.2b)	22:08
23	08:28	07:24	06:11	05:51	04:48	05:34 (P19.2b)	04:25
	16:25	17:33	18:33	20:37	21:36	25 05:59 (P19.2b)	22:08
24	08:27	07:21	06:09	05:48	04:46	05:33 (P19.2b)	04:25
	16:27	17:35	18:35	20:39	21:38	25 05:58 (P19.2b)	22:08
25	08:25	07:19	06:06	05:46	04:44	05:34 (P19.2b)	04:26
	16:29	17:37	18:37	20:41	21:39	24 05:58 (P19.2b)	22:08
26	08:23	07:17	06:03	05:43	04:43	05:34 (P19.2b)	04:26
	16:31	17:40	18:39	20:43	21:41	24 05:58 (P19.2b)	22:08
27	08:22	07:14	06:01	05:41	04:42	05:34 (P19.2b)	04:27
	16:33	17:42	18:41	20:45	21:43	23 05:57 (P19.2b)	22:08
28	08:20	07:11	05:58	05:38	04:40	05:35 (P19.2b)	04:27
	16:35	17:44	18:43	20:47	21:44	22 05:57 (P19.2b)	22:07
29	08:18		06:55	05:36	04:39	05:35 (P19.2b)	04:28
	16:38		19:45	20:49	21:46	22 05:57 (P19.2b)	22:07
30	08:16		06:53	05:34	04:38	05:36 (P19.2b)	04:29
	16:40		19:47	20:51	21:47	21 05:57 (P19.2b)	22:07
31	08:14		06:50		04:36	05:36 (P19.2b)	
	16:42		19:49		21:49	21 05:57 (P19.2b)	
Potential sun hours	236	266	366	426	507	528	
Total, worst case					476		149
Sun reduction					0,56		0,57
Oper. time red.					1,00		1,00
Wind dir. red.					1,00		1,00
Total reduction					0,56		0,57
Total, real					268		85

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Driveniš ki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (449)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:29 22:06 4	05:51 (P19.2b) 05:55 (P19.2b) 21:26 15	05:48 (P19.2b) 06:03 (P19.2b) 20:12 18	07:16 18:52 16:35 15:44	07:21 16:35 16:35 15:44	08:22 15:44 15:44 15:44
2	04:30 22:06 7	05:49 (P19.2b) 05:56 (P19.2b) 21:24 12	05:50 (P19.2b) 06:02 (P19.2b) 20:10 18	07:18 18:49 16:33 15:43	07:23 16:33 16:33 15:43	08:24 15:43 15:43 15:43
3	04:31 22:05 9	05:48 (P19.2b) 05:57 (P19.2b) 21:22 8	05:52 (P19.2b) 06:00 (P19.2b) 20:07 18	07:20 18:47 16:30 15:42	07:25 16:30 16:30 15:42	08:25 15:42 15:42 15:42
4	04:32 22:05 10	05:48 (P19.2b) 05:58 (P19.2b) 21:19 12	06:00 (P19.2b) 06:22 (P19.2b) 20:04 18	07:22 18:44 16:28 15:42	07:27 16:28 16:28 15:42	08:27 15:42 15:42 15:42
5	04:33 22:04 12	05:47 (P19.2b) 05:59 (P19.2b) 21:17 15	06:24 (P19.2b) 20:02 18:42 16:26 15:41	07:24 18:42 16:26 15:41	07:29 16:26 16:26 15:41	08:28 15:41 15:41 15:41
6	04:34 22:03 13	05:47 (P19.2b) 06:00 (P19.2b) 21:15 18	06:26 (P19.2b) 19:59 18:39 16:24 15:40	07:26 18:39 16:24 15:40	07:31 16:24 16:24 15:40	08:30 15:40 15:40 15:40
7	04:35 22:03 15	05:46 (P19.2b) 06:01 (P19.2b) 21:13 18	06:28 (P19.2b) 19:56 18:36 16:22 15:40	07:28 18:36 16:22 15:40	07:34 16:22 16:22 15:40	08:31 15:40 15:40 15:40
8	04:36 22:02 16	05:46 (P19.2b) 06:02 (P19.2b) 21:11 18	06:30 (P19.2b) 19:54 18:34 16:20 15:39	07:30 18:34 16:20 15:39	07:36 16:20 16:20 15:39	08:33 15:39 15:39 15:39
9	04:37 22:01 18	05:45 (P19.2b) 06:03 (P19.2b) 21:09 18	06:32 (P19.2b) 19:51 18:31 16:18 15:39	07:32 18:31 16:18 15:39	07:38 16:18 16:18 15:39	08:34 15:39 15:39 15:39
10	04:39 22:00 18	05:45 (P19.2b) 06:03 (P19.2b) 21:06 18	06:34 (P19.2b) 19:48 18:28 16:16 15:38	07:34 18:28 16:16 15:38	07:40 16:16 16:16 15:38	08:35 15:38 15:38 15:38
11	04:40 21:59 20	05:45 (P19.2b) 06:05 (P19.2b) 21:04 18	06:36 (P19.2b) 19:46 18:26 16:14 15:38	07:36 18:26 16:14 15:38	07:42 16:14 16:14 15:38	08:37 15:38 15:38 15:38
12	04:41 21:58 20	05:45 (P19.2b) 06:05 (P19.2b) 21:02 18	06:38 (P19.2b) 19:43 18:23 16:12 15:37	07:38 18:23 16:12 15:37	07:44 16:12 16:12 15:37	08:38 15:37 15:37 15:37
13	04:43 21:57 21	05:44 (P19.2b) 06:05 (P19.2b) 20:59 18	06:40 (P19.2b) 19:40 18:21 16:10 15:37	07:40 18:21 16:10 15:37	07:46 16:10 16:10 15:37	08:39 15:37 15:37 15:37
14	04:44 21:55 22	05:44 (P19.2b) 06:06 (P19.2b) 20:57 18	06:42 (P19.2b) 19:38 18:18 16:08 15:37	07:42 18:18 16:08 15:37	07:49 16:08 16:08 15:37	08:40 15:37 15:37 15:37
15	04:46 21:54 23	05:44 (P19.2b) 06:07 (P19.2b) 20:55 18	06:44 (P19.2b) 19:35 18:16 16:07 15:37	07:44 18:16 16:07 15:37	07:51 16:07 16:07 15:37	08:41 15:37 15:37 15:37
16	04:47 21:53 23	05:44 (P19.2b) 06:07 (P19.2b) 20:52 18	06:46 (P19.2b) 19:32 18:13 16:05 15:37	07:46 18:13 16:05 15:37	07:53 16:05 16:05 15:37	08:42 15:37 15:37 15:37
17	04:49 21:51 24	05:43 (P19.2b) 06:07 (P19.2b) 20:50 18	06:48 (P19.2b) 19:30 18:11 16:03 15:37	07:48 18:11 16:03 15:37	07:55 16:03 16:03 15:37	08:43 15:37 15:37 15:37
18	04:50 21:50 24	05:44 (P19.2b) 06:08 (P19.2b) 20:48 18	06:50 (P19.2b) 19:27 18:08 16:01 15:37	07:51 18:08 16:01 15:37	07:57 16:01 16:01 15:37	08:44 15:37 15:37 15:37
19	04:52 21:49 24	05:43 (P19.2b) 06:07 (P19.2b) 20:45 18	06:52 (P19.2b) 19:24 18:06 16:00 15:38	07:53 18:06 16:00 15:38	07:59 16:00 16:00 15:38	08:45 15:38 15:38 15:38
20	04:53 21:47 24	05:44 (P19.2b) 06:08 (P19.2b) 20:43 18	06:54 (P19.2b) 19:22 18:03 15:58 15:38	07:55 18:03 15:58 15:38	08:01 15:58 15:58 15:38	08:45 15:38 15:38 15:38
21	04:55 21:45 25	05:43 (P19.2b) 06:08 (P19.2b) 20:40 18	06:56 (P19.2b) 19:19 18:01 15:57 15:38	07:57 18:01 15:57 15:38	08:03 15:57 15:57 15:38	08:46 15:38 15:38 15:38
22	04:57 21:44 24	05:44 (P19.2b) 06:08 (P19.2b) 20:38 18	06:58 (P19.2b) 19:16 17:58 15:55 15:39	07:59 17:58 15:55 15:39	08:05 15:55 15:55 15:39	08:47 15:39 15:39 15:39
23	04:58 21:42 25	05:43 (P19.2b) 06:08 (P19.2b) 20:35 18	07:00 (P19.2b) 19:13 17:56 15:54 15:39	08:01 17:56 15:54 15:39	08:07 15:54 15:54 15:39	08:47 15:39 15:39 15:39
24	05:00 21:41 24	05:44 (P19.2b) 06:08 (P19.2b) 20:33 18	07:02 (P19.2b) 19:11 17:53 15:52 15:40	08:03 17:53 15:52 15:40	08:09 15:52 15:52 15:40	08:47 15:40 15:40 15:40
25	05:02 21:39 25	05:44 (P19.2b) 06:09 (P19.2b) 20:30 18	07:04 (P19.2b) 19:08 16:51 15:51 15:41	07:05 16:51 15:51 15:41	08:11 15:51 15:51 15:41	08:48 15:41 15:41 15:41
26	05:04 21:37 24	05:44 (P19.2b) 06:08 (P19.2b) 20:28 18	07:06 (P19.2b) 19:05 16:49 15:50 15:41	07:08 16:49 15:50 15:41	08:13 15:50 15:50 15:41	08:48 15:41 15:41 15:41
27	05:05 21:35 23	05:45 (P19.2b) 06:08 (P19.2b) 20:25 18	07:08 (P19.2b) 19:03 16:46 15:49 15:42	07:10 16:46 15:49 15:42	08:15 15:49 15:49 15:42	08:48 15:42 15:42 15:42
28	05:07 21:33 23	05:44 (P19.2b) 06:07 (P19.2b) 20:22 18	07:10 (P19.2b) 19:00 16:44 15:47 15:43	07:12 16:44 15:47 15:43	08:16 15:47 15:47 15:43	08:48 15:43 15:43 15:43
29	05:09 21:31 21	05:45 (P19.2b) 06:06 (P19.2b) 20:20 18	07:12 (P19.2b) 18:57 16:42 15:46 15:44	07:14 16:42 15:46 15:44	08:18 15:46 15:46 15:44	08:49 15:44 15:44 15:44
30	05:11 21:30 20	05:46 (P19.2b) 06:06 (P19.2b) 20:17 18	07:14 (P19.2b) 18:55 16:39 15:45 15:45	07:16 16:39 15:45 15:45	08:20 15:45 15:45 15:45	08:49 15:45 15:45 15:45
31	05:13 21:28 18	05:47 (P19.2b) 06:05 (P19.2b) 20:15 18	07:18 (P19.2b) 16:37 15:46 15:46	07:18 16:37 15:46 15:46	08:20 15:46 15:46 15:46	08:48 15:46 15:46 15:46
Potential sun hours	528	469	384	324	248	217
Total, worst case	599	35				
Sun reduction	0,47	0,52				
Oper. time red.	1,00	1,00				
Wind dir. red.	1,00	1,00				
Total reduction	0,47	0,52				
Total, real	283	18				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Dubultnieki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (556)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:41
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:10	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:42	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:26	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: DzeniŠ i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (411)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January			February			March			April			May			June		
1	08:48		14:48 (P19.2b)	08:13			07:09		16:04 (DD3)	06:47		18:54 (O3)	05:31			04:35		
	15:47	16	15:04 (P19.2b)	16:44			17:46	34	16:38 (DD3)	19:51	24	19:18 (O3)	20:53			21:50		
2	08:48		14:48 (P19.2b)	08:11			07:06		16:04 (DD3)	06:44		18:53 (O3)	05:29			04:34		
	15:48	18	15:06 (P19.2b)	16:46			17:48	33	16:37 (DD3)	19:53	24	19:17 (O3)	20:55			21:51		
3	08:48		14:48 (P19.2b)	08:09			07:04		16:05 (DD3)	06:42		18:54 (O3)	05:27			04:33		
	15:50	19	15:07 (P19.2b)	16:48			17:50	32	16:37 (DD3)	19:55	24	19:18 (O3)	20:57			21:53		
4	08:47		14:49 (P19.2b)	08:07			07:01		16:05 (DD3)	06:39		18:53 (O3)	05:24			04:32		
	15:51	19	15:08 (P19.2b)	16:51			17:52	30	16:35 (DD3)	19:57	24	19:17 (O3)	20:59			21:54		
5	08:47		14:49 (P19.2b)	08:05			06:59		16:06 (DD3)	06:37		18:54 (O3)	05:22			04:31		
	15:52	20	15:09 (P19.2b)	16:53			17:55	28	16:34 (DD3)	19:59	23	19:17 (O3)	21:01			21:55		
6	08:46		14:49 (P19.2b)	08:03			06:56		16:08 (DD3)	06:34		18:54 (O3)	05:20			04:30		
	15:54	20	15:09 (P19.2b)	16:55			17:57	25	16:33 (DD3)	20:01	21	19:15 (O3)	21:03			21:57		
7	08:46		14:49 (P19.2b)	08:00			06:53		16:10 (DD3)	06:31		18:54 (O3)	05:18			04:29		
	15:55	21	15:10 (P19.2b)	16:57			17:59	20	16:30 (DD3)	20:04	20	19:14 (O3)	21:05			21:58		
8	08:45		14:49 (P19.2b)	07:58			06:51		16:12 (DD3)	06:29		18:55 (O3)	05:16			04:28		
	15:57	21	15:10 (P19.2b)	17:00			18:01	15	16:27 (DD3)	20:06	18	19:13 (O3)	21:07			21:59		
9	08:44		14:49 (P19.2b)	07:56			06:48		16:19 (DD3)	06:26		18:56 (O3)	05:13			04:28		
	15:58	22	15:11 (P19.2b)	17:02			18:03	13	17:34 (DD1)	20:08	15	19:11 (O3)	21:09			22:00		
10	08:44		14:49 (P19.2b)	07:54			06:46		17:20 (DD1)	06:23		18:59 (O3)	05:11			04:27		
	16:00	23	15:12 (P19.2b)	17:04	8	16:32 (O5)	18:05	16	17:36 (DD1)	20:10	13	19:41 (O2)	21:11			22:01		
11	08:43		14:49 (P19.2b)	07:52			06:43		17:18 (DD1)	06:21		19:34 (O2)	05:09			04:26		
	16:02	23	15:12 (P19.2b)	17:06	13	16:34 (O5)	18:07	19	17:37 (DD1)	20:12	8	19:42 (O2)	21:13			22:02		
12	08:42		14:50 (P19.2b)	07:50			06:40		17:17 (DD1)	06:18		19:32 (O2)	05:07			04:26		
	16:03	23	15:13 (P19.2b)	17:08	17	16:37 (O5)	18:09	22	17:39 (DD1)	20:14	13	19:45 (O2)	21:15			22:03		
13	08:41		14:50 (P19.2b)	07:47			06:38		17:16 (DD1)	06:16		19:30 (O2)	05:05			04:25		
	16:05	24	15:14 (P19.2b)	17:11	20	16:39 (O5)	18:12	23	17:39 (DD1)	20:16	16	19:46 (O2)	21:17			22:03		
14	08:40		14:50 (P19.2b)	07:45			06:35		17:15 (DD1)	06:13		19:29 (O2)	05:03			04:25		
	16:07	24	15:14 (P19.2b)	17:13	25	16:39 (O5)	18:14	24	17:39 (DD1)	20:18	20	19:49 (O2)	21:19			22:04		
15	08:39		14:51 (P19.2b)	07:43			06:32		17:15 (DD1)	06:10		19:28 (O2)	05:01			04:25		
	16:09	23	15:14 (P19.2b)	17:15	28	16:40 (O5)	18:16	25	17:40 (DD1)	20:20	21	19:49 (O2)	21:21			22:05		
16	08:38		14:51 (P19.2b)	07:41			06:30		17:14 (DD1)	06:08		19:28 (O2)	04:59			04:25		
	16:11	23	15:14 (P19.2b)	17:17	30	16:40 (O5)	18:18	26	17:40 (DD1)	20:22	22	19:50 (O2)	21:23			22:05		
17	08:36		14:52 (P19.2b)	07:38			06:27		17:13 (DD1)	06:05		19:27 (O2)	04:58			04:24		
	16:13	23	15:15 (P19.2b)	17:20	32	16:41 (O5)	18:20	26	17:39 (DD1)	20:24	22	19:49 (O2)	21:25			22:06		
18	08:35		14:52 (P19.2b)	07:36			06:24		17:14 (DD1)	06:03		19:27 (O2)	04:56			04:24		
	16:15	23	15:15 (P19.2b)	17:22	33	16:40 (O5)	18:22	25	17:39 (DD1)	20:26	22	19:49 (O2)	21:27			22:06		
19	08:34		14:53 (P19.2b)	07:33			06:22		17:14 (DD1)	06:00		19:27 (O2)	04:54			04:24		
	16:16	22	15:15 (P19.2b)	17:24	34	16:41 (O5)	18:24	24	17:38 (DD1)	20:28	21	19:48 (O2)	21:29			22:07		
20	08:32		14:53 (P19.2b)	07:31			06:19		17:14 (DD1)	05:58		19:27 (O2)	04:52			04:24		
	16:18	22	15:15 (P19.2b)	17:26	35	16:40 (O5)	18:26	23	17:37 (DD1)	20:30	21	19:48 (O2)	21:31			22:07		
21	08:31		14:53 (P19.2b)	07:29			06:16		17:15 (DD1)	05:55		19:28 (O2)	04:51			04:24		
	16:21	22	15:15 (P19.2b)	17:28	35	16:40 (O5)	18:28	21	17:36 (DD1)	20:33	19	19:47 (O2)	21:32			22:07		
22	08:30		14:55 (P19.2b)	07:26			06:14		17:16 (DD1)	05:53		19:28 (O2)	04:49			04:25		
	16:23	20	15:15 (P19.2b)	17:31	35	16:39 (DD3)	18:30	19	17:35 (DD1)	20:35	18	19:46 (O2)	21:34			22:08		
23	08:28		14:56 (P19.2b)	07:24			06:11		17:17 (DD1)	05:50		19:29 (O2)	04:47			04:25		
	16:25	19	15:15 (P19.2b)	17:33	36	16:40 (DD3)	18:32	15	17:32 (DD1)	20:37	16	19:45 (O2)	21:36			22:08		
24	08:27		14:57 (P19.2b)	07:21			06:08		17:19 (DD1)	05:48		19:31 (O2)	04:46			04:25		
	16:27	17	15:14 (P19.2b)	17:35	37	16:40 (DD3)	18:35	10	17:29 (DD1)	20:39	12	19:43 (O2)	21:38			22:08		
25	08:25		14:58 (P19.2b)	07:19			06:06			05:45		19:33 (O2)	04:44			04:25		
	16:29	15	15:13 (P19.2b)	17:37	36	16:39 (DD3)	18:37			20:41	6	19:39 (O2)	21:39			22:08		
26	08:23		15:00 (P19.2b)	07:16			06:03			05:43			04:43			04:26		
	16:31	11	15:11 (P19.2b)	17:39	37	16:40 (DD3)	18:39			20:43			21:41			22:08		
27	08:22		15:03 (P19.2b)	07:14			06:00		18:01 (O3)	05:41			04:41			04:26		
	16:33	6	15:09 (P19.2b)	17:42	36	16:39 (DD3)	18:41	11	18:12 (O3)	20:45			21:43			22:08		
28	08:20			07:11			05:58		17:59 (O3)	05:38			04:40			04:27		
	16:35			17:44	35	16:39 (DD3)	18:43	16	18:15 (O3)	20:47			21:44			22:07		
29	08:18						06:55		18:57 (O3)	05:36			04:39			04:28		
	16:37						19:45	19	19:16 (O3)	20:49			21:46			22:07		
30	08:16						06:52		18:56 (O3)	05:34			04:37			04:28		
	16:40						19:47	21	19:17 (O3)	20:51			21:47			22:07		
31	08:14						06:50		18:55 (O3)				04:36					
	16:42						19:49	23	19:18 (O3)				21:49					
Potential sun hours	236			266			366			426		507				528		
Total, worst case		539			562			638			463							
Sun reduction		0,13			0,22			0,39			0,44							
Oper. time red.		1,00			1,00			1,00			1,00							
Wind dir. red.		1,00			1,00			1,00			1,00							
Total reduction		0,13			0,22			0,39			0,44							
Total, real		72			126			250			205							

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: DzeniŠ i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (411)  
Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December					
1	04:29 22:06	05:14 21:26	06:16 20:12	19:33 (O2) 18:52	07:15 18:18 (DD1)	17:56 (DD1) 16:35	7	15:54 (O5) 16:01 (O5)	08:22 15:44	23	14:32 (P19.2b) 14:55 (P19.2b)
2	04:30 22:06	05:16 21:24	06:18 20:09	18:57 (O2) 19:39 (O2)	07:17 18:49	17:56 (DD1) 16:32	21	18:17 (DD1) 17:57 (DD1)	07:23 07:25	23	14:32 (P19.2b) 14:55 (P19.2b)
3	04:31 22:05	05:18 21:21	06:20 20:07	18:54 (O3) 19:09 (O3)	07:20 18:47	17:57 (DD1) 16:30	18	18:15 (DD1) 17:59 (DD1)	07:25 07:27	22	14:33 (P19.2b) 14:55 (P19.2b)
4	04:32 22:05	05:20 21:19	06:22 20:04	18:52 (O3) 19:10 (O3)	07:22 18:44	17:59 (DD1) 16:28	14	18:13 (DD1) 16:51 (DD3)	07:27 07:29	21	14:34 (P19.2b) 14:55 (P19.2b)
5	04:33 22:04	05:22 21:17	06:24 20:02	18:51 (O3) 19:11 (O3)	07:24 18:41	16:51 (DD3) 16:26	18	18:09 (DD1) 16:47 (DD3)	07:29 07:31	21	14:34 (P19.2b) 14:55 (P19.2b)
6	04:34 22:03	05:24 21:15	06:26 19:59	18:50 (O3) 19:12 (O3)	07:26 18:39	16:47 (DD3) 16:24	18	17:05 (DD3) 16:44 (DD3)	07:31 07:33	20	14:35 (P19.2b) 14:56 (P19.2b)
7	04:35 22:03	05:26 21:13	06:28 19:56	18:49 (O3) 19:12 (O3)	07:28 18:36	16:44 (DD3) 16:22	23	17:07 (DD3) 16:42 (DD3)	07:33 07:36	20	14:36 (P19.2b) 14:56 (P19.2b)
8	04:36 22:02	05:28 21:11	06:30 19:54	18:48 (O3) 19:12 (O3)	07:30 18:33	16:42 (DD3) 16:20	26	17:08 (DD3) 16:41 (DD3)	07:36 07:38	19	14:36 (P19.2b) 14:55 (P19.2b)
9	04:37 22:01	05:30 21:08	06:32 19:51	18:48 (O3) 19:12 (O3)	07:32 18:31	16:41 (DD3) 16:18	29	17:10 (DD3) 16:40 (DD3)	07:38 07:40	19	14:37 (P19.2b) 14:56 (P19.2b)
10	04:38 22:00	05:32 21:06	06:34 19:48	18:46 (O3) 19:10 (O3)	07:34 18:28	16:40 (DD3) 16:16	31	17:11 (DD3) 16:38 (DD3)	07:40 07:42	18	14:37 (P19.2b) 14:55 (P19.2b)
11	04:40 21:59	05:34 21:04	06:36 19:46	18:46 (O3) 19:10 (O3)	07:36 18:26	16:38 (DD3) 16:14	33	17:11 (DD3) 16:37 (DD3)	07:42 07:44	16	14:39 (P19.2b) 14:55 (P19.2b)
12	04:41 21:58	05:36 21:02	06:38 19:43	18:47 (O3) 19:09 (O3)	07:38 18:23	16:37 (DD3) 16:12	34	16:36 (DD3) 17:11 (DD3)	07:44 16:12	16	14:39 (P19.2b) 14:55 (P19.2b)
13	04:42 21:57	05:38 20:59	06:40 19:40	18:47 (O3) 19:08 (O3)	07:40 18:21	16:36 (DD3) 16:10	35	17:11 (DD3) 16:36 (DD3)	07:46 07:48	14	14:40 (P19.2b) 14:54 (P19.2b)
14	04:44 21:55	05:40 20:57	06:42 19:38	18:48 (O3) 19:07 (O3)	07:42 18:18	16:36 (DD3) 16:08	35	17:11 (DD3) 16:36 (DD3)	07:48 07:51	14	14:40 (P19.2b) 14:54 (P19.2b)
15	04:45 21:54	05:42 20:55	06:44 19:35	18:49 (O3) 19:05 (O3)	07:44 18:15	16:36 (DD3) 16:06	6	14:36 (P19.2b) 17:12 (DD3)	08:41 16:06	13	14:41 (P19.2b) 14:54 (P19.2b)
16	04:47 21:53	05:44 20:52	06:46 19:32	18:50 (O3) 19:02 (O3)	07:46 18:13	16:35 (DD3) 16:05	11	14:33 (P19.2b) 14:44 (P19.2b)	08:42 15:37	11	14:42 (P19.2b) 14:53 (P19.2b)
17	04:48 21:51	05:46 20:50	06:48 19:29	18:54 (O3) 18:59 (O3)	07:48 18:10	16:35 (DD3) 16:03	15	14:32 (P19.2b) 14:47 (P19.2b)	08:43 15:37	11	14:43 (P19.2b) 14:54 (P19.2b)
18	04:50 21:50	05:48 20:47	06:49 19:27	18:59 (O3) 19:07 (O2)	07:50 18:08	16:35 (DD3) 16:01	17	14:31 (P19.2b) 14:48 (P19.2b)	08:44 15:37	10	14:44 (P19.2b) 14:54 (P19.2b)
19	04:51 21:49	05:50 20:45	06:51 19:24	18:08 (DD1) 18:15 (DD1)	07:53 18:05	16:36 (DD3) 16:00	19	14:30 (P19.2b) 14:49 (P19.2b)	08:45 15:37	10	14:44 (P19.2b) 14:54 (P19.2b)
20	04:53 21:47	05:52 20:43	06:53 19:21	18:04 (DD1) 18:18 (DD1)	07:55 18:03	16:35 (DD3) 15:58	20	14:30 (P19.2b) 14:50 (P19.2b)	08:45 15:38	10	14:44 (P19.2b) 14:54 (P19.2b)
21	04:55 21:45	05:54 20:40	06:55 19:19	18:02 (DD1) 18:20 (DD1)	07:57 18:00	16:36 (DD3) 15:56	22	14:29 (P19.2b) 14:51 (P19.2b)	08:46 15:38	10	14:45 (P19.2b) 14:55 (P19.2b)
22	04:56 21:44	05:56 20:38	06:57 19:16	18:00 (DD1) 18:21 (DD1)	07:59 17:58	16:36 (DD3) 15:55	22	14:29 (P19.2b) 14:51 (P19.2b)	08:47 15:38	10	14:45 (P19.2b) 14:55 (P19.2b)
23	04:58 21:42	05:58 20:35	06:59 19:13	17:59 (DD1) 18:21 (DD1)	08:01 17:56	16:37 (DD3) 15:54	22	14:29 (P19.2b) 14:51 (P19.2b)	08:47 15:39	10	14:46 (P19.2b) 14:56 (P19.2b)
24	05:00 21:41	06:00 20:33	07:01 19:11	17:58 (DD1) 18:22 (DD1)	08:03 17:53	16:38 (DD3) 15:52	23	14:30 (P19.2b) 14:53 (P19.2b)	08:47 15:40	10	14:46 (P19.2b) 14:56 (P19.2b)
25	05:02 21:39	06:02 20:30	07:03 19:08	17:57 (DD1) 18:22 (DD1)	07:05 16:51	15:39 (DD3) 15:51	23	14:30 (P19.2b) 14:53 (P19.2b)	08:48 15:40	11	14:46 (P19.2b) 14:57 (P19.2b)
26	05:03 21:37	06:04 20:27	07:05 19:05	17:56 (DD1) 18:22 (DD1)	07:07 16:48	15:41 (DD3) 15:50	23	14:30 (P19.2b) 14:53 (P19.2b)	08:48 15:41	10	14:47 (P19.2b) 14:57 (P19.2b)
27	05:05 21:35	06:06 20:25	07:07 19:03	17:56 (DD1) 18:22 (DD1)	07:10 16:46	15:42 (DD3) 15:48	24	14:30 (P19.2b) 14:54 (P19.2b)	08:48 15:42	11	14:48 (P19.2b) 14:59 (P19.2b)
28	05:07 21:33	06:08 20:22	07:09 19:00	17:55 (DD1) 18:21 (DD1)	07:12 16:44	15:45 (DD3) 15:47	24	14:30 (P19.2b) 14:54 (P19.2b)	08:16 15:43	12	14:47 (P19.2b) 14:59 (P19.2b)
29	05:09 21:31	06:10 20:20	07:11 18:57	17:55 (DD1) 18:20 (DD1)	07:14 16:41	15:49 (O5) 15:46	23	14:31 (P19.2b) 14:54 (P19.2b)	08:18 15:44	13	14:47 (P19.2b) 15:00 (P19.2b)
30	05:11 21:30	06:12 20:17	07:13 18:55	17:55 (DD1) 18:20 (DD1)	07:16 16:39	15:50 (O5) 16:06 (O5)	23	14:31 (P19.2b) 14:54 (P19.2b)	08:20 15:45	14	14:48 (P19.2b) 15:02 (P19.2b)
31	05:13 21:28	06:14 20:15	19:31 (O2) 19:44 (O2)		07:18 16:37	15:51 (O5) 16:03 (O5)			08:48 15:46	15	14:48 (P19.2b) 15:03 (P19.2b)
Potential sun hours	528	469	384		324	248			217		
Total, worst case		253	569	864	324	457					
Sun reduction		0,52	0,43	0,29	0,08	0,08					
Oper. time red.		1,00	1,00	1,00	1,00	1,00					
Wind dir. red.		1,00	1,00	1,00	1,00	1,00					
Total reduction		0,52	0,43	0,29	0,08	0,08					
Total, real		132	246	251	24	39					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Dzeni - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (513)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Dzintarnieki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (559)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:50	06:28	05:15	04:28	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Dzirnava - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (568)  
Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:24 21:15	06:25 19:59	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:26 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	04:27 22:00	04:37 22:01	05:29 21:08	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:38
10	08:43 15:59	07:54 17:04	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:02	04:40 21:58	05:35 21:01	06:37 19:43	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:56	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:13 20:18	05:03 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:54	06:43 19:34	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:01	08:44 15:36
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	04:53 21:29	04:24 22:07	04:51 21:48	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:30	04:24 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:58	08:05 15:54	08:46 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	04:47 21:36	04:24 22:08	04:58 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37	04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:08	08:05 16:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:40	05:40 20:45	04:41 21:42	04:26 22:08	05:05 21:35	06:05 20:25	07:07 19:02	08:09 16:46	08:14 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:43	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 19:00	08:12 16:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:20	07:11 18:57	08:14 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:48		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Dzitari - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (495)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December		
1	08:48 15:46	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	19:55 (AP2) 20:18 (AP2)	04:34 21:50	04:28 22:06	05:14 21:25	20:04 (AP2) 20:28 (AP2)	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	19:54 (AP2) 20:18 (AP2)	04:33 21:51	04:29 22:06	05:16 21:23	20:04 (AP2) 20:28 (AP2)	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	19:54 (AP2) 20:19 (AP2)	04:32 21:53	04:30 22:05	05:18 21:21	20:03 (AP2) 20:29 (AP2)	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:41
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	19:53 (AP2) 20:19 (AP2)	04:31 21:54	04:31 22:05	05:20 21:19	20:03 (AP2) 20:29 (AP2)	06:21 20:04	07:21 18:44	07:27 16:27	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	19:53 (AP2) 20:19 (AP2)	04:30 21:55	04:32 22:04	05:22 21:17	20:03 (AP2) 20:30 (AP2)	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	05:19 21:03	19:53 (AP2) 20:20 (AP2)	04:29 21:56	04:33 22:03	05:23 21:15	20:02 (AP2) 20:29 (AP2)	06:25 19:59	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	19:53 (AP2) 20:19 (AP2)	04:28 21:58	04:34 22:03	05:25 21:13	20:02 (AP2) 20:29 (AP2)	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	19:53 (AP2) 20:19 (AP2)	04:28 21:59	04:35 22:02	05:27 21:11	20:03 (AP2) 20:29 (AP2)	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	19:53 (AP2) 20:19 (AP2)	04:27 22:00	04:36 22:01	05:29 21:08	20:03 (AP2) 20:29 (AP2)	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:38
10	08:44 15:59	07:54 17:03	06:45 18:05	06:23 20:09	05:11 21:11	19:53 (AP2) 20:18 (AP2)	04:26 22:01	04:38 22:00	05:31 21:06	20:03 (AP2) 20:28 (AP2)	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	19:53 (AP2) 20:18 (AP2)	04:26 22:02	04:39 21:59	05:33 21:04	20:03 (AP2) 20:27 (AP2)	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	19:54 (AP2) 20:17 (AP2)	04:25 22:03	04:40 21:58	05:35 21:01	20:04 (AP2) 20:26 (AP2)	06:37 19:43	07:38 18:23	07:44 16:11	08:38 15:36
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	19:55 (AP2) 20:17 (AP2)	04:25 22:03	04:42 21:57	05:37 20:59	20:04 (AP2) 20:25 (AP2)	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:13 20:18	05:03 21:19	19:56 (AP2) 20:16 (AP2)	04:24 22:04	04:43 21:55	05:39 20:57	20:06 (AP2) 20:24 (AP2)	06:41 19:37	07:42 18:17	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	19:56 (AP2) 20:15 (AP2)	04:24 22:05	04:45 21:54	05:41 20:54	20:07 (AP2) 20:22 (AP2)	06:43 19:34	07:44 18:15	07:50 16:06	08:41 15:36
16	08:38 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	19:57 (AP2) 20:14 (AP2)	04:24 22:05	04:46 21:53	05:43 20:52	20:09 (AP2) 20:20 (AP2)	06:45 19:32	07:46 18:12	07:53 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	19:59 (AP2) 20:13 (AP2)	04:24 22:06	04:48 21:51	05:45 20:50	20:10 (AP2) 20:19 (AP2)	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	20:01 (AP2) 20:11 (AP2)	04:24 22:06	04:49 21:50	05:47 20:47	20:10 (AP2) 20:18 (AP2)	06:49 19:26	07:50 18:07	07:57 16:01	08:44 15:36
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	04:53 21:29	20:04 (AP2) 20:09 (AP2)	04:23 22:07	04:51 21:48	05:49 20:45	20:11 (AP2) 20:16 (AP2)	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:30	20:09 (AP2) 20:10 (AP2)	04:24 22:07	04:52 21:47	05:51 20:42	20:12 (AP2) 20:17 (AP2)	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	20:04 (AP2) 20:11 (AP2)	04:24 22:07	04:54 21:45	05:53 20:40	20:13 (AP2) 20:18 (AP2)	06:55 19:18	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	20:04 (AP2) 20:12 (AP2)	04:24 22:08	04:56 21:44	05:55 20:37	20:14 (AP2) 20:19 (AP2)	06:57 19:16	07:59 17:57	08:05 15:54	08:47 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	04:47 21:36	20:04 (AP2) 20:13 (AP2)	04:24 22:08	04:57 21:42	05:57 20:35	20:15 (AP2) 20:20 (AP2)	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37	20:04 (AP2) 20:14 (AP2)	04:24 22:08	04:59 21:40	05:59 20:32	20:16 (AP2) 20:21 (AP2)	07:01 19:10	08:03 17:53	08:09 15:51	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:43 21:39	20:05 (AP2) 20:15 (AP2)	04:25 22:08	05:01 21:39	06:01 20:30	20:17 (AP2) 20:21 (AP2)	07:03 19:08	07:05 16:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:42 20:43	04:42 21:41	20:06 (AP2) 20:16 (AP2)	04:25 22:08	05:03 21:37	06:03 20:27	20:18 (AP2) 20:22 (AP2)	07:05 19:05	07:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:32	07:14 17:41	06:00 18:40	05:40 20:45	04:41 21:42	20:07 (AP2) 20:13 (AP2)	04:26 22:08	05:05 21:35	06:05 15	20:19 (AP2) 20:24 (AP2)	07:06 20:25	07:09 19:02	08:14 16:46	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:43	05:38 20:47	04:39 21:44	19:59 (AP2) 20:15 (AP2)	04:26 22:07	05:06 21:33	06:07 18	20:08 (AP2) 20:26 (AP2)	07:07 20:22	07:09 19:00	07:12 16:43	08:48 15:42
29	08:18 16:37	07:09 17:45	05:55 18:45	05:35 20:49	04:38 21:46	19:58 (AP2) 20:17 (AP2)	04:27 22:07	05:08 21:31	06:09 20	20:06 (AP2) 20:26 (AP2)	07:09 20:20	07:11 18:57	07:14 16:41	08:48 15:43
30	08:16 16:39	07:06 17:47	05:52 18:46	05:33 20:51	04:37 21:47	19:56 (AP2) 20:17 (AP2)	04:28 22:07	05:10 21:29	06:11 21	20:06 (AP2) 20:27 (AP2)	07:11 20:17	07:13 18:54	07:16 16:39	08:48 15:44
31	08:14 16:41	07:04 17:50	05:49 18:50	05:31 20:53	04:35 21:49	20:10 (AP2) 20:21 (AP2)	04:29 22:07	05:12 21:27	06:13 23	20:05 (AP2) 20:28 (AP2)	07:13 20:14	07:18 16:36	08:22 15:41	08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217		
Total, worst case				72	409			117	369					
Sun reduction				0,44	0,56			0,47	0,52					
Oper. time red.				1,00	1,00			1,00	1,00					
Wind dir. red.				1,00	1,00			1,00	1,00					
Total reduction				0,44	0,56			0,47	0,52					
Total, real				32	230			55	193					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Darzini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (471)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:49	08:13	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:23	08:24
	15:47	16:45	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:42
3	08:48	08:09	07:04	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:46	16:30	15:41
4	08:48	08:07	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:20	20:04	18:44	16:27	15:40
5	08:47	08:05	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:29
	15:51	16:52	17:54	19:59	21:02	21:56	22:05	21:17	20:01	18:41	16:25	15:40
6	08:47	08:03	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:04	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:01	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:34	08:32
	15:54	16:57	17:58	20:03	21:06	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:35	05:27	06:29	07:30	07:36	08:33
	15:56	16:59	18:01	20:05	21:08	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:45	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:32	07:38	08:34
	15:58	17:01	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:34	07:40	08:36
	15:59	17:03	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:18	22:04	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:49	08:40
	16:06	17:12	18:13	20:18	21:20	22:04	21:56	20:57	19:37	18:18	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:51	08:42
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:36
16	08:38	07:41	06:30	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:12	16:04	15:36
17	08:37	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:27	18:07	16:00	15:36
19	08:34	07:33	06:22	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:33	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:55	08:01	08:46
	16:18	17:26	18:26	20:30	21:31	22:08	21:47	20:43	19:21	18:02	15:57	15:37
21	08:31	07:29	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:57	15:54	15:38
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:27	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:35	18:34	20:39	21:38	22:08	21:41	20:33	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:40	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	17:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:15	08:49
	16:32	17:41	18:41	20:45	21:43	22:08	21:35	20:25	19:02	17:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:17	08:49
	16:34	17:43	18:43	20:47	21:44	22:08	21:34	20:22	19:00	17:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:08	21:32	20:20	18:57	17:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:54	17:39	15:44	15:44
31	08:15		06:49		04:35		05:12	06:13		07:18		08:49
	16:41		19:49		21:49		21:28	20:15		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Darznieki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (435)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:35	04:29	05:14	06:16	07:16	07:21	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:44	05:29	04:34	04:30	05:16	06:18	07:18	07:23	08:24
	15:48	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:10	18:49	16:32	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:18	06:20	07:20	07:25	08:25
	15:49	16:48	17:50	19:55	20:58	21:53	22:06	21:22	20:07	18:47	16:30	15:42
4	08:48	08:07	07:01	06:39	05:24	04:32	04:32	05:20	06:22	07:22	07:27	08:27
	15:51	16:51	17:52	19:57	21:00	21:54	22:05	21:20	20:04	18:44	16:28	15:41
5	08:47	08:05	06:59	06:37	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:29
	15:52	16:53	17:55	19:59	21:02	21:56	22:04	21:17	20:02	18:41	16:26	15:40
6	08:47	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:02	21:04	21:57	22:04	21:15	19:59	18:39	16:24	15:40
7	08:46	08:01	06:54	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:34	08:32
	15:55	16:57	17:59	20:04	21:06	21:58	22:03	21:13	19:56	18:36	16:22	15:39
8	08:45	07:59	06:51	06:29	05:16	04:28	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	16:59	18:01	20:06	21:08	21:59	22:02	21:11	19:54	18:33	16:20	15:39
9	08:45	07:56	06:48	06:26	05:13	04:27	04:37	05:30	06:32	07:32	07:38	08:34
	15:58	17:02	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:31	16:18	15:38
10	08:44	07:54	06:46	06:23	05:11	04:27	04:38	05:32	06:34	07:34	07:40	08:36
	16:00	17:04	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:09	04:26	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:46	18:26	16:14	15:37
12	08:42	07:50	06:40	06:18	05:07	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:03	17:08	18:10	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:12	15:37
13	08:41	07:48	06:38	06:16	05:05	04:25	04:42	05:38	06:40	07:40	07:47	08:39
	16:05	17:11	18:12	20:16	21:18	22:04	21:57	21:00	19:40	18:21	16:10	15:37
14	08:40	07:45	06:35	06:13	05:03	04:25	04:44	05:40	06:42	07:42	07:49	08:40
	16:07	17:13	18:14	20:18	21:20	22:04	21:56	20:57	19:38	18:18	16:08	15:37
15	08:39	07:43	06:32	06:10	05:01	04:25	04:45	05:42	06:44	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:37
16	08:38	07:41	06:30	06:08	04:59	04:24	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:13	16:05	15:37
17	08:37	07:38	06:27	06:05	04:58	04:24	04:48	05:46	06:48	07:48	07:55	08:43
	16:12	17:20	18:20	20:24	21:25	22:06	21:52	20:50	19:30	18:10	16:03	15:37
18	08:35	07:36	06:25	06:03	04:56	04:24	04:50	05:48	06:50	07:51	07:57	08:44
	16:14	17:22	18:22	20:26	21:27	22:07	21:50	20:48	19:27	18:08	16:01	15:37
19	08:34	07:34	06:22	06:00	04:54	04:24	04:51	05:50	06:52	07:53	07:59	08:45
	16:16	17:24	18:24	20:29	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:37
20	08:33	07:31	06:19	05:58	04:52	04:24	04:53	05:52	06:53	07:55	08:01	08:46
	16:18	17:26	18:26	20:31	21:31	22:07	21:47	20:43	19:21	18:03	15:58	15:37
21	08:31	07:29	06:17	05:55	04:50	04:24	04:55	05:54	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:19	18:00	15:56	15:38
22	08:30	07:26	06:14	05:53	04:49	04:24	04:56	05:56	06:57	07:59	08:05	08:47
	16:22	17:31	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:55	15:38
23	08:28	07:24	06:11	05:50	04:47	04:25	04:58	05:58	06:59	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:08	21:42	20:35	19:13	17:56	15:53	15:39
24	08:27	07:21	06:09	05:48	04:46	04:25	05:00	06:00	07:01	08:03	08:09	08:48
	16:27	17:35	18:35	20:39	21:38	22:08	21:41	20:33	19:11	17:53	15:52	15:39
25	08:25	07:19	06:06	05:45	04:44	04:25	05:01	06:02	07:03	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:40
26	08:23	07:16	06:03	05:43	04:43	04:26	05:03	06:04	07:05	08:08	08:13	08:48
	16:31	17:39	18:39	20:43	21:41	22:08	21:37	20:28	19:05	17:48	15:49	15:41
27	08:22	07:14	06:00	05:41	04:41	04:26	05:05	06:06	07:07	08:10	08:15	08:49
	16:33	17:42	18:41	20:45	21:43	22:08	21:35	20:25	19:03	17:46	15:48	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:09	08:12	08:17	08:49
	16:35	17:44	18:43	20:47	21:44	22:08	21:34	20:22	19:00	17:44	15:47	15:43
29	08:18		06:55	05:36	04:38	04:27	05:09	06:10	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:32	20:20	18:57	17:41	15:46	15:43
30	08:16		06:52	05:33	04:37	04:28	05:11	06:12	07:14	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:55	17:39	15:45	15:44
31	08:15		06:50		04:36		05:12	06:14		07:18		08:49
	16:42		19:49		21:49		21:28	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Elsti - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (507)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:41
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:10	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:42	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:52	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:26	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Elviras - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (578)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:29 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:07	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:34 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:24 21:15	06:25 20:01	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:17 21:05	04:29 21:58	04:34 22:03	05:26 21:13	06:27 20:01	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:28 21:11	06:29 20:01	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	04:27 22:00	04:37 22:01	05:30 21:08	06:31 20:01	07:31 18:30	07:38 16:17	08:34 15:38
10	08:43 16:00	07:54 17:04	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 20:01	07:34 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 20:01	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:02	04:40 21:58	05:35 21:01	06:37 20:01	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:56	05:37 20:59	06:39 20:01	07:40 18:20	07:46 16:10	08:39 15:36
14	08:40 16:06	07:45 17:13	06:35 18:13	06:13 20:18	05:03 21:19	04:25 22:04	04:43 21:55	05:39 20:57	06:41 20:01	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:54	06:43 20:01	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 20:01	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 20:01	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 20:01	07:50 18:07	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	04:54 21:29	04:24 22:07	04:51 21:48	05:49 20:45	06:51 20:01	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:30	04:24 22:07	04:53 21:47	05:51 20:42	06:53 20:01	07:54 18:02	08:01 15:58	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 20:01	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:07	04:56 21:44	05:55 20:37	06:57 20:01	07:59 17:58	08:05 15:54	08:46 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	04:47 21:36	04:24 22:08	04:58 21:42	05:57 20:35	06:59 20:01	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37	04:25 22:08	04:59 21:40	05:59 20:32	07:01 20:01	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 20:01	08:05 17:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 20:01	08:07 17:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:40	05:40 20:45	04:41 21:42	04:26 22:08	05:05 21:35	06:05 20:25	07:07 20:01	08:09 17:46	08:14 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:43	05:38 20:47	04:39 21:44	04:26 22:07	05:07 21:33	06:07 20:22	07:09 20:01	08:12 17:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:20	07:11 18:57	08:14 17:41	08:18 15:46	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 17:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:48		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Fridrisgofa - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (436)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:35	04:29	05:15	06:16	07:15	07:20	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:06	21:25	20:12	18:52	16:35	15:44
2	08:48	08:10	07:06	06:45	05:29	04:34	04:30	05:17	06:18	07:18	07:23	08:23
	15:49	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:33	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:18	06:20	07:20	07:25	08:25
	15:50	16:49	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:47	16:30	15:42
4	08:47	08:07	07:01	06:39	05:25	04:32	04:32	05:20	06:22	07:22	07:27	08:27
	15:51	16:51	17:53	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:42
5	08:47	08:05	06:59	06:37	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:28
	15:53	16:53	17:55	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:26	15:41
6	08:46	08:02	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:01	21:03	21:56	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:00	06:53	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:33	08:31
	15:56	16:57	17:59	20:04	21:05	21:57	22:02	21:13	19:56	18:36	16:22	15:40
8	08:45	07:58	06:51	06:29	05:16	04:29	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	17:00	18:01	20:06	21:07	21:59	22:02	21:11	19:54	18:34	16:20	15:39
9	08:44	07:56	06:48	06:26	05:14	04:28	04:37	05:30	06:32	07:32	07:38	08:34
	15:59	17:02	18:03	20:08	21:09	22:00	22:01	21:08	19:51	18:31	16:18	15:38
10	08:43	07:54	06:46	06:23	05:12	04:27	04:39	05:32	06:34	07:34	07:40	08:35
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:10	04:27	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:07	20:12	21:13	22:01	21:59	21:04	19:46	18:26	16:14	15:38
12	08:42	07:50	06:40	06:18	05:07	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:04	17:09	18:10	20:14	21:15	22:02	21:58	21:02	19:43	18:23	16:12	15:37
13	08:41	07:47	06:38	06:16	05:05	04:26	04:43	05:38	06:40	07:40	07:46	08:39
	16:05	17:11	18:12	20:16	21:17	22:03	21:56	20:59	19:40	18:21	16:10	15:37
14	08:40	07:45	06:35	06:13	05:04	04:25	04:44	05:40	06:42	07:42	07:48	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:38	18:18	16:08	15:37
15	08:39	07:43	06:32	06:11	05:02	04:25	04:46	05:42	06:44	07:44	07:50	08:41
	16:09	17:15	18:16	20:20	21:21	22:04	21:54	20:55	19:35	18:16	16:07	15:37
16	08:37	07:40	06:30	06:08	05:00	04:25	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:18	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:05	15:37
17	08:36	07:38	06:27	06:05	04:58	04:25	04:49	05:46	06:48	07:48	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:03	15:37
18	08:35	07:36	06:25	06:03	04:56	04:25	04:50	05:48	06:50	07:50	07:57	08:44
	16:15	17:22	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:01	15:37
19	08:34	07:33	06:22	06:00	04:54	04:25	04:52	05:50	06:52	07:53	07:59	08:44
	16:17	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	16:00	15:38
20	08:32	07:31	06:19	05:58	04:52	04:25	04:53	05:52	06:54	07:55	08:01	08:45
	16:19	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:03	15:58	15:38
21	08:31	07:29	06:17	05:55	04:51	04:25	04:55	05:54	06:56	07:57	08:03	08:46
	16:21	17:29	18:28	20:32	21:32	22:07	21:45	20:40	19:19	18:01	15:57	15:38
22	08:29	07:26	06:14	05:53	04:49	04:25	04:57	05:56	06:57	07:59	08:05	08:46
	16:23	17:31	18:30	20:35	21:34	22:07	21:44	20:38	19:16	17:58	15:55	15:39
23	08:28	07:24	06:11	05:50	04:48	04:25	04:58	05:58	06:59	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:08	21:42	20:35	19:13	17:56	15:54	15:39
24	08:26	07:21	06:09	05:48	04:46	04:25	05:00	06:00	07:01	08:03	08:09	08:47
	16:27	17:35	18:35	20:39	21:37	22:08	21:40	20:33	19:11	17:53	15:52	15:40
25	08:25	07:19	06:06	05:46	04:44	04:26	05:02	06:02	07:03	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:41
26	08:23	07:16	06:03	05:43	04:43	04:26	05:04	06:04	07:05	08:07	08:13	08:48
	16:31	17:40	18:39	20:43	21:41	22:08	21:37	20:27	19:05	17:49	15:50	15:41
27	08:21	07:14	06:01	05:41	04:42	04:27	05:05	06:06	07:07	08:09	08:14	08:48
	16:33	17:42	18:41	20:45	21:42	22:07	21:35	20:25	19:03	17:46	15:49	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:09	08:12	08:16	08:48
	16:35	17:44	18:43	20:47	21:44	22:07	21:33	20:22	19:00	17:44	15:47	15:43
29	08:18		06:55	05:36	04:39	04:28	05:09	06:10	07:11	08:14	08:18	08:48
	16:38		19:45	20:49	21:45	22:07	21:31	20:20	18:57	17:42	15:46	15:44
30	08:16		06:53	05:34	04:38	04:29	05:11	06:12	07:13	08:16	08:20	08:48
	16:40		19:47	20:51	21:47	22:07	21:29	20:17	18:55	17:39	15:45	15:45
31	08:14		06:50		04:36		05:13	06:14		07:18		08:48
	16:42		19:49		21:48		21:27	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	527	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Gabri - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (551)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:27	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:50	06:28	05:15	04:28	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:24	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Gaitnieki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (446)  
Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:35	04:29	05:15	06:16	07:16	07:20	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:06	21:26	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:45	05:29	04:34	04:30	05:17	06:18	07:18	07:23	08:23
	15:49	16:46	17:48	19:53	20:55	21:51	22:06	21:24	20:09	18:49	16:33	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:18	06:20	07:20	07:25	08:25
	15:50	16:49	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:47	16:30	15:42
4	08:47	08:07	07:01	06:39	05:25	04:32	04:32	05:20	06:22	07:22	07:27	08:27
	15:51	16:51	17:53	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:41
5	08:47	08:05	06:59	06:37	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:28
	15:53	16:53	17:55	19:59	21:01	21:55	22:04	21:17	20:02	18:41	16:26	15:41
6	08:46	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:02	21:03	21:56	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:01	06:53	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:33	08:31
	15:55	16:57	17:59	20:04	21:05	21:58	22:03	21:13	19:56	18:36	16:22	15:39
8	08:45	07:58	06:51	06:29	05:16	04:28	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	17:00	18:01	20:06	21:07	21:59	22:02	21:11	19:54	18:34	16:20	15:39
9	08:44	07:56	06:48	06:26	05:14	04:28	04:37	05:30	06:32	07:32	07:38	08:34
	15:59	17:02	18:03	20:08	21:09	22:00	22:01	21:08	19:51	18:31	16:18	15:38
10	08:44	07:54	06:46	06:23	05:12	04:27	04:39	05:32	06:34	07:34	07:40	08:35
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:09	04:27	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:46	18:26	16:14	15:38
12	08:42	07:50	06:40	06:18	05:07	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:04	17:09	18:10	20:14	21:15	22:02	21:58	21:02	19:43	18:23	16:12	15:37
13	08:41	07:47	06:38	06:16	05:05	04:26	04:43	05:38	06:40	07:40	07:46	08:39
	16:05	17:11	18:12	20:16	21:17	22:03	21:57	20:59	19:40	18:21	16:10	15:37
14	08:40	07:45	06:35	06:13	05:03	04:25	04:44	05:40	06:42	07:42	07:48	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:38	18:18	16:08	15:37
15	08:39	07:43	06:33	06:11	05:02	04:25	04:45	05:42	06:44	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:16	16:07	15:37
16	08:38	07:41	06:30	06:08	05:00	04:25	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:18	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:05	15:37
17	08:36	07:38	06:27	06:05	04:58	04:25	04:48	05:46	06:48	07:48	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:51	20:50	19:30	18:10	16:03	15:37
18	08:35	07:36	06:25	06:03	04:56	04:25	04:50	05:48	06:50	07:51	07:57	08:44
	16:15	17:22	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:01	15:37
19	08:34	07:34	06:22	06:00	04:54	04:24	04:52	05:50	06:52	07:53	07:59	08:45
	16:17	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	16:00	15:37
20	08:32	07:31	06:19	05:58	04:52	04:25	04:53	05:52	06:54	07:55	08:01	08:45
	16:19	17:26	18:26	20:31	21:31	22:07	21:47	20:43	19:21	18:03	15:58	15:38
21	08:31	07:29	06:17	05:55	04:51	04:25	04:55	05:54	06:56	07:57	08:03	08:46
	16:21	17:29	18:28	20:33	21:32	22:07	21:45	20:40	19:19	18:01	15:57	15:38
22	08:30	07:26	06:14	05:53	04:49	04:25	04:57	05:56	06:58	07:59	08:05	08:47
	16:23	17:31	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:55	15:39
23	08:28	07:24	06:11	05:50	04:47	04:25	04:58	05:58	07:00	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:08	21:42	20:35	19:13	17:56	15:54	15:39
24	08:26	07:21	06:09	05:48	04:46	04:25	05:00	06:00	07:02	08:03	08:09	08:47
	16:27	17:35	18:35	20:39	21:38	22:08	21:40	20:33	19:11	17:53	15:52	15:40
25	08:25	07:19	06:06	05:46	04:44	04:26	05:02	06:02	07:03	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:40
26	08:23	07:16	06:03	05:43	04:43	04:26	05:04	06:04	07:05	08:08	08:13	08:48
	16:31	17:40	18:39	20:43	21:41	22:08	21:37	20:28	19:05	17:49	15:50	15:41
27	08:22	07:14	06:01	05:41	04:41	04:27	05:05	06:06	07:07	08:10	08:15	08:48
	16:33	17:42	18:41	20:45	21:42	22:08	21:35	20:25	19:03	17:46	15:48	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:10	08:12	08:16	08:48
	16:35	17:44	18:43	20:47	21:44	22:07	21:33	20:22	19:00	17:44	15:47	15:43
29	08:18		06:55	05:36	04:39	04:28	05:09	06:10	07:12	08:14	08:18	08:48
	16:38		19:45	20:49	21:46	22:07	21:31	20:20	18:57	17:42	15:46	15:44
30	08:16		06:53	05:34	04:37	04:29	05:11	06:12	07:14	08:16	08:20	08:48
	16:40		19:47	20:51	21:47	22:07	21:29	20:17	18:55	17:39	15:45	15:45
31	08:14		06:50		04:36		05:13	06:14		07:18		08:48
	16:42		19:49		21:49		21:28	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Grovani - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (483)  
Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09									
	15:46	16:43	17:45									
2	08:48	08:10	07:06	20	16:33 (Pr3b)	19:51	20:53	21:50	22:07	21:25	20:12	18:14 (PrRR3)
	15:47	16:45	17:48	18	16:35 (Pr3b)	19:53	20:55	21:51	22:06	21:23	20:09	18:13 (PrRR3)
3	08:48	08:08	07:03									
	15:49	16:48	17:50	14	16:49 (Pr3b)	19:55	20:57	21:53	22:05	21:21	20:06	18:11 (PrRR3)
4	08:47	08:07	07:01									
	15:50	16:50	17:52	9	16:47 (Pr3b)	19:57	20:59	21:54	22:05	21:19	20:04	18:09 (PrRR3)
5	08:47	08:04	06:58									
	15:51	16:52	17:54									
6	08:46	08:02	06:56									
	15:53	16:54	17:56									
7	08:46	08:00	06:53									
	15:54	16:57	17:58									
8	08:45	07:58	06:50									
	15:56	16:59	18:01	8	17:26 (PrRR3)	20:05	21:07	21:59	22:02	21:11	19:53	18:33
9	08:44	07:56	06:48									
	15:58	17:01	18:03	16	17:30 (PrRR3)	20:07	21:09	22:00	22:01	21:08	19:51	18:30
10	08:44	07:54	06:45									
	15:59	17:03	18:05	20	17:32 (PrRR3)	20:09	21:11	22:01	22:00	21:06	19:48	18:28
11	08:43	07:52	06:43									
	16:01	17:06	18:07	23	17:33 (PrRR3)	20:12	21:13	22:02	21:59	21:04	19:45	18:25
12	08:42	07:49	06:40									
	16:03	17:08	18:09	26	17:34 (PrRR3)	20:14	21:15	22:03	21:58	21:02	19:43	18:23
13	08:41	07:47	06:37									
	16:04	17:10	18:11	27	17:35 (PrRR3)	20:16	21:17	22:03	21:57	20:59	19:40	18:20
14	08:40	07:45	06:35									
	16:06	17:12	18:13	28	17:35 (PrRR3)	20:18	21:19	22:04	21:55	20:57	19:37	18:17
15	08:39	07:43	06:32									
	16:08	17:15	18:15	32	17:47 (Pr25)	20:20	21:21	22:05	21:54	20:54	19:34	18:15
16	08:38	07:40	06:29									
	16:10	17:17	18:17	39	17:50 (Pr25)	20:22	21:23	22:05	21:53	20:52	19:32	18:12
17	08:36	07:38	06:27									
	16:12	17:19	18:20	44	17:52 (Pr25)	20:24	21:25	22:06	21:51	20:50	19:29	18:10
18	08:35	07:36	06:24									
	16:14	17:21	18:22	47	17:53 (Pr25)	20:26	21:27	22:06	21:50	20:47	19:26	18:07
19	08:34	07:33	06:21									
	16:16	17:23	18:24	49	17:56 (Pr25)	20:28	21:29	22:07	21:49	20:45	19:24	18:05
20	08:32	07:31	06:19									
	16:18	17:26	18:26	50	17:57 (Pr25)	20:30	21:31	22:07	21:47	20:42	19:21	18:02
21	08:31	07:28	06:16									
	16:20	17:28	18:28	49	17:56 (Pr25)	20:32	21:32	22:07	21:45	20:40	19:18	18:00
22	08:30	07:26	06:13									
	16:22	17:30	18:30	48	17:56 (Pr25)	20:34	21:34	22:08	21:44	20:37	19:16	18:01
23	08:28	07:24	06:11									
	16:24	17:32	18:32	45	17:56 (Pr25)	20:36	21:36	22:08	21:42	20:35	19:13	18:00
24	08:26	07:21	06:08									
	16:26	17:35	18:34	40	17:54 (Pr25)	20:39	21:38	22:08	21:40	20:32	19:10	18:00
25	08:25	07:19	06:05									
	16:28	17:37	18:36	36	17:53 (Pr25)	20:41	21:39	22:08	21:39	20:30	19:08	18:00
26	08:23	07:16	06:03									
	16:30	17:39	18:38	28	17:52 (Pr25)	20:43	21:41	22:08	21:37	20:27	19:05	18:00
27	08:21	07:14	06:00									
	16:32	17:41	18:40	10	17:49 (Pr25)	20:45	21:43	22:08	21:35	20:25	19:02	18:00
28	08:20	07:11	05:57									
	16:34	17:43	18:42									
29	08:18		05:55									
	16:37		19:45									
30	08:16		05:52									
	16:39		19:47									
31	08:14		05:49									
	16:41		19:49									
Potential sun hours	236	266	366		426	507	528	529	469	384	324	248
Total, worst case		251	726							569	418	217
Sun reduction		0,23	0,39							0,43	0,29	
Oper. time red.		1,00	1,00							1,00	1,00	
Wind dir. red.		1,00	1,00							1,00	1,00	
Total reduction		0,23	0,39							0,43	0,29	
Total, real		57	284							246	121	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Ievaiš i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (452)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January			February			March			April			May			June		
1	08:48	10:26 (AP6.1)	08:13	15:27 (Pr11)	07:09	07:45 (Pr25)	06:47	05:31	04:34									
	15:46	55	12:07 (JU1)	16:43	35	16:03 (Pr12)	17:46	48	15:50 (Pr11)	19:51	20:53	21:50						
2	08:48	10:26 (AP6.1)	08:11	15:24 (Pr11)	07:06	07:42 (Pr25)	06:44	05:28	04:33									
	15:48	54	12:07 (JU1)	16:46	40	16:04 (Pr12)	17:48	48	15:48 (Pr11)	19:53	20:55	21:52						
3	08:48	10:27 (AP6.1)	08:09	15:23 (Pr11)	07:04	07:41 (Pr25)	06:41	05:26	04:32									
	15:49	53	12:07 (JU1)	16:48	43	16:06 (Pr12)	17:50	44	15:45 (Pr11)	19:55	20:57	21:53						
4	08:48	10:28 (AP6.1)	08:07	15:21 (Pr11)	07:01	07:27 (PrRR3)	06:39	05:24	04:31									
	15:50	52	12:07 (JU1)	16:50	46	16:07 (Pr12)	17:52	46	15:40 (Pr11)	19:57	20:59	21:54						
5	08:47	10:28 (AP6.1)	08:05	15:19 (Pr11)	06:58	07:24 (PrRR3)	06:36	05:22	04:30									
	15:52	50	12:07 (JU1)	16:52	48	16:07 (Pr12)	17:54	43	08:08 (Pr25)	19:59	21:01	21:56						
6	08:47	10:30 (AP6.1)	08:03	15:19 (Pr11)	06:56	07:22 (PrRR3)	06:34	05:19	04:29									
	15:53	49	12:08 (JU1)	16:55	49	16:08 (Pr12)	17:56	47	08:09 (Pr25)	20:01	21:04	21:57						
7	08:46	10:31 (AP6.1)	08:01	15:18 (Pr11)	06:53	07:21 (PrRR3)	06:31	05:17	04:28									
	15:55	46	12:07 (JU1)	16:57	50	16:08 (Pr12)	17:59	48	08:09 (Pr25)	20:03	21:06	21:58						
8	08:45	10:32 (AP6.1)	07:58	15:17 (Pr11)	06:51	07:19 (PrRR3)	06:28	05:15	04:28									
	15:56	44	12:07 (JU1)	16:59	52	16:09 (Pr12)	18:01	50	08:09 (Pr25)	20:06	21:08	21:59						
9	08:45	10:33 (AP6.1)	07:56	15:16 (Pr11)	06:48	07:19 (PrRR3)	06:26	05:13	04:27									
	15:58	42	12:07 (JU1)	17:01	52	16:08 (Pr12)	18:03	50	08:09 (Pr25)	20:08	21:10	22:00						
10	08:44	10:34 (AP6.1)	07:54	15:16 (Pr11)	06:45	07:19 (PrRR3)	06:23	05:11	04:26									
	15:59	38	12:07 (JU1)	17:04	53	16:09 (Pr12)	18:05	50	08:09 (Pr25)	20:10	21:12	22:01						
11	08:43	10:35 (AP6.1)	07:52	15:16 (Pr11)	06:43	07:18 (PrRR3)	06:20	05:09	04:26									
	16:01	34	12:05 (JU1)	17:06	62	16:08 (Pr12)	18:07	58	17:30 (O6)	20:12	21:14	22:02						
12	08:42	10:36 (AP6.1)	07:50	15:16 (Pr11)	06:40	07:19 (PrRR3)	06:18	05:07	04:25									
	16:03	30	12:05 (JU1)	17:08	68	16:08 (Pr12)	18:09	64	17:34 (O6)	20:14	21:16	22:03						
13	08:41	10:39 (AP6.1)	07:47	15:16 (Pr11)	06:38	07:19 (PrRR3)	06:15	05:05	04:25									
	16:05	23	12:04 (JU1)	17:10	71	16:08 (Pr12)	18:11	68	17:36 (O6)	20:16	21:18	22:04						
14	08:40	11:52 (JU1)	07:45	15:16 (Pr11)	06:35	07:19 (PrRR3)	06:13	05:03	04:24									
	16:06	10	12:02 (JU1)	17:12	72	16:07 (Pr12)	18:13	71	17:37 (O6)	20:18	21:19	22:04						
15	08:39		07:43	15:15 (Pr11)	06:32	07:21 (PrRR3)	06:10	05:01	04:24									
	16:08		17:15	73	16:07 (Pr12)	18:16	68	17:39 (O6)	20:20	21:21	22:05							
16	08:38		07:41	15:14 (Pr11)	06:30	07:22 (PrRR3)	06:07	04:59	04:24									
	16:10		17:17	73	16:05 (Pr12)	18:18	65	17:39 (O6)	20:22	21:23	22:06							
17	08:37		07:38	15:14 (Pr11)	06:27	07:26 (PrRR3)	06:05	04:57	04:24									
	16:12		17:19	72	16:04 (Pr12)	18:20	55	17:40 (O6)	20:24	21:25	22:06							
18	08:35		07:36	15:13 (Pr11)	06:24	07:40 (Pr25)	06:02	04:55	04:24									
	16:14		17:21	71	16:02 (Pr12)	18:22	48	17:39 (O6)	20:26	21:27	22:07							
19	08:34		07:33	15:14 (Pr11)	06:22	07:44 (Pr25)	06:00	04:53	04:23									
	16:16		17:24	67	15:59 (Pr11)	18:24	43	17:40 (O6)	20:28	21:29	22:07							
20	08:33		07:31	15:13 (Pr11)	06:19	17:08 (O6)	05:57	04:52	04:24									
	16:18		17:26	68	15:59 (Pr11)	18:26	32	17:40 (O6)	20:30	21:31	22:07							
21	08:31		07:29	15:14 (Pr11)	06:16	17:07 (O6)	05:55	04:50	04:24									
	16:20		17:28	66	15:59 (Pr11)	18:28	32	17:39 (O6)	20:33	21:33	22:08							
22	08:30		07:26	15:15 (Pr11)	06:14	17:08 (O6)	05:52	04:48	04:24									
	16:22		17:30	63	15:58 (Pr11)	18:30	32	17:40 (O6)	20:35	21:34	22:08							
23	08:28		07:24	15:16 (Pr11)	06:11	17:07 (O6)	05:50	04:47	04:24									
	16:24		17:32	60	15:58 (Pr11)	18:32	32	17:39 (O6)	20:37	21:36	22:08							
24	08:27		07:21	15:17 (Pr11)	06:08	17:07 (O6)	05:47	04:45	04:24									
	16:26		17:35	56	15:57 (Pr11)	18:34	31	17:38 (O6)	20:39	21:38	22:08							
25	08:25		07:19	15:19 (Pr11)	06:06	17:08 (O6)	05:45	04:43	04:25									
	16:28		17:37	48	15:55 (Pr11)	18:36	29	17:37 (O6)	20:41	21:39	22:08							
26	08:23		07:16	15:17 (Pr11)	06:03	17:08 (O6)	05:43	04:42	04:25									
	16:30		17:39	38	15:55 (Pr11)	18:39	28	17:36 (O6)	20:43	21:41	22:08							
27	08:22		07:14	15:19 (Pr11)	06:00	17:09 (O6)	05:40	04:41	04:26									
	16:33		17:41	38	15:53 (Pr11)	18:41	25	17:34 (O6)	20:45	21:43	22:08							
28	08:20		07:11	15:19 (Pr11)	05:58	17:11 (O6)	05:38	04:39	04:26									
	16:35		17:43	46	15:52 (Pr11)	18:43	22	17:33 (O6)	20:47	21:44	22:08							
29	08:18	15:51 (Pr12)			06:55	18:12 (O6)	05:35	04:38	04:27									
	16:37	5	15:56 (Pr12)		19:45	18:31 (O6)	05:29	21:46	22:07									
30	08:16	15:46 (Pr12)			06:52	18:14 (O6)	05:33	04:37	04:28									
	16:39	13	15:59 (Pr12)		19:47	18:28 (O6)	20:51	21:47	22:07									
31	08:14	15:31 (Pr11)			06:49	18:19 (O6)		04:35										
	16:41	24	16:01 (Pr12)		19:49	18:23 (O6)		21:49										
Potential sun hours	236			266		366		426		507		528						
Total, worst case	622			1580		1314												
Sun reduction	0,13			0,23		0,39												
Oper. time red.	1,00			1,00		1,00												
Wind dir. red.	1,00			1,00		1,00												
Total reduction	0,13			0,23		0,39												
Total, real	84			356		514												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Ievaiši - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (452)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:28	05:14	06:15	07:15	07:58 (PrRR3)	07:20 14:45 (Pr11) 08:22 10:17 (AP6.1)
	22:07	21:26	20:12	18:52	18:14 (O6)	16:34 53 15:38 (Pr12) 15:43 34 11:47 (JU1)
2	04:29	05:16	06:17	07:17	07:57 (PrRR3)	07:23 14:46 (Pr11) 08:24 10:16 (AP6.1)
	22:06	21:24	20:09	18:49	18:11 (O6)	16:32 52 15:38 (Pr12) 15:42 38 11:49 (JU1)
3	04:30	05:18	06:19	07:19	07:57 (PrRR3)	07:25 14:47 (Pr11) 08:25 10:16 (AP6.1)
	22:06	21:22	20:07	18:46	08:47 (Pr25)	16:30 51 15:38 (Pr12) 15:41 42 11:50 (JU1)
4	04:31	05:20	06:21	07:21	07:56 (PrRR3)	07:27 14:48 (Pr11) 08:27 10:16 (AP6.1)
	22:05	21:19	20:04	18:44	08:46 (Pr25)	16:28 50 15:38 (Pr12) 15:41 44 11:51 (JU1)
5	04:32	05:22	06:23	07:23	07:56 (PrRR3)	07:29 14:48 (Pr11) 08:29 10:16 (AP6.1)
	22:04	21:17	20:01	18:41	08:46 (Pr25)	16:25 49 15:37 (Pr12) 15:40 46 11:52 (JU1)
6	04:33	05:24	06:25	07:25	07:56 (PrRR3)	07:31 14:50 (Pr11) 08:30 10:15 (AP6.1)
	22:04	21:15	19:59	18:38	08:45 (Pr25)	16:23 47 15:37 (Pr12) 15:39 48 11:53 (JU1)
7	04:34	05:25	06:27	07:28	07:57 (PrRR3)	07:33 14:51 (Pr11) 08:32 10:15 (AP6.1)
	22:03	21:13	19:56	18:36	08:44 (Pr25)	16:21 45 15:36 (Pr12) 15:39 51 11:54 (JU1)
8	04:35	05:27	06:29	07:30	07:58 (PrRR3)	07:36 14:54 (Pr11) 08:33 10:16 (AP6.1)
	22:02	21:11	19:53	18:33	08:44 (Pr25)	16:19 42 15:36 (Pr12) 15:38 52 11:55 (JU1)
9	04:36	05:29	06:31	07:32	08:01 (PrRR3)	07:38 14:55 (Pr11) 08:34 10:16 (AP6.1)
	22:01	21:09	19:51	18:31	08:43 (Pr25)	16:17 40 15:35 (Pr12) 15:38 52 11:55 (JU1)
10	04:38	05:31	06:33	07:34	08:03 (PrRR3)	07:40 14:58 (Pr11) 08:36 10:16 (AP6.1)
	22:00	21:06	19:48	18:28	16:17 (Pr11)	16:15 35 15:33 (Pr12) 15:37 54 11:57 (JU1)
11	04:39	05:33	06:35	07:36	08:16 (Pr25)	07:42 15:03 (Pr11) 08:37 10:16 (AP6.1)
	21:59	21:04	19:45	18:25	16:20 (Pr11)	16:13 23 15:33 (Pr12) 15:37 56 11:57 (JU1)
12	04:40	05:35	06:37	07:38	08:17 (Pr25)	07:44 15:18 (Pr12) 08:38 10:16 (AP6.1)
	21:58	21:02	19:43	18:23	16:22 (Pr11)	16:11 12 15:30 (Pr12) 15:36 56 11:57 (JU1)
13	04:42	05:37	06:39	18:06 (O6) 07:40	08:19 (Pr25)	07:46 15:22 (Pr12) 08:39 10:16 (AP6.1)
	21:57	20:59	19:40	18:19 (O6) 18:20	16:24 (Pr11)	16:09 4 15:26 (Pr12) 15:36 57 11:58 (JU1)
14	04:43	05:39	06:41	18:03 (O6) 07:42	08:21 (Pr25)	07:49 15:36 (Pr12) 15:39 58 11:59 (JU1)
	21:56	20:57	19:37	18:21 (O6) 18:18	16:25 (Pr11)	16:08 15:36 57 11:59 (JU1)
15	04:45	05:41	06:43	18:00 (O6) 07:44	15:51 (Pr11)	07:51 15:36 57 12:00 (JU1)
	21:54	20:55	19:35	18:23 (O6) 18:15	16:27 (Pr11)	16:06 15:36 57 12:00 (JU1)
16	04:46	05:43	06:45	17:59 (O6) 07:46	15:49 (Pr11)	07:53 15:36 58 12:00 (JU1)
	21:53	20:52	19:32	18:24 (O6) 18:13	16:27 (Pr11)	16:04 15:36 58 12:00 (JU1)
17	04:48	05:45	06:47	17:57 (O6) 07:48	08:50 (Pr3b)	07:55 15:36 58 12:01 (JU1)
	21:52	20:50	19:29	18:24 (O6) 18:10	16:28 (Pr11)	16:02 15:36 58 12:01 (JU1)
18	04:49	05:47	06:49	17:56 (O6) 07:50	08:48 (Pr3b)	07:57 15:36 59 12:01 (JU1)
	21:50	20:47	19:27	18:25 (O6) 18:07	16:28 (Pr11)	16:01 15:36 59 12:01 (JU1)
19	04:51	05:49	06:51	17:55 (O6) 07:52	08:46 (Pr3b)	07:59 15:36 59 12:01 (JU1)
	21:49	20:45	19:24	18:25 (O6) 18:05	16:28 (Pr11)	15:59 15:37 58 12:01 (JU1)
20	04:52	05:51	06:53	17:54 (O6) 07:55	08:46 (Pr3b)	08:01 15:37 59 12:02 (JU1)
	21:47	20:43	19:21	18:25 (O6) 18:02	16:29 (Pr11)	15:57 15:37 59 12:02 (JU1)
21	04:54	05:53	06:55	17:53 (O6) 07:57	08:44 (Pr3b)	08:03 15:37 60 12:02 (JU1)
	21:46	20:40	19:18	18:25 (O6) 18:00	16:29 (Pr11)	15:56 15:37 60 12:02 (JU1)
22	04:56	05:55	06:57	17:53 (O6) 07:59	08:44 (Pr3b)	08:05 15:37 60 12:03 (JU1)
	21:44	20:38	19:16	18:25 (O6) 17:58	16:29 (Pr11)	15:54 15:38 60 12:03 (JU1)
23	04:57	05:57	06:59	17:52 (O6) 08:01	08:44 (Pr3b)	08:07 15:38 59 12:03 (JU1)
	21:42	20:35	19:13	18:25 (O6) 17:55	16:31 (Pr12)	15:53 15:38 59 12:03 (JU1)
24	04:59	05:59	07:01	08:29 (Pr25) 08:03	08:43 (Pr3b)	08:09 15:38 58 12:04 (JU1)
	21:41	20:33	19:10	18:24 (O6) 17:53	16:33 (Pr12)	15:52 15:39 58 12:04 (JU1)
25	05:01	06:01	07:03	08:25 (Pr25) 07:05	07:43 (Pr3b)	08:11 15:38 59 12:05 (JU1)
	21:39	20:30	19:08	18:23 (O6) 16:50	15:34 (Pr12)	15:50 15:40 59 12:05 (JU1)
26	05:03	06:03	07:05	08:23 (Pr25) 07:07	07:44 (Pr3b)	08:13 15:40 59 12:05 (JU1)
	21:37	20:27	19:05	18:23 (O6) 16:48	15:36 (Pr12)	15:49 15:40 59 12:05 (JU1)
27	05:05	06:05	07:07	08:05 (PrRR3) 07:10	07:44 (Pr3b)	08:15 15:41 58 12:05 (JU1)
	21:35	20:25	19:02	18:21 (O6) 16:46	15:36 (Pr12)	15:48 15:41 58 12:05 (JU1)
28	05:06	06:07	07:09	08:02 (PrRR3) 07:12	07:45 (Pr3b)	08:17 15:41 58 12:06 (JU1)
	21:33	20:22	19:00	18:20 (O6) 16:43	15:37 (Pr12)	15:46 10 11:41 (JU1) 15:42 58 12:06 (JU1)
29	05:08	06:09	07:11	08:01 (PrRR3) 07:14	07:46 (Pr3b)	08:18 15:42 57 12:06 (JU1)
	21:32	20:20	18:57	18:19 (O6) 16:41	15:38 (Pr12)	15:45 23 11:44 (JU1) 15:43 57 12:06 (JU1)
30	05:10	06:11	07:13	07:59 (PrRR3) 07:16	07:48 (Pr3b)	08:20 15:43 57 12:07 (JU1)
	21:30	20:17	18:54	18:17 (O6) 16:39	15:38 (Pr12)	15:44 29 11:46 (JU1) 15:44 57 12:07 (JU1)
31	05:12	06:13		07:18	07:50 (Pr3b)	08:21 15:44 56 12:06 (JU1)
	21:28	20:15		16:36	15:38 (Pr12)	15:45 56 12:06 (JU1)
Potential sun hours	529	469	384	324	248	217
Total, worst case			702	1765	565	1677
Sun reduction			0,43	0,29	0,08	0,08
Oper. time red.			1,00	1,00	1,00	1,00
Wind dir. red.			1,00	1,00	1,00	1,00
Total reduction			0,43	0,29	0,08	0,08
Total, real			303	512	42	142

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Irbeni - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (497)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	08:48 15:46	08:12 16:43	07:09 17:45	06:47 19:51	05:31 20:53	19:53 (Pr25) 21:50
2	08:48 15:48	08:10 16:45	07:06 17:48	06:44 19:53	21 20:55	20:14 (Pr25) 21:51
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	21 20:57	19:53 (Pr25) 21:53
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	12 20:59	19:25 (Pr3b) 21:54
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	18 21:01	19:09 (Pr3b) 21:55
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	21 21:03	19:08 (Pr3b) 21:57
7	08:46 15:54	08:00 16:57	06:53 17:58	06:31 20:03	23 21:05	19:06 (Pr3b) 21:58
8	08:45 15:56	07:58 16:59	06:50 18:01	06:28 20:05	26 21:07	19:04 (Pr3b) 21:59
9	08:44 15:58	07:56 17:01	06:48 18:03	06:25 20:07	27 21:09	19:04 (Pr3b) 22:00
10	08:44 15:59	07:54 17:03	06:45 18:05	06:23 20:09	28 21:11	19:03 (Pr3b) 22:01
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	28 21:13	19:03 (Pr3b) 22:02
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	29 21:15	19:02 (Pr3b) 22:03
13	08:41 16:04	07:47 17:10	06:37 18:11	06:15 20:16	29 21:17	19:02 (Pr3b) 22:03
14	08:40 16:06	07:45 17:12	06:35 18:13	06:12 20:18	29 21:19	19:01 (Pr3b) 22:04
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	30 21:21	19:02 (Pr3b) 22:05
16	08:38 16:10	07:40 17:17	06:29 18:17	06:07 20:22	31 21:23	19:01 (Pr3b) 22:05
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	31 21:25	19:02 (Pr3b) 22:06
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	32 21:27	19:02 (Pr3b) 22:06
19	08:34 16:16	07:33 17:23	06:21 18:24	06:00 20:28	33 21:29	19:03 (Pr3b) 22:07
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	32 21:30	19:04 (Pr3b) 22:07
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	33 21:32	19:06 (Pr3b) 22:07
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	33 21:34	19:08 (Pr3b) 22:08
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	33 21:36	19:13 (Pr3b) 22:08
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	32 21:38	20:05 (Pr25) 22:08
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	33 21:39	20:08 (Pr25) 22:08
26	08:23 16:30	07:16 17:39	06:03 18:38	05:42 20:43	32 21:41	20:10 (Pr25) 22:08
27	08:21 16:32	07:14 17:41	06:00 18:40	05:40 20:45	32 21:42	20:11 (Pr25) 22:08
28	08:20 16:35	07:11 17:43	05:57 18:42	05:38 20:47	31 21:44	20:13 (Pr25) 22:07
29	08:18 16:37		05:55 19:45	05:35 20:49	31 21:46	20:15 (Pr25) 22:07
30	08:16 16:39		06:52 19:47	05:33 20:51	31 21:47	20:15 (Pr25) 22:07
31	08:14 16:41		06:49 19:49		30 21:49	20:14 (Pr25) 22:07
Potential sun hours	236	266	366	426	507	528
Total, worst case				577	873	670
Sun reduction				0,44	0,56	0,57
Oper. time red.				1,00	1,00	1,00
Wind dir. red.				1,00	1,00	1,00
Total reduction				0,44	0,56	0,57
Total, real				255	491	381

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Irbeni - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (497)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July		August		September		October	November	December
1	04:28	20:17 (PrRR3)	05:14	20:17 (PrRR3)	06:15	19:01 (Pr3b)	07:15	07:20	08:22
	22:06	22 20:39 (PrRR3)	21:25	26 20:43 (PrRR3)	20:12	29 19:30 (Pr3b)	18:51	16:34	15:43
2	04:29	20:16 (PrRR3)	05:16	20:18 (PrRR3)	06:17	19:02 (Pr3b)	07:17	07:22	08:23
	22:06	23 20:39 (PrRR3)	21:23	24 20:42 (PrRR3)	20:09	28 19:30 (Pr3b)	18:49	16:32	15:42
3	04:30	20:16 (PrRR3)	05:18	20:19 (PrRR3)	06:19	19:02 (Pr3b)	07:19	07:25	08:25
	22:05	24 20:40 (PrRR3)	21:21	22 20:41 (PrRR3)	20:06	27 19:29 (Pr3b)	18:46	16:30	15:41
4	04:31	20:16 (PrRR3)	05:20	20:09 (Pr25)	06:21	19:02 (Pr3b)	07:21	07:27	08:27
	22:05	24 20:40 (PrRR3)	21:19	28 20:40 (PrRR3)	20:04	26 19:28 (Pr3b)	18:44	16:27	15:41
5	04:32	20:16 (PrRR3)	05:21	20:06 (Pr25)	06:23	19:02 (Pr3b)	07:23	07:29	08:28
	22:04	25 20:41 (PrRR3)	21:17	28 20:37 (PrRR3)	20:01	24 19:26 (Pr3b)	18:41	16:25	15:40
6	04:33	20:16 (PrRR3)	05:23	20:05 (Pr25)	06:25	19:03 (Pr3b)	07:25	07:31	08:30
	22:03	25 20:41 (PrRR3)	21:15	26 20:35 (PrRR3)	19:59	21 19:24 (Pr3b)	18:38	16:23	15:39
7	04:34	20:15 (PrRR3)	05:25	20:04 (Pr25)	06:27	19:04 (Pr3b)	07:27	07:33	08:31
	22:03	27 20:42 (PrRR3)	21:13	18 20:22 (Pr25)	19:56	18 19:22 (Pr3b)	18:36	16:21	15:38
8	04:35	20:15 (PrRR3)	05:27	20:04 (Pr25)	06:29	19:07 (Pr3b)	07:29	07:35	08:33
	22:02	27 20:42 (PrRR3)	21:11	19 20:23 (Pr25)	19:53	12 19:19 (Pr3b)	18:33	16:19	15:38
9	04:36	20:15 (PrRR3)	05:29	20:03 (Pr25)	06:31		07:31	07:38	08:34
	22:01	28 20:43 (PrRR3)	21:08	20 20:23 (Pr25)	19:51		18:30	16:17	15:37
10	04:38	20:15 (PrRR3)	05:31	20:03 (Pr25)	06:33		07:33	07:40	08:35
	22:00	28 20:43 (PrRR3)	21:06	21 20:24 (Pr25)	19:48		18:28	16:15	15:37
11	04:39	20:14 (PrRR3)	05:33	20:01 (Pr25)	06:35		07:36	07:42	08:37
	21:59	29 20:43 (PrRR3)	21:04	22 20:23 (Pr25)	19:45		18:25	16:13	15:37
12	04:40	20:15 (PrRR3)	05:35	20:01 (Pr25)	06:37		07:38	07:44	08:38
	21:58	29 20:44 (PrRR3)	21:01	22 20:23 (Pr25)	19:43		18:23	16:11	15:36
13	04:42	20:14 (PrRR3)	05:37	20:01 (Pr25)	06:39		07:40	07:46	08:39
	21:57	31 20:45 (PrRR3)	20:59	22 20:23 (Pr25)	19:40		18:20	16:09	15:36
14	04:43	20:14 (PrRR3)	05:39	20:01 (Pr25)	06:41		07:42	07:48	08:40
	21:55	31 20:45 (PrRR3)	20:57	22 20:23 (Pr25)	19:37		18:17	16:07	15:36
15	04:44	20:15 (PrRR3)	05:41	20:02 (Pr25)	06:43		07:44	07:50	08:41
	21:54	31 20:46 (PrRR3)	20:54	20 20:22 (Pr25)	19:34		18:15	16:06	15:36
16	04:46	20:14 (PrRR3)	05:43	20:02 (Pr25)	06:45		07:46	07:53	08:42
	21:53	32 20:46 (PrRR3)	20:52	18 20:20 (Pr25)	19:32		18:12	16:04	15:36
17	04:47	20:14 (PrRR3)	05:45	20:03 (Pr25)	06:47		07:48	07:55	08:43
	21:51	31 20:45 (PrRR3)	20:50	15 20:18 (Pr25)	19:29		18:10	16:02	15:36
18	04:49	20:14 (PrRR3)	05:47	20:03 (Pr25)	06:49		07:50	07:57	08:44
	21:50	32 20:46 (PrRR3)	20:47	12 20:15 (Pr25)	19:26		18:07	16:00	15:36
19	04:51	20:14 (PrRR3)	05:49	20:04 (Pr25)	06:51		07:52	07:59	08:45
	21:49	32 20:46 (PrRR3)	20:45	9 20:13 (Pr25)	19:24		18:05	15:59	15:36
20	04:52	20:14 (PrRR3)	05:51	19:17 (Pr3b)	06:53		07:54	08:01	08:45
	21:47	33 20:47 (PrRR3)	20:42	9 20:11 (Pr25)	19:21		18:02	15:57	15:37
21	04:54	20:14 (PrRR3)	05:53	19:12 (Pr3b)	06:55		07:57	08:03	08:46
	21:45	32 20:46 (PrRR3)	20:40	14 19:26 (Pr3b)	19:18		18:00	15:56	15:37
22	04:56	20:14 (PrRR3)	05:55	19:10 (Pr3b)	06:57		07:59	08:05	08:47
	21:44	33 20:47 (PrRR3)	20:37	18 19:28 (Pr3b)	19:16		17:57	15:54	15:38
23	04:57	20:14 (PrRR3)	05:57	19:08 (Pr3b)	06:59		08:01	08:07	08:47
	21:42	32 20:46 (PrRR3)	20:35	21 19:29 (Pr3b)	19:13		17:55	15:53	15:38
24	04:59	20:14 (PrRR3)	05:59	19:07 (Pr3b)	07:01		08:03	08:09	08:47
	21:40	33 20:47 (PrRR3)	20:32	23 19:30 (Pr3b)	19:10		17:53	15:51	15:39
25	05:01	20:15 (PrRR3)	06:01	19:06 (Pr3b)	07:03		07:05	08:11	08:48
	21:39	32 20:47 (PrRR3)	20:30	25 19:31 (Pr3b)	19:08		16:50	15:50	15:39
26	05:03	20:14 (PrRR3)	06:03	19:04 (Pr3b)	07:05		07:07	08:13	08:48
	21:37	32 20:46 (PrRR3)	20:27	26 19:30 (Pr3b)	19:05		16:48	15:49	15:40
27	05:04	20:15 (PrRR3)	06:05	19:03 (Pr3b)	07:07		07:09	08:15	08:48
	21:35	31 20:46 (PrRR3)	20:25	28 19:31 (Pr3b)	19:02		16:45	15:48	15:41
28	05:06	20:16 (PrRR3)	06:07	19:02 (Pr3b)	07:09		07:12	08:16	08:48
	21:33	30 20:46 (PrRR3)	20:22	29 19:31 (Pr3b)	18:59		16:43	15:46	15:42
29	05:08	20:15 (PrRR3)	06:09	19:02 (Pr3b)	07:11		07:14	08:18	08:48
	21:31	30 20:45 (PrRR3)	20:20	29 19:31 (Pr3b)	18:57		16:41	15:45	15:43
30	05:10	20:16 (PrRR3)	06:11	19:02 (Pr3b)	07:13		07:16	08:20	08:48
	21:29	29 20:45 (PrRR3)	20:17	29 19:31 (Pr3b)	18:54		16:39	15:44	15:44
31	05:12	20:17 (PrRR3)	06:13	19:02 (Pr3b)			07:18		08:48
	21:27	27 20:44 (PrRR3)	20:14	29 19:31 (Pr3b)			16:36		15:45
Potential sun hours	529		469		384		324	248	217
Total, worst case	905		674		185				
Sun reduction	0,47		0,52		0,43				
Oper. time red.	1,00		1,00		1,00				
Wind dir. red.	1,00		1,00		1,00				
Total reduction	0,47		0,52		0,43				
Total, real	427		352		80				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

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Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Irš i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (548)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
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26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
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	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
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	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Ivaš i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (486)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:46	08:12 16:43	07:08 17:45	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:51	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:45	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:41
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:19 21:19	06:21 20:04	07:21 18:43	07:27 16:27	08:27 15:40
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:21 21:01	04:30 21:55	04:32 22:04	05:21 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:23 21:15	06:25 19:59	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:54	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:25 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:38
8	08:45 15:56	07:58 16:59	06:50 18:00	06:28 20:05	05:15 21:07	04:27 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:25 20:07	05:13 21:09	04:27 22:00	04:36 22:01	05:29 21:08	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:37
10	08:43 15:59	07:54 17:03	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:11	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:02	04:40 21:58	05:35 21:01	06:37 19:42	07:38 18:23	07:44 16:11	08:38 15:36
13	08:41 16:04	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:57	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:12 20:18	05:03 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:17	07:48 16:07	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:44 21:54	05:41 20:54	06:43 19:34	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:17	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:23 22:06	04:47 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:23 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:00	08:44 15:36
19	08:34 16:16	07:33 17:23	06:21 18:24	06:00 20:28	04:53 21:29	04:23 22:07	04:51 21:48	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:36
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:51 21:30	04:23 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:56 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:57	08:05 15:54	08:46 15:38
23	08:28 16:24	07:23 17:32	06:11 18:32	05:50 20:36	04:46 21:36	04:24 22:08	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:34	06:08 18:34	05:47 20:39	04:45 21:37	04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:53	08:09 15:51	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:43 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:08	08:05 16:50	08:11 15:50	08:48 15:39
26	08:23 16:30	07:16 17:39	06:03 18:38	05:42 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:32	07:14 17:41	06:00 18:40	05:40 20:45	04:40 21:42	04:26 22:08	05:04 21:35	06:05 20:25	07:07 19:02	08:09 16:45	08:14 15:48	08:48 15:41
28	08:20 16:34	07:11 17:43	05:57 18:42	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 18:59	08:12 16:43	08:16 15:46	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:19	07:11 18:57	08:14 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:36 21:47	04:27 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:38	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Ivdri - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (477)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:07	21:26	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:24
	15:47	16:45	17:48	19:53	20:55	21:52	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:09	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:21	20:06	18:46	16:29	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:05	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
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	16:12	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:08	21:46	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
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	16:26	17:34	18:34	20:39	21:38	22:08	21:41	20:32	19:10	17:53	15:51	15:39
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	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
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	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:49
	16:41		19:49		21:49		21:28	20:14		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Jasmini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (530)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		05:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Jaunbruveri - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (592)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:35	04:29	05:14	06:16	07:15	07:21	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:44	05:29	04:34	04:30	05:16	06:18	07:18	07:23	08:24
	15:48	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:18	06:20	07:20	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:47	16:30	15:42
4	08:47	08:07	07:01	06:39	05:24	04:32	04:32	05:20	06:22	07:22	07:27	08:27
	15:51	16:51	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:41
5	08:47	08:05	06:59	06:36	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:28
	15:52	16:53	17:55	19:59	21:02	21:55	22:04	21:17	20:02	18:41	16:26	15:40
6	08:47	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:02	21:04	21:57	22:04	21:15	19:59	18:39	16:24	15:40
7	08:46	08:01	06:53	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:34	08:31
	15:55	16:57	17:59	20:04	21:06	21:58	22:03	21:13	19:56	18:36	16:22	15:39
8	08:45	07:58	06:51	06:29	05:16	04:28	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	16:59	18:01	20:06	21:08	21:59	22:02	21:11	19:54	18:33	16:20	15:39
9	08:45	07:56	06:48	06:26	05:13	04:27	04:37	05:30	06:32	07:32	07:38	08:34
	15:58	17:02	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:31	16:18	15:38
10	08:44	07:54	06:46	06:23	05:11	04:27	04:38	05:32	06:34	07:34	07:40	08:36
	16:00	17:04	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:09	04:26	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:46	18:26	16:14	15:37
12	08:42	07:50	06:40	06:18	05:07	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:12	15:37
13	08:41	07:48	06:38	06:16	05:05	04:25	04:42	05:38	06:40	07:40	07:46	08:39
	16:05	17:11	18:12	20:16	21:18	22:04	21:57	20:59	19:40	18:20	16:10	15:37
14	08:40	07:45	06:35	06:13	05:03	04:25	04:44	05:40	06:42	07:42	07:49	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:56	20:57	19:38	18:18	16:08	15:37
15	08:39	07:43	06:32	06:10	05:01	04:25	04:45	05:42	06:44	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:37
16	08:38	07:41	06:30	06:08	04:59	04:24	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:13	16:04	15:37
17	08:37	07:38	06:27	06:05	04:57	04:24	04:48	05:46	06:48	07:48	07:55	08:43
	16:12	17:20	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:03	15:37
18	08:35	07:36	06:24	06:03	04:56	04:24	04:50	05:48	06:49	07:51	07:57	08:44
	16:14	17:22	18:22	20:26	21:27	22:07	21:50	20:48	19:27	18:08	16:01	15:37
19	08:34	07:34	06:22	06:00	04:54	04:24	04:51	05:50	06:51	07:53	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:37
20	08:33	07:31	06:19	05:58	04:52	04:24	04:53	05:52	06:53	07:55	08:01	08:46
	16:18	17:26	18:26	20:31	21:31	22:07	21:47	20:43	19:21	18:03	15:58	15:37
21	08:31	07:29	06:16	05:55	04:50	04:24	04:55	05:54	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:32	22:08	21:46	20:40	19:19	18:00	15:56	15:38
22	08:30	07:26	06:14	05:53	04:49	04:24	04:56	05:56	06:57	07:59	08:05	08:47
	16:22	17:31	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:55	15:38
23	08:28	07:24	06:11	05:50	04:47	04:25	04:58	05:58	06:59	08:01	08:07	08:47
	16:24	17:33	18:33	20:37	21:36	22:08	21:42	20:35	19:13	17:56	15:53	15:39
24	08:27	07:21	06:08	05:48	04:46	04:25	05:00	06:00	07:01	08:03	08:09	08:48
	16:27	17:35	18:35	20:39	21:38	22:08	21:41	20:33	19:11	17:53	15:52	15:39
25	08:25	07:19	06:06	05:45	04:44	04:25	05:01	06:02	07:03	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:40
26	08:23	07:16	06:03	05:43	04:43	04:26	05:03	06:04	07:05	08:08	08:13	08:48
	16:31	17:39	18:39	20:43	21:41	22:08	21:37	20:28	19:05	17:48	15:49	15:41
27	08:22	07:14	06:00	05:41	04:41	04:26	05:05	06:06	07:07	08:10	08:15	08:48
	16:33	17:42	18:41	20:45	21:43	22:08	21:35	20:25	19:03	17:46	15:48	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:09	08:12	08:17	08:49
	16:35	17:44	18:43	20:47	21:44	22:08	21:33	20:22	19:00	17:44	15:47	15:42
29	08:18		06:55	05:36	04:38	04:27	05:09	06:10	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:32	20:20	18:57	17:41	15:46	15:43
30	08:16		06:52	05:33	04:37	04:28	05:11	06:12	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:55	17:39	15:45	15:44
31	08:15		06:50		04:36		05:12	06:14		07:18		08:49
	16:42		19:49		21:49		21:28	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Jaundzelzava - Shadow Receptor:  $1,0 \times 1,0$  Azimuth:  $3,1^\circ$  Slope:  $90,0^\circ$  (451)  
 Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:29 22:07	05:14 21:26	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:11 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:52	04:29 22:06	05:16 21:24	06:17 20:09	07:17 18:49	07:23 16:32	08:24 15:42
3	08:48 15:49	08:09 16:48	07:04 17:50	06:42 19:55	05:26 20:57	04:32 21:53	04:30 22:06	05:18 21:21	06:19 20:07	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:07 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:26	08:28 15:40
6	08:46 15:53	08:03 16:55	06:56 17:56	06:34 20:01	05:20 21:03	04:29 21:57	04:33 22:04	05:24 21:15	06:25 20:01	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:26 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:28 21:11	06:29 19:53	07:30 18:33	07:36 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:08	05:13 21:09	04:27 22:00	04:37 22:01	05:30 21:08	06:31 19:51	07:32 18:31	07:38 16:17	08:34 15:38
10	08:44 16:00	07:54 17:04	06:45 18:05	06:23 20:10	05:11 21:11	04:26 22:01	04:38 22:00	05:32 21:06	06:33 19:48	07:34 18:28	07:40 16:15	08:36 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:03	04:40 21:58	05:35 21:02	06:37 19:43	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:38 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:57	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:10	08:39 15:36
14	08:40 16:06	07:45 17:13	06:35 18:13	06:13 20:18	05:03 21:19	04:25 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:16	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:55	06:43 19:35	07:44 18:15	07:51 16:06	08:41 15:36
16	08:38 16:10	07:40 17:17	06:30 18:18	06:08 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:13	07:53 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 19:27	07:50 18:08	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:24 22:07	04:51 21:49	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:31	04:24 22:07	04:53 21:47	05:51 20:42	06:53 19:21	07:55 18:03	08:01 15:58	08:45 15:37
21	08:31 16:20	07:29 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:57 18:00	08:03 15:56	08:46 15:37
22	08:30 16:22	07:26 17:30	06:14 18:30	05:52 20:35	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:58	08:05 15:55	08:47 15:38
23	08:28 16:24	07:24 17:33	06:11 18:32	05:50 20:37	04:47 21:36	04:24 22:08	04:58 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:38	04:25 22:08	04:59 21:41	05:59 20:32	07:01 19:10	08:03 17:53	08:09 15:52	08:48 15:39
25	08:25 16:28	07:19 17:37	06:06 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:08	08:05 16:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:39	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:22 16:33	07:14 17:41	06:00 18:41	05:40 20:45	04:41 21:43	04:26 22:08	05:05 21:35	06:05 20:25	07:07 19:02	08:09 16:46	08:15 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:58 18:43	05:38 20:47	04:39 21:44	04:26 22:08	05:07 21:33	06:07 20:22	07:09 19:00	08:12 16:43	08:16 15:47	08:49 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:20	07:11 18:57	08:14 16:41	08:18 15:46	08:49 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:30	06:11 20:17	07:13 18:54	08:16 16:39	08:20 15:44	08:49 15:44
31	08:14 16:41		06:50 19:49		04:35 21:49		05:12 21:28	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Jaundzitari - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (516)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December		
1	08:48 15:46	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	19:54 (AP2) 20:18 (AP2)	04:34 21:50	04:28 22:06	05:14 21:25	20:03 (AP2) 20:27 (AP2)	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	19:54 (AP2) 20:18 (AP2)	04:33 21:51	04:29 22:06	05:16 21:23	20:03 (AP2) 20:28 (AP2)	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	19:53 (AP2) 20:19 (AP2)	04:32 21:53	04:30 22:05	05:18 21:21	20:03 (AP2) 20:29 (AP2)	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:41
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	19:53 (AP2) 20:19 (AP2)	04:31 21:54	04:31 22:05	05:20 21:19	20:03 (AP2) 20:29 (AP2)	06:21 20:04	07:21 18:44	07:27 16:27	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	19:53 (AP2) 20:19 (AP2)	04:30 21:55	04:32 22:04	05:22 21:17	20:03 (AP2) 20:29 (AP2)	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	05:19 21:03	19:53 (AP2) 20:19 (AP2)	04:29 21:56	04:33 22:03	05:23 21:15	20:02 (AP2) 20:28 (AP2)	06:25 19:59	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	19:53 (AP2) 20:19 (AP2)	04:28 21:58	04:34 22:03	05:25 21:13	20:02 (AP2) 20:29 (AP2)	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	19:53 (AP2) 20:19 (AP2)	04:28 21:59	04:35 22:02	05:27 21:11	20:02 (AP2) 20:28 (AP2)	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	19:53 (AP2) 20:19 (AP2)	04:27 22:00	04:36 22:01	05:29 21:08	20:02 (AP2) 20:28 (AP2)	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:38
10	08:44 15:59	07:54 17:03	06:45 18:05	06:23 20:09	05:11 21:11	19:53 (AP2) 20:18 (AP2)	04:26 22:01	04:38 22:00	05:31 21:06	20:03 (AP2) 20:28 (AP2)	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	19:53 (AP2) 20:18 (AP2)	04:26 22:02	04:39 21:59	05:33 21:04	20:02 (AP2) 20:26 (AP2)	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	19:53 (AP2) 20:17 (AP2)	04:25 22:03	04:40 21:58	05:35 21:01	20:03 (AP2) 20:26 (AP2)	06:37 19:43	07:38 18:23	07:44 16:11	08:38 15:36
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	19:55 (AP2) 20:17 (AP2)	04:25 22:03	04:42 21:57	05:37 20:59	20:04 (AP2) 20:25 (AP2)	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:13 20:18	05:03 21:19	19:55 (AP2) 20:16 (AP2)	04:24 22:04	04:43 21:55	05:39 20:57	20:05 (AP2) 20:24 (AP2)	06:41 19:37	07:42 18:17	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	19:56 (AP2) 20:15 (AP2)	04:24 22:05	04:45 21:54	05:41 20:54	20:07 (AP2) 20:22 (AP2)	06:43 19:34	07:44 18:15	07:50 16:06	08:41 15:36
16	08:38 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	19:57 (AP2) 20:14 (AP2)	04:24 22:05	04:46 21:53	05:43 20:52	20:09 (AP2) 20:20 (AP2)	06:45 19:32	07:46 18:12	07:53 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	19:59 (AP2) 20:13 (AP2)	04:24 22:06	04:48 21:51	05:45 20:50	20:10 (AP2) 20:19 (AP2)	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	20:00 (AP2) 20:11 (AP2)	04:24 22:06	04:49 21:50	05:47 20:47	20:10 (AP2) 20:18 (AP2)	06:49 19:26	07:50 18:07	07:57 16:01	08:44 15:36
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	04:53 21:29	20:04 (AP2) 20:08 (AP2)	04:23 22:07	04:51 21:48	05:49 20:45	20:11 (AP2) 20:16 (AP2)	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:30	20:04 (AP2) 20:10 (AP2)	04:24 22:07	04:52 21:47	05:51 20:42	20:12 (AP2) 20:17 (AP2)	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	20:05 (AP2) 20:11 (AP2)	04:24 22:07	04:54 21:45	05:53 20:40	20:13 (AP2) 20:18 (AP2)	06:55 19:18	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	20:06 (AP2) 20:12 (AP2)	04:24 22:08	04:56 21:44	05:55 20:37	20:14 (AP2) 20:19 (AP2)	06:57 19:16	07:59 17:57	08:05 15:54	08:47 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	04:47 21:36	20:07 (AP2) 20:13 (AP2)	04:24 22:08	04:57 21:42	05:57 20:35	20:15 (AP2) 20:20 (AP2)	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37	20:08 (AP2) 20:14 (AP2)	04:24 22:08	04:59 21:40	05:59 20:32	20:16 (AP2) 20:21 (AP2)	07:01 19:10	08:03 17:53	08:09 15:51	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:43 21:39	20:09 (AP2) 20:15 (AP2)	04:25 22:08	05:01 21:39	06:01 7	20:13 (AP2) 20:20 (AP2)	07:03 19:08	07:05 16:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:42 20:43	04:42 21:41	20:10 (AP2) 20:16 (AP2)	04:25 22:08	05:03 21:37	06:03 12	20:14 (AP2) 20:22 (AP2)	07:05 19:05	07:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:32	07:14 17:41	06:00 18:40	05:40 20:45	04:41 21:42	20:11 (AP2) 20:13 (AP2)	04:26 22:08	05:05 21:35	06:05 16	20:15 (AP2) 20:24 (AP2)	07:07 19:02	07:09 16:46	08:14 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:43	05:38 20:47	04:39 21:44	20:12 (AP2) 20:15 (AP2)	04:26 22:07	05:06 21:33	06:07 17	20:16 (AP2) 20:25 (AP2)	07:09 19:00	07:12 16:43	08:16 15:46	08:48 15:42
29	08:18 16:37	07:09 17:45	05:55 18:45	05:35 20:49	04:38 21:46	20:13 (AP2) 20:17 (AP2)	04:27 22:07	05:08 21:31	06:09 20	20:17 (AP2) 20:26 (AP2)	07:11 18:57	07:14 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39	07:06 17:47	05:52 18:47	05:33 20:51	04:37 21:47	20:14 (AP2) 20:19 (AP2)	04:28 22:07	05:10 21:29	06:11 22	20:18 (AP2) 20:27 (AP2)	07:13 18:54	07:16 16:39	08:20 15:44	08:48 15:44
31	08:14 16:41	07:04 17:50	06:49 18:50	05:31 20:53	04:35 21:49	20:15 (AP2) 20:21 (AP2)	04:29 21:48	05:12 21:27	06:13 23	20:19 (AP2) 20:28 (AP2)	07:15 18:56	07:18 16:41	08:22 15:46	08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217		
Total, worst case				75	412		117	370						
Sun reduction				0,44	0,56		0,47	0,52						
Oper. time red.				1,00	1,00		1,00	1,00						
Wind dir. red.				1,00	1,00		1,00	1,00						
Total reduction				0,44	0,56		0,47	0,52						
Total, real				33	232		55	193						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Jaunie Grantkalni - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (438)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:35	04:29	05:15	06:16	07:16	07:20	08:22
	15:48	16:44	17:46	19:51	20:53	21:50	22:06	21:25	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:45	05:29	04:34	04:30	05:17	06:18	07:18	07:23	08:23
	15:49	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:33	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:19	06:20	07:20	07:25	08:25
	15:50	16:49	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:47	16:30	15:42
4	08:47	08:07	07:01	06:39	05:25	04:32	04:32	05:21	06:22	07:22	07:27	08:27
	15:51	16:51	17:53	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:42
5	08:47	08:05	06:59	06:37	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:28
	15:53	16:53	17:55	19:59	21:01	21:55	22:04	21:17	20:02	18:41	16:26	15:41
6	08:46	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:02	21:03	21:56	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:00	06:54	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:33	08:31
	15:56	16:58	17:59	20:04	21:05	21:57	22:02	21:13	19:56	18:36	16:22	15:40
8	08:45	07:58	06:51	06:29	05:16	04:29	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	17:00	18:01	20:06	21:07	21:59	22:02	21:11	19:54	18:34	16:20	15:39
9	08:44	07:56	06:48	06:26	05:14	04:28	04:38	05:30	06:32	07:32	07:38	08:34
	15:59	17:02	18:03	20:08	21:09	22:00	22:01	21:08	19:51	18:31	16:18	15:39
10	08:43	07:54	06:46	06:24	05:12	04:27	04:39	05:32	06:34	07:34	07:40	08:35
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:10	04:27	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:08	20:12	21:13	22:01	21:59	21:04	19:46	18:26	16:14	15:38
12	08:42	07:50	06:40	06:18	05:08	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:04	17:09	18:10	20:14	21:15	22:02	21:58	21:02	19:43	18:23	16:12	15:38
13	08:41	07:47	06:38	06:16	05:06	04:26	04:43	05:38	06:40	07:40	07:46	08:39
	16:06	17:11	18:12	20:16	21:17	22:03	21:56	20:59	19:40	18:21	16:10	15:37
14	08:40	07:45	06:35	06:13	05:04	04:25	04:44	05:40	06:42	07:42	07:48	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:38	18:18	16:08	15:37
15	08:39	07:43	06:33	06:11	05:02	04:25	04:46	05:42	06:44	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:16	16:07	15:37
16	08:37	07:41	06:30	06:08	05:00	04:25	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:18	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:05	15:37
17	08:36	07:38	06:27	06:06	04:58	04:25	04:49	05:46	06:48	07:48	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:51	20:50	19:30	18:11	16:03	15:37
18	08:35	07:36	06:25	06:03	04:56	04:25	04:50	05:48	06:50	07:51	07:57	08:44
	16:15	17:22	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:02	15:37
19	08:34	07:33	06:22	06:00	04:54	04:25	04:52	05:50	06:52	07:53	07:59	08:45
	16:17	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:06	16:00	15:38
20	08:32	07:31	06:19	05:58	04:53	04:25	04:53	05:52	06:54	07:55	08:01	08:45
	16:19	17:26	18:26	20:30	21:30	22:07	21:47	20:43	19:21	18:03	15:58	15:38
21	08:31	07:29	06:17	05:55	04:51	04:25	04:55	05:54	06:56	07:57	08:03	08:46
	16:21	17:29	18:28	20:33	21:32	22:07	21:45	20:40	19:19	18:01	15:57	15:38
22	08:29	07:26	06:14	05:53	04:49	04:25	04:57	05:56	06:58	07:59	08:05	08:46
	16:23	17:31	18:31	20:35	21:34	22:07	21:44	20:38	19:16	17:58	15:55	15:39
23	08:28	07:24	06:11	05:51	04:48	04:25	04:58	05:58	07:00	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:08	21:42	20:35	19:13	17:56	15:54	15:39
24	08:26	07:21	06:09	05:48	04:46	04:26	05:00	06:00	07:02	08:03	08:09	08:47
	16:27	17:35	18:35	20:39	21:37	22:08	21:40	20:33	19:11	17:53	15:52	15:40
25	08:25	07:19	06:06	05:46	04:45	04:26	05:02	06:02	07:04	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:41
26	08:23	07:16	06:03	05:43	04:43	04:26	05:04	06:04	07:06	08:07	08:13	08:48
	16:31	17:40	18:39	20:43	21:41	22:08	21:37	20:28	19:05	17:49	15:50	15:41
27	08:21	07:14	06:01	05:41	04:42	04:27	05:06	06:06	07:08	08:09	08:14	08:48
	16:33	17:42	18:41	20:45	21:42	22:07	21:35	20:25	19:03	17:46	15:49	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:10	08:12	08:16	08:48
	16:36	17:44	18:43	20:47	21:44	22:07	21:33	20:22	19:00	17:44	15:47	15:43
29	08:18		06:55	05:36	04:39	04:28	05:09	06:10	07:12	08:14	08:18	08:48
	16:38		19:45	20:49	21:45	22:07	21:31	20:20	18:57	17:42	15:46	15:44
30	08:16		06:53	05:34	04:38	04:29	05:11	06:12	07:14	08:16	08:20	08:48
	16:40		19:47	20:51	21:47	22:07	21:29	20:17	18:55	17:39	15:45	15:45
31	08:14		06:50		04:36		05:13	06:14		07:18		08:48
	16:42		19:49		21:48		21:27	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	527	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Jaunie Mozuli - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (414)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:14 21:26	06:16 20:12	07:15 18:52	07:20 16:35	08:22 15:44
2	08:48 15:48	08:11 16:46	07:06 17:48	06:44 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:16 21:24	06:18 20:09	07:17 18:49	07:23 16:32	08:23 15:43
3	08:48 15:50	08:09 16:48	07:04 17:50	06:42 19:55	05:27 20:57	04:33 21:53	04:31 22:05	05:18 21:21	06:20 20:07	07:19 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:53	06:59 17:55	06:36 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:01	07:24 18:41	07:29 16:26	08:28 15:40
6	08:46 15:54	08:03 16:55	06:56 17:57	06:34 20:01	05:20 21:03	04:30 21:57	04:34 22:03	05:24 21:15	06:26 19:59	07:26 18:39	07:31 16:24	08:30 15:40
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:18 21:05	04:29 21:58	04:35 22:03	05:26 21:13	06:28 19:56	07:28 18:36	07:33 16:22	08:31 15:39
8	08:45 15:57	07:58 16:59	06:51 18:01	06:29 20:06	05:16 21:07	04:28 21:59	04:36 22:02	05:28 21:11	06:30 19:54	07:30 18:33	07:36 16:20	08:33 15:39
9	08:44 15:58	07:56 17:02	06:48 18:03	06:26 20:08	05:13 21:09	04:27 22:00	04:37 22:01	05:30 21:08	06:32 19:51	07:32 18:31	07:38 16:18	08:34 15:38
10	08:44 16:00	07:54 17:04	06:46 18:05	06:23 20:10	05:11 21:11	04:27 22:01	04:38 22:00	05:32 21:06	06:34 19:48	07:34 18:28	07:40 16:16	08:35 15:38
11	08:43 16:02	07:52 17:06	06:43 18:07	06:21 20:12	05:09 21:13	04:26 22:02	04:40 21:59	05:34 21:04	06:36 19:46	07:36 18:26	07:42 16:14	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:26 22:03	04:41 21:58	05:36 21:02	06:38 19:43	07:38 18:23	07:44 16:12	08:38 15:37
13	08:41 16:05	07:47 17:11	06:38 18:12	06:16 20:16	05:05 21:17	04:25 22:03	04:42 21:57	05:38 20:59	06:40 19:40	07:40 18:20	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:03 21:19	04:25 22:04	04:44 21:55	05:40 20:57	06:42 19:37	07:42 18:18	07:48 16:08	08:40 15:37
15	08:39 16:09	07:43 17:15	06:32 18:16	06:10 20:20	05:01 21:21	04:25 22:05	04:45 21:54	05:42 20:55	06:43 19:35	07:44 18:15	07:51 16:06	08:41 15:37
16	08:38 16:11	07:41 17:17	06:30 18:18	06:08 20:22	04:59 21:23	04:24 22:05	04:47 21:53	05:44 20:52	06:45 19:32	07:46 18:13	07:53 16:04	08:42 15:37
17	08:36 16:12	07:38 17:20	06:27 18:20	06:05 20:24	04:58 21:25	04:24 22:06	04:48 21:51	05:46 20:50	06:47 19:29	07:48 18:10	07:55 16:03	08:43 15:37
18	08:35 16:14	07:36 17:22	06:24 18:22	06:03 20:26	04:56 21:27	04:24 22:06	04:50 21:50	05:48 20:47	06:49 19:27	07:50 18:08	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:24 22:07	04:51 21:49	05:50 20:45	06:51 19:24	07:53 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:58 20:30	04:52 21:31	04:24 22:07	04:53 21:47	05:52 20:43	06:53 19:21	07:55 18:03	08:01 15:58	08:45 15:37
21	08:31 16:20	07:29 17:28	06:16 18:28	05:55 20:33	04:50 21:32	04:24 22:07	04:55 21:45	05:54 20:40	06:55 19:19	07:57 18:00	08:03 15:56	08:46 15:38
22	08:30 16:22	07:26 17:31	06:14 18:30	05:53 20:35	04:49 21:34	04:24 22:08	04:56 21:44	05:56 20:38	06:57 19:16	07:59 17:58	08:05 15:55	08:47 15:38
23	08:28 16:25	07:24 17:33	06:11 18:32	05:50 20:37	04:47 21:36	04:25 22:08	04:58 21:42	05:58 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:39
24	08:26 16:27	07:21 17:35	06:08 18:35	05:48 20:39	04:46 21:38	04:25 22:08	05:00 21:40	06:00 20:33	07:01 19:11	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:29	07:19 17:37	06:06 18:37	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:02 20:30	07:03 19:08	08:05 17:51	08:11 15:51	08:48 15:40
26	08:23 16:31	07:16 17:39	06:03 18:39	05:43 20:43	04:43 21:41	04:26 22:08	05:03 21:37	06:04 20:27	07:05 19:05	08:07 17:48	08:13 15:49	08:48 15:41
27	08:22 16:33	07:14 17:42	06:00 18:41	05:41 20:45	04:41 21:43	04:26 22:08	05:05 21:35	06:06 20:25	07:07 19:03	08:09 17:46	08:15 15:48	08:48 15:42
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	04:27 22:07	05:07 21:33	06:08 20:22	07:09 19:00	08:12 17:44	08:16 15:47	08:48 15:43
29	08:18 16:37		06:55 19:45	05:36 20:49	04:38 21:46	04:28 22:07	05:09 21:31	06:10 20:20	07:11 18:57	08:14 17:41	08:18 15:46	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:11 21:29	06:12 20:17	07:13 18:55	08:16 17:39	08:20 15:45	08:48 15:44
31	08:14 16:42		06:50 19:49		04:36 21:49		05:12 21:28	06:14 20:15		07:18 16:37		08:48 15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Jaunkaleji - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (583)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:27	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:50	06:28	05:15	04:28	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:38
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:05	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:40
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	19:00	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Jaunkaleji 1 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (581)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:27	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:50	06:28	05:15	04:28	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:38
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:05	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:40
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	19:00	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Jaunlauki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (504)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:24	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:10	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:37	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:26	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:45	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:48		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Jaunozoli - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (541)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Jaunstikani - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (421)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:35	04:29	05:14	06:16	07:15	07:20	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:06	21:25	20:12	18:52	16:35	15:44
2	08:48	08:10	07:06	06:44	05:29	04:34	04:30	05:16	06:18	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:18	06:20	07:19	07:25	08:25
	15:50	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:46	16:30	15:42
4	08:47	08:07	07:01	06:39	05:24	04:32	04:32	05:20	06:22	07:21	07:27	08:27
	15:51	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:41
5	08:47	08:04	06:58	06:36	05:22	04:31	04:33	05:22	06:24	07:23	07:29	08:28
	15:52	16:53	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:26	15:40
6	08:46	08:02	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:25	07:31	08:30
	15:54	16:55	17:57	20:01	21:03	21:56	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:00	06:53	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:33	08:31
	15:55	16:57	17:59	20:03	21:05	21:57	22:02	21:13	19:56	18:36	16:22	15:39
8	08:45	07:58	06:51	06:29	05:16	04:28	04:36	05:28	06:30	07:30	07:35	08:33
	15:57	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:20	15:39
9	08:44	07:56	06:48	06:26	05:13	04:28	04:37	05:30	06:32	07:32	07:38	08:34
	15:58	17:02	18:03	20:08	21:09	22:00	22:01	21:08	19:51	18:31	16:18	15:38
10	08:43	07:54	06:45	06:23	05:11	04:27	04:38	05:32	06:34	07:34	07:40	08:35
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:09	04:26	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:26	16:14	15:37
12	08:42	07:50	06:40	06:18	05:07	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:02	19:43	18:23	16:12	15:37
13	08:41	07:47	06:38	06:15	05:05	04:25	04:42	05:38	06:39	07:40	07:46	08:39
	16:05	17:11	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:10	15:37
14	08:40	07:45	06:35	06:13	05:03	04:25	04:44	05:40	06:41	07:42	07:48	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:37	18:18	16:08	15:37
15	08:39	07:43	06:32	06:10	05:01	04:25	04:45	05:42	06:43	07:44	07:50	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:37
16	08:37	07:40	06:30	06:08	04:59	04:24	04:47	05:44	06:45	07:46	07:53	08:42
	16:11	17:17	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:04	15:37
17	08:36	07:38	06:27	06:05	04:58	04:24	04:48	05:46	06:47	07:48	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:03	15:37
18	08:35	07:36	06:24	06:03	04:56	04:24	04:50	05:48	06:49	07:50	07:57	08:44
	16:14	17:22	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:01	15:37
19	08:34	07:33	06:22	06:00	04:54	04:24	04:51	05:50	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:58	04:52	04:24	04:53	05:52	06:53	07:55	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:03	15:58	15:38
21	08:31	07:29	06:16	05:55	04:50	04:24	04:55	05:54	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:19	18:00	15:56	15:38
22	08:29	07:26	06:14	05:53	04:49	04:24	04:56	05:56	06:57	07:59	08:05	08:46
	16:22	17:31	18:30	20:34	21:34	22:07	21:44	20:37	19:16	17:58	15:55	15:38
23	08:28	07:24	06:11	05:50	04:47	04:25	04:58	05:58	06:59	08:01	08:07	08:47
	16:25	17:33	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:39
24	08:26	07:21	06:08	05:48	04:46	04:25	05:00	06:00	07:01	08:03	08:09	08:47
	16:27	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:11	17:53	15:52	15:39
25	08:25	07:19	06:06	05:45	04:44	04:25	05:02	06:02	07:03	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:40
26	08:23	07:16	06:03	05:43	04:43	04:26	05:03	06:04	07:05	08:07	08:13	08:48
	16:31	17:39	18:39	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:41
27	08:21	07:14	06:00	05:41	04:41	04:26	05:05	06:06	07:07	08:09	08:14	08:48
	16:33	17:42	18:41	20:45	21:42	22:07	21:35	20:25	19:02	16:46	15:48	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:09	08:12	08:16	08:48
	16:35	17:44	18:43	20:47	21:44	22:07	21:33	20:22	19:00	16:44	15:47	15:43
29	08:18		06:55	05:36	04:38	04:28	05:09	06:10	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:45	22:07	21:31	20:20	18:57	16:41	15:46	15:44
30	08:16		06:52	05:33	04:37	04:28	05:11	06:12	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:45	15:45
31	08:14		06:50		04:36		05:12	06:14		07:18		08:48
	16:42		19:49		21:48		21:27	20:14		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Jaunstikani - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (589)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:14 21:25	06:16 20:12	07:15 18:52	07:20 16:35	08:22 15:44
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:16 21:23	06:18 20:09	07:17 18:49	07:23 16:32	08:23 15:43
3	08:48 15:50	08:09 16:48	07:04 17:50	06:42 19:55	05:27 20:57	04:33 21:53	04:31 22:05	05:18 21:21	06:20 20:07	07:19 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:51	07:01 17:52	06:39 19:57	05:24 20:59	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:53	06:59 17:54	06:36 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:01	07:23 18:41	07:29 16:26	08:28 15:40
6	08:46 15:54	08:02 16:55	06:56 17:57	06:34 20:01	05:20 21:03	04:30 21:56	04:34 22:03	05:24 21:15	06:26 19:59	07:26 18:39	07:31 16:24	08:30 15:40
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:18 21:05	04:29 21:58	04:35 22:02	05:26 21:13	06:28 19:56	07:28 18:36	07:33 16:22	08:31 15:39
8	08:45 15:57	07:58 16:59	06:51 18:01	06:29 20:06	05:16 21:07	04:28 21:59	04:36 22:02	05:28 21:11	06:30 19:53	07:30 18:33	07:35 16:20	08:33 15:39
9	08:44 15:58	07:56 17:02	06:48 18:03	06:26 20:08	05:13 21:09	04:28 22:00	04:37 22:01	05:30 21:08	06:32 19:51	07:32 18:31	07:38 16:18	08:34 15:38
10	08:43 16:00	07:54 17:04	06:46 18:05	06:23 20:10	05:11 21:11	04:27 22:01	04:38 22:00	05:32 21:06	06:34 19:48	07:34 18:28	07:40 16:16	08:35 15:38
11	08:43 16:02	07:52 17:06	06:43 18:07	06:21 20:12	05:09 21:13	04:26 22:02	04:40 21:59	05:34 21:04	06:36 19:45	07:36 18:26	07:42 16:14	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:26 22:02	04:41 21:58	05:36 21:02	06:38 19:43	07:38 18:23	07:44 16:12	08:38 15:37
13	08:41 16:05	07:47 17:11	06:38 18:12	06:16 20:16	05:05 21:17	04:25 22:03	04:42 21:56	05:38 20:59	06:40 19:40	07:40 18:20	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:03 21:19	04:25 22:04	04:44 21:55	05:40 20:57	06:41 19:37	07:42 18:18	07:48 16:08	08:40 15:37
15	08:39 16:09	07:43 17:15	06:32 18:16	06:10 20:20	05:01 21:21	04:25 22:05	04:45 21:54	05:42 20:55	06:43 19:35	07:44 18:15	07:50 16:06	08:41 15:37
16	08:37 16:11	07:40 17:17	06:30 18:18	06:08 20:22	04:59 21:23	04:24 22:05	04:47 21:53	05:44 20:52	06:45 19:32	07:46 18:13	07:53 16:05	08:42 15:37
17	08:36 16:13	07:38 17:20	06:27 18:20	06:05 20:24	04:58 21:25	04:24 22:06	04:48 21:51	05:46 20:50	06:47 19:29	07:48 18:10	07:55 16:03	08:43 15:37
18	08:35 16:14	07:36 17:22	06:24 18:22	06:03 20:26	04:56 21:27	04:24 22:06	04:50 21:50	05:48 20:47	06:49 19:27	07:50 18:08	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:24 22:07	04:51 21:48	05:50 20:45	06:51 19:24	07:52 18:05	07:59 16:00	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:58 20:30	04:52 21:30	04:24 22:07	04:53 21:47	05:52 20:42	06:53 19:21	07:55 18:03	08:01 15:58	08:45 15:38
21	08:31 16:20	07:29 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:55 21:45	05:54 20:40	06:55 19:19	07:57 18:00	08:03 15:56	08:46 15:38
22	08:29 16:22	07:26 17:31	06:14 18:30	05:53 20:35	04:49 21:34	04:25 22:07	04:56 21:44	05:56 20:37	06:57 19:16	07:59 17:58	08:05 15:55	08:46 15:38
23	08:28 16:25	07:24 17:33	06:11 18:32	05:50 20:37	04:47 21:36	04:25 22:08	04:58 21:42	05:58 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:39
24	08:26 16:27	07:21 17:35	06:08 18:34	05:48 20:39	04:46 21:37	04:25 22:08	05:00 21:40	06:00 20:32	07:01 19:11	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:29	07:19 17:37	06:06 18:37	05:45 20:41	04:44 21:39	04:25 22:08	05:02 21:39	06:02 20:30	07:03 19:08	08:05 16:51	08:11 15:51	08:48 15:40
26	08:23 16:31	07:16 17:39	06:03 18:39	05:43 20:43	04:43 21:41	04:26 22:08	05:03 21:37	06:04 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:41
27	08:21 16:33	07:14 17:42	06:00 18:41	05:41 20:45	04:41 21:42	04:26 22:07	05:05 21:35	06:06 20:25	07:07 19:02	08:09 16:46	08:14 15:48	08:48 15:42
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	04:27 22:07	05:07 21:33	06:08 20:22	07:09 19:00	08:12 16:44	08:16 15:47	08:48 15:43
29	08:18 16:37		06:55 19:45	05:36 20:49	04:38 21:46	04:28 22:07	05:09 21:31	06:10 20:20	07:11 18:57	08:14 16:41	08:18 15:46	08:48 15:44
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:11 21:29	06:12 20:17	07:13 18:54	08:16 16:39	08:20 15:45	08:48 15:45
31	08:14 16:42		06:50 19:49		04:36 21:48		05:13 21:27	06:14 20:15		07:18 16:37		08:48 15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Jaunares - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (437)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:35	04:29	05:15	06:16	07:16	07:20	08:22
	15:48	16:44	17:46	19:51	20:53	21:50	22:06	21:26	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:45	05:29	04:34	04:30	05:17	06:18	07:18	07:23	08:23
	15:49	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:33	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:19	06:20	07:20	07:25	08:25
	15:50	16:49	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:47	16:30	15:42
4	08:47	08:07	07:01	06:39	05:25	04:32	04:32	05:21	06:22	07:22	07:27	08:27
	15:51	16:51	17:53	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:42
5	08:47	08:05	06:59	06:37	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:28
	15:53	16:53	17:55	19:59	21:01	21:55	22:04	21:17	20:02	18:41	16:26	15:41
6	08:46	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:02	21:03	21:56	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:01	06:54	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:33	08:31
	15:56	16:58	17:59	20:04	21:05	21:58	22:03	21:13	19:56	18:36	16:22	15:40
8	08:45	07:58	06:51	06:29	05:16	04:29	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	17:00	18:01	20:06	21:07	21:59	22:02	21:11	19:54	18:34	16:20	15:39
9	08:44	07:56	06:48	06:26	05:14	04:28	04:38	05:30	06:32	07:32	07:38	08:34
	15:59	17:02	18:03	20:08	21:09	22:00	22:01	21:08	19:51	18:31	16:18	15:39
10	08:44	07:54	06:46	06:24	05:12	04:27	04:39	05:32	06:34	07:34	07:40	08:35
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:10	04:27	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:08	20:12	21:13	22:02	21:59	21:04	19:46	18:26	16:14	15:38
12	08:42	07:50	06:40	06:18	05:08	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:04	17:09	18:10	20:14	21:15	22:02	21:58	21:02	19:43	18:23	16:12	15:38
13	08:41	07:47	06:38	06:16	05:06	04:26	04:43	05:38	06:40	07:40	07:46	08:39
	16:06	17:11	18:12	20:16	21:17	22:03	21:56	20:59	19:40	18:21	16:10	15:37
14	08:40	07:45	06:35	06:13	05:04	04:25	04:44	05:40	06:42	07:42	07:48	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:38	18:18	16:08	15:37
15	08:39	07:43	06:33	06:11	05:02	04:25	04:46	05:42	06:44	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:16	16:07	15:37
16	08:38	07:41	06:30	06:08	05:00	04:25	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:18	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:05	15:37
17	08:36	07:38	06:27	06:06	04:58	04:25	04:49	05:46	06:48	07:48	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:51	20:50	19:30	18:11	16:03	15:37
18	08:35	07:36	06:25	06:03	04:56	04:25	04:50	05:48	06:50	07:51	07:57	08:44
	16:15	17:22	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:02	15:37
19	08:34	07:34	06:22	06:01	04:54	04:25	04:52	05:50	06:52	07:53	07:59	08:45
	16:17	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:06	16:00	15:38
20	08:32	07:31	06:19	05:58	04:53	04:25	04:53	05:52	06:54	07:55	08:01	08:45
	16:19	17:26	18:26	20:31	21:30	22:07	21:47	20:43	19:22	18:03	15:58	15:38
21	08:31	07:29	06:17	05:56	04:51	04:25	04:55	05:54	06:56	07:57	08:03	08:46
	16:21	17:29	18:28	20:33	21:32	22:07	21:45	20:40	19:19	18:01	15:57	15:38
22	08:30	07:26	06:14	05:53	04:49	04:25	04:57	05:56	06:58	07:59	08:05	08:46
	16:23	17:31	18:31	20:35	21:34	22:07	21:44	20:38	19:16	17:58	15:55	15:39
23	08:28	07:24	06:11	05:51	04:48	04:25	04:58	05:58	07:00	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:08	21:42	20:35	19:13	17:56	15:54	15:39
24	08:26	07:21	06:09	05:48	04:46	04:26	05:00	06:00	07:02	08:03	08:09	08:47
	16:27	17:35	18:35	20:39	21:37	22:08	21:40	20:33	19:11	17:53	15:52	15:40
25	08:25	07:19	06:06	05:46	04:45	04:26	05:02	06:02	07:04	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:41
26	08:23	07:16	06:03	05:43	04:43	04:26	05:04	06:04	07:06	08:07	08:13	08:48
	16:31	17:40	18:39	20:43	21:41	22:08	21:37	20:28	19:05	17:49	15:50	15:41
27	08:22	07:14	06:01	05:41	04:42	04:27	05:06	06:06	07:08	08:09	08:15	08:48
	16:33	17:42	18:41	20:45	21:42	22:07	21:35	20:25	19:03	17:46	15:49	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:10	08:12	08:16	08:48
	16:36	17:44	18:43	20:47	21:44	22:07	21:33	20:22	19:00	17:44	15:47	15:43
29	08:18		06:55	05:36	04:39	04:28	05:09	06:10	07:12	08:14	08:18	08:48
	16:38		19:45	20:49	21:46	22:07	21:31	20:20	18:57	17:42	15:46	15:44
30	08:16		06:53	05:34	04:38	04:29	05:11	06:12	07:14	08:16	08:20	08:48
	16:40		19:47	20:51	21:47	22:07	21:29	20:17	18:55	17:39	15:45	15:45
31	08:14		06:50		04:36		05:13	06:14		07:18		08:48
	16:42		19:49		21:49		21:28	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	527	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Jaurini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (572)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:29 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:07	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:24 21:15	06:25 20:01	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:26 21:13	06:27 20:01	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:28 21:11	06:29 20:01	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	04:27 22:00	04:37 22:01	05:29 21:08	06:31 20:01	07:31 18:30	07:38 16:17	08:34 15:38
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11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 20:01	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:02	04:40 21:58	05:35 21:01	06:37 20:01	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:56	05:37 20:59	06:39 20:01	07:40 18:20	07:46 16:10	08:39 15:36
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15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:54	06:43 20:01	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 20:01	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 20:01	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 20:01	07:50 18:07	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	04:53 21:29	04:24 22:07	04:51 21:48	05:49 20:45	06:51 20:01	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:30	04:24 22:07	04:53 21:47	05:51 20:42	06:53 20:01	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 20:01	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 20:01	07:59 17:58	08:05 15:54	08:46 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	04:47 21:36	04:24 22:08	04:58 21:42	05:57 20:35	06:59 20:01	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37	04:25 22:08	04:59 21:40	05:59 20:32	07:01 20:01	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 20:01	08:05 17:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 20:01	08:07 17:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:40	05:40 20:45	04:41 21:42	04:26 22:08	05:05 21:35	06:05 20:25	07:07 20:01	08:09 17:46	08:14 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:43	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 20:01	08:12 17:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:20	07:11 20:01	08:14 17:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 20:01	08:16 17:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14	07:18 20:01	08:18 17:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Jumiš i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (510)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:24	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:10	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:25	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Kalna Driva - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (594)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:24	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:27	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:02	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:50	06:28	05:15	04:28	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:10	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:38
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:42	18:23	16:11	15:37
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:05	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:24	04:51	05:49	06:51	07:52	07:59	08:44
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:07	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:53	15:52	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:40
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:07	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:45	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:48		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Kalnbirzes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (571) Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:24 21:15	06:25 20:01	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:25 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	04:27 22:00	04:36 22:01	05:29 21:08	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:38
10	08:43 15:59	07:54 17:03	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 19:48	07:34 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:02	04:40 21:58	05:35 21:01	06:37 19:43	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:56	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:13 20:18	05:03 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:54	06:43 19:35	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:01	08:44 15:36
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	04:53 21:29	04:24 22:07	04:51 21:48	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:30	04:24 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:58	08:05 15:54	08:46 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	04:47 21:36	04:24 22:08	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37	04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:08	08:05 16:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:40	05:40 20:45	04:41 21:42	04:26 22:08	05:05 21:35	06:05 20:25	07:07 19:02	08:09 16:46	08:14 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:43	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 19:00	08:12 16:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:20	07:11 18:57	08:14 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Kalnieš i 2 (kad. apz. 76740010016001) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (465)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January			February			March			April	May	June
1	08:49		10:30 (JU1)	08:13		15:05 (O6)	07:09		08:05 (Pr25)	06:47	05:31	04:34
	15:46	84	14:07 (Pr12)	16:43	36	15:41 (O6)	17:46	9	08:14 (Pr25)	19:51	20:53	21:50
2	08:48		10:30 (JU1)	08:11		15:05 (O6)	07:06			06:44	05:28	04:33
	15:48	82	14:06 (Pr12)	16:46	37	15:42 (O6)	17:48			19:53	20:55	21:52
3	08:48		10:32 (JU1)	08:09		15:05 (O6)	07:04			06:42	05:26	04:32
	15:49	81	14:07 (Pr12)	16:48	38	15:43 (O6)	17:50			19:55	20:57	21:53
4	08:48		10:33 (JU1)	08:07		15:04 (O6)	07:01			06:39	05:24	04:31
	15:50	79	14:07 (Pr12)	16:50	40	15:44 (O6)	17:52			19:57	21:00	21:54
5	08:47		10:34 (JU1)	08:05		15:03 (O6)	06:59			06:36	05:22	04:30
	15:52	76	14:07 (Pr12)	16:52	41	15:44 (O6)	17:54			19:59	21:02	21:56
6	08:47		10:37 (JU1)	08:03		15:03 (O6)	06:56			06:34	05:19	04:29
	15:53	72	14:08 (Pr12)	16:55	41	15:44 (O6)	17:56			20:01	21:04	21:57
7	08:46		12:19 (Pr11)	08:01		15:03 (O6)	06:53			06:31	05:17	04:28
	15:55	65	14:08 (Pr12)	16:57	42	15:45 (O6)	17:59			20:03	21:06	21:58
8	08:45		12:20 (Pr11)	07:58		15:03 (O6)	06:51			06:28	05:15	04:28
	15:56	65	14:08 (Pr12)	16:59	43	15:46 (O6)	18:01			20:06	21:08	21:59
9	08:45		12:21 (Pr11)	07:56		15:03 (O6)	06:48			06:26	05:13	04:27
	15:58	63	14:08 (Pr12)	17:01	42	15:45 (O6)	18:03			20:08	21:10	22:00
10	08:44		12:21 (Pr11)	07:54		15:03 (O6)	06:45			06:23	05:11	04:26
	15:59	62	14:08 (Pr12)	17:04	43	15:46 (O6)	18:05			20:10	21:12	22:01
11	08:43		12:22 (Pr11)	07:52		15:03 (O6)	06:43			06:20	05:09	04:26
	16:01	60	14:08 (Pr12)	17:06	43	15:46 (O6)	18:07			20:12	21:14	22:02
12	08:42		12:22 (Pr11)	07:50		15:03 (O6)	06:40			06:18	05:07	04:25
	16:03	58	14:07 (Pr12)	17:08	43	15:46 (O6)	18:09			20:14	21:16	22:03
13	08:41		12:23 (Pr11)	07:47		15:04 (O6)	06:38			06:15	05:05	04:25
	16:05	56	14:07 (Pr12)	17:10	42	15:46 (O6)	18:11			20:16	21:18	22:04
14	08:40		12:24 (Pr11)	07:45		15:03 (O6)	06:35			06:13	05:03	04:24
	16:06	52	14:06 (Pr12)	17:13	42	15:45 (O6)	18:13			20:18	21:20	22:04
15	08:39		12:25 (Pr11)	07:43		15:04 (O6)	06:32			06:10	05:01	04:24
	16:08	48	14:05 (Pr12)	17:15	41	15:45 (O6)	18:16			20:20	21:21	22:05
16	08:38		12:26 (Pr11)	07:41		08:08 (Pr25)	06:30			06:08	04:59	04:24
	16:10	44	14:04 (Pr12)	17:17	47	15:44 (O6)	18:18			20:22	21:23	22:06
17	08:37		12:27 (Pr11)	07:38		08:06 (Pr25)	06:27			06:05	04:57	04:24
	16:12	34	14:00 (Pr12)	17:19	51	15:44 (O6)	18:20			20:24	21:25	22:06
18	08:35		12:28 (Pr11)	07:36		08:03 (Pr25)	06:24			06:02	04:55	04:24
	16:14	31	12:59 (Pr11)	17:21	54	15:43 (O6)	18:22			20:26	21:27	22:07
19	08:34		12:29 (Pr11)	07:33		08:02 (Pr25)	06:22			06:00	04:53	04:23
	16:16	29	12:58 (Pr11)	17:24	54	15:43 (O6)	18:24			20:28	21:29	22:07
20	08:33		12:30 (Pr11)	07:31		08:01 (Pr25)	06:19			05:57	04:52	04:24
	16:18	27	12:57 (Pr11)	17:26	52	15:41 (O6)	18:26			20:31	21:31	22:07
21	08:31		12:33 (Pr11)	07:29		08:01 (Pr25)	06:16			05:55	04:50	04:24
	16:20	23	12:56 (Pr11)	17:28	51	15:40 (O6)	18:28			20:33	21:33	22:08
22	08:30		12:34 (Pr11)	07:26		08:00 (Pr25)	06:14			05:52	04:48	04:24
	16:22	21	12:55 (Pr11)	17:30	48	15:38 (O6)	18:30			20:35	21:34	22:08
23	08:28		12:37 (Pr11)	07:24		08:00 (Pr25)	06:11			05:50	04:47	04:24
	16:24	16	12:53 (Pr11)	17:33	45	15:37 (O6)	18:32			20:37	21:36	22:08
24	08:27		12:40 (Pr11)	07:21		08:00 (Pr25)	06:08			05:47	04:45	04:24
	16:26	15	15:24 (O6)	17:35	38	15:33 (O6)	18:34			20:39	21:38	22:08
25	08:25		15:14 (O6)	07:19		08:00 (Pr25)	06:06			05:45	04:44	04:25
	16:28	15	15:29 (O6)	17:37	28	15:28 (O6)	18:36			20:41	21:40	22:08
26	08:23		15:13 (O6)	07:16		08:01 (Pr25)	06:03			05:43	04:42	04:25
	16:30	19	15:32 (O6)	17:39	19	08:20 (Pr25)	18:39			20:43	21:41	22:08
27	08:22		15:11 (O6)	07:14		08:01 (Pr25)	06:00			05:40	04:41	04:26
	16:33	23	15:34 (O6)	17:41	17	08:18 (Pr25)	18:41			20:45	21:43	22:08
28	08:20		15:10 (O6)	07:11		08:03 (Pr25)	05:58			05:38	04:39	04:26
	16:35	26	15:36 (O6)	17:43	14	08:17 (Pr25)	18:43			20:47	21:44	22:08
29	08:18		15:09 (O6)				06:55			05:35	04:38	04:27
	16:37	29	15:38 (O6)				19:45			20:49	21:46	22:08
30	08:16		15:07 (O6)				06:52			05:33	04:37	04:28
	16:39	31	15:38 (O6)				19:47			20:51	21:47	22:07
31	08:15		15:06 (O6)				06:50				04:35	
	16:41	33	15:39 (O6)				19:49				21:49	
Potential sun hours	236			266			366		426	507	528	
Total, worst case	1419			1132			9					
Sun reduction	0,13			0,23			0,39					
Oper. time red.	1,00			1,00			1,00					
Wind dir. red.	1,00			1,00			1,00					
Total reduction	0,13			0,23			0,39					
Total, real	191			255			4					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Kalnieš i 2 (kad. apz. 76740010016001) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (465)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October		November		December	
1	04:28	05:14	06:15	07:15		07:21	14:33 (O6)	08:22	12:03 (Pr11)
	22:07	21:26	20:12	18:52		16:34	42 15:15 (O6)	15:43	60 13:49 (Pr12)
2	04:29	05:16	06:17	07:17		07:23	14:32 (O6)	08:24	12:04 (Pr11)
	22:06	21:24	20:09	18:49		16:32	43 15:15 (O6)	15:42	61 13:50 (Pr12)
3	04:30	05:18	06:19	07:19		07:25	14:33 (O6)	08:25	12:04 (Pr11)
	22:06	21:22	20:07	18:46		16:30	42 15:15 (O6)	15:41	63 13:51 (Pr12)
4	04:31	05:20	06:21	07:21		07:27	14:33 (O6)	08:27	12:04 (Pr11)
	22:05	21:20	20:04	18:44		16:28	42 15:15 (O6)	15:41	65 13:52 (Pr12)
5	04:32	05:22	06:23	07:23		07:29	14:33 (O6)	08:29	12:05 (Pr11)
	22:04	21:17	20:01	18:41		16:25	41 15:14 (O6)	15:40	65 13:53 (Pr12)
6	04:33	05:24	06:25	07:25		07:31	14:34 (O6)	08:30	10:22 (JU1)
	22:04	21:15	19:59	18:38		16:23	40 15:14 (O6)	15:39	72 13:53 (Pr12)
7	04:34	05:26	06:27	07:28		07:34	14:34 (O6)	08:32	10:21 (JU1)
	22:03	21:13	19:56	18:36		16:21	39 15:13 (O6)	15:39	75 13:54 (Pr12)
8	04:35	05:27	06:29	07:30		07:36	14:35 (O6)	08:33	10:21 (JU1)
	22:02	21:11	19:53	18:33		16:19	38 15:13 (O6)	15:38	79 13:55 (Pr12)
9	04:36	05:29	06:31	07:32		07:38	14:36 (O6)	08:34	10:20 (JU1)
	22:01	21:09	19:51	18:31		16:17	36 15:12 (O6)	15:38	81 13:55 (Pr12)
10	04:38	05:31	06:33	07:34		07:40	14:36 (O6)	08:36	10:21 (JU1)
	22:00	21:06	19:48	18:28		16:15	35 15:11 (O6)	15:37	83 13:57 (Pr12)
11	04:39	05:33	06:35	07:36		07:42	14:38 (O6)	08:37	10:20 (JU1)
	21:59	21:04	19:45	18:25		16:13	33 15:11 (O6)	15:37	85 13:57 (Pr12)
12	04:40	05:35	06:37	07:38	08:41 (Pr25)	07:44	14:39 (O6)	08:38	10:20 (JU1)
	21:58	21:02	19:43	18:23	4 08:45 (Pr25)	16:11	15:10 (O6)	15:37	86 13:57 (Pr12)
13	04:42	05:37	06:39	07:40	08:37 (Pr25)	07:46	14:41 (O6)	08:39	10:21 (JU1)
	21:57	20:59	19:40	18:20	11 08:48 (Pr25)	16:09	15:10 (O6)	15:36	86 13:58 (Pr12)
14	04:43	05:39	06:41	07:42	08:35 (Pr25)	07:49	14:42 (O6)	08:40	10:21 (JU1)
	21:56	20:57	19:37	18:18	15 08:50 (Pr25)	16:08	15:08 (O6)	15:36	87 13:59 (Pr12)
15	04:45	05:41	06:43	07:44	08:34 (Pr25)	07:51	14:43 (O6)	08:41	10:21 (JU1)
	21:54	20:55	19:35	18:15	18 08:52 (Pr25)	16:06	15:06 (O6)	15:36	89 13:59 (Pr12)
16	04:46	05:43	06:45	07:46	08:33 (Pr25)	07:53	14:46 (O6)	08:42	10:21 (JU1)
	21:53	20:52	19:32	18:13	19 08:52 (Pr25)	16:04	15:05 (O6)	15:36	89 14:00 (Pr12)
17	04:48	05:45	06:47	07:48	08:32 (Pr25)	07:55	14:48 (O6)	08:43	10:21 (JU1)
	21:52	20:50	19:29	18:10	33 16:03 (O6)	16:02	15:03 (O6)	15:36	90 14:00 (Pr12)
18	04:49	05:47	06:49	07:50	08:31 (Pr25)	07:57	12:14 (Pr11)	08:44	10:21 (JU1)
	21:50	20:47	19:27	18:08	41 16:06 (O6)	16:01	14:58 (O6)	15:36	89 14:00 (Pr12)
19	04:51	05:49	06:51	07:53	08:31 (Pr25)	07:59	12:12 (Pr11)	08:45	10:22 (JU1)
	21:49	20:45	19:24	18:05	47 16:09 (O6)	15:59	12:28 (Pr11)	15:37	90 14:01 (Pr12)
20	04:52	05:51	06:53	07:55	08:31 (Pr25)	08:01	12:09 (Pr11)	08:46	10:22 (JU1)
	21:47	20:43	19:21	18:03	50 16:10 (O6)	15:57	12:30 (Pr11)	15:37	90 14:01 (Pr12)
21	04:54	05:53	06:55	07:57	08:31 (Pr25)	08:03	12:08 (Pr11)	08:46	10:22 (JU1)
	21:46	20:40	19:19	18:00	52 16:11 (O6)	15:56	12:31 (Pr11)	15:37	90 14:01 (Pr12)
22	04:56	05:55	06:57	07:59	08:31 (Pr25)	08:05	12:07 (Pr11)	08:47	10:23 (JU1)
	21:44	20:38	19:16	17:58	54 16:12 (O6)	15:54	12:34 (Pr11)	15:38	90 14:02 (Pr12)
23	04:57	05:57	06:59	08:01	08:32 (Pr25)	08:07	12:06 (Pr11)	08:47	10:23 (JU1)
	21:42	20:35	19:13	17:55	54 16:13 (O6)	15:53	12:35 (Pr11)	15:38	90 14:02 (Pr12)
24	04:59	05:59	07:01	08:03	08:34 (Pr25)	08:09	12:05 (Pr11)	08:48	10:24 (JU1)
	21:41	20:33	19:10	17:53	52 16:13 (O6)	15:52	12:36 (Pr11)	15:39	91 14:04 (Pr12)
25	05:01	06:01	07:03	07:05	07:36 (Pr25)	08:11	12:05 (Pr11)	08:48	10:25 (JU1)
	21:39	20:30	19:08	16:50	51 15:14 (O6)	15:50	12:37 (Pr11)	15:40	90 14:04 (Pr12)
26	05:03	06:03	07:05	07:08	07:39 (Pr25)	08:13	12:04 (Pr11)	08:48	10:25 (JU1)
	21:37	20:27	19:05	16:48	47 15:15 (O6)	15:49	13:42 (Pr12)	15:40	90 14:04 (Pr12)
27	05:05	06:05	07:07	07:10	14:33 (O6)	08:15	12:04 (Pr11)	08:49	10:26 (JU1)
	21:35	20:25	19:02	16:46	42 15:15 (O6)	15:48	13:44 (Pr12)	15:41	89 14:04 (Pr12)
28	05:06	06:07	07:09	07:12	14:33 (O6)	08:17	12:04 (Pr11)	08:49	10:26 (JU1)
	21:34	20:22	19:00	16:43	42 15:15 (O6)	15:46	13:45 (Pr12)	15:42	89 14:05 (Pr12)
29	05:08	06:09	07:11	07:14	14:33 (O6)	08:18	12:04 (Pr11)	08:49	10:27 (JU1)
	21:32	20:20	18:57	16:41	43 15:16 (O6)	15:45	13:48 (Pr12)	15:43	88 14:05 (Pr12)
30	05:10	06:11	07:13	07:16	14:32 (O6)	08:20	12:04 (Pr11)	08:49	10:28 (JU1)
	21:30	20:17	18:54	16:39	43 15:15 (O6)	15:44	13:49 (Pr12)	15:44	88 14:06 (Pr12)
31	05:12	06:13		07:18	14:32 (O6)			08:49	10:28 (JU1)
	21:28	20:15		16:36	43 15:15 (O6)			15:45	87 14:06 (Pr12)
Potential sun hours	529	469	384	324		248		217	
Total, worst case				761		1025		2567	
Sun reduction				0,29		0,08		0,08	
Oper. time red.				1,00		1,00		1,00	
Wind dir. red.				1,00		1,00		1,00	
Total reduction				0,29		0,08		0,08	
Total, real				221		77		217	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Kalnieš i 2 (kad. apz. 76740030024001) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (456)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January			February			March			April	May	June
1	08:49		10:12 (JU1)	08:13		12:31 (Pr11)	07:09		07:43 (Pr25)	06:47	05:31	04:34
	15:46	106	14:13 (Pr12)	16:43	18	12:49 (Pr11)	17:46	64	16:03 (O6)	19:51	20:53	21:50
2	08:48		10:12 (JU1)	08:11		12:36 (Pr11)	07:06		07:42 (Pr25)	06:44	05:28	04:33
	15:48	106	14:13 (Pr12)	16:46	8	12:44 (Pr11)	17:48	63	16:02 (O6)	19:53	20:55	21:52
3	08:48		10:13 (JU1)	08:09			07:04		07:43 (Pr25)	06:42	05:26	04:32
	15:49	106	14:14 (Pr12)	16:48			17:50	60	16:01 (O6)	19:55	20:57	21:53
4	08:48		10:13 (JU1)	08:07		15:38 (O6)	07:01		07:43 (Pr25)	06:39	05:24	04:31
	15:50	105	14:14 (Pr12)	16:50	8	15:46 (O6)	17:52	56	15:59 (O6)	19:57	21:00	21:54
5	08:47		10:14 (JU1)	08:05		15:33 (O6)	06:59		07:43 (Pr25)	06:36	05:22	04:30
	15:52	104	14:14 (Pr12)	16:52	17	15:50 (O6)	17:54	51	15:57 (O6)	19:59	21:02	21:56
6	08:47		10:15 (JU1)	08:03		15:30 (O6)	06:56		07:45 (Pr25)	06:34	05:19	04:29
	15:53	105	14:15 (Pr12)	16:55	23	15:53 (O6)	17:56	44	15:56 (O6)	20:01	21:04	21:57
7	08:46		10:16 (JU1)	08:01		15:29 (O6)	06:53		07:46 (Pr25)	06:31	05:17	04:28
	15:55	103	14:15 (Pr12)	16:57	27	15:56 (O6)	17:59	36	15:53 (O6)	20:03	21:06	21:58
8	08:45		10:17 (JU1)	07:58		15:27 (O6)	06:51		07:49 (Pr25)	06:28	05:15	04:28
	15:56	103	14:16 (Pr12)	16:59	31	15:58 (O6)	18:01	24	15:50 (O6)	20:06	21:08	21:59
9	08:45		10:18 (JU1)	07:56		15:25 (O6)	06:48		15:38 (O6)	06:26	05:13	04:27
	15:58	101	14:16 (Pr12)	17:01	34	15:59 (O6)	18:03	6	15:44 (O6)	20:08	21:10	22:00
10	08:44		10:19 (JU1)	07:54		15:24 (O6)	06:45			06:23	05:11	04:26
	15:59	99	14:16 (Pr12)	17:04	37	16:01 (O6)	18:05			20:10	21:12	22:01
11	08:43		10:20 (JU1)	07:52		15:24 (O6)	06:43			06:20	05:09	04:26
	16:01	98	14:16 (Pr12)	17:06	38	16:02 (O6)	18:07			20:12	21:14	22:02
12	08:42		10:20 (JU1)	07:50		15:22 (O6)	06:40			06:18	05:07	04:25
	16:03	95	14:16 (Pr12)	17:08	41	16:03 (O6)	18:09			20:14	21:16	22:03
13	08:41		10:22 (JU1)	07:47		15:22 (O6)	06:38			06:15	05:05	04:25
	16:05	93	14:16 (Pr12)	17:10	42	16:04 (O6)	18:11			20:16	21:18	22:04
14	08:40		10:24 (JU1)	07:45		15:20 (O6)	06:35			06:13	05:03	04:24
	16:06	88	14:16 (Pr12)	17:13	44	16:04 (O6)	18:13			20:18	21:20	22:04
15	08:39		10:26 (JU1)	07:43		15:20 (O6)	06:32			06:10	05:01	04:24
	16:08	83	14:16 (Pr12)	17:15	45	16:05 (O6)	18:16			20:20	21:21	22:05
16	08:38		12:12 (Pr11)	07:41		15:19 (O6)	06:30			06:08	04:59	04:24
	16:10	75	14:16 (Pr12)	17:17	46	16:05 (O6)	18:18			20:22	21:23	22:06
17	08:37		12:12 (Pr11)	07:38		15:19 (O6)	06:27			06:05	04:57	04:24
	16:12	73	14:15 (Pr12)	17:19	47	16:06 (O6)	18:20			20:24	21:25	22:06
18	08:35		12:13 (Pr11)	07:36		15:18 (O6)	06:24			06:02	04:55	04:24
	16:14	71	14:15 (Pr12)	17:21	48	16:06 (O6)	18:22			20:26	21:27	22:07
19	08:34		12:14 (Pr11)	07:33		15:18 (O6)	06:22			06:00	04:53	04:24
	16:16	68	14:14 (Pr12)	17:24	49	16:07 (O6)	18:24			20:28	21:29	22:07
20	08:33		12:14 (Pr11)	07:31		15:18 (O6)	06:19			05:57	04:52	04:24
	16:18	65	14:13 (Pr12)	17:26	48	16:06 (O6)	18:26			20:31	21:31	22:07
21	08:31		12:15 (Pr11)	07:29		15:18 (O6)	06:16			05:55	04:50	04:24
	16:20	63	14:13 (Pr12)	17:28	49	16:07 (O6)	18:28			20:33	21:33	22:08
22	08:30		12:16 (Pr11)	07:26		15:18 (O6)	06:14			05:52	04:48	04:24
	16:22	57	14:11 (Pr12)	17:30	49	16:07 (O6)	18:30			20:35	21:34	22:08
23	08:28		12:17 (Pr11)	07:24		07:51 (Pr25)	06:11			05:50	04:47	04:24
	16:24	51	14:09 (Pr12)	17:33	58	16:07 (O6)	18:32			20:37	21:36	22:08
24	08:27		12:17 (Pr11)	07:21		07:48 (Pr25)	06:08			05:47	04:45	04:24
	16:26	41	12:58 (Pr11)	17:35	61	16:06 (O6)	18:34			20:39	21:38	22:08
25	08:25		12:18 (Pr11)	07:19		07:45 (Pr25)	06:06			05:45	04:44	04:25
	16:28	40	12:58 (Pr11)	17:37	64	16:05 (O6)	18:36			20:41	21:40	22:08
26	08:23		12:20 (Pr11)	07:16		07:44 (Pr25)	06:03			05:43	04:42	04:25
	16:30	38	12:58 (Pr11)	17:39	65	16:05 (O6)	18:39			20:43	21:41	22:08
27	08:22		12:22 (Pr11)	07:14		07:43 (Pr25)	06:00			05:40	04:41	04:26
	16:33	35	12:57 (Pr11)	17:41	66	16:04 (O6)	18:41			20:45	21:43	22:08
28	08:20		12:23 (Pr11)	07:11		07:43 (Pr25)	05:58			05:38	04:39	04:26
	16:35	33	12:56 (Pr11)	17:43	65	16:04 (O6)	18:43			20:47	21:44	22:08
29	08:18		12:25 (Pr11)			06:55				05:35	04:38	04:27
	16:37	30	12:55 (Pr11)			19:45				20:49	21:46	22:08
30	08:16		12:26 (Pr11)			06:52				05:33	04:37	04:28
	16:39	27	12:53 (Pr11)			19:47				20:51	21:47	22:07
31	08:15		12:28 (Pr11)			06:50					04:35	
	16:41	23	12:51 (Pr11)			19:49					21:49	
Potential sun hours	236			266			366			426	507	528
Total, worst case		2285			1128		404					
Sun reduction		0,13			0,23		0,39					
Oper. time red.		1,00			1,00		1,00					
Wind dir. red.		1,00			1,00		1,00					
Total reduction		0,13			0,23		0,39					
Total, real		307			254		158					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Kalnieš i 2 (kad. apz. 76740030024001) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (456) Sunshine probability S (Average daily sunshine hours) []

### Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:28	05:14	06:15	07:15	07:21	14:54 (06)
	22:07	21:26	20:12	18:52	16:34	15:43
2	04:29	05:16	06:17	07:17	07:23	15:55 (06)
	22:06	21:24	20:09	18:49	16:32	15:42
3	04:30	05:18	06:19	07:19	07:25	14:57 (06)
	22:06	21:22	20:07	18:46	16:30	15:41
4	04:31	05:20	06:21	07:21	07:27	14:58 (06)
	22:05	21:20	20:04	18:44	16:28	15:41
5	04:32	05:22	06:23	07:23	07:29	15:00 (06)
	22:04	21:17	20:01	18:41	16:25 (06)	15:40
6	04:33	05:24	06:25	07:25	08:23 (Pr25)	15:04 (06)
	22:04	21:15	19:59	18:38	16:28 (06)	15:39
7	04:34	05:26	06:27	07:28	08:21 (Pr25)	15:08 (06)
	22:03	21:13	19:56	18:36	16:30 (06)	15:39
8	04:35	05:27	06:29	07:30	08:19 (Pr25)	15:07 (06)
	22:02	21:11	19:53	18:33	16:32 (06)	15:38
9	04:36	05:29	06:31	07:32	08:18 (Pr25)	15:06 (06)
	22:01	21:09	19:51	18:31	16:34 (06)	15:38
10	04:38	05:31	06:33	07:34	08:17 (Pr25)	15:01 (Pr11)
	22:00	21:06	19:48	18:28	16:35 (06)	15:37
11	04:39	05:33	06:35	07:36	08:17 (Pr25)	15:00 (Pr11)
	21:59	21:04	19:45	18:25	16:36 (06)	15:37
12	04:40	05:35	06:37	07:38	08:16 (Pr25)	15:57 (Pr11)
	21:58	21:02	19:43	18:23	16:36 (06)	15:37
13	04:42	05:37	06:39	07:40	08:16 (Pr25)	15:56 (Pr11)
	21:57	20:59	19:40	18:20	16:36 (06)	15:36
14	04:43	05:39	06:41	07:42	08:15 (Pr25)	15:55 (Pr11)
	21:56	20:57	19:37	18:18	16:37 (06)	15:36
15	04:45	05:41	06:43	07:44	08:16 (Pr25)	15:53 (Pr11)
	21:54	20:55	19:35	18:15	16:38 (06)	15:36
16	04:46	05:43	06:45	07:46	08:17 (Pr25)	15:53 (Pr11)
	21:53	20:52	19:32	18:13	16:38 (06)	15:36
17	04:48	05:45	06:47	07:48	08:18 (Pr25)	15:52 (Pr11)
	21:52	20:50	19:29	18:10	16:38 (06)	15:36
18	04:49	05:47	06:49	07:50	08:20 (Pr25)	15:51 (Pr11)
	21:50	20:47	19:27	18:08	16:37 (06)	15:36
19	04:51	05:49	06:51	07:53	08:23 (Pr25)	15:52 (Pr11)
	21:49	20:45	19:24	18:05	16:38 (06)	15:37
20	04:52	05:51	06:53	07:55	15:49 (06)	15:51 (Pr11)
	21:47	20:43	19:21	18:03	16:38 (06)	15:37
21	04:54	05:53	06:55	07:57	15:48 (06)	15:50 (Pr11)
	21:46	20:40	19:19	18:00	16:37 (06)	15:37
22	04:56	05:55	06:57	07:59	15:48 (06)	15:51 (Pr11)
	21:44	20:38	19:16	17:58	16:37 (06)	15:38
23	04:57	05:57	06:59	08:01	15:49 (06)	15:51 (Pr11)
	21:42	20:35	19:13	17:55	16:37 (06)	15:38
24	04:59	05:59	07:01	08:03	15:49 (06)	15:50 (Pr11)
	21:41	20:33	19:10	17:53	16:36 (06)	15:39
25	05:01	06:01	07:03	07:05	14:48 (06)	15:50 (Pr11)
	21:39	20:30	19:08	16:50	15:36 (06)	15:50
26	05:03	06:03	07:05	07:08	14:50 (06)	15:50 (Pr11)
	21:37	20:27	19:05	16:48	15:36 (06)	15:49
27	05:05	06:05	07:07	07:10	14:50 (06)	15:49
	21:35	20:25	19:02	16:46	15:35 (06)	15:48
28	05:06	06:07	07:09	07:12	14:50 (06)	15:47
	21:34	20:22	19:00	16:43	15:34 (06)	15:47
29	05:08	06:09	07:11	07:14	14:51 (06)	15:48
	21:32	20:20	18:57	16:41	15:33 (06)	15:45
30	05:10	06:11	07:13	07:16	14:52 (06)	15:44
	21:30	20:17	18:54	16:39	15:32 (06)	15:44
31	05:12	06:13		07:18	14:52 (06)	
	21:28	20:15		16:36	15:31 (06)	
Potential sun hours	529	469	384	324	248	217
Total, worst case				1364	1354	3272
Sun reduction				0,29	0,08	0,08
Oper. time red.				1,00	1,00	1,00
Wind dir. red.				1,00	1,00	1,00
Total reduction				0,29	0,08	0,08
Total, real				396	102	276

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Kalvani - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (469)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:49	08:13	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:23	08:24
	15:47	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:42
3	08:48	08:09	07:04	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:46	16:30	15:41
4	08:48	08:07	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:20	20:04	18:44	16:27	15:40
5	08:47	08:05	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:29
	15:51	16:52	17:54	19:59	21:02	21:56	22:05	21:17	20:01	18:41	16:25	15:40
6	08:47	08:03	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:04	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:01	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:34	08:32
	15:54	16:57	17:58	20:03	21:06	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:35	05:27	06:29	07:30	07:36	08:33
	15:56	16:59	18:01	20:05	21:08	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:45	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:32	07:38	08:34
	15:58	17:01	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:34	07:40	08:36
	15:59	17:03	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:18	22:04	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:49	08:40
	16:06	17:12	18:13	20:18	21:20	22:04	21:56	20:57	19:37	18:18	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:51	08:42
	16:08	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:36
16	08:38	07:41	06:30	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:12	16:04	15:36
17	08:37	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:27	18:07	16:00	15:36
19	08:34	07:33	06:22	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:33	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:55	08:01	08:46
	16:18	17:26	18:26	20:30	21:31	22:08	21:47	20:43	19:21	18:02	15:57	15:37
21	08:31	07:29	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:14	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:57	15:54	15:38
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:27	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:35	18:34	20:39	21:38	22:08	21:41	20:33	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:40	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:15	08:49
	16:32	17:41	18:41	20:45	21:43	22:08	21:35	20:25	19:02	16:46	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:17	08:49
	16:35	17:43	18:43	20:47	21:44	22:08	21:34	20:22	19:00	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:08	21:32	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:54	16:39	15:44	15:44
31	08:15		06:49		04:35		05:12	06:13		07:18		08:49
	16:41		19:49		21:49		21:28	20:15		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Kamenes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (536)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	08:48 15:46	08:12 16:43	07:09 17:45	06:47 19:51	18:48 (PrRR3) 19:16 (PrRR3)	05:31 20:53
2	08:48 15:47	08:10 16:45	07:06 17:48	06:44 19:53	18:47 (PrRR3) 19:16 (PrRR3)	05:28 20:55
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	18:46 (PrRR3) 19:15 (PrRR3)	05:26 20:57
4	08:47 15:50	08:06 16:50	07:01 17:52	17:17 (Pr3b) 17:23 (Pr3b)	06:39 19:57	18:46 (PrRR3) 19:16 (PrRR3)
5	08:47 15:51	08:04 16:52	06:58 17:54	17:13 (Pr3b) 17:25 (Pr3b)	06:36 19:59	18:45 (PrRR3) 19:15 (PrRR3)
6	08:46 15:53	08:02 16:54	06:56 17:56	17:10 (Pr3b) 17:27 (Pr3b)	06:33 20:01	18:46 (PrRR3) 19:15 (PrRR3)
7	08:46 15:54	08:00 16:57	06:53 17:58	17:09 (Pr3b) 17:29 (Pr3b)	06:31 20:03	18:45 (PrRR3) 19:15 (PrRR3)
8	08:45 15:56	07:58 16:59	06:50 18:01	17:08 (Pr3b) 17:30 (Pr3b)	06:28 20:05	18:45 (PrRR3) 19:13 (PrRR3)
9	08:44 15:58	07:56 17:01	06:48 18:03	17:07 (Pr3b) 17:30 (Pr3b)	06:25 20:07	18:46 (PrRR3) 19:13 (PrRR3)
10	08:44 15:59	07:54 17:03	06:45 18:05	17:07 (Pr3b) 17:31 (Pr3b)	06:23 20:09	18:46 (PrRR3) 19:12 (PrRR3)
11	08:43 16:01	07:52 17:06	06:43 18:07	17:06 (Pr3b) 17:31 (Pr3b)	06:20 20:12	18:47 (PrRR3) 19:11 (PrRR3)
12	08:42 16:03	07:49 17:08	06:40 18:09	17:05 (Pr3b) 17:30 (Pr3b)	06:18 20:14	18:48 (PrRR3) 19:09 (PrRR3)
13	08:41 16:04	07:47 17:10	06:37 18:11	17:06 (Pr3b) 17:30 (Pr3b)	06:15 20:16	18:50 (PrRR3) 19:08 (PrRR3)
14	08:40 16:06	07:45 17:12	06:35 18:13	17:06 (Pr3b) 17:29 (Pr3b)	06:12 20:18	18:51 (PrRR3) 19:04 (PrRR3)
15	08:39 16:08	07:43 17:15	06:32 18:15	17:06 (Pr3b) 17:28 (Pr3b)	06:10 20:20	18:57 (PrRR3) 18:59 (PrRR3)
16	08:38 16:10	07:40 17:17	06:29 18:17	17:07 (Pr3b) 17:28 (Pr3b)	06:07 20:22	04:59 21:23
17	08:36 16:12	07:38 17:19	06:27 18:20	17:08 (Pr3b) 17:26 (Pr3b)	06:05 20:24	04:57 21:25
18	08:35 16:14	07:36 17:21	06:24 18:22	17:09 (Pr3b) 17:24 (Pr3b)	06:02 20:26	04:55 21:27
19	08:34 16:16	07:33 17:23	06:21 18:24	17:12 (Pr3b) 17:21 (Pr3b)	06:00 20:28	04:53 21:29
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:51 21:30	04:23 22:07
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:23 22:07
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	04:46 21:36	04:24 22:08
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:38	04:24 22:08
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:43 21:39	04:25 22:08
26	08:23 16:30	07:16 17:39	06:03 18:38	05:42 20:43	04:42 21:41	04:25 22:08
27	08:21 16:32	07:14 17:41	06:00 18:40	17:58 (PrRR3) 18:08 (PrRR3)	05:40 20:45	04:40 21:43
28	08:20 16:34	07:11 17:43	05:57 18:42	17:54 (PrRR3) 18:11 (PrRR3)	05:38 20:47	04:39 21:44
29	08:18 16:37		06:55 19:45	18:53 (PrRR3) 19:13 (PrRR3)	05:35 20:49	04:38 21:46
30	08:16 16:39		06:52 19:47	18:51 (PrRR3) 19:14 (PrRR3)	05:33 20:51	04:36 21:47
31	08:14 16:41		06:49 19:49	18:49 (PrRR3) 19:14 (PrRR3)		04:35 21:49
Potential sun hours	236	266	366	426	507	528
Total, worst case			401	364		
Sun reduction			0,39	0,44		
Oper. time red.			1,00	1,00		
Wind dir. red.			1,00	1,00		
Total reduction			0,39	0,44		
Total, real			157	161		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Kamenes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (536)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:28 22:06	05:14 21:25	06:15 20:12	18:46 (PrRR3) 19:10 (PrRR3)	07:15 18:10 (Pr3b)	07:20 16:34
2	04:29 22:06	05:16 21:23	06:17 20:09	18:45 (PrRR3) 19:11 (PrRR3)	07:17 18:10 (Pr3b)	07:22 16:32
3	04:30 22:05	05:18 21:21	06:19 20:06	18:44 (PrRR3) 19:11 (PrRR3)	07:19 18:09 (Pr3b)	07:25 16:30
4	04:31 22:02	05:19 21:19	06:21 20:04	18:43 (PrRR3) 19:11 (PrRR3)	07:21 18:08 (Pr3b)	07:27 16:27
5	04:32 22:04	05:21 21:17	06:23 20:01	18:41 (PrRR3) 19:11 (PrRR3)	07:23 18:07 (Pr3b)	07:29 16:25
6	04:33 22:03	05:23 21:15	06:25 19:59	18:41 (PrRR3) 19:11 (PrRR3)	07:25 18:06 (Pr3b)	07:31 16:23
7	04:34 22:03	05:25 21:13	06:27 19:56	18:40 (PrRR3) 19:10 (PrRR3)	07:27 18:05 (Pr3b)	07:33 16:21
8	04:35 22:02	05:27 21:11	06:29 19:53	18:40 (PrRR3) 19:10 (PrRR3)	07:29 18:02 (Pr3b)	07:35 16:19
9	04:36 22:01	05:29 21:08	06:31 19:51	18:40 (PrRR3) 19:09 (PrRR3)	07:31 18:00 (Pr3b)	07:38 16:17
10	04:38 22:00	05:31 21:06	06:33 19:48	18:40 (PrRR3) 19:09 (PrRR3)	07:33 18:28	07:40 16:15
11	04:39 21:59	05:33 21:04	06:35 19:45	18:41 (PrRR3) 19:08 (PrRR3)	07:36 18:25	07:42 16:13
12	04:40 21:58	05:35 21:02	06:37 19:43	18:41 (PrRR3) 19:07 (PrRR3)	07:38 18:23	07:44 16:11
13	04:42 21:57	05:37 20:59	06:39 19:40	18:42 (PrRR3) 19:06 (PrRR3)	07:40 18:20	07:46 16:09
14	04:43 21:55	05:39 20:57	06:41 19:37	18:43 (PrRR3) 19:04 (PrRR3)	07:42 18:17	07:48 16:07
15	04:44 21:54	05:41 20:54	06:43 19:34	18:44 (PrRR3) 19:02 (PrRR3)	07:44 18:15	07:50 16:06
16	04:46 21:53	05:43 20:52	06:45 19:32	18:47 (PrRR3) 18:59 (PrRR3)	07:46 18:12	07:53 16:04
17	04:47 21:51	05:45 20:50	06:47 19:29		07:48 18:10	07:55 16:02
18	04:49 21:50	05:47 20:47	06:49 19:26		07:50 18:07	07:57 16:00
19	04:51 21:49	05:49 20:45	06:51 19:24		07:52 18:05	07:59 15:59
20	04:52 21:47	05:51 20:42	06:53 19:21		07:54 18:02	08:01 15:57
21	04:54 21:45	05:53 20:40	06:55 19:18		07:57 18:00	08:03 15:56
22	04:56 21:44	05:55 20:37	06:57 19:16		07:59 17:57	08:05 15:54
23	04:57 21:42	05:57 20:35	06:59 19:13		08:01 17:55	08:07 15:53
24	04:59 21:40	05:59 20:32	07:01 19:10	17:56 (Pr3b) 18:03 (Pr3b)	08:03 17:53	08:09 15:51
25	05:01 21:39	06:01 20:30	07:03 19:08	17:52 (Pr3b) 18:06 (Pr3b)	07:05 16:50	08:11 15:50
26	05:03 21:37	06:03 20:27	07:05 19:05	17:50 (Pr3b) 18:07 (Pr3b)	07:07 16:48	08:13 15:49
27	05:04 21:35	06:05 20:25	07:07 19:02	17:48 (Pr3b) 18:08 (Pr3b)	07:09 16:45	08:15 15:47
28	05:06 21:33	06:07 20:22	07:09 19:01	17:47 (Pr3b) 18:59 (Pr3b)	07:12 16:43	08:16 15:46
29	05:08 21:31	06:09 20:20	07:11 19:05	17:46 (Pr3b) 18:57 (Pr3b)	07:14 16:41	08:18 15:45
30	05:10 21:29	06:11 20:17	07:13 19:08	17:45 (Pr3b) 18:54 (Pr3b)	07:16 16:38	08:20 15:44
31	05:12 21:27	06:13 20:14	07:15 19:09	18:09 (Pr3b)	07:18 16:36	08:22 15:43
Potential sun hours	529	469	384	324	248	217
Total, worst case		56	538	186		
Sun reduction		0,52	0,43	0,29		
Oper. time red.		1,00	1,00	1,00		
Wind dir. red.		1,00	1,00	1,00		
Total reduction		0,52	0,43	0,29		
Total, real		29	232	54		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

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0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Kamiš i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (585)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:27	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:50	06:28	05:15	04:28	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:38
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Karklini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (464)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:49	08:13	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:23	08:24
	15:48	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:42
3	08:48	08:09	07:04	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:46	16:30	15:41
4	08:48	08:07	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	21:00	21:54	22:05	21:20	20:04	18:44	16:27	15:41
5	08:47	08:05	06:58	06:36	05:22	04:30	04:32	05:21	06:23	07:23	07:29	08:29
	15:52	16:52	17:54	19:59	21:02	21:56	22:05	21:17	20:01	18:41	16:25	15:40
6	08:47	08:03	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:04	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:01	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:28	07:34	08:32
	15:54	16:57	17:59	20:03	21:06	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:35	05:27	06:29	07:30	07:36	08:33
	15:56	16:59	18:01	20:06	21:08	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:45	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:32	07:38	08:34
	15:58	17:01	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:34	07:40	08:36
	15:59	17:03	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:38	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:18	22:04	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:49	08:40
	16:06	17:12	18:13	20:18	21:20	22:04	21:56	20:57	19:37	18:18	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:51	08:42
	16:08	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:36
16	08:38	07:41	06:30	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:12	16:04	15:36
17	08:37	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:27	18:07	16:01	15:36
19	08:34	07:33	06:22	06:00	04:53	04:23	04:51	05:49	06:51	07:53	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:33	07:31	06:19	05:57	04:52	04:23	04:52	05:51	06:53	07:55	08:01	08:46
	16:18	17:26	18:26	20:30	21:31	22:08	21:47	20:43	19:21	18:02	15:57	15:37
21	08:31	07:29	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:14	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:54	15:38
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:27	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:35	18:34	20:39	21:38	22:08	21:41	20:33	19:10	17:53	15:51	15:39
25	08:25	07:19	06:06	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:40	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:39	20:43	21:41	22:08	21:37	20:27	19:05	17:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:40	04:26	05:04	06:05	07:07	08:09	08:15	08:49
	16:32	17:41	18:41	20:45	21:43	22:08	21:35	20:25	19:02	17:46	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:17	08:49
	16:35	17:43	18:43	20:47	21:44	22:08	21:34	20:22	19:00	17:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:19	08:49
	16:37		19:45	20:49	21:46	22:08	21:32	20:20	18:57	17:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:54	17:39	15:44	15:44
31	08:15		06:49		04:35		05:12	06:13		07:18		08:49
	16:41		19:49		21:49		21:28	20:15		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Klavinas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (515)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Klavu Sala - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (444)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:32	04:35	04:30	05:15	06:16	07:16	07:21	08:22
	15:48	16:44	17:46	19:51	20:53	21:50	22:06	21:26	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:45	05:29	04:34	04:30	05:17	06:18	07:18	07:23	08:23
	15:49	16:47	17:48	19:53	20:55	21:51	22:06	21:24	20:10	18:50	16:33	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:19	06:20	07:20	07:25	08:25
	15:50	16:49	17:51	19:55	20:57	21:53	22:05	21:22	20:07	18:47	16:31	15:43
4	08:47	08:07	07:01	06:39	05:25	04:32	04:32	05:21	06:22	07:22	07:27	08:27
	15:51	16:51	17:53	19:58	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:42
5	08:47	08:05	06:59	06:37	05:23	04:31	04:33	05:23	06:24	07:24	07:29	08:28
	15:53	16:53	17:55	20:00	21:01	21:55	22:04	21:17	20:02	18:42	16:26	15:41
6	08:46	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:02	21:04	21:56	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:01	06:54	06:32	05:18	04:30	04:35	05:26	06:28	07:28	07:34	08:31
	15:56	16:58	17:59	20:04	21:06	21:58	22:03	21:13	19:56	18:36	16:22	15:40
8	08:45	07:58	06:51	06:29	05:16	04:29	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	17:00	18:01	20:06	21:08	21:59	22:02	21:11	19:54	18:34	16:20	15:39
9	08:44	07:56	06:48	06:26	05:14	04:28	04:38	05:30	06:32	07:32	07:38	08:34
	15:59	17:02	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:31	16:18	15:39
10	08:44	07:54	06:46	06:24	05:12	04:27	04:39	05:32	06:34	07:34	07:40	08:35
	16:00	17:04	18:06	20:10	21:12	22:01	22:00	21:06	19:48	18:29	16:16	15:38
11	08:43	07:52	06:43	06:21	05:10	04:27	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:07	18:08	20:12	21:14	22:02	21:59	21:04	19:46	18:26	16:14	15:38
12	08:42	07:50	06:41	06:18	05:08	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:04	17:09	18:10	20:14	21:15	22:02	21:58	21:02	19:43	18:23	16:12	15:38
13	08:41	07:48	06:38	06:16	05:06	04:26	04:43	05:38	06:40	07:40	07:46	08:39
	16:06	17:11	18:12	20:16	21:17	22:03	21:57	20:59	19:40	18:21	16:10	15:37
14	08:40	07:45	06:35	06:13	05:04	04:26	04:44	05:40	06:42	07:42	07:49	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:38	18:18	16:09	15:37
15	08:39	07:43	06:33	06:11	05:02	04:25	04:46	05:42	06:44	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:16	16:07	15:37
16	08:38	07:41	06:30	06:08	05:00	04:25	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:18	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:05	15:37
17	08:36	07:38	06:27	06:06	04:58	04:25	04:49	05:46	06:48	07:49	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:51	20:50	19:30	18:11	16:03	15:37
18	08:35	07:36	06:25	06:03	04:56	04:25	04:50	05:48	06:50	07:51	07:57	08:44
	16:15	17:22	18:22	20:26	21:27	22:06	21:50	20:48	19:27	18:08	16:02	15:38
19	08:34	07:34	06:22	06:01	04:54	04:25	04:52	05:50	06:52	07:53	07:59	08:45
	16:17	17:24	18:24	20:29	21:29	22:07	21:49	20:45	19:24	18:06	16:00	15:38
20	08:33	07:31	06:19	05:58	04:53	04:25	04:53	05:52	06:54	07:55	08:01	08:45
	16:19	17:27	18:26	20:31	21:31	22:07	21:47	20:43	19:22	18:03	15:58	15:38
21	08:31	07:29	06:17	05:56	04:51	04:25	04:55	05:54	06:56	07:57	08:03	08:46
	16:21	17:29	18:29	20:33	21:32	22:07	21:45	20:40	19:19	18:01	15:57	15:38
22	08:30	07:26	06:14	05:53	04:49	04:25	04:57	05:56	06:58	07:59	08:05	08:47
	16:23	17:31	18:31	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:55	15:39
23	08:28	07:24	06:11	05:51	04:48	04:25	04:59	05:58	07:00	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:08	21:42	20:35	19:14	17:56	15:54	15:39
24	08:27	07:21	06:09	05:48	04:46	04:26	05:00	06:00	07:02	08:03	08:09	08:47
	16:27	17:35	18:35	20:39	21:38	22:08	21:41	20:33	19:11	17:53	15:53	15:40
25	08:25	07:19	06:06	05:46	04:45	04:26	05:02	06:02	07:04	08:05	08:11	08:48
	16:29	17:38	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:41
26	08:23	07:17	06:03	05:43	04:43	04:26	05:04	06:04	07:06	08:07	08:13	08:48
	16:31	17:40	18:39	20:43	21:41	22:08	21:37	20:28	19:05	17:49	15:50	15:41
27	08:22	07:14	06:01	05:41	04:42	04:27	05:06	06:06	07:08	08:09	08:15	08:48
	16:33	17:42	18:41	20:45	21:43	22:08	21:35	20:25	19:03	17:46	15:49	15:42
28	08:20	07:12	05:58	05:39	04:40	04:27	05:07	06:08	07:10	08:12	08:18	08:48
	16:36	17:44	18:43	20:47	21:44	22:07	21:33	20:23	19:00	17:44	15:48	15:43
29	08:18		06:55	05:36	04:39	04:28	05:09	06:10	07:12	08:14	08:18	08:48
	16:38		19:45	20:49	21:46	22:07	21:31	20:20	18:57	17:42	15:46	15:44
30	08:16		06:53	05:34	04:38	04:29	05:11	06:12	07:14	08:16	08:20	08:48
	16:40		19:47	20:51	21:47	22:07	21:30	20:17	18:55	17:39	15:45	15:45
31	08:14		06:50		04:36		05:13	06:14		07:18		08:48
	16:42		19:49		21:49		21:28	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Laimnieki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (415)  
Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	08:48	08:13	07:09	16:18 (DD3)	06:47	18:49 (O3)
	15:47	16:44	17:46	23	16:41 (DD3)	19:51
2	08:48	08:11	07:06	16:19 (DD3)	06:44	18:51 (O3)
	15:48	16:46	17:48	20	16:39 (DD3)	19:53
3	08:48	08:09	07:04	16:22 (DD3)	06:42	19:00 (O3)
	15:50	16:48	17:50	16	16:38 (DD3)	19:55
4	08:47	08:07	07:01	16:25 (DD3)	06:39	20:55
	15:51	16:51	17:52	9	16:34 (DD3)	19:57
5	08:47	08:05	06:59	17:23 (DD1)	06:36	20:57
	15:52	16:53	17:55	2	17:25 (DD1)	19:59
6	08:46	08:03	06:56	17:20 (DD1)	06:34	20:57
	15:54	16:55	17:57	8	17:28 (DD1)	20:01
7	08:46	08:00	06:53	17:17 (DD1)	06:31	21:03
	15:55	16:57	17:59	13	17:30 (DD1)	20:04
8	08:45	07:58	06:51	17:15 (DD1)	06:29	21:05
	15:57	16:59	18:01	17	17:32 (DD1)	20:06
9	08:44	07:56	06:48	17:15 (DD1)	06:26	21:07
	15:58	17:02	18:03	20	17:35 (DD1)	20:08
10	08:44	07:54	06:46	17:14 (DD1)	06:23	21:09
	16:00	17:04	18:05	21	17:35 (DD1)	20:10
11	08:43	07:52	06:43	17:13 (DD1)	06:21	21:11
	16:02	17:06	18:07	22	17:35 (DD1)	20:12
12	08:42	07:50	06:40	17:13 (DD1)	06:18	21:13
	16:03	17:08	18:09	22	17:35 (DD1)	20:14
13	08:41	07:47	16:29 (DD3)	06:38	17:13 (DD1)	06:16
	16:05	17:11	5	16:34 (DD3)	18:12	21:17
14	08:40	07:45	16:24 (DD3)	06:35	17:13 (DD1)	06:13
	16:07	17:13	14	16:38 (DD3)	18:14	21:19
15	08:39	07:43	16:22 (DD3)	06:32	17:14 (DD1)	06:10
	16:09	17:15	18	16:40 (DD3)	18:16	21:21
16	08:38	07:41	16:20 (DD3)	06:30	17:14 (DD1)	06:08
	16:11	17:17	21	16:41 (DD3)	18:18	21:23
17	08:36	07:38	16:20 (DD3)	06:27	17:15 (DD1)	06:05
	16:13	17:20	23	16:43 (DD3)	18:20	21:25
18	08:35	07:36	16:18 (DD3)	06:24	17:18 (DD1)	06:03
	16:15	17:22	25	16:43 (DD3)	18:22	21:27
19	08:34	07:33	16:18 (DD3)	06:22	17:28 (DD1)	06:00
	16:16	17:24	27	16:45 (DD3)	18:24	21:29
20	08:32	07:31	16:17 (DD3)	06:19	20:28	21:29
	16:18	17:26	28	16:45 (DD3)	18:26	21:31
21	08:31	07:29	16:17 (DD3)	06:16	17:55 (O3)	05:55
	16:20	17:28	28	16:45 (DD3)	18:28	5
22	08:30	07:26	16:16 (DD3)	06:14	18:00 (O3)	20:33
	16:23	17:31	29	16:45 (DD3)	18:30	17:53 (O3)
23	08:28	07:24	16:16 (DD3)	06:11	18:03 (O3)	20:35
	16:25	17:33	30	16:46 (DD3)	18:32	17:51 (O3)
24	08:26	07:21	16:16 (DD3)	06:08	18:04 (O3)	20:37
	16:27	17:35	29	16:45 (DD3)	18:35	17:49 (O3)
25	08:25	07:19	16:16 (DD3)	06:06	18:06 (O3)	20:39
	16:29	17:37	28	16:44 (DD3)	18:37	17:49 (O3)
26	08:23	07:16	16:17 (DD3)	06:03	18:09 (O3)	20:41
	16:31	17:39	27	16:44 (DD3)	18:39	17:48 (O3)
27	08:22	07:14	16:17 (DD3)	06:00	18:08 (O3)	20:43
	16:33	17:42	26	16:43 (DD3)	18:41	17:47 (O3)
28	08:20	07:11	16:18 (DD3)	05:58	18:08 (O3)	20:45
	16:35	17:44	25	16:43 (DD3)	18:43	17:48 (O3)
29	08:18			06:55	18:08 (O3)	20:47
	16:37			19:45	18:47 (O3)	20:49
30	08:16			06:52	19:07 (O3)	20:51
	16:40			19:47	18:49 (O3)	20:51
31	08:14			06:50	19:05 (O3)	20:51
	16:42			19:49		21:49
Potential sun hours	236	266	366	426	507	528
Total, worst case		383	479	23		
Sun reduction		0,22	0,39	0,44		
Oper. time red.		1,00	1,00	1,00		
Wind dir. red.		1,00	1,00	1,00		
Total reduction		0,22	0,39	0,44		
Total, real		86	188	10		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Laimnieki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (415)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:29 22:06	05:14 21:26	06:16 20:12	07:15 18:52	17:52 (DD1) 18:14 (DD1)	07:20 16:35
2	04:30 22:06	05:16 21:24	06:18 20:09	07:17 18:49	17:52 (DD1) 18:14 (DD1)	07:23 16:32
3	04:31 22:05	05:18 21:21	06:20 20:07	07:19 18:47	17:52 (DD1) 18:13 (DD1)	07:25 16:30
4	04:32 22:05	05:20 21:19	06:22 20:04	07:22 18:44	17:52 (DD1) 18:12 (DD1)	07:27 16:28
5	04:33 22:04	05:22 21:17	06:24 20:01	07:24 18:41	17:52 (DD1) 18:10 (DD1)	07:29 16:26
6	04:34 22:03	05:24 21:15	06:26 19:59	07:26 18:39	17:53 (DD1) 18:08 (DD1)	07:31 16:24
7	04:35 22:03	05:26 21:13	06:28 19:56	07:28 18:36	17:54 (DD1) 18:05 (DD1)	07:33 16:22
8	04:36 22:02	05:28 21:11	06:30 19:54	07:30 18:33	17:56 (DD1) 18:02 (DD1)	07:36 16:20
9	04:37 22:01	05:30 21:08	06:32 19:51	07:32 18:31	18:02 (DD1)	07:38 16:18
10	04:38 22:00	05:32 21:06	06:34 19:48	07:34 18:28	16:58 (DD3) 17:11 (DD3)	07:40 16:16
11	04:40 21:59	05:34 21:04	06:36 19:46	07:36 18:26	16:55 (DD3) 17:13 (DD3)	07:42 16:14
12	04:41 21:58	05:36 21:02	06:38 19:43	07:38 18:23	16:53 (DD3) 17:14 (DD3)	07:44 16:12
13	04:42 21:57	05:38 20:59	06:40 19:40	07:40 18:20	16:51 (DD3) 17:15 (DD3)	07:46 16:10
14	04:44 21:55	05:40 20:57	06:42 19:38	07:42 18:18	16:50 (DD3) 17:15 (DD3)	07:48 16:08
15	04:45 21:54	05:42 20:55	06:44 19:35	07:44 18:15	16:49 (DD3) 17:16 (DD3)	07:51 16:06
16	04:47 21:53	05:44 20:52	06:46 19:32	07:46 18:13	16:48 (DD3) 17:17 (DD3)	07:53 16:05
17	04:48 21:51	05:46 20:50	06:47 19:29	07:48 18:10	16:48 (DD3) 17:16 (DD3)	07:55 16:03
18	04:50 21:50	05:48 20:47	06:49 19:27	07:50 18:08	16:47 (DD3) 17:16 (DD3)	07:57 16:01
19	04:51 21:49	05:50 20:45	06:51 19:24	07:53 18:05	16:47 (DD3) 17:16 (DD3)	07:59 16:00
20	04:53 21:47	05:52 20:43	06:53 19:21	07:55 18:03	16:47 (DD3) 17:16 (DD3)	08:01 15:58
21	04:55 21:45	05:54 20:40	06:55 19:19	07:57 18:00	16:47 (DD3) 17:16 (DD3)	08:03 15:56
22	04:56 21:44	05:56 20:38	06:57 19:16	07:59 18:00	16:47 (DD3) 17:15 (DD3)	08:05 15:55
23	04:58 21:42	05:58 20:35	06:59 19:13	08:01 17:56	16:48 (DD3) 17:15 (DD3)	08:07 15:54
24	05:00 21:40	06:00 20:33	07:01 19:11	08:03 17:53	16:49 (DD3) 17:13 (DD3)	08:09 15:52
25	05:02 21:39	06:02 20:30	07:03 19:08	07:05 18:02 (DD1)	15:49 (DD3) 16:12 (DD3)	08:11 15:51
26	05:03 21:37	06:04 20:27	07:05 19:05	07:07 18:10 (DD1)	15:51 (DD3) 16:11 (DD3)	08:13 15:49
27	05:05 21:35	06:06 20:25	07:07 19:03	07:10 18:12 (DD1)	15:52 (DD3) 16:09 (DD3)	08:15 15:48
28	05:07 21:33	06:08 20:22	07:09 19:00	07:12 18:14 (DD1)	15:54 (DD3) 16:06 (DD3)	08:16 15:47
29	05:09 21:31	06:10 20:20	07:11 18:57	07:14 18:14 (DD1)	16:06 (DD3)	08:18 15:46
30	05:11 21:29	06:12 20:17	07:13 18:55	07:16 18:14 (DD1)		08:20 15:45
31	05:13 21:28	06:14 20:15		07:18 16:37		08:48 15:46
Potential sun hours	528	469	384	324	248	217
Total, worst case			303	587		
Sun reduction			0,43	0,29		
Oper. time red.			1,00	1,00		
Wind dir. red.			1,00	1,00		
Total reduction			0,43	0,29		
Total, real			131	170		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Lapegles - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (514)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:05	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:02	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:00	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Latini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (440) Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:35	04:29	05:15	06:16	07:16	07:20	08:22
	15:48	16:44	17:46	19:51	20:53	21:50	22:06	21:25	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:45	05:29	04:34	04:30	05:17	06:18	07:18	07:23	08:23
	15:49	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:33	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:19	06:20	07:20	07:25	08:25
	15:50	16:49	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:47	16:30	15:42
4	08:47	08:07	07:01	06:39	05:25	04:32	04:32	05:21	06:22	07:22	07:27	08:27
	15:51	16:51	17:53	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:42
5	08:47	08:05	06:59	06:37	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:28
	15:53	16:53	17:55	19:59	21:01	21:55	22:04	21:17	20:02	18:41	16:26	15:41
6	08:46	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:02	21:03	21:56	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:00	06:54	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:33	08:31
	15:56	16:58	17:59	20:04	21:05	21:57	22:02	21:13	19:56	18:36	16:22	15:40
8	08:45	07:58	06:51	06:29	05:16	04:29	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	17:00	18:01	20:06	21:07	21:59	22:02	21:11	19:54	18:34	16:20	15:39
9	08:44	07:56	06:48	06:26	05:14	04:28	04:38	05:30	06:32	07:32	07:38	08:34
	15:59	17:02	18:03	20:08	21:09	22:00	22:01	21:08	19:51	18:31	16:18	15:39
10	08:43	07:54	06:46	06:24	05:12	04:27	04:39	05:32	06:34	07:34	07:40	08:35
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:10	04:27	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:08	20:12	21:13	22:01	21:59	21:04	19:46	18:26	16:14	15:38
12	08:42	07:50	06:40	06:18	05:08	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:04	17:09	18:10	20:14	21:15	22:02	21:58	21:02	19:43	18:23	16:12	15:38
13	08:41	07:47	06:38	06:16	05:06	04:26	04:43	05:38	06:40	07:40	07:46	08:39
	16:06	17:11	18:12	20:16	21:17	22:03	21:56	20:59	19:40	18:21	16:10	15:37
14	08:40	07:45	06:35	06:13	05:04	04:25	04:44	05:40	06:42	07:42	07:48	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:38	18:18	16:08	15:37
15	08:39	07:43	06:33	06:11	05:02	04:25	04:46	05:42	06:44	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:16	16:07	15:37
16	08:38	07:41	06:30	06:08	05:00	04:25	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:18	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:05	15:37
17	08:36	07:38	06:27	06:06	04:58	04:25	04:49	05:46	06:48	07:48	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:51	20:50	19:30	18:11	16:03	15:37
18	08:35	07:36	06:25	06:03	04:56	04:25	04:50	05:48	06:50	07:51	07:57	08:44
	16:15	17:22	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:02	15:37
19	08:34	07:34	06:22	06:00	04:54	04:25	04:52	05:50	06:52	07:53	07:59	08:45
	16:17	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:06	16:00	15:38
20	08:32	07:31	06:19	05:58	04:53	04:25	04:53	05:52	06:54	07:55	08:01	08:45
	16:19	17:26	18:26	20:30	21:30	22:07	21:47	20:43	19:21	18:03	15:58	15:38
21	08:31	07:29	06:17	05:55	04:51	04:25	04:55	05:54	06:56	07:57	08:03	08:46
	16:21	17:29	18:28	20:33	21:32	22:07	21:45	20:40	19:19	18:01	15:57	15:38
22	08:30	07:26	06:14	05:53	04:49	04:25	04:57	05:56	06:58	07:59	08:05	08:46
	16:23	17:31	18:31	20:35	21:34	22:07	21:44	20:38	19:16	17:58	15:55	15:39
23	08:28	07:24	06:11	05:51	04:48	04:25	04:58	05:58	07:00	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:08	21:42	20:35	19:13	17:56	15:54	15:39
24	08:26	07:21	06:09	05:48	04:46	04:26	05:00	06:00	07:02	08:03	08:09	08:47
	16:27	17:35	18:35	20:39	21:37	22:08	21:40	20:33	19:11	17:53	15:52	15:40
25	08:25	07:19	06:06	05:46	04:45	04:26	05:02	06:02	07:04	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	16:51	15:51	15:41
26	08:23	07:16	06:03	05:43	04:43	04:26	05:04	06:04	07:06	08:07	08:13	08:48
	16:31	17:40	18:39	20:43	21:41	22:08	21:37	20:28	19:05	16:49	15:50	15:41
27	08:22	07:14	06:01	05:41	04:42	04:27	05:06	06:06	07:08	08:09	08:15	08:48
	16:33	17:42	18:41	20:45	21:42	22:07	21:35	20:25	19:03	16:46	15:49	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:10	08:12	08:16	08:48
	16:36	17:44	18:43	20:47	21:44	22:07	21:33	20:22	19:00	16:44	15:47	15:43
29	08:18		06:55	05:36	04:39	04:28	05:09	06:10	07:12	08:14	08:18	08:48
	16:38		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:42	15:46	15:44
30	08:16		06:53	05:34	04:38	04:29	05:11	06:12	07:14	08:16	08:20	08:48
	16:40		19:47	20:51	21:47	22:07	21:29	20:17	18:55	16:39	15:45	15:45
31	08:14		06:50		04:36		05:13	06:14		07:18		08:48
	16:42		19:49		21:48		21:27	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	527	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Laucini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (473)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:49	08:13	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:23	08:24
	15:47	16:45	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:42
3	08:48	08:09	07:04	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:46	16:30	15:41
4	08:48	08:07	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:20	20:04	18:44	16:27	15:40
5	08:47	08:05	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:29
	15:51	16:52	17:54	19:59	21:02	21:56	22:05	21:17	20:01	18:41	16:25	15:40
6	08:47	08:03	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:04	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:01	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:34	08:32
	15:54	16:57	17:58	20:03	21:06	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:36	08:33
	15:56	16:59	18:01	20:05	21:08	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:45	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:32	07:38	08:34
	15:58	17:01	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:34	07:40	08:36
	15:59	17:03	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:18	22:04	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:49	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:56	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:51	08:42
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:36
16	08:38	07:41	06:30	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:12	16:04	15:36
17	08:37	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:27	18:07	16:00	15:36
19	08:34	07:33	06:22	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:33	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:55	08:01	08:46
	16:18	17:26	18:26	20:30	21:31	22:08	21:47	20:43	19:21	18:02	15:57	15:37
21	08:31	07:29	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:57	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:27	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:35	18:34	20:39	21:38	22:08	21:41	20:33	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:40	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	17:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:15	08:49
	16:32	17:41	18:41	20:45	21:43	22:08	21:35	20:25	19:02	17:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:17	08:49
	16:34	17:43	18:43	20:47	21:44	22:08	21:34	20:22	19:00	17:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:08	21:32	20:20	18:57	17:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:54	17:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:49
	16:41		19:49		21:49		21:28	20:15		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Lielo Orišu u 2 maju zeme - Shadow Receptor:  $1,0 \times 1,0$  Azimuth:  $3,1^\circ$  Slope:  $90,0^\circ$  (482)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:07	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:52	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:09	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:21	20:06	18:46	16:29	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:36
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:38	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:08	21:45	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:34	18:34	20:39	21:38	22:08	21:41	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:15	08:48
	16:32	17:41	18:40	20:45	21:43	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:49
	16:34	17:43	18:42	20:47	21:44	22:08	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	235	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

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Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Linu Diki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (461)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December	
1	08:49	08:13	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22	
	15:46	16:43	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:34	15:43	
2	08:48	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:23	08:24	
	15:48	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:42	
3	08:48	08:09	07:04	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25	
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:46	16:30	15:41	
4	08:48	08:07	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27	
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:27	15:41	
5	08:47	08:05	06:58	06:36	05:22	04:30	04:32	05:21	06:23	07:23	07:29	08:29	
	15:52	16:52	17:54	19:59	21:01	21:56	22:04	21:17	20:01	18:41	16:25	15:40	
6	08:47	08:03	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30	
	15:53	16:54	17:56	20:01	21:04	21:57	22:04	21:15	19:59	18:38	16:23	15:39	
7	08:46	08:01	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:32	
	15:54	16:57	17:59	20:03	21:06	21:58	22:03	21:13	19:56	18:36	16:21	15:38	
8	08:45	07:58	06:51	06:28	05:15	04:27	04:35	05:27	06:29	07:30	07:36	08:33	
	15:56	16:59	18:01	20:05	21:08	21:59	22:02	21:11	19:53	18:33	16:19	15:38	
9	08:45	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:32	07:38	08:34	
	15:58	17:01	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:30	16:17	15:37	
10	08:44	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:34	07:40	08:36	
	15:59	17:03	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:15	15:37	
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37	
	16:01	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:45	18:25	16:13	15:37	
12	08:42	07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38	
	16:03	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:11	15:36	
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39	
	16:04	17:10	18:11	20:16	21:18	22:04	21:57	20:59	19:40	18:20	16:09	15:36	
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:49	08:40	
	16:06	17:12	18:13	20:18	21:19	22:04	21:56	20:57	19:37	18:18	16:08	15:36	
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:51	08:41	
	16:08	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:36	
16	08:38	07:41	06:30	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42	
	16:10	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:12	16:04	15:36	
17	08:37	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43	
	16:12	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36	3 11:01 (Pr25)
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44	11:04 (Pr25)
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:27	18:07	16:01	15:36	5 11:05 (Pr25)
19	08:34	07:33	06:22	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45	11:00 (Pr25)
	16:16	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36	6 11:06 (Pr25)
20	08:33	07:31	06:19	05:57	04:52	04:23	04:52	05:51	06:53	07:55	08:01	08:46	11:01 (Pr25)
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:43	19:21	18:02	15:57	15:37	6 11:07 (Pr25)
21	08:31	07:29	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46	11:00 (Pr25)
	16:20	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:18	18:00	15:56	15:37	7 11:07 (Pr25)
22	08:30	07:26	06:14	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47	11:01 (Pr25)
	16:22	17:30	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:54	15:38	7 11:08 (Pr25)
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47	11:01 (Pr25)
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38	7 11:08 (Pr25)
24	08:27	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48	11:03 (Pr25)
	16:26	17:35	18:34	20:39	21:38	22:08	21:41	20:33	19:10	17:53	15:51	15:39	6 11:09 (Pr25)
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48	11:04 (Pr25)
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39	5 11:09 (Pr25)
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48	11:05 (Pr25)
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40	3 11:08 (Pr25)
27	08:22	07:14	06:00	05:40	04:40	04:26	05:04	06:05	07:07	08:09	08:15	08:49	
	16:32	17:41	18:41	20:45	21:43	22:08	21:35	20:25	19:02	16:46	15:48	15:41	
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:17	08:49	
	16:35	17:43	18:43	20:47	21:44	22:08	21:33	20:22	19:00	16:43	15:46	15:42	
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49	
	16:37		19:45	20:49	21:46	22:07	21:32	20:20	18:57	16:41	15:45	15:43	
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49	
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:54	16:39	15:44	15:44	
31	08:14		06:49		04:35		05:12	06:13		07:18		08:49	
	16:41		19:49		21:49		21:28	20:15		16:36		15:45	
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216	
Total, worst case													55
Sun reduction													0,08
Oper. time red.													1,00
Wind dir. red.													1,00
Total reduction													0,08
Total, real													5

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Ludvigova - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (447)  
Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:32	04:35	04:30	05:15	06:16	07:16	07:21	08:22
	15:48	16:44	17:46	19:51	20:53	21:50	22:06	21:26	20:12	18:52	16:35	15:44
2	08:48	08:11	07:07	06:45	05:29	04:34	04:30	05:17	06:18	07:18	07:23	08:24
	15:49	16:47	17:48	19:53	20:55	21:52	22:06	21:24	20:10	18:50	16:33	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:19	06:20	07:20	07:25	08:25
	15:50	16:49	17:51	19:55	20:57	21:53	22:05	21:22	20:07	18:47	16:31	15:43
4	08:47	08:07	07:01	06:39	05:25	04:32	04:32	05:21	06:22	07:22	07:27	08:27
	15:51	16:51	17:53	19:58	21:00	21:54	22:05	21:20	20:04	18:44	16:28	15:42
5	08:47	08:05	06:59	06:37	05:23	04:31	04:33	05:23	06:24	07:24	07:29	08:28
	15:53	16:53	17:55	20:00	21:02	21:55	22:04	21:17	20:02	18:42	16:26	15:41
6	08:46	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:02	21:04	21:57	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:01	06:54	06:32	05:18	04:29	04:35	05:26	06:28	07:28	07:34	08:31
	15:56	16:58	17:59	20:04	21:06	21:58	22:03	21:13	19:56	18:36	16:22	15:40
8	08:45	07:59	06:51	06:29	05:16	04:29	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	17:00	18:01	20:06	21:08	21:59	22:02	21:11	19:54	18:34	16:20	15:39
9	08:44	07:56	06:48	06:26	05:14	04:28	04:38	05:30	06:32	07:32	07:38	08:34
	15:59	17:02	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:31	16:18	15:39
10	08:44	07:54	06:46	06:24	05:12	04:27	04:39	05:32	06:34	07:34	07:40	08:36
	16:00	17:04	18:06	20:10	21:12	22:01	22:00	21:06	19:48	18:29	16:16	15:38
11	08:43	07:52	06:43	06:21	05:10	04:27	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:07	18:08	20:12	21:14	22:02	21:59	21:04	19:46	18:26	16:14	15:38
12	08:42	07:50	06:41	06:19	05:08	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:04	17:09	18:10	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:12	15:38
13	08:41	07:48	06:38	06:16	05:06	04:26	04:43	05:38	06:40	07:40	07:46	08:39
	16:06	17:11	18:12	20:16	21:17	22:03	21:57	21:00	19:40	18:21	16:10	15:37
14	08:40	07:45	06:35	06:13	05:04	04:26	04:44	05:40	06:42	07:42	07:49	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:38	18:18	16:09	15:37
15	08:39	07:43	06:33	06:11	05:02	04:25	04:46	05:42	06:44	07:44	07:51	08:41
	16:09	17:16	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:16	16:07	15:37
16	08:38	07:41	06:30	06:08	05:00	04:25	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:18	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:05	15:37
17	08:37	07:38	06:27	06:06	04:58	04:25	04:49	05:46	06:48	07:49	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:52	20:50	19:30	18:11	16:03	15:37
18	08:35	07:36	06:25	06:03	04:56	04:25	04:50	05:48	06:50	07:51	07:57	08:44
	16:15	17:22	18:22	20:27	21:27	22:06	21:50	20:48	19:27	18:08	16:02	15:38
19	08:34	07:34	06:22	06:01	04:54	04:25	04:52	05:50	06:52	07:53	07:59	08:45
	16:17	17:24	18:24	20:29	21:29	22:07	21:49	20:45	19:24	18:06	16:00	15:38
20	08:33	07:31	06:19	05:58	04:53	04:25	04:53	05:52	06:54	07:55	08:01	08:45
	16:19	17:27	18:27	20:31	21:31	22:07	21:47	20:43	19:22	18:03	15:58	15:38
21	08:31	07:29	06:17	05:56	04:51	04:25	04:55	05:54	06:56	07:57	08:03	08:46
	16:21	17:29	18:29	20:33	21:32	22:07	21:46	20:40	19:19	18:01	15:57	15:38
22	08:30	07:26	06:14	05:53	04:49	04:25	04:57	05:56	06:58	07:59	08:05	08:47
	16:23	17:31	18:31	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:55	15:39
23	08:28	07:24	06:11	05:51	04:48	04:25	04:59	05:58	07:00	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:08	21:42	20:35	19:14	17:56	15:54	15:39
24	08:27	07:22	06:09	05:48	04:46	04:26	05:00	06:00	07:02	08:03	08:09	08:48
	16:27	17:35	18:35	20:39	21:38	22:08	21:41	20:33	19:11	17:53	15:53	15:40
25	08:25	07:19	06:06	05:46	04:45	04:26	05:02	06:02	07:04	08:06	08:11	08:48
	16:29	17:38	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:41
26	08:23	07:17	06:03	05:43	04:43	04:26	05:04	06:04	07:06	08:08	08:13	08:48
	16:31	17:40	18:39	20:43	21:41	22:08	21:37	20:28	19:06	17:49	15:50	15:41
27	08:22	07:14	06:01	05:41	04:42	04:27	05:06	06:06	07:08	08:10	08:15	08:48
	16:33	17:42	18:41	20:45	21:43	22:08	21:35	20:25	19:03	17:46	15:49	15:42
28	08:20	07:12	05:58	05:39	04:40	04:27	05:07	06:08	07:10	08:12	08:17	08:49
	16:36	17:44	18:43	20:47	21:44	22:07	21:33	20:23	19:00	17:44	15:48	15:43
29	08:18		06:55	05:36	04:39	04:28	05:09	06:10	07:12	08:14	08:18	08:49
	16:38		19:45	20:49	21:46	22:07	21:32	20:20	18:58	17:42	15:46	15:44
30	08:16		06:53	05:34	04:38	04:29	05:11	06:12	07:14	08:16	08:20	08:49
	16:40		19:47	20:51	21:47	22:07	21:30	20:17	18:55	17:39	15:45	15:45
31	08:15		06:50		04:36		05:13	06:14		07:18		08:48
	16:42		19:49		21:49		21:28	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Lidumi (kad. apz. 76740020172001) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (550)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:46	08:12 16:43										
2	08:48 15:47	08:10 16:45										
3	08:48 15:49	08:09 16:48										
4	08:47 15:50	08:07 16:50										
5	08:47 15:51	08:04 16:52										
6	08:46 15:53	08:02 16:54										
7	08:46 15:54	08:00 16:57										
8	08:45 15:56	07:58 16:59										
9	08:44 15:57	07:56 17:01										
10	08:44 15:59	07:54 17:03										
11	08:43 16:01	07:52 17:06										
12	08:42 16:03	07:49 17:08	16:28 (PrRR3)									
13	08:41 16:04	07:47 17:10	16:25 (PrRR3)									
14	08:40 16:06	07:45 17:12	16:38 (PrRR3)									
15	08:39 16:08	07:43 17:15	16:24 (PrRR3)									
16	08:38 16:10	07:40 17:17	16:43 (PrRR3)									
17	08:36 16:12	07:38 17:19	16:22 (PrRR3)									
18	08:35 16:14	07:36 17:21	16:44 (PrRR3)									
19	08:34 16:16	07:33 17:23	16:22 (PrRR3)									
20	08:32 16:18	07:31 17:26	16:45 (PrRR3)									
21	08:31 16:20	07:28 17:28	16:22 (PrRR3)									
22	08:30 16:22	07:26 17:30	16:45 (PrRR3)									
23	08:28 16:24	07:24 17:32	16:22 (PrRR3)									
24	08:26 16:26	07:21 17:34	16:42 (PrRR3)									
25	08:25 16:28	07:19 17:37	16:24 (PrRR3)									
26	08:23 16:30	07:16 17:39	16:40 (PrRR3)									
27	08:21 16:32	07:14 17:41	16:27 (PrRR3)									
28	08:20 16:34	07:11 17:43	16:38 (PrRR3)									
29	08:18 16:37		16:31 (PrRR3)									
30	08:16 16:39		16:33 (PrRR3)									
31	08:14 16:41											
Potential sun hours	236	266	283	366	426	507	528	469	384	324	248	217
Total, worst case												
Sun reduction			0,23									
Oper. time red.			1,00									
Wind dir. red.			1,00									
Total reduction			0,23									
Total, real			64									

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Lidumi (kad. apz. 76740020238001) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (557)  
 Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Lidums - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (491)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:15	06:17	07:17	07:22	08:23
	15:47	16:45	17:47	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:56	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:05	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:02	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:00	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:05	15:36
16	08:37	07:40	06:29	06:07	04:59	04:23	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:23	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Lipenas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (500)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:07	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:15	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:52	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:02	17:08	18:09	20:14	21:15	22:03	21:58	21:02	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:00	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:38	07:40	06:29	06:07	04:59	04:23	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:08	21:45	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:13	05:52	04:48	04:23	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:34	18:34	20:39	21:38	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:15	08:48
	16:32	17:41	18:40	20:45	21:43	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:08	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Madaras - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (519)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Magones - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (552)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:15	06:17	07:17	07:22	08:23
	15:47	16:45	17:47	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:56	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:05	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:02	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:00	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:05	15:36
16	08:37	07:40	06:29	06:07	04:59	04:23	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:23	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Maksimova - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (466)  
Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January		February	March	April	May	June	July	August	September	October	November	December					
1	08:49		14:15 (06)	08:13	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:21		08:22	13:59 (06)		
	15:46	28	14:43 (06)	16:43	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:34		15:43	32	14:31 (06)	
2	08:48		14:15 (06)	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:23		08:24		14:00 (06)	
	15:48	28	14:43 (06)	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32		15:42	31	14:31 (06)	
3	08:48		14:16 (06)	08:09	07:04	06:42	05:26	04:32	04:30	05:18	06:19	07:19	07:25		08:25		14:00 (06)	
	15:49	29	14:45 (06)	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:46	16:30		15:41	31	14:31 (06)	
4	08:48		14:16 (06)	08:07	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27		08:27		14:01 (06)	
	15:50	29	14:45 (06)	16:50	17:52	19:57	21:00	21:54	22:05	21:20	20:04	18:44	16:28		15:41	31	14:32 (06)	
5	08:47		14:16 (06)	08:05	06:59	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29		08:29		14:02 (06)	
	15:52	29	14:45 (06)	16:52	17:54	19:59	21:02	21:56	22:05	21:17	20:01	18:41	16:25		15:40	30	14:32 (06)	
6	08:47		14:17 (06)	08:03	06:56	06:34	05:19	04:29	04:33	05:24	06:25	07:25	07:31		08:30		14:03 (06)	
	15:53	30	14:47 (06)	16:55	17:56	20:01	21:04	21:57	22:04	21:15	19:59	18:38	16:23		15:39	30	14:33 (06)	
7	08:46		14:17 (06)	08:01	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:28	07:34		08:32		14:03 (06)	
	15:55	30	14:47 (06)	16:57	17:59	20:03	21:06	21:58	22:03	21:13	19:56	18:36	16:21		15:39	29	14:32 (06)	
8	08:45		14:17 (06)	07:58	06:51	06:28	05:15	04:28	04:35	05:27	06:29	07:30	07:36		08:33		14:04 (06)	
	15:56	31	14:48 (06)	16:59	18:01	20:06	21:08	21:59	22:02	21:11	19:53	18:33	16:19		15:38	29	14:33 (06)	
9	08:45		14:17 (06)	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:32	07:38		08:34		14:04 (06)	
	15:58	31	14:48 (06)	17:01	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:31	16:17		15:38	29	14:33 (06)	
10	08:44		14:17 (06)	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:34	07:40		08:36		14:05 (06)	
	15:59	32	14:49 (06)	17:04	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:15		15:37	28	14:33 (06)	
11	08:43		14:18 (06)	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42		08:37		14:05 (06)	
	16:01	32	14:50 (06)	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:45	18:25	16:13	4	14:13 (06)	15:37	28	14:33 (06)
12	08:42		14:17 (06)	07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44		08:38		14:06 (06)	
	16:03	32	14:49 (06)	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:11	13	14:17 (06)	15:36	27	14:33 (06)
13	08:41		14:18 (06)	07:47	06:38	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46		08:39		14:07 (06)	
	16:05	32	14:50 (06)	17:10	18:11	20:16	21:18	22:04	21:57	20:59	19:40	18:20	16:09	17	14:20 (06)	15:36	27	14:34 (06)
14	08:40		14:19 (06)	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:49		08:40		14:08 (06)	
	16:06	32	14:51 (06)	17:13	18:13	20:18	21:20	22:04	21:56	20:57	19:37	18:18	16:08	20	14:21 (06)	15:36	26	14:34 (06)
15	08:39		14:18 (06)	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:51		08:42		14:08 (06)	
	16:08	33	14:51 (06)	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	23	14:22 (06)	15:36	27	14:35 (06)
16	08:38		14:19 (06)	07:41	06:30	06:08	04:59	04:24	04:46	05:43	06:45	07:46	07:53		08:42		12:28 (Pr11)	
	16:10	32	14:51 (06)	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:13	16:04	25	14:24 (06)	15:36	28	14:35 (06)
17	08:37		14:19 (06)	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55		08:43		12:27 (Pr11)	
	16:12	32	14:51 (06)	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	27	14:25 (06)	15:36	31	14:35 (06)
18	08:35		14:20 (06)	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57		08:44		12:26 (Pr11)	
	16:14	32	14:52 (06)	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:27	18:07	16:01	28	14:25 (06)	15:36	32	14:35 (06)
19	08:34		14:20 (06)	07:33	06:22	06:00	04:53	04:23	04:51	05:49	06:51	07:53	07:59		08:45		12:26 (Pr11)	
	16:16	32	14:52 (06)	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	29	14:27 (06)	15:37	33	14:35 (06)
20	08:33		14:21 (06)	07:31	06:19	05:57	04:52	04:23	04:52	05:51	06:53	07:55	08:01		08:46		12:27 (Pr11)	
	16:18	32	14:53 (06)	17:26	18:26	20:31	21:31	22:08	21:47	20:43	19:21	18:03	15:57	30	14:27 (06)	15:37	33	14:36 (06)
21	08:31		14:22 (06)	07:29	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03		08:46		12:26 (Pr11)	
	16:20	30	14:52 (06)	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:19	18:00	15:56	30	14:27 (06)	15:37	34	14:36 (06)
22	08:30		14:22 (06)	07:26	06:14	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05		08:47		12:27 (Pr11)	
	16:22	30	14:52 (06)	17:30	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:54	32	14:29 (06)	15:38	34	14:37 (06)
23	08:28		14:23 (06)	07:24	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07		08:47		12:27 (Pr11)	
	16:24	29	14:52 (06)	17:33	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	32	14:29 (06)	15:38	34	14:37 (06)
24	08:27		14:23 (06)	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09		08:48		12:29 (Pr11)	
	16:26	28	14:51 (06)	17:35	18:34	20:39	21:38	22:08	21:41	20:33	19:10	17:53	15:52	32	14:29 (06)	15:39	33	14:38 (06)
25	08:25		14:25 (06)	07:19	06:06	05:45	04:43	04:25	05:01	06:01	07:03	07:05	08:11		08:48		12:30 (Pr11)	
	16:28	27	14:52 (06)	17:37	18:36	20:41	21:40	22:08	21:39	20:30	19:08	16:50	15:50	32	14:29 (06)	15:39	32	14:39 (06)
26	08:23		14:26 (06)	07:16	06:03	05:43	04:42	04:25	05:03	06:03	07:05	07:08	08:13		08:48		12:30 (Pr11)	
	16:30	25	14:51 (06)	17:39	18:39	20:43	21:41	22:08	21:37	20:28	19:05	16:48	15:49	33	14:30 (06)	15:40	32	14:39 (06)
27	08:22		14:27 (06)	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	07:10	08:15		08:49		12:32 (Pr11)	
	16:32	23	14:50 (06)	17:41	18:41	20:45	21:43	22:08	21:35	20:25	19:02	16:46	15:48	33	14:30 (06)	15:41	29	14:40 (06)
28	08:20		14:29 (06)	07:11	05:58	05:38	04:39	04:26	05:06	06:07	07:09	07:12	08:17		08:49		14:14 (06)	
	16:35	20	14:49 (06)	17:43	18:43	20:47	21:44	22:08	21:34	20:22	19:00	16:43	15:46	32	14:31 (06)	15:42	26	14:40 (06)
29	08:18		14:31 (06)		06:55	05:35	04:38	04:27	05:08	06:09	07:11	07:14	08:19		08:49		14:14 (06)	
	16:37	17	14:48 (06)		19:45	20:49	21:46	22:08	21:32	20:20	18:57	16:41	15:45	32	14:31 (06)	15:43	27	14:41 (06)
30	08:16		14:33 (06)		06:52	05:33	04:37	04:28	05:10	06:11	07:13	07:16	08:20		08:49		14:15 (06)	
	16:39	13	14:46 (06)		19:47	20:51	21:47	22:07	21:30	20:17	18:54	16:39	15:44	32	14:31 (06)	15:44	27	14:42 (06)
31	08:15		14:37 (06)		06:50		04:35		05:12	06:13		07:18		08:49		14:14 (06)		
	16:41	4	14:41 (06)		19:49		21:49		21:28	20:15		16:36		15:45	28	14:42 (06)		
Potential sun hours	235			266	366	426	507	528	529	469	384	324	248		216			
Total, worst case		864											536				928	
Sun reduction		0,13											0,08				0,08	
Oper. time red.		1,00											1,00				1,00	
Wind dir. red.		1,00											1,00				1,00	
Total reduction		0,13											0,08					

Table layout: For each day in each month the following matrix apply

Day in month	Sun
--------------	-----

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Malova - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (472)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January			February			March			April	May	June
1	08:48		13:07 (JU1)	08:13		08:59 (Pr3b)	07:09		07:53 (PrRR3)	06:47	05:31	04:34
	15:46	26	13:33 (JU1)	16:43	26	09:25 (Pr3b)	17:46	84	16:27 (Pr11)	19:51	20:53	21:50
2	08:48		13:07 (JU1)	08:11		08:59 (Pr3b)	07:06		07:53 (PrRR3)	06:44	05:28	04:33
	15:48	26	13:33 (JU1)	16:46	27	09:26 (Pr3b)	17:48	74	16:23 (Pr11)	19:53	20:55	21:52
3	08:48		13:09 (JU1)	08:09		08:59 (Pr3b)	07:04		07:53 (PrRR3)	06:41	05:26	04:32
	15:49	24	13:33 (JU1)	16:48	27	09:26 (Pr3b)	17:50	62	09:21 (Pr25)	19:55	20:57	21:53
4	08:48		13:09 (JU1)	08:07		08:59 (Pr3b)	07:01		07:53 (PrRR3)	06:39	05:24	04:31
	15:50	24	13:33 (JU1)	16:50	28	09:27 (Pr3b)	17:52	59	09:19 (Pr25)	19:57	20:59	21:54
5	08:47		13:10 (JU1)	08:05		08:59 (Pr3b)	06:58		07:53 (PrRR3)	06:36	05:22	04:30
	15:52	23	13:33 (JU1)	16:52	27	09:26 (Pr3b)	17:54	55	09:17 (Pr25)	19:59	21:01	21:56
6	08:47		13:12 (JU1)	08:03		08:59 (Pr25)	06:56		07:55 (PrRR3)	06:34	05:19	04:29
	15:53	21	13:33 (JU1)	16:55	32	16:21 (Pr12)	17:56	47	09:15 (Pr25)	20:01	21:04	21:57
7	08:46		13:13 (JU1)	08:01		08:56 (Pr25)	06:53		07:56 (PrRR3)	06:31	05:17	04:28
	15:55	20	13:33 (JU1)	16:57	40	16:24 (Pr12)	17:59	39	09:12 (Pr25)	20:03	21:06	21:58
8	08:45		13:14 (JU1)	07:58		08:54 (Pr25)	06:51		07:57 (PrRR3)	06:28	05:15	04:28
	15:56	19	13:33 (JU1)	16:59	46	16:27 (Pr12)	18:01	31	17:32 (O6)	20:05	21:08	21:59
9	08:45		13:15 (JU1)	07:56		08:51 (Pr25)	06:48		08:00 (PrRR3)	06:26	05:13	04:27
	15:58	17	13:32 (JU1)	17:01	50	16:28 (Pr12)	18:03	21	17:35 (O6)	20:08	21:10	22:00
10	08:44		13:17 (JU1)	07:54		08:50 (Pr25)	06:45		17:21 (O6)	06:23	05:11	04:26
	15:59	14	13:31 (JU1)	17:03	54	16:31 (Pr12)	18:05	16	17:37 (O6)	20:10	21:12	22:01
11	08:43		13:18 (JU1)	07:52		08:48 (Pr25)	06:43		17:19 (O6)	06:20	05:09	04:26
	16:01	11	13:29 (JU1)	17:06	55	16:31 (Pr12)	18:07	20	17:39 (O6)	20:12	21:14	22:02
12	08:42		13:21 (JU1)	07:50		08:47 (Pr25)	06:40		17:19 (O6)	06:18	05:07	04:25
	16:03	7	13:28 (JU1)	17:08	58	16:31 (Pr12)	18:09	21	17:40 (O6)	20:14	21:16	22:03
13	08:41			07:47		08:47 (Pr25)	06:38		17:18 (O6)	06:15	05:05	04:25
	16:05			17:10	62	16:32 (Pr12)	18:11	22	17:40 (O6)	20:16	21:17	22:04
14	08:40			07:45		08:45 (Pr25)	06:35		17:17 (O6)	06:13	05:03	04:24
	16:06			17:12	65	16:32 (Pr11)	18:13	23	17:40 (O6)	20:18	21:19	22:04
15	08:39			07:43		08:45 (Pr25)	06:32		17:16 (O6)	06:10	05:01	04:24
	16:08			17:15	68	16:33 (Pr11)	18:16	23	17:39 (O6)	20:20	21:21	22:05
16	08:38			07:40		08:44 (Pr25)	06:30		17:16 (O6)	06:07	04:59	04:24
	16:10			17:17	71	16:34 (Pr11)	18:18	24	17:40 (O6)	20:22	21:23	22:06
17	08:37			07:38		08:44 (Pr25)	06:27		17:16 (O6)	06:05	04:57	04:24
	16:12			17:19	73	16:35 (Pr11)	18:20	23	17:39 (O6)	20:24	21:25	22:06
18	08:35			07:36		08:43 (Pr25)	06:24		17:16 (O6)	06:02	04:55	04:23
	16:14			17:21	74	16:34 (Pr11)	18:22	22	17:38 (O6)	20:26	21:27	22:07
19	08:34			07:33		08:43 (Pr25)	06:22		17:17 (O6)	06:00	04:53	04:23
	16:16			17:24	76	16:35 (Pr11)	18:24	20	17:37 (O6)	20:28	21:29	22:07
20	08:33			07:31		08:03 (PrRR3)	06:19		17:18 (O6)	05:57	04:52	04:23
	16:18			17:26	85	16:35 (Pr11)	18:26	18	17:36 (O6)	20:30	21:31	22:07
21	08:31			07:29		08:01 (PrRR3)	06:16		17:19 (O6)	05:55	04:50	04:24
	16:20			17:28	92	16:35 (Pr11)	18:28	14	17:33 (O6)	20:33	21:32	22:08
22	08:30			07:26		07:58 (PrRR3)	06:14		17:22 (O6)	05:52	04:48	04:24
	16:22			17:30	95	16:34 (Pr11)	18:30	9	17:31 (O6)	20:35	21:34	22:08
23	08:28		09:05 (Pr3b)	07:24		07:57 (PrRR3)	06:11			05:50	04:47	04:24
	16:24	10	09:15 (Pr3b)	17:32	98	16:35 (Pr11)	18:32			20:37	21:36	22:08
24	08:27		09:03 (Pr3b)	07:21		07:56 (PrRR3)	06:08			05:47	04:45	04:24
	16:26	14	09:17 (Pr3b)	17:35	96	16:33 (Pr11)	18:34			20:39	21:38	22:08
25	08:25		09:02 (Pr3b)	07:19		07:54 (PrRR3)	06:06			05:45	04:43	04:25
	16:28	17	09:19 (Pr3b)	17:37	97	16:32 (Pr11)	18:36			20:41	21:39	22:08
26	08:23		09:01 (Pr3b)	07:16		07:54 (PrRR3)	06:03			05:43	04:42	04:25
	16:30	19	09:20 (Pr3b)	17:39	96	16:32 (Pr11)	18:38			20:43	21:41	22:08
27	08:22		09:01 (Pr3b)	07:14		07:53 (PrRR3)	06:00			05:40	04:41	04:26
	16:32	21	09:22 (Pr3b)	17:41	93	16:30 (Pr11)	18:41			20:45	21:43	22:08
28	08:20		09:00 (Pr3b)	07:11		07:53 (PrRR3)	05:57			05:38	04:39	04:26
	16:35	23	09:23 (Pr3b)	17:43	89	16:29 (Pr11)	18:43			20:47	21:44	22:08
29	08:18		08:59 (Pr3b)				06:55			05:35	04:38	04:27
	16:37	24	09:23 (Pr3b)				19:45			20:49	21:46	22:07
30	08:16		08:59 (Pr3b)				06:52			05:33	04:37	04:28
	16:39	25	09:24 (Pr3b)				19:47			20:51	21:47	22:07
31	08:14		08:59 (Pr3b)				06:49				04:35	
	16:41	26	09:25 (Pr3b)				19:49				21:49	
Potential sun hours	236			266			366		426	507	528	
Total, worst case		411			1800		727					
Sun reduction		0,13			0,23		0,39					
Oper. time red.		1,00			1,00		1,00					
Wind dir. red.		1,00			1,00		1,00					
Total reduction		0,13			0,23		0,39					
Total, real		55			405		285					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Malova - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (472)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December								
1	04:28	05:14	06:15	07:15	17:58 (06)	07:20	08:20 (Pr25)	08:22	13:00 (JU1)					
	22:07	21:26	20:12	18:52	21	18:19 (06)	16:34	52	16:00 (Pr12)	15:43	11	13:11 (JU1)		
2	04:29	05:16	06:17	07:17	17:58 (06)	07:23	08:21 (Pr25)	08:24	12:59 (JU1)					
	22:06	21:24	20:09	18:49	20	18:18 (06)	16:32	50	15:58 (Pr12)	15:42	14	13:13 (JU1)		
3	04:30	05:18	06:19	07:19	17:59 (06)	07:25	08:23 (Pr25)	08:25	12:58 (JU1)					
	22:06	21:22	20:07	18:46	17	18:16 (06)	16:30	44	15:55 (Pr12)	15:41	17	13:15 (JU1)		
4	04:31	05:20	06:21	07:21	08:40 (PrRR3)	07:27	08:26 (Pr25)	08:27	12:58 (JU1)					
	22:05	21:19	20:04	18:44	17	18:13 (06)	16:28	39	15:53 (Pr12)	15:41	19	13:17 (JU1)		
5	04:32	05:22	06:23	07:23	08:35 (PrRR3)	07:29	08:29 (Pr3b)	08:29	12:58 (JU1)					
	22:04	21:17	20:01	18:41	22	18:10 (06)	16:25	31	15:50 (Pr12)	15:40	20	13:18 (JU1)		
6	04:33	05:24	06:25	07:25	08:33 (PrRR3)	07:31	08:30 (Pr3b)	08:30	12:57 (JU1)					
	22:04	21:15	19:59	18:38	33	09:46 (Pr25)	16:23	26	08:56 (Pr3b)	15:39	21	13:18 (JU1)		
7	04:34	05:25	06:27	07:27	08:31 (PrRR3)	07:33	08:29 (Pr3b)	08:32	12:57 (JU1)					
	22:03	21:13	19:56	18:36	44	09:49 (Pr25)	16:21	27	08:56 (Pr3b)	15:39	23	13:20 (JU1)		
8	04:35	05:27	06:29	07:30	08:29 (PrRR3)	07:36	08:29 (Pr3b)	08:33	12:58 (JU1)					
	22:02	21:11	19:53	18:33	50	09:51 (Pr25)	16:19	27	08:56 (Pr3b)	15:38	23	13:21 (JU1)		
9	04:36	05:29	06:31	07:32	08:28 (PrRR3)	07:38	08:30 (Pr3b)	08:34	12:57 (JU1)					
	22:01	21:09	19:51	18:30	57	09:53 (Pr25)	16:17	27	08:57 (Pr3b)	15:37	24	13:21 (JU1)		
10	04:38	05:31	06:33	07:34	08:28 (PrRR3)	07:40	08:29 (Pr3b)	08:36	12:58 (JU1)					
	22:00	21:06	19:48	18:28	60	09:55 (Pr25)	16:15	27	08:56 (Pr3b)	15:37	25	13:23 (JU1)		
11	04:39	05:33	06:35	07:36	08:27 (PrRR3)	07:42	08:30 (Pr3b)	08:37	12:57 (JU1)					
	21:59	21:04	19:45	18:25	64	09:56 (Pr25)	16:13	26	08:56 (Pr3b)	15:37	26	13:23 (JU1)		
12	04:40	05:35	06:37	07:38	08:26 (PrRR3)	07:44	08:31 (Pr3b)	08:38	12:57 (JU1)					
	21:58	21:02	19:43	18:23	78	16:58 (Pr11)	16:11	25	08:56 (Pr3b)	15:36	26	13:23 (JU1)		
13	04:42	05:37	06:39	07:40	08:26 (PrRR3)	07:46	08:31 (Pr3b)	08:39	12:57 (JU1)					
	21:57	20:59	19:40	18:20	86	17:00 (Pr11)	16:09	24	08:55 (Pr3b)	15:36	27	13:24 (JU1)		
14	04:43	05:39	06:41	07:42	08:26 (PrRR3)	07:49	08:32 (Pr3b)	08:40	12:58 (JU1)					
	21:56	20:57	19:37	18:18	91	17:02 (Pr11)	16:08	23	08:55 (Pr3b)	15:36	27	13:25 (JU1)		
15	04:45	05:41	06:43	07:44	08:26 (PrRR3)	07:51	08:33 (Pr3b)	08:41	12:59 (JU1)					
	21:54	20:55	19:35	18:15	95	17:04 (Pr11)	16:06	21	08:54 (Pr3b)	15:36	27	13:26 (JU1)		
16	04:46	05:43	06:45	07:46	08:26 (PrRR3)	07:53	08:35 (Pr3b)	08:42	12:59 (JU1)					
	21:53	20:52	19:32	18:12	97	17:04 (Pr11)	16:04	19	08:54 (Pr3b)	15:36	27	13:26 (JU1)		
17	04:48	05:45	06:47	07:48	08:27 (PrRR3)	07:55	08:36 (Pr3b)	08:43	12:59 (JU1)					
	21:52	20:50	19:29	18:10	97	17:05 (Pr11)	16:02	17	08:53 (Pr3b)	15:36	28	13:27 (JU1)		
18	04:49	05:47	06:49	07:50	08:27 (PrRR3)	07:57	08:37 (Pr3b)	08:44	12:59 (JU1)					
	21:50	20:47	19:27	18:07	97	17:05 (Pr11)	16:01	14	08:51 (Pr3b)	15:36	28	13:27 (JU1)		
19	04:51	05:49	06:51	07:52	08:28 (PrRR3)	07:59	08:40 (Pr3b)	08:45	13:00 (JU1)					
	21:49	20:45	19:24	18:05	97	17:05 (Pr11)	15:59	10	08:50 (Pr3b)	15:37	28	13:28 (JU1)		
20	04:52	05:51	06:53	07:55	08:30 (PrRR3)	08:01	08:46	13:00 (JU1)						
	21:47	20:43	19:21	18:02	95	17:06 (Pr11)	15:57	15:37	28	13:28 (JU1)				
21	04:54	05:53	06:55	18:09 (06)	07:57	08:32 (PrRR3)	08:03	08:46	13:00 (JU1)					
	21:46	20:40	19:18	7	18:16 (06)	18:00	89	17:05 (Pr11)	15:56	15:37	28	13:28 (JU1)		
22	04:56	05:55	06:57	18:05 (06)	07:59	08:35 (PrRR3)	08:05	08:47	13:01 (JU1)					
	21:44	20:38	19:16	14	18:19 (06)	17:58	83	17:05 (Pr11)	15:54	15:38	28	13:29 (JU1)		
23	04:57	05:57	06:59	18:03 (06)	08:01	09:13 (Pr25)	08:07	08:47	13:01 (JU1)					
	21:42	20:35	19:13	17	18:20 (06)	17:55	75	17:05 (Pr11)	15:53	15:38	28	13:29 (JU1)		
24	04:59	05:59	07:01	18:01 (06)	08:03	09:13 (Pr25)	08:09	08:48	13:02 (JU1)					
	21:41	20:33	19:10	20	18:21 (06)	17:53	74	17:05 (Pr11)	15:51	15:39	28	13:30 (JU1)		
25	05:01	06:01	07:03	18:00 (06)	07:05	08:13 (Pr25)	08:11	08:48	13:03 (JU1)					
	21:39	20:30	19:08	21	18:21 (06)	16:50	72	16:04 (Pr11)	15:50	15:39	28	13:31 (JU1)		
26	05:03	06:03	07:05	17:59 (06)	07:07	08:14 (Pr25)	08:13	08:48	13:03 (JU1)					
	21:37	20:27	19:05	23	18:22 (06)	16:48	70	16:04 (Pr11)	15:49	15:40	28	13:31 (JU1)		
27	05:05	06:05	07:07	17:58 (06)	07:10	08:14 (Pr25)	08:15	08:49	13:04 (JU1)					
	21:35	20:25	19:02	24	18:22 (06)	16:46	68	16:03 (Pr11)	15:48	15:41	27	13:31 (JU1)		
28	05:06	06:07	07:09	17:58 (06)	07:12	08:15 (Pr25)	08:17	08:49	13:04 (JU1)					
	21:33	20:22	19:00	23	18:21 (06)	16:43	64	16:01 (Pr11)	15:46	15:42	28	13:32 (JU1)		
29	05:08	06:09	07:11	17:58 (06)	07:14	08:16 (Pr25)	08:18	08:49	13:05 (JU1)					
	21:32	20:20	18:57	23	18:21 (06)	16:41	61	16:01 (Pr11)	15:45	15:43	27	13:32 (JU1)		
30	05:10	06:11	07:13	17:57 (06)	07:16	08:17 (Pr25)	08:20	13:02 (JU1)	08:49	13:06 (JU1)				
	21:30	20:17	18:54	23	18:20 (06)	16:39	58	16:01 (Pr12)	15:44	6	13:08 (JU1)	15:44	27	13:33 (JU1)
31	05:12	06:13		07:18	08:18 (Pr25)			08:49	13:06 (JU1)					
	21:28	20:15		16:36	54	16:00 (Pr12)		15:45	26	13:32 (JU1)				
Potential sun hours	529	469	384	324	248	217	772							
Total, worst case			195	2006	535									
Sun reduction			0,43	0,29	0,08		0,08							
Oper. time red.			1,00	1,00	1,00		1,00							
Wind dir. red.			1,00	1,00	1,00		1,00							
Total reduction			0,43	0,29	0,08		0,08							
Total, real			84	582	40		65							

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Maurini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (509)  
 Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	08:48	08:12	07:09	16:50 (AP2)	06:47	05:31
	15:46	16:43	17:45	23	17:13 (AP2)	19:51
2	08:48	08:10	07:06	16:49 (AP2)	06:44	05:28
	15:48	16:46	17:48	23	17:12 (AP2)	19:53
3	08:48	08:08	07:03	16:48 (AP2)	06:41	05:26
	15:49	16:48	17:50	24	17:12 (AP2)	19:55
4	08:47	08:07	07:01	16:49 (AP2)	06:39	05:24
	15:50	16:50	17:52	23	17:12 (AP2)	19:57
5	08:47	08:04	06:58	16:49 (AP2)	06:36	05:21
	15:52	16:52	17:54	23	17:12 (AP2)	19:59
6	08:46	08:02	06:56	16:50 (AP2)	06:33	05:19
	15:53	16:54	17:56	22	17:12 (AP2)	20:01
7	08:46	08:00	06:53	16:50 (AP2)	06:31	05:17
	15:54	16:57	17:58	20	17:10 (AP2)	20:03
8	08:45	07:58	06:51	16:51 (AP2)	06:28	05:15
	15:56	16:59	18:01	18	17:09 (AP2)	20:05
9	08:44	07:56	06:48	16:52 (AP2)	06:26	05:13
	15:58	17:01	18:03	14	17:06 (AP2)	20:07
10	08:44	07:54	06:45	16:55 (AP2)	06:23	05:11
	15:59	17:03	18:05	9	17:04 (AP2)	20:09
11	08:43	07:52	06:43		06:20	05:09
	16:01	17:06	18:07		20:12	21:13
12	08:42	07:49	06:40		06:18	05:07
	16:03	17:08	18:09		20:14	21:15
13	08:41	07:47	06:37		06:15	05:05
	16:04	17:10	18:11		20:16	21:17
14	08:40	07:45	06:35		06:12	05:03
	16:06	17:12	18:13		20:18	21:19
15	08:39	07:43	06:32		06:10	05:01
	16:08	17:15	18:15		20:20	21:21
16	08:38	07:40	06:29		06:07	04:59
	16:10	17:17	18:18		20:22	21:23
17	08:36	07:38	06:27		06:05	04:57
	16:12	17:19	18:20		20:24	21:25
18	08:35	07:36	06:24		06:02	04:55
	16:14	17:21	18:22		20:26	21:27
19	08:34	07:33	06:21		06:00	04:53
	16:16	17:24	18:24		20:28	21:29
20	08:32	07:31	06:19		05:57	04:52
	16:18	17:26	18:26		20:30	21:31
21	08:31	07:28	06:16		05:55	04:50
	16:20	17:28	18:28		20:32	21:32
22	08:30	07:26	06:13		05:52	04:48
	16:22	17:30	18:30		20:34	21:34
23	08:28	07:24	06:11		05:50	04:47
	16:24	17:32	18:32		20:37	21:36
24	08:26	07:21	16:58 (AP2)	06:08	05:47	04:45
	16:26	17:35	7	17:05 (AP2)	20:39	21:38
25	08:25	07:19	16:54 (AP2)	06:05	05:45	04:43
	16:28	17:37	13	17:07 (AP2)	20:41	21:39
26	08:23	07:16	16:53 (AP2)	06:03	05:42	04:42
	16:30	17:39	17	17:10 (AP2)	20:43	21:41
27	08:21	07:14	16:52 (AP2)	06:00	05:40	04:40
	16:32	17:41	19	17:11 (AP2)	20:45	21:43
28	08:20	07:11	16:50 (AP2)	05:57	05:38	04:39
	16:35	17:43	22	17:12 (AP2)	20:47	21:44
29	08:18		06:55		05:35	04:38
	16:37		19:45		20:49	21:46
30	08:16		06:52		05:33	04:36
	16:39		19:47		20:51	21:47
31	08:14		06:49			04:35
	16:41		19:49			21:49
Potential sun hours	236	266	366	426	507	528
Total, worst case		78	199	666	1116	98
Sun reduction		0,23	0,39	0,44	0,56	0,57
Oper. time red.		1,00	1,00	1,00	1,00	1,00
Wind dir. red.		1,00	1,00	1,00	1,00	1,00
Total reduction		0,23	0,39	0,44	0,56	0,57
Total, real		18	78	294	628	56

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Maurini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (509)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:28	05:14	19:14 (Pr3b)	06:15	07:15	07:20
	22:06	21:25	20:45 (Pr25)	20:12	18:52	16:34
2	04:29	05:16	19:13 (Pr3b)	06:17	07:17	16:34
	22:06	21:23	20:45 (Pr25)	20:09	18:49	16:32
3	04:30	05:18	19:12 (Pr3b)	06:19	07:19	17:35 (AP2)
	22:05	21:21	20:44 (Pr25)	20:07	18:46	17:41 (AP2)
4	04:31	05:20	19:11 (Pr3b)	06:21	07:21	17:31 (AP2)
	22:05	21:19	20:43 (Pr25)	20:04	18:44	17:44 (AP2)
5	04:32	20:28 (Pr25)	19:10 (Pr3b)	06:23	07:23	17:28 (AP2)
	22:04	20:34 (Pr25)	21:17	20:01	18:41	17:45 (AP2)
6	04:33	20:27 (Pr25)	05:23	19:08 (Pr3b)	06:25	07:25
	22:03	20:36 (Pr25)	21:15	20:40 (Pr25)	19:59	18:38
7	04:34	20:26 (Pr25)	05:25	19:08 (Pr3b)	06:27	07:27
	22:03	20:37 (Pr25)	21:13	20:37 (Pr25)	19:56	18:36
8	04:35	20:25 (Pr25)	05:27	19:07 (Pr3b)	06:29	07:29
	22:02	20:38 (Pr25)	21:11	19:46 (Pr3b)	19:53	18:33
9	04:36	20:24 (Pr25)	05:29	19:07 (Pr3b)	06:31	07:31
	22:01	20:39 (Pr25)	21:08	19:47 (Pr3b)	19:51	18:30
10	04:38	20:23 (Pr25)	05:31	19:06 (Pr3b)	06:33	07:34
	22:00	20:40 (Pr25)	21:06	19:47 (Pr3b)	19:48	18:28
11	04:39	20:23 (Pr25)	05:33	19:05 (Pr3b)	06:35	07:36
	21:59	20:41 (Pr25)	21:04	19:47 (Pr3b)	19:45	18:25
12	04:40	20:23 (Pr25)	05:35	19:04 (Pr3b)	06:37	07:38
	21:58	20:42 (Pr25)	21:02	19:47 (Pr3b)	19:43	18:23
13	04:42	20:22 (Pr25)	05:37	19:04 (Pr3b)	06:39	07:40
	21:57	20:42 (Pr25)	20:59	19:47 (Pr3b)	19:40	18:20
14	04:43	20:21 (Pr25)	05:39	19:04 (Pr3b)	06:41	07:42
	21:55	20:43 (Pr25)	20:57	19:47 (Pr3b)	19:37	18:17
15	04:44	20:21 (Pr25)	05:41	19:04 (Pr3b)	06:43	07:44
	21:54	20:44 (Pr25)	20:54	19:47 (Pr3b)	19:35	18:15
16	04:46	20:21 (Pr25)	05:43	19:04 (Pr3b)	06:45	07:46
	21:53	20:44 (Pr25)	20:52	19:47 (Pr3b)	19:32	18:12
17	04:47	20:20 (Pr25)	05:45	19:04 (Pr3b)	06:47	07:48
	21:51	20:44 (Pr25)	20:50	19:47 (Pr3b)	19:29	18:10
18	04:49	20:20 (Pr25)	05:47	19:03 (Pr3b)	06:49	07:50
	21:50	20:46 (Pr25)	20:47	19:46 (Pr3b)	19:26	18:07
19	04:51	20:19 (Pr25)	05:49	19:03 (Pr3b)	06:51	07:52
	21:49	20:45 (Pr25)	20:45	19:45 (Pr3b)	19:24	18:05
20	04:52	20:20 (Pr25)	05:51	19:03 (Pr3b)	06:53	07:54
	21:47	20:46 (Pr25)	20:42	19:45 (Pr3b)	19:21	18:02
21	04:54	20:19 (Pr25)	05:53	19:03 (Pr3b)	06:55	07:57
	21:45	20:46 (Pr25)	20:40	19:44 (Pr3b)	19:18	18:00
22	04:56	20:19 (Pr25)	05:55	19:04 (Pr3b)	06:57	07:59
	21:44	20:47 (Pr25)	20:37	19:44 (Pr3b)	19:16	17:57
23	04:57	20:19 (Pr25)	05:57	19:04 (Pr3b)	06:59	08:01
	21:42	20:47 (Pr25)	20:35	19:43 (Pr3b)	19:13	17:55
24	04:59	20:19 (Pr25)	05:59	19:05 (Pr3b)	07:01	08:03
	21:40	20:47 (Pr25)	20:32	19:42 (Pr3b)	19:10	17:53
25	05:01	20:19 (Pr25)	06:01	19:06 (Pr3b)	07:03	07:05
	21:39	20:48 (Pr25)	20:30	19:41 (Pr3b)	19:08	16:50
26	05:03	20:19 (Pr25)	06:03	19:06 (Pr3b)	07:05	07:07
	21:37	20:47 (Pr25)	20:27	19:38 (Pr3b)	19:05	16:48
27	05:04	20:19 (Pr25)	06:05	19:07 (Pr3b)	07:07	07:09
	21:35	20:47 (Pr25)	20:25	19:37 (Pr3b)	19:02	16:45
28	05:06	19:24 (Pr3b)	06:07	19:09 (Pr3b)	07:09	07:12
	21:33	20:47 (Pr25)	20:22	19:35 (Pr3b)	19:00	16:43
29	05:08	19:20 (Pr3b)	06:09	19:11 (Pr3b)	07:11	07:14
	21:31	20:47 (Pr25)	20:20	19:32 (Pr3b)	18:57	16:41
30	05:10	19:18 (Pr3b)	06:11	19:13 (Pr3b)	07:13	07:16
	21:29	20:47 (Pr25)	20:17	19:29 (Pr3b)	18:54	16:39
31	05:12	19:16 (Pr3b)	06:13			07:18
	21:27	20:46 (Pr25)	20:14			16:36
Potential sun hours	529	469		384	324	248
Total, worst case	670	1226		286		217
Sun reduction	0,47	0,52		0,29		
Oper. time red.	1,00	1,00		1,00		
Wind dir. red.	1,00	1,00		1,00		
Total reduction	0,47	0,52		0,29		
Total, real	316	640		83		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

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Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Maurinmajas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (577)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:27	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:50	06:28	05:15	04:28	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

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Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Meldri - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (526)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Mež noras - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (424)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December		
1	08:48	08:12	07:09	16:26 (DD3)	06:47	05:31	04:35	04:29	05:14	06:16	07:15	07:20	08:22	
2	15:47	16:44	17:46	18 16:44 (DD3)	19:51	20:53	21:50	22:06	21:26	20:12	18:52	16:35	15:44	
	08:48	08:11	07:06	16:27 (DD3)	06:44	05:29	04:34	04:30	05:16	06:18	07:17	07:23	08:23	
3	15:48	16:46	17:48	14 16:41 (DD3)	19:53	20:55	21:51	22:06	21:24	20:09	18:49	16:32	15:43	
	08:48	08:09	07:04	16:31 (DD3)	06:42	05:27	04:33	04:31	05:18	06:20	07:19	07:25	08:25	
4	15:50	16:48	17:50	7 16:38 (DD3)	19:55	20:57	21:53	22:05	21:21	20:07	18:47	16:30	15:42	
	08:47	08:07	07:01		06:39	05:24	04:32	04:32	05:20	06:22	07:22	07:27	08:27	
5	15:51	16:51	17:52		19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:41	
	08:47	08:05	06:59		06:36	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:28	
6	15:52	16:53	17:55		19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:26	15:41	
	08:46	08:03	06:56		06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30	
7	15:54	16:55	17:57		20:01	21:03	21:56	22:03	21:15	19:59	18:39	16:24	15:40	
	08:46	08:00	06:53		06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:33	08:31	
8	15:55	16:57	17:59		20:04	21:05	21:58	22:03	21:13	19:56	18:36	16:22	15:39	
	08:45	07:58	06:51		06:29	05:16	04:28	04:36	05:28	06:30	07:30	07:36	08:33	
9	15:57	16:59	18:01		20:06	21:07	21:59	22:02	21:11	19:54	18:33	16:20	15:39	
	08:44	07:56	06:48		06:26	05:13	04:28	04:37	05:30	06:32	07:32	07:38	08:34	
10	15:58	17:02	18:03		20:08	21:09	22:00	22:01	21:08	19:51	18:31	16:18	15:38	
	08:44	07:54	06:46		06:23	05:11	04:27	04:38	05:32	06:34	07:34	07:40	08:35	
11	16:00	17:04	18:05		20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:16	15:38	
	08:43	07:52	06:43		06:21	05:09	04:26	04:40	05:34	06:36	07:36	17:03 (DD3)	07:42	08:37
12	16:02	17:06	18:07		20:12	21:13	22:02	21:59	21:04	19:46	18:26	11 17:14 (DD3)	16:14	15:37
	08:42	07:50	06:40		06:18	05:07	04:26	04:41	05:36	06:38	07:38	17:00 (DD3)	07:44	08:38
13	16:03	17:08	18:09		20:14	21:15	22:02	21:58	21:02	19:43	18:23	16 17:16 (DD3)	16:12	15:37
	08:41	07:47	06:38		06:16	05:05	04:25	04:42	05:38	06:40	07:40	16:58 (DD3)	07:46	08:39
14	16:05	17:11	18:12		20:16	21:17	22:03	21:57	20:59	19:40	18:20	19 17:17 (DD3)	16:10	15:37
	08:40	07:45	06:35		06:13	05:03	04:25	04:44	05:40	06:42	07:42	16:56 (DD3)	07:48	08:40
15	16:07	17:13	18:14		20:18	21:19	22:04	21:55	20:57	19:37	18:18	22 17:18 (DD3)	16:08	15:37
	08:39	07:43	06:32		06:10	05:01	04:25	04:45	05:42	06:44	07:44	16:56 (DD3)	07:51	08:41
16	16:09	17:15	18:16		20:20	21:21	22:05	21:54	20:55	19:35	18:15	23 17:19 (DD3)	16:06	15:37
	08:38	07:41	06:30		06:08	04:59	04:25	04:47	05:44	06:46	07:46	16:55 (DD3)	07:53	08:42
17	16:11	17:17	18:18		20:22	21:23	22:05	21:53	20:52	19:32	18:13	25 17:20 (DD3)	16:05	15:37
	08:36	07:38	06:26		06:05	04:58	04:24	04:48	05:46	06:47	07:48	16:54 (DD3)	07:55	08:43
18	16:13	17:20	18:20		20:24	21:25	22:06	21:51	20:50	19:29	18:10	26 17:20 (DD3)	16:03	15:37
	08:35	07:36	06:24		06:03	04:56	04:24	04:50	05:48	06:49	07:50	16:53 (DD3)	07:57	08:44
19	16:14	17:22	18:22		20:26	21:27	22:06	21:50	20:47	19:27	18:08	26 17:19 (DD3)	16:01	15:37
	08:34	07:33	06:22		06:00	04:54	04:24	04:51	05:50	06:51	07:53	16:53 (DD3)	07:59	08:45
20	16:16	17:24	18:24		20:28	21:29	22:07	21:49	20:45	19:24	18:05	26 17:19 (DD3)	16:00	15:37
	08:32	07:31	06:19		05:58	04:52	04:24	04:53	05:52	06:53	07:55	16:53 (DD3)	08:01	08:45
21	16:18	17:26	18:26		20:30	21:31	22:07	21:47	20:43	19:21	18:03	27 17:20 (DD3)	15:58	15:38
	08:31	07:29	06:16		05:55	04:51	04:24	04:55	05:54	06:55	07:57	16:53 (DD3)	08:03	08:46
22	16:20	17:28	18:28		20:33	21:32	22:07	21:45	20:40	19:19	18:00	26 17:19 (DD3)	15:56	15:38
	08:30	07:26	06:14		05:53	04:49	04:25	04:56	05:56	06:57	07:59	16:53 (DD3)	08:05	08:47
23	16:23	17:31	18:30		20:35	21:34	22:08	21:44	20:38	19:16	17:58	25 17:18 (DD3)	15:55	15:38
	08:28	07:24	06:11		05:50	04:47	04:25	04:58	05:58	06:59	08:01	16:54 (DD3)	08:07	08:47
24	16:25	17:33	18:32		20:37	21:36	22:08	21:42	20:35	19:13	17:56	24 17:18 (DD3)	15:53	15:39
	08:26	07:21	06:08		05:48	04:46	04:25	05:00	06:00	07:01	08:03	16:55 (DD3)	08:09	08:47
25	16:27	17:35	18:35		20:39	21:38	22:08	21:40	20:33	19:11	17:53	22 17:17 (DD3)	15:52	15:40
	08:25	07:19	06:06		05:45	04:44	04:25	05:02	06:02	07:03	08:05	15:55 (DD3)	08:11	08:48
26	16:29	17:37	18:37		20:41	21:39	22:08	21:39	20:30	19:08	16:51	20 16:15 (DD3)	15:51	15:40
	08:23	07:16	06:03		05:43	04:43	04:26	05:03	06:04	07:05	08:07	15:57 (DD3)	08:13	08:48
27	16:31	17:39	18:39		20:43	21:41	22:08	21:37	20:27	19:05	16:48	18 16:15 (DD3)	15:49	15:41
	08:22	07:14	06:00		05:41	04:41	04:26	05:05	06:06	07:07	08:09	15:59 (DD3)	08:15	08:48
28	16:33	17:42	18:41		20:45	21:42	22:08	21:35	20:25	19:03	16:46	13 16:12 (DD3)	15:48	15:42
	08:20	07:11	05:58		05:38	04:40	04:27	05:07	06:08	07:09	08:12	16:02 (DD3)	08:16	08:48
29	16:35	17:44	18:43		20:47	21:44	22:07	21:33	20:22	19:00	16:44	6 16:08 (DD3)	15:47	15:43
	08:18		06:55		05:36	04:38	04:28	05:09	06:10	07:11	08:14		08:18	08:48
30	16:37		19:45		20:49	21:46	22:07	21:31	20:20	18:57	16:41		15:46	15:44
	08:16		06:52		05:33	04:37	04:28	05:11	06:12	07:13	08:16		08:20	08:48
31	16:40		19:47		20:51	21:47	22:07	21:29	20:17	18:55	16:39		15:45	15:45
	08:14		06:50			04:36		05:13	06:14		07:18		08:18	08:48
Potential sun hours	16:42		19:49			21:49		21:28	20:15		16:37		15:46	15:46
Total, worst case	236	266	366		426	507	528	528	469	384	324	248	217	
Total, sun reduction		331	39								375			
Oper. time red.		0,22	0,39								0,29			
Wind dir. red.		1,00	1,00								1,00			
Total reduction		1,00	1,00								1,00			
Total, real		0,22	0,39								0,29			
		74	15								109			

Table layout: For each day in each month the following matrix apply

Day in month      Sun rise (hh:mm)      First time (hh:mm) with flicker      (WTG causing flicker first time)  
 Sun set (hh:mm)      Minutes with flicker      Last time (hh:mm) with flicker      (WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Mežotnes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (431)  
Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:14 21:25	06:16 20:12	07:15 18:52	07:20 16:35	08:22 15:44
2	08:48 15:48	08:11 16:46	07:06 17:48	06:44 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:16 21:23	06:18 20:09	07:17 18:49	07:23 16:32	08:23 15:43
3	08:48 15:50	08:09 16:48	07:04 17:50	06:42 19:55	05:27 20:57	04:33 21:53	04:31 22:05	05:18 21:21	06:20 20:07	07:19 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:51	07:01 17:52	06:39 19:57	05:24 20:59	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:53	06:59 17:55	06:36 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:01	07:24 18:41	07:29 16:26	08:28 15:41
6	08:46 15:54	08:03 16:55	06:56 17:57	06:34 20:01	05:20 21:03	04:30 21:56	04:34 22:03	05:24 21:15	06:26 19:59	07:26 18:39	07:31 16:24	08:30 15:40
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:18 21:05	04:29 21:58	04:35 22:03	05:26 21:13	06:28 19:56	07:28 18:36	07:33 16:22	08:31 15:39
8	08:45 15:57	07:58 16:59	06:51 18:01	06:29 20:06	05:16 21:07	04:28 21:59	04:36 22:02	05:28 21:11	06:30 19:53	07:30 18:33	07:36 16:20	08:33 15:39
9	08:44 15:58	07:56 17:02	06:48 18:03	06:26 20:08	05:13 21:09	04:28 22:00	04:37 22:01	05:30 21:08	06:32 19:51	07:32 18:31	07:38 16:18	08:34 15:38
10	08:44 16:00	07:54 17:04	06:46 18:05	06:23 20:10	05:11 21:11	04:27 22:01	04:38 22:00	05:32 21:06	06:34 19:48	07:34 18:28	07:40 16:16	08:35 15:38
11	08:43 16:02	07:52 17:06	06:43 18:07	06:21 20:12	05:09 21:13	04:26 22:02	04:40 21:59	05:34 21:04	06:36 19:45	07:36 18:26	07:42 16:14	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:26 22:02	04:41 21:58	05:36 21:02	06:38 19:43	07:38 18:23	07:44 16:12	08:38 15:37
13	08:41 16:05	07:47 17:11	06:38 18:12	06:16 20:16	05:05 21:17	04:25 22:03	04:42 21:56	05:38 20:59	06:40 19:40	07:40 18:20	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:03 21:19	04:25 22:04	04:44 21:55	05:40 20:57	06:42 19:37	07:42 18:18	07:48 16:08	08:40 15:37
15	08:39 16:09	07:43 17:15	06:32 18:16	06:10 20:20	05:01 21:21	04:25 22:05	04:45 21:54	05:42 20:55	06:43 19:35	07:44 18:15	07:50 16:06	08:41 15:37
16	08:38 16:11	07:40 17:17	06:30 18:18	06:08 20:22	04:59 21:23	04:25 22:05	04:47 21:53	05:44 20:52	06:45 19:32	07:46 18:13	07:53 16:05	08:42 15:37
17	08:36 16:13	07:38 17:20	06:27 18:20	06:05 20:24	04:58 21:25	04:24 22:06	04:48 21:51	05:46 20:50	06:47 19:29	07:48 18:10	07:55 16:03	08:43 15:37
18	08:35 16:14	07:36 17:22	06:24 18:22	06:03 20:26	04:56 21:27	04:24 22:06	04:50 21:50	05:48 20:47	06:49 19:27	07:50 18:08	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	06:22 18:24	6 17:50 (DD3) 17:56 (DD3)	06:00 20:28	04:54 21:29	04:51 22:07	05:50 20:45	06:51 19:24	07:53 18:05	07:59 16:00	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	11 17:47 (DD3) 17:58 (DD3)	05:58 20:30	04:52 21:30	04:53 22:07	05:52 20:42	06:53 19:21	07:55 18:03	08:01 15:58	08:45 15:38
21	08:31 16:20	07:29 17:28	06:16 18:28	15 17:45 (DD3) 18:00 (DD3)	05:55 20:32	04:51 21:32	04:55 22:07	05:54 20:40	06:55 19:19	07:57 18:00	08:03 15:56	08:46 15:38
22	08:29 16:23	07:26 17:31	06:14 18:30	18 17:45 (DD3) 18:03 (DD3)	05:53 20:35	04:49 21:34	04:56 22:08	05:56 20:38	06:57 19:16	07:59 18:46	08:05 17:58	08:46 15:38
23	08:28 16:25	07:24 17:33	06:11 18:32	17 17:43 (DD3) 18:04 (DD3)	05:50 20:37	04:47 21:36	04:58 22:08	05:58 20:35	06:59 19:13	08:01 18:43	08:07 17:55	08:47 15:39
24	08:26 16:27	07:21 17:35	06:08 18:35	21 17:42 (DD3) 18:03 (DD3)	05:48 20:39	04:46 21:37	05:00 22:08	06:00 20:32	07:01 19:11	08:03 18:41	08:09 17:53	08:47 15:40
25	08:25 16:29	07:19 17:37	06:06 18:37	21 17:43 (DD3) 18:04 (DD3)	05:45 20:41	04:44 21:39	05:02 22:08	06:02 20:30	07:03 19:08	08:37 (DD3) 18:38 (DD3)	07:05 16:51	08:48 15:40
26	08:23 16:31	07:16 17:39	06:03 18:39	21 17:42 (DD3) 18:03 (DD3)	05:43 20:43	04:43 21:41	05:03 22:08	06:04 20:27	07:05 19:05	07:07 16:48	08:13 15:49	08:48 15:41
27	08:21 16:33	07:14 17:42	06:00 18:41	20 17:42 (DD3) 18:02 (DD3)	05:41 20:45	04:41 21:42	05:05 22:08	06:06 20:25	07:07 19:03	07:10 16:46	08:15 15:48	08:48 15:42
28	08:20 16:35	07:11 17:44	05:58 18:43	19 17:43 (DD3) 18:02 (DD3)	05:38 20:47	04:40 21:44	05:07 22:07	06:08 20:22	07:09 19:00	07:12 16:44	08:16 15:47	08:48 15:43
29	08:18 16:37	07:09 17:45	05:55 19:45	17 18:43 (DD3) 19:00 (DD3)	05:36 20:49	04:38 21:46	05:09 22:07	06:10 20:20	07:11 18:57	07:14 16:41	08:18 15:46	08:48 15:44
30	08:16 16:40	07:07 17:47	05:52 19:47	14 18:44 (DD3) 18:58 (DD3)	05:33 20:51	04:37 21:47	05:11 22:07	06:12 20:17	07:13 18:55	07:16 16:39	08:20 15:45	08:48 15:45
31	08:14 16:42	07:05 19:49	05:50 19:49	9 18:47 (DD3) 18:56 (DD3)	05:36 21:49	04:36 21:49	05:13 21:27	06:14 20:15	07:18 16:37	07:18 16:37	08:18 15:46	08:48 15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case			213						214			
Sun reduction			0,39						0,43			
Oper. time red.			1,00						1,00			
Wind dir. red.			1,00						1,00			
Total reduction			0,39						0,43			
Total, real			83						92			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Mež rozites - Shadow Receptor:  $1,0 \times 1,0$  Azimuth:  $3,1^\circ$  Slope:  $90,0^\circ$  (535)  
 Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Mež viteni - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (511)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Mež abele - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (481)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	08:48	08:12	07:09	16:22 (Pr3b)	06:47	18:04 (PrRR3)
	15:46	16:43	17:45	32	16:54 (Pr3b)	19:51
2	08:48	08:10	07:06	16:22 (Pr3b)	06:44	18:04 (PrRR3)
	15:48	16:45	17:48	31	16:53 (Pr3b)	19:53
3	08:48	08:09	07:03	16:21 (Pr3b)	06:41	18:04 (PrRR3)
	15:49	16:48	17:50	31	16:52 (Pr3b)	19:55
4	08:47	08:07	07:01	16:22 (Pr3b)	06:39	18:04 (PrRR3)
	15:50	16:50	17:52	30	16:52 (Pr3b)	19:57
5	08:47	08:04	06:58	16:23 (Pr3b)	06:36	18:04 (PrRR3)
	15:52	16:52	17:54	28	16:51 (Pr3b)	19:59
6	08:46	08:02	06:56	16:24 (Pr3b)	06:33	18:05 (PrRR3)
	15:53	16:54	17:56	27	16:51 (Pr3b)	20:01
7	08:46	08:00	06:53	16:25 (Pr3b)	06:31	18:06 (PrRR3)
	15:54	16:57	17:58	24	16:49 (Pr3b)	20:03
8	08:45	07:58	06:51	16:26 (Pr3b)	06:28	18:06 (PrRR3)
	15:56	16:59	18:01	21	16:47 (Pr3b)	20:05
9	08:44	07:56	06:48	16:27 (Pr3b)	06:25	18:08 (PrRR3)
	15:58	17:01	18:03	18	16:45 (Pr3b)	20:07
10	08:44	07:54	06:45	16:31 (Pr3b)	06:23	18:09 (PrRR3)
	15:59	17:03	18:05	11	16:42 (Pr3b)	20:09
11	08:43	07:52	06:43	06:20	18:11 (PrRR3)	05:09
	16:01	17:06	18:07	24	18:35 (PrRR3)	21:13
12	08:42	07:49	06:40	06:18	18:12 (PrRR3)	05:07
	16:03	17:08	18:09	20	18:32 (PrRR3)	21:15
13	08:41	07:47	06:37	06:15	18:16 (PrRR3)	05:05
	16:04	17:10	18:11	13	18:29 (PrRR3)	21:17
14	08:40	07:45	06:35	06:12	05:03	04:24
	16:06	17:12	18:13	20:18	21:19	22:04
15	08:39	07:43	06:32	06:10	05:01	04:24
	16:08	17:15	18:15	20:20	21:21	22:05
16	08:38	07:40	06:29	06:07	04:59	04:24
	16:10	17:17	18:17	20:22	21:23	22:05
17	08:36	07:38	06:27	06:05	04:57	04:23
	16:12	17:19	18:20	20:24	21:25	22:06
18	08:35	07:36	16:37 (Pr3b)	06:24	17:23 (PrRR3)	06:02
	16:14	17:21	18:22	13	17:36 (PrRR3)	20:26
19	08:34	07:33	16:32 (Pr3b)	06:21	17:19 (PrRR3)	06:00
	16:16	17:23	18:24	21	17:40 (PrRR3)	20:28
20	08:32	07:31	16:29 (Pr3b)	06:19	17:16 (PrRR3)	05:57
	16:18	17:26	18:26	26	17:42 (PrRR3)	20:30
21	08:31	07:28	16:28 (Pr3b)	06:16	17:14 (PrRR3)	05:55
	16:20	17:28	18:28	29	17:43 (PrRR3)	20:32
22	08:30	07:26	16:26 (Pr3b)	06:13	17:12 (PrRR3)	05:52
	16:22	17:30	18:30	32	17:44 (PrRR3)	20:34
23	08:28	07:24	16:25 (Pr3b)	06:11	17:11 (PrRR3)	05:50
	16:24	17:32	18:32	46	18:04 (Pr25)	20:37
24	08:26	07:21	16:24 (Pr3b)	06:08	17:09 (PrRR3)	05:47
	16:26	17:35	18:34	53	18:05 (Pr25)	20:39
25	08:25	07:19	16:23 (Pr3b)	06:05	17:08 (PrRR3)	05:45
	16:28	17:37	18:36	57	18:06 (Pr25)	20:41
26	08:23	07:16	16:23 (Pr3b)	06:03	17:07 (PrRR3)	05:42
	16:30	17:39	18:38	61	18:08 (Pr25)	20:43
27	08:21	07:14	16:22 (Pr3b)	06:00	17:06 (PrRR3)	05:40
	16:32	17:41	18:40	62	18:08 (Pr25)	20:45
28	08:20	07:11	16:22 (Pr3b)	05:57	17:05 (PrRR3)	05:38
	16:35	17:43	18:43	63	18:08 (Pr25)	20:47
29	08:18		06:55	18:05 (PrRR3)	05:35	04:38
	16:37		19:45	64	19:09 (Pr25)	20:49
30	08:16		06:52	18:05 (PrRR3)	05:33	04:36
	16:39		19:47	63	19:08 (Pr25)	20:51
31	08:14		06:49	18:04 (PrRR3)		04:35
	16:41		19:49	63	19:07 (Pr25)	21:49
Potential sun hours	236	266	366	426	507	528
Total, worst case		264	906	554		
Sun reduction		0,23	0,39	0,44		
Oper. time red.		1,00	1,00	1,00		
Wind dir. red.		1,00	1,00	1,00		
Total reduction		0,23	0,39	0,44		
Total, real		59	355	245		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Mež abele - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (481)  
Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:28 22:07	05:14 21:25	06:15 20:12	18:10 (PrRR3) 18:34 (PrRR3)	07:15 18:51	07:20 16:34
2	04:29 22:06	05:16 21:23	06:17 20:09	18:07 (PrRR3) 18:36 (PrRR3)	07:17 18:49	07:22 16:32
3	04:30 22:06	05:18 21:21	06:19 20:07	18:06 (PrRR3) 18:37 (PrRR3)	07:19 18:46	17:11 (Pr3b) 17:18 (Pr3b)
4	04:31 22:05	05:19 21:19	06:21 20:04	18:04 (PrRR3) 18:38 (PrRR3)	07:21 18:44	17:06 (Pr3b) 17:22 (Pr3b)
5	04:32 22:04	05:21 21:17	06:23 20:01	18:02 (PrRR3) 18:54 (Pr25)	07:23 18:41	17:04 (Pr3b) 17:23 (Pr3b)
6	04:33 22:03	05:23 21:15	06:25 19:59	18:01 (PrRR3) 18:56 (Pr25)	07:25 18:38	17:01 (Pr3b) 17:25 (Pr3b)
7	04:34 22:03	05:25 21:13	06:27 19:56	18:00 (PrRR3) 18:58 (Pr25)	07:27 18:36	17:00 (Pr3b) 17:25 (Pr3b)
8	04:35 22:02	05:27 21:11	06:29 19:53	17:59 (PrRR3) 18:59 (Pr25)	07:29 18:33	16:58 (Pr3b) 17:26 (Pr3b)
9	04:36 22:01	05:29 21:08	06:31 19:51	17:58 (PrRR3) 18:59 (Pr25)	07:31 18:30	16:57 (Pr3b) 17:26 (Pr3b)
10	04:38 22:00	05:31 21:06	06:33 19:48	17:57 (PrRR3) 19:00 (Pr25)	07:34 18:28	16:56 (Pr3b) 17:26 (Pr3b)
11	04:39 21:59	05:33 21:04	06:35 19:45	17:57 (PrRR3) 19:00 (Pr25)	07:36 18:25	16:56 (Pr3b) 17:27 (Pr3b)
12	04:40 21:58	05:35 21:02	06:37 19:43	17:56 (PrRR3) 19:00 (Pr25)	07:38 18:23	16:56 (Pr3b) 17:27 (Pr3b)
13	04:42 21:57	05:37 20:59	06:39 19:40	17:56 (PrRR3) 18:59 (Pr25)	07:40 18:20	16:55 (Pr3b) 17:27 (Pr3b)
14	04:43 21:55	05:39 20:57	06:41 19:37	17:56 (PrRR3) 18:59 (Pr25)	07:42 18:17	16:55 (Pr3b) 17:26 (Pr3b)
15	04:44 21:54	05:41 20:54	06:43 19:34	17:56 (PrRR3) 18:58 (Pr25)	07:44 18:15	16:54 (Pr3b) 17:26 (Pr3b)
16	04:46 21:53	05:43 20:52	06:45 19:32	17:56 (PrRR3) 18:58 (Pr25)	07:46 18:12	16:55 (Pr3b) 17:26 (Pr3b)
17	04:47 21:51	05:45 20:50	06:47 19:29	17:56 (PrRR3) 18:57 (Pr25)	07:48 18:10	16:55 (Pr3b) 17:25 (Pr3b)
18	04:49 21:50	05:47 20:47	06:49 19:26	17:56 (PrRR3) 18:55 (Pr25)	07:50 18:07	16:56 (Pr3b) 17:24 (Pr3b)
19	04:51 21:49	05:49 20:45	06:51 19:24	17:56 (PrRR3) 18:52 (Pr25)	07:52 18:05	16:56 (Pr3b) 17:22 (Pr3b)
20	04:52 21:47	05:51 20:42	06:53 19:21	17:56 (PrRR3) 18:50 (Pr25)	07:54 18:02	16:58 (Pr3b) 17:22 (Pr3b)
21	04:54 21:45	05:53 20:40	06:55 19:18	17:57 (PrRR3) 18:46 (Pr25)	07:57 18:00	16:59 (Pr3b) 17:20 (Pr3b)
22	04:56 21:44	05:55 20:37	06:57 19:16	17:58 (PrRR3) 18:28 (PrRR3)	07:59 17:57	17:00 (Pr3b) 17:18 (Pr3b)
23	04:57 21:42	05:57 20:35	06:59 19:13	17:59 (PrRR3) 18:26 (PrRR3)	08:01 17:55	17:03 (Pr3b) 17:15 (Pr3b)
24	04:59 21:40	05:59 20:32	07:01 19:10	18:01 (PrRR3) 18:23 (PrRR3)	08:03 17:53	08:09 15:51
25	05:01 21:39	06:01 20:30	07:03 19:08	18:04 (PrRR3) 18:20 (PrRR3)	07:05 16:50	08:11 15:50
26	05:03 21:37	06:03 20:27	07:05 19:05	07:07 16:48	07:07 16:48	08:13 15:49
27	05:04 21:35	06:05 20:25	07:07 19:02	07:09 16:45	07:09 16:45	08:15 15:48
28	05:06 21:33	06:07 20:22	07:09 19:00	07:12 16:43	07:12 16:43	08:16 15:46
29	05:08 21:31	06:09 20:20	07:11 18:57	07:14 16:41	07:14 16:41	08:18 15:45
30	05:10 21:29	06:11 20:17	07:13 18:29 (PrRR3)	07:16 16:39	07:16 16:39	08:20 15:44
31	05:12 21:27	06:13 20:14	07:15 18:32 (PrRR3)	07:18 16:36	07:18 16:36	08:22 15:45
Potential sun hours	529	469	384	324	248	217
Total, worst case		33	1191	525		
Sun reduction		0,52	0,43	0,29		
Oper. time red.		1,00	1,00	1,00		
Wind dir. red.		1,00	1,00	1,00		
Total reduction		0,52	0,43	0,29		
Total, real		17	514	152		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

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Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Mež ares - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (506)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:07	21:26	20:12	18:51	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:23	08:24
	15:47	16:45	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:42
3	08:48	08:09	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:21	20:07	18:46	16:29	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:05	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:56	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:03	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:36	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:45	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:34	07:40	08:36
	15:59	17:03	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:50	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:02	17:08	18:09	20:14	21:15	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:04	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:56	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:00	04:24	04:44	05:41	06:43	07:44	07:51	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:55	19:34	18:15	16:06	15:36
16	08:38	07:40	06:29	06:07	04:59	04:23	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:17	20:22	21:23	22:06	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:33	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:46
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:08	21:46	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:13	05:52	04:48	04:23	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:27	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:34	18:34	20:39	21:38	22:08	21:41	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:15	08:48
	16:32	17:41	18:40	20:45	21:43	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:17	08:49
	16:34	17:43	18:43	20:47	21:44	22:08	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:49
	16:41		19:49		21:49		21:28	20:14		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Miežiš i (kad. apz. 76740020200001) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (508)  
 Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	08:48	08:12	07:09	06:47	05:31	04:34
	15:46	16:43	17:45	19:51	20:53	21:50
2	08:48	08:10	07:06	06:44	05:28	04:33
	15:47	16:45	17:48	19:53	20:55	21:51
3	08:48	08:08	07:03	06:41	19:21 (PrRR3)	05:26
	15:49	16:48	17:50	19:55	19:22 (PrRR3)	20:57
4	08:47	08:06	07:01	06:39	19:15 (PrRR3)	05:24
	15:50	16:50	17:52	19:57	19:28 (PrRR3)	20:59
5	08:47	08:04	06:58	06:36	19:12 (PrRR3)	05:21
	15:51	16:52	17:54	19:59	19:30 (PrRR3)	21:01
6	08:46	08:02	06:56	06:33	19:11 (PrRR3)	05:19
	15:53	16:54	17:56	20:01	19:31 (PrRR3)	21:03
7	08:46	08:00	06:53	06:31	19:09 (PrRR3)	05:17
	15:54	16:57	17:58	20:03	19:32 (PrRR3)	21:05
8	08:45	07:58	06:50	06:28	19:08 (PrRR3)	05:15
	15:56	16:59	18:01	20:05	19:32 (PrRR3)	21:07
9	08:44	07:56	06:48	06:25	19:07 (PrRR3)	05:13
	15:58	17:01	18:03	20:07	19:33 (PrRR3)	21:09
10	08:44	07:54	06:45	06:23	19:06 (PrRR3)	05:11
	15:59	17:03	18:05	20:09	19:33 (PrRR3)	21:11
11	08:43	07:52	06:43	06:20	19:06 (PrRR3)	05:09
	16:01	17:06	18:07	20:12	19:33 (PrRR3)	21:13
12	08:42	07:49	06:40	17:37 (Pr3b)	19:05 (PrRR3)	05:07
	16:03	17:08	18:09	17:40 (Pr3b)	19:32 (PrRR3)	21:15
13	08:41	07:47	06:37	17:33 (Pr3b)	19:06 (PrRR3)	05:05
	16:04	17:10	18:11	17:43 (Pr3b)	19:33 (PrRR3)	21:17
14	08:40	07:45	06:35	17:31 (Pr3b)	19:05 (PrRR3)	05:03
	16:06	17:12	18:13	17:45 (Pr3b)	19:32 (PrRR3)	21:19
15	08:39	07:43	06:32	17:29 (Pr3b)	19:06 (PrRR3)	05:01
	16:08	17:15	18:15	17:47 (Pr3b)	19:31 (PrRR3)	21:21
16	08:38	07:40	06:29	17:28 (Pr3b)	19:06 (PrRR3)	04:59
	16:10	17:17	18:17	17:49 (Pr3b)	19:30 (PrRR3)	21:23
17	08:36	07:38	06:27	17:27 (Pr3b)	19:07 (PrRR3)	04:57
	16:12	17:19	18:20	17:49 (Pr3b)	19:29 (PrRR3)	21:25
18	08:35	07:36	06:24	17:26 (Pr3b)	19:07 (PrRR3)	04:55
	16:14	17:21	18:22	17:49 (Pr3b)	19:28 (PrRR3)	21:27
19	08:34	07:33	06:21	17:25 (Pr3b)	19:09 (PrRR3)	04:53
	16:16	17:23	18:24	17:49 (Pr3b)	19:26 (PrRR3)	21:29
20	08:32	07:31	06:19	17:26 (Pr3b)	19:10 (PrRR3)	04:51
	16:18	17:26	18:26	17:49 (Pr3b)	19:24 (PrRR3)	21:30
21	08:31	07:28	06:16	17:25 (Pr3b)	19:13 (PrRR3)	04:50
	16:20	17:28	18:28	17:48 (Pr3b)	19:21 (PrRR3)	21:32
22	08:29	07:26	06:13	17:25 (Pr3b)		04:48
	16:22	17:30	18:30	17:47 (Pr3b)		21:34
23	08:28	07:24	06:11	17:26 (Pr3b)		04:46
	16:24	17:32	18:32	17:47 (Pr3b)		21:36
24	08:26	07:21	06:08	17:27 (Pr3b)		04:45
	16:26	17:34	18:34	17:45 (Pr3b)		21:38
25	08:25	07:19	06:05	17:28 (Pr3b)		04:43
	16:28	17:37	18:36	17:43 (Pr3b)		21:39
26	08:23	07:16	06:03	17:31 (Pr3b)		04:42
	16:30	17:39	18:38	17:40 (Pr3b)		21:41
27	08:21	07:14	06:00			04:40
	16:32	17:41	18:40			21:42
28	08:20	07:11	05:57			04:39
	16:34	17:43	18:42			21:44
29	08:18		06:55			04:38
	16:37		19:45			21:46
30	08:16		06:52			04:36
	16:39		19:47			21:47
31	08:14		06:49			04:35
	16:41		19:49			21:49
Potential sun hours	236	266	366	426	507	528
Total, worst case			266	391		
Sun reduction			0,39	0,44		
Oper. time red.			1,00	1,00		
Wind dir. red.			1,00	1,00		
Total reduction			0,39	0,44		
Total, real			104	173		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Mieziš i (kad. apz. 76740020200001) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (508)  
 Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:28	05:14	06:15	19:05 (PrRR3)	07:15	18:15 (Pr3b)
	22:06	21:25	20:12	27 19:32 (PrRR3)	18:51	6 18:21 (Pr3b)
2	04:29	05:16	06:17	19:05 (PrRR3)	07:17	16:34
	22:06	21:23	20:09	27 19:32 (PrRR3)	18:49	16:32
3	04:30	05:18	06:19	19:05 (PrRR3)	07:19	16:25
	22:05	21:21	20:06	26 19:31 (PrRR3)	18:46	16:30
4	04:31	05:19	06:21	19:06 (PrRR3)	07:21	16:27
	22:05	21:19	20:04	24 19:30 (PrRR3)	18:43	16:27
5	04:32	05:21	06:23	19:05 (PrRR3)	07:23	16:25
	22:04	21:17	20:01	23 19:28 (PrRR3)	18:41	16:25
6	04:33	05:23	06:25	19:06 (PrRR3)	07:25	16:25
	22:03	21:15	19:59	21 19:27 (PrRR3)	18:38	16:23
7	04:34	05:25	06:27	19:07 (PrRR3)	07:27	16:23
	22:03	21:13	19:56	18 19:25 (PrRR3)	18:36	16:21
8	04:35	05:27	06:29	19:09 (PrRR3)	07:29	16:21
	22:02	21:11	19:53	13 19:22 (PrRR3)	18:33	16:19
9	04:36	05:29	06:31	19:14 (PrRR3)	07:31	16:19
	22:01	21:08	19:51	4 19:18 (PrRR3)	18:30	16:17
10	04:38	05:31	06:33	07:33	18:30	16:17
	22:00	21:06	19:48	18:28	18:28	16:15
11	04:39	05:33	06:35	07:36	18:25	16:15
	21:59	21:04	19:45	18:25	18:25	16:13
12	04:40	05:35	06:37	07:38	18:23	16:13
	21:58	21:01	19:43	18:23	18:23	16:11
13	04:42	05:37	06:39	07:40	18:20	16:11
	21:57	20:59	19:40	18:20	18:20	16:09
14	04:43	05:39	06:41	07:42	18:18	16:09
	21:55	20:57	19:37	18:17	18:17	16:07
15	04:44	05:41	06:43	07:44	18:15	16:07
	21:54	20:54	19:34	18:15	18:15	16:06
16	04:46	05:43	06:45	07:46	18:13	16:06
	21:53	20:52	19:32	18:12	18:12	16:04
17	04:47	05:45	06:47	18:20 (Pr3b)	07:48	16:04
	21:51	20:50	19:29	8 18:28 (Pr3b)	18:10	16:02
18	04:49	05:47	06:49	18:16 (Pr3b)	07:50	16:02
	21:50	20:47	19:26	14 18:30 (Pr3b)	18:07	16:00
19	04:51	05:49	06:51	18:14 (Pr3b)	07:52	16:00
	21:49	20:45	19:24	17 18:31 (Pr3b)	18:05	15:59
20	04:52	05:51	06:53	18:12 (Pr3b)	07:54	15:59
	21:47	20:42	19:21	20 18:32 (Pr3b)	18:02	15:57
21	04:54	05:53	06:55	18:11 (Pr3b)	07:57	15:57
	21:45	20:40	19:18	21 18:32 (Pr3b)	18:00	15:56
22	04:56	05:55	19:17 (PrRR3)	06:57	18:10 (Pr3b)	18:00
	21:44	20:37	9 19:26 (PrRR3)	19:16	18:33 (Pr3b)	17:57
23	04:57	05:57	19:14 (PrRR3)	06:59	18:09 (Pr3b)	17:57
	21:42	20:35	15 19:29 (PrRR3)	19:13	18:33 (Pr3b)	17:55
24	04:59	05:59	19:12 (PrRR3)	07:01	18:09 (Pr3b)	17:53
	21:40	20:32	18 19:30 (PrRR3)	19:10	18:32 (Pr3b)	17:53
25	05:01	06:01	19:11 (PrRR3)	07:03	18:09 (Pr3b)	17:53
	21:39	20:30	20 19:31 (PrRR3)	19:08	18:32 (Pr3b)	17:50
26	05:03	06:03	19:08 (PrRR3)	07:05	18:09 (Pr3b)	17:50
	21:37	20:27	23 19:31 (PrRR3)	19:05	18:31 (Pr3b)	17:48
27	05:04	06:05	19:07 (PrRR3)	07:07	18:09 (Pr3b)	17:48
	21:35	20:25	25 19:32 (PrRR3)	19:02	18:30 (Pr3b)	17:45
28	05:06	06:07	19:07 (PrRR3)	07:09	18:09 (Pr3b)	17:43
	21:33	20:22	25 19:32 (PrRR3)	18:59	18:29 (Pr3b)	17:43
29	05:08	06:09	19:06 (PrRR3)	07:11	18:10 (Pr3b)	17:41
	21:31	20:20	27 19:33 (PrRR3)	18:57	18:26 (Pr3b)	17:41
30	05:10	06:11	19:06 (PrRR3)	07:13	18:11 (Pr3b)	17:38
	21:29	20:17	27 19:33 (PrRR3)	18:54	18:23 (Pr3b)	17:38
31	05:12	06:13	19:05 (PrRR3)	07:18	18:18	17:38
	21:27	20:14	27 19:32 (PrRR3)	16:36	16:36	17:38
Potential sun hours	529	469	384	324	248	217
Total, worst case		216	447	6		
Sun reduction		0,52	0,43	0,29		
Oper. time red.		1,00	1,00	1,00		
Wind dir. red.		1,00	1,00	1,00		
Total reduction		0,52	0,43	0,29		
Total, real		113	193	2		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

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Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Miežiš i (kad. apz. 76740020200004) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (602) Sunshine probability S (Average daily sunshine hours) []

### Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	08:48	08:12	07:09	06:47	05:31	04:34
	15:46	16:43	17:45	19:51	20:53	21:50
2	08:48	08:10	07:06	06:44	05:28	04:33
	15:47	16:45	17:48	19:53	20:55	21:51
3	08:48	08:08	07:03	06:41	05:26	04:32
	15:49	16:48	17:50	19:55	20:57	21:53
4	08:47	08:06	07:01	06:39	19:18 (PrRR3)	05:24
	15:50	16:50	17:52	19:57	19:27 (PrRR3)	20:59
5	08:47	08:04	06:58	06:36	19:15 (PrRR3)	05:21
	15:51	16:52	17:54	19:59	19:29 (PrRR3)	21:01
6	08:46	08:02	06:56	06:33	19:13 (PrRR3)	05:19
	15:53	16:54	17:56	20:01	19:32 (PrRR3)	21:03
7	08:46	08:00	06:53	06:31	19:11 (PrRR3)	05:17
	15:54	16:57	17:58	20:03	19:32 (PrRR3)	21:05
8	08:45	07:58	06:50	06:28	19:09 (PrRR3)	05:15
	15:56	16:59	18:01	20:05	19:33 (PrRR3)	21:07
9	08:44	07:56	06:48	06:25	19:09 (PrRR3)	05:13
	15:58	17:01	18:03	20:07	19:34 (PrRR3)	21:09
10	08:44	07:54	06:45	06:23	19:07 (PrRR3)	05:11
	15:59	17:03	18:05	20:09	19:34 (PrRR3)	21:11
11	08:43	07:52	06:43	06:20	19:07 (PrRR3)	05:09
	16:01	17:06	18:07	20:12	19:34 (PrRR3)	21:13
12	08:42	07:49	06:40	06:18	19:06 (PrRR3)	05:07
	16:03	17:08	18:09	20:14	19:34 (PrRR3)	21:15
13	08:41	07:47	06:37	17:34 (Pr3b)	19:07 (PrRR3)	05:05
	16:04	17:10	18:11	9 17:43 (Pr3b)	19:34 (PrRR3)	21:17
14	08:40	07:45	06:35	17:32 (Pr3b)	19:06 (PrRR3)	05:03
	16:06	17:12	18:13	13 17:45 (Pr3b)	19:33 (PrRR3)	21:19
15	08:39	07:43	06:32	17:30 (Pr3b)	19:07 (PrRR3)	05:01
	16:08	17:15	18:15	17 17:47 (Pr3b)	19:33 (PrRR3)	21:21
16	08:38	07:40	06:29	17:29 (Pr3b)	19:06 (PrRR3)	04:59
	16:10	17:17	18:17	20 17:49 (Pr3b)	19:32 (PrRR3)	21:23
17	08:36	07:38	06:27	17:28 (Pr3b)	19:07 (PrRR3)	04:57
	16:12	17:19	18:20	22 17:50 (Pr3b)	19:31 (PrRR3)	21:25
18	08:35	07:36	06:24	17:26 (Pr3b)	19:07 (PrRR3)	04:55
	16:14	17:21	18:22	24 17:50 (Pr3b)	19:30 (PrRR3)	21:27
19	08:34	07:33	06:21	17:27 (Pr3b)	19:09 (PrRR3)	04:53
	16:16	17:23	18:24	23 17:50 (Pr3b)	19:29 (PrRR3)	21:29
20	08:32	07:31	06:19	17:26 (Pr3b)	19:09 (PrRR3)	04:51
	16:18	17:26	18:26	24 17:50 (Pr3b)	19:26 (PrRR3)	21:30
21	08:31	07:28	06:16	17:26 (Pr3b)	19:12 (PrRR3)	04:50
	16:20	17:28	18:28	23 17:49 (Pr3b)	19:24 (PrRR3)	21:32
22	08:29	07:26	06:13	17:25 (Pr3b)	19:16 (PrRR3)	04:48
	16:22	17:30	18:30	23 17:48 (Pr3b)	19:21 (PrRR3)	21:34
23	08:28	07:24	06:11	17:27 (Pr3b)		04:46
	16:24	17:32	18:32	20 17:47 (Pr3b)		21:36
24	08:26	07:21	06:08	17:27 (Pr3b)		04:45
	16:26	17:34	18:34	19 17:46 (Pr3b)		21:38
25	08:25	07:19	06:05	17:28 (Pr3b)		04:43
	16:28	17:37	18:36	16 17:44 (Pr3b)		21:39
26	08:23	07:16	06:03	17:30 (Pr3b)		04:42
	16:30	17:39	18:38	12 17:42 (Pr3b)		21:41
27	08:21	07:14	06:00	17:34 (Pr3b)		04:40
	16:32	17:41	18:40	3 17:37 (Pr3b)		21:42
28	08:20	07:11	05:57			04:39
	16:34	17:43	18:42			21:44
29	08:18		06:55			04:38
	16:37		19:45			21:46
30	08:16		06:52			04:36
	16:39		19:47			21:47
31	08:14		06:49			04:35
	16:41		19:49			21:49
Potential sun hours	236	266	366	426	507	528
Total, worst case			268	401		
Sun reduction			0,39	0,44		
Oper. time red.			1,00	1,00		
Wind dir. red.			1,00	1,00		
Total reduction			0,39	0,44		
Total, real			105	177		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Mieziš i (kad. apz. 76740020200004) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (602) Sunshine probability S (Average daily sunshine hours) []

### Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:28 22:06	05:14 21:25	06:15 20:12	19:06 (PrRR3) 18:51	18:16 (Pr3b) 18:21 (Pr3b)	07:20 16:34
2	04:29 22:06	05:16 21:23	06:17 20:09	19:06 (PrRR3) 19:33 (PrRR3)	18:17 18:49	07:22 16:32
3	04:30 22:05	05:18 21:21	06:19 20:06	19:07 (PrRR3) 19:32 (PrRR3)	18:19 18:46	07:25 16:30
4	04:31 22:05	05:19 21:19	06:21 20:04	19:07 (PrRR3) 19:31 (PrRR3)	18:21 18:43	07:27 16:27
5	04:32 22:04	05:21 21:17	06:23 20:01	19:07 (PrRR3) 19:29 (PrRR3)	18:23 18:41	07:29 16:25
6	04:33 22:03	05:23 21:15	06:25 19:59	19:08 (PrRR3) 19:27 (PrRR3)	18:25 18:38	07:31 16:23
7	04:34 22:03	05:25 21:13	06:27 19:56	19:10 (PrRR3) 19:25 (PrRR3)	18:27 18:36	07:33 16:21
8	04:35 22:02	05:27 21:11	06:29 19:53	19:12 (PrRR3) 19:22 (PrRR3)	18:29 18:33	07:35 16:19
9	04:36 22:01	05:29 21:08	06:31 19:51	18:33 18:30	18:33 18:30	07:38 16:17
10	04:38 22:00	05:31 21:06	06:33 19:48	18:33 18:28	18:33 18:28	07:40 16:15
11	04:39 21:59	05:33 21:04	06:35 19:45	18:36 18:25	18:36 18:25	07:42 16:13
12	04:40 21:58	05:35 21:01	06:37 19:43	18:38 18:23	18:38 18:23	07:44 16:11
13	04:42 21:57	05:37 20:59	06:39 19:40	18:40 18:20	18:40 18:20	07:46 16:09
14	04:43 21:55	05:39 20:57	06:41 19:37	18:42 18:17	18:42 18:17	07:48 16:07
15	04:44 21:54	05:41 20:54	06:43 19:34	18:44 18:15	18:44 18:15	07:50 16:06
16	04:46 21:53	05:43 20:52	06:45 19:32	18:46 18:12	18:46 18:12	07:53 16:04
17	04:47 21:51	05:45 20:50	06:47 19:29	18:19 (Pr3b) 18:30 (Pr3b)	18:48 18:10	07:55 16:02
18	04:49 21:50	05:47 20:47	06:49 19:26	18:16 (Pr3b) 18:31 (Pr3b)	18:10 18:07	07:57 16:00
19	04:51 21:49	05:49 20:45	06:51 19:24	18:14 (Pr3b) 18:32 (Pr3b)	18:07 18:05	07:59 15:59
20	04:52 21:47	05:51 20:42	06:53 19:21	18:12 (Pr3b) 18:33 (Pr3b)	18:05 18:02	08:01 15:57
21	04:54 21:45	05:53 20:40	19:19 (PrRR3) 19:26 (PrRR3)	06:55 19:18	18:11 (Pr3b) 18:33 (Pr3b)	07:57 18:00
22	04:56 21:44	05:55 20:37	19:16 (PrRR3) 19:29 (PrRR3)	06:57 19:16	18:10 (Pr3b) 18:33 (Pr3b)	07:59 17:57
23	04:57 21:42	05:57 20:35	19:14 (PrRR3) 19:31 (PrRR3)	06:59 19:13	18:10 (Pr3b) 18:33 (Pr3b)	08:01 17:55
24	04:59 21:40	05:59 20:32	19:12 (PrRR3) 19:33 (PrRR3)	07:01 19:10	18:09 (Pr3b) 18:33 (Pr3b)	08:03 17:53
25	05:01 21:39	06:01 20:30	19:11 (PrRR3) 19:33 (PrRR3)	07:03 19:08	18:09 (Pr3b) 18:32 (Pr3b)	07:05 16:50
26	05:03 21:37	06:03 20:27	19:09 (PrRR3) 19:33 (PrRR3)	07:05 19:05	18:09 (Pr3b) 18:32 (Pr3b)	07:07 16:48
27	05:04 21:35	06:05 20:25	19:08 (PrRR3) 19:34 (PrRR3)	07:07 19:02	18:09 (Pr3b) 18:31 (Pr3b)	07:09 16:45
28	05:06 21:33	06:07 20:22	19:07 (PrRR3) 19:34 (PrRR3)	07:09 18:59	18:10 (Pr3b) 18:29 (Pr3b)	07:12 16:43
29	05:08 21:31	06:09 20:20	19:07 (PrRR3) 19:34 (PrRR3)	07:11 18:57	18:11 (Pr3b) 18:26 (Pr3b)	07:14 16:41
30	05:10 21:29	06:11 20:17	19:06 (PrRR3) 19:34 (PrRR3)	07:13 18:54	18:12 (Pr3b) 18:23 (Pr3b)	07:16 16:38
31	05:12 21:27	06:13 20:14	19:06 (PrRR3) 19:34 (PrRR3)	07:18 16:36	18:18 16:36	07:18 16:36
Potential sun hours	529	469	384	324	248	217
Total, worst case		240	439	5		
Sun reduction		0,52	0,43	0,29		
Oper. time red.		1,00	1,00	1,00		
Wind dir. red.		1,00	1,00	1,00		
Total reduction		0,52	0,43	0,29		
Total, real		125	189	1		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

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0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Mikili - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (474)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:25	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Mozuli - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (418)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	08:48 15:47	08:13 16:44	07:09 17:46	16:26 (DD3) 16:56 (DD3)	06:47 19:51	18:55 (O3) 20:53
2	08:48 15:48	08:11 16:46	07:06 17:48	16:26 (DD3) 16:56 (DD3)	06:44 19:53	18:55 (O3) 20:55
3	08:48 15:50	08:09 16:48	07:04 17:50	16:27 (DD3) 16:56 (DD3)	06:42 19:55	18:56 (O3) 20:57
4	08:47 15:51	08:07 16:51	07:01 17:52	16:27 (DD3) 16:55 (DD3)	06:39 19:57	18:56 (O3) 20:59
5	08:47 15:52	08:05 16:53	06:59 17:55	16:27 (DD3) 16:53 (DD3)	06:37 19:59	18:58 (O3) 21:01
6	08:46 15:54	08:03 16:55	06:56 17:57	16:28 (DD3) 16:53 (DD3)	06:34 20:01	18:59 (O3) 21:03
7	08:46 15:55	08:00 16:57	06:53 17:59	16:29 (DD3) 16:51 (DD3)	06:31 20:04	19:10 (O3) 21:05
8	08:45 15:57	07:58 17:00	06:51 18:01	16:31 (DD3) 16:49 (DD3)	06:29 20:06	19:12 (O3) 21:07
9	08:44 15:58	07:56 17:02	06:48 18:03	16:34 (DD3) 17:35 (DD1)	06:26 20:08	19:13 (O3) 21:09
10	08:44 16:00	07:54 17:04	06:46 18:05	17:28 (DD1) 17:37 (DD1)	06:23 20:10	19:14 (O3) 21:11
11	08:43 16:02	07:52 17:06	06:43 18:07	17:26 (DD1) 17:39 (DD1)	06:21 20:12	19:15 (O3) 21:13
12	08:42 16:03	07:50 17:08	06:40 18:09	17:25 (DD1) 17:42 (DD1)	06:18 20:14	19:16 (O3) 21:15
13	08:41 16:05	07:47 17:11	06:38 18:12	17:23 (DD1) 17:43 (DD1)	06:16 20:16	19:17 (O3) 21:17
14	08:40 16:07	07:45 17:13	06:35 18:14	17:22 (DD1) 17:44 (DD1)	06:13 20:18	19:18 (O3) 21:19
15	08:39 16:09	07:43 17:15	06:32 18:16	17:22 (DD1) 17:44 (DD1)	06:10 20:20	19:19 (O3) 21:21
16	08:38 16:11	07:41 17:17	06:30 18:18	17:22 (DD1) 17:44 (DD1)	06:08 20:22	19:20 (O3) 21:23
17	08:36 16:13	07:38 17:20	06:27 18:20	17:21 (DD1) 17:43 (DD1)	06:05 20:24	19:21 (O3) 21:25
18	08:35 16:15	07:36 17:22	06:24 18:22	17:22 (DD1) 17:43 (DD1)	06:03 20:26	19:22 (O3) 21:27
19	08:34 16:16	07:33 17:24	06:22 18:24	17:22 (DD1) 17:42 (DD1)	06:00 20:28	19:23 (O3) 21:29
20	08:32 16:18	07:31 17:26	06:19 18:26	17:22 (DD1) 17:41 (DD1)	05:58 20:30	19:24 (O3) 21:31
21	08:31 16:20	07:29 17:28	06:16 18:28	17:23 (DD1) 17:39 (DD1)	05:55 20:33	19:25 (O3) 21:32
22	08:30 16:23	07:26 17:31	06:14 18:30	17:25 (DD1) 17:37 (DD1)	05:53 20:35	19:26 (O3) 21:34
23	08:28 16:25	07:24 17:33	06:11 18:32	17:28 (DD1) 17:33 (DD1)	05:50 20:37	19:27 (O3) 21:36
24	08:26 16:27	07:21 17:35	06:08 18:35	17:28 (DD1) 18:04 (O3)	05:48 05:45	19:28 (O3) 21:38
25	08:25 16:29	07:19 17:37	06:06 18:37	18:04 (O3) 18:09 (O3)	05:45 20:41	19:29 (O3) 21:39
26	08:23 16:31	07:16 17:39	06:03 18:39	18:01 (O3) 18:11 (O3)	05:43 20:43	19:30 (O3) 21:41
27	08:22 16:33	07:14 17:42	06:00 18:41	17:59 (O3) 18:12 (O3)	05:41 20:45	19:31 (O3) 21:42
28	08:20 16:35	07:11 17:44	05:58 18:43	17:58 (O3) 18:15 (O3)	05:38 20:47	19:32 (O3) 21:44
29	08:18 16:37	07:09 17:46	05:55 18:45	18:15 (O3) 18:57 (O3)	05:36 20:49	19:33 (O3) 21:46
30	08:16 16:40	07:07 17:48	05:52 18:47	18:56 (O3) 19:16 (O3)	05:34 20:51	19:34 (O3) 21:47
31	08:14 16:42	07:05 17:50	05:50 18:49	18:56 (O3) 19:17 (O3)	05:32 20:53	19:35 (O3) 21:49
Potential sun hours	236	266	366	426	507	528
Total, worst case		248	567	102		
Sun reduction		0,22	0,39	0,44		
Oper. time red.		1,00	1,00	1,00		
Wind dir. red.		1,00	1,00	1,00		
Total reduction		0,22	0,39	0,44		
Total, real		56	222	45		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Mozuli - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (418)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:29 22:06	05:14 21:26	06:16 20:12	07:15 18:52	18:03 (DD1) 18:22 (DD1)	07:20 16:35
2	04:30 22:06	05:16 21:24	06:18 20:09	07:17 18:49	18:04 (DD1) 18:19 (DD1)	07:23 16:32
3	04:31 22:05	05:18 21:21	06:20 20:07	07:19 18:47	18:05 (DD1) 18:16 (DD1)	07:25 16:30
4	04:32 22:05	05:20 21:19	06:22 20:04	07:22 18:44	17:13 (DD3) 18:13 (DD1)	07:27 16:28
5	04:33 22:04	05:22 21:17	06:24 20:01	07:24 18:41	17:09 (DD3) 17:25 (DD3)	07:29 16:26
6	04:34 22:03	05:24 21:15	06:26 19:59	18:55 (O3) 19:06 (O3)	07:26 18:39	17:06 (DD3) 17:26 (DD3)
7	04:35 22:03	05:26 21:13	06:28 19:56	18:53 (O3) 19:07 (O3)	07:28 18:36	17:04 (DD3) 17:27 (DD3)
8	04:36 22:02	05:28 21:11	06:30 19:54	18:51 (O3) 19:08 (O3)	07:30 18:33	17:03 (DD3) 17:28 (DD3)
9	04:37 22:01	05:30 21:08	06:32 19:51	18:50 (O3) 19:09 (O3)	07:32 18:31	17:02 (DD3) 17:30 (DD3)
10	04:38 22:00	05:32 21:06	06:34 19:48	18:48 (O3) 19:08 (O3)	07:34 18:28	17:01 (DD3) 17:30 (DD3)
11	04:40 21:59	05:34 21:04	06:36 19:46	18:48 (O3) 19:08 (O3)	07:36 18:26	17:00 (DD3) 17:30 (DD3)
12	04:41 21:58	05:36 21:02	06:38 19:43	18:47 (O3) 19:08 (O3)	07:38 18:23	17:00 (DD3) 17:30 (DD3)
13	04:42 21:57	05:38 20:59	06:40 19:40	18:47 (O3) 19:08 (O3)	07:40 18:20	16:59 (DD3) 17:29 (DD3)
14	04:44 21:55	05:40 20:57	06:42 19:38	18:47 (O3) 19:07 (O3)	07:42 18:18	16:59 (DD3) 17:29 (DD3)
15	04:45 21:54	05:42 20:55	06:44 19:35	18:47 (O3) 19:05 (O3)	07:44 18:15	16:59 (DD3) 17:29 (DD3)
16	04:47 21:53	05:44 20:52	06:46 19:32	18:48 (O3) 19:02 (O3)	07:46 18:13	16:59 (DD3) 17:29 (DD3)
17	04:48 21:51	05:46 20:50	06:47 19:29	18:49 (O3) 19:00 (O3)	07:48 18:10	16:59 (DD3) 17:28 (DD3)
18	04:50 21:50	05:48 20:47	06:49 19:27	18:51 (O3) 18:57 (O3)	07:50 18:08	17:00 (DD3) 17:27 (DD3)
19	04:51 21:49	05:50 20:45	06:51 19:24	07:53 18:05	17:00 (DD3) 17:25 (DD3)	07:59 16:00
20	04:53 21:47	05:52 20:43	06:53 19:21	07:55 18:03	17:02 (DD3) 17:25 (DD3)	08:01 15:58
21	04:55 21:45	05:54 20:40	06:55 19:19	18:11 (DD1) 18:22 (DD1)	07:57 18:00	17:03 (DD3) 17:23 (DD3)
22	04:56 21:44	05:56 20:38	06:57 19:16	18:09 (DD1) 18:24 (DD1)	07:59 17:58	17:04 (DD3) 17:21 (DD3)
23	04:58 21:42	05:58 20:35	06:59 19:13	18:07 (DD1) 18:25 (DD1)	08:01 17:56	17:08 (DD3) 17:18 (DD3)
24	05:00 21:40	06:00 20:33	07:01 19:11	18:06 (DD1) 18:26 (DD1)	08:03 17:53	08:09 15:52
25	05:02 21:39	06:02 20:30	07:03 19:08	18:05 (DD1) 18:26 (DD1)	07:05 16:51	08:11 15:51
26	05:03 21:37	06:04 20:27	07:05 19:05	18:04 (DD1) 18:26 (DD1)	07:07 16:48	08:13 15:50
27	05:05 21:35	06:06 20:25	07:07 19:03	18:03 (DD1) 18:26 (DD1)	07:10 16:46	08:15 15:48
28	05:07 21:33	06:08 20:22	07:09 19:00	18:03 (DD1) 18:25 (DD1)	07:12 16:44	08:16 15:47
29	05:09 21:31	06:10 20:20	07:11 18:57	18:03 (DD1) 18:25 (DD1)	07:14 16:41	08:18 15:46
30	05:11 21:29	06:12 20:17	07:13 18:55	18:03 (DD1) 18:24 (DD1)	07:16 16:39	08:20 15:45
31	05:13 21:28	06:14 20:15		07:18 16:37		08:48 15:46
Potential sun hours	528	469	384	324	248	217
Total, worst case			407	531		
Sun reduction			0,43	0,29		
Oper. time red.			1,00	1,00		
Wind dir. red.			1,00	1,00		
Total reduction			0,43	0,29		
Total, real			176	154		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Makoniš i - Shadow Receptor:  $1,0 \times 1,0$  Azimuth:  $3,1^\circ$  Slope:  $90,0^\circ$  (587)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:14 21:25	06:16 20:12	07:15 18:52	07:20 16:34	08:22 15:44
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:16 21:23	06:18 20:09	07:17 18:49	07:23 16:32	08:23 15:43
3	08:48 15:49	08:09 16:48	07:04 17:50	06:42 19:55	05:26 20:57	04:33 21:53	04:31 22:05	05:18 21:21	06:20 20:07	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:53	06:58 17:54	06:36 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:01	07:23 18:41	07:29 16:26	08:28 15:40
6	08:46 15:54	08:02 16:55	06:56 17:57	06:34 20:01	05:20 21:03	04:30 21:56	04:34 22:03	05:24 21:15	06:26 20:00	07:26 18:41	07:31 16:26	08:30 15:40
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:18 21:05	04:29 21:58	04:35 22:03	05:26 21:13	06:28 20:00	07:28 18:36	07:33 16:22	08:31 15:39
8	08:45 15:57	07:58 16:59	06:51 18:01	06:28 20:06	05:15 21:07	04:28 21:59	04:36 22:02	05:28 21:11	06:30 20:00	07:30 18:33	07:36 16:20	08:33 15:39
9	08:44 15:58	07:56 17:02	06:48 18:03	06:26 20:08	05:13 21:09	04:27 22:00	04:37 22:01	05:30 21:08	06:32 20:00	07:32 18:31	07:38 16:18	08:34 15:38
10	08:44 16:00	07:54 17:04	06:45 18:05	06:23 20:10	05:11 21:11	04:27 22:01	04:38 22:00	05:32 21:06	06:34 20:00	07:34 18:28	07:40 16:16	08:35 15:38
11	08:43 16:02	07:52 17:06	06:43 18:07	06:21 20:12	05:09 21:13	04:26 22:02	04:40 21:59	05:34 21:04	06:36 20:00	07:36 18:26	07:42 16:14	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:26 22:02	04:41 21:58	05:36 21:02	06:37 20:00	07:38 18:23	07:44 16:12	08:38 15:37
13	08:41 16:05	07:47 17:11	06:38 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:56	05:38 20:59	06:39 20:00	07:40 18:20	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:03 21:19	04:25 22:04	04:44 21:55	05:40 20:57	06:41 20:00	07:42 18:18	07:48 16:08	08:40 15:37
15	08:39 16:09	07:43 17:15	06:32 18:16	06:10 20:20	05:01 21:21	04:25 22:05	04:45 21:54	05:42 20:55	06:43 20:00	07:44 18:15	07:50 16:06	08:41 15:37
16	08:38 16:11	07:40 17:17	06:30 18:18	06:08 20:22	04:59 21:23	04:24 22:05	04:47 21:53	05:44 20:52	06:45 20:00	07:46 18:13	07:53 16:04	08:42 15:37
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:46 20:50	06:47 20:00	07:48 18:10	07:55 16:03	08:43 15:37
18	08:35 16:14	07:36 17:22	06:24 18:22	06:03 20:26	04:56 21:27	04:24 22:06	04:50 21:50	05:48 20:47	06:49 20:00	07:50 18:08	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:24 22:07	04:51 21:48	05:50 20:45	06:51 20:00	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:58 20:30	04:52 21:30	04:24 22:07	04:53 21:47	05:52 20:42	06:53 20:00	07:55 18:03	08:01 15:58	08:45 15:37
21	08:31 16:20	07:29 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:55 21:45	05:54 20:40	06:55 20:00	07:57 18:00	08:03 15:56	08:46 15:38
22	08:29 16:22	07:26 17:31	06:14 18:30	05:53 20:35	04:49 21:34	04:24 22:08	04:56 21:44	05:56 20:37	06:57 20:00	07:59 18:00	08:05 15:55	08:46 15:38
23	08:28 16:24	07:24 17:33	06:11 18:32	05:50 20:37	04:47 21:36	04:25 22:08	04:58 21:42	05:58 20:35	06:59 20:00	08:01 18:00	08:07 15:53	08:47 15:39
24	08:26 16:27	07:21 17:35	06:08 18:34	05:48 20:39	04:46 21:37	04:25 22:08	05:00 21:40	06:00 20:32	07:01 20:00	08:03 18:00	08:09 15:52	08:47 15:39
25	08:25 16:29	07:19 17:37	06:06 18:37	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:02 20:30	07:03 20:00	08:05 18:00	08:11 15:51	08:48 15:40
26	08:23 16:31	07:16 17:39	06:03 18:39	05:43 20:43	04:43 21:41	04:26 22:08	05:03 21:37	06:04 20:27	07:05 20:00	08:07 18:00	08:13 15:49	08:48 15:41
27	08:21 16:33	07:14 17:41	06:00 18:41	05:40 20:45	04:41 21:42	04:26 22:08	05:05 21:35	06:06 20:25	07:07 20:00	08:09 18:00	08:15 15:48	08:48 15:42
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	04:27 22:07	05:07 21:33	06:08 20:22	07:09 20:00	08:12 18:00	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:36 20:49	04:38 21:46	04:27 22:07	05:09 21:31	06:10 20:20	07:11 20:00	08:14 18:00	08:18 15:46	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:11 21:29	06:12 20:17	07:13 20:00	08:16 18:00	08:20 15:45	08:48 15:44
31	08:14 16:42		06:50 19:49		04:36 21:49		05:12 21:27	06:14 20:15	07:18 20:00			08:48 15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Makoni - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (417)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:14 21:25	06:16 20:12	07:15 18:52	07:20 16:34	08:22 15:44
2	08:48 15:48	08:11 16:46	07:06 17:48	06:44 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:16 21:23	06:18 20:09	07:17 18:49	07:23 16:32	08:23 15:43
3	08:48 15:49	08:09 16:48	07:04 17:50	06:42 19:55	05:27 20:57	04:33 21:53	04:31 22:05	05:18 21:21	06:20 20:07	07:19 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:53	06:59 17:54	06:36 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:01	07:23 18:41	07:29 16:26	08:28 15:40
6	08:46 15:54	08:03 16:55	06:56 17:57	06:34 20:01	05:20 21:03	04:30 21:56	04:34 22:03	05:24 21:15	06:26 20:01	07:26 18:39	07:31 16:24	08:30 15:40
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:18 21:05	04:29 21:58	04:35 22:03	05:26 21:13	06:28 20:01	07:28 18:36	07:33 16:22	08:31 15:39
8	08:45 15:57	07:58 16:59	06:51 18:01	06:29 20:06	05:15 21:07	04:28 21:59	04:36 22:02	05:28 21:11	06:30 20:01	07:30 18:33	07:36 16:20	08:33 15:39
9	08:44 15:58	07:56 17:02	06:48 18:03	06:26 20:08	05:13 21:09	04:27 22:00	04:37 22:01	05:30 21:08	06:32 20:01	07:32 18:31	07:38 16:18	08:34 15:38
10	08:44 16:00	07:54 17:04	06:46 18:05	06:23 20:10	05:11 21:11	04:27 22:01	04:38 22:00	05:32 21:06	06:34 20:01	07:34 18:28	07:40 16:16	08:35 15:38
11	08:43 16:02	07:52 17:06	06:43 18:07	06:21 20:12	05:09 21:13	04:26 22:02	04:40 21:59	05:34 21:04	06:36 20:01	07:36 18:26	07:42 16:14	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:26 22:02	04:41 21:58	05:36 21:02	06:38 20:01	07:38 18:23	07:44 16:12	08:38 15:37
13	08:41 16:05	07:47 17:11	06:38 18:12	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:57	05:38 20:59	06:39 20:01	07:40 18:20	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:03 21:19	04:25 22:04	04:44 21:55	05:40 20:57	06:41 20:01	07:42 18:18	07:48 16:08	08:40 15:37
15	08:39 16:09	07:43 17:15	06:32 18:16	06:10 20:20	05:01 21:21	04:25 22:05	04:45 21:54	05:42 20:55	06:43 20:01	07:44 18:15	07:50 16:06	08:41 15:37
16	08:38 16:11	07:40 17:17	06:30 18:18	06:08 20:22	04:59 21:23	04:24 22:05	04:47 21:53	05:44 20:52	06:45 20:01	07:46 18:13	07:53 16:04	08:42 15:37
17	08:36 16:12	07:38 17:20	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:46 20:50	06:47 20:01	07:48 18:10	07:55 16:03	08:43 15:37
18	08:35 16:14	07:36 17:22	06:24 18:22	06:03 20:26	04:56 21:27	04:24 22:06	04:50 21:50	05:48 20:47	06:49 20:01	07:50 18:08	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:24 22:07	04:51 21:48	05:50 20:45	06:51 20:01	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:58 20:30	04:52 21:30	04:24 22:07	04:53 21:47	05:52 20:42	06:53 20:01	07:55 18:03	08:01 15:58	08:45 15:37
21	08:31 16:20	07:29 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:55 21:45	05:54 20:40	06:55 20:01	07:57 18:00	08:03 15:56	08:46 15:38
22	08:30 16:22	07:26 17:31	06:14 18:30	05:53 20:35	04:49 21:34	04:24 22:08	04:56 21:44	05:56 20:37	06:57 20:01	07:59 18:01	08:05 15:55	08:46 15:38
23	08:28 16:24	07:24 17:33	06:11 18:32	05:50 20:37	04:47 21:36	04:25 22:08	04:58 21:42	05:58 20:35	06:59 20:01	08:01 18:01	08:07 17:55	08:47 15:39
24	08:26 16:27	07:21 17:35	06:08 18:34	05:48 20:39	04:46 21:37	04:25 22:08	05:00 21:40	06:00 20:32	07:01 20:01	08:03 18:03	08:09 17:53	08:47 15:39
25	08:25 16:29	07:19 17:37	06:06 18:37	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:02 20:30	07:03 20:01	08:05 18:05	08:11 17:51	08:48 15:40
26	08:23 16:31	07:16 17:39	06:03 18:39	05:43 20:43	04:43 21:41	04:26 22:08	05:03 21:37	06:04 20:27	07:05 20:01	08:07 18:07	08:13 17:48	08:48 15:41
27	08:22 16:33	07:14 17:42	06:00 18:41	05:40 20:45	04:41 21:42	04:26 22:08	05:05 21:35	06:06 20:25	07:07 20:01	08:09 18:09	08:15 17:46	08:48 15:42
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	04:27 22:07	05:07 21:33	06:08 20:22	07:09 20:01	08:12 18:00	08:16 17:44	08:48 15:43
29	08:18 16:37		06:55 19:45	05:36 20:49	04:38 21:46	04:27 22:07	05:09 21:31	06:10 20:20	07:11 20:01	08:14 18:01	08:18 17:41	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:11 21:29	06:12 20:17	07:13 20:01	08:16 18:01	08:20 17:45	08:48 15:44
31	08:14 16:42		06:50 19:49		04:36 21:49		05:12 21:27	06:14 20:15	07:18 20:01	08:18 18:01		08:48 15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Nadež da - Shadow Receptor:  $1,0 \times 1,0$  Azimuth:  $3,1^\circ$  Slope:  $90,0^\circ$  (532)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Oriš u kapseta - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (522)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Ozolaine - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (590)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:35	04:29	05:14	06:16	07:15	07:20	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:06	21:26	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:44	05:29	04:34	04:30	05:16	06:18	07:17	07:23	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:24	20:09	18:49	16:32	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:18	06:20	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:47	16:30	15:42
4	08:47	08:07	07:01	06:39	05:24	04:32	04:32	05:20	06:22	07:21	07:27	08:27
	15:51	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:41
5	08:47	08:05	06:59	06:36	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:28
	15:52	16:53	17:55	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:26	15:40
6	08:46	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:01	21:03	21:57	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:00	06:53	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:33	08:31
	15:55	16:57	17:59	20:04	21:05	21:58	22:03	21:13	19:56	18:36	16:22	15:39
8	08:45	07:58	06:51	06:29	05:15	04:28	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	16:59	18:01	20:06	21:07	21:59	22:02	21:11	19:54	18:33	16:20	15:39
9	08:44	07:56	06:48	06:26	05:13	04:27	04:37	05:30	06:32	07:32	07:38	08:34
	15:58	17:02	18:03	20:08	21:09	22:00	22:01	21:08	19:51	18:31	16:18	15:38
10	08:44	07:54	06:46	06:23	05:11	04:27	04:38	05:32	06:34	07:34	07:40	08:35
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:09	04:26	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:46	18:26	16:14	15:37
12	08:42	07:50	06:40	06:18	05:07	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:02	19:43	18:23	16:12	15:37
13	08:41	07:47	06:38	06:16	05:05	04:25	04:42	05:38	06:40	07:40	07:46	08:39
	16:05	17:11	18:12	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:10	15:37
14	08:40	07:45	06:35	06:13	05:03	04:25	04:44	05:40	06:42	07:42	07:48	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:37	18:18	16:08	15:37
15	08:39	07:43	06:32	06:10	05:01	04:25	04:45	05:42	06:43	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:37
16	08:38	07:41	06:30	06:08	04:59	04:24	04:47	05:44	06:45	07:46	07:53	08:42
	16:11	17:17	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:04	15:37
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:46	06:47	07:48	07:55	08:43
	16:12	17:20	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:03	15:37
18	08:35	07:36	06:24	06:03	04:56	04:24	04:50	05:48	06:49	07:50	07:57	08:44
	16:14	17:22	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:01	15:37
19	08:34	07:33	06:22	06:00	04:54	04:24	04:51	05:50	06:51	07:53	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:58	04:52	04:24	04:53	05:52	06:53	07:55	08:01	08:45
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:43	19:21	18:03	15:58	15:37
21	08:31	07:29	06:16	05:55	04:50	04:24	04:55	05:54	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:32	22:07	21:45	20:40	19:19	18:00	15:56	15:38
22	08:30	07:26	06:14	05:53	04:49	04:24	04:56	05:56	06:57	07:59	08:05	08:47
	16:22	17:31	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:55	15:38
23	08:28	07:24	06:11	05:50	04:47	04:25	04:58	05:58	06:59	08:01	08:07	08:47
	16:24	17:33	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:39
24	08:27	07:21	06:08	05:48	04:46	04:25	05:00	06:00	07:01	08:03	08:09	08:47
	16:27	17:35	18:35	20:39	21:38	22:08	21:41	20:33	19:11	17:53	15:52	15:39
25	08:25	07:19	06:06	05:45	04:44	04:25	05:01	06:02	07:03	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:40
26	08:23	07:16	06:03	05:43	04:43	04:26	05:03	06:04	07:05	08:07	08:13	08:48
	16:31	17:39	18:39	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:41
27	08:22	07:14	06:00	05:41	04:41	04:26	05:05	06:06	07:07	08:09	08:15	08:48
	16:33	17:42	18:41	20:45	21:43	22:08	21:35	20:25	19:03	16:46	15:48	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:09	08:12	08:16	08:48
	16:35	17:44	18:43	20:47	21:44	22:07	21:33	20:22	19:00	16:44	15:47	15:42
29	08:18		06:55	05:36	04:38	04:27	05:09	06:10	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:46	15:43
30	08:16		06:52	05:33	04:37	04:28	05:11	06:12	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:55	16:39	15:45	15:44
31	08:14		06:50		04:36		05:12	06:14		07:18		08:48
	16:42		19:49		21:49		21:28	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B  
Assumptions for shadow calculations

Shadow receptor: OŠ i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (420)  
Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	08:48 15:47	08:13 16:44	07:09 17:46	06:47 19:51	05:31 20:53	18:38 (JV1) 04:35 20:18 (O1.b)
2	08:48 15:48	08:11 16:46	07:06 17:48	06:45 19:53	05:29 20:55	19:11 (JV1) 21:50 20:18 (O1.b)
3	08:48 15:50	08:09 16:48	07:04 17:50	06:42 19:55	05:27 20:57	19:10 (JV1) 21:51 20:18 (O1.b)
4	08:47 15:51	08:07 16:51	07:01 17:53	06:39 19:57	05:24 20:59	19:08 (JV1) 21:53 20:19 (O1.b)
5	08:47 15:52	08:05 16:53	06:59 17:55	06:37 19:59	05:22 21:01	19:06 (JV1) 21:54 20:20 (O1.b)
6	08:46 15:54	08:03 16:55	06:56 17:57	06:34 20:02	05:20 21:03	19:04 (JV1) 21:55 20:20 (O1.b)
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:04	05:18 21:05	18:49 (JV1) 04:30 20:20 (O1.b)
8	08:45 15:57	07:58 17:00	06:51 18:01	06:29 20:06	05:16 21:07	19:01 (JV1) 21:56 20:20 (O1.b)
9	08:44 15:59	07:56 17:02	06:48 18:03	06:26 20:08	05:14 21:09	04:29 21:58
10	08:44 16:00	07:54 17:04	06:46 18:05	06:23 20:10	05:12 21:11	04:28 21:59
11	08:43 16:02	07:52 17:06	06:43 18:07	06:21 20:12	05:09 21:13	20:29 (O1.b) 04:28 20:22 (O1.b) 22:00
12	08:42 16:04	07:50 17:09	06:40 18:10	06:18 20:14	05:07 21:15	20:32 (O1.b) 22:00 20:25 (O1.b) 04:27
13	08:41 16:05	07:47 17:11	06:38 18:12	06:16 20:16	05:05 21:17	20:36 (O1.b) 22:01 20:22 (O1.b) 04:27
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:03 21:19	20:38 (O1.b) 22:02 20:21 (O1.b) 04:26
15	08:39 16:09	07:43 17:15	06:32 18:16	06:11 20:20	05:02 21:21	20:39 (O1.b) 22:02 20:19 (O1.b) 04:26
16	08:38 16:11	07:41 17:17	06:30 18:18	06:08 20:22	05:00 21:23	20:40 (O1.b) 22:03 20:18 (O1.b) 04:25
17	08:36 16:13	07:38 17:20	06:27 18:20	06:05 20:24	04:58 21:25	20:41 (O1.b) 22:04 20:17 (O1.b) 04:25
18	08:35 16:15	07:36 17:22	06:25 18:22	06:03 20:26	04:56 21:27	20:42 (O1.b) 22:05 20:18 (O1.b) 04:25
19	08:34 16:17	07:34 17:24	06:22 18:24	06:00 20:28	04:54 21:29	20:43 (O1.b) 22:06 20:19 (O1.b) 04:24
20	08:32 16:19	07:31 17:26	06:19 18:26	05:58 20:30	04:52 21:31	20:44 (O1.b) 22:07 20:16 (O1.b) 04:24
21	08:31 16:21	07:29 17:29	06:17 18:28	05:55 20:33	04:51 21:32	20:44 (O1.b) 22:07 20:15 (O1.b) 04:25
22	08:30 16:23	07:26 17:31	06:14 18:30	05:53 20:35	04:49 21:34	20:44 (O1.b) 22:07 20:16 (O1.b) 04:25
23	08:28 16:25	07:24 17:33	06:11 18:33	05:50 20:37	04:47 21:36	20:45 (O1.b) 22:08 20:15 (O1.b) 04:25
24	08:26 16:27	07:21 17:35	06:09 18:35	05:48 20:39	04:46 21:38	20:45 (O1.b) 22:08 20:16 (O1.b) 04:25
25	08:25 16:29	07:19 17:37	06:06 18:37	05:46 20:41	04:44 21:39	20:45 (O1.b) 22:08 20:16 (O1.b) 04:26
26	08:23 16:31	07:16 17:40	06:03 18:39	05:43 20:43	04:43 21:41	20:45 (O1.b) 22:08 20:16 (O1.b) 04:26
27	08:22 16:33	07:14 17:42	06:01 18:41	05:41 20:45	04:41 21:42	20:46 (O1.b) 22:08 20:16 (O1.b) 04:27
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	20:46 (O1.b) 22:08 20:16 (O1.b) 04:27
29	08:18 16:37		05:55 19:45	05:36 20:49	04:39 21:46	20:46 (O1.b) 22:07 20:17 (O1.b) 04:28
30	08:16 16:40		05:53 19:47	05:34 20:51	04:37 21:47	20:47 (O1.b) 22:07 20:17 (O1.b) 04:28
31	08:14 16:42		05:50 19:49		04:36 21:49	20:48 (O1.b) 22:07 20:17 (O1.b) 04:28
Potential sun hours	236	266	366	426	507	528
Total, worst case				1100	716	634
Sun reduction				0,44	0,56	0,57
Oper. time red.				1,00	1,00	1,00
Wind dir. red.				1,00	1,00	1,00
Total reduction				0,44	0,56	0,57
Total, real				486	403	360

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: OŠ i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (420)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:29 22:06	20:26 (O1.b) 20:48 (O1.b)	05:15 21:26	18:36 (JV1) 18:52	07:20 16:35	08:22 15:44
2	04:30 22:06	20:26 (O1.b) 20:48 (O1.b)	05:16 21:24	18:36 (JV1) 18:49	07:18 16:32	08:23 15:43
3	04:31 22:05	20:27 (O1.b) 20:49 (O1.b)	05:18 21:21	18:37 (JV1) 18:47	07:20 16:30	08:25 15:42
4	04:32 22:02	20:27 (O1.b) 20:50 (O1.b)	05:20 21:19	18:38 (JV1) 18:44	07:22 16:28	08:27 15:41
5	04:33 22:04	20:27 (O1.b) 20:50 (O1.b)	05:22 21:17	18:39 (JV1) 18:41	07:24 16:26	08:28 15:41
6	04:34 22:03	20:26 (O1.b) 20:51 (O1.b)	05:24 21:15	18:41 (JV1) 18:39	07:26 16:24	08:30 15:40
7	04:35 22:03	20:26 (O1.b) 20:51 (O1.b)	05:26 21:13	18:43 (JV1) 18:36	07:28 16:22	08:31 15:39
8	04:36 22:02	20:26 (O1.b) 20:51 (O1.b)	05:28 21:11	18:46 (JV1) 18:34	07:30 16:20	08:33 15:39
9	04:37 22:01	20:26 (O1.b) 20:52 (O1.b)	05:30 21:08	18:51 (JV1) 18:59	07:32 18:31	08:34 16:18
10	04:39 22:00	20:26 (O1.b) 20:52 (O1.b)	05:32 21:06	18:49 (JV1) 18:47	07:34 18:28	08:35 16:16
11	04:40 21:59	20:25 (O1.b) 20:52 (O1.b)	05:34 21:04	18:47 (JV1) 18:46	07:36 18:26	08:37 16:14
12	04:41 21:58	20:26 (O1.b) 20:53 (O1.b)	05:36 21:02	18:46 (JV1) 18:43	07:38 18:23	08:38 16:12
13	04:43 21:57	20:26 (O1.b) 20:54 (O1.b)	05:38 21:05	18:45 (JV1) 18:44	07:40 18:21	08:39 16:10
14	04:44 21:55	20:25 (O1.b) 20:54 (O1.b)	05:40 21:07	18:44 (JV1) 18:42	07:42 18:18	08:40 16:08
15	04:45 21:54	20:25 (O1.b) 20:54 (O1.b)	05:42 21:05	18:42 (JV1) 18:41	07:44 18:15	08:41 16:06
16	04:47 21:53	20:26 (O1.b) 20:54 (O1.b)	05:44 21:02	18:41 (JV1) 18:42	07:46 18:13	08:42 16:05
17	04:48 21:51	20:25 (O1.b) 20:54 (O1.b)	05:46 21:05	18:40 (JV1) 18:43	07:48 18:10	08:43 16:03
18	04:50 21:50	20:26 (O1.b) 20:55 (O1.b)	05:48 21:07	18:39 (JV1) 18:43	07:50 18:08	08:44 16:01
19	04:52 21:49	20:25 (O1.b) 20:55 (O1.b)	05:50 21:05	18:39 (JV1) 18:44	07:53 18:05	08:45 16:00
20	04:53 21:47	20:26 (O1.b) 20:55 (O1.b)	05:52 21:03	18:38 (JV1) 18:44	07:55 18:03	08:45 15:58
21	04:55 21:45	20:26 (O1.b) 20:55 (O1.b)	05:54 21:04	18:38 (JV1) 18:44	07:57 18:01	08:46 15:57
22	04:57 21:44	20:26 (O1.b) 20:55 (O1.b)	05:56 21:03	18:37 (JV1) 18:44	07:59 17:58	08:47 15:55
23	04:58 21:42	20:26 (O1.b) 20:55 (O1.b)	05:58 21:03	18:36 (JV1) 18:44	08:01 17:56	08:47 15:54
24	05:00 21:40	20:27 (O1.b) 20:55 (O1.b)	06:00 21:03	18:36 (JV1) 18:44	08:03 17:53	08:47 15:52
25	05:02 21:39	20:26 (O1.b) 20:54 (O1.b)	06:02 21:03	18:36 (JV1) 18:43	07:05 16:51	08:48 15:51
26	05:04 21:37	20:27 (O1.b) 20:54 (O1.b)	06:04 21:02	18:35 (JV1) 18:43	07:08 16:48	08:48 15:50
27	05:05 21:35	20:28 (O1.b) 20:54 (O1.b)	06:06 21:05	18:35 (JV1) 18:43	07:10 16:46	08:48 15:48
28	05:07 21:33	20:28 (O1.b) 20:53 (O1.b)	06:08 21:02	18:36 (JV1) 18:43	07:12 16:44	08:48 15:47
29	05:09 21:31	20:29 (O1.b) 20:52 (O1.b)	06:10 21:02	18:36 (JV1) 18:43	07:14 16:41	08:48 15:46
30	05:11 21:29	20:30 (O1.b) 20:52 (O1.b)	06:12 21:07	18:36 (JV1) 18:43	07:16 16:39	08:48 15:45
31	05:13 21:28	20:30 (O1.b) 20:50 (O1.b)	06:14 21:15	18:35 (JV1) 18:43	07:18 16:37	08:48 15:46
Potential sun hours	528	469	384	324	248	217
Total, worst case	810	1033	268			
Sun reduction	0,47	0,52	0,43			
Oper. time red.	1,00	1,00	1,00			
Wind dir. red.	1,00	1,00	1,00			
Total reduction	0,47	0,52	0,43			
Total, real	382	540	116			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Oš mala - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (458)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:49	08:13	07:09	06:47	05:31	04:34	04:28	05:14	06:16	07:15	07:21	08:22
	15:46	16:43	17:46	19:51	20:53	21:51	22:07	21:26	20:12	18:52	16:34	15:43
2	08:49	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:18	07:17	07:23	08:24
	15:48	16:46	17:48	19:53	20:56	21:52	22:07	21:24	20:09	18:49	16:32	15:42
3	08:48	08:09	07:04	06:42	05:26	04:32	04:30	05:18	06:20	07:19	07:25	08:26
	15:49	16:48	17:50	19:55	20:58	21:53	22:06	21:22	20:07	18:46	16:30	15:41
4	08:48	08:07	07:01	06:39	05:24	04:31	04:31	05:20	06:22	07:22	07:27	08:27
	15:50	16:50	17:52	19:57	21:00	21:55	22:05	21:20	20:04	18:44	16:28	15:41
5	08:47	08:05	06:59	06:36	05:22	04:30	04:32	05:22	06:24	07:24	07:29	08:29
	15:52	16:52	17:54	19:59	21:02	21:56	22:05	21:18	20:02	18:41	16:26	15:40
6	08:47	08:03	06:56	06:34	05:19	04:29	04:33	05:24	06:25	07:26	07:32	08:30
	15:53	16:55	17:57	20:02	21:04	21:57	22:04	21:15	19:59	18:39	16:23	15:39
7	08:46	08:01	06:53	06:31	05:17	04:28	04:34	05:26	06:27	07:28	07:34	08:32
	15:55	16:57	17:59	20:04	21:06	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:46	07:59	06:51	06:28	05:15	04:28	04:35	05:28	06:29	07:30	07:36	08:33
	15:56	16:59	18:01	20:06	21:08	21:59	22:02	21:11	19:54	18:33	16:19	15:38
9	08:45	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:32	07:38	08:35
	15:58	17:01	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:31	16:17	15:38
10	08:44	07:54	06:46	06:23	05:11	04:26	04:38	05:31	06:33	07:34	07:40	08:36
	15:59	17:04	18:05	20:10	21:12	22:01	22:00	21:07	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:21	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:46	18:25	16:13	15:37
12	08:42	07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:11	15:37
13	08:41	07:48	06:38	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:47	08:40
	16:05	17:10	18:11	20:16	21:18	22:04	21:57	21:00	19:40	18:20	16:10	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:49	08:41
	16:06	17:13	18:14	20:18	21:20	22:05	21:56	20:57	19:38	18:18	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:51	08:42
	16:08	17:15	18:16	20:20	21:22	22:05	21:55	20:55	19:35	18:15	16:06	15:36
16	08:38	07:41	06:30	06:08	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:43
	16:10	17:17	18:18	20:22	21:24	22:06	21:53	20:52	19:32	18:13	16:04	15:36
17	08:37	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:44
	16:12	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36
18	08:36	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:51	07:57	08:44
	16:14	17:22	18:22	20:26	21:27	22:07	21:50	20:48	19:27	18:08	16:01	15:36
19	08:34	07:34	06:22	06:00	04:53	04:23	04:51	05:49	06:51	07:53	07:59	08:45
	16:16	17:24	18:24	20:29	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:37
20	08:33	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:55	08:01	08:46
	16:18	17:26	18:26	20:31	21:31	22:08	21:47	20:43	19:21	18:03	15:57	15:37
21	08:31	07:29	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:47
	16:20	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:19	18:00	15:56	15:37
22	08:30	07:26	06:14	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:35	21:35	22:08	21:44	20:38	19:16	17:58	15:54	15:38
23	08:28	07:24	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:48
	16:24	17:33	18:32	20:37	21:36	22:08	21:43	20:35	19:13	17:55	15:53	15:38
24	08:27	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:35	18:35	20:39	21:38	22:08	21:41	20:33	19:11	17:53	15:52	15:39
25	08:25	07:19	06:06	05:45	04:44	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:37	20:41	21:40	22:08	21:39	20:30	19:08	16:50	15:50	15:40
26	08:24	07:16	06:03	05:43	04:42	04:25	05:03	06:03	07:05	08:08	08:13	08:49
	16:30	17:39	18:39	20:43	21:41	22:08	21:37	20:28	19:05	16:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:41	04:26	05:05	06:06	07:07	08:10	08:15	08:49
	16:33	17:41	18:41	20:45	21:43	22:08	21:36	20:25	19:02	16:46	15:48	15:41
28	08:20	07:11	05:58	05:38	04:39	04:26	05:06	06:08	07:09	08:12	08:17	08:49
	16:35	17:44	18:43	20:47	21:45	22:08	21:34	20:23	19:00	16:43	15:47	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:10	07:11	08:14	08:19	08:49
	16:37		19:45	20:49	21:46	22:08	21:32	20:20	18:57	16:41	15:45	15:43
30	08:17		06:52	05:33	04:37	04:28	05:10	06:12	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:48	22:07	21:30	20:17	18:54	16:39	15:44	15:44
31	08:15		06:50		04:35		05:12	06:14		07:18		08:49
	16:41		19:49		21:49		21:28	20:15		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Oš ulejas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (416)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:35	04:29	05:14	06:16	07:15	07:20	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:06	21:26	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:44	05:29	04:34	04:30	05:16	06:18	07:17	07:23	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:18	06:20	07:19	07:25	08:25
	15:50	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:47	16:30	15:42
4	08:47	08:07	07:01	06:39	05:24	04:32	04:32	05:20	06:22	07:21	07:27	08:27
	15:51	16:51	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:41
5	08:47	08:05	06:59	06:36	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:28
	15:52	16:53	17:55	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:26	15:40
6	08:46	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:01	21:03	21:56	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:00	06:53	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:33	08:31
	15:55	16:57	17:59	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:22	15:39
8	08:45	07:58	06:51	06:29	05:16	04:28	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	16:59	18:01	20:06	21:07	21:59	22:02	21:11	19:54	18:33	16:20	15:39
9	08:44	07:56	06:48	06:26	05:13	04:27	04:37	05:30	06:32	07:32	07:38	08:34
	15:58	17:02	18:03	20:08	21:09	22:00	22:01	21:08	19:51	18:31	16:18	15:38
10	08:44	07:54	06:46	06:23	05:11	04:27	04:38	05:32	06:34	07:34	07:40	08:35
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:09	04:26	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:46	18:26	16:14	15:37
12	08:42	07:50	06:40	06:18	05:07	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:02	19:43	18:23	16:12	15:37
13	08:41	07:47	06:38	06:16	05:05	04:25	04:42	05:38	06:40	07:40	07:46	08:39
	16:05	17:11	18:12	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:10	15:37
14	08:40	07:45	06:35	06:13	05:03	04:25	04:44	05:40	06:42	07:42	07:48	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:37	18:18	16:08	15:37
15	08:39	07:43	06:32	06:10	05:01	04:25	04:45	05:42	06:43	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:37
16	08:38	07:41	06:30	06:08	04:59	04:24	04:47	05:44	06:45	07:46	07:53	08:42
	16:11	17:17	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:05	15:37
17	08:36	07:38	06:27	06:05	04:58	04:24	04:48	05:46	06:47	07:48	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:03	15:37
18	08:35	07:36	06:24	06:03	04:56	04:24	04:50	05:48	06:49	07:50	07:57	08:44
	16:14	17:22	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:01	15:37
19	08:34	07:33	06:22	06:00	04:54	04:24	04:51	05:50	06:51	07:53	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:58	04:52	04:24	04:53	05:52	06:53	07:55	08:01	08:45
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:42	19:21	18:03	15:58	15:38
21	08:31	07:29	06:16	05:55	04:50	04:24	04:55	05:54	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:32	22:07	21:45	20:40	19:19	18:00	15:56	15:38
22	08:30	07:26	06:14	05:53	04:49	04:24	04:56	05:56	06:57	07:59	08:05	08:47
	16:22	17:31	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:55	15:38
23	08:28	07:24	06:11	05:50	04:47	04:25	04:58	05:58	06:59	08:01	08:07	08:47
	16:25	17:33	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:39
24	08:26	07:21	06:08	05:48	04:46	04:25	05:00	06:00	07:01	08:03	08:09	08:47
	16:27	17:35	18:35	20:39	21:38	22:08	21:40	20:33	19:11	17:53	15:52	15:39
25	08:25	07:19	06:06	05:45	04:44	04:25	05:01	06:02	07:03	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:40
26	08:23	07:16	06:03	05:43	04:43	04:26	05:03	06:04	07:05	08:07	08:13	08:48
	16:31	17:39	18:39	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:41
27	08:22	07:14	06:00	05:41	04:41	04:26	05:05	06:06	07:07	08:09	08:15	08:48
	16:33	17:42	18:41	20:45	21:42	22:08	21:35	20:25	19:03	16:46	15:48	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:09	08:12	08:16	08:48
	16:35	17:44	18:43	20:47	21:44	22:07	21:33	20:22	19:00	16:44	15:47	15:43
29	08:18		06:55	05:36	04:38	04:28	05:09	06:10	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:46	15:43
30	08:16		06:52	05:33	04:37	04:28	05:11	06:12	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:55	16:39	15:45	15:44
31	08:14		06:50		04:36		05:12	06:14		07:18		08:48
	16:42		19:49		21:49		21:28	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Paegles - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (540)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:05	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
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	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
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	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
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	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
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23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Palmas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (455)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:13 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:29 22:07	05:14 21:26	06:16 20:12	07:15 18:52	07:20 16:34	08:22 15:44
2	08:48 15:48	08:11 16:46	07:06 17:48	06:44 19:53	05:29 20:55	04:33 21:52	04:29 22:06	05:16 21:24	06:18 20:09	07:17 18:49	07:23 16:32	08:24 15:43
3	08:48 15:49	08:09 16:48	07:04 17:50	06:42 19:55	05:26 20:57	04:32 21:53	04:30 22:06	05:18 21:22	06:20 20:07	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:22 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:53	06:59 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:24 20:01	07:23 18:41	07:29 16:26	08:28 15:40
6	08:46 15:53	08:03 16:55	06:56 17:57	06:34 20:01	05:20 21:04	04:29 21:57	04:33 22:04	05:24 21:15	06:26 20:01	07:26 18:39	07:31 16:24	08:30 15:39
7	08:46 15:55	08:01 16:57	06:53 17:59	06:31 20:03	05:17 21:06	04:29 21:58	04:34 22:03	05:26 21:13	06:28 19:56	07:28 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:06	05:15 21:08	04:28 21:59	04:36 22:02	05:28 21:11	06:30 19:53	07:30 18:33	07:36 16:19	08:33 15:38
9	08:45 15:58	07:56 17:01	06:48 18:03	06:26 20:08	05:13 21:10	04:27 22:00	04:37 22:01	05:30 21:09	06:31 19:51	07:32 18:31	07:38 16:17	08:34 15:38
10	08:44 16:00	07:54 17:04	06:46 18:05	06:23 20:10	05:11 21:12	04:27 22:01	04:38 22:00	05:32 21:06	06:33 19:48	07:34 18:28	07:40 16:15	08:36 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:21 20:12	05:09 21:14	04:26 22:02	04:39 21:59	05:34 21:04	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:16	04:25 22:03	04:41 21:58	05:36 21:02	06:37 19:43	07:38 18:23	07:44 16:12	08:38 15:37
13	08:41 16:05	07:47 17:10	06:38 18:11	06:15 20:16	05:05 21:17	04:25 22:04	04:42 21:57	05:38 20:59	06:39 19:40	07:40 18:20	07:46 16:10	08:39 15:37
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15	08:39 16:08	07:43 17:15	06:32 18:16	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:42 20:55	06:43 19:35	07:44 18:15	07:51 16:06	08:41 15:36
16	08:38 16:10	07:41 17:17	06:30 18:18	06:08 20:22	04:59 21:23	04:24 22:06	04:46 21:53	05:44 20:52	06:45 19:32	07:46 18:13	07:53 16:04	08:42 15:36
17	08:37 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:52	05:46 20:50	06:47 19:29	07:48 18:10	07:55 16:03	08:43 15:36
18	08:35 16:14	07:36 17:22	06:24 18:22	06:03 20:26	04:55 21:27	04:24 22:07	04:49 21:50	05:48 20:47	06:49 19:27	07:50 18:08	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:24 22:07	04:51 21:49	05:50 20:45	06:51 19:24	07:53 18:05	07:59 15:59	08:45 15:37
20	08:33 16:18	07:31 17:26	06:19 18:26	05:58 20:30	04:52 21:31	04:24 22:07	04:53 21:47	05:52 20:43	06:53 19:21	07:55 18:03	08:01 15:58	08:46 15:37
21	08:31 16:20	07:29 17:28	06:16 18:28	05:55 20:33	04:50 21:32	04:24 22:08	04:54 21:46	05:54 20:40	06:55 19:19	07:57 18:00	08:03 15:56	08:46 15:38
22	08:30 16:22	07:26 17:30	06:14 18:30	05:53 20:35	04:49 21:34	04:24 22:08	04:56 21:44	05:56 20:38	06:57 19:16	07:59 17:58	08:05 15:55	08:47 15:38
23	08:28 16:24	07:24 17:33	06:11 18:32	05:50 20:37	04:47 21:36	04:24 22:08	04:58 21:42	05:58 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:39
24	08:27 16:26	07:21 17:35	06:08 18:34	05:48 20:39	04:45 21:38	04:25 22:08	04:59 21:41	06:00 20:33	07:01 19:11	08:03 17:53	08:09 15:52	08:48 15:39
25	08:25 16:28	07:19 17:37	06:06 18:37	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:02 20:30	07:03 19:08	08:05 16:51	08:11 15:50	08:48 15:40
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27	08:22 16:33	07:14 17:41	06:00 18:41	05:40 20:45	04:41 21:43	04:26 22:08	05:05 21:35	06:06 20:25	07:07 19:02	08:09 16:46	08:15 15:48	08:48 15:41
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:39 21:44	04:27 22:08	05:07 21:33	06:08 20:22	07:09 19:00	08:12 16:43	08:17 15:47	08:49 15:42
29	08:18 16:37		06:55 19:45	05:36 20:49	04:38 21:46	04:27 22:07	05:08 21:32	06:10 20:20	07:11 18:57	08:14 16:41	08:18 15:46	08:49 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:30	06:12 20:17	07:13 18:54	08:16 16:39	08:20 15:45	08:49 15:44
31	08:14 16:41		06:50 19:49		04:36 21:49		05:12 21:28	06:14 20:15		07:18 16:37		08:49 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Pastari - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (422)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:14 21:26	06:16 20:12	07:15 18:52	07:20 16:35	08:22 15:44
2	08:48 15:48	08:11 16:46	07:06 17:48	06:44 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:16 21:23	06:18 20:09	07:17 18:49	07:23 16:32	08:23 15:43
3	08:48 15:50	08:09 16:48	07:04 17:50	06:42 19:55	05:27 20:57	04:33 21:53	04:31 22:05	05:18 21:21	06:20 20:07	07:19 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:51	07:01 17:52	06:39 19:57	05:24 20:59	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:53	06:59 17:55	06:36 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:01	07:24 18:41	07:29 16:26	08:28 15:40
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8	08:45 15:57	07:58 16:59	06:51 18:01	06:29 20:06	05:16 21:07	04:28 21:59	04:36 22:02	05:28 21:11	06:30 19:54	07:30 18:33	07:36 16:20	08:33 15:39
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11	08:43 16:02	07:52 17:06	06:43 18:07	06:21 20:12	05:09 21:13	04:26 22:02	04:40 21:59	05:34 21:04	06:36 19:46	07:36 18:26	07:42 16:14	08:37 15:37
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26	08:23 16:31	07:16 17:39	06:03 18:39	05:43 20:43	04:43 21:41	04:26 22:08	05:03 21:37	06:04 20:27	07:05 19:05	08:07 17:48	08:13 15:49	08:48 15:41
27	08:22 16:33	07:14 17:42	06:00 18:41	05:41 20:45	04:41 21:42	04:26 22:08	05:05 21:35	06:06 20:25	07:07 19:03	08:09 17:46	08:15 15:48	08:48 15:42
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	04:27 22:07	05:07 21:33	06:08 20:22	07:09 19:00	08:12 17:44	08:16 15:47	08:48 15:43
29	08:18 16:37		06:55 19:45	05:36 20:49	04:38 21:46	04:28 22:07	05:09 21:31	06:10 20:20	07:11 18:57	08:14 17:41	08:18 15:46	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:11 21:29	06:12 20:17	07:13 18:55	08:16 17:39	08:20 15:45	08:48 15:44
31	08:14 16:42		06:50 19:49		04:36 21:49		05:12 21:28	06:14 20:15		07:18 16:37		08:48 15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Pastarini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (426)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:14 21:26	06:16 20:12	07:15 18:52	07:20 16:35	08:22 15:44
2	08:48 15:48	08:11 16:46	07:06 17:48	06:44 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:16 21:23	06:18 20:09	07:17 18:49	07:23 16:32	08:23 15:43
3	08:48 15:50	08:09 16:48	07:04 17:50	06:42 19:55	05:27 20:57	04:33 21:53	04:31 22:05	05:18 21:21	06:20 20:07	07:19 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:51	07:01 17:52	06:39 19:57	05:24 20:59	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:53	06:59 17:55	06:36 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:01	07:24 18:41	07:29 16:26	08:28 15:40
6	08:46 15:54	08:03 16:55	06:56 17:57	06:34 20:01	05:20 21:03	04:30 21:56	04:34 22:03	05:24 21:15	06:26 20:00	07:26 18:39	07:31 16:24	08:30 15:40
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:18 21:05	04:29 21:58	04:35 22:03	05:26 21:13	06:28 20:00	07:28 18:36	07:33 16:22	08:31 15:39
8	08:45 15:57	07:58 16:59	06:51 18:01	06:29 20:06	05:16 21:07	04:28 21:59	04:36 22:02	05:28 21:11	06:30 20:00	07:30 18:33	07:36 16:20	08:33 15:39
9	08:44 15:58	07:56 17:02	06:48 18:03	06:26 20:08	05:13 21:09	04:28 22:00	04:37 22:01	05:30 21:08	06:32 20:00	07:32 18:31	07:38 16:18	08:34 15:38
10	08:44 16:00	07:54 17:04	06:46 18:05	06:23 20:10	05:11 21:11	04:27 22:01	04:38 22:00	05:32 21:06	06:34 20:00	07:34 18:28	07:40 16:16	08:35 15:38
11	08:43 16:02	07:52 17:06	06:43 18:07	06:21 20:12	05:09 21:13	04:26 22:02	04:40 21:59	05:34 21:04	06:36 20:00	07:36 18:26	07:42 16:14	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:26 22:02	04:41 21:58	05:36 21:02	06:38 20:00	07:38 18:23	07:44 16:12	08:38 15:37
13	08:41 16:05	07:47 17:11	06:38 18:12	06:16 20:16	05:05 21:17	04:25 22:03	04:42 21:57	05:38 20:59	06:40 20:00	07:40 18:20	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:03 21:19	04:25 22:04	04:44 21:55	05:40 20:57	06:42 20:00	07:42 18:18	07:48 16:08	08:40 15:37
15	08:39 16:09	07:43 17:15	06:32 18:16	06:10 20:20	05:01 21:21	04:25 22:05	04:45 21:54	05:42 20:55	06:44 20:00	07:44 18:15	07:51 16:06	08:41 15:37
16	08:38 16:11	07:41 17:17	06:30 18:18	06:08 20:22	04:59 21:23	04:24 22:05	04:47 21:53	05:44 20:52	06:45 20:00	07:46 18:13	07:53 16:05	08:42 15:37
17	08:36 16:13	07:38 17:20	06:27 18:20	06:05 20:24	04:58 21:25	04:24 22:06	04:48 21:51	05:46 20:50	06:47 20:00	07:48 18:10	07:55 16:03	08:43 15:37
18	08:35 16:14	07:36 17:22	06:24 18:22	06:03 20:26	04:56 21:27	04:24 22:06	04:50 21:50	05:48 20:47	06:49 20:00	07:50 18:08	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:24 22:07	04:51 21:49	05:50 20:45	06:51 20:00	07:53 18:05	07:59 16:00	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:58 20:30	04:52 21:31	04:24 22:07	04:53 21:47	05:52 20:42	06:53 20:00	07:55 18:03	08:01 15:58	08:45 15:38
21	08:31 16:20	07:29 17:28	06:16 18:28	05:55 20:33	04:50 21:32	04:24 22:07	04:55 21:45	05:54 20:40	06:55 20:00	07:57 18:00	08:03 15:56	08:46 15:38
22	08:30 16:22	07:26 17:31	06:14 18:30	05:53 20:35	04:49 21:34	04:24 22:08	04:56 21:44	05:56 20:38	06:57 20:00	07:59 18:00	08:05 15:55	08:47 15:38
23	08:28 16:25	07:24 17:33	06:11 18:32	05:50 20:37	04:47 21:36	04:25 22:08	04:58 21:42	05:58 20:35	06:59 20:00	08:01 18:00	08:07 15:53	08:47 15:39
24	08:26 16:27	07:21 17:35	06:08 18:35	05:48 20:39	04:46 21:38	04:25 22:08	05:00 21:40	06:00 20:33	07:01 20:00	08:03 18:00	08:09 15:52	08:47 15:39
25	08:25 16:29	07:19 17:37	06:06 18:37	05:45 20:41	04:44 21:39	04:25 22:08	05:02 21:39	06:02 20:30	07:03 20:00	08:05 18:00	08:11 15:51	08:48 15:40
26	08:23 16:31	07:16 17:39	06:03 18:39	05:43 20:43	04:43 21:41	04:26 22:08	05:03 21:37	06:04 20:27	07:05 20:00	08:07 18:00	08:13 15:49	08:48 15:41
27	08:22 16:33	07:14 17:42	06:00 18:41	05:41 20:45	04:41 21:42	04:26 22:08	05:05 21:35	06:06 20:25	07:07 20:00	08:09 18:00	08:15 15:48	08:48 15:42
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	04:27 22:07	05:07 21:33	06:08 20:22	07:09 20:00	08:12 18:00	08:16 15:47	08:48 15:43
29	08:18 16:37		06:55 19:45	05:36 20:49	04:38 21:46	04:28 22:07	05:09 21:31	06:10 20:20	07:11 20:00	08:14 18:00	08:18 15:46	08:48 15:44
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:11 21:29	06:12 20:17	07:13 20:00	08:16 18:00	08:20 15:45	08:48 15:45
31	08:14 16:42		06:50 19:49		04:36 21:49		05:13 21:28	06:14 20:15	07:18 20:00	08:18 18:00		08:48 15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Pavlani - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (563)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Priednieki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (487)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:07	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:15	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:52	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:56	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:26	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:36
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:05	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:02	17:08	18:09	20:14	21:15	22:03	21:58	21:02	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:00	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:05	15:36
16	08:38	07:40	06:29	06:07	04:59	04:23	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:08	21:45	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:13	05:52	04:48	04:23	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:34	18:34	20:39	21:38	22:08	21:41	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:15	08:48
	16:32	17:41	18:40	20:45	21:43	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:49
	16:34	17:43	18:42	20:47	21:44	22:08	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:37	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Purmala - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (489)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January		February		March		April	May	June
1	08:48		08:12	15:24 (Pr3b)	07:09	15:53 (PrRR3)	06:47	05:31	04:34
	15:46		16:43	27 15:51 (Pr3b)	17:45	45 17:14 (Pr25)	19:51	20:53	21:50
2	08:48		08:10	15:24 (Pr3b)	07:06	15:55 (PrRR3)	06:44	05:28	04:33
	15:47		16:45	27 15:51 (Pr3b)	17:48	42 17:14 (Pr25)	19:53	20:55	21:52
3	08:48		08:09	15:25 (Pr3b)	07:03	15:59 (PrRR3)	06:41	05:26	04:32
	15:49		16:48	26 15:51 (Pr3b)	17:50	36 17:15 (Pr25)	19:55	20:57	21:53
4	08:47		08:07	15:24 (Pr3b)	07:01	16:50 (Pr25)	06:39	05:24	04:31
	15:50		16:50	27 15:51 (Pr3b)	17:52	25 17:15 (Pr25)	19:57	20:59	21:54
5	08:47		08:05	15:25 (Pr3b)	06:58	16:50 (Pr25)	06:36	05:21	04:30
	15:51		16:52	26 15:51 (Pr3b)	17:54	24 17:14 (Pr25)	19:59	21:01	21:55
6	08:46		08:02	15:26 (Pr3b)	06:56	16:50 (Pr25)	06:33	05:19	04:29
	15:53		16:54	24 15:50 (Pr3b)	17:56	25 17:15 (Pr25)	20:01	21:03	21:57
7	08:46		08:00	15:27 (Pr3b)	06:53	16:50 (Pr25)	06:31	05:17	04:28
	15:54		16:57	32 16:10 (PrRR3)	17:58	24 17:14 (Pr25)	20:03	21:05	21:58
8	08:45		07:58	15:27 (Pr3b)	06:51	16:50 (Pr25)	06:28	05:15	04:27
	15:56		16:59	38 16:13 (PrRR3)	18:01	23 17:13 (Pr25)	20:05	21:07	21:59
9	08:44		07:56	15:29 (Pr3b)	06:48	16:51 (Pr25)	06:25	05:13	04:27
	15:58		17:01	40 16:16 (PrRR3)	18:03	20 17:11 (Pr25)	20:07	21:09	22:00
10	08:44		07:54	15:31 (Pr3b)	06:45	16:52 (Pr25)	06:23	05:11	04:26
	15:59		17:03	40 16:18 (PrRR3)	18:05	18 17:10 (Pr25)	20:09	21:11	22:01
11	08:43		07:52	15:33 (Pr3b)	06:43	16:53 (Pr25)	06:20	05:09	04:25
	16:01		17:06	38 16:19 (PrRR3)	18:07	15 17:08 (Pr25)	20:12	21:13	22:02
12	08:42		07:49	15:51 (PrRR3)	06:40	16:56 (Pr25)	06:18	05:07	04:25
	16:03		17:08	29 16:20 (PrRR3)	18:09	9 17:05 (Pr25)	20:14	21:15	22:03
13	08:41		07:47	15:50 (PrRR3)	06:37		06:15	05:05	04:25
	16:04		17:10	31 16:21 (PrRR3)	18:11		20:16	21:17	22:03
14	08:40		07:45	15:49 (PrRR3)	06:35		06:12	05:03	04:24
	16:06		17:12	33 16:22 (PrRR3)	18:13		20:18	21:19	22:04
15	08:39		07:43	15:49 (PrRR3)	06:32		06:10	05:01	04:24
	16:08		17:15	34 16:23 (PrRR3)	18:15		20:20	21:21	22:05
16	08:38		07:40	15:48 (PrRR3)	06:29		06:07	04:59	04:24
	16:10		17:17	35 16:23 (PrRR3)	18:17		20:22	21:23	22:05
17	08:36		07:38	15:48 (PrRR3)	06:27		06:05	04:57	04:23
	16:12		17:19	36 16:24 (PrRR3)	18:20		20:24	21:25	22:06
18	08:35		07:36	15:47 (PrRR3)	06:24		06:02	04:55	04:23
	16:14		17:21	36 16:23 (PrRR3)	18:22		20:26	21:27	22:07
19	08:34		07:33	15:48 (PrRR3)	06:21		06:00	04:53	04:23
	16:16		17:23	36 16:24 (PrRR3)	18:24		20:28	21:29	22:07
20	08:32	15:33 (Pr3b)	07:31	15:47 (PrRR3)	06:19		05:57	04:51	04:23
	16:18	3 15:36 (Pr3b)	17:26	37 16:24 (PrRR3)	18:26		20:30	21:31	22:07
21	08:31	15:30 (Pr3b)	07:28	15:48 (PrRR3)	06:16		05:55	04:50	04:23
	16:20	10 15:40 (Pr3b)	17:28	36 16:24 (PrRR3)	18:28		20:32	21:32	22:08
22	08:30	15:28 (Pr3b)	07:26	15:47 (PrRR3)	06:13		05:52	04:48	04:24
	16:22	14 15:42 (Pr3b)	17:30	36 16:23 (PrRR3)	18:30		20:34	21:34	22:08
23	08:28	15:27 (Pr3b)	07:24	15:47 (PrRR3)	06:11		05:50	04:46	04:24
	16:24	17 15:44 (Pr3b)	17:32	35 16:22 (PrRR3)	18:32		20:37	21:36	22:08
24	08:26	15:26 (Pr3b)	07:21	15:48 (PrRR3)	06:08		05:47	04:45	04:24
	16:26	19 15:45 (Pr3b)	17:35	34 16:22 (PrRR3)	18:34		20:39	21:38	22:08
25	08:25	15:25 (Pr3b)	07:19	15:48 (PrRR3)	06:05		05:45	04:43	04:25
	16:28	21 15:46 (Pr3b)	17:37	38 17:06 (Pr25)	18:36		20:41	21:39	22:08
26	08:23	15:25 (Pr3b)	07:16	15:50 (PrRR3)	06:03		05:42	04:42	04:25
	16:30	22 15:47 (Pr3b)	17:39	44 17:10 (Pr25)	18:38		20:43	21:41	22:08
27	08:22	15:24 (Pr3b)	07:14	15:50 (PrRR3)	06:00		05:40	04:40	04:25
	16:32	24 15:48 (Pr3b)	17:41	46 17:12 (Pr25)	18:40		20:45	21:43	22:08
28	08:20	15:24 (Pr3b)	07:11	15:51 (PrRR3)	05:57		05:38	04:39	04:26
	16:34	25 15:49 (Pr3b)	17:43	47 17:13 (Pr25)	18:43		20:47	21:44	22:08
29	08:18	15:24 (Pr3b)			06:55		05:35	04:38	04:27
	16:37	25 15:49 (Pr3b)			19:45		20:49	21:46	22:07
30	08:16	15:24 (Pr3b)			06:52		05:33	04:36	04:27
	16:39	26 15:50 (Pr3b)			19:47		20:51	21:47	22:07
31	08:14	15:24 (Pr3b)			06:49			04:35	
	16:41	26 15:50 (Pr3b)			19:49			21:49	
Potential sun hours	236		266		366		426	507	528
Total, worst case		232		968		306			
Sun reduction		0,13		0,23		0,39			
Oper. time red.		1,00		1,00		1,00			
Wind dir. red.		1,00		1,00		1,00			
Total reduction		0,13		0,23		0,39			
Total, real		31		218		120			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Purmala - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (489)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running  
 with worst case wind direction.

	July	August	September	October		November		December
1	04:28	05:14	06:15	07:15	17:38 (Pr25)	07:20	15:00 (Pr3b)	08:22
	22:07	21:26	20:12	18:51	5	17:43 (Pr25)	16:34	15:43
2	04:29	05:16	06:17	07:17		17:33 (Pr25)	07:22	14:58 (Pr3b)
	22:06	21:23	20:09	18:49	13	17:46 (Pr25)	16:32	15:42
3	04:30	05:18	06:19	07:19		17:31 (Pr25)	07:25	14:57 (Pr3b)
	22:06	21:21	20:07	18:46	17	17:48 (Pr25)	16:30	15:42 (PrRR3)
4	04:31	05:19	06:21	07:21		17:29 (Pr25)	07:27	14:57 (Pr3b)
	22:05	21:19	20:04	18:44	20	17:49 (Pr25)	16:27	15:39 (PrRR3)
5	04:32	05:21	06:23	07:23		17:28 (Pr25)	07:29	14:55 (Pr3b)
	22:04	21:17	20:01	18:41	21	17:49 (Pr25)	16:25	15:20 (Pr3b)
6	04:33	05:23	06:25	07:25		17:27 (Pr25)	07:31	14:56 (Pr3b)
	22:04	21:15	19:59	18:38	23	17:50 (Pr25)	16:23	15:21 (Pr3b)
7	04:34	05:25	06:27	07:27		17:26 (Pr25)	07:33	14:55 (Pr3b)
	22:03	21:13	19:56	18:36	24	17:50 (Pr25)	16:21	15:21 (Pr3b)
8	04:35	05:27	06:29	07:29		17:25 (Pr25)	07:35	14:54 (Pr3b)
	22:02	21:11	19:53	18:33	25	17:50 (Pr25)	16:19	15:21 (Pr3b)
9	04:36	05:29	06:31	07:31		17:25 (Pr25)	07:38	14:55 (Pr3b)
	22:01	21:08	19:51	18:30	24	17:49 (Pr25)	16:17	15:22 (Pr3b)
10	04:37	05:31	06:33	07:34		16:35 (PrRR3)	07:40	14:55 (Pr3b)
	22:00	21:06	19:48	18:28	31	17:49 (Pr25)	16:15	15:22 (Pr3b)
11	04:39	05:33	06:35	07:36		16:31 (PrRR3)	07:42	14:56 (Pr3b)
	21:59	21:04	19:45	18:25	40	17:49 (Pr25)	16:13	15:22 (Pr3b)
12	04:40	05:35	06:37	07:38		16:28 (PrRR3)	07:44	14:56 (Pr3b)
	21:58	21:02	19:43	18:23	44	17:48 (Pr25)	16:11	15:22 (Pr3b)
13	04:41	05:37	06:39	07:40		16:25 (PrRR3)	07:46	14:56 (Pr3b)
	21:57	20:59	19:40	18:20	46	17:47 (Pr25)	16:09	15:21 (Pr3b)
14	04:43	05:39	06:41	07:42		16:23 (PrRR3)	07:48	14:57 (Pr3b)
	21:55	20:57	19:37	18:17	47	17:45 (Pr25)	16:07	15:22 (Pr3b)
15	04:44	05:41	06:43	07:44		16:22 (PrRR3)	07:50	14:57 (Pr3b)
	21:54	20:55	19:34	18:15	45	17:43 (Pr25)	16:06	15:21 (Pr3b)
16	04:46	05:43	06:45	07:46		16:21 (PrRR3)	07:53	14:58 (Pr3b)
	21:53	20:52	19:32	18:12	43	17:41 (Pr25)	16:04	15:20 (Pr3b)
17	04:47	05:45	06:47	07:48		16:20 (PrRR3)	07:55	14:59 (Pr3b)
	21:51	20:50	19:29	18:10	33	16:53 (PrRR3)	16:02	15:20 (Pr3b)
18	04:49	05:47	06:49	07:50		16:19 (PrRR3)	07:57	15:00 (Pr3b)
	21:50	20:47	19:26	18:07	35	16:54 (PrRR3)	16:00	15:19 (Pr3b)
19	04:51	05:49	06:51	07:52		16:18 (PrRR3)	07:59	15:01 (Pr3b)
	21:49	20:45	19:24	18:05	36	16:54 (PrRR3)	15:59	15:18 (Pr3b)
20	04:52	05:51	06:53	07:54		16:18 (PrRR3)	08:01	15:03 (Pr3b)
	21:47	20:42	19:21	18:02	36	16:54 (PrRR3)	15:57	15:17 (Pr3b)
21	04:54	05:53	06:55	07:57		16:18 (PrRR3)	08:03	15:05 (Pr3b)
	21:45	20:40	19:18	18:00	36	16:54 (PrRR3)	15:56	15:16 (Pr3b)
22	04:56	05:55	06:57	07:59		16:17 (PrRR3)	08:05	15:09 (Pr3b)
	21:44	20:37	19:16	17:57	37	16:54 (PrRR3)	15:54	15:12 (Pr3b)
23	04:57	05:57	06:59	08:01		16:17 (PrRR3)	08:07	15:12 (Pr3b)
	21:42	20:35	19:13	17:55	36	16:53 (PrRR3)	15:53	15:13
24	04:59	05:59	07:01	08:03		16:18 (PrRR3)	08:09	15:14
	21:41	20:32	19:10	17:53	36	16:54 (PrRR3)	15:51	15:13
25	05:01	06:01	07:03	07:05		15:18 (PrRR3)	08:11	15:14
	21:39	20:30	19:08	16:50	35	15:53 (PrRR3)	15:50	15:13
26	05:03	06:03	07:05	07:07		15:18 (PrRR3)	08:13	15:14
	21:37	20:27	19:05	16:48	34	15:52 (PrRR3)	15:49	15:14
27	05:04	06:05	07:07	07:09		15:19 (PrRR3)	08:15	15:15
	21:35	20:25	19:02	16:45	33	15:52 (PrRR3)	15:47	15:15
28	05:06	06:07	07:09	07:12		15:19 (PrRR3)	08:16	15:16
	21:33	20:22	19:00	16:43	32	15:51 (PrRR3)	15:46	15:16
29	05:08	06:09	07:11	07:14		15:19 (PrRR3)	08:18	15:17
	21:31	20:20	18:57	16:41	31	15:50 (PrRR3)	15:45	15:17
30	05:10	06:11	07:13	07:16		15:06 (Pr3b)	08:20	15:18
	21:29	20:17	18:54	16:38	33	15:49 (PrRR3)	15:44	15:18
31	05:12	06:13		07:18		15:02 (Pr3b)		15:19
	21:28	20:14		16:36	38	15:48 (PrRR3)		15:19
Potential sun hours	529	469	384	324		248		217
Total, worst case				989		537		
Sun reduction				0,29		0,08		
Oper. time red.				1,00		1,00		
Wind dir. red.				1,00		1,00		
Total reduction				0,29		0,08		
Total, real				287		40		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Pūrmāliešis - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (558)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:07	21:26	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:24
	15:47	16:45	17:48	19:53	20:55	21:52	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:09	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:21	20:06	18:46	16:29	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:05	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:36
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:02	17:08	18:09	20:14	21:15	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:51	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:55	19:34	18:15	16:06	15:36
16	08:38	07:40	06:29	06:07	04:59	04:23	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:17	20:22	21:23	22:06	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:08	21:46	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:34	18:34	20:39	21:38	22:08	21:41	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:15	08:48
	16:32	17:41	18:40	20:45	21:43	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:49
	16:34	17:43	18:42	20:47	21:44	22:08	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:49
	16:41		19:49		21:49		21:28	20:14		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Purvietas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (439)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:13 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:15 21:26	06:16 20:12	07:16 18:52	07:20 16:35	08:22 15:44
2	08:48 15:49	08:11 16:46	07:06 17:48	06:45 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:17 21:24	06:18 20:09	07:18 18:49	07:23 16:33	08:23 15:43
3	08:48 15:50	08:09 16:49	07:04 17:50	06:42 19:55	05:27 20:57	04:33 21:53	04:31 22:05	05:19 21:21	06:20 20:07	07:20 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:51	07:01 17:53	06:39 19:57	05:25 20:59	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:22 18:44	07:27 16:28	08:27 15:42
5	08:47 15:53	08:05 16:53	06:59 17:55	06:37 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:02	07:24 18:41	07:29 16:26	08:28 15:41
6	08:46 15:54	08:03 16:55	06:56 17:57	06:34 20:02	05:20 21:03	04:30 21:56	04:34 22:03	05:24 21:15	06:26 19:59	07:26 18:39	07:31 16:24	08:30 15:40
7	08:46 15:56	08:01 16:58	06:54 17:59	06:31 20:04	05:18 21:05	04:29 21:58	04:35 22:03	05:26 21:13	06:28 19:56	07:28 18:36	07:33 16:22	08:31 15:40
8	08:45 15:57	07:58 17:00	06:51 18:01	06:29 20:06	05:16 21:07	04:29 21:59	04:36 22:02	05:28 21:11	06:30 19:54	07:30 18:34	07:36 16:20	08:33 15:39
9	08:44 15:59	07:56 17:02	06:48 18:03	06:26 20:08	05:14 21:09	04:28 22:00	04:37 22:01	05:30 21:09	06:32 19:51	07:32 18:31	07:38 16:18	08:34 15:39
10	08:44 16:00	07:54 17:04	06:46 18:05	06:24 20:10	05:12 21:11	04:27 22:01	04:39 22:00	05:32 21:06	06:34 19:48	07:34 18:28	07:40 16:16	08:35 15:38
11	08:43 16:02	07:52 17:06	06:43 18:08	06:21 20:12	05:10 21:13	04:27 22:02	04:40 21:59	05:34 21:04	06:36 19:46	07:36 18:26	07:42 16:14	08:37 15:38
12	08:42 16:04	07:50 17:09	06:40 18:10	06:18 20:14	05:08 21:15	04:26 22:02	04:41 21:58	05:36 21:02	06:38 19:43	07:38 18:23	07:44 16:12	08:38 15:37
13	08:41 16:05	07:47 17:11	06:38 18:12	06:16 20:16	05:06 21:17	04:26 22:03	04:43 21:57	05:38 20:59	06:40 19:40	07:40 18:21	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:04 21:19	04:25 22:04	04:44 21:55	05:40 20:57	06:42 19:38	07:42 18:18	07:48 16:08	08:40 15:37
15	08:39 16:09	07:43 17:15	06:33 18:16	06:11 20:20	05:02 21:21	04:25 22:05	04:46 21:54	05:42 20:55	06:44 19:35	07:44 18:16	07:51 16:07	08:41 15:37
16	08:38 16:11	07:41 17:18	06:30 18:18	06:08 20:22	05:00 21:23	04:25 22:05	04:47 21:53	05:44 20:52	06:46 19:32	07:46 18:13	07:53 16:05	08:42 15:37
17	08:36 16:13	07:38 17:20	06:27 18:20	06:06 20:24	04:58 21:25	04:25 22:06	04:49 21:51	05:46 20:50	06:48 19:30	07:48 18:11	07:55 16:03	08:43 15:37
18	08:35 16:15	07:36 17:22	06:25 18:22	06:03 20:26	04:56 21:27	04:25 22:06	04:50 21:50	05:48 20:47	06:50 19:27	07:51 18:08	07:57 16:01	08:44 15:37
19	08:34 16:17	07:34 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:25 22:07	04:52 21:48	05:50 20:45	06:52 19:24	07:53 18:06	07:59 16:00	08:45 15:38
20	08:32 16:19	07:31 17:26	06:19 18:26	05:58 20:31	04:53 21:30	04:25 22:07	04:53 21:47	05:52 20:43	06:54 19:22	07:55 18:03	08:01 15:58	08:45 15:38
21	08:31 16:21	07:29 17:29	06:17 18:28	05:55 20:33	04:51 21:32	04:25 22:07	04:55 21:45	05:54 20:40	06:56 19:19	07:57 18:01	08:03 15:57	08:46 15:38
22	08:30 16:23	07:26 17:31	06:14 18:31	05:53 20:35	04:49 21:34	04:25 22:07	04:57 21:44	05:56 20:38	06:58 19:16	07:59 17:58	08:05 15:55	08:46 15:39
23	08:28 16:25	07:24 17:33	06:11 18:33	05:51 20:37	04:48 21:36	04:25 22:08	04:58 21:42	05:58 20:35	07:00 19:13	08:01 17:56	08:07 15:54	08:47 15:39
24	08:26 16:27	07:21 17:35	06:09 18:35	05:48 20:39	04:46 21:38	04:25 22:08	05:00 21:40	06:00 20:33	07:02 19:11	08:03 17:53	08:09 15:52	08:47 15:40
25	08:25 16:29	07:19 17:37	06:06 18:37	05:46 20:41	04:44 21:39	04:26 22:08	05:02 21:39	06:02 20:30	07:04 19:08	07:05 16:51	08:11 15:51	08:48 15:41
26	08:23 16:31	07:16 17:40	06:03 18:39	05:43 20:43	04:43 21:41	04:26 22:08	05:04 21:37	06:04 20:28	07:06 19:05	07:08 16:49	08:13 15:50	08:48 15:41
27	08:22 16:33	07:14 17:42	06:01 18:41	05:41 20:45	04:42 21:42	04:27 22:08	05:05 21:35	06:06 20:25	07:08 19:03	07:10 16:46	08:15 15:49	08:48 15:42
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	04:27 22:07	05:07 21:33	06:08 20:22	07:10 19:00	07:12 16:44	08:16 15:47	08:48 15:43
29	08:18 16:38		06:55 19:45	05:36 20:49	04:39 21:46	04:28 22:07	05:09 21:31	06:10 20:20	07:12 18:57	07:14 16:42	08:18 15:46	08:48 15:44
30	08:16 16:40		06:53 19:47	05:34 20:51	04:38 21:47	04:29 22:07	05:11 21:29	06:12 20:17	07:14 18:55	07:16 16:39	08:20 15:45	08:48 15:45
31	08:14 16:42		06:50 19:49		04:36 21:49		05:13 21:28	06:14 20:15		07:18 16:37		08:48 15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Purvietinas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (441)  
Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:35	04:29	05:15	06:16	07:16	07:20	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:06	21:26	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:45	05:29	04:34	04:30	05:17	06:18	07:18	07:23	08:23
	15:49	16:46	17:48	19:53	20:55	21:51	22:06	21:24	20:09	18:49	16:33	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:19	06:20	07:20	07:25	08:25
	15:50	16:49	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:47	16:30	15:42
4	08:47	08:07	07:01	06:39	05:25	04:32	04:32	05:20	06:22	07:22	07:27	08:27
	15:51	16:51	17:53	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:42
5	08:47	08:05	06:59	06:37	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:28
	15:53	16:53	17:55	19:59	21:01	21:55	22:04	21:17	20:02	18:41	16:26	15:41
6	08:46	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:02	21:03	21:56	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:01	06:54	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:33	08:31
	15:56	16:58	17:59	20:04	21:05	21:58	22:03	21:13	19:56	18:36	16:22	15:40
8	08:45	07:58	06:51	06:29	05:16	04:29	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	17:00	18:01	20:06	21:07	21:59	22:02	21:11	19:54	18:34	16:20	15:39
9	08:44	07:56	06:48	06:26	05:14	04:28	04:37	05:30	06:32	07:32	07:38	08:34
	15:59	17:02	18:03	20:08	21:09	22:00	22:01	21:09	19:51	18:31	16:18	15:39
10	08:44	07:54	06:46	06:24	05:12	04:27	04:39	05:32	06:34	07:34	07:40	08:35
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:10	04:27	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:08	20:12	21:13	22:02	21:59	21:04	19:46	18:26	16:14	15:38
12	08:42	07:50	06:40	06:18	05:08	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:04	17:09	18:10	20:14	21:15	22:02	21:58	21:02	19:43	18:23	16:12	15:37
13	08:41	07:47	06:38	06:16	05:06	04:26	04:43	05:38	06:40	07:40	07:46	08:39
	16:05	17:11	18:12	20:16	21:17	22:03	21:57	20:59	19:40	18:21	16:10	15:37
14	08:40	07:45	06:35	06:13	05:04	04:25	04:44	05:40	06:42	07:42	07:48	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:38	18:18	16:08	15:37
15	08:39	07:43	06:33	06:11	05:02	04:25	04:46	05:42	06:44	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:16	16:07	15:37
16	08:38	07:41	06:30	06:08	05:00	04:25	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:18	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:05	15:37
17	08:36	07:38	06:27	06:06	04:58	04:25	04:49	05:46	06:48	07:48	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:51	20:50	19:30	18:11	16:03	15:37
18	08:35	07:36	06:25	06:03	04:56	04:25	04:50	05:48	06:50	07:51	07:57	08:44
	16:15	17:22	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:01	15:37
19	08:34	07:34	06:22	06:00	04:54	04:25	04:52	05:50	06:52	07:53	07:59	08:45
	16:17	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:06	16:00	15:38
20	08:32	07:31	06:19	05:58	04:53	04:25	04:53	05:52	06:54	07:55	08:01	08:45
	16:19	17:26	18:26	20:31	21:30	22:07	21:47	20:43	19:22	18:03	15:58	15:38
21	08:31	07:29	06:17	05:55	04:51	04:25	04:55	05:54	06:56	07:57	08:03	08:46
	16:21	17:29	18:28	20:33	21:32	22:07	21:45	20:40	19:19	18:01	15:57	15:38
22	08:30	07:26	06:14	05:53	04:49	04:25	04:57	05:56	06:58	07:59	08:05	08:46
	16:23	17:31	18:31	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:55	15:39
23	08:28	07:24	06:11	05:51	04:48	04:25	04:58	05:58	07:00	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:08	21:42	20:35	19:13	17:56	15:54	15:39
24	08:26	07:21	06:09	05:48	04:46	04:25	05:00	06:00	07:02	08:03	08:09	08:47
	16:27	17:35	18:35	20:39	21:38	22:08	21:40	20:33	19:11	17:53	15:52	15:40
25	08:25	07:19	06:06	05:46	04:44	04:26	05:02	06:02	07:04	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:41
26	08:23	07:16	06:03	05:43	04:43	04:26	05:04	06:04	07:06	08:07	08:13	08:48
	16:31	17:40	18:39	20:43	21:41	22:08	21:37	20:28	19:05	17:49	15:50	15:41
27	08:22	07:14	06:01	05:41	04:42	04:27	05:05	06:06	07:08	08:09	08:15	08:48
	16:33	17:42	18:41	20:45	21:42	22:08	21:35	20:25	19:03	17:46	15:49	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:10	08:12	08:16	08:48
	16:35	17:44	18:43	20:47	21:44	22:07	21:33	20:22	19:00	17:44	15:47	15:43
29	08:18		06:55	05:36	04:39	04:28	05:09	06:10	07:12	08:14	08:18	08:48
	16:38		19:45	20:49	21:46	22:07	21:31	20:20	18:57	17:42	15:46	15:44
30	08:16		06:53	05:34	04:38	04:29	05:11	06:12	07:14	08:16	08:20	08:48
	16:40		19:47	20:51	21:47	22:07	21:29	20:17	18:55	17:39	15:45	15:45
31	08:14		06:50		04:36		05:13	06:14		07:18		08:48
	16:42		19:49		21:49		21:28	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Laura Kurzemniece / laura.kurzemniece@environment.lv  
Calculated:  
16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Rapš i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (488)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:46	08:12 16:43	07:09 17:45	06:47 19:51	18:43 (PrRR3) 05:31	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:51	17:48 (Pr3b) 16:34	07:20 15:43
2	08:48 15:47	08:10 16:45	07:06 17:48	06:44 19:53	18:43 (PrRR3) 05:28	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	17:47 (Pr3b) 16:32	07:22 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	18:43 (PrRR3) 05:26	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:06	07:19 18:46	17:46 (Pr3b) 16:30	07:25 15:41
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	18:44 (PrRR3) 05:24	04:31 21:54	04:31 22:05	05:19 21:19	06:21 20:04	07:21 18:43	17:46 (Pr3b) 16:27	07:27 15:40
5	08:47 15:51	08:04 16:52	06:58 17:54	06:36 19:59	18:44 (PrRR3) 05:21	04:30 21:55	04:32 22:04	05:21 21:17	06:23 20:01	18:44 (PrRR3) 18:55 (PrRR3)	07:23 18:41	07:29 16:25
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	18:46 (PrRR3) 05:19	04:29 21:57	04:33 22:03	05:23 21:15	06:25 19:59	18:42 (PrRR3) 18:57 (PrRR3)	07:25 18:38	07:31 16:23
7	08:46 15:54	08:00 16:57	06:53 17:58	06:31 20:03	18:48 (PrRR3) 05:17	04:28 21:58	04:34 22:03	05:25 21:13	06:27 19:56	18:40 (PrRR3) 18:59 (PrRR3)	07:27 18:36	07:33 16:21
8	08:45 15:56	07:58 16:59	06:50 18:01	06:28 20:05	17:08 (Pr3b) 05:15	04:27 21:59	04:35 22:02	05:27 21:11	06:29 19:53	18:38 (PrRR3) 19:00 (PrRR3)	07:29 18:33	07:35 16:19
9	08:44 15:58	07:56 17:01	06:48 18:03	06:25 20:07	17:08 (Pr3b) 05:11	04:27 22:00	04:36 22:01	05:29 21:08	06:31 19:51	18:37 (PrRR3) 19:00 (PrRR3)	07:31 18:30	07:38 16:17
10	08:44 15:59	07:54 17:03	06:45 18:05	06:23 20:09	17:08 (Pr3b) 05:11	04:26 22:01	04:37 22:00	05:31 21:06	06:33 19:48	18:36 (PrRR3) 19:01 (PrRR3)	07:33 18:28	07:40 16:15
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	17:08 (Pr3b) 05:09	04:25 22:02	04:39 21:59	05:33 21:04	06:35 19:45	18:35 (PrRR3) 19:01 (PrRR3)	07:36 18:25	07:42 16:13
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	17:07 (Pr3b) 05:11	04:25 21:58	04:40 22:01	05:35 21:01	06:37 19:43	18:31 (PrRR3) 19:01 (PrRR3)	07:38 18:23	07:44 16:11
13	08:41 16:04	07:47 17:10	06:37 18:11	06:15 20:16	17:09 (PrRR3) 05:09	04:25 21:57	04:41 22:03	05:41 20:59	06:39 19:40	18:34 (PrRR3) 18:50 (PrRR3)	07:40 18:20	07:46 16:09
14	08:40 16:06	07:45 17:12	06:35 18:13	06:12 20:18	17:09 (Pr3b) 05:11	04:24 22:04	04:43 21:55	05:39 20:57	06:41 19:37	18:34 (PrRR3) 19:00 (PrRR3)	07:42 18:17	07:48 16:07
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	17:10 (Pr3b) 05:01	04:24 21:21	04:44 22:05	05:41 21:54	06:43 19:34	18:34 (PrRR3) 18:59 (PrRR3)	07:44 18:15	07:50 16:06
16	08:38 16:10	07:40 17:17	06:29 18:17	06:07 20:22	17:13 (Pr3b) 05:07	04:24 21:23	04:46 22:05	05:43 20:52	06:45 19:32	18:34 (PrRR3) 18:58 (PrRR3)	07:46 18:12	07:53 16:04
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	17:22 (Pr3b) 05:05	04:23 21:25	04:47 22:06	05:45 21:50	06:47 19:29	18:35 (PrRR3) 18:57 (PrRR3)	07:48 18:10	07:55 16:02
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	18:35 (PrRR3) 05:11	04:23 21:27	04:49 22:06	05:47 20:47	06:49 19:26	18:35 (PrRR3) 18:55 (PrRR3)	07:50 18:07	07:57 16:00
19	08:34 16:16	07:33 17:23	06:21 18:24	06:00 20:28	18:36 (PrRR3) 05:11	04:23 21:29	04:51 22:07	05:49 21:45	06:51 18:53	18:36 (PrRR3) 18:53 (PrRR3)	07:52 18:05	07:59 16:05
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	18:37 (PrRR3) 05:11	04:23 22:07	04:52 21:47	05:51 20:42	06:53 19:21	18:37 (PrRR3) 18:50 (PrRR3)	07:54 18:02	08:01 15:57
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	18:41 (PrRR3) 05:11	04:23 22:07	04:54 21:45	05:53 20:40	06:55 19:18	18:41 (PrRR3) 18:46 (PrRR3)	07:57 18:00	08:03 15:56
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	18:42 (PrRR3) 05:11	04:24 21:28	04:56 22:08	05:55 21:44	06:57 20:37	18:46 (PrRR3) 18:50 (PrRR3)	07:59 19:16	08:05 15:54
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	17:52 (PrRR3) 18:04 (PrRR3)	04:24 21:26	04:57 22:08	05:57 21:42	06:59 20:35	18:46 (PrRR3) 18:50 (PrRR3)	07:59 19:13	08:07 15:53
24	08:26 16:26	07:21 17:34	06:08 18:34	05:47 20:39	17:47 (PrRR3) 18:06 (PrRR3)	04:24 21:28	04:59 22:08	05:59 21:40	07:01 20:32	18:46 (PrRR3) 18:50 (PrRR3)	07:59 19:10	08:09 15:51
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	17:47 (PrRR3) 18:09 (PrRR3)	04:23 21:29	05:01 22:08	06:01 21:39	07:03 20:30	18:46 (PrRR3) 18:50 (PrRR3)	07:59 19:08	08:11 15:50
26	08:23 16:30	07:16 17:39	06:03 18:38	05:42 20:43	17:47 (PrRR3) 18:09 (PrRR3)	04:22 21:41	05:03 22:08	06:03 21:37	07:05 20:27	18:46 (PrRR3) 18:50 (PrRR3)	07:59 19:08	08:09 15:49
27	08:21 16:32	07:14 17:41	06:00 18:40	05:40 20:45	17:45 (PrRR3) 18:09 (PrRR3)	04:20 21:42	05:04 22:08	06:05 21:35	07:07 20:25	17:55 (Pr3b) 18:02 (Pr3b)	07:09 16:45	08:15 15:47
28	08:20 16:34	07:11 17:43	05:57 18:42	05:38 20:47	17:44 (PrRR3) 18:09 (PrRR3)	04:20 21:44	05:06 22:07	06:07 21:33	07:09 18:59	17:52 (PrRR3) 18:05 (Pr3b)	07:12 16:43	08:16 15:46
29	08:18 16:37		06:55 19:45	05:35 20:49	18:44 (PrRR3) 19:09 (PrRR3)	04:38 21:46	05:08 22:07	06:09 21:31	07:11 18:57	17:49 (Pr3b) 18:06 (Pr3b)	07:14 16:41	08:18 15:45
30	08:16 16:39		06:52 19:47	05:33 20:51	18:43 (PrRR3) 19:09 (PrRR3)	04:36 21:47	05:10 22:07	06:11 21:29	07:13 20:17	17:48 (Pr3b) 18:07 (Pr3b)	07:16 16:38	08:20 15:44
31	08:14 16:41		06:49 19:49	05:32 20:52	18:42 (PrRR3) 19:08 (PrRR3)	04:35 21:49	05:12 21:27	06:13 20:14	18:54 16:36	18:07 (Pr3b) 18:07 (Pr3b)	07:18 16:36	08:21 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case			428	140	0.39	0.44			401	182		
Sun reduction			0.39	0.44					0.43	0.29		
Oper. time red.			1.00	1.00					1.00	1.00		
Wind dir. red.			1.00	1.00					1.00	1.00		
Total reduction			0.39	0.44					0.43	0.29		
Total_real			168	62					173	53		



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Riteniš i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (496)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December			
1	08:48 15:46	08:12 16:43	07:09 17:45	06:47 19:51		05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25		06:15 20:12	19:25 (AP2) 19:41 (AP2)	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53		05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23		06:17 20:09	19:26 (AP2) 19:39 (AP2)	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55		05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21		06:19 20:06	19:28 (AP2) 19:37 (AP2)	07:19 18:46	07:25 16:30	08:25 15:41
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57		05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19		06:21 20:04		07:21 18:44	07:27 16:27	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59		05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17		06:23 20:01		07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01		05:19 21:03	04:29 21:56	04:33 22:03	05:23 21:15		06:25 19:59		07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:58	06:31 20:03		05:17 21:05	04:28 21:58	04:34 22:03	05:25 21:13		06:27 19:56		07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:50 18:01	06:28 20:05		05:15 21:07	04:28 21:59	04:35 22:02	05:27 21:11		06:29 19:53		07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	9	19:30 (AP2) 19:39 (AP2)	05:13 21:09	04:27 22:00	05:29 21:08		06:31 19:51		07:31 18:30	07:38 16:17	08:34 15:37
10	08:44 15:59	07:54 17:03	06:45 18:05	06:23 20:09	13	19:27 (AP2) 19:40 (AP2)	05:11 21:11	04:26 22:01	05:31 21:06		06:33 19:48		07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	17	19:26 (AP2) 19:43 (AP2)	05:09 21:13	04:26 22:02	05:33 21:04		06:35 19:45		07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	20	19:24 (AP2) 19:44 (AP2)	05:07 21:15	04:25 22:03	05:35 21:01		06:37 19:43		07:38 18:23	07:44 16:11	08:38 15:36
13	08:41 16:04	07:47 17:10	06:37 18:11	06:15 20:16	21	19:24 (AP2) 19:45 (AP2)	05:05 21:17	04:25 22:03	05:37 20:59		06:39 19:40		07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:13 20:18	23	19:22 (AP2) 19:45 (AP2)	05:03 21:19	04:24 22:04	05:39 20:57		06:41 19:37		07:42 18:17	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	24	19:22 (AP2) 19:46 (AP2)	05:01 21:21	04:24 22:05	05:41 20:54		06:43 19:34		07:44 18:15	07:50 16:06	08:41 15:36
16	08:38 16:10	07:40 17:17	06:29 18:18	06:07 20:22	24	19:21 (AP2) 19:45 (AP2)	04:59 21:23	04:24 22:05	05:43 20:52		06:45 19:32		07:46 18:12	07:53 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	24	19:21 (AP2) 19:45 (AP2)	04:57 21:25	04:24 22:06	05:45 20:50		06:47 19:29		07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	23	19:21 (AP2) 19:44 (AP2)	04:55 21:27	04:23 22:06	05:47 20:47	4	19:35 (AP2) 19:39 (AP2)	06:49 19:26	07:50 18:07	07:57 16:01	08:44 15:36
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	23	19:21 (AP2) 19:44 (AP2)	04:53 21:29	04:23 22:07	05:49 20:45	12	19:31 (AP2) 19:43 (AP2)	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	22	19:21 (AP2) 19:43 (AP2)	04:52 21:30	04:24 22:07	05:51 20:42	16	19:29 (AP2) 19:45 (AP2)	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	20	19:22 (AP2) 19:42 (AP2)	04:50 21:32	04:24 22:07	05:53 20:40	18	19:28 (AP2) 19:46 (AP2)	06:55 19:18	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	18	19:23 (AP2) 19:41 (AP2)	04:48 21:34	04:24 22:08	05:55 20:37	20	19:27 (AP2) 19:47 (AP2)	06:57 19:16	07:59 17:57	08:05 15:54	08:47 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	15	19:24 (AP2) 19:39 (AP2)	04:47 21:36	04:24 22:08	05:57 20:35	21	19:26 (AP2) 19:47 (AP2)	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	11	19:26 (AP2) 19:37 (AP2)	04:45 21:37	04:24 22:08	05:59 20:32	23	19:25 (AP2) 19:48 (AP2)	07:01 19:10	08:03 17:53	08:09 15:51	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41		04:43 21:39	04:25 22:08	05:01 21:39	06:01 20:30	23	19:25 (AP2) 19:48 (AP2)	07:03 19:08	07:05 16:50	08:11 15:50	08:48 15:39
26	08:23 16:30	07:16 17:39	06:03 18:38	05:42 20:43		04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	24	19:23 (AP2) 19:47 (AP2)	07:05 19:05	07:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:32	07:14 17:41	06:00 18:40	05:40 20:45		04:41 21:42	04:26 22:08	05:04 21:35	06:05 20:25	24	19:23 (AP2) 19:47 (AP2)	07:07 19:02	07:09 16:45	08:14 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:42	05:38 20:47		04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	24	19:23 (AP2) 19:47 (AP2)	07:09 19:00	07:12 16:43	08:16 15:46	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49		04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:20	23	19:23 (AP2) 19:46 (AP2)	07:11 18:57	07:14 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51		04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	22	19:23 (AP2) 19:45 (AP2)	07:13 18:54	07:16 16:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49			04:35 21:49		05:12 21:27	06:13 20:14	22	19:24 (AP2) 19:44 (AP2)		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469		384	324	248	217		
Total, worst case				307					274						
Sun reduction				0,44					0,52		38		0,43		
Oper. time red.				1,00					1,00		1,00				
Wind dir. red.				1,00					1,00		1,00				
Total reduction				0,44					0,52		0,43				
Total, real				136					143		16				

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Robež nieki - Shadow Receptor:  $1,0 \times 1,0$  Azimuth:  $3,1^\circ$  Slope:  $90,0^\circ$  (432)  
 Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:49	08:13	07:09	06:47	05:31	04:35	04:29	05:14	06:16	07:16	07:21	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:45	05:29	04:34	04:30	05:16	06:18	07:18	07:23	08:24
	15:48	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:10	18:49	16:32	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:18	06:20	07:20	07:25	08:25
	15:50	16:48	17:50	19:55	20:58	21:53	22:06	21:22	20:07	18:47	16:30	15:42
4	08:48	08:07	07:01	06:39	05:24	04:32	04:32	05:20	06:22	07:22	07:27	08:27
	15:51	16:51	17:52	19:57	21:00	21:54	22:05	21:20	20:04	18:44	16:28	15:41
5	08:47	08:05	06:59	06:37	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:29
	15:52	16:53	17:55	20:00	21:02	21:56	22:04	21:17	20:02	18:41	16:26	15:40
6	08:47	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:02	21:04	21:57	22:04	21:15	19:59	18:39	16:24	15:40
7	08:46	08:01	06:54	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:34	08:32
	15:55	16:57	17:59	20:04	21:06	21:58	22:03	21:13	19:56	18:36	16:22	15:39
8	08:45	07:59	06:51	06:29	05:16	04:28	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	17:00	18:01	20:06	21:08	21:59	22:02	21:11	19:54	18:33	16:20	15:39
9	08:45	07:56	06:48	06:26	05:13	04:27	04:37	05:30	06:32	07:32	07:38	08:34
	15:58	17:02	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:31	16:18	15:38
10	08:44	07:54	06:46	06:23	05:11	04:27	04:38	05:32	06:34	07:34	07:40	08:36
	16:00	17:04	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:09	04:26	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:46	18:26	16:14	15:37
12	08:42	07:50	06:40	06:18	05:07	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:03	17:08	18:10	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:12	15:37
13	08:41	07:48	06:38	06:16	05:05	04:25	04:42	05:38	06:40	07:40	07:47	08:39
	16:05	17:11	18:12	20:16	21:18	22:04	21:57	21:00	19:40	18:21	16:10	15:37
14	08:40	07:45	06:35	06:13	05:03	04:25	04:44	05:40	06:42	07:42	07:49	08:40
	16:07	17:13	18:14	20:18	21:20	22:04	21:56	20:57	19:38	18:18	16:08	15:37
15	08:39	07:43	06:33	06:10	05:01	04:25	04:45	05:42	06:44	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:37
16	08:38	07:41	06:30	06:08	04:59	04:24	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:13	16:05	15:37
17	08:37	07:38	06:27	06:05	04:58	04:24	04:48	05:46	06:48	07:48	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:52	20:50	19:30	18:10	16:03	15:37
18	08:35	07:36	06:25	06:03	04:56	04:24	04:50	05:48	06:50	07:51	07:57	08:44
	16:14	17:22	18:22	20:26	21:27	22:07	21:50	20:48	19:27	18:08	16:01	15:37
19	08:34	07:34	06:22	06:00	04:54	04:24	04:51	05:50	06:52	07:53	07:59	08:45
	16:16	17:24	18:24	20:29	21:29	22:07	21:49	20:45	19:24	18:05	16:00	15:37
20	08:33	07:31	06:19	05:58	04:52	04:24	04:53	05:52	06:54	07:55	08:01	08:46
	16:18	17:26	18:26	20:31	21:31	22:07	21:47	20:43	19:21	18:03	15:58	15:37
21	08:31	07:29	06:17	05:55	04:50	04:24	04:55	05:54	06:56	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:19	18:00	15:56	15:38
22	08:30	07:26	06:14	05:53	04:49	04:24	04:56	05:56	06:58	07:59	08:05	08:47
	16:22	17:31	18:31	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:55	15:38
23	08:28	07:24	06:11	05:50	04:47	04:25	04:58	05:58	07:00	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:08	21:42	20:35	19:13	17:56	15:53	15:39
24	08:27	07:21	06:09	05:48	04:46	04:25	05:00	06:00	07:01	08:03	08:09	08:48
	16:27	17:35	18:35	20:39	21:38	22:08	21:41	20:33	19:11	17:53	15:52	15:39
25	08:25	07:19	06:06	05:45	04:44	04:25	05:02	06:02	07:03	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:40
26	08:23	07:17	06:03	05:43	04:43	04:26	05:03	06:04	07:05	08:08	08:13	08:48
	16:31	17:39	18:39	20:43	21:41	22:08	21:37	20:28	19:05	16:48	15:49	15:41
27	08:22	07:14	06:01	05:41	04:41	04:26	05:05	06:06	07:08	08:10	08:15	08:49
	16:33	17:42	18:41	20:45	21:43	22:08	21:35	20:25	19:03	16:46	15:48	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:10	08:12	08:17	08:49
	16:35	17:44	18:43	20:47	21:44	22:08	21:34	20:23	19:00	16:44	15:47	15:43
29	08:18		06:55	05:36	04:38	04:28	05:09	06:10	07:12	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:32	20:20	18:57	16:41	15:46	15:43
30	08:16		06:52	05:34	04:37	04:28	05:11	06:12	07:14	08:16	08:20	08:49
	16:40		19:47	20:51	21:47	22:07	21:30	20:17	18:55	16:39	15:45	15:44
31	08:15		06:50		04:36		05:13	06:14		07:18		08:49
	16:42		19:49		21:49		21:28	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Rozes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (428)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January			February			March			April			May			June		
1	08:48	14:53 (P19.2b)	08:13				07:09		16:07 (DD3)	06:47		18:53 (O3)	05:31		04:35			
	15:47	11	15:04 (P19.2b)	16:44			17:46	33	16:40 (DD3)	19:51	23	19:16 (O3)	20:53		21:50			
2	08:48	14:53 (P19.2b)	08:11				07:06		16:07 (DD3)	06:44		18:52 (O3)	05:29		04:34			
	15:48	13	15:06 (P19.2b)	16:46			17:48	32	16:39 (DD3)	19:53	23	19:15 (O3)	20:55		21:51			
3	08:48	14:53 (P19.2b)	08:09				07:04		16:09 (DD3)	06:42		18:53 (O3)	05:27		04:33			
	15:50	14	15:07 (P19.2b)	16:48			17:50	29	16:38 (DD3)	19:55	23	19:16 (O3)	20:57		21:53			
4	08:47	14:53 (P19.2b)	08:07				07:01		16:09 (DD3)	06:39		18:52 (O3)	05:24		04:32			
	15:51	16	15:09 (P19.2b)	16:51			17:52	28	16:37 (DD3)	19:57	22	19:14 (O3)	20:59		21:54			
5	08:47	14:53 (P19.2b)	08:05				06:59		16:10 (DD3)	06:37		18:53 (O3)	05:22		04:31			
	15:52	18	15:11 (P19.2b)	16:53			17:55	25	16:35 (DD3)	19:59	21	19:14 (O3)	21:01		21:55			
6	08:46	14:53 (P19.2b)	08:03				06:56		16:12 (DD3)	06:34		18:53 (O3)	05:20		04:30			
	15:54	19	15:12 (P19.2b)	16:55			17:57	22	16:34 (DD3)	20:01	20	19:13 (O3)	21:03		21:56			
7	08:46	14:53 (P19.2b)	08:00				06:53		16:14 (DD3)	06:31		18:54 (O3)	05:18		04:29			
	15:55	19	15:12 (P19.2b)	16:57			17:59	17	16:31 (DD3)	20:04	17	19:11 (O3)	21:05		21:58			
8	08:45	14:53 (P19.2b)	07:58				06:51		16:18 (DD3)	06:29		18:56 (O3)	05:16		04:28			
	15:57	20	15:13 (P19.2b)	17:00			18:01	15	17:31 (DD1)	20:06	13	19:09 (O3)	21:07		21:59			
9	08:44	14:53 (P19.2b)	07:56				06:48		17:22 (DD1)	06:26		18:59 (O3)	05:13		04:28			
	15:58	21	15:14 (P19.2b)	17:02			18:03	13	17:35 (DD1)	20:08	10	19:38 (O2)	21:09		22:00			
10	08:44	14:53 (P19.2b)	07:54			16:27 (O5)	06:46		17:19 (DD1)	06:23		19:32 (O2)	05:11		04:27			
	16:00	22	15:15 (P19.2b)	17:04	5	16:32 (O5)	18:05	18	17:37 (DD1)	20:10	9	19:41 (O2)	21:11		22:01			
11	08:43	14:54 (P19.2b)	07:52			16:23 (O5)	06:43		17:17 (DD1)	06:21		19:29 (O2)	05:09		04:26			
	16:02	21	15:15 (P19.2b)	17:06	11	16:34 (O5)	18:07	21	17:38 (DD1)	20:12	13	19:42 (O2)	21:13		22:02			
12	08:42	14:54 (P19.2b)	07:50			16:22 (O5)	06:40		17:17 (DD1)	06:18		19:28 (O2)	05:07		04:26			
	16:03	22	15:16 (P19.2b)	17:08	15	16:37 (O5)	18:09	22	17:39 (DD1)	20:14	17	19:45 (O2)	21:15		22:03			
13	08:41	14:54 (P19.2b)	07:47			16:21 (O5)	06:38		17:15 (DD1)	06:16		19:27 (O2)	05:05		04:25			
	16:05	23	15:17 (P19.2b)	17:11	18	16:39 (O5)	18:12	24	17:39 (DD1)	20:16	19	19:46 (O2)	21:17		22:03			
14	08:40	14:54 (P19.2b)	07:45			16:18 (DD3)	06:35		17:14 (DD1)	06:13		19:27 (O2)	05:03		04:25			
	16:07	23	15:17 (P19.2b)	17:13	22	16:40 (O5)	18:14	25	17:39 (DD1)	20:18	20	19:47 (O2)	21:19		22:04			
15	08:39	14:55 (P19.2b)	07:43			16:16 (DD3)	06:32		17:15 (DD1)	06:10		19:26 (O2)	05:01		04:25			
	16:09	23	15:18 (P19.2b)	17:15	25	16:41 (O5)	18:16	25	17:40 (DD1)	20:20	21	19:47 (O2)	21:21		22:05			
16	08:38	14:54 (P19.2b)	07:41			16:13 (DD3)	06:30		17:14 (DD1)	06:08		19:26 (O2)	04:59		04:25			
	16:11	24	15:18 (P19.2b)	17:17	28	16:41 (O5)	18:18	25	17:39 (DD1)	20:22	21	19:47 (O2)	21:23		22:05			
17	08:36	14:55 (P19.2b)	07:38			16:12 (DD3)	06:27		17:14 (DD1)	06:05		19:25 (O2)	04:58		04:24			
	16:13	23	15:18 (P19.2b)	17:20	30	16:42 (O5)	18:20	24	17:38 (DD1)	20:24	21	19:46 (O2)	21:25		22:06			
18	08:35	14:55 (P19.2b)	07:36			16:10 (DD3)	06:24		17:14 (DD1)	06:03		19:26 (O2)	04:56		04:24			
	16:15	23	15:18 (P19.2b)	17:22	31	16:41 (O5)	18:22	24	17:38 (DD1)	20:26	20	19:46 (O2)	21:27		22:06			
19	08:34	14:56 (P19.2b)	07:33			16:10 (DD3)	06:22		17:14 (DD1)	06:00		19:25 (O2)	04:54		04:24			
	16:16	23	15:19 (P19.2b)	17:24	32	16:42 (O5)	18:24	23	17:37 (DD1)	20:28	20	19:45 (O2)	21:29		22:07			
20	08:32	14:57 (P19.2b)	07:31			16:09 (DD3)	06:19		17:15 (DD1)	05:58		19:26 (O2)	04:52		04:24			
	16:18	22	15:19 (P19.2b)	17:26	32	16:41 (O5)	18:26	21	17:36 (DD1)	20:30	18	19:44 (O2)	21:31		22:07			
21	08:31	14:57 (P19.2b)	07:29			16:08 (DD3)	06:16		17:16 (DD1)	05:55		19:28 (O2)	04:51		04:24			
	16:21	21	15:18 (P19.2b)	17:28	33	16:41 (O5)	18:28	19	17:35 (DD1)	20:33	15	19:43 (O2)	21:32		22:07			
22	08:30	14:58 (P19.2b)	07:26			16:07 (DD3)	06:14		17:17 (DD1)	05:53		19:28 (O2)	04:49		04:25			
	16:23	21	15:19 (P19.2b)	17:31	34	16:41 (DD3)	18:30	15	17:32 (DD1)	20:35	13	19:41 (O2)	21:34		22:08			
23	08:28	14:59 (P19.2b)	07:24			16:08 (DD3)	06:11		17:20 (DD1)	05:50		19:31 (O2)	04:47		04:25			
	16:25	19	15:18 (P19.2b)	17:33	34	16:42 (DD3)	18:32	9	17:29 (DD1)	20:37	8	19:39 (O2)	21:36		22:08			
24	08:27	15:00 (P19.2b)	07:21			16:07 (DD3)	06:08			05:48			04:46		04:25			
	16:27	18	15:18 (P19.2b)	17:35	35	16:42 (DD3)	18:35			20:39			21:38		22:08			
25	08:25	15:01 (P19.2b)	07:19			16:06 (DD3)	06:06			05:45			04:44		04:25			
	16:29	16	15:17 (P19.2b)	17:37	35	16:41 (DD3)	18:37			20:41			21:39		22:08			
26	08:23	15:03 (P19.2b)	07:16			16:07 (DD3)	06:03			18:01 (O3)	05:43		04:43		04:26			
	16:31	13	15:16 (P19.2b)	17:39	35	16:42 (DD3)	18:39	10		18:11 (O3)	20:43		21:41		22:08			
27	08:22	15:05 (P19.2b)	07:14			16:06 (DD3)	06:00			17:58 (O3)	05:41		04:41		04:26			
	16:33	9	15:14 (P19.2b)	17:42	35	16:41 (DD3)	18:41	14		18:12 (O3)	20:45		21:43		22:08			
28	08:20		07:11			16:07 (DD3)	05:58			17:57 (O3)	05:38		04:40		04:27			
	16:35		17:44	34		16:41 (DD3)	18:43	18		18:15 (O3)	20:47		21:44		22:07			
29	08:18						06:55			18:55 (O3)	05:36		04:39		04:28			
	16:37						19:45	21		19:16 (O3)	20:49		21:46		22:07			
30	08:16						06:52			18:54 (O3)	05:34		04:37		04:28			
	16:40						19:47	22		19:16 (O3)	20:51		21:47		22:07			
31	08:14						06:50			18:54 (O3)			04:36					
	16:42						19:49	23		19:17 (O3)			21:49					
Potential sun hours	236			266			366			426			507		528			
Total, worst case		517			524			617			407							
Sun reduction		0,13			0,22			0,39			0,44							
Oper. time red.		1,00			1,00			1,00			1,00							
Wind dir. red.		1,00			1,00			1,00			1,00							
Total reduction		0,13			0,22			0,39			0,44							
Total, real		69			118			242			180							

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Rozes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (428)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December		
1	04:29 22:06	05:14 21:26	06:16 20:12	19:28 (O2) 19:41 (O2)	07:15 18:18 (DD1)	17:55 (DD1) 16:35 15:57 (O5)	08:22 15:44 08:23	14:36 (P19.2b) 14:58 (P19.2b) 14:36 (P19.2b)
2	04:30 22:06	05:16 21:24	06:18 20:09	19:30 (O2) 19:39 (O2)	07:17 18:17 (DD1)	17:56 (DD1) 16:32	07:23 15:43	14:36 (P19.2b) 14:58 (P19.2b)
3	04:31 22:05	05:18 21:21	06:20 20:07	18:57 (O3) 19:36 (O2)	07:20 18:47	17:57 (DD1) 16:30	07:25 15:42	14:37 (P19.2b) 14:58 (P19.2b)
4	04:32 22:05	05:20 21:19	06:22 20:04	18:53 (O3) 19:06 (O3)	07:22 18:44	17:58 (DD1) 16:28	07:27 15:41	14:38 (P19.2b) 14:58 (P19.2b)
5	04:33 22:04	05:22 21:17	06:24 20:02	18:51 (O3) 19:08 (O3)	07:24 18:41	18:00 (DD1) 16:26	07:29 15:41	14:38 (P19.2b) 14:58 (P19.2b)
6	04:34 22:03	05:24 21:15	06:26 19:59	18:50 (O3) 19:09 (O3)	07:26 18:39	16:52 (DD3) 17:06 (DD3)	07:31 16:24	14:39 (P19.2b) 14:58 (P19.2b)
7	04:35 22:03	05:26 21:13	06:28 19:56	18:48 (O3) 19:09 (O3)	07:28 18:36	16:49 (DD3) 17:08 (DD3)	07:33 16:22	14:40 (P19.2b) 14:58 (P19.2b)
8	04:36 22:02	05:28 21:11	06:30 19:54	18:47 (O3) 19:10 (O3)	07:30 18:33	16:46 (DD3) 17:09 (DD3)	07:36 16:20	14:41 (P19.2b) 14:56 (P19.2b)
9	04:37 22:01	05:30 21:08	06:32 19:51	18:47 (O3) 19:10 (O3)	07:32 18:31	16:45 (DD3) 17:12 (DD3)	07:38 16:18	14:42 (P19.2b) 14:56 (P19.2b)
10	04:38 22:00	05:32 21:06	06:34 19:48	18:45 (O3) 19:09 (O3)	07:34 18:28	16:43 (DD3) 17:12 (DD3)	07:40 16:16	14:42 (P19.2b) 14:55 (P19.2b)
11	04:40 21:59	05:34 21:04	06:36 19:46	18:45 (O3) 19:08 (O3)	07:36 18:26	16:42 (DD3) 17:13 (DD3)	07:42 16:14	14:44 (P19.2b) 14:55 (P19.2b)
12	04:41 21:58	05:36 21:02	06:38 19:43	18:45 (O3) 19:08 (O3)	07:38 18:23	16:41 (DD3) 17:13 (DD3)	07:44 16:12	14:44 (P19.2b) 14:55 (P19.2b)
13	04:42 21:57	05:38 20:59	06:40 19:40	18:45 (O3) 19:07 (O3)	07:40 18:21	16:40 (DD3) 17:13 (DD3)	07:46 16:10	14:45 (P19.2b) 14:54 (P19.2b)
14	04:44 21:55	05:40 20:57	06:42 19:38	18:45 (O3) 19:06 (O3)	07:42 18:18	16:39 (DD3) 17:13 (DD3)	07:48 16:08	14:46 (P19.2b) 14:54 (P19.2b)
15	04:45 21:54	05:42 20:55	06:44 19:35	18:46 (O3) 19:05 (O3)	07:44 18:15	16:39 (DD3) 17:14 (DD3)	07:51 16:06	14:46 (P19.2b) 14:54 (P19.2b)
16	04:47 21:53	05:44 20:52	06:46 19:32	18:47 (O3) 19:02 (O3)	07:46 18:13	16:39 (DD3) 17:14 (DD3)	07:53 16:05	14:47 (P19.2b) 14:53 (P19.2b)
17	04:48 21:51	05:46 20:50	06:48 19:29	18:49 (O3) 19:00 (O3)	07:48 18:10	16:38 (DD3) 17:13 (DD3)	07:55 16:03	14:48 (P19.2b) 14:54 (P19.2b)
18	04:50 21:50	05:48 20:47	06:49 19:27	18:52 (O3) 18:57 (O3)	07:50 07:53	16:38 (DD3) 17:13 (DD3)	07:57 16:01	14:49 (P19.2b) 14:54 (P19.2b)
19	04:51 21:49	05:50 20:45	06:51 19:24	18:57 (O3) 18:05	07:53 07:55	16:39 (DD3) 17:13 (DD3)	07:59 16:00	14:50 (P19.2b) 14:54 (P19.2b)
20	04:53 21:47	05:52 20:43	06:53 19:21	18:07 (DD1) 18:15 (DD1)	07:55 18:03	16:39 (DD3) 17:12 (DD3)	08:01 15:58	14:50 (P19.2b) 14:54 (P19.2b)
21	04:55 21:45	05:54 20:40	06:55 19:19	18:04 (DD1) 18:18 (DD1)	07:57 18:00	16:39 (DD3) 17:11 (O5)	08:03 15:56	14:51 (P19.2b) 14:55 (P19.2b)
22	04:56 21:44	05:56 20:38	06:57 19:16	18:01 (DD1) 18:19 (DD1)	07:59 17:58	16:39 (DD3) 17:11 (O5)	08:05 15:55	14:51 (P19.2b) 14:55 (P19.2b)
23	04:58 21:42	05:58 20:35	06:59 19:13	18:00 (DD1) 18:20 (DD1)	08:01 17:56	16:41 (DD3) 17:12 (O5)	08:07 15:54	14:52 (P19.2b) 14:56 (P19.2b)
24	05:00 21:41	06:00 20:33	07:01 19:11	17:58 (DD1) 18:21 (DD1)	08:03 17:53	16:41 (DD3) 17:12 (O5)	08:09 15:52	14:52 (P19.2b) 14:56 (P19.2b)
25	05:02 21:39	06:02 20:30	07:03 19:08	17:57 (DD1) 18:21 (DD1)	07:05 16:51	15:42 (DD3) 16:11 (O5)	08:11 15:51	14:52 (P19.2b) 14:57 (P19.2b)
26	05:03 21:37	06:04 20:27	07:05 19:05	17:56 (DD1) 18:21 (DD1)	07:07 16:48	15:44 (DD3) 16:12 (O5)	08:13 15:50	14:52 (P19.2b) 14:57 (P19.2b)
27	05:05 21:35	06:06 20:25	07:07 19:03	17:56 (DD1) 18:21 (DD1)	07:10 16:46	15:46 (DD3) 16:11 (O5)	08:15 15:48	14:53 (P19.2b) 14:59 (P19.2b)
28	05:07 21:33	06:08 20:22	07:09 19:00	17:55 (DD1) 18:21 (DD1)	07:12 16:44	15:48 (DD3) 16:09 (O5)	08:16 15:47	14:52 (P19.2b) 14:59 (P19.2b)
29	05:09 21:31	06:10 20:20	07:11 18:57	17:55 (DD1) 18:20 (DD1)	07:14 16:41	15:51 (O5) 16:08 (O5)	08:18 15:46	14:53 (P19.2b) 15:00 (P19.2b)
30	05:11 21:30	06:12 20:17	07:13 19:47	17:55 (DD1) 18:19 (DD1)	07:16 16:39	15:52 (O5) 16:06 (O5)	08:20 15:45	14:53 (P19.2b) 15:02 (P19.2b)
31	05:13 21:28	06:14 20:15	07:15 19:44	18:19 (DD1) 19:27 (O2)	07:18 16:37	15:53 (O5) 16:03 (O5)	08:48 15:46	14:53 (P19.2b) 15:03 (P19.2b)
Potential sun hours	528	469	384	324	248	217		
Total, worst case		219	543	806	325	321		
Sun reduction		0,52	0,43	0,29	0,08	0,08		
Oper. time red.		1,00	1,00	1,00	1,00	1,00		
Wind dir. red.		1,00	1,00	1,00	1,00	1,00		
Total reduction		0,52	0,43	0,29	0,08	0,08		
Total, real		114	234	234	24	27		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Rož ulejas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (425)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:35	04:29	05:14	06:16	07:15	07:20	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:06	21:25	20:12	18:52	16:35	15:44
2	08:48	08:10	07:06	06:44	05:29	04:34	04:30	05:16	06:18	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:18	06:20	07:19	07:25	08:25
	15:50	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:47	16:30	15:42
4	08:47	08:07	07:01	06:39	05:24	04:32	04:32	05:20	06:22	07:21	07:27	08:27
	15:51	16:51	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:41
5	08:47	08:05	06:58	06:36	05:22	04:31	04:33	05:22	06:24	07:23	07:29	08:28
	15:52	16:53	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:26	15:40
6	08:46	08:02	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:01	21:03	21:56	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:00	06:53	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:33	08:31
	15:55	16:57	17:59	20:03	21:05	21:57	22:02	21:13	19:56	18:36	16:22	15:39
8	08:45	07:58	06:51	06:29	05:16	04:28	04:36	05:28	06:30	07:30	07:35	08:33
	15:57	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:20	15:39
9	08:44	07:56	06:48	06:26	05:13	04:28	04:37	05:30	06:32	07:32	07:38	08:34
	15:58	17:02	18:03	20:08	21:09	22:00	22:01	21:08	19:51	18:31	16:18	15:38
10	08:43	07:54	06:46	06:23	05:11	04:27	04:38	05:32	06:34	07:34	07:40	08:35
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:09	04:26	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:26	16:14	15:37
12	08:42	07:50	06:40	06:18	05:07	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:02	19:43	18:23	16:12	15:37
13	08:41	07:47	06:38	06:16	05:05	04:25	04:42	05:38	06:40	07:40	07:46	08:39
	16:05	17:11	18:12	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:10	15:37
14	08:40	07:45	06:35	06:13	05:03	04:25	04:44	05:40	06:41	07:42	07:48	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:37	18:18	16:08	15:37
15	08:39	07:43	06:32	06:10	05:01	04:25	04:45	05:42	06:43	07:44	07:50	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:37
16	08:37	07:40	06:30	06:08	04:59	04:24	04:47	05:44	06:45	07:46	07:53	08:42
	16:11	17:17	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:05	15:37
17	08:36	07:38	06:27	06:05	04:58	04:24	04:48	05:46	06:47	07:48	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:03	15:37
18	08:35	07:36	06:24	06:03	04:56	04:24	04:50	05:48	06:49	07:50	07:57	08:44
	16:14	17:22	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:01	15:37
19	08:34	07:33	06:22	06:00	04:54	04:24	04:51	05:50	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:58	04:52	04:24	04:53	05:52	06:53	07:55	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:03	15:58	15:38
21	08:31	07:29	06:16	05:55	04:50	04:24	04:55	05:54	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:19	18:00	15:56	15:38
22	08:29	07:26	06:14	05:53	04:49	04:25	04:56	05:56	06:57	07:59	08:05	08:46
	16:22	17:31	18:30	20:35	21:34	22:07	21:44	20:37	19:16	17:58	15:55	15:38
23	08:28	07:24	06:11	05:50	04:47	04:25	04:58	05:58	06:59	08:01	08:07	08:47
	16:25	17:33	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:39
24	08:26	07:21	06:08	05:48	04:46	04:25	05:00	06:00	07:01	08:03	08:09	08:47
	16:27	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:11	17:53	15:52	15:39
25	08:25	07:19	06:06	05:45	04:44	04:25	05:02	06:02	07:03	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:40
26	08:23	07:16	06:03	05:43	04:43	04:26	05:03	06:04	07:05	08:07	08:13	08:48
	16:31	17:39	18:39	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:41
27	08:21	07:14	06:00	05:41	04:41	04:26	05:05	06:06	07:07	08:09	08:14	08:48
	16:33	17:42	18:41	20:45	21:42	22:07	21:35	20:25	19:02	16:46	15:48	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:09	08:12	08:16	08:48
	16:35	17:44	18:43	20:47	21:44	22:07	21:33	20:22	19:00	16:44	15:47	15:43
29	08:18		06:55	05:36	04:38	04:28	05:09	06:10	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:45	22:07	21:31	20:20	18:57	16:41	15:46	15:44
30	08:16		06:52	05:33	04:37	04:28	05:11	06:12	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:45	15:45
31	08:14		06:50		04:36		05:13	06:14		07:18		08:48
	16:42		19:49		21:48		21:27	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Rubeni - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (450)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:35	04:29	05:15	06:16	07:16	07:20	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:06	21:26	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:45	05:29	04:34	04:30	05:17	06:18	07:18	07:23	08:23
	15:49	16:46	17:48	19:53	20:55	21:51	22:06	21:24	20:09	18:49	16:33	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:19	06:20	07:20	07:25	08:25
	15:50	16:49	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:47	16:30	15:42
4	08:47	08:07	07:01	06:39	05:25	04:32	04:32	05:20	06:22	07:22	07:27	08:27
	15:51	16:51	17:53	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:42
5	08:47	08:05	06:59	06:37	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:28
	15:53	16:53	17:55	19:59	21:01	21:55	22:04	21:17	20:02	18:41	16:26	15:41
6	08:46	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:02	21:03	21:56	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:01	06:54	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:33	08:31
	15:56	16:58	17:59	20:04	21:05	21:58	22:03	21:13	19:56	18:36	16:22	15:40
8	08:45	07:58	06:51	06:29	05:16	04:29	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	17:00	18:01	20:06	21:07	21:59	22:02	21:11	19:54	18:34	16:20	15:39
9	08:44	07:56	06:48	06:26	05:14	04:28	04:38	05:30	06:32	07:32	07:38	08:34
	15:59	17:02	18:03	20:08	21:09	22:00	22:01	21:09	19:51	18:31	16:18	15:39
10	08:44	07:54	06:46	06:24	05:12	04:27	04:39	05:32	06:34	07:34	07:40	08:35
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:10	04:27	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:08	20:12	21:13	22:02	21:59	21:04	19:46	18:26	16:14	15:38
12	08:42	07:50	06:40	06:18	05:08	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:04	17:09	18:10	20:14	21:15	22:02	21:58	21:02	19:43	18:23	16:12	15:38
13	08:41	07:47	06:38	06:16	05:06	04:26	04:43	05:38	06:40	07:40	07:46	08:39
	16:06	17:11	18:12	20:16	21:17	22:03	21:57	20:59	19:40	18:21	16:10	15:37
14	08:40	07:45	06:35	06:13	05:04	04:25	04:44	05:40	06:42	07:42	07:48	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:38	18:18	16:08	15:37
15	08:39	07:43	06:33	06:11	05:02	04:25	04:46	05:42	06:44	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:16	16:07	15:37
16	08:38	07:41	06:30	06:08	05:00	04:25	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:18	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:05	15:37
17	08:36	07:38	06:27	06:06	04:58	04:25	04:49	05:46	06:48	07:48	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:51	20:50	19:30	18:11	16:03	15:37
18	08:35	07:36	06:25	06:03	04:56	04:25	04:50	05:48	06:50	07:51	07:57	08:44
	16:15	17:22	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:01	15:37
19	08:34	07:34	06:22	06:01	04:54	04:25	04:52	05:50	06:52	07:53	07:59	08:45
	16:17	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:06	16:00	15:38
20	08:32	07:31	06:19	05:58	04:53	04:25	04:53	05:52	06:54	07:55	08:01	08:45
	16:19	17:26	18:26	20:31	21:30	22:07	21:47	20:43	19:22	18:03	15:58	15:38
21	08:31	07:29	06:17	05:55	04:51	04:25	04:55	05:54	06:56	07:57	08:03	08:46
	16:21	17:29	18:28	20:33	21:32	22:07	21:45	20:40	19:19	18:01	15:57	15:38
22	08:30	07:26	06:14	05:53	04:49	04:25	04:57	05:56	06:58	07:59	08:05	08:46
	16:23	17:31	18:31	20:35	21:34	22:07	21:44	20:38	19:16	17:58	15:55	15:39
23	08:28	07:24	06:11	05:51	04:48	04:25	04:58	05:58	07:00	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:08	21:42	20:35	19:13	17:56	15:54	15:39
24	08:26	07:21	06:09	05:48	04:46	04:25	05:00	06:00	07:02	08:03	08:09	08:47
	16:27	17:35	18:35	20:39	21:38	22:08	21:40	20:33	19:11	17:53	15:52	15:40
25	08:25	07:19	06:06	05:46	04:44	04:26	05:02	06:02	07:04	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:41
26	08:23	07:16	06:03	05:43	04:43	04:26	05:04	06:04	07:06	08:07	08:13	08:48
	16:31	17:40	18:39	20:43	21:41	22:08	21:37	20:28	19:05	17:49	15:50	15:41
27	08:22	07:14	06:01	05:41	04:42	04:27	05:05	06:06	07:08	08:09	08:15	08:48
	16:33	17:42	18:41	20:45	21:42	22:08	21:35	20:25	19:03	17:46	15:49	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:10	08:12	08:16	08:48
	16:35	17:44	18:43	20:47	21:44	22:07	21:33	20:22	19:00	17:44	15:47	15:43
29	08:18		06:55	05:36	04:39	04:28	05:09	06:10	07:12	08:14	08:18	08:48
	16:38		19:45	20:49	21:46	22:07	21:31	20:20	18:57	17:42	15:46	15:44
30	08:16		06:53	05:34	04:38	04:29	05:11	06:12	07:14	08:16	08:20	08:48
	16:40		19:47	20:51	21:47	22:07	21:29	20:17	18:55	17:39	15:45	15:45
31	08:14		06:50		04:36		05:13	06:14		07:18		08:48
	16:42		19:49		21:49		21:28	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		



Flickering\_Vestas\_V172\_Prikuli\_B

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Laura Kurzemniece / laura.kurzemniece@environment.lv  
Calculated:  
16.07.2025 09:20/4.1.254

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Rubeniš i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (429)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []  
Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sep. Oct. Nov. Dec.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

January		February		March		April		May		June		July		August		September		October		November		December	
08:48	08:13			07:09		16:20 (DD3)	06:47	05:31		04:35	04:29	05:14	06:16			07:15		17:50 (DD1)	07:20	08:22			
15:47	16:44			17:46	14	16:34 (DD3)	19:51	20:53		21:50	22:06	21:26	20:12			18:52	19	18:09 (DD1)	16:35	15:44			
08:48	08:11			07:06		16:24 (DD3)	06:44	05:29		04:34	04:30	05:16	06:18			07:17		17:49 (DD1)	07:23	08:23			
15:48	16:46			17:48	5	16:29 (DD3)	19:53	20:55		21:51	22:06	21:24	20:09			18:49	20	18:09 (DD1)	16:32	15:43			
08:48	08:09			07:04		17:21 (DD1)	06:42	05:27		04:33	04:31	05:18	06:20			07:19		17:48 (DD1)	07:25	08:25			
15:50	16:48			17:50	1	17:22 (DD1)	19:55	20:57		21:53	22:05	21:21	20:07			18:47	21	18:09 (DD1)	16:30	15:42			
08:47	08:07			07:01		17:16 (DD1)	06:39	05:24		04:32	04:32	05:20	06:22			07:22		17:48 (DD1)	07:27	08:27			
15:51	16:51			17:52	8	17:24 (DD1)	19:57	20:59		21:54	22:05	21:19	20:04			18:44	21	18:09 (DD1)	16:28	15:41			
08:47	08:05			06:59		17:14 (DD1)	06:36	05:22		04:31	04:33	05:22	06:24			07:24		17:47 (DD1)	07:29	08:28			
15:52	16:53			17:55	11	17:25 (DD1)	19:59	21:01		21:55	22:04	21:17	20:01			18:41	21	18:08 (DD1)	16:26	15:41			
08:46	08:03			06:56		17:13 (DD1)	06:34	05:20		04:30	04:34	05:24	06:26			07:26		17:47 (DD1)	07:31	08:30			
15:54	16:55			17:57	15	17:28 (DD1)	20:01	21:03		21:56	22:03	21:15	19:59			18:39	20	18:07 (DD1)	16:24	15:40			
08:46	08:00			06:53		17:11 (DD1)	06:31	05:18		04:29	04:35	05:26	06:28			07:28		17:48 (DD1)	07:33	08:31			
15:55	16:57			17:59	19	17:30 (DD1)	20:04	21:05		21:58	22:03	21:13	19:56			18:36	17	18:05 (DD1)	16:22	15:39			
08:45	07:58			06:51		17:10 (DD1)	06:29	05:16		04:28	04:36	05:28	06:30			07:30		17:48 (DD1)	07:36	08:33			
15:57	16:59			18:01	21	17:31 (DD1)	20:06	21:07		21:59	22:02	21:11	19:54			18:33	14	18:02 (DD1)	16:20	15:39			
08:44	07:56			06:48		17:10 (DD1)	06:26	05:13		04:28	04:37	05:30	06:32			07:32		17:50 (DD1)	07:38	08:34			
15:58	17:02			18:03	22	17:32 (DD1)	20:08	21:09		22:00	22:01	21:08	19:51			18:31	10	18:00 (DD1)	16:18	15:38			
08:44	07:54			06:46		17:10 (DD1)	06:23	05:11		04:27	04:38	05:32	06:34			07:34		17:52 (DD1)	07:40	08:35			
16:00	17:04			18:05	21	17:31 (DD1)	20:10	21:11		22:01	22:00	21:06	19:48			18:28	5	17:57 (DD1)	16:16	15:38			
08:43	07:52			06:43		17:09 (DD1)	06:21	05:09		04:26	04:40	05:34	06:36			07:36			07:42	08:37			
16:02	17:06																						

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker
			(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Rudzdobes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (560)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:07	21:26	20:12	18:51	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:24
	15:47	16:45	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:42
3	08:48	08:09	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:21	20:07	18:46	16:29	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:05	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:56	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:36	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:34	07:40	08:36
	15:59	17:03	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:50	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:02	17:08	18:09	20:14	21:15	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:04	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:56	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:00	04:24	04:44	05:41	06:43	07:44	07:51	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:55	19:34	18:15	16:06	15:36
16	08:38	07:40	06:29	06:07	04:59	04:23	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:17	20:22	21:23	22:06	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:46
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:08	21:46	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:13	05:52	04:48	04:23	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:27	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:34	18:34	20:39	21:38	22:08	21:41	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:15	08:48
	16:32	17:41	18:40	20:45	21:43	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:12	08:17	08:49
	16:34	17:43	18:42	20:47	21:44	22:08	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:49
	16:41		19:49		21:49		21:28	20:14		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Laura Kurzemniece / laura.kurzemniece@environment.lv  
Calculated:  
16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Salas pamatskola (kad. apz. 76740020242001) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (479)  
Sunshine probability S (Average daily sunshine hours) []

### Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:46	08:12 16:43	07:08 17:45	06:47 19:51	05:30 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:51	07:20 16:34	08:22 15:43
2	08:48 15:47	08:10 16:45	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:17 21:21	06:19 20:06	07:19 18:46	07:25 16:29	08:25 15:41
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:19 21:19	06:21 20:04	07:21 18:43	07:27 16:27	08:27 15:40
5	08:47 15:51	08:04 16:52	06:58 17:54	06:36 19:59	05:21 21:01	04:30 21:55	04:32 22:04	05:21 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:23 21:15	06:25 19:58	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:54	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:25 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:38
8	08:45 15:56	07:58 16:59	06:50 18:00	06:28 20:05	05:15 21:07	04:27 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:57	07:56 17:01	06:48 18:03	06:25 20:07	05:13 21:09	04:27 22:00	04:36 22:01	05:29 21:08	06:31 19:50	07:31 18:30	07:38 16:17	08:34 15:37
10	08:43 15:59	07:54 17:03	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:37 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:11	05:09 21:13	04:25 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:35 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:06 21:15	04:25 22:03	04:40 21:58	05:35 21:01	06:37 19:42	07:38 18:22	07:44 16:11	08:38 15:36
13	08:41 16:04	07:47 17:10	06:37 18:11	06:15 20:16	05:04 21:17	04:24 22:03	04:41 21:57	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:12 20:18	05:02 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:17	07:48 16:07	08:40 15:36
15	08:39 16:08	07:43 17:14	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:44 21:54	05:41 20:54	06:43 19:34	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:17	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:19	06:05 20:24	04:57 21:25	04:23 22:06	04:47 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:23 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:00	08:44 15:36
19	08:34 16:16	07:33 17:23	06:21 18:24	06:00 20:28	04:53 21:29	04:23 22:07	04:51 21:48	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:36
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:51 21:30	04:23 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:23 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:56 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:57	08:05 15:54	08:46 15:38
23	08:28 16:24	07:23 17:32	06:11 18:32	05:50 20:36	04:46 21:36	04:24 22:08	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:34	06:08 18:34	05:47 20:38	04:45 21:37	04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:52	08:09 15:51	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:43 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:07	08:05 16:50	08:11 15:50	08:48 15:39
26	08:23 16:30	07:16 17:39	06:03 18:38	05:42 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:32	07:14 17:41	06:00 18:40	05:40 20:45	04:40 21:42	04:25 22:08	05:04 21:35	06:05 20:25	07:07 19:02	08:09 16:45	08:14 15:47	08:48 15:41
28	08:20 16:34	07:11 17:43	05:57 18:42	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 18:59	08:11 16:43	08:16 15:46	08:48 15:42
29	08:18 16:37		06:55 19:44	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:19	07:11 18:57	08:13 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:36 21:47	04:27 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:38	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Laura Kurzemniece / laura.kurzemniece@environment.lv  
Calculated:  
16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Salas pamatskola (kad. apz. 76740020242004) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (597)  
Sunshine probability S (Average daily sunshine hours) []

### Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:46	08:12 16:43	07:08 17:45	06:47 19:51	05:30 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:51	07:20 16:34	08:22 15:43
2	08:48 15:47	08:10 16:45	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:17 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:41
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:19 21:19	06:21 20:04	07:21 18:43	07:27 16:27	08:27 15:40
5	08:47 15:51	08:04 16:52	06:58 17:54	06:36 19:59	05:21 21:01	04:30 21:55	04:32 22:04	05:21 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:23 21:15	06:25 19:58	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:54	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:25 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:38
8	08:45 15:56	07:58 16:59	06:50 18:00	06:28 20:05	05:15 21:07	04:27 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
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10	08:43 15:59	07:54 17:03	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:37 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
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12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:06 21:15	04:25 22:03	04:40 21:58	05:35 21:01	06:37 19:42	07:38 18:22	07:44 16:11	08:38 15:36
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21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:23 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:56 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:57	08:05 15:54	08:46 15:38
23	08:28 16:24	07:23 17:32	06:11 18:32	05:50 20:36	04:46 21:36	04:24 22:08	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:34	06:08 18:34	05:47 20:38	04:45 21:37	04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:52	08:09 15:51	08:47 15:39
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31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Sauleskalni - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (443)  
Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:35	04:29	05:15	06:16	07:15	07:20	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:06	21:25	20:12	18:52	16:35	15:44
2	08:48	08:10	07:06	06:45	05:29	04:34	04:30	05:17	06:18	07:18	07:23	08:23
	15:49	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:33	15:43
3	08:47	08:09	07:04	06:42	05:27	04:33	04:31	05:19	06:20	07:20	07:25	08:25
	15:50	16:49	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:47	16:30	15:42
4	08:47	08:07	07:01	06:39	05:25	04:32	04:32	05:20	06:22	07:22	07:27	08:27
	15:51	16:51	17:53	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:42
5	08:47	08:05	06:59	06:37	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:28
	15:53	16:53	17:55	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:26	15:41
6	08:46	08:02	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:01	21:03	21:56	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:00	06:53	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:33	08:31
	15:56	16:57	17:59	20:04	21:05	21:57	22:02	21:13	19:56	18:36	16:22	15:40
8	08:45	07:58	06:51	06:29	05:16	04:29	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	17:00	18:01	20:06	21:07	21:59	22:02	21:11	19:54	18:34	16:20	15:39
9	08:44	07:56	06:48	06:26	05:14	04:28	04:37	05:30	06:32	07:32	07:38	08:34
	15:59	17:02	18:03	20:08	21:09	22:00	22:01	21:08	19:51	18:31	16:18	15:38
10	08:43	07:54	06:46	06:23	05:12	04:27	04:39	05:32	06:34	07:34	07:40	08:35
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:10	04:27	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:07	20:12	21:13	22:01	21:59	21:04	19:46	18:26	16:14	15:38
12	08:42	07:50	06:40	06:18	05:08	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:04	17:09	18:10	20:14	21:15	22:02	21:58	21:02	19:43	18:23	16:12	15:37
13	08:41	07:47	06:38	06:16	05:06	04:26	04:43	05:38	06:40	07:40	07:46	08:39
	16:05	17:11	18:12	20:16	21:17	22:03	21:56	20:59	19:40	18:21	16:10	15:37
14	08:40	07:45	06:35	06:13	05:04	04:25	04:44	05:40	06:42	07:42	07:48	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:38	18:18	16:08	15:37
15	08:39	07:43	06:32	06:11	05:02	04:25	04:46	05:42	06:44	07:44	07:50	08:41
	16:09	17:15	18:16	20:20	21:21	22:04	21:54	20:55	19:35	18:16	16:07	15:37
16	08:37	07:40	06:30	06:08	05:00	04:25	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:18	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:05	15:37
17	08:36	07:38	06:27	06:05	04:58	04:25	04:49	05:46	06:48	07:48	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:03	15:37
18	08:35	07:36	06:25	06:03	04:56	04:25	04:50	05:48	06:50	07:50	07:57	08:44
	16:15	17:22	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:01	15:37
19	08:34	07:33	06:22	06:00	04:54	04:25	04:52	05:50	06:52	07:53	07:59	08:44
	16:17	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	16:00	15:38
20	08:32	07:31	06:19	05:58	04:53	04:25	04:53	05:52	06:54	07:55	08:01	08:45
	16:19	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:03	15:58	15:38
21	08:31	07:29	06:17	05:55	04:51	04:25	04:55	05:54	06:56	07:57	08:03	08:46
	16:21	17:29	18:28	20:32	21:32	22:07	21:45	20:40	19:19	18:01	15:57	15:38
22	08:29	07:26	06:14	05:53	04:49	04:25	04:57	05:56	06:57	07:59	08:05	08:46
	16:23	17:31	18:30	20:35	21:34	22:07	21:44	20:38	19:16	17:58	15:55	15:39
23	08:28	07:24	06:11	05:50	04:48	04:25	04:58	05:58	06:59	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:07	21:42	20:35	19:13	17:56	15:54	15:39
24	08:26	07:21	06:09	05:48	04:46	04:25	05:00	06:00	07:01	08:03	08:09	08:47
	16:27	17:35	18:35	20:39	21:37	22:08	21:40	20:33	19:11	17:53	15:52	15:40
25	08:25	07:19	06:06	05:46	04:44	04:26	05:02	06:02	07:03	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:41
26	08:23	07:16	06:03	05:43	04:43	04:26	05:04	06:04	07:05	08:07	08:13	08:48
	16:31	17:40	18:39	20:43	21:41	22:08	21:37	20:27	19:05	17:49	15:50	15:41
27	08:21	07:14	06:01	05:41	04:42	04:27	05:05	06:06	07:07	08:09	08:14	08:48
	16:33	17:42	18:41	20:45	21:42	22:07	21:35	20:25	19:03	17:46	15:49	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:09	08:12	08:16	08:48
	16:35	17:44	18:43	20:47	21:44	22:07	21:33	20:22	19:00	17:44	15:47	15:43
29	08:18		06:55	05:36	04:39	04:28	05:09	06:10	07:11	08:14	08:18	08:48
	16:38		19:45	20:49	21:45	22:07	21:31	20:20	18:57	17:42	15:46	15:44
30	08:16		06:53	05:34	04:38	04:29	05:11	06:12	07:13	08:16	08:20	08:48
	16:40		19:47	20:51	21:47	22:07	21:29	20:17	18:55	17:39	15:45	15:45
31	08:14		06:50		04:36		05:13	06:14		07:18		08:48
	16:42		19:49		21:48		21:27	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	527	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Saulrieti - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (413)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:13 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:14 21:26	06:16 20:12	07:15 18:52	07:20 16:35	08:22 15:44
2	08:48 15:48	08:11 16:46	07:06 17:48	06:44 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:16 21:24	06:18 20:09	07:17 18:49	07:23 16:32	08:24 15:43
3	08:48 15:49	08:09 16:48	07:04 17:50	06:42 19:55	05:27 20:57	04:33 21:53	04:31 22:05	05:18 21:21	06:20 20:07	07:19 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:53	06:59 17:55	06:36 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:01	07:24 18:41	07:29 16:26	08:28 15:40
6	08:46 15:54	08:03 16:55	06:56 17:57	06:34 20:01	05:20 21:03	04:30 21:57	04:34 22:03	05:24 21:15	06:26 20:01	07:26 18:39	07:31 16:24	08:30 15:40
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:04	05:18 21:05	04:29 21:58	04:35 22:03	05:26 21:13	06:28 20:01	07:28 18:36	07:33 16:22	08:31 15:39
8	08:45 15:57	07:58 16:59	06:51 18:01	06:29 20:06	05:15 21:07	04:28 21:59	04:36 22:02	05:28 21:11	06:30 20:04	07:30 18:33	07:36 16:20	08:33 15:39
9	08:44 15:58	07:56 17:02	06:48 18:03	06:26 20:08	05:13 21:09	04:27 22:00	04:37 22:01	05:30 21:09	06:32 20:01	07:32 18:31	07:38 16:18	08:34 15:38
10	08:44 16:00	07:54 17:04	06:46 18:05	06:23 20:10	05:11 21:11	04:27 22:01	04:38 22:00	05:32 21:06	06:34 20:04	07:34 18:28	07:40 16:16	08:35 15:38
11	08:43 16:02	07:52 17:06	06:43 18:07	06:21 20:12	05:09 21:13	04:26 22:02	04:40 21:59	05:34 21:04	06:36 20:01	07:36 18:26	07:42 16:14	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:26 22:03	04:41 21:58	05:36 21:02	06:38 20:01	07:38 18:23	07:44 16:12	08:38 15:37
13	08:41 16:05	07:47 17:11	06:38 18:12	06:16 20:16	05:05 21:17	04:25 22:03	04:42 21:57	05:38 20:59	06:40 20:01	07:40 18:20	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:03 21:19	04:25 22:04	04:44 21:55	05:40 20:57	06:42 20:01	07:42 18:18	07:48 16:08	08:40 15:37
15	08:39 16:09	07:43 17:15	06:32 18:16	06:10 20:20	05:01 21:21	04:25 22:05	04:45 21:54	05:42 20:55	06:43 20:01	07:44 18:15	07:51 16:06	08:41 15:37
16	08:38 16:11	07:41 17:17	06:30 18:18	06:08 20:22	04:59 21:23	04:24 22:05	04:47 21:53	05:44 20:52	06:45 20:01	07:46 18:13	07:53 16:04	08:42 15:37
17	08:36 16:12	07:38 17:20	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:46 20:50	06:47 20:01	07:48 18:10	07:55 16:03	08:43 15:37
18	08:35 16:14	07:36 17:22	06:24 18:22	06:03 20:26	04:56 21:27	04:24 22:06	04:50 21:50	05:48 20:47	06:49 20:01	07:50 18:08	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:24 22:07	04:51 21:49	05:50 20:45	06:51 20:01	07:53 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:58 20:30	04:52 21:31	04:24 22:07	04:53 21:47	05:52 20:43	06:53 20:01	07:55 18:03	08:01 15:58	08:45 15:37
21	08:31 16:20	07:29 17:28	06:16 18:28	05:55 20:33	04:50 21:32	04:24 22:07	04:55 21:45	05:54 20:40	06:55 20:01	07:57 18:00	08:03 15:56	08:46 15:38
22	08:30 16:22	07:26 17:31	06:14 18:30	05:53 20:35	04:49 21:34	04:24 22:08	04:56 21:44	05:56 20:38	06:57 20:01	07:59 17:58	08:05 15:55	08:47 15:38
23	08:28 16:24	07:24 17:33	06:11 18:32	05:50 20:37	04:47 21:36	04:25 22:08	04:58 21:42	05:58 20:35	06:59 20:01	08:01 17:55	08:07 15:53	08:47 15:39
24	08:27 16:27	07:21 17:35	06:08 18:35	05:48 20:39	04:46 21:38	04:25 22:08	05:00 21:41	06:00 20:33	07:01 20:01	08:03 17:53	08:09 15:52	08:48 15:39
25	08:25 16:29	07:19 17:37	06:06 18:37	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:02 20:30	07:03 20:01	08:05 17:51	08:11 15:51	08:48 15:40
26	08:23 16:31	07:16 17:39	06:03 18:39	05:43 20:43	04:43 21:41	04:26 22:08	05:03 21:37	06:04 20:27	07:05 20:01	08:07 17:48	08:13 15:49	08:48 15:41
27	08:22 16:33	07:14 17:42	06:00 18:41	05:41 20:45	04:41 21:43	04:26 22:08	05:05 21:35	06:06 20:25	07:07 20:01	08:09 17:46	08:15 15:48	08:48 15:42
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	04:27 22:07	05:07 21:33	06:08 20:22	07:09 20:01	08:12 17:44	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:36 20:49	04:38 21:46	04:27 22:07	05:09 21:31	06:10 20:20	07:11 18:57	08:14 17:41	08:18 15:46	08:49 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:11 21:30	06:12 20:17	07:13 18:55	08:16 17:39	08:20 15:45	08:49 15:44
31	08:14 16:42		06:50 19:49		04:36 21:49		05:12 21:28	06:14 20:15		07:18 16:37		08:48 15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Saulstari - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (494)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:42	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:26	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Senci - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (564)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Laura Kurzemniece / laura.kurzemniece@environment.lv  
Calculated:  
16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Siladruvas (kad. apz. 76740020177001) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (565)  
Sunshine probability S (Average daily sunshine hours) []

### Assumptions for shadow calculations

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:46	08:12 16:43	07:09 17:45	06:47 19:51	05:30 20:53	04:34 21:50	04:28 22:07	05:14 21:26	06:15 20:12	07:15 18:51	07:20 16:34	08:22 15:43
2	08:48 15:47	08:10 16:45	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:52	04:29 22:06	05:15 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:24 15:42
3	08:48 15:49	08:09 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:06	05:17 21:21	06:19 20:06	07:19 18:46	07:25 16:29	08:25 15:41
4	08:47 15:50	08:07 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:19 21:19	06:21 20:04	07:21 18:43	07:27 16:27	08:27 15:40
5	08:47 15:51	08:04 16:52	06:58 17:54	06:36 19:59	05:21 21:01	04:30 21:55	04:32 22:04	05:21 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:57	04:33 22:04	05:23 21:15	06:25 19:59	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:54	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:25 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:38
8	08:45 15:56	07:58 16:59	06:50 18:00	06:28 20:05	05:15 21:07	04:27 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:57	07:56 17:01	06:48 18:03	06:25 20:07	05:13 21:09	04:27 22:00	04:36 22:01	05:29 21:08	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:37
10	08:44 15:59	07:54 17:03	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:37 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:36 15:37
11	08:43 16:01	07:52 17:05	06:43 18:07	06:20 20:12	05:08 21:13	04:25 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:36
12	08:42 16:02	07:49 17:08	06:40 18:09	06:18 20:14	05:06 21:15	04:25 22:03	04:40 21:58	05:35 21:02	06:37 19:43	07:38 18:22	07:44 16:11	08:38 15:36
13	08:41 16:04	07:47 17:10	06:37 18:11	06:15 20:16	05:04 21:17	04:24 22:03	04:41 21:57	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:12 20:18	05:02 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:17	07:48 16:07	08:40 15:36
15	08:39 16:08	07:43 17:14	06:32 18:15	06:10 20:20	05:00 21:21	04:24 22:05	04:44 21:54	05:41 20:54	06:43 19:34	07:44 18:15	07:50 16:05	08:41 15:36
16	08:38 16:10	07:40 17:17	06:29 18:17	06:07 20:22	04:59 21:23	04:23 22:06	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:53 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:23 22:06	04:47 21:52	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:23 22:07	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:00	08:44 15:36
19	08:34 16:16	07:33 17:23	06:21 18:24	06:00 20:28	04:53 21:29	04:23 22:07	04:50 21:49	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:36
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:51 21:31	04:23 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:23 22:08	04:54 21:46	05:53 20:40	06:55 19:18	07:57 18:00	08:03 15:56	08:46 15:37
22	08:30 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:23 22:08	04:55 21:44	05:55 20:37	06:57 19:16	07:59 17:57	08:05 15:54	08:47 15:37
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:37	04:46 21:36	04:24 22:08	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:34	06:08 18:34	05:47 20:39	04:45 21:38	04:24 22:08	04:59 21:41	05:59 20:32	07:01 19:10	08:03 17:52	08:09 15:51	08:48 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:43 21:39	04:24 22:08	05:01 21:39	06:01 20:30	07:03 19:07	08:05 16:50	08:11 15:50	08:48 15:39
26	08:23 16:30	07:16 17:39	06:03 18:38	05:42 20:43	04:42 21:41	04:25 22:08	05:02 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:32	07:14 17:41	06:00 18:40	05:40 20:45	04:40 21:43	04:25 22:08	05:04 21:35	06:05 20:25	07:07 19:02	08:09 16:45	08:15 15:47	08:48 15:41
28	08:20 16:34	07:11 17:43	05:57 18:42	05:37 20:47	04:39 21:44	04:26 22:08	05:06 21:33	06:07 20:22	07:09 18:59	08:11 16:43	08:16 15:46	08:49 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:20	07:11 18:57	08:13 16:41	08:18 15:45	08:49 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:36 21:47	04:27 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:38	08:20 15:44	08:49 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:28	06:13 20:14		07:18 16:36		08:49 15:45
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Siladruvas (kad. apz. 76740020212001) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (512) Sunshine probability S (Average daily sunshine hours) []

### Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:57	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Silares - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (523)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:05	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Laura Kurzemniece / laura.kurzemniece@environment.lv  
Calculated:  
16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Sirmiš i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (502)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March		April	May	June	July	August	September		October		November	December	
1	08:48 15:46	08:12 16:43	07:09 17:45	8	17:09 (PrRR3) 19:51	06:47 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12		07:15 18:51	15	17:43 (PrRR3) 17:58 (PrRR3)	07:20 16:34	08:22 15:43
2	08:48 15:47	08:10 16:45	07:06 17:48	12	17:06 (PrRR3) 19:53	06:44 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09		07:17 18:49	18	17:42 (PrRR3) 18:00 (PrRR3)	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	16	17:04 (PrRR3) 19:55	06:41 20:57	04:32 21:53	04:30 22:05	05:17 21:21	06:19 20:06		07:19 18:46	20	17:40 (PrRR3) 18:00 (PrRR3)	07:25 16:30	08:25 15:41
4	08:47 15:50	08:06 16:50	07:01 17:52	19	17:04 (PrRR3) 19:57	06:39 20:59	04:31 21:54	04:31 22:05	05:19 21:19	06:21 20:04		07:21 18:43	22	17:39 (PrRR3) 18:01 (PrRR3)	07:27 16:27	08:27 15:40
5	08:47 15:51	08:04 16:52	06:58 17:54	21	17:03 (PrRR3) 19:59	06:36 21:01	04:30 21:55	04:32 22:04	05:21 21:17	06:23 20:01		07:23 18:41	22	17:39 (PrRR3) 18:01 (PrRR3)	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:54	06:56 17:56	22	17:02 (PrRR3) 20:01	06:33 21:03	04:29 21:57	04:33 22:03	05:23 21:15	06:25 19:59		07:25 18:38	22	17:38 (PrRR3) 18:00 (PrRR3)	07:31 16:23	08:30 15:39
7	08:46 15:54	08:00 16:57	06:53 17:58	22	17:02 (PrRR3) 20:03	06:31 21:05	05:17 21:58	04:34 22:03	05:25 21:13	06:27 19:56		07:27 18:36	22	17:38 (PrRR3) 18:00 (PrRR3)	07:33 16:21	08:31 15:38
8	08:45 15:56	07:58 16:59	06:50 18:00	23	17:01 (PrRR3) 20:05	06:28 21:07	05:15 21:59	04:35 22:02	05:27 21:11	06:29 19:53		07:29 18:33	21	17:38 (PrRR3) 17:59 (PrRR3)	07:35 16:19	08:33 15:38
9	08:44 15:57	07:56 17:01	06:48 18:03	22	17:01 (PrRR3) 20:07	06:25 21:09	05:13 22:00	04:36 22:01	05:29 21:08	06:31 19:51		07:31 18:30	20	17:38 (PrRR3) 17:58 (PrRR3)	07:38 16:17	08:34 15:37
10	08:44 15:59	07:54 17:03	06:45 18:05	21	17:02 (PrRR3) 20:09	06:23 21:11	04:26 22:01	04:37 22:00	05:31 21:06	06:33 19:48		07:33 18:28	18	17:38 (PrRR3) 17:56 (PrRR3)	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	19	17:02 (PrRR3) 20:12	06:20 21:13	05:09 22:02	04:39 21:59	05:33 21:04	06:35 19:45		07:36 18:25	14	17:40 (PrRR3) 17:54 (PrRR3)	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	17	17:03 (PrRR3) 20:14	06:18 21:15	05:06 22:03	04:40 21:58	05:35 21:01	06:37 19:43		07:38 18:23	10	17:41 (PrRR3) 17:51 (PrRR3)	07:44 16:11	08:38 15:36
13	08:41 16:04	07:47 17:10	06:37 18:11	13	17:05 (PrRR3) 20:16	06:15 21:17	05:04 22:03	04:41 21:57	05:37 20:59	06:39 19:40		07:40 18:20	5	17:43 (PrRR3) 17:48 (PrRR3)	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	7	17:08 (PrRR3) 20:18	06:12 21:19	05:02 22:04	04:43 21:55	05:39 20:57	06:41 19:37		07:42 18:17			07:48 16:07	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15		06:10 20:20	05:01 21:21	04:24 22:05	04:44 21:54	05:41 20:54	06:43 19:34		07:44 18:15			07:50 16:06	08:41 15:36
16	08:38 16:10	07:40 17:17	06:29 18:17		06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32		07:46 18:12			07:53 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20		06:05 20:24	04:57 21:25	04:23 22:06	04:47 21:51	05:45 20:50	06:47 19:29		07:48 18:10			07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22		06:02 20:26	04:55 21:27	04:23 22:06	04:49 21:50	05:47 20:47	06:49 19:26		07:50 18:07			07:57 16:00	08:44 15:36
19	08:34 16:16	07:33 17:23	06:21 18:24		06:00 20:28	04:53 21:29	04:23 22:07	04:51 21:49	05:49 20:45	06:51 19:24		07:52 18:05			07:59 15:59	08:45 15:36
20	08:32 16:18	07:31 17:26	06:19 18:26		05:57 20:30	04:51 21:30	04:23 22:07	04:52 21:47	05:51 20:42	06:53 19:21		07:54 18:02			08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28		05:55 20:32	04:50 21:32	04:23 22:07	04:54 21:45	05:53 20:40	06:55 19:18		07:57 18:00			08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30		05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 19:16		07:59 17:57			08:05 15:54	08:47 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32		05:50 20:36	04:46 21:36	04:24 22:08	04:57 21:42	05:57 20:35	06:59 19:13		08:01 17:55			08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:34	06:08 18:34		05:47 20:39	04:45 21:38	04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10		08:03 17:53			08:09 15:51	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36		05:45 20:41	04:43 21:39	04:24 22:08	05:01 21:39	06:01 20:30	07:03 19:08		08:05 16:50			08:11 15:50	08:48 15:39
26	08:23 16:30	07:16 17:39	06:03 18:38		05:42 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05		08:07 16:48			08:13 15:49	08:48 15:40
27	08:21 16:32	07:14 17:41	06:00 18:40		05:40 20:45	04:40 21:43	04:25 22:08	05:04 21:35	06:05 20:25	07:07 19:02		08:09 16:45			08:15 15:47	08:48 15:41
28	08:20 16:34	07:11 17:43	05:57 18:42		05:38 20:47	04:39 21:44	04:26 22:08	05:06 21:33	06:07 20:22	07:09 18:59		08:12 16:43			08:16 15:46	08:48 15:42
29	08:18 16:37		06:55 19:45		05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:20	07:11 18:57		08:14 16:41			08:18 15:45	08:49 15:43
30	08:16 16:39		06:52 19:47		05:33 20:51	04:36 21:47	04:27 22:07	05:10 21:29	06:11 20:17	07:13 18:54	11	17:45 (PrRR3) 17:56 (PrRR3)			08:20 15:44	08:49 15:44
31	08:14 16:41		06:49 19:49			04:35 21:49		05:12 21:27	06:13 20:14			07:18 16:36			08:21 15:45	08:48 15:45
Potential sun hours	236	266	366		426	507	528	529	469	384		324		248	217	
Total, worst case			242							11		229				
Sun reduction			0,39							0,43		0,29				
Oper. time red.			1,00							1,00		1,00				
Wind dir. red.			1,00							1,00		1,00				
Total reduction			0,39							0,43		0,29				
Total, real			95							5		66				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Skalbes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (419)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:13 16:44	15:17 (DD3) 07:09	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:14 21:26	06:16 20:12	07:15 18:52	07:20 16:35	08:22 15:44
2	08:48 15:48	08:11 16:46	15:19 (DD3) 07:06	06:44 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:16 21:24	06:18 20:09	07:17 18:49	07:23 16:32	08:23 15:43
3	08:48 15:50	08:09 16:48	15:21 (DD3) 07:04	06:42 19:50	05:27 20:57	04:33 21:53	04:31 22:05	05:18 21:21	06:20 20:07	07:20 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:51	15:32 (DD3) 07:00	06:39 19:55	05:24 20:57	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:22 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:53	07:05 17:55	06:36 19:59	05:22 21:01	04:33 21:55	04:33 22:04	05:22 21:17	06:24 20:02	07:24 18:41	07:29 16:26	08:28 15:41
6	08:46 15:54	08:03 16:55	07:06 17:57	06:34 20:01	05:20 21:03	04:30 21:57	04:34 22:03	05:24 21:15	06:26 20:02	07:26 18:39	07:31 16:24	08:30 15:40
7	08:46 15:55	08:01 16:57	07:07 17:59	06:31 20:04	05:18 21:05	04:29 21:58	04:35 22:03	05:26 21:13	06:28 20:02	07:28 18:36	07:33 16:22	08:31 15:39
8	08:45 15:57	07:58 16:59	07:08 18:01	06:29 20:06	05:16 21:07	04:36 21:59	04:36 22:02	05:28 21:11	06:30 20:04	07:30 18:33	07:36 16:20	08:33 15:39
9	08:44 15:58	07:56 17:02	07:09 18:03	06:26 20:08	05:13 21:10	04:28 22:00	04:37 22:01	05:30 21:09	06:32 20:02	07:32 18:31	07:38 16:18	08:34 15:38
10	08:44 16:00	07:54 17:04	07:10 18:05	06:23 20:10	05:11 21:11	04:27 22:01	04:38 22:00	05:32 21:06	06:34 20:02	07:34 18:28	07:40 16:16	08:35 15:38
11	08:43 16:02	07:52 17:06	07:11 18:07	06:21 20:12	05:09 21:13	04:26 22:02	04:40 21:59	05:34 21:04	06:36 20:04	07:36 18:26	07:42 16:14	08:37 15:37
12	08:42 16:03	07:50 17:08	07:12 18:09	06:21 20:14	05:07 21:15	04:26 22:03	04:41 21:58	05:36 21:02	06:38 20:04	07:38 18:23	07:44 16:12	08:38 15:37
13	08:41 16:05	07:47 17:11	07:13 18:12	06:18 20:16	05:05 21:17	04:25 22:03	04:42 21:57	05:38 20:59	06:40 19:40	07:40 18:20	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	07:14 18:14	06:13 20:18	05:03 21:19	04:25 22:04	04:44 21:55	05:40 20:57	06:42 19:38	07:42 18:18	07:48 16:08	08:40 15:37
15	08:39 16:09	07:43 17:15	07:15 18:16	06:10 20:20	05:01 21:21	04:25 22:05	04:45 21:54	05:42 20:55	06:44 19:35	07:44 18:15	07:51 16:06	08:41 15:37
16	08:38 16:11	07:41 17:17	07:16 18:18	06:08 20:22	04:59 21:23	04:24 22:05	04:47 21:53	05:44 20:52	06:46 19:32	07:46 18:13	07:53 16:05	08:42 15:37
17	08:36 16:13	07:38 17:20	07:17 18:20	06:05 20:24	04:58 21:25	04:24 22:06	04:48 21:51	05:46 20:50	06:47 19:29	07:48 18:10	07:55 16:03	08:43 15:37
18	08:35 16:14	07:36 17:22	07:18 18:22	06:03 20:26	04:56 21:27	04:24 22:06	04:50 21:50	05:48 20:47	06:49 19:27	07:50 18:08	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	07:19 18:24	06:00 20:28	04:54 21:29	04:24 22:07	04:51 21:49	05:50 20:45	06:51 19:24	07:53 18:05	07:59 16:00	08:45 15:37
20	08:32 16:18	07:31 17:26	07:20 18:26	05:58 20:30	04:52 21:31	04:24 22:07	04:53 21:47	05:52 20:43	06:53 19:21	07:55 18:03	08:01 15:58	08:45 15:38
21	08:31 16:20	07:29 17:28	07:21 18:28	05:55 20:33	04:50 21:32	04:24 22:07	04:55 21:45	05:54 20:40	06:55 19:19	07:57 18:00	08:03 15:56	08:46 15:38
22	08:30 16:22	07:26 17:31	07:22 18:30	05:53 20:35	04:49 21:34	04:25 22:08	04:56 21:44	05:56 20:38	06:57 19:16	07:59 17:58	08:05 15:55	08:47 15:38
23	08:28 16:25	07:24 17:33	07:23 18:32	05:50 20:37	04:47 21:36	04:25 22:08	04:58 21:42	05:58 20:35	06:59 19:13	08:01 17:56	08:07 15:53	08:47 15:39
24	08:27 16:27	07:21 17:35	07:24 18:35	05:48 20:39	04:46 21:38	04:25 22:08	05:00 21:41	06:00 20:33	07:01 19:11	08:03 17:53	08:09 15:52	08:47 15:40
25	08:25 16:29	07:19 17:37	07:25 18:37	05:45 20:41	04:44 21:39	04:25 22:08	05:02 21:39	06:02 20:30	07:03 19:08	07:05 16:51	08:11 15:51	08:48 15:40
26	08:23 16:31	07:16 17:39	07:26 18:39	05:43 20:43	04:43 21:41	05:03 22:08	06:04 21:37	07:05 20:27	07:07 19:05	07:07 16:48	08:13 15:49	08:48 15:41
27	08:22 16:33	07:14 17:42	07:27 18:41	05:41 20:45	04:41 21:43	05:05 22:08	06:06 21:35	07:07 20:25	07:09 19:03	07:10 16:46	08:15 15:48	08:48 15:42
28	08:20 16:35	07:11 17:44	07:28 18:43	05:38 20:47	04:40 21:44	05:07 22:07	06:08 21:33	07:09 20:22	07:12 19:00	07:12 16:44	08:16 15:47	08:48 15:43
29	08:18 16:37	07:09 17:45	07:29 18:45	05:36 20:49	04:38 21:46	05:09 22:07	06:10 21:31	07:11 20:20	07:14 18:57	07:14 16:41	08:18 15:46	08:49 15:44
30	08:16 16:40	07:07 17:46	07:30 18:46	05:33 20:51	04:37 21:47	05:11 22:07	06:12 21:30	07:13 20:17	07:16 18:55	07:16 16:39	08:20 15:45	08:49 15:45
31	08:14 16:42	07:05 17:47	07:31 18:47	05:30 20:51	04:36 21:49	05:13 21:28	06:14 20:15	07:18 20:15	07:18 16:37	07:18 16:37	08:20 15:46	08:48 15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case	416	42									456	8
Sun reduction	0,13	0,22									0,08	0,08
Oper. time red.	1,00	1,00									1,00	1,00
Wind dir. red.	1,00	1,00									1,00	1,00
Total reduction	0,13	0,22									0,08	0,08
Total, real	56	9									34	1

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Slokas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (480)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:41
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:26	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Smelteri - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (484)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:41
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:42	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:26	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Smelteru biblioteka - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (545)  
 Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Smelteru kapseta - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (524)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:42	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:26	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Smedes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (442)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:15 21:26	06:16 20:12	07:16 18:52	07:20 16:35	08:22 15:44
2	08:48 15:49	08:11 16:46	07:06 17:48	06:45 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:17 21:23	06:18 20:09	07:23 18:49	07:23 16:33	08:23 15:43
3	08:48 15:50	08:09 16:49	07:04 17:50	06:42 19:55	05:27 20:57	04:33 21:53	04:31 22:05	05:19 21:21	06:20 20:07	07:20 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:51	07:01 17:53	06:39 19:57	05:25 20:59	04:32 21:54	04:32 22:05	05:21 21:19	06:22 20:04	07:22 18:44	07:27 16:28	08:27 15:42
5	08:47 15:53	08:05 16:53	06:59 17:55	06:37 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:02	07:24 18:41	07:29 16:26	08:28 15:41
6	08:46 15:54	08:03 16:55	06:56 17:57	06:34 20:02	05:20 21:03	04:30 21:56	04:34 22:03	05:24 21:15	06:26 19:59	07:26 18:39	07:31 16:24	08:30 15:40
7	08:46 15:56	08:00 16:58	06:54 17:59	06:31 20:04	05:18 21:05	04:29 21:58	04:35 22:02	05:26 21:13	06:28 19:56	07:28 18:36	07:33 16:22	08:31 15:40
8	08:45 15:57	07:58 17:00	06:51 18:01	06:29 20:06	05:16 21:07	04:29 21:59	04:36 22:02	05:28 21:11	06:30 19:54	07:30 18:34	07:36 16:20	08:33 15:39
9	08:44 15:59	07:56 17:02	06:48 18:03	06:26 20:08	05:14 21:09	04:28 22:00	04:38 22:01	05:30 21:08	06:32 19:51	07:32 18:31	07:38 16:18	08:34 15:39
10	08:44 16:00	07:54 17:04	06:46 18:05	06:24 20:10	05:12 21:11	04:27 22:01	04:39 22:00	05:32 21:06	06:34 19:48	07:34 18:28	07:40 16:16	08:35 15:38
11	08:43 16:02	07:52 17:06	06:43 18:08	06:21 20:12	05:10 21:13	04:27 22:02	04:40 21:59	05:34 21:04	06:36 19:46	07:36 18:26	07:42 16:14	08:37 15:38
12	08:42 16:04	07:50 17:09	06:40 18:10	06:18 20:14	05:08 21:15	04:26 22:02	04:41 21:58	05:36 21:02	06:38 19:43	07:38 18:23	07:44 16:12	08:38 15:38
13	08:41 16:06	07:47 17:11	06:38 18:12	06:16 20:16	05:06 21:17	04:26 22:03	04:43 21:56	05:38 20:59	06:40 19:40	07:40 18:21	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:04 21:19	04:25 22:04	04:44 21:55	05:40 20:57	06:42 19:38	07:42 18:18	07:48 16:08	08:40 15:37
15	08:39 16:09	07:43 17:15	06:33 18:16	06:11 20:20	05:02 21:21	04:25 22:05	04:46 21:54	05:42 20:55	06:44 19:35	07:44 18:16	07:51 16:07	08:41 15:37
16	08:38 16:11	07:41 17:18	06:30 18:18	06:08 20:22	05:00 21:23	04:25 22:05	04:47 21:53	05:44 20:52	06:46 19:32	07:46 18:13	07:53 16:05	08:42 15:37
17	08:36 16:13	07:38 17:20	06:27 18:20	06:06 20:24	04:58 21:25	04:25 22:06	04:49 21:51	05:46 20:50	06:48 19:30	07:48 18:11	07:55 16:03	08:43 15:37
18	08:35 16:15	07:36 17:22	06:25 18:22	06:03 20:26	04:56 21:27	04:25 22:06	04:50 21:50	05:48 20:47	06:50 19:27	07:51 18:08	07:57 16:01	08:44 15:37
19	08:34 16:17	07:34 17:24	06:22 18:24	06:01 20:28	04:54 21:29	04:25 22:07	04:52 21:48	05:50 20:45	06:52 19:24	07:53 18:06	07:59 16:00	08:45 15:38
20	08:32 16:19	07:31 17:26	06:19 18:26	05:58 20:31	04:53 21:30	04:25 22:07	04:53 21:47	05:52 20:43	06:54 19:22	07:55 18:03	08:01 15:58	08:45 15:38
21	08:31 16:21	07:29 17:29	06:17 18:28	05:55 20:33	04:51 21:32	04:25 22:07	04:55 21:45	05:54 20:40	06:56 19:19	07:57 18:01	08:03 15:57	08:46 15:38
22	08:30 16:23	07:26 17:31	06:14 18:31	05:53 20:35	04:49 21:34	04:25 22:07	04:57 21:44	05:56 20:38	06:58 19:16	07:59 17:58	08:05 15:55	08:46 15:39
23	08:28 16:25	07:24 17:33	06:11 18:33	05:51 20:37	04:48 21:36	04:25 22:08	04:58 21:42	05:58 20:35	07:00 19:13	08:01 17:56	08:07 15:54	08:47 15:39
24	08:26 16:27	07:21 17:35	06:09 18:35	05:48 20:39	04:46 21:37	04:26 22:08	05:00 21:40	06:00 20:33	07:02 19:11	08:03 17:53	08:09 15:52	08:47 15:40
25	08:25 16:29	07:19 17:37	06:06 18:37	05:46 20:41	04:44 21:39	04:26 22:08	05:02 21:39	06:02 20:30	07:04 19:08	07:05 16:51	08:11 15:51	08:48 15:41
26	08:23 16:31	07:16 17:40	06:03 18:39	05:43 20:43	04:43 21:41	04:26 22:08	05:04 21:37	06:04 20:28	07:06 19:05	07:08 16:49	08:13 15:50	08:48 15:41
27	08:22 16:33	07:14 17:42	06:01 18:41	05:41 20:45	04:42 21:42	04:27 22:07	05:06 21:35	06:06 20:25	07:08 19:03	07:10 16:46	08:15 15:49	08:48 15:42
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	04:27 22:07	05:07 21:33	06:08 20:22	07:10 19:00	07:12 16:44	08:16 15:47	08:48 15:43
29	08:18 16:38		06:55 19:45	05:36 20:49	04:39 21:46	04:28 22:07	05:09 21:31	06:10 20:20	07:12 18:57	07:14 16:42	08:18 15:46	08:48 15:44
30	08:16 16:40		06:53 19:47	05:34 20:51	04:38 21:47	04:29 22:07	05:11 21:29	06:12 20:17	07:14 18:55	07:16 16:39	08:20 15:45	08:48 15:45
31	08:14 16:42		06:50 19:49		04:36 21:49		05:13 21:27	06:14 20:15		07:18 16:37		08:48 15:46
Potential sun hours	236	266	366	426	507	527	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Sniedzini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (569)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:27	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:50	06:28	05:15	04:28	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:38
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:05	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:40
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Flickering\_Vestas\_V172\_Prikuli\_B

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Laura Kurzemniece / laura.kurzemniece@environment.lv  
Calculated:  
16.07.2025 09:20/4.1.254

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Sporanu majas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (538)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []  
Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sep. Oct. Nov. Dec.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

	January	February	March	April	May	June				
1	08:48 15:46	08:12 16:43	07:09 17:45	16:39 (AP2) 16:44 (AP2)	06:47 19:51	18:20 (Pr3b) 18:59 (Pr3b)	05:31 20:53	19:38 (Pr25) 20:06 (Pr25)	04:34 21:50	19:44 (PrRR3) 20:34 (PrRR3)
2	08:48 15:48	08:10 16:46	07:06 17:48		06:44 19:53	18:19 (Pr3b) 18:59 (Pr3b)	05:28 20:55	19:38 (Pr25) 20:06 (Pr25)	04:33 21:51	19:44 (PrRR3) 20:34 (PrRR3)
3	08:48 15:49	08:09 16:48	07:03 17:50		06:41 19:55	18:18 (Pr3b) 18:59 (Pr3b)	05:26 20:57	19:38 (Pr25) 20:06 (Pr25)	04:32 21:53	19:44 (PrRR3) 20:34 (PrRR3)
4	08:47 15:50	08:07 16:50	07:01 17:52		06:39 19:57	18:18 (Pr3b) 18:59 (Pr3b)	05:24 20:59	19:38 (Pr25) 20:05 (Pr25)	04:31 21:54	19:45 (PrRR3) 20:35 (PrRR3)
5	08:47 15:52	08:04 16:52	06:58 17:54		06:36 19:59	18:18 (Pr3b) 18:59 (Pr3b)	05:21 21:01	19:39 (Pr25) 20:05 (Pr25)	04:30 21:55	19:45 (PrRR3) 20:35 (PrRR3)
6	08:46 15:53	08:02 16:54	06:56 17:56		06:33 20:01	18:18 (Pr3b) 18:59 (Pr3b)	05:19 21:03	19:39 (Pr25) 20:04 (Pr25)	04:29 21:57	19:45 (PrRR3) 20:35 (PrRR3)
7	08:46 15:54	08:00 16:57	06:53 17:58		06:31 20:03	18:18 (Pr3b) 18:58 (Pr3b)	05:17 21:05	19:40 (Pr25) 20:03 (Pr25)	04:28 21:58	19:45 (PrRR3) 20:36 (PrRR3)
8	08:45 15:56	07:58 16:59	06:51 18:01		06:28 20:05	18:17 (Pr3b) 18:57 (Pr3b)	05:15 21:07	19:40 (Pr25) 20:03 (Pr25)	04:27 21:59	19:45 (PrRR3) 20:36 (PrRR3)
9	08:44 15:58	07:56 17:01	06:48 18:03		06:25 20:07	18:18 (Pr3b) 18:57 (Pr3b)	05:13 21:09	19:41 (Pr25) 20:01 (Pr25)	04:27 22:00	19:45 (PrRR3) 20:35 (PrRR3)
10	08:44 15:59	07:54 17:03	06:45 18:05		06:23 20:09	18:18 (Pr3b) 18:55 (Pr3b)	05:11 21:11	19:42 (Pr25) 20:00 (Pr25)	04:26 22:01	19:45 (PrRR3) 20:36 (PrRR3)
11	08:43 16:01	07:52 17:06	06:43 18:07		06:20 20:12	18:19 (Pr3b) 18:55 (Pr3b)	05:09 21:13	19:44 (Pr25) 20:15 (PrRR3)	04:26 22:02	19:46 (PrRR3) 20:37 (PrRR3)
12	08:42 16:03	07:49 17:08	06:40 18:09		06:18 20:14	18:19 (Pr3b) 18:53 (Pr3b)	05:07 21:15	19:46 (Pr25) 20:18 (PrRR3)	04:25 22:03	19:46 (PrRR3) 20:36 (PrRR3)
13	08:41 16:04	07:47 17:10	06:37 18:11		06:15 20:16	18:21 (Pr3b) 18:53 (Pr3b)	05:05 21:17	19:56 (PrRR3) 20:21 (PrRR3)	04:25 22:03	19:46 (PrRR3) 20:37 (PrRR3)
14	08:40 16:06	07:45 17:12	06:35 18:13		06:12 20:18	18:21 (Pr3b) 18:51 (Pr3b)	05:03 21:19	19:54 (PrRR3) 20:22 (PrRR3)	04:24 22:04	19:46 (PrRR3) 20:37 (PrRR3)
15	08:39 16:08	07:43 17:15	6 16:38 (AP2) 18:15		06:32 20:20	18:23 (Pr3b) 18:49 (Pr3b)	05:01 21:21	19:52 (PrRR3) 20:23 (PrRR3)	04:24 22:05	19:47 (PrRR3) 20:38 (PrRR3)
16	08:38 16:10	07:40 17:17	11 16:35 (AP2) 18:18		06:29 20:22	18:24 (Pr3b) 18:47 (Pr3b)	04:59 21:23	19:51 (PrRR3) 20:24 (PrRR3)	04:24 22:05	19:46 (PrRR3) 20:37 (PrRR3)
17	08:36 16:12	07:38 17:19	15 16:34 (AP2) 18:20		06:27 20:24	18:27 (Pr3b) 18:45 (Pr3b)	04:57 21:25	19:50 (PrRR3) 20:26 (PrRR3)	04:24 22:06	19:46 (PrRR3) 20:37 (PrRR3)
18	08:35 16:14	07:36 17:21	18 16:32 (AP2) 18:22		06:24 20:26	18:30 (Pr3b) 18:40 (Pr3b)	04:55 21:27	19:49 (PrRR3) 20:26 (PrRR3)	04:23 22:06	19:47 (PrRR3) 20:38 (PrRR3)
19	08:34 16:16	07:33 17:24	18 16:32 (AP2) 18:24		06:21 20:28	19:48 (PrRR3)	04:53 21:29	19:48 (PrRR3) 20:27 (PrRR3)	04:23 22:07	19:47 (PrRR3) 20:38 (PrRR3)
20	08:32 16:18	07:31 17:26	21 16:31 (AP2) 18:26		06:19 20:30	19:48 (PrRR3)	04:52 21:31	19:48 (PrRR3) 20:28 (PrRR3)	04:23 22:07	19:48 (PrRR3) 20:39 (PrRR3)
21	08:31 16:20	07:28 17:28	22 16:31 (AP2) 18:28		06:16 20:32	19:48 (PrRR3)	04:50 21:3			

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Sporanu majas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (538)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:28 22:06 51	19:50 (PrRR3) 20:41 (PrRR3) 21:25	05:14 21:25 30	19:55 (Pr25) 20:27 (PrRR3) 20:12	06:15 18:54 (Pr3b) 18:51	07:15 16:34 15:43
2	04:29 22:06 50	19:50 (PrRR3) 20:40 (PrRR3) 21:23	05:16 21:23 28	19:53 (Pr25) 20:24 (PrRR3) 20:09	06:17 18:54 (Pr3b) 18:49	07:17 16:32 15:42
3	04:30 22:05 51	19:50 (PrRR3) 20:41 (PrRR3) 21:21	05:18 21:21 19	19:52 (Pr25) 20:11 (Pr25) 20:07	06:19 18:55 (Pr3b) 18:46	07:19 16:30 15:41
4	04:31 22:05 51	19:50 (PrRR3) 20:41 (PrRR3) 21:19	05:20 21:19 21	19:51 (Pr25) 20:12 (Pr25) 20:04	06:21 18:15 (Pr3b) 18:44	07:21 16:27 15:41
5	04:32 22:04 50	19:51 (PrRR3) 20:41 (PrRR3) 21:17	05:21 21:17 23	19:50 (Pr25) 20:13 (Pr25) 20:01	06:23 18:14 (Pr3b) 18:41	07:23 16:25 15:40
6	04:33 22:03 50	19:51 (PrRR3) 20:41 (PrRR3) 21:15	05:23 21:15 24	19:49 (Pr25) 20:13 (Pr25) 19:59	06:25 18:13 (Pr3b) 18:38	07:25 16:23 15:39
7	04:34 22:03 50	19:51 (PrRR3) 20:41 (PrRR3) 21:13	05:25 21:13 26	19:48 (Pr25) 20:14 (Pr25) 19:56	06:27 18:13 (Pr3b) 18:36	07:27 16:21 15:38
8	04:35 22:02 50	19:51 (PrRR3) 20:41 (PrRR3) 21:11	05:27 21:11 26	19:48 (Pr25) 20:14 (Pr25) 19:53	06:29 18:13 (Pr3b) 18:33	07:29 16:19 15:38
9	04:36 22:01 49	19:52 (PrRR3) 20:41 (PrRR3) 21:08	05:29 21:08 28	19:47 (Pr25) 20:15 (Pr25) 19:51	06:31 18:12 (Pr3b) 18:30	07:31 16:17 15:37
10	04:38 22:00 49	19:52 (PrRR3) 20:41 (PrRR3) 21:06	05:31 21:06 28	19:47 (Pr25) 20:15 (Pr25) 19:48	06:33 18:12 (Pr3b) 18:28	07:34 16:15 15:37
11	04:39 21:59 49	19:53 (PrRR3) 20:42 (PrRR3) 21:04	05:33 21:04 28	19:46 (Pr25) 20:14 (Pr25) 19:45	06:35 18:12 (Pr3b) 18:25	07:36 16:13 15:37
12	04:40 21:58 49	19:53 (PrRR3) 20:42 (PrRR3) 21:02	05:35 21:02 28	19:46 (Pr25) 20:14 (Pr25) 19:43	06:37 18:13 (Pr3b) 18:23	07:38 16:11 15:36
13	04:42 21:57 49	19:53 (PrRR3) 20:42 (PrRR3) 20:59	05:37 20:59 28	19:46 (Pr25) 20:14 (Pr25) 19:40	06:39 18:13 (Pr3b) 18:20	07:40 17:10 (AP2) 16:09
14	04:43 21:55 48	19:53 (PrRR3) 20:41 (PrRR3) 20:57	05:39 20:57 28	19:46 (Pr25) 20:14 (Pr25) 19:37	06:41 18:13 (Pr3b) 18:17	07:42 17:07 (AP2) 16:07
15	04:44 21:54 48	19:54 (PrRR3) 20:42 (PrRR3) 20:54	05:41 20:54 28	19:46 (Pr25) 20:14 (Pr25) 19:34	06:43 18:14 (Pr3b) 18:15	07:44 17:05 (AP2) 16:06
16	04:46 21:53 47	19:54 (PrRR3) 20:41 (PrRR3) 20:52	05:43 20:52 26	19:47 (Pr25) 20:13 (Pr25) 19:32	06:45 18:15 (Pr3b) 18:12	07:46 17:04 (AP2) 16:04
17	04:47 21:51 47	19:54 (PrRR3) 20:41 (PrRR3) 20:50	05:45 20:50 25	19:47 (Pr25) 20:12 (Pr25) 19:29	06:47 18:16 (Pr3b) 18:10	07:48 17:03 (AP2) 16:02
18	04:49 21:50 46	19:55 (PrRR3) 20:41 (PrRR3) 20:47	05:47 20:47 24	19:47 (Pr25) 20:11 (Pr25) 19:26	06:49 18:18 (Pr3b) 18:07	07:50 17:02 (AP2) 16:01
19	04:51 21:49 45	19:55 (PrRR3) 20:40 (PrRR3) 20:45	05:49 20:45 22	19:48 (Pr25) 20:10 (Pr25) 19:24	06:51 18:19 (Pr3b) 18:05	07:52 17:01 (AP2) 15:59
20	04:52 21:47 44	19:56 (PrRR3) 20:40 (PrRR3) 20:42	05:51 20:42 19	19:49 (Pr25) 20:08 (Pr25) 19:21	06:53 18:22 (Pr3b) 18:02	07:54 17:02 (AP2) 15:57
21	04:54 21:45 43	19:56 (PrRR3) 20:39 (PrRR3) 20:40	05:53 20:40 15	19:51 (Pr25) 20:06 (Pr25) 19:18	06:55 18:24 (Pr3b) 18:00	07:57 17:02 (AP2) 15:56
22	04:56 21:44 42	19:57 (PrRR3) 20:39 (PrRR3) 20:37	05:55 20:37 11	19:53 (Pr25) 20:04 (Pr25) 19:16	06:57 18:00 17:57	07:59 17:02 (AP2) 15:54
23	04:57 21:42 41	19:57 (PrRR3) 20:38 (PrRR3) 20:35	05:57 20:35 11	19:57 (PrRR3) 20:01 19:10	06:59 17:57 17:53	08:01 17:23 (AP2) 15:51
24	04:59 21:40 40	19:58 (PrRR3) 20:38 (PrRR3) 20:32	05:59 20:32 11	19:58 (PrRR3) 20:01 19:10	07:01 17:53 17:05	08:03 17:23 (AP2) 16:04 (AP2)
25	05:01 21:39 39	19:59 (PrRR3) 20:38 (PrRR3) 20:30	06:01 20:30 11	19:59 (PrRR3) 20:00 (PrRR3) 19:08	07:03 16:50 16:07	08:05 16:17 (AP2) 15:50
26	05:03 21:37 36	20:00 (PrRR3) 20:36 (PrRR3) 20:27	06:03 20:27 19	20:00 (PrRR3) 18:47 (Pr3b) 19:05	07:05 16:48 16:09	08:07 16:05 (AP2) 15:49
27	05:04 21:35 35	20:01 (PrRR3) 20:36 (PrRR3) 20:25	06:05 20:25 23	20:01 (PrRR3) 18:26 (Pr3b) 19:02	07:07 16:45 16:13	08:09 16:08 (AP2) 15:48
28	05:06 21:33 33	20:02 (PrRR3) 20:35 (PrRR3) 20:22	06:07 20:22 26	20:02 (PrRR3) 18:24 (Pr3b) 19:00	07:09 16:43 16:14	08:11 15:46 15:42
29	05:08 21:31 30	20:03 (PrRR3) 20:33 (PrRR3) 20:20	06:09 20:20 30	20:03 (PrRR3) 18:22 (Pr3b) 18:57	07:11 16:41 16:16	08:13 15:45 15:43
30	05:10 21:29 27	20:05 (PrRR3) 20:32 (PrRR3) 20:17	06:11 20:17 33	20:05 (PrRR3) 18:20 (Pr3b) 18:54	07:13 16:39 16:18	08:15 15:44 15:44
31	05:12 21:27 29	19:59 (Pr25) 20:30 (PrRR3) 20:14	06:13 20:14 34	18:19 (Pr3b) 18:53 (Pr3b) 18:53	07:18 16:36 16:36	08:18 15:45 15:45
Potential sun hours	529	469	384	324	248	217
Total, worst case	1368	711	694	251		
Sun reduction	0,47	0,52	0,43	0,29		
Oper. time red.	1,00	1,00	1,00	1,00		
Wind dir. red.	1,00	1,00	1,00	1,00		
Total reduction	0,47	0,52	0,43	0,29		
Total, real	645	371	299	73		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Spridiš i 3 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (575)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:07	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:34 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:24 21:15	06:25 20:01	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:26 21:13	06:27 20:01	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:28 21:11	06:29 20:01	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	04:27 22:00	04:37 22:01	05:29 21:08	06:31 20:01	07:31 18:30	07:38 16:17	08:34 15:38
10	08:44 15:59	07:54 17:04	06:45 18:05	06:23 20:10	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 20:01	07:34 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 20:01	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:03	04:40 21:58	05:35 21:02	06:37 20:01	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:57	05:37 20:59	06:39 20:01	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:13	06:35 18:13	06:13 20:18	05:03 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 20:01	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:54	06:43 20:01	07:44 18:15	07:50 16:06	08:41 15:36
16	08:38 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 20:01	07:46 18:12	07:53 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 20:01	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 20:01	07:50 18:07	07:57 16:01	08:44 15:36
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	04:53 21:29	04:24 22:07	04:51 21:48	05:49 20:45	06:51 20:01	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:30	04:24 22:07	04:52 21:47	05:51 20:42	06:53 20:01	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 20:01	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 20:01	07:59 17:58	08:05 15:54	08:47 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:37	04:47 21:36	04:24 22:08	04:58 21:42	05:57 20:35	06:59 20:01	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37	04:25 22:08	04:59 21:40	05:59 20:32	07:01 20:01	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 20:01	08:05 17:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 20:01	08:07 17:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:40	05:40 20:45	04:41 21:42	04:26 22:08	05:05 21:35	06:05 20:25	07:07 20:01	08:09 17:46	08:15 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:43	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 20:01	08:12 17:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:20	07:11 20:01	08:14 17:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 20:01	08:16 17:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14	07:18 20:01	08:18 17:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Spulgas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (427)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:35	04:29	05:14	06:16	07:15	07:20	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:06	21:26	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:44	05:29	04:34	04:30	05:16	06:18	07:17	07:23	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:18	06:20	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:47	16:30	15:42
4	08:47	08:07	07:01	06:39	05:24	04:32	04:32	05:20	06:22	07:21	07:27	08:27
	15:51	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:41
5	08:47	08:05	06:59	06:36	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:28
	15:52	16:53	17:55	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:26	15:40
6	08:46	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:01	21:03	21:56	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:00	06:53	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:33	08:31
	15:55	16:57	17:59	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:22	15:39
8	08:45	07:58	06:51	06:29	05:16	04:28	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	16:59	18:01	20:06	21:07	21:59	22:02	21:11	19:54	18:33	16:20	15:39
9	08:44	07:56	06:48	06:26	05:13	04:27	04:37	05:30	06:32	07:32	07:38	08:34
	15:58	17:02	18:03	20:08	21:09	22:00	22:01	21:08	19:51	18:31	16:18	15:38
10	08:44	07:54	06:46	06:23	05:11	04:27	04:38	05:32	06:34	07:34	07:40	08:35
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:09	04:26	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:26	16:14	15:37
12	08:42	07:50	06:40	06:18	05:07	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:02	19:43	18:23	16:12	15:37
13	08:41	07:47	06:38	06:16	05:05	04:25	04:42	05:38	06:40	07:40	07:46	08:39
	16:05	17:11	18:12	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:10	15:37
14	08:40	07:45	06:35	06:13	05:03	04:25	04:44	05:40	06:42	07:42	07:48	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:37	18:18	16:08	15:37
15	08:39	07:43	06:32	06:10	05:01	04:25	04:45	05:42	06:43	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:37
16	08:38	07:41	06:30	06:08	04:59	04:24	04:47	05:44	06:45	07:46	07:53	08:42
	16:11	17:17	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:04	15:37
17	08:36	07:38	06:27	06:05	04:58	04:24	04:48	05:46	06:47	07:48	07:55	08:43
	16:12	17:20	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:03	15:37
18	08:35	07:36	06:24	06:03	04:56	04:24	04:50	05:48	06:49	07:50	07:57	08:44
	16:14	17:22	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:01	15:37
19	08:34	07:33	06:22	06:00	04:54	04:24	04:51	05:50	06:51	07:53	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:58	04:52	04:24	04:53	05:52	06:53	07:55	08:01	08:45
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:42	19:21	18:03	15:58	15:37
21	08:31	07:29	06:16	05:55	04:50	04:24	04:55	05:54	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:32	22:07	21:45	20:40	19:19	18:00	15:56	15:38
22	08:30	07:26	06:14	05:53	04:49	04:24	04:56	05:56	06:57	07:59	08:05	08:47
	16:22	17:31	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:55	15:38
23	08:28	07:24	06:11	05:50	04:47	04:25	04:58	05:58	06:59	08:01	08:07	08:47
	16:25	17:33	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:39
24	08:26	07:21	06:08	05:48	04:46	04:25	05:00	06:00	07:01	08:03	08:09	08:47
	16:27	17:35	18:35	20:39	21:38	22:08	21:40	20:33	19:11	17:53	15:52	15:39
25	08:25	07:19	06:06	05:45	04:44	04:25	05:01	06:02	07:03	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:40
26	08:23	07:16	06:03	05:43	04:43	04:26	05:03	06:04	07:05	08:07	08:13	08:48
	16:31	17:39	18:39	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:41
27	08:22	07:14	06:00	05:41	04:41	04:26	05:05	06:06	07:07	08:09	08:15	08:48
	16:33	17:42	18:41	20:45	21:42	22:08	21:35	20:25	19:03	16:46	15:48	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:09	08:12	08:16	08:48
	16:35	17:44	18:43	20:47	21:44	22:07	21:33	20:22	19:00	16:44	15:47	15:43
29	08:18		06:55	05:36	04:38	04:28	05:09	06:10	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:46	15:43
30	08:16		06:52	05:33	04:37	04:28	05:11	06:12	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:55	16:39	15:45	15:44
31	08:14		06:50		04:36		05:12	06:14		07:18		08:48
	16:42		19:49		21:49		21:28	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Stikani - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (499)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:15	06:17	07:17	07:22	08:23
	15:47	16:45	17:47	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:05	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:02	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:00	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Sturīši (kad. apz. 76740020069001) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (475)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:07	21:26	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:24
	15:47	16:45	17:48	19:53	20:55	21:52	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:09	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:21	20:06	18:46	16:29	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:36
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:38	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:08	21:46	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:34	18:34	20:39	21:38	22:08	21:41	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:15	08:48
	16:32	17:41	18:40	20:45	21:43	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:49
	16:34	17:43	18:42	20:47	21:44	22:08	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:28	20:14		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Sturīš i (kad. apz. 76740020069009) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (604)  
 Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:07	21:26	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:24
	15:47	16:45	17:48	19:53	20:55	21:52	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:09	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:21	20:06	18:46	16:29	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:36
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:38	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:08	21:45	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:34	18:34	20:39	21:38	22:08	21:41	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:15	08:48
	16:32	17:41	18:40	20:45	21:43	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:49
	16:34	17:43	18:42	20:47	21:44	22:08	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:28	20:14		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Tebeci - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (463)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January		February		March		April	May	June
1	08:49	10:18 (AP6.1)	08:13	13:58 (Pr11)	07:09	08:04 (Pr25)	06:47	05:31	04:34
	15:46	73 14:59 (Pr12)	16:43	44 15:06 (Pr12)	17:46	58 16:48 (O6)	19:51	20:53	21:50
2	08:48	10:19 (AP6.1)	08:11	13:59 (Pr11)	07:06	08:05 (Pr25)	06:44	05:28	04:33
	15:48	66 14:59 (Pr12)	16:46	32 14:31 (Pr11)	17:48	55 16:47 (O6)	19:53	20:55	21:52
3	08:48	10:20 (AP6.1)	08:09	14:01 (Pr11)	07:04	08:07 (Pr25)	06:42	05:26	04:32
	15:49	67 15:01 (Pr12)	16:48	29 14:30 (Pr11)	17:50	52 16:48 (O6)	19:55	20:57	21:53
4	08:48	10:21 (AP6.1)	08:07	14:03 (Pr11)	07:01	08:09 (Pr25)	06:39	05:24	04:31
	15:50	66 15:01 (Pr12)	16:50	26 14:29 (Pr11)	17:52	45 16:47 (O6)	19:57	20:59	21:54
5	08:47	10:22 (AP6.1)	08:05	14:04 (Pr11)	06:58	16:13 (O6)	06:36	05:22	04:30
	15:52	67 15:02 (Pr12)	16:52	23 14:27 (Pr11)	17:54	33 16:46 (O6)	19:59	21:02	21:56
6	08:47	10:25 (AP6.1)	08:03	14:07 (Pr11)	06:56	16:14 (O6)	06:34	05:19	04:29
	15:53	65 15:04 (Pr12)	16:55	18 14:25 (Pr11)	17:56	31 16:45 (O6)	20:01	21:04	21:57
7	08:46	13:48 (Pr11)	08:01	14:11 (Pr11)	06:53	16:15 (O6)	06:31	05:17	04:28
	15:55	61 15:05 (Pr12)	16:57	11 14:22 (Pr11)	17:59	29 16:44 (O6)	20:03	21:06	21:58
8	08:45	13:48 (Pr11)	07:58		06:51	16:16 (O6)	06:28	05:15	04:28
	15:56	61 15:05 (Pr12)	16:59		18:01	26 16:42 (O6)	20:06	21:08	21:59
9	08:45	13:48 (Pr11)	07:56		06:48	16:18 (O6)	06:26	05:13	04:27
	15:58	63 15:06 (Pr12)	17:01		18:03	23 16:41 (O6)	20:08	21:10	22:00
10	08:44	13:49 (Pr11)	07:54		06:45	16:19 (O6)	06:23	05:11	04:26
	15:59	64 15:07 (Pr12)	17:04		18:05	19 16:38 (O6)	20:10	21:12	22:01
11	08:43	13:48 (Pr11)	07:52		06:43	16:22 (O6)	06:20	05:09	04:26
	16:01	66 15:07 (Pr12)	17:06		18:07	13 16:35 (O6)	20:12	21:14	22:02
12	08:42	13:48 (Pr11)	07:50		06:40		06:18	05:07	04:25
	16:03	67 15:08 (Pr12)	17:08		18:09		20:14	21:16	22:03
13	08:41	13:49 (Pr11)	07:47		06:38		06:15	05:05	04:25
	16:05	67 15:09 (Pr12)	17:10		18:11		20:16	21:18	22:04
14	08:40	13:49 (Pr11)	07:45		06:35		06:13	05:03	04:24
	16:06	69 15:10 (Pr12)	17:13		18:13		20:18	21:19	22:04
15	08:39	13:49 (Pr11)	07:43		06:32		06:10	05:01	04:24
	16:08	69 15:10 (Pr12)	17:15		18:16		20:20	21:21	22:05
16	08:38	13:50 (Pr11)	07:41	08:11 (Pr25)	06:30		06:07	04:59	04:24
	16:10	69 15:11 (Pr12)	17:17	11 08:22 (Pr25)	18:18		20:22	21:23	22:06
17	08:37	13:49 (Pr11)	07:38	08:09 (Pr25)	06:27		06:05	04:57	04:24
	16:12	71 15:11 (Pr12)	17:19	25 16:36 (O6)	18:20		20:24	21:25	22:06
18	08:35	13:50 (Pr11)	07:36	08:07 (Pr25)	06:24		06:02	04:55	04:24
	16:14	71 15:12 (Pr12)	17:21	36 16:40 (O6)	18:22		20:26	21:27	22:07
19	08:34	13:50 (Pr11)	07:33	08:06 (Pr25)	06:22		06:00	04:53	04:23
	16:16	71 15:12 (Pr12)	17:24	43 16:42 (O6)	18:24		20:28	21:29	22:07
20	08:33	13:50 (Pr11)	07:31	08:05 (Pr25)	06:19		05:57	04:52	04:24
	16:18	71 15:12 (Pr12)	17:26	47 16:43 (O6)	18:26		20:30	21:31	22:07
21	08:31	13:51 (Pr11)	07:29	08:05 (Pr25)	06:16		05:55	04:50	04:24
	16:20	71 15:13 (Pr12)	17:28	51 16:45 (O6)	18:28		20:33	21:33	22:08
22	08:30	13:51 (Pr11)	07:26	08:04 (Pr25)	06:14		05:52	04:48	04:24
	16:22	71 15:13 (Pr12)	17:30	55 16:46 (O6)	18:30		20:35	21:34	22:08
23	08:28	13:51 (Pr11)	07:24	08:04 (Pr25)	06:11		05:50	04:47	04:24
	16:24	71 15:13 (Pr12)	17:33	57 16:47 (O6)	18:32		20:37	21:36	22:08
24	08:27	13:52 (Pr11)	07:21	08:03 (Pr25)	06:08		05:47	04:45	04:24
	16:26	69 15:13 (Pr12)	17:35	58 16:47 (O6)	18:34		20:39	21:38	22:08
25	08:25	13:52 (Pr11)	07:19	08:03 (Pr25)	06:06		05:45	04:43	04:25
	16:28	68 15:12 (Pr12)	17:37	59 16:47 (O6)	18:36		20:41	21:39	22:08
26	08:23	13:53 (Pr11)	07:16	08:03 (Pr25)	06:03		05:43	04:42	04:25
	16:30	67 15:13 (Pr12)	17:39	60 16:48 (O6)	18:39		20:43	21:41	22:08
27	08:22	13:54 (Pr11)	07:14	08:03 (Pr25)	06:00		05:40	04:41	04:26
	16:33	65 15:13 (Pr12)	17:41	60 16:48 (O6)	18:41		20:45	21:43	22:08
28	08:20	13:55 (Pr11)	07:11	08:04 (Pr25)	05:58		05:38	04:39	04:26
	16:35	61 15:12 (Pr12)	17:43	60 16:49 (O6)	18:43		20:47	21:44	22:08
29	08:18	13:56 (Pr11)			06:55		05:35	04:38	04:27
	16:37	59 15:12 (Pr12)			19:45		20:49	21:46	22:07
30	08:16	13:55 (Pr11)			06:52		05:33	04:37	04:28
	16:39	56 15:10 (Pr12)			19:47		20:51	21:47	22:07
31	08:15	13:57 (Pr11)			06:49			04:35	
	16:41	49 15:08 (Pr12)			19:49			21:49	
Potential sun hours	236		266		366		426	507	528
Total, worst case	2051		805		384				
Sun reduction	0,13		0,23		0,39				
Oper. time red.	1,00		1,00		1,00				
Wind dir. red.	1,00		1,00		1,00				
Total reduction	0,13		0,23		0,39				
Total, real	275		181		150				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Tebeci - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (463)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October		November		December
1	04:28 22:07	05:14 21:26	06:15 20:12	07:15 18:52		07:20 16:34		08:22 15:43 66
2	04:29 22:06	05:16 21:24	06:17 20:09	07:17 18:49	9	17:03 (O6) 17:12 (O6)		14:49 (Pr12) 15:42 64
3	04:30 22:06	05:18 21:22	06:19 20:07	07:19 18:46	16	16:59 (O6) 17:15 (O6)		13:32 (Pr11) 15:41 63
4	04:31 22:05	05:20 21:20	06:21 20:04	07:21 18:44	21	16:56 (O6) 17:17 (O6)	13:40 (Pr11)	13:32 (Pr11) 15:41 63
5	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	24	16:54 (O6) 17:18 (O6)	13:36 (Pr11)	13:33 (Pr11) 15:40 61
6	04:33 22:04	05:24 21:15	06:25 19:59	07:25 18:38	27	16:52 (O6) 17:19 (O6)	13:34 (Pr11)	13:30 (Pr11) 15:39 64
7	04:34 22:03	05:26 21:13	06:27 19:56	07:28 18:36	30	16:50 (O6) 17:20 (O6)	13:32 (Pr11)	13:28 (Pr11) 15:38 67
8	04:35 22:02	05:27 21:11	06:29 19:53	07:30 18:33	31	16:49 (O6) 17:21 (O6)	13:31 (Pr11)	13:27 (Pr11) 15:38 66
9	04:36 22:01	05:29 21:09	06:31 19:51	07:32 18:31	41	08:46 (Pr25) 17:22 (O6)	13:30 (Pr11)	13:26 (Pr11) 15:38 66
10	04:38 22:00	05:31 21:06	06:33 19:48	07:34 18:28	48	08:43 (Pr25) 17:22 (O6)	13:28 (Pr11)	13:24 (Pr11) 15:38 66
11	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	53	08:40 (Pr25) 17:22 (O6)	13:28 (Pr11)	13:24 (Pr11) 15:37 72
12	04:40 21:58	05:35 21:02	06:37 19:43	07:38 18:23	55	08:39 (Pr25) 17:21 (O6)	13:27 (Pr11)	13:23 (Pr11) 15:37 75
13	04:42 21:57	05:37 20:59	06:39 19:40	07:40 18:20	58	08:37 (Pr25) 17:21 (O6)	13:27 (Pr11)	13:23 (Pr11) 15:36 74
14	04:43 21:56	05:39 20:57	06:41 19:37	07:42 18:18	60	08:36 (Pr25) 17:21 (O6)	13:27 (Pr11)	13:23 (Pr11) 15:36 76
15	04:45 21:54	05:41 20:55	06:43 19:35	07:44 18:15	60	08:36 (Pr25) 17:21 (O6)	13:26 (Pr11)	13:22 (Pr11) 15:36 75
16	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:13	60	08:35 (Pr25) 17:20 (O6)	13:26 (Pr11)	13:22 (Pr11) 15:36 75
17	04:48 21:52	05:45 20:50	06:47 19:29	07:48 18:10	59	08:35 (Pr25) 17:19 (O6)	13:26 (Pr11)	13:22 (Pr11) 15:36 75
18	04:49 21:50	05:47 20:47	06:49 19:27	07:50 18:07	59	08:34 (Pr25) 17:18 (O6)	13:26 (Pr11)	13:22 (Pr11) 15:36 74
19	04:51 21:49	05:49 20:45	06:51 19:24	07:53 18:05	57	08:35 (Pr25) 17:18 (O6)	13:26 (Pr11)	13:22 (Pr11) 15:36 74
20	04:52 21:47	05:51 20:43	06:53 19:21	07:55 18:03	54	08:35 (Pr25) 17:17 (O6)	13:26 (Pr11)	13:22 (Pr11) 15:36 71
21	04:54 21:46	05:53 20:40	06:55 19:19	07:57 18:00	50	08:35 (Pr25) 17:15 (O6)	13:26 (Pr11)	13:22 (Pr11) 15:36 71
22	04:56 21:44	05:55 20:38	06:57 19:16	07:59 17:58	46	08:35 (Pr25) 17:13 (O6)	13:26 (Pr11)	13:22 (Pr11) 15:36 71
23	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	41	08:37 (Pr25) 17:12 (O6)	13:27 (Pr11)	13:23 (Pr11) 15:36 71
24	04:59 21:41	05:59 20:33	07:01 19:10	08:03 17:53	33	08:38 (Pr25) 17:09 (O6)	13:27 (Pr11)	13:23 (Pr11) 15:36 73
25	05:01 21:39	06:01 20:30	07:03 19:08	07:05 16:50	21	07:39 (Pr25) 16:04 (O6)	13:27 (Pr11)	13:23 (Pr11) 15:36 73
26	05:03 21:37	06:03 20:27	07:05 19:05	07:07 16:48	8	07:43 (Pr25) 07:51 (Pr25)	13:28 (Pr11)	13:24 (Pr11) 15:36 74
27	05:05 21:35	06:05 20:25	07:07 19:02	07:10 16:46		08:15 15:48	13:28 (Pr11)	13:24 (Pr11) 15:36 74
28	05:06 21:34	06:07 20:22	07:09 19:00	07:12 16:43		08:17 15:46	13:28 (Pr11)	13:24 (Pr11) 15:36 74
29	05:08 21:32	06:09 20:20	07:11 18:57	07:14 16:41		08:18 15:45	13:29 (Pr11)	13:25 (Pr11) 15:36 74
30	05:10 21:30	06:11 20:17	07:13 18:54	07:16 16:39		08:20 15:44	13:29 (Pr11)	13:25 (Pr11) 15:36 74
31	05:12 21:28	06:13 20:15		07:18 16:36			08:49 15:45	10:17 (AP6.1) 14:57 (Pr12)
Potential sun hours	529	469	384	324		248		217
Total, worst case				1021		1524		2190
Sun reduction				0,29		0,08		0,08
Oper. time red.				1,00		1,00		1,00
Wind dir. red.				1,00		1,00		1,00
Total reduction				0,29		0,08		0,08
Total, real				296		114		185

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Torna iela 10 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (544)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Torna iela 11 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (528)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Torna iela 12 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (599)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Torna iela 2 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (525)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Torna iela 3 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (598)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Torna iela 3A - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (531)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Torna iela 4 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (521)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Torna iela 5 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (542)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Torna iela 6 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (517)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Torna iela 7 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (529)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Torna iela 8 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (546)  
 Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Torna iela 9 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (520)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Tumš upe (kad. apz. 76820020140001) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (448)  
 Sunshine probability S (Average daily sunshine hours) []

### Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:35	04:29	05:15	06:16	07:16	07:20	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:06	21:25	20:12	18:52	16:35	15:44
2	08:48	08:10	07:06	06:45	05:29	04:34	04:30	05:17	06:18	07:18	07:23	08:23
	15:49	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:33	15:43
3	08:47	08:09	07:04	06:42	05:27	04:33	04:31	05:19	06:20	07:20	07:25	08:25
	15:50	16:49	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:47	16:30	15:42
4	08:47	08:07	07:01	06:39	05:25	04:32	04:32	05:20	06:22	07:22	07:27	08:27
	15:51	16:51	17:53	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:42
5	08:47	08:05	06:59	06:37	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:28
	15:53	16:53	17:55	19:59	21:01	21:55	22:04	21:17	20:02	18:41	16:26	15:41
6	08:46	08:02	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:01	21:03	21:56	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:00	06:53	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:33	08:31
	15:56	16:57	17:59	20:04	21:05	21:57	22:02	21:13	19:56	18:36	16:22	15:40
8	08:45	07:58	06:51	06:29	05:16	04:29	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	17:00	18:01	20:06	21:07	21:58	22:02	21:11	19:54	18:34	16:20	15:39
9	08:44	07:56	06:48	06:26	05:14	04:28	04:38	05:30	06:32	07:32	07:38	08:34
	15:59	17:02	18:03	20:08	21:09	22:00	22:01	21:08	19:51	18:31	16:18	15:39
10	08:43	07:54	06:46	06:24	05:12	04:27	04:39	05:32	06:34	07:34	07:40	08:35
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:10	04:27	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:07	20:12	21:13	22:01	21:59	21:04	19:46	18:26	16:14	15:38
12	08:42	07:50	06:40	06:18	05:08	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:04	17:09	18:10	20:14	21:15	22:02	21:58	21:02	19:43	18:23	16:12	15:38
13	08:41	07:47	06:38	06:16	05:06	04:26	04:43	05:38	06:40	07:40	07:46	08:39
	16:05	17:11	18:12	20:16	21:17	22:03	21:56	20:59	19:40	18:21	16:10	15:37
14	08:40	07:45	06:35	06:13	05:04	04:25	04:44	05:40	06:42	07:42	07:48	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:38	18:18	16:08	15:37
15	08:39	07:43	06:32	06:11	05:02	04:25	04:46	05:42	06:44	07:44	07:50	08:41
	16:09	17:15	18:16	20:20	21:21	22:04	21:54	20:55	19:35	18:16	16:07	15:37
16	08:37	07:40	06:30	06:08	05:00	04:25	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:18	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:05	15:37
17	08:36	07:38	06:27	06:06	04:58	04:25	04:49	05:46	06:48	07:48	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:03	15:37
18	08:35	07:36	06:25	06:03	04:56	04:25	04:50	05:48	06:50	07:50	07:57	08:44
	16:15	17:22	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:01	15:37
19	08:34	07:33	06:22	06:00	04:54	04:25	04:52	05:50	06:52	07:53	07:59	08:44
	16:17	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:06	16:00	15:38
20	08:32	07:31	06:19	05:58	04:53	04:25	04:53	05:52	06:54	07:55	08:01	08:45
	16:19	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:03	15:58	15:38
21	08:31	07:29	06:17	05:55	04:51	04:25	04:55	05:54	06:56	07:57	08:03	08:46
	16:21	17:29	18:28	20:32	21:32	22:07	21:45	20:40	19:19	18:01	15:57	15:38
22	08:29	07:26	06:14	05:53	04:49	04:25	04:57	05:56	06:58	07:59	08:05	08:46
	16:23	17:31	18:30	20:35	21:34	22:07	21:44	20:38	19:16	17:58	15:55	15:39
23	08:28	07:24	06:11	05:51	04:48	04:25	04:58	05:58	06:59	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:07	21:42	20:35	19:13	17:56	15:54	15:39
24	08:26	07:21	06:09	05:48	04:46	04:25	05:00	06:00	07:01	08:03	08:09	08:47
	16:27	17:35	18:35	20:39	21:37	22:08	21:40	20:33	19:11	17:53	15:52	15:40
25	08:25	07:19	06:06	05:46	04:44	04:26	05:02	06:02	07:03	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	16:51	15:51	15:41
26	08:23	07:16	06:03	05:43	04:43	04:26	05:04	06:04	07:05	08:07	08:13	08:48
	16:31	17:40	18:39	20:43	21:41	22:08	21:37	20:27	19:05	16:49	15:50	15:41
27	08:21	07:14	06:01	05:41	04:42	04:27	05:05	06:06	07:07	08:09	08:14	08:48
	16:33	17:42	18:41	20:45	21:42	22:07	21:35	20:25	19:03	16:46	15:49	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:09	08:12	08:16	08:48
	16:35	17:44	18:43	20:47	21:44	22:07	21:33	20:22	19:00	16:44	15:47	15:43
29	08:18		06:55	05:36	04:39	04:28	05:09	06:10	07:11	08:14	08:18	08:48
	16:38		19:45	20:49	21:45	22:07	21:31	20:20	18:57	16:42	15:46	15:44
30	08:16		06:53	05:34	04:38	04:29	05:11	06:12	07:13	08:16	08:20	08:48
	16:40		19:47	20:51	21:47	22:07	21:29	20:17	18:55	16:39	15:45	15:45
31	08:14		06:50		04:36		05:13	06:14		07:18		08:48
	16:42		19:49		21:48		21:27	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	527	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Tumš upe (kad. apz. 76820020140006) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (588)

### Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:15 21:25	06:16 20:12	07:16 18:52	07:20 16:35	08:22 15:44
2	08:48 15:49	08:10 16:46	07:06 17:48	06:45 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:17 21:23	06:18 20:09	07:18 18:49	07:23 16:33	08:23 15:43
3	08:47 15:50	08:09 16:49	07:04 17:50	06:42 19:55	05:27 20:57	04:33 21:53	04:31 22:05	05:19 21:21	06:20 20:07	07:20 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:51	07:01 17:53	06:39 19:57	05:25 20:59	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:22 18:44	07:27 16:28	08:27 15:42
5	08:47 15:53	08:05 16:53	06:59 17:55	06:37 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:02	07:24 18:41	07:29 16:26	08:28 15:41
6	08:46 15:54	08:02 16:55	06:56 17:57	06:34 20:01	05:20 21:03	04:30 21:56	04:34 22:03	05:24 21:15	06:26 20:00	07:26 18:39	07:31 16:24	08:30 15:40
7	08:46 15:56	08:00 16:57	06:53 17:59	06:31 20:04	05:18 21:05	04:29 21:57	04:35 22:02	05:26 21:13	06:28 19:56	07:28 18:36	07:33 16:22	08:31 15:40
8	08:45 15:57	07:58 17:00	06:51 18:01	06:29 20:06	05:16 21:07	04:29 21:58	04:36 22:02	05:28 21:11	06:30 19:54	07:30 18:34	07:36 16:20	08:33 15:39
9	08:44 15:59	07:56 17:02	06:48 18:03	06:26 20:08	05:14 21:09	04:28 22:00	04:38 22:01	05:30 21:08	06:32 19:51	07:32 18:31	07:38 16:18	08:34 15:39
10	08:43 16:00	07:54 17:04	06:46 18:05	06:24 20:10	05:12 21:11	04:27 22:01	04:39 22:00	05:32 21:06	06:34 19:48	07:34 18:28	07:40 16:16	08:35 15:38
11	08:43 16:02	07:52 17:06	06:43 18:07	06:21 20:12	05:10 21:13	04:27 22:01	04:40 21:59	05:34 21:04	06:36 19:46	07:36 18:26	07:42 16:14	08:37 15:38
12	08:42 16:04	07:50 17:09	06:40 18:10	06:18 20:14	05:08 21:15	04:26 22:02	04:41 21:58	05:36 21:02	06:38 19:43	07:38 18:23	07:44 16:12	08:38 15:38
13	08:41 16:05	07:47 17:11	06:38 18:12	06:16 20:16	05:06 21:17	04:26 22:03	04:43 21:56	05:38 20:59	06:40 19:40	07:40 18:21	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:04 21:19	04:25 22:04	04:44 21:55	05:40 20:57	06:42 19:38	07:42 18:18	07:48 16:08	08:40 15:37
15	08:39 16:09	07:43 17:15	06:32 18:16	06:11 20:20	05:02 21:21	04:25 22:04	04:46 21:54	05:42 20:55	06:44 19:35	07:44 18:16	07:50 16:07	08:41 15:37
16	08:37 16:11	07:40 17:18	06:30 18:18	06:08 20:22	05:00 21:23	04:25 22:05	04:47 21:53	05:44 20:52	06:46 19:32	07:46 18:13	07:53 16:05	08:42 15:37
17	08:36 16:13	07:38 17:20	06:27 18:20	06:06 20:24	04:58 21:25	04:25 22:06	04:49 21:51	05:46 20:50	06:48 19:29	07:48 18:10	07:55 16:03	08:43 15:37
18	08:35 16:15	07:36 17:22	06:25 18:22	06:03 20:26	04:56 21:27	04:25 22:06	04:50 21:50	05:48 20:47	06:50 19:27	07:50 18:08	07:57 16:01	08:44 15:37
19	08:34 16:17	07:33 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:25 22:07	04:52 21:48	05:50 20:45	06:52 19:24	07:53 18:06	07:59 16:00	08:44 15:38
20	08:32 16:19	07:31 17:26	06:19 18:26	05:58 20:30	04:53 21:30	04:25 22:07	04:53 21:47	05:52 20:42	06:54 19:21	07:55 18:03	08:01 15:58	08:45 15:38
21	08:31 16:21	07:29 17:29	06:17 18:28	05:55 20:32	04:51 21:32	04:25 22:07	04:55 21:45	05:54 20:40	06:56 19:19	07:57 18:01	08:03 15:57	08:46 15:38
22	08:29 16:23	07:26 17:31	06:14 18:30	05:53 20:35	04:49 21:34	04:25 22:07	04:57 21:44	05:56 20:38	06:58 19:16	07:59 17:58	08:05 15:55	08:46 15:39
23	08:28 16:25	07:24 17:33	06:11 18:33	05:51 20:37	04:48 21:36	04:25 22:07	04:58 21:42	05:58 20:35	06:59 19:13	08:01 17:56	08:07 15:54	08:47 15:39
24	08:26 16:27	07:21 17:35	06:09 18:35	05:48 20:39	04:46 21:37	04:25 22:08	05:00 21:40	06:00 20:33	07:01 19:11	08:03 17:53	08:09 15:52	08:47 15:40
25	08:25 16:29	07:19 17:37	06:06 18:37	05:46 20:41	04:44 21:39	04:26 22:08	05:02 21:39	06:02 20:30	07:03 19:08	08:05 17:51	08:11 15:51	08:48 15:41
26	08:23 16:31	07:16 17:40	06:03 18:39	05:43 20:43	04:43 21:41	04:26 22:08	05:04 21:37	06:04 20:27	07:05 19:05	08:07 17:49	08:13 15:50	08:48 15:41
27	08:21 16:33	07:14 17:42	06:01 18:41	05:41 20:45	04:42 21:42	04:27 22:07	05:05 21:35	06:06 20:25	07:07 19:03	08:09 17:46	08:14 15:49	08:48 15:42
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	04:27 22:07	05:07 21:33	06:08 20:22	07:09 19:00	08:12 17:44	08:16 15:47	08:48 15:43
29	08:18 16:38		06:55 19:45	05:36 20:49	04:39 21:45	04:28 22:07	05:09 21:31	06:10 20:20	07:11 18:57	08:14 17:42	08:18 15:46	08:48 15:44
30	08:16 16:40		06:53 19:47	05:34 20:51	04:38 21:47	04:29 22:07	05:11 21:29	06:12 20:17	07:13 18:55	08:16 17:39	08:20 15:45	08:48 15:45
31	08:14 16:42		06:50 19:49		04:36 21:48		05:13 21:27	06:14 20:15		07:18 16:37		08:48 15:46
Potential sun hours	236	266	366	426	507	527	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Vecie Cerini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (570)  
 Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:24 21:15	06:25 19:59	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:02	05:26 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:50 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:27 21:10	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	04:27 22:00	04:37 22:01	05:29 21:08	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:38
10	08:43 15:59	07:54 17:04	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:02	04:40 21:58	05:35 21:01	06:37 19:43	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:56	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:13 20:18	05:03 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:54	06:43 19:34	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:01	08:44 15:36
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	04:53 21:29	04:24 22:07	04:51 21:48	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:30	04:24 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:07	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:58	08:05 15:54	08:46 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	04:47 21:36	04:24 22:08	04:58 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37	04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:08	08:05 16:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:40	05:40 20:45	04:41 21:42	04:26 22:07	05:05 21:35	06:05 20:25	07:07 19:02	08:09 16:46	08:14 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:42	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 19:00	08:12 16:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:45	04:27 22:07	05:08 21:31	06:09 20:20	07:11 18:57	08:14 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:48		05:12 21:27	06:13 20:14	07:18 16:36			08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Vecas Zemesbites - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (503)  
 Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	08:48	08:12	07:09	06:47	05:31	04:34
	15:46	16:43	17:45	19:51	20:53	21:50
2	08:48	08:10	07:06	06:44	05:28	04:33
	15:48	16:45	17:48	19:53	20:55	21:51
3	08:48	08:08	07:03	06:41	05:26	04:32
	15:49	16:48	17:50	19:55	20:57	21:53
4	08:47	08:06	07:01	06:39	19:22 (Pr25)	05:24
	15:50	16:50	17:52	19:57	19:29 (Pr25)	05:24
5	08:47	08:04	06:58	06:36	19:19 (Pr25)	05:21
	15:51	16:52	17:54	19:59	19:30 (Pr25)	05:19
6	08:46	08:02	06:56	06:33	19:18 (PrRR3)	05:19
	15:53	16:54	17:56	20:01	19:33 (Pr25)	05:17
7	08:46	08:00	06:53	06:31	19:13 (PrRR3)	05:17
	15:54	16:57	17:58	20:03	19:34 (Pr25)	05:15
8	08:45	07:58	06:50	06:28	19:10 (PrRR3)	05:15
	15:56	16:59	18:01	20:05	19:36 (Pr25)	05:15
9	08:44	07:56	06:48	06:25	19:08 (PrRR3)	05:13
	15:58	17:01	18:03	20:07	19:36 (Pr25)	05:11
10	08:44	07:54	06:45	17:29 (Pr3b)	19:06 (PrRR3)	05:11
	15:59	17:03	18:05	17:33 (Pr3b)	19:36 (Pr25)	05:11
11	08:43	07:52	06:43	17:23 (Pr3b)	19:05 (PrRR3)	05:09
	16:01	17:06	18:07	17:37 (Pr3b)	19:36 (Pr25)	05:09
12	08:42	07:49	06:40	17:21 (Pr3b)	19:04 (PrRR3)	05:07
	16:03	17:08	18:09	17:39 (Pr3b)	19:35 (Pr25)	05:07
13	08:41	07:47	06:37	17:19 (Pr3b)	19:04 (PrRR3)	05:05
	16:04	17:10	18:11	17:41 (Pr3b)	19:35 (PrRR3)	05:05
14	08:40	07:45	06:35	17:18 (Pr3b)	19:02 (PrRR3)	05:03
	16:06	17:12	18:13	17:41 (Pr3b)	19:35 (PrRR3)	05:03
15	08:39	07:43	06:32	17:16 (Pr3b)	19:02 (PrRR3)	05:01
	16:08	17:15	18:15	17:41 (Pr3b)	19:35 (PrRR3)	05:01
16	08:38	07:40	06:29	17:16 (Pr3b)	19:01 (PrRR3)	04:59
	16:10	17:17	18:17	17:42 (Pr3b)	19:34 (PrRR3)	04:59
17	08:36	07:38	06:27	17:15 (Pr3b)	19:01 (PrRR3)	04:57
	16:12	17:19	18:20	17:42 (Pr3b)	19:35 (PrRR3)	04:57
18	08:35	07:36	06:24	17:14 (Pr3b)	19:01 (PrRR3)	04:55
	16:14	17:21	18:22	17:42 (Pr3b)	19:34 (PrRR3)	04:55
19	08:34	07:33	06:21	17:15 (Pr3b)	19:01 (PrRR3)	04:53
	16:16	17:23	18:24	17:42 (Pr3b)	19:34 (PrRR3)	04:53
20	08:32	07:31	06:19	17:14 (Pr3b)	19:01 (PrRR3)	04:51
	16:18	17:26	18:26	17:42 (Pr3b)	19:33 (PrRR3)	04:51
21	08:31	07:28	06:16	17:14 (Pr3b)	19:01 (PrRR3)	04:50
	16:20	17:28	18:28	17:41 (Pr3b)	19:33 (PrRR3)	04:50
22	08:29	07:26	06:13	17:14 (Pr3b)	19:02 (PrRR3)	04:48
	16:22	17:30	18:30	17:40 (Pr3b)	19:32 (PrRR3)	04:48
23	08:28	07:24	06:11	17:15 (Pr3b)	19:02 (PrRR3)	04:46
	16:24	17:32	18:32	17:39 (Pr3b)	19:31 (PrRR3)	04:46
24	08:26	07:21	06:08	17:16 (Pr3b)	19:03 (PrRR3)	04:45
	16:26	17:35	18:34	17:37 (Pr3b)	19:30 (PrRR3)	04:45
25	08:25	07:19	06:05	17:16 (Pr3b)	19:04 (PrRR3)	04:43
	16:28	17:37	18:36	17:35 (Pr3b)	19:29 (PrRR3)	04:43
26	08:23	07:16	06:03	17:19 (Pr3b)	19:05 (PrRR3)	04:42
	16:30	17:39	18:38	17:34 (Pr3b)	19:27 (PrRR3)	04:42
27	08:21	07:14	06:00	17:21 (Pr3b)	19:07 (PrRR3)	04:40
	16:32	17:41	18:40	17:30 (Pr3b)	19:25 (PrRR3)	04:40
28	08:20	07:11	05:57		19:09 (PrRR3)	04:39
	16:34	17:43	18:42		19:23 (PrRR3)	04:39
29	08:18		06:55		19:13 (PrRR3)	04:38
	16:37		19:45		19:19 (PrRR3)	04:38
30	08:16		06:52			04:36
	16:39		19:47			04:36
31	08:14		06:49			04:35
	16:41		19:49			04:35
Potential sun hours	236	266	366	426	507	528
Total, worst case			383	665		
Sun reduction			0,39	0,44		
Oper. time red.			1,00	1,00		
Wind dir. red.			1,00	1,00		
Total reduction			0,39	0,44		
Total, real			150	294		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Vecas Zemesbites - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (503)  
Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December		
1	04:28 22:06	05:14 21:25	06:15 20:12	19:04 (PrRR3) 19:35 (Pr25)	07:15 18:51	18:00 (Pr3b) 18:19 (Pr3b)	07:20 16:34	08:22 15:43
2	04:29 22:06	05:16 21:23	06:17 20:09	19:05 (PrRR3) 19:35 (Pr25)	07:17 18:49	18:01 (Pr3b) 18:17 (Pr3b)	07:22 16:32	08:23 15:42
3	04:30 22:05	05:18 21:21	06:19 20:06	19:06 (PrRR3) 19:34 (Pr25)	07:19 18:46	18:04 (Pr3b) 18:13 (Pr3b)	07:25 16:30	08:25 15:41
4	04:31 22:05	05:19 21:19	06:21 20:04	19:08 (PrRR3) 19:34 (Pr25)	07:21 18:43		07:27 16:27	08:27 15:40
5	04:32 22:04	05:21 21:17	06:23 20:01	19:09 (PrRR3) 19:31 (Pr25)	07:23 18:41		07:29 16:25	08:28 15:40
6	04:33 22:03	05:23 21:15	06:25 19:59	19:12 (PrRR3) 19:28 (Pr25)	07:25 18:38		07:31 16:23	08:30 15:39
7	04:34 22:03	05:25 21:13	06:27 19:56	19:14 (Pr25) 19:25 (Pr25)	07:27 18:36		07:33 16:21	08:31 15:38
8	04:35 22:02	05:27 21:11	06:29 19:53	19:16 (Pr25) 19:23 (Pr25)	07:29 18:33		07:35 16:19	08:33 15:38
9	04:36 22:01	05:29 21:08	06:31 19:51		07:31 18:30		07:38 16:17	08:34 15:37
10	04:38 22:00	05:31 21:06	06:33 19:48		07:33 18:28		07:40 16:15	08:35 15:37
11	04:39 21:59	05:33 21:04	06:35 19:45		07:36 18:25		07:42 16:13	08:37 15:37
12	04:40 21:58	05:35 21:02	06:37 19:43		07:38 18:23		07:44 16:11	08:38 15:36
13	04:42 21:57	05:37 20:59	06:39 19:40		07:40 18:20		07:46 16:09	08:39 15:36
14	04:43 21:55	05:39 20:57	19:19 (PrRR3) 19:28 (PrRR3)	06:41 19:37	07:42 18:17		07:48 16:07	08:40 15:36
15	04:44 21:54	05:41 20:54	19:16 (PrRR3) 19:31 (PrRR3)	06:43 19:34	07:44 18:15		07:50 16:06	08:41 15:36
16	04:46 21:53	05:43 20:52	19:14 (PrRR3) 19:33 (PrRR3)	06:45 19:32	18:12 (Pr3b) 18:18 (Pr3b)	07:46 18:12	07:53 16:04	08:42 15:36
17	04:47 21:51	05:45 20:50	19:12 (PrRR3) 19:35 (PrRR3)	06:47 19:29	18:08 (Pr3b) 18:22 (Pr3b)	07:48 18:10	07:55 16:02	08:43 15:36
18	04:49 21:50	05:47 20:47	19:10 (PrRR3) 19:35 (PrRR3)	06:49 19:26	18:04 (Pr3b) 18:23 (Pr3b)	07:50 18:07	07:57 16:00	08:44 15:36
19	04:51 21:49	05:49 20:45	19:08 (PrRR3) 19:36 (PrRR3)	06:51 19:24	18:02 (Pr3b) 18:24 (Pr3b)	07:52 18:05	07:59 15:59	08:45 15:36
20	04:52 21:47	05:51 20:42	19:07 (PrRR3) 19:36 (PrRR3)	06:53 19:21	18:01 (Pr3b) 18:25 (Pr3b)	07:54 18:02	08:01 15:57	08:45 15:37
21	04:54 21:45	05:53 20:40	19:07 (PrRR3) 19:37 (PrRR3)	06:55 19:18	18:00 (Pr3b) 18:25 (Pr3b)	07:57 18:00	08:03 15:56	08:46 15:37
22	04:56 21:44	05:55 20:37	19:06 (PrRR3) 19:37 (PrRR3)	06:57 19:16	17:59 (Pr3b) 18:25 (Pr3b)	07:59 17:57	08:05 15:54	08:47 15:38
23	04:57 21:42	05:57 20:35	19:05 (PrRR3) 19:38 (PrRR3)	06:59 19:13	17:58 (Pr3b) 18:25 (Pr3b)	08:01 17:55	08:07 15:53	08:47 15:38
24	04:59 21:40	05:59 20:32	19:05 (PrRR3) 19:38 (PrRR3)	07:01 19:10	17:57 (Pr3b) 18:25 (Pr3b)	08:03 17:53	08:09 15:51	08:47 15:39
25	05:01 21:39	06:01 20:30	19:04 (PrRR3) 19:38 (PrRR3)	07:03 19:08	17:57 (Pr3b) 18:25 (Pr3b)	07:05 16:50	08:11 15:50	08:48 15:39
26	05:03 21:37	06:03 20:27	19:03 (PrRR3) 19:37 (PrRR3)	07:05 19:05	17:57 (Pr3b) 18:24 (Pr3b)	07:07 16:48	08:13 15:49	08:48 15:40
27	05:04 21:35	06:05 20:25	19:03 (PrRR3) 19:36 (PrRR3)	07:07 19:02	17:57 (Pr3b) 18:23 (Pr3b)	07:09 16:45	08:15 15:48	08:48 15:41
28	05:06 21:33	06:07 20:22	19:03 (PrRR3) 19:36 (PrRR3)	07:09 18:59	17:57 (Pr3b) 18:23 (Pr3b)	07:12 16:43	08:16 15:46	08:48 15:42
29	05:08 21:31	06:09 20:20	19:03 (PrRR3) 19:35 (PrRR3)	07:11 18:57	17:57 (Pr3b) 18:21 (Pr3b)	07:14 16:41	08:18 15:45	08:49 15:43
30	05:10 21:29	06:11 20:17	19:03 (PrRR3) 19:35 (PrRR3)	07:13 18:54	17:58 (Pr3b) 18:20 (Pr3b)	07:16 16:38	08:20 15:44	08:49 15:44
31	05:12 21:27	06:13 20:14	19:04 (PrRR3) 19:35 (Pr25)		07:18 16:36			08:48 15:45
Potential sun hours	529	469	384	324		248	217	
Total, worst case		504	515	44				
Sun reduction		0,52	0,43	0,29				
Oper. time red.		1,00	1,00	1,00				
Wind dir. red.		1,00	1,00	1,00				
Total reduction		0,52	0,43	0,29				
Total, real		263	222	13				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Veikals - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (561)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Veldres - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (527)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Viesani - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (584)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:46	19:51	20:53	21:50	22:06	21:25	20:12	18:52	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:24	06:25	07:25	07:31	08:30
	15:53	16:55	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:51	06:28	05:15	04:28	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:38
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:34	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:37
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:05	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:18	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:35	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:24	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:58	15:54	15:38
23	08:28	07:24	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:52	15:39
25	08:25	07:19	06:05	05:45	04:44	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:40
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:46	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:43	20:47	21:44	22:07	21:33	20:22	19:00	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Viktorovka - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (468)  
Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January		February		March	April	May	June	July	August	September	October	November	December			
1	08:49		14:48 (06)	08:13	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:21		08:22	14:30 (06)	
2	15:46	16	15:04 (06)	16:43	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:34		15:43	24	14:54 (06)
	08:48		14:48 (06)	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:23		08:24	14:31 (06)	
	15:48	17	15:05 (06)	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32		15:42	23	14:54 (06)
3	08:48		14:48 (06)	08:09	07:04	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25		08:25		14:32 (06)
	15:49	18	15:06 (06)	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:46	16:30		15:41	22	14:54 (06)
	08:48		14:48 (06)	08:07	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27		08:27		14:33 (06)
4	15:50	19	15:07 (06)	16:50	17:52	19:57	21:00	21:54	22:05	21:20	20:04	18:44	16:28		15:41	21	14:54 (06)
	08:47		14:48 (06)	08:05	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29		08:29		14:34 (06)
	15:52	19	15:07 (06)	16:52	17:54	19:59	21:02	21:56	22:05	21:17	20:01	18:41	16:25		15:40	20	14:54 (06)
5	08:47		14:49 (06)	08:03	06:56	06:34	05:19	04:29	04:33	05:24	06:25	07:25	07:31		08:30		14:35 (06)
	15:53	20	15:09 (06)	16:55	17:56	20:01	21:04	21:57	22:04	21:15	19:59	18:38	16:23		15:39	20	14:55 (06)
	08:46		14:49 (06)	08:01	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:28	07:34		08:32		14:35 (06)
6	15:55	20	15:09 (06)	16:57	17:59	20:03	21:06	21:58	22:03	21:13	19:56	18:36	16:21		15:39	19	14:54 (06)
	08:45		14:49 (06)	07:58	06:51	06:28	05:15	04:27	04:35	05:27	06:29	07:30	07:36		08:33		14:36 (06)
	15:56	21	15:10 (06)	16:59	18:01	20:06	21:08	21:59	22:02	21:11	19:53	18:33	16:19		15:38	19	14:55 (06)
7	08:45		14:49 (06)	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:32	07:38		08:34		14:37 (06)
	15:58	22	15:11 (06)	17:01	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:31	16:17		15:37	17	14:54 (06)
	08:44		14:49 (06)	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:34	07:40		08:36		14:38 (06)
8	15:59	23	15:12 (06)	17:04	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:15		15:37	17	14:55 (06)
	08:43		14:49 (06)	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42		08:37		14:38 (06)
	16:01	23	15:12 (06)	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:45	18:25	16:13		15:37	16	14:54 (06)
9	08:42		14:49 (06)	07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44		08:38		14:39 (06)
	16:03	23	15:12 (06)	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:11		15:36	14	14:53 (06)
	08:41		14:49 (06)	07:47	06:38	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46		08:39		14:41 (06)
10	16:04	24	15:13 (06)	17:10	18:11	20:16	21:18	22:04	21:57	20:59	19:40	18:20	16:09		15:36	13	14:54 (06)
	08:40		14:50 (06)	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:49		08:40		14:41 (06)
	16:06	24	15:14 (06)	17:12	18:13	20:18	21:20	22:04	21:56	20:57	19:37	18:18	16:08	10	14:43 (06)	12	14:53 (06)
11	08:39		14:49 (06)	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:51		08:42		14:42 (06)
	16:08	25	15:14 (06)	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	14	14:45 (06)	11	14:53 (06)
	08:38		14:50 (06)	07:41	06:30	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53		08:42		14:43 (06)
12	16:10	25	15:15 (06)	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:13	16:04	17	14:47 (06)	10	14:53 (06)
	08:37		14:50 (06)	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55		08:43		14:44 (06)
	16:12	25	15:15 (06)	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	19	14:48 (06)	9	14:53 (06)
13	08:35		14:51 (06)	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57		08:44		14:44 (06)
	16:14	24	15:15 (06)	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:27	18:07	16:01	20	14:48 (06)	8	14:52 (06)
	08:34		14:51 (06)	07:33	06:22	06:00	04:53	04:23	04:51	05:49	06:51	07:53	07:59		08:45		14:45 (06)
14	16:16	24	15:15 (06)	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	22	14:50 (06)	7	14:53 (06)
	08:33		14:51 (06)	07:31	06:19	05:57	04:52	04:23	04:52	05:51	06:53	07:55	08:01		08:46		14:46 (06)
	16:18	24	15:15 (06)	17:26	18:26	20:30	21:31	22:08	21:47	20:43	19:21	18:02	15:57	22	14:50 (06)	7	14:53 (06)
15	08:31		14:52 (06)	07:29	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03		08:46		14:46 (06)
	16:20	24	15:16 (06)	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:19	18:00	15:56	24	14:51 (06)	7	14:53 (06)
	08:30		14:53 (06)	07:26	06:14	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05		08:47		14:47 (06)
16	16:22	22	15:15 (06)	17:30	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:54	24	14:52 (06)	7	14:54 (06)
	08:28		14:53 (06)	07:24	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07		08:47		14:47 (06)
	16:24	22	15:15 (06)	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	24	14:52 (06)	7	14:54 (06)
17	08:27		14:54 (06)	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09		08:48		14:48 (06)
	16:26	20	15:14 (06)	17:35	18:34	20:39	21:38	22:08	21:41	20:33	19:10	17:53	15:51	24	14:52 (06)	8	14:56 (06)
	08:25		14:55 (06)	07:19	06:06	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11		08:48		14:48 (06)
18	16:28	19	15:14 (06)	17:37	18:36	20:41	21:40	22:08	21:39	20:30	19:08	17:50	15:50	25	14:53 (06)	8	14:56 (06)
	08:23		14:57 (06)	07:16	06:03	05:43	04:42	04:25	05:03	06:03	07:05	08:07	08:13		08:48		14:48 (06)
	16:30	17	15:14 (06)	17:39	18:39	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	25	14:53 (06)	9	14:57 (06)
19	08:22		14:59 (06)	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:10	08:15		08:49		14:48 (06)
	16:32	14	15:13 (06)	17:41	18:41	20:45	21:43	22:08	21:35	20:25	19:02	16:46	15:48	25	14:53 (06)	10	14:58 (06)
	08:20		15:01 (06)	07:11	05:58	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:17		08:49		14:48 (06)
20	16:35	10	15:11 (06)	17:43	18:43	20:47	21:44	22:08	21:34	20:22	19:00	16:43	15:46	24	14:53 (06)	11	14:59 (06)
	08:18				06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:19		08:49		14:48 (06)
	16:37				19:45	20:49	21:46	22:08	21:32	20:20	18:57	16:41	15:45	24	14:54 (06)	12	15:00 (06)
21	08:17				06:52	05:33	04:36	04:28	05:10	06:11	07:13	08:16	08:20		08:49		14:48 (06)
	16:39				19:47	20:51	21:47	22:07	21:30	20:17	18:54	16:39	15:44	23	14:54 (06)	13	15:01 (06)
	08:15				06:49		04:35	04:25	05:12	06:13		07:18			08:49		14:48 (06)
22	16:41				19:49		21:49		21:28	20:15		16:36			15:45	14	15:02 (06)
	Potential sun hours	235		266	366	426	508	528	529	469	384	324	248		216		
	Total, worst case	584											366		416		
Sun reduction	0,13											0,08		0,08			
Oper. time red.	1,00											1,00		1,00			
Wind dir. red.	1,00											1,00		1,00			
Total reduction	0,13											0,08		0,08			
Total, real	78											27		35			

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Vilcani - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (562)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Vilniš i (kad. apz. 76740020245001) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (554)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Laura Kurzemniece / laura.kurzemniece@environment.lv  
Calculated:  
16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Vilniš i (kad. apz. 76740020245004) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (596)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:46	08:12 16:43	07:08 17:45	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:51	07:20 16:34	08:22 15:43
2	08:48 15:47	08:10 16:45	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:41
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:19 21:19	06:21 20:04	07:21 18:43	07:27 16:27	08:27 15:40
5	08:47 15:51	08:04 16:52	06:58 17:54	06:36 19:59	05:21 21:01	04:30 21:55	04:32 22:04	05:21 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:23 21:15	06:25 19:59	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:54	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:25 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:38
8	08:45 15:56	07:58 16:59	06:50 18:00	06:28 20:05	05:15 21:07	04:27 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:25 20:07	05:13 21:09	04:27 22:00	04:36 22:01	05:29 21:08	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:37
10	08:44 15:59	07:54 17:03	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:37 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:11	05:09 21:13	04:25 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:35 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:03	04:40 21:58	05:35 21:01	06:37 19:42	07:38 18:23	07:44 16:11	08:38 15:36
13	08:41 16:04	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:57	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:12 20:18	05:03 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:17	07:48 16:07	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:44 21:54	05:41 20:54	06:43 19:34	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:17	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:23 22:06	04:47 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:23 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:00	08:44 15:36
19	08:34 16:16	07:33 17:23	06:21 18:24	06:00 20:28	04:53 21:29	04:23 22:07	04:51 21:48	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:36
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:51 21:30	04:23 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:23 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:56 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:57	08:05 15:54	08:47 15:38
23	08:28 16:24	07:23 17:32	06:11 18:32	05:50 20:36	04:46 21:36	04:24 22:08	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:34	06:08 18:34	05:47 20:39	04:45 21:37	04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:53	08:09 15:51	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:43 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:07	07:05 16:50	08:11 15:50	08:48 15:39
26	08:23 16:30	07:16 17:39	06:03 18:38	05:42 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	07:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:32	07:14 17:41	06:00 18:40	05:40 20:45	04:40 21:42	04:26 22:08	05:04 21:35	06:05 20:25	07:07 19:02	07:09 16:45	08:14 15:47	08:48 15:41
28	08:20 16:34	07:11 17:43	05:57 18:42	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 18:59	07:12 16:43	08:16 15:46	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:19	07:11 18:57	07:14 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:36 21:47	04:27 22:07	05:10 21:29	06:11 20:17	07:13 18:54	07:16 16:38	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Vindeks - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (543)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Vinci - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (595)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:24	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:10	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:25	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Virsaiš i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (454)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:13 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:29 22:07	05:14 21:26	06:16 20:12	07:15 18:52	07:20 16:34	08:22 15:44
2	08:48 15:48	08:11 16:46	07:06 17:48	06:44 19:53	05:29 20:55	04:33 21:52	04:29 22:06	05:16 21:24	06:18 20:09	07:17 18:49	07:23 16:32	08:24 15:43
3	08:48 15:49	08:09 16:48	07:04 17:50	06:42 19:55	05:26 20:57	04:32 21:53	04:30 22:06	05:18 21:22	06:20 20:07	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:22 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:53	06:59 17:54	06:36 19:59	05:22 21:02	04:30 21:56	04:32 22:04	05:22 21:17	06:24 20:01	07:24 18:41	07:29 16:26	08:28 15:40
6	08:47 15:53	08:03 16:55	06:56 17:57	06:34 20:01	05:20 21:04	04:29 21:57	04:33 22:04	05:24 21:15	06:26 20:01	07:26 18:39	07:31 16:24	08:30 15:39
7	08:46 15:55	08:01 16:57	06:53 17:59	06:31 20:04	05:17 21:06	04:29 21:58	04:34 22:03	05:26 21:13	06:28 19:56	07:28 18:36	07:34 16:21	08:32 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:06	05:15 21:08	04:28 21:59	04:36 22:02	05:28 21:11	06:30 19:54	07:30 18:33	07:36 16:19	08:33 15:38
9	08:45 15:58	07:56 17:01	06:48 18:03	06:26 20:08	05:13 21:10	04:27 22:00	04:37 22:01	05:30 21:09	06:32 19:51	07:32 18:31	07:38 16:17	08:34 15:38
10	08:44 16:00	07:54 17:04	06:46 18:05	06:23 20:10	05:11 21:12	04:27 22:01	04:38 22:00	05:32 21:06	06:33 19:48	07:34 18:28	07:40 16:15	08:36 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:21 20:12	05:09 21:14	04:26 22:02	04:39 21:59	05:34 21:04	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:16	04:25 22:03	04:41 21:58	05:36 21:02	06:37 19:43	07:38 18:23	07:44 16:12	08:38 15:37
13	08:41 16:05	07:47 17:10	06:38 18:11	06:15 20:16	05:05 21:17	04:25 22:04	04:42 21:57	05:38 20:59	06:39 19:40	07:40 18:20	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:03 21:19	04:25 22:04	04:43 21:56	05:40 20:57	06:41 19:37	07:42 18:18	07:49 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:16	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:42 20:55	06:43 19:35	07:44 18:15	07:51 16:06	08:41 15:36
16	08:38 16:10	07:41 17:17	06:30 18:18	06:08 20:22	04:59 21:23	04:24 22:06	04:46 21:53	05:44 20:52	06:45 19:32	07:46 18:13	07:53 16:04	08:42 15:36
17	08:37 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:52	05:46 20:50	06:47 19:29	07:48 18:10	07:55 16:03	08:43 15:36
18	08:35 16:14	07:36 17:22	06:24 18:22	06:03 20:26	04:55 21:27	04:24 22:07	04:49 21:50	05:48 20:47	06:49 19:27	07:50 18:08	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:24 22:07	04:51 21:49	05:50 20:45	06:51 19:24	07:53 18:05	07:59 15:59	08:45 15:37
20	08:33 16:18	07:31 17:26	06:19 18:26	05:58 20:30	04:52 21:31	04:24 22:07	04:53 21:47	05:52 20:43	06:53 19:21	07:55 18:03	08:01 15:58	08:46 15:37
21	08:31 16:20	07:29 17:28	06:16 18:28	05:55 20:33	04:50 21:32	04:24 22:08	04:54 21:46	05:54 20:40	06:55 19:19	07:57 18:00	08:03 15:56	08:46 15:38
22	08:30 16:22	07:26 17:30	06:14 18:30	05:53 20:35	04:48 21:34	04:24 22:08	04:56 21:44	05:56 20:38	06:57 19:16	07:59 17:58	08:05 15:55	08:47 15:38
23	08:28 16:24	07:24 17:33	06:11 18:32	05:50 20:37	04:47 21:36	04:24 22:08	04:58 21:42	05:58 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:39
24	08:27 16:26	07:21 17:35	06:08 18:34	05:48 20:39	04:45 21:38	04:25 22:08	04:59 21:41	06:00 20:33	07:01 19:11	08:03 17:53	08:09 15:52	08:48 15:39
25	08:25 16:28	07:19 17:37	06:06 18:37	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:02 20:30	07:03 19:08	08:05 16:51	08:11 15:50	08:48 15:40
26	08:23 16:31	07:16 17:39	06:03 18:39	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:04 20:27	07:05 19:05	08:08 16:48	08:13 15:49	08:48 15:41
27	08:22 16:33	07:14 17:41	06:00 18:41	05:40 20:45	04:41 21:43	04:26 22:08	05:05 21:35	06:06 20:25	07:07 19:02	08:10 16:46	08:15 15:48	08:48 15:41
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:39 21:44	04:27 22:08	05:07 21:33	06:08 20:22	07:09 19:00	08:12 16:43	08:17 15:47	08:49 15:42
29	08:18 16:37		06:55 19:45	05:36 20:49	04:38 21:46	04:27 22:07	05:08 21:32	06:10 20:20	07:11 18:57	08:14 16:41	08:18 15:46	08:49 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:30	06:12 20:17	07:13 18:54	08:16 16:39	08:20 15:45	08:49 15:44
31	08:14 16:41		06:50 19:49		04:36 21:49		05:12 21:28	06:14 20:15		07:18 16:37		08:49 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Valodzites - Shadow Receptor:  $1,0 \times 1,0$  Azimuth:  $3,1^\circ$  Slope:  $90,0^\circ$  (582)  
 Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:24 21:15	06:25 20:01	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:02	05:26 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	04:27 22:00	04:37 22:01	05:29 21:08	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:38
10	08:43 15:59	07:54 17:04	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:02	04:40 21:58	05:35 21:01	06:37 19:43	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:56	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:13 20:18	05:03 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:54	06:43 19:34	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:01	08:44 15:36
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	04:53 21:29	04:24 22:07	04:51 21:48	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:30	04:24 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:07	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:58	08:05 15:54	08:46 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	04:47 21:36	04:24 22:08	04:58 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37	04:25 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:08	08:05 16:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:40	05:40 20:45	04:41 21:42	04:26 22:08	05:05 21:35	06:05 20:25	07:07 19:02	08:09 16:46	08:14 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:43	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 19:00	08:12 16:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:45	04:27 22:07	05:08 21:31	06:09 20:20	07:11 18:57	08:14 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:48		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Vejotnes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (601)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:05	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Verdini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (445)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:13 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:15 21:26	06:16 20:12	07:16 18:52	07:20 16:35	08:22 15:44
2	08:48 15:49	08:11 16:46	07:06 17:48	06:45 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:17 21:24	06:18 20:09	07:18 18:49	07:23 16:33	08:23 15:43
3	08:48 15:50	08:09 16:49	07:04 17:50	06:42 19:55	05:27 20:57	04:33 21:53	04:31 22:05	05:19 21:21	06:20 20:07	07:20 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:51	07:01 17:53	06:39 19:57	05:25 20:59	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:22 18:44	07:27 16:28	08:27 15:42
5	08:47 15:53	08:05 16:53	06:59 17:55	06:37 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:02	07:24 18:41	07:29 16:26	08:28 15:41
6	08:46 15:54	08:03 16:55	06:56 17:57	06:34 20:02	05:20 21:03	04:30 21:56	04:34 22:03	05:24 21:15	06:26 19:59	07:26 18:39	07:31 16:24	08:30 15:40
7	08:46 15:56	08:01 16:57	06:54 17:59	06:31 20:04	05:18 21:05	04:29 21:58	04:35 22:03	05:26 21:13	06:28 19:56	07:28 18:36	07:33 16:22	08:31 15:40
8	08:45 15:57	07:58 17:00	06:51 18:01	06:29 20:06	05:16 21:07	04:29 21:59	04:36 22:02	05:28 21:11	06:30 19:54	07:30 18:34	07:36 16:20	08:33 15:39
9	08:44 15:59	07:56 17:02	06:48 18:03	06:26 20:08	05:14 21:09	04:28 22:00	04:37 22:01	05:30 21:08	06:32 19:51	07:32 18:31	07:38 16:18	08:34 15:38
10	08:44 16:00	07:54 17:04	06:46 18:05	06:24 20:10	05:12 21:11	04:27 22:01	04:39 22:00	05:32 21:06	06:34 19:48	07:34 18:28	07:40 16:16	08:35 15:38
11	08:43 16:02	07:52 17:06	06:43 18:08	06:21 20:12	05:10 21:13	04:27 22:02	04:40 21:59	05:34 21:04	06:36 19:46	07:36 18:26	07:42 16:14	08:37 15:38
12	08:42 16:04	07:50 17:09	06:40 18:10	06:18 20:14	05:08 21:15	04:26 22:02	04:41 21:58	05:36 21:02	06:38 19:43	07:38 18:23	07:44 16:12	08:38 15:37
13	08:41 16:05	07:47 17:11	06:38 18:12	06:16 20:16	05:06 21:17	04:26 22:03	04:43 21:57	05:38 20:59	06:40 19:40	07:40 18:21	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:04 21:19	04:25 22:04	04:44 21:55	05:40 20:57	06:42 19:38	07:42 18:18	07:48 16:08	08:40 15:37
15	08:39 16:09	07:43 17:15	06:33 18:16	06:11 20:20	05:02 21:21	04:25 22:05	04:46 21:54	05:42 20:55	06:44 19:35	07:44 18:16	07:51 16:07	08:41 15:37
16	08:38 16:11	07:41 17:18	06:30 18:18	06:08 20:22	05:00 21:23	04:25 22:05	04:47 21:53	05:44 20:52	06:46 19:32	07:46 18:13	07:53 16:05	08:42 15:37
17	08:36 16:13	07:38 17:20	06:27 18:20	06:06 20:24	04:58 21:25	04:25 22:06	04:49 21:51	05:46 20:50	06:48 19:30	07:48 18:11	07:55 16:03	08:43 15:37
18	08:35 16:15	07:36 17:22	06:25 18:22	06:03 20:26	04:56 21:27	04:25 22:06	04:50 21:50	05:48 20:47	06:50 19:27	07:51 18:08	07:57 16:01	08:44 15:37
19	08:34 16:17	07:34 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:25 22:07	04:52 21:48	05:50 20:45	06:52 19:24	07:53 18:06	07:59 16:00	08:45 15:38
20	08:32 16:19	07:31 17:26	06:19 18:26	05:58 20:31	04:53 21:30	04:25 22:07	04:53 21:47	05:52 20:43	06:54 19:21	07:55 18:03	08:01 15:58	08:45 15:38
21	08:31 16:21	07:29 17:29	06:17 18:28	05:55 20:33	04:51 21:32	04:25 22:07	04:55 21:45	05:54 20:40	06:56 19:19	07:57 18:01	08:03 15:57	08:46 15:38
22	08:30 16:23	07:26 17:31	06:14 18:31	05:53 20:35	04:49 21:34	04:25 22:08	04:57 21:44	05:56 20:38	06:58 19:16	07:59 17:58	08:05 15:55	08:46 15:39
23	08:28 16:25	07:24 17:33	06:11 18:33	05:51 20:37	04:48 21:36	04:25 22:08	04:58 21:42	05:58 20:35	07:00 19:13	08:01 17:56	08:07 15:54	08:47 15:39
24	08:26 16:27	07:21 17:35	06:09 18:35	05:48 20:39	04:46 21:38	04:25 22:08	05:00 21:40	06:00 20:33	07:02 19:11	08:03 17:53	08:09 15:52	08:47 15:40
25	08:25 16:29	07:19 17:37	06:06 18:37	05:46 20:41	04:44 21:39	04:26 22:08	05:02 21:39	06:02 20:30	07:04 19:08	07:05 16:51	08:11 15:51	08:48 15:41
26	08:23 16:31	07:16 17:40	06:03 18:39	05:43 20:43	04:43 21:41	04:26 22:08	05:04 21:37	06:04 20:28	07:06 19:05	07:08 16:49	08:13 15:50	08:48 15:41
27	08:22 16:33	07:14 17:42	06:01 18:41	05:41 20:45	04:42 21:42	04:27 22:08	05:05 21:35	06:06 20:25	07:08 19:03	07:10 16:46	08:15 15:49	08:48 15:42
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	04:27 22:07	05:07 21:33	06:08 20:22	07:10 19:00	07:12 16:44	08:16 15:47	08:48 15:43
29	08:18 16:38		06:55 19:45	05:36 20:49	04:39 21:46	04:28 22:07	05:09 21:31	06:10 20:20	07:12 18:57	07:14 16:42	08:18 15:46	08:48 15:44
30	08:16 16:40		06:53 19:47	05:34 20:51	04:38 21:47	04:29 22:07	05:11 21:29	06:12 20:17	07:14 18:55	07:16 16:39	08:20 15:45	08:48 15:45
31	08:14 16:42		06:50 19:49		04:36 21:49		05:13 21:28	06:14 20:15		07:18 16:37		08:48 15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Veris - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (492)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:46	08:12 16:43	07:08 17:45	06:47 19:51	05:30 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:51	07:20 16:34	08:22 15:43
2	08:48 15:47	08:10 16:45	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:17 21:21	06:19 20:06	07:19 18:46	07:25 16:29	08:25 15:41
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:19 21:19	06:21 20:04	07:21 18:43	07:27 16:27	08:27 15:40
5	08:47 15:51	08:04 16:52	06:58 17:54	06:36 19:59	05:21 21:01	04:30 21:55	04:32 22:04	05:21 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:23 21:15	06:25 19:58	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:54	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:25 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:38
8	08:45 15:56	07:58 16:59	06:50 18:00	06:28 20:05	05:15 21:07	04:27 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:57	07:56 17:01	06:48 18:03	06:25 20:07	05:13 21:09	04:27 22:00	04:36 22:01	05:29 21:08	06:31 19:50	07:31 18:30	07:38 16:17	08:34 15:37
10	08:44 15:59	07:54 17:03	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:37 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:11	05:09 21:13	04:25 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:35 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:06 21:15	04:25 22:03	04:40 21:58	05:35 21:01	06:37 19:42	07:38 18:22	07:44 16:11	08:38 15:36
13	08:41 16:04	07:47 17:10	06:37 18:11	06:15 20:16	05:04 21:17	04:24 22:03	04:41 21:57	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:12 20:18	05:02 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:17	07:48 16:07	08:40 15:36
15	08:39 16:08	07:43 17:14	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:44 21:54	05:41 20:54	06:43 19:34	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:17	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:19	06:05 20:24	04:57 21:25	04:23 22:06	04:47 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:23 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:00	08:44 15:36
19	08:34 16:16	07:33 17:23	06:21 18:24	06:00 20:28	04:53 21:29	04:23 22:07	04:51 21:48	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:36
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:51 21:30	04:23 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:23 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:56 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:55 21:44	05:55 20:37	06:57 19:16	07:59 17:57	08:05 15:54	08:47 15:37
23	08:28 16:24	07:23 17:32	06:11 18:32	05:50 20:36	04:46 21:36	04:24 22:08	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:34	06:08 18:34	05:47 20:38	04:45 21:37	04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:52	08:09 15:51	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:43 21:39	04:24 22:08	05:01 21:39	06:01 20:30	07:03 19:07	08:05 16:50	08:11 15:50	08:48 15:39
26	08:23 16:30	07:16 17:39	06:03 18:38	05:42 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:32	07:14 17:41	06:00 18:40	05:40 20:45	04:40 21:42	04:25 22:08	05:04 21:35	06:05 20:25	07:07 19:02	08:09 16:45	08:14 15:47	08:48 15:41
28	08:20 16:34	07:11 17:43	05:57 18:42	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 18:59	08:11 16:43	08:16 15:46	08:48 15:42
29	08:18 16:37		06:55 19:44	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:19	07:11 18:57	08:13 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:36 21:47	04:27 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:38	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Vetras - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (539)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December		
1	08:48 15:46	08:12 16:43	07:09 17:45	06:47 19:51	8 18:41 (Pr3b) 18:49 (Pr3b)	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	13 19:27 (PrRR3) 19:40 (PrRR3)	07:15 18:51	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:45	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42		
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:41		
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:19 21:21	06:21 20:04	07:21 18:43	07:27 16:27	08:27 15:40		
5	08:47 15:51	08:04 16:52	06:58 17:54	06:36 19:59	05:24 21:01	04:30 21:55	04:32 22:04	05:21 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40		
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:57	04:33 22:03	05:23 21:15	06:25 19:59	07:25 18:38	07:31 16:23	08:30 15:39		
7	08:46 15:54	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:25 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:38		
8	08:45 15:56	07:58 16:59	06:50 18:01	06:28 20:05	05:15 21:07	04:27 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38		
9	08:44 15:58	07:56 17:01	06:48 18:03	06:25 20:07	05:13 21:09	04:27 22:00	04:36 22:01	05:29 21:08	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:37		
10	08:44 15:59	07:54 17:03	06:45 18:05	06:23 20:09	19:34 (PrRR3) 1 19:35 (PrRR3)	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 19:48	07:33 18:28	08:35 16:15	08:35 15:37	
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	19:28 (PrRR3) 13 19:41 (PrRR3)	05:09 21:13	04:25 22:02	04:39 21:59	05:33 21:04	06:35 19:45	7 18:33 (Pr3b) 18:40 (Pr3b)	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 19:42 (PrRR3)	04:25 21:15	04:40 22:03	05:37 21:58	06:37 21:01	07:38 19:43	13 18:30 (Pr3b) 18:43 (Pr3b)	07:44 18:23	08:38 16:11	15:36
13	08:41 16:04	07:47 17:10	06:37 18:11	06:15 20:16	19:24 (PrRR3) 20 19:44 (PrRR3)	05:05 21:17	04:25 22:03	04:42 21:57	05:37 20:59	06:39 8 19:42 (PrRR3)	19:40 17 18:45 (Pr3b)	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:12 20:18	19:22 (PrRR3) 23 19:45 (PrRR3)	05:03 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 14 19:45 (PrRR3)	19:37 20 18:46 (Pr3b)	07:42 18:17	07:48 16:07	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	19:21 (PrRR3) 25 19:46 (PrRR3)	05:01 21:21	04:24 22:05	04:44 21:54	05:41 20:54	06:43 18 19:47 (PrRR3)	19:34 21 18:46 (Pr3b)	07:44 18:15	07:50 16:06	08:41 15:36
16	08:38 16:10	07:40 17:17	06:29 18:17	06:07 20:22	19:20 (PrRR3) 26 19:46 (PrRR3)	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 20 19:48 (PrRR3)	19:32 23 18:47 (Pr3b)	07:46 18:12	07:53 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	4 17:47 (Pr3b) 17:51 (Pr3b)	06:05 20:24	04:57 21:25	04:23 22:06	04:47 21:51	05:45 20:50	06:47 22 19:48 (PrRR3)	19:29 24 18:47 (Pr3b)	07:47 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	11 17:42 (Pr3b) 17:53 (Pr3b)	06:02 20:26	04:55 21:27	04:23 22:06	04:49 21:50	05:47 20:47	06:49 24 19:49 (PrRR3)	19:26 25 18:46 (Pr3b)	07:50 18:07	07:57 16:00	08:44 15:36
19	08:34 16:16	07:33 17:23	06:21 18:24	16 17:40 (Pr3b) 17:56 (Pr3b)	06:00 20:28	04:53 21:29	04:23 22:07	04:51 21:49	05:49 20:45	06:51 26 19:50 (PrRR3)	19:24 24 18:45 (Pr3b)	07:52 18:05	07:59 15:59	08:45 15:36
20	08:32 16:18	07:31 17:26	06:19 18:26	20 17:38 (Pr3b) 17:58 (Pr3b)	05:57 20:30	04:51 21:30	04:23 22:07	04:52 21:47	05:51 20:42	06:53 27 19:50 (PrRR3)	19:24 21 18:45 (Pr3b)	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	21 17:37 (Pr3b) 17:58 (Pr3b)	05:55 20:32	04:50 21:32	04:23 22:07	04:54 21:45	05:53 20:40	06:55 27 19:50 (PrRR3)	19:21 23 18:44 (Pr3b)	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	23 17:35 (Pr3b) 17:58 (Pr3b)	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 28 19:50 (PrRR3)	19:18 22 18:43 (Pr3b)	07:59 17:57	08:05 15:54	08:47 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	24 17:35 (Pr3b) 17:59 (Pr3b)	05:50 20:36	04:46 21:36	04:24 22:08	04:57 21:42	05:57 20:35	06:59 28 19:50 (PrRR3)	19:16 23 18:42 (Pr3b)	07:59 17:55	08:01 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	25 17:34 (Pr3b) 17:59 (Pr3b)	05:47 20:39	04:45 21:38	04:24 22:08	04:59 21:40	05:59 20:32	07:01 28 19:50 (PrRR3)	19:13 17 18:40 (Pr3b)	08:03 17:53	08:09 15:51	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	24 17:34 (Pr3b) 17:58 (Pr3b)	05:45 20:41	04:43 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 28 19:50 (PrRR3)	19:10 13 18:37 (Pr3b)	08:11 16:50	08:48 15:50	15:39
26	08:23 16:30	07:16 17:39	06:03 18:38	24 17:34 (Pr3b) 17:58 (Pr3b)	05:42 20:43	04:42 21:41	04:25 22:08	06:03 21:37	06:03 20:27	07:05 27 19:48 (PrRR3)	19:08 7 18:34 (Pr3b)	08:13 16:48	08:48 15:49	15:40
27	08:21 16:32	07:14 17:41	06:00 18:40	23 17:34 (Pr3b) 17:57 (Pr3b)	05:40 20:45	04:40 21:42	04:26 22:08	06:05 21:35	06:05 20:25	07:07 26 19:48 (PrRR3)	19:02 19:22 (PrRR3)	08:15 16:45	08:48 15:47	15:41
28	08:20 16:34	07:11 17:43	05:57 18:42	22 17:34 (Pr3b) 17:56 (Pr3b)	05:38 20:47	04:39 21:44	04:26 22:07	06:06 21:33	06:07 20:22	07:09 25 19:47 (PrRR3)	19:09 19:23 (PrRR3)	08:48 16:43	15:42	
29	08:18 16:37	06:55 19:45	06:55 18:35	21 18:35 (Pr3b) 18:56 (Pr3b)	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:20	07:11 23 19:46 (PrRR3)	18:57 19:24 (PrRR3)	08:48 16:41	15:45	15:43
30	08:16 16:39	06:52 19:47	06:52 18:36	20 18:36 (Pr3b) 18:54 (Pr3b)	05:33 20:51	04:36 21:47	04:27 22:07	05:10 21:29	06:11 20:17	07:13 20 19:44 (PrRR3)	18:54 19:25 (PrRR3)	08:48 16:38	15:44	15:44
31	08:14 16:41	06:49 19:49	06:49 18:37	19 18:37 (Pr3b) 18:51 (Pr3b)	05:31 20:51	04:35 21:49	04:27 22:07	05:12 21:27	06:13 20:14	07:15 17 19:42 (PrRR3)	18:54 19:25 (PrRR3)	08:48 16:36	15:45	15:45
Potential sun hours	236	266	366	426	457	507	528	529	469	384		324	248	217
Total, worst case			290		0,39				436		313			
Sun reduction			0,39		0,44				0,52		0,43			
Oper. time red.			1,00		1,00				1,00		1,00			
Wind dir. red.			1,00		1,00				1,00		1,00			
Total reduction			0,39		0,44				0,52		0,43			
Total, real			114		202				228		135			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Veveru majas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (460)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:49	08:13	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:23	08:24
	15:48	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:42
3	08:48	08:09	07:04	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:46	16:30	15:41
4	08:48	08:07	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:27	15:41
5	08:47	08:05	06:58	06:36	05:22	04:30	04:32	05:21	06:23	07:23	07:29	08:29
	15:52	16:52	17:54	19:59	21:02	21:56	22:04	21:17	20:01	18:41	16:25	15:40
6	08:47	08:03	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:04	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:01	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:34	08:32
	15:54	16:57	17:59	20:03	21:06	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:35	05:27	06:29	07:30	07:36	08:33
	15:56	16:59	18:01	20:05	21:08	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:45	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:32	07:38	08:34
	15:58	17:01	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:34	07:40	08:36
	15:59	17:03	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:38	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:18	22:04	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:49	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:56	20:57	19:37	18:18	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:51	08:41
	16:08	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:36
16	08:38	07:41	06:30	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:12	16:04	15:36
17	08:37	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:27	18:07	16:01	15:36
19	08:34	07:33	06:22	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:33	07:31	06:19	05:57	04:52	04:23	04:52	05:51	06:53	07:55	08:01	08:46
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:43	19:21	18:02	15:57	15:37
21	08:31	07:29	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:14	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:54	15:38
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:27	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:35	18:34	20:39	21:38	22:08	21:41	20:33	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	17:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:40	04:26	05:04	06:05	07:07	08:09	08:15	08:49
	16:32	17:41	18:41	20:45	21:43	22:08	21:35	20:25	19:02	17:46	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:17	08:49
	16:35	17:43	18:43	20:47	21:44	22:08	21:34	20:22	19:00	17:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:08	21:32	20:20	18:57	17:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:54	17:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:49
	16:41		19:49		21:49		21:28	20:15		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Zarini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (457)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:49	08:13	07:09	06:47	05:31	04:34	04:28	05:14	06:16	07:15	07:21	08:22
	15:46	16:43	17:46	19:51	20:54	21:51	22:07	21:26	20:12	18:52	16:34	15:43
2	08:49	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:18	07:17	07:23	08:24
	15:48	16:46	17:48	19:53	20:56	21:52	22:07	21:24	20:09	18:49	16:32	15:42
3	08:48	08:09	07:04	06:42	05:26	04:32	04:30	05:18	06:20	07:19	07:25	08:26
	15:49	16:48	17:50	19:55	20:58	21:53	22:06	21:22	20:07	18:46	16:30	15:41
4	08:48	08:07	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:22	07:27	08:27
	15:50	16:50	17:52	19:57	21:00	21:55	22:05	21:20	20:04	18:44	16:28	15:41
5	08:47	08:05	06:59	06:36	05:22	04:30	04:32	05:22	06:23	07:24	07:29	08:29
	15:52	16:52	17:54	19:59	21:02	21:56	22:05	21:18	20:02	18:41	16:25	15:40
6	08:47	08:03	06:56	06:34	05:19	04:29	04:33	05:24	06:25	07:26	07:32	08:30
	15:53	16:55	17:57	20:02	21:04	21:57	22:04	21:15	19:59	18:39	16:23	15:39
7	08:46	08:01	06:53	06:31	05:17	04:28	04:34	05:26	06:27	07:28	07:34	08:32
	15:55	16:57	17:59	20:04	21:06	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:46	07:59	06:51	06:28	05:15	04:28	04:35	05:28	06:29	07:30	07:36	08:33
	15:56	16:59	18:01	20:06	21:08	21:59	22:02	21:11	19:54	18:33	16:19	15:38
9	08:45	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:32	07:38	08:35
	15:58	17:01	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:31	16:17	15:38
10	08:44	07:54	06:46	06:23	05:11	04:26	04:38	05:31	06:33	07:34	07:40	08:36
	15:59	17:04	18:05	20:10	21:12	22:01	22:00	21:07	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:21	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:46	18:25	16:13	15:37
12	08:42	07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:45	08:38
	16:03	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:48	06:38	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:47	08:40
	16:05	17:10	18:11	20:16	21:18	22:04	21:57	21:00	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:49	08:41
	16:06	17:13	18:14	20:18	21:20	22:05	21:56	20:57	19:38	18:18	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:51	08:42
	16:08	17:15	18:16	20:20	21:22	22:05	21:55	20:55	19:35	18:15	16:06	15:36
16	08:38	07:41	06:30	06:08	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:43
	16:10	17:17	18:18	20:22	21:24	22:06	21:53	20:52	19:32	18:13	16:04	15:36
17	08:37	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:44
	16:12	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36
18	08:36	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:51	07:57	08:44
	16:14	17:22	18:22	20:26	21:27	22:07	21:50	20:48	19:27	18:08	16:01	15:36
19	08:34	07:34	06:22	06:00	04:53	04:23	04:51	05:49	06:51	07:53	07:59	08:45
	16:16	17:24	18:24	20:29	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:37
20	08:33	07:31	06:19	05:57	04:52	04:23	04:52	05:51	06:53	07:55	08:01	08:46
	16:18	17:26	18:26	20:31	21:31	22:08	21:47	20:43	19:21	18:03	15:57	15:37
21	08:31	07:29	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:47
	16:20	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:19	18:00	15:56	15:37
22	08:30	07:26	06:14	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:35	21:35	22:08	21:44	20:38	19:16	17:58	15:54	15:38
23	08:28	07:24	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:48
	16:24	17:33	18:32	20:37	21:36	22:08	21:43	20:35	19:13	17:55	15:53	15:38
24	08:27	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:35	18:35	20:39	21:38	22:08	21:41	20:33	19:11	17:53	15:52	15:39
25	08:25	07:19	06:06	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:37	20:41	21:40	22:08	21:39	20:30	19:08	16:50	15:50	15:40
26	08:24	07:16	06:03	05:43	04:42	04:25	05:03	06:03	07:05	08:08	08:13	08:49
	16:30	17:39	18:39	20:43	21:41	22:08	21:37	20:28	19:05	16:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:10	08:15	08:49
	16:33	17:41	18:41	20:45	21:43	22:08	21:36	20:25	19:02	16:46	15:48	15:41
28	08:20	07:11	05:58	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:17	08:49
	16:35	17:44	18:43	20:47	21:45	22:08	21:34	20:23	19:00	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:19	08:49
	16:37		19:45	20:49	21:46	22:08	21:32	20:20	18:57	16:41	15:45	15:43
30	08:17		06:52	05:33	04:37	04:28	05:10	06:12	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:48	22:07	21:30	20:17	18:54	16:39	15:44	15:44
31	08:15		06:50		04:35		05:12	06:14		07:18		08:49
	16:41		19:49		21:49		21:28	20:15		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Zelmeni - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (593)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:24 21:15	06:25 19:59	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:02	05:25 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:50 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	04:27 22:00	04:37 22:01	05:29 21:08	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:38
10	08:43 15:59	07:54 17:03	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:02	04:40 21:58	05:35 21:01	06:37 19:43	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:56	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:13 20:18	05:03 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:54	06:43 19:34	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:01	08:44 15:36
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	04:53 21:29	04:24 22:07	04:51 21:48	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:30	04:24 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:07	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:58	08:05 15:54	08:46 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	04:47 21:36	04:24 22:08	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37	04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:08	08:05 16:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:40	05:40 20:45	04:41 21:42	04:26 22:08	05:05 21:35	06:05 20:25	07:07 19:02	08:09 16:46	08:14 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:42	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 19:00	08:12 16:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:45	04:27 22:07	05:08 21:31	06:09 20:20	07:11 18:57	08:14 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:48		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Zelta Dibens - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (579)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:09 16:48	07:04 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:07	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:07 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:34 20:01	05:19 21:03	04:29 21:57	04:33 22:03	05:24 21:15	06:25 20:01	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:26 21:13	06:27 20:01	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:28 21:11	06:29 20:01	07:29 18:33	07:36 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	04:27 22:00	04:37 22:01	05:29 21:08	06:31 20:01	07:32 18:30	07:38 16:17	08:34 15:38
10	08:44 15:59	07:54 17:04	06:45 18:05	06:23 20:10	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 20:01	07:34 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 20:01	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:03	04:40 21:58	05:35 21:02	06:37 20:01	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:57	05:37 20:59	06:39 20:01	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:13	06:35 18:13	06:13 20:18	05:03 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 20:01	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:16	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:55	06:43 20:01	07:44 18:15	07:50 16:06	08:41 15:36
16	08:38 16:10	07:40 17:17	06:30 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 20:01	07:46 18:12	07:53 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 20:01	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 20:01	07:50 18:07	07:57 16:01	08:44 15:36
19	08:34 16:16	07:33 17:24	06:22 18:24	06:00 20:28	04:53 21:29	04:24 22:07	04:51 21:49	05:49 20:45	06:51 20:01	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:31	04:24 22:07	04:52 21:47	05:51 20:42	06:53 20:01	07:55 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 20:01	07:57 18:00	08:03 15:56	08:46 15:37
22	08:30 16:22	07:26 17:30	06:14 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 20:01	07:59 17:58	08:05 15:54	08:47 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:37	04:47 21:36	04:24 22:08	04:58 21:42	05:57 20:35	06:59 20:01	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:38	04:24 22:08	04:59 21:40	05:59 20:32	07:01 20:01	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 20:01	08:05 17:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 20:01	08:07 17:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:41	05:40 20:45	04:41 21:43	04:26 22:08	05:05 21:35	06:05 20:25	07:07 20:01	08:09 17:46	08:15 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:43	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 20:01	08:12 17:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:20	07:11 20:01	08:14 17:41	08:18 15:45	08:49 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 20:01	08:16 17:39	08:20 15:44	08:49 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14	07:18 20:01	08:18 17:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Zemesbites - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (505)  
Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	08:48 15:46	08:12 16:43	07:09 17:45	06:47 19:51	18:58 (PrRR3) 19:19 (PrRR3)	05:31 20:53
2	08:48 15:47	08:10 16:45	07:06 17:48	06:44 19:53	18:56 (PrRR3) 19:19 (PrRR3)	05:28 20:55
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	18:54 (PrRR3) 19:20 (PrRR3)	05:26 20:57
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	18:53 (PrRR3) 19:21 (PrRR3)	05:24 20:59
5	08:47 15:51	08:04 16:52	06:58 17:54	06:36 19:59	18:52 (PrRR3) 19:21 (PrRR3)	05:21 21:01
6	08:46 15:53	08:02 16:54	06:56 17:56	17:20 (Pr3b) 17:27 (Pr3b)	06:33 20:01	18:52 (PrRR3) 19:22 (PrRR3)
7	08:46 15:54	08:00 16:57	06:53 17:58	17:17 (Pr3b) 17:30 (Pr3b)	06:31 20:03	18:51 (PrRR3) 19:21 (PrRR3)
8	08:45 15:56	07:58 16:59	06:50 18:01	17:14 (Pr3b) 17:32 (Pr3b)	06:28 20:05	18:50 (PrRR3) 19:21 (PrRR3)
9	08:44 15:58	07:56 17:01	06:48 18:03	17:12 (Pr3b) 17:33 (Pr3b)	06:25 20:07	18:50 (PrRR3) 19:21 (PrRR3)
10	08:44 15:59	07:54 17:03	06:45 18:05	17:12 (Pr3b) 17:34 (Pr3b)	06:23 20:09	18:50 (PrRR3) 19:20 (PrRR3)
11	08:43 16:01	07:52 17:06	06:43 18:07	17:10 (Pr3b) 17:34 (Pr3b)	06:20 20:12	18:51 (PrRR3) 19:20 (PrRR3)
12	08:42 16:03	07:49 17:08	06:40 18:09	17:09 (Pr3b) 17:34 (Pr3b)	06:18 20:14	18:50 (PrRR3) 19:19 (PrRR3)
13	08:41 16:04	07:47 17:10	06:37 18:11	17:10 (Pr3b) 17:35 (Pr3b)	06:15 20:16	18:51 (PrRR3) 19:18 (PrRR3)
14	08:40 16:06	07:45 17:12	06:35 18:13	17:09 (Pr3b) 17:34 (Pr3b)	06:12 20:18	18:51 (PrRR3) 19:17 (PrRR3)
15	08:39 16:08	07:43 17:15	06:32 18:15	17:09 (Pr3b) 17:34 (Pr3b)	06:10 20:20	18:53 (PrRR3) 19:16 (PrRR3)
16	08:38 16:10	07:40 17:17	06:29 18:17	17:09 (Pr3b) 17:34 (Pr3b)	06:07 20:22	18:54 (PrRR3) 19:13 (PrRR3)
17	08:36 16:12	07:38 17:19	06:27 18:20	17:09 (Pr3b) 17:33 (Pr3b)	06:05 20:24	18:56 (PrRR3) 19:12 (PrRR3)
18	08:35 16:14	07:36 17:21	06:24 18:22	17:10 (Pr3b) 17:31 (Pr3b)	06:02 20:26	18:58 (PrRR3) 19:08 (PrRR3)
19	08:34 16:16	07:33 17:23	06:21 18:24	17:11 (Pr3b) 17:31 (Pr3b)	06:00 20:28	04:53 21:29
20	08:32 16:18	07:31 17:26	06:19 18:26	17:12 (Pr3b) 17:28 (Pr3b)	05:57 20:30	04:51 21:30
21	08:31 16:20	07:28 17:28	06:16 18:28	17:14 (Pr3b) 17:25 (Pr3b)	05:55 20:32	04:50 21:32
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	05:52 20:34	04:48 21:34
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	05:50 20:36	04:46 21:36
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	05:47 20:39	04:45 21:38
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	05:45 20:41	04:43 21:39
26	08:23 16:30	07:16 17:39	06:03 18:38	05:42 20:43	05:42 20:43	04:42 21:41
27	08:21 16:32	07:14 17:41	06:00 18:40	05:40 20:45	05:40 20:45	04:40 21:43
28	08:20 16:34	07:11 17:43	05:57 18:42	05:38 20:47	05:38 20:47	04:39 21:44
29	08:18 16:37		06:55 19:45	05:35 20:49	05:35 20:49	04:38 21:46
30	08:16 16:39		06:52 19:47	19:03 (PrRR3) 19:14 (PrRR3)	05:33 20:51	04:36 21:47
31	08:14 16:41		06:49 19:49	18:59 (PrRR3) 19:16 (PrRR3)		04:35 21:49
Potential sun hours	236	266	366	426	507	528
Total, worst case			350	458		
Sun reduction			0,39	0,44		
Oper. time red.			1,00	1,00		
Wind dir. red.			1,00	1,00		
Total reduction			0,39	0,44		
Total, real			137	202		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Zemesbites - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (505)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:28	05:14	06:15	18:49 (PrRR3)	07:15	17:49 (Pr3b)
	22:06	21:25	20:12	30	19:19 (PrRR3)	18:51
2	04:29	05:16	06:17	18:49 (PrRR3)	07:17	17:49 (Pr3b)
	22:06	21:23	20:09	30	19:19 (PrRR3)	18:49
3	04:30	05:18	06:19	18:48 (PrRR3)	07:19	17:50 (Pr3b)
	22:05	21:21	20:06	31	19:19 (PrRR3)	18:46
4	04:31	05:19	06:21	18:48 (PrRR3)	07:21	17:50 (Pr3b)
	22:05	21:19	20:04	31	19:19 (PrRR3)	18:43
5	04:32	05:21	06:23	18:47 (PrRR3)	07:23	17:51 (Pr3b)
	22:04	21:17	20:01	30	19:17 (PrRR3)	18:41
6	04:33	05:23	06:25	18:47 (PrRR3)	07:25	17:52 (Pr3b)
	22:03	21:15	19:59	30	19:17 (PrRR3)	18:38
7	04:34	05:25	06:27	18:47 (PrRR3)	07:27	17:54 (Pr3b)
	22:03	21:13	19:56	29	19:16 (PrRR3)	18:36
8	04:35	05:27	06:29	18:47 (PrRR3)	07:29	17:54 (Pr3b)
	22:02	21:11	19:53	28	19:15 (PrRR3)	18:33
9	04:36	05:29	06:31	18:48 (PrRR3)	07:31	17:55 (Pr3b)
	22:01	21:08	19:51	26	19:14 (PrRR3)	18:30
10	04:38	05:31	06:33	18:49 (PrRR3)	07:33	17:56 (Pr3b)
	22:00	21:06	19:48	24	19:13 (PrRR3)	18:28
11	04:39	05:33	06:35	18:50 (PrRR3)	07:36	17:57 (Pr3b)
	21:59	21:04	19:45	21	19:11 (PrRR3)	18:25
12	04:40	05:35	06:37	18:51 (PrRR3)	07:38	17:58 (Pr3b)
	21:58	21:02	19:43	18	19:09 (PrRR3)	18:23
13	04:42	05:37	06:39	18:54 (PrRR3)	07:40	17:59 (Pr3b)
	21:57	20:59	19:40	12	19:06 (PrRR3)	18:20
14	04:43	05:39	06:41	18:55 (PrRR3)	07:42	18:00 (Pr3b)
	21:55	20:57	19:37		18:17	17:57 (Pr3b)
15	04:44	05:41	06:43	18:56 (PrRR3)	07:44	18:01 (Pr3b)
	21:54	20:54	19:34		18:15	17:55 (Pr3b)
16	04:46	05:43	06:45	18:57 (PrRR3)	07:46	18:02 (Pr3b)
	21:53	20:52	19:32		18:12	17:53 (Pr3b)
17	04:47	05:45	06:47	18:58 (PrRR3)	07:48	18:03 (Pr3b)
	21:51	20:50	19:29		18:10	17:51 (Pr3b)
18	04:49	05:47	06:49	18:59 (PrRR3)	07:50	18:04 (Pr3b)
	21:50	20:47	19:26		18:07	17:50 (Pr3b)
19	04:51	05:49	06:51	19:00 (PrRR3)	07:52	18:05 (Pr3b)
	21:49	20:45	19:24		18:05	17:50 (Pr3b)
20	04:52	05:51	06:53	19:01 (PrRR3)	07:54	18:06 (Pr3b)
	21:47	20:42	19:21		18:02	17:48 (Pr3b)
21	04:54	05:53	06:55	19:02 (PrRR3)	07:57	18:07 (Pr3b)
	21:45	20:40	19:18		18:00	17:46 (Pr3b)
22	04:56	05:55	06:57	19:03 (PrRR3)	07:59	18:08 (Pr3b)
	21:44	20:37	19:16	9	18:09 (Pr3b)	17:57 (Pr3b)
23	04:57	05:57	06:59	19:04 (PrRR3)	08:01	18:09 (Pr3b)
	21:42	20:35	19:13	16	18:12 (Pr3b)	17:55 (Pr3b)
24	04:59	05:59	07:01	19:05 (PrRR3)	08:03	18:11 (Pr3b)
	21:40	20:32	19:10	19	18:13 (Pr3b)	17:53 (Pr3b)
25	05:01	06:01	19:01 (PrRR3)	07:03	17:53 (Pr3b)	07:05
	21:39	20:30	19:12 (PrRR3)	21	18:14 (Pr3b)	16:50 (Pr3b)
26	05:03	06:03	18:57 (PrRR3)	07:05	17:51 (Pr3b)	07:07
	21:37	20:27	19:14 (PrRR3)	23	18:14 (Pr3b)	16:48 (Pr3b)
27	05:04	06:05	18:55 (PrRR3)	07:07	17:50 (Pr3b)	07:09
	21:35	20:25	19:15 (PrRR3)	25	18:15 (Pr3b)	16:45 (Pr3b)
28	05:06	06:07	18:54 (PrRR3)	07:09	17:50 (Pr3b)	07:12
	21:33	20:22	19:17 (PrRR3)	25	18:15 (Pr3b)	16:43 (Pr3b)
29	05:08	06:09	18:52 (PrRR3)	07:11	17:49 (Pr3b)	07:14
	21:31	20:20	19:17 (PrRR3)	25	18:14 (Pr3b)	16:41 (Pr3b)
30	05:10	06:11	18:51 (PrRR3)	07:13	17:49 (Pr3b)	07:16
	21:29	20:17	19:18 (PrRR3)	25	18:14 (Pr3b)	16:38 (Pr3b)
31	05:12	06:13	18:50 (PrRR3)	07:18	17:48 (Pr3b)	07:18
	21:27	20:14	19:19 (PrRR3)		16:36	15:45 (Pr3b)
Potential sun hours	529	469	384	324	248	217
Total, worst case		152	528	139		
Sun reduction		0,52	0,43	0,29		
Oper. time red.		1,00	1,00	1,00		
Wind dir. red.		1,00	1,00	1,00		
Total reduction		0,52	0,43	0,29		
Total, real		79	228	40		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Zemnieka seta - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (453)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:34	04:29	05:14	06:15	07:15	07:20	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:29	04:33	04:29	05:16	06:17	07:17	07:23	08:24
	15:48	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:43
3	08:48	08:09	07:04	06:42	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:21	20:07	18:46	16:30	15:42
4	08:47	08:07	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:41
5	08:47	08:05	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:26	15:40
6	08:46	08:03	06:56	06:34	05:20	04:29	04:33	05:24	06:25	07:25	07:31	08:30
	15:53	16:55	17:56	20:01	21:03	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:29	04:34	05:26	06:27	07:27	07:33	08:31
	15:55	16:57	17:59	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:51	06:28	05:15	04:28	04:35	05:28	06:29	07:30	07:36	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:26	05:13	04:27	04:37	05:30	06:31	07:32	07:38	08:34
	15:58	17:01	18:03	20:08	21:09	22:00	22:01	21:08	19:51	18:31	16:17	15:38
10	08:44	07:54	06:45	06:23	05:11	04:26	04:38	05:32	06:33	07:34	07:40	08:36
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:34	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:50	06:40	06:18	05:07	04:25	04:40	05:36	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:02	19:43	18:23	16:11	15:37
13	08:41	07:47	06:38	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:05	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:10	15:36
14	08:40	07:45	06:35	06:13	05:03	04:25	04:43	05:39	06:41	07:42	07:48	08:40
	16:07	17:13	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:18	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:51	08:41
	16:08	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:36
16	08:38	07:40	06:30	06:08	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:22	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:01	15:37
19	08:34	07:33	06:22	06:00	04:54	04:24	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:53	05:51	06:53	07:55	08:01	08:45
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:42	19:21	18:03	15:58	15:37
21	08:31	07:29	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:08	21:46	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:14	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:35	21:34	22:08	21:44	20:37	19:16	17:58	15:55	15:38
23	08:28	07:24	06:11	05:50	04:47	04:24	04:58	05:57	06:59	08:01	08:07	08:47
	16:24	17:33	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:27	07:21	06:08	05:48	04:45	04:25	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:35	18:34	20:39	21:38	22:08	21:41	20:32	19:10	17:53	15:52	15:39
25	08:25	07:19	06:06	05:45	04:44	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	17:50	15:50	15:40
26	08:23	07:16	06:03	05:43	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:39	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:09	08:15	08:48
	16:33	17:41	18:41	20:45	21:43	22:08	21:35	20:25	19:02	16:46	15:48	15:41
28	08:20	07:11	05:58	05:38	04:39	04:26	05:07	06:07	07:09	08:12	08:16	08:49
	16:35	17:43	18:43	20:47	21:44	22:08	21:33	20:22	19:00	16:43	15:47	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:46	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:54	16:39	15:44	15:44
31	08:14		06:50		04:36		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:28	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Zirnekliš i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (549)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	08:48	08:12	07:09	16:29 (PrRR3)	06:47	04:34
	15:46	16:43	17:45	32 17:01 (PrRR3)	19:51	20:53
2	08:48	08:10	07:06	16:29 (PrRR3)	06:44	05:28
	15:47	16:45	17:48	32 17:01 (PrRR3)	19:53	20:55
3	08:48	08:09	07:03	16:28 (PrRR3)	06:41	05:26
	15:49	16:48	17:50	32 17:00 (PrRR3)	19:55	20:57
4	08:47	08:07	16:05 (Pr3b)	07:01	16:28 (PrRR3)	06:39
	15:50	16:50	11 16:16 (Pr3b)	17:52	33 17:01 (PrRR3)	19:57
5	08:47	08:04	16:04 (Pr3b)	06:58	16:28 (PrRR3)	06:36
	15:51	16:52	14 16:18 (Pr3b)	17:54	32 17:00 (PrRR3)	19:59
6	08:46	08:02	16:02 (Pr3b)	06:56	16:29 (PrRR3)	06:33
	15:53	16:54	18 16:20 (Pr3b)	17:56	39 17:28 (Pr25)	20:01
7	08:46	08:00	16:02 (Pr3b)	06:53	16:29 (PrRR3)	06:31
	15:54	16:57	20 16:22 (Pr3b)	17:58	43 17:30 (Pr25)	20:03
8	08:45	07:58	16:00 (Pr3b)	06:50	16:29 (PrRR3)	06:28
	15:56	16:59	22 16:22 (Pr3b)	18:01	46 17:32 (Pr25)	20:05
9	08:44	07:56	16:00 (Pr3b)	06:48	16:29 (PrRR3)	06:25
	15:58	17:01	23 16:23 (Pr3b)	18:03	48 17:34 (Pr25)	20:07
10	08:44	07:54	16:00 (Pr3b)	06:45	16:31 (PrRR3)	06:23
	15:59	17:03	24 16:24 (Pr3b)	18:05	46 17:35 (Pr25)	20:09
11	08:43	07:52	15:59 (Pr3b)	06:43	16:32 (PrRR3)	06:20
	16:01	17:06	25 16:24 (Pr3b)	18:07	44 17:35 (Pr25)	20:12
12	08:42	07:49	15:59 (Pr3b)	06:40	16:33 (PrRR3)	06:18
	16:03	17:08	25 16:24 (Pr3b)	18:09	41 17:34 (Pr25)	20:14
13	08:41	07:47	15:59 (Pr3b)	06:37	16:36 (PrRR3)	06:15
	16:04	17:10	25 16:24 (Pr3b)	18:11	36 17:35 (Pr25)	20:16
14	08:40	07:45	15:59 (Pr3b)	06:35	17:12 (Pr25)	06:12
	16:06	17:12	25 16:24 (Pr3b)	18:13	22 17:34 (Pr25)	20:18
15	08:39	07:43	16:00 (Pr3b)	06:32	17:12 (Pr25)	06:10
	16:08	17:15	24 16:24 (Pr3b)	18:15	21 17:33 (Pr25)	20:20
16	08:38	07:40	16:00 (Pr3b)	06:29	17:14 (Pr25)	06:07
	16:10	17:17	23 16:23 (Pr3b)	18:17	18 17:32 (Pr25)	20:22
17	08:36	07:38	16:01 (Pr3b)	06:27	17:15 (Pr25)	06:05
	16:12	17:19	22 16:23 (Pr3b)	18:20	15 17:30 (Pr25)	20:24
18	08:35	07:36	16:02 (Pr3b)	06:24	17:16 (Pr25)	06:02
	16:14	17:21	20 16:22 (Pr3b)	18:22	12 17:28 (Pr25)	20:26
19	08:34	07:33	16:03 (Pr3b)	06:21	17:21 (Pr25)	06:00
	16:16	17:23	18 16:21 (Pr3b)	18:24	3 17:24 (Pr25)	20:28
20	08:32	07:31	16:05 (Pr3b)	06:19	05:57	04:51
	16:18	17:26	14 16:19 (Pr3b)	18:26	20:30	21:31
21	08:31	07:28	16:08 (Pr3b)	06:16	05:55	04:50
	16:20	17:28	13 16:49 (PrRR3)	18:28	20:32	21:32
22	08:30	07:26	16:39 (PrRR3)	06:13	05:52	04:48
	16:22	17:30	14 16:53 (PrRR3)	18:30	20:34	21:34
23	08:28	07:24	16:36 (PrRR3)	06:11	05:50	04:46
	16:24	17:32	19 16:55 (PrRR3)	18:32	20:37	21:36
24	08:26	07:21	16:35 (PrRR3)	06:08	05:47	04:45
	16:26	17:35	22 16:57 (PrRR3)	18:34	20:39	21:38
25	08:25	07:19	16:33 (PrRR3)	06:05	05:45	04:43
	16:28	17:37	25 16:58 (PrRR3)	18:36	20:41	21:39
26	08:23	07:16	16:32 (PrRR3)	06:03	05:42	04:42
	16:30	17:39	28 17:00 (PrRR3)	18:38	20:43	21:41
27	08:21	07:14	16:31 (PrRR3)	06:00	05:40	04:40
	16:32	17:41	29 17:00 (PrRR3)	18:40	20:45	21:43
28	08:20	07:11	16:29 (PrRR3)	05:57	05:38	04:39
	16:34	17:43	31 17:00 (PrRR3)	18:42	20:47	21:44
29	08:18			06:55	05:35	04:38
	16:37			19:45	20:49	21:46
30	08:16			06:52	05:33	04:36
	16:39			19:47	20:51	21:47
31	08:14			06:49		04:35
	16:41			19:49		21:49
Potential sun hours	236	266	366		426	507
Total, worst case		534		595		528
Sun reduction		0,23		0,39		
Oper. time red.		1,00		1,00		
Wind dir. red.		1,00		1,00		
Total reduction		0,23		0,39		
Total, real		120		233		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Zirnekliš i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (549)  
 Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:28 22:07	05:14 21:25	06:15 20:12	07:15 18:51	17:14 (PrRR3) 18:14 (Pr25)	07:20 16:34
2	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	17:11 (PrRR3) 18:14 (Pr25)	24 16:32
3	04:30 22:06	05:18 21:21	06:19 20:07	07:19 18:46	17:09 (PrRR3) 18:13 (Pr25)	23 16:30
4	04:31 22:05	05:19 21:19	06:21 20:04	07:21 18:43	17:08 (PrRR3) 18:12 (Pr25)	22 16:27
5	04:32 22:04	05:21 21:17	06:23 20:01	07:23 18:41	17:06 (PrRR3) 18:10 (Pr25)	19 16:25
6	04:33 22:04	05:23 21:15	06:25 19:59	07:25 18:38	17:05 (PrRR3) 18:07 (Pr25)	18 16:23
7	04:34 22:03	05:25 21:13	06:27 19:56	07:27 18:36	17:04 (PrRR3) 18:05 (Pr25)	15 16:21
8	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	17:03 (PrRR3) 18:02 (Pr25)	10 16:19
9	04:36 22:01	05:29 21:08	06:31 19:51	07:31 18:30	17:03 (PrRR3) 17:35 (PrRR3)	08:31 16:17
10	04:37 22:00	05:31 21:06	06:33 19:48	07:33 18:28	17:02 (PrRR3) 17:35 (PrRR3)	08:30 16:15
11	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	17:03 (PrRR3) 17:35 (PrRR3)	08:37 16:13
12	04:40 21:58	05:35 21:02	06:37 19:43	07:38 18:23	17:03 (PrRR3) 17:35 (PrRR3)	08:38 16:11
13	04:41 21:57	05:37 20:59	06:39 19:40	07:40 18:20	17:03 (PrRR3) 17:34 (PrRR3)	08:39 16:09
14	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:17	17:03 (PrRR3) 17:33 (PrRR3)	08:40 16:07
15	04:44 21:54	05:41 20:54	06:43 19:34	07:44 18:15	17:03 (PrRR3) 17:32 (PrRR3)	08:41 16:06
16	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	17:04 (PrRR3) 17:31 (PrRR3)	08:42 16:04
17	04:47 21:51	05:45 20:50	06:47 19:29	07:48 18:10	17:05 (PrRR3) 17:30 (PrRR3)	08:43 16:02
18	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	17:06 (PrRR3) 17:28 (PrRR3)	08:44 16:00
19	04:51 21:49	05:49 20:45	06:51 19:24	07:52 18:05	17:08 (PrRR3) 17:25 (PrRR3)	08:45 15:59
20	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	17:11 (PrRR3) 17:23 (PrRR3)	08:45 15:57
21	04:54 21:45	05:53 20:40	06:55 19:18	07:57 18:00	16:37 (Pr3b) 16:47 (Pr3b)	08:46 15:56
22	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:57	16:34 (Pr3b) 16:49 (Pr3b)	08:47 15:54
23	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	16:32 (Pr3b) 16:51 (Pr3b)	08:47 15:53
24	04:59 21:41	05:59 20:32	07:01 19:10	08:03 17:53	16:32 (Pr3b) 16:52 (Pr3b)	08:48 15:51
25	05:01 21:39	06:01 20:30	07:03 19:08	07:05 18:10 (Pr25)	15:30 (Pr3b) 15:53 (Pr3b)	08:11 15:50
26	05:03 21:37	06:03 20:27	07:05 19:05	07:07 17:57 (Pr25)	15:29 (Pr3b) 15:53 (Pr3b)	08:13 15:49
27	05:04 21:35	06:05 20:25	07:07 19:02	07:09 17:55 (Pr25)	15:29 (Pr3b) 15:54 (Pr3b)	08:15 15:47
28	05:06 21:33	06:07 20:22	07:09 18:59	07:12 17:54 (Pr25)	15:29 (Pr3b) 15:54 (Pr3b)	08:16 15:46
29	05:08 21:31	06:09 20:20	07:11 18:57	07:14 17:53 (Pr25)	15:28 (Pr3b) 15:53 (Pr3b)	08:18 15:45
30	05:10 21:29	06:11 20:17	07:13 18:54	07:16 17:17 (PrRR3)	15:29 (Pr3b) 15:54 (Pr3b)	08:20 15:44
31	05:12 21:27	06:13 20:14		07:18 16:36	15:29 (Pr3b) 15:53 (Pr3b)	08:48 15:45
Potential sun hours	529	469	384	324	248	217
Total, worst case			112	903	131	
Sun reduction			0,43	0,29	0,08	
Oper. time red.			1,00	1,00	1,00	
Wind dir. red.			1,00	1,00	1,00	
Total reduction			0,43	0,29	0,08	
Total, real			48	262	10	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Zvaigznites - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (459)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:49	08:13	07:09	06:47	05:31	04:34	04:28	05:14	06:16	07:15	07:21	08:22
	15:46	16:43	17:46	19:51	20:54	21:51	22:07	21:26	20:12	18:52	16:34	15:43
2	08:49	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:18	07:17	07:23	08:24
	15:48	16:46	17:48	19:53	20:56	21:52	22:07	21:24	20:10	18:49	16:32	15:42
3	08:48	08:09	07:04	06:42	05:26	04:32	04:30	05:18	06:20	07:20	07:25	08:26
	15:49	16:48	17:50	19:55	20:58	21:53	22:06	21:22	20:07	18:46	16:30	15:41
4	08:48	08:07	07:01	06:39	05:24	04:31	04:31	05:20	06:22	07:22	07:27	08:27
	15:50	16:50	17:52	19:57	21:00	21:55	22:05	21:20	20:04	18:44	16:28	15:41
5	08:47	08:05	06:59	06:36	05:22	04:30	04:32	05:22	06:24	07:24	07:29	08:29
	15:52	16:52	17:54	19:59	21:02	21:56	22:05	21:18	20:02	18:41	16:26	15:40
6	08:47	08:03	06:56	06:34	05:19	04:29	04:33	05:24	06:26	07:26	07:32	08:30
	15:53	16:55	17:57	20:02	21:04	21:57	22:04	21:15	19:59	18:39	16:23	15:39
7	08:46	08:01	06:53	06:31	05:17	04:28	04:34	05:26	06:28	07:28	07:34	08:32
	15:55	16:57	17:59	20:04	21:06	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:46	07:59	06:51	06:28	05:15	04:28	04:35	05:28	06:29	07:30	07:36	08:33
	15:56	16:59	18:01	20:06	21:08	21:59	22:02	21:11	19:54	18:33	16:19	15:38
9	08:45	07:56	06:48	06:26	05:13	04:27	04:36	05:30	06:31	07:32	07:38	08:35
	15:58	17:01	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:31	16:17	15:38
10	08:44	07:54	06:46	06:23	05:11	04:26	04:38	05:31	06:33	07:34	07:40	08:36
	15:59	17:04	18:05	20:10	21:12	22:01	22:00	21:07	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:21	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:46	18:25	16:13	15:37
12	08:42	07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:45	08:38
	16:03	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:11	15:37
13	08:41	07:48	06:38	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:47	08:40
	16:05	17:10	18:11	20:16	21:18	22:04	21:57	21:00	19:40	18:20	16:10	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:49	08:41
	16:06	17:13	18:14	20:18	21:20	22:05	21:56	20:57	19:38	18:18	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:51	08:42
	16:08	17:15	18:16	20:20	21:22	22:05	21:55	20:55	19:35	18:15	16:06	15:36
16	08:38	07:41	06:30	06:08	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:43
	16:10	17:17	18:18	20:22	21:24	22:06	21:53	20:53	19:32	18:13	16:04	15:36
17	08:37	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:44
	16:12	17:19	18:20	20:24	21:25	22:07	21:52	20:50	19:29	18:10	16:02	15:36
18	08:36	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:51	07:57	08:44
	16:14	17:22	18:22	20:27	21:27	22:07	21:51	20:48	19:27	18:08	16:01	15:36
19	08:34	07:34	06:22	06:00	04:53	04:23	04:51	05:49	06:51	07:53	07:59	08:45
	16:16	17:24	18:24	20:29	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:37
20	08:33	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:55	08:01	08:46
	16:18	17:26	18:26	20:31	21:31	22:08	21:48	20:43	19:21	18:03	15:57	15:37
21	08:31	07:29	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:47
	16:20	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:19	18:00	15:56	15:37
22	08:30	07:26	06:14	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:35	21:35	22:08	21:44	20:38	19:16	17:58	15:54	15:38
23	08:28	07:24	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:48
	16:24	17:33	18:32	20:37	21:36	22:08	21:43	20:35	19:13	17:55	15:53	15:38
24	08:27	07:21	06:08	05:48	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:35	18:35	20:39	21:38	22:08	21:41	20:33	19:11	17:53	15:52	15:39
25	08:25	07:19	06:06	05:45	04:44	04:25	05:01	06:02	07:03	08:06	08:11	08:48
	16:28	17:37	18:37	20:41	21:40	22:08	21:39	20:30	19:08	17:50	15:50	15:40
26	08:24	07:16	06:03	05:43	04:42	04:25	05:03	06:04	07:05	08:08	08:13	08:49
	16:30	17:39	18:39	20:43	21:41	22:08	21:37	20:28	19:05	17:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:41	04:26	05:05	06:06	07:07	08:10	08:15	08:49
	16:33	17:41	18:41	20:45	21:43	22:08	21:36	20:25	19:03	17:46	15:48	15:41
28	08:20	07:11	05:58	05:38	04:39	04:26	05:06	06:08	07:09	08:12	08:17	08:49
	16:35	17:44	18:43	20:47	21:45	22:08	21:34	20:23	19:00	17:43	15:47	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:10	07:11	08:14	08:19	08:49
	16:37		19:45	20:49	21:46	22:08	21:32	20:20	18:57	17:41	15:45	15:43
30	08:17		06:52	05:33	04:37	04:28	05:10	06:12	07:13	08:16	08:21	08:49
	16:39		19:47	20:51	21:48	22:07	21:30	20:17	18:54	17:39	15:44	15:44
31	08:15		06:50		04:35		05:12	06:14		07:19		08:49
	16:41		19:49		21:49		21:28	20:15		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Zagiš i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (534)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Abolini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (537)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		



Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Ciekuri - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (433)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:35	04:29	05:14	06:16	07:16	07:21	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:44	05:29	04:34	04:30	05:16	06:18	07:18	07:23	08:24
	15:48	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:10	18:49	16:32	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:18	06:20	07:20	07:25	08:25
	15:50	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:47	16:30	15:42
4	08:48	08:07	07:01	06:39	05:24	04:32	04:32	05:20	06:22	07:22	07:27	08:27
	15:51	16:51	17:52	19:57	21:00	21:54	22:05	21:20	20:04	18:44	16:28	15:41
5	08:47	08:05	06:59	06:37	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:29
	15:52	16:53	17:55	19:59	21:02	21:56	22:04	21:17	20:02	18:41	16:26	15:40
6	08:47	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:02	21:04	21:57	22:04	21:15	19:59	18:39	16:24	15:40
7	08:46	08:01	06:54	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:34	08:32
	15:55	16:57	17:59	20:04	21:06	21:58	22:03	21:13	19:56	18:36	16:22	15:39
8	08:45	07:59	06:51	06:29	05:16	04:28	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	16:59	18:01	20:06	21:08	21:59	22:02	21:11	19:54	18:33	16:20	15:39
9	08:45	07:56	06:48	06:26	05:13	04:27	04:37	05:30	06:32	07:32	07:38	08:34
	15:58	17:02	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:31	16:18	15:38
10	08:44	07:54	06:46	06:23	05:11	04:27	04:38	05:32	06:34	07:34	07:40	08:36
	16:00	17:04	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:09	04:26	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:46	18:26	16:14	15:37
12	08:42	07:50	06:40	06:18	05:07	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:03	17:08	18:10	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:12	15:37
13	08:41	07:48	06:38	06:16	05:05	04:25	04:42	05:38	06:40	07:40	07:46	08:39
	16:05	17:11	18:12	20:16	21:18	22:04	21:57	20:59	19:40	18:21	16:10	15:37
14	08:40	07:45	06:35	06:13	05:03	04:25	04:44	05:40	06:42	07:42	07:49	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:56	20:57	19:38	18:18	16:08	15:37
15	08:39	07:43	06:32	06:10	05:01	04:25	04:45	05:42	06:44	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:37
16	08:38	07:41	06:30	06:08	04:59	04:24	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:13	16:05	15:37
17	08:37	07:38	06:27	06:05	04:58	04:24	04:48	05:46	06:48	07:48	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:52	20:50	19:30	18:10	16:03	15:37
18	08:35	07:36	06:25	06:03	04:56	04:24	04:50	05:48	06:50	07:51	07:57	08:44
	16:14	17:22	18:22	20:26	21:27	22:07	21:50	20:48	19:27	18:08	16:01	15:37
19	08:34	07:34	06:22	06:00	04:54	04:24	04:51	05:50	06:52	07:53	07:59	08:45
	16:16	17:24	18:24	20:29	21:29	22:07	21:49	20:45	19:24	18:05	16:00	15:37
20	08:33	07:31	06:19	05:58	04:52	04:24	04:53	05:52	06:54	07:55	08:01	08:46
	16:18	17:26	18:26	20:31	21:31	22:07	21:47	20:43	19:21	18:03	15:58	15:37
21	08:31	07:29	06:17	05:55	04:50	04:24	04:55	05:54	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:19	18:00	15:56	15:38
22	08:30	07:26	06:14	05:53	04:49	04:24	04:56	05:56	06:57	07:59	08:05	08:47
	16:22	17:31	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:55	15:38
23	08:28	07:24	06:11	05:50	04:47	04:25	04:58	05:58	06:59	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:08	21:42	20:35	19:13	17:56	15:53	15:39
24	08:27	07:21	06:09	05:48	04:46	04:25	05:00	06:00	07:01	08:03	08:09	08:48
	16:27	17:35	18:35	20:39	21:38	22:08	21:41	20:33	19:11	17:53	15:52	15:39
25	08:25	07:19	06:06	05:45	04:44	04:25	05:02	06:02	07:03	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	16:51	15:51	15:40
26	08:23	07:16	06:03	05:43	04:43	04:26	05:03	06:04	07:05	08:08	08:13	08:48
	16:31	17:39	18:39	20:43	21:41	22:08	21:37	20:28	19:05	16:48	15:49	15:41
27	08:22	07:14	06:00	05:41	04:41	04:26	05:05	06:06	07:07	08:10	08:15	08:49
	16:33	17:42	18:41	20:45	21:43	22:08	21:35	20:25	19:03	16:46	15:48	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:09	08:12	08:17	08:49
	16:35	17:44	18:43	20:47	21:44	22:08	21:34	20:22	19:00	16:44	15:47	15:43
29	08:18		06:55	05:36	04:38	04:28	05:09	06:10	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:32	20:20	18:57	16:41	15:46	15:43
30	08:16		06:52	05:33	04:37	04:28	05:11	06:12	07:14	08:16	08:20	08:49
	16:40		19:47	20:51	21:47	22:07	21:30	20:17	18:55	16:39	15:45	15:44
31	08:15		06:50		04:36		05:13	06:14		07:18		08:49
	16:42		19:49		21:49		21:28	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Cinguli - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (467)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	10:20 (PrRR3)	08:13	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	08:22
15:46	18	10:38 (PrRR3)	16:43	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:34
2	08:48	10:21 (PrRR3)	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	08:24
15:48	17	10:38 (PrRR3)	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32
3	08:48	10:22 (PrRR3)	08:09	07:04	06:41	05:26	04:32	04:30	05:18	06:19	07:19	08:25
15:49	17	10:39 (PrRR3)	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:46	16:30
4	08:48	10:23 (PrRR3)	08:07	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	08:27
15:50	15	10:38 (PrRR3)	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:27
5	08:47	10:23 (PrRR3)	08:05	06:58	06:36	05:22	04:30	04:32	05:21	06:23	07:23	08:29
15:52	15	10:38 (PrRR3)	16:52	17:54	19:59	21:01	21:56	22:04	21:17	20:01	18:41	16:25
6	08:47	10:25 (PrRR3)	08:03	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	08:30
15:53	13	10:38 (PrRR3)	16:54	17:56	20:01	21:04	21:57	22:04	21:15	19:59	18:38	16:23
7	08:46	10:27 (PrRR3)	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	08:32
15:54	10	10:37 (PrRR3)	16:57	17:58	20:03	21:06	21:58	22:03	21:13	19:56	18:36	16:21
8	08:45	10:28 (PrRR3)	07:58	06:51	06:28	05:15	04:27	04:35	05:27	06:29	07:30	08:33
15:56	8	10:36 (PrRR3)	16:59	18:01	20:05	21:08	21:59	22:02	21:11	19:53	18:33	16:19
9	08:45	10:32 (PrRR3)	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:32	08:38
15:58	2	10:34 (PrRR3)	17:01	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:30	16:17
10	08:44		07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:34	08:40
15:59			17:03	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:15
11	08:43		07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:36	08:42
16:01			17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:45	18:25	16:13
12	08:42		07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	08:44
16:03			17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:11
13	08:41		07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	08:46
16:04			17:10	18:11	20:16	21:17	22:04	21:57	20:59	19:40	18:20	16:09
14	08:40		07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	08:49
16:06			17:12	18:13	20:18	21:19	22:04	21:56	20:57	19:37	18:18	16:07
15	08:39		07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	08:51
16:08			17:15	18:15	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06
16	08:38		07:40	06:30	06:07	04:59	04:24	04:46	05:43	06:45	07:46	08:53
16:10			17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:12	16:04
17	08:37		07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	08:55
16:12			17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02
18	08:35		07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	08:57
16:14			17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:27	18:07	16:01
19	08:34		07:33	06:22	06:00	04:53	04:23	04:51	05:49	06:51	07:52	08:59
16:16			17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59
20	08:33		07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:55	08:01
16:18			17:26	18:26	20:30	21:31	22:07	21:47	20:42	19:21	18:02	15:57
21	08:31		07:29	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03
16:20			17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:18	18:00	15:56
22	08:30		07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05
16:22			17:30	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:57	15:54
23	08:28		07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07
16:24			17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53
24	08:27		07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09
16:26			17:35	18:34	20:39	21:38	22:08	21:41	20:32	19:10	17:53	15:51
25	08:25		07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	07:05	08:11
16:28			17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50
26	08:23		07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	07:07	08:13
16:30			17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49
27	08:22		07:14	06:00	05:40	04:40	04:26	05:04	06:05	07:07	07:10	08:15
16:32			17:41	18:41	20:45	21:43	22:08	21:35	20:25	19:02	16:46	15:48
28	08:20		07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	07:12	08:17
16:35			17:43	18:43	20:47	21:44	22:08	21:33	20:22	19:00	16:43	15:46
29	08:18			06:55	05:35	04:38	04:27	05:08	06:09	07:11	07:14	08:18
16:37				19:45	20:49	21:46	22:07	21:32	20:20	18:57	16:41	15:45
30	08:16			06:52	05:33	04:36	04:27	05:10	06:11	07:13	07:16	08:20
16:39				19:47	20:51	21:47	22:07	21:30	20:17	18:54	16:39	15:44
31	08:14			06:49		04:35		05:12	06:13		07:18	08:49
16:41				19:49		21:49		21:28	20:15		16:36	15:45
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case	115											513
Sun reduction	0,13											0,08
Oper. time red.	1,00											1,00
Wind dir. red.	1,00											1,00
Total reduction	0,13											0,08
Total, real	15											43

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Eveles - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (498)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Iriši - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (470)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:49	08:13	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:21	08:22
	15:46	16:43	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:23	08:24
	15:48	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:42
3	08:48	08:09	07:04	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:46	16:30	15:41
4	08:48	08:07	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	21:00	21:54	22:05	21:20	20:04	18:44	16:28	15:41
5	08:47	08:05	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:29
	15:52	16:52	17:54	19:59	21:02	21:56	22:05	21:17	20:01	18:41	16:25	15:40
6	08:47	08:03	06:56	06:34	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:04	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:01	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:28	07:34	08:32
	15:54	16:57	17:59	20:03	21:06	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:35	05:27	06:29	07:30	07:36	08:33
	15:56	16:59	18:01	20:06	21:08	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:45	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:32	07:38	08:34
	15:58	17:01	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:31	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:34	07:40	08:36
	15:59	17:03	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:38	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:18	22:04	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:49	08:41
	16:06	17:12	18:13	20:18	21:20	22:04	21:56	20:57	19:37	18:18	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:51	08:42
	16:08	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:36
16	08:38	07:41	06:30	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:43
	16:10	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:12	16:04	15:36
17	08:37	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:27	18:07	16:01	15:36
19	08:34	07:33	06:22	06:00	04:53	04:23	04:51	05:49	06:51	07:53	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:33	07:31	06:19	05:57	04:52	04:23	04:52	05:51	06:53	07:55	08:01	08:46
	16:18	17:26	18:26	20:30	21:31	22:08	21:47	20:43	19:21	18:02	15:57	15:37
21	08:31	07:29	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:14	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:54	15:38
23	08:28	07:24	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:27	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:35	18:34	20:39	21:38	22:08	21:41	20:33	19:10	17:53	15:51	15:39
25	08:25	07:19	06:06	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:40	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:39	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:40	04:26	05:04	06:05	07:07	08:09	08:15	08:49
	16:32	17:41	18:41	20:45	21:43	22:08	21:35	20:25	19:02	16:46	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:17	08:49
	16:35	17:43	18:43	20:47	21:44	22:08	21:34	20:22	19:00	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:19	08:49
	16:37		19:45	20:49	21:46	22:08	21:32	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:54	16:39	15:44	15:44
31	08:15		06:49		04:35		05:12	06:13		07:18		08:49
	16:41		19:49		21:49		21:28	20:15		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Uzuli - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (533)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:05	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:02	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:00	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Uzulini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (603)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	08:48	08:12	07:09	17:06 (PrRR3)	06:47	05:30
	15:46	16:43	17:45	11 17:17 (PrRR3)	19:51	20:53
2	08:48	08:10	07:06	17:04 (PrRR3)	06:44	05:28
	15:47	16:45	17:48	14 17:18 (PrRR3)	19:53	20:55
3	08:48	08:08	07:03	17:02 (PrRR3)	06:41	05:26
	15:49	16:48	17:50	18 17:20 (PrRR3)	19:55	20:57
4	08:47	08:06	07:01	17:02 (PrRR3)	06:39	05:24
	15:50	16:50	17:52	20 17:22 (PrRR3)	19:57	20:59
5	08:47	08:04	06:58	17:01 (PrRR3)	06:36	05:21
	15:51	16:52	17:54	21 17:22 (PrRR3)	19:59	21:01
6	08:46	08:02	06:56	17:00 (PrRR3)	06:33	05:19
	15:53	16:54	17:56	22 17:22 (PrRR3)	20:01	21:03
7	08:46	08:00	06:53	17:00 (PrRR3)	06:31	05:17
	15:54	16:57	17:58	23 17:23 (PrRR3)	20:03	21:05
8	08:45	07:58	06:50	17:00 (PrRR3)	06:28	05:15
	15:56	16:59	18:00	22 17:22 (PrRR3)	20:05	21:07
9	08:44	07:56	06:48	17:00 (PrRR3)	06:25	05:13
	15:57	17:01	18:03	21 17:21 (PrRR3)	20:07	21:09
10	08:44	07:54	06:45	17:01 (PrRR3)	06:23	05:11
	15:59	17:03	18:05	20 17:21 (PrRR3)	20:09	21:11
11	08:43	07:52	06:43	17:01 (PrRR3)	06:20	05:09
	16:01	17:06	18:07	18 17:19 (PrRR3)	20:12	21:13
12	08:42	07:49	06:40	17:02 (PrRR3)	06:18	05:06
	16:03	17:08	18:09	16 17:18 (PrRR3)	20:14	21:15
13	08:41	07:47	06:37	17:05 (PrRR3)	06:15	05:04
	16:04	17:10	18:11	11 17:16 (PrRR3)	20:16	21:17
14	08:40	07:45	06:35	17:09 (PrRR3)	06:12	05:02
	16:06	17:12	18:13	1 17:10 (PrRR3)	20:18	21:19
15	08:39	07:43	06:32		06:10	05:01
	16:08	17:15	18:15		20:20	21:21
16	08:38	07:40	06:29		06:07	04:59
	16:10	17:17	18:17		20:22	21:23
17	08:36	07:38	06:27		06:05	04:57
	16:12	17:19	18:20		20:24	21:25
18	08:35	07:36	06:24		06:02	04:55
	16:14	17:21	18:22		20:26	21:27
19	08:34	07:33	06:21		06:00	04:53
	16:16	17:23	18:24		20:28	21:29
20	08:32	07:31	06:19		05:57	04:51
	16:18	17:26	18:26		20:30	21:30
21	08:31	07:28	06:16		05:55	04:50
	16:20	17:28	18:28		20:32	21:32
22	08:29	07:26	06:13		05:52	04:48
	16:22	17:30	18:30		20:34	21:34
23	08:28	07:24	06:11		05:50	04:46
	16:24	17:32	18:32		20:36	21:36
24	08:26	07:21	06:08		05:47	04:45
	16:26	17:34	18:34		20:39	21:38
25	08:25	07:19	06:05		05:45	04:43
	16:28	17:37	18:36		20:41	21:39
26	08:23	07:16	06:03		05:42	04:42
	16:30	17:39	18:38		20:43	21:41
27	08:21	07:14	06:00		05:40	04:40
	16:32	17:41	18:40		20:45	21:43
28	08:20	07:11	17:09 (PrRR3) 05:57		05:38	04:39
	16:34	17:43	17:14 (PrRR3) 18:42		20:47	21:44
29	08:18		06:55		05:35	04:38
	16:37		19:45		20:49	21:46
30	08:16		06:52		05:33	04:36
	16:39		19:47		20:51	21:47
31	08:14		06:49			04:35
	16:41		19:49			21:49
Potential sun hours	236	266	366		426	507
Total, worst case				238		528
Sun reduction		0,23		0,39		
Oper. time red.		1,00		1,00		
Wind dir. red.		1,00		1,00		
Total reduction		0,23		0,39		
Total, real		1		93		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering\_Vestas\_V172\_Prikuli\_B

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

16.07.2025 09:20/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_B Shadow receptor: Uzulini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (603)  
Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December	
1	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:51	17:43 (PrRR3) 17:57 (PrRR3)	07:20 16:34	08:22 15:43
2	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	17:41 (PrRR3) 17:58 (PrRR3)	07:22 16:32	08:23 15:42
3	04:30 22:05	05:17 21:21	06:19 20:06	07:19 18:46	17:39 (PrRR3) 17:59 (PrRR3)	07:25 16:30	08:25 15:41
4	04:31 22:05	05:19 21:19	06:21 20:04	07:21 18:43	17:38 (PrRR3) 17:59 (PrRR3)	07:27 16:27	08:27 15:40
5	04:32 22:04	05:21 21:17	06:23 20:01	07:23 18:41	17:37 (PrRR3) 17:59 (PrRR3)	07:29 16:25	08:28 15:40
6	04:33 22:03	05:23 21:15	06:25 19:59	07:25 18:38	17:36 (PrRR3) 17:59 (PrRR3)	07:31 16:23	08:30 15:39
7	04:34 22:03	05:25 21:13	06:27 19:56	07:27 18:36	17:36 (PrRR3) 17:59 (PrRR3)	07:33 16:21	08:31 15:38
8	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	17:36 (PrRR3) 17:58 (PrRR3)	07:35 16:19	08:33 15:38
9	04:36 22:01	05:29 21:08	06:31 19:51	07:31 18:30	17:36 (PrRR3) 17:57 (PrRR3)	07:38 16:17	08:34 15:37
10	04:37 22:00	05:31 21:06	06:33 19:48	07:33 18:28	17:36 (PrRR3) 17:56 (PrRR3)	07:40 16:15	08:35 15:37
11	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	17:38 (PrRR3) 17:54 (PrRR3)	07:42 16:13	08:37 15:37
12	04:40 21:58	05:35 21:01	06:37 19:43	07:38 18:23	17:39 (PrRR3) 17:51 (PrRR3)	07:44 16:11	08:38 15:36
13	04:41 21:57	05:37 20:59	06:39 19:40	07:40 18:20	17:40 (PrRR3) 17:48 (PrRR3)	07:46 16:09	08:39 15:36
14	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:17	17:48 (PrRR3) 17:48 (PrRR3)	07:48 16:07	08:40 15:36
15	04:44 21:54	05:41 20:54	06:43 19:34	07:44 18:15	17:48 (PrRR3) 17:48 (PrRR3)	07:50 16:06	08:41 15:36
16	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	17:48 (PrRR3) 17:48 (PrRR3)	07:53 16:04	08:42 15:36
17	04:47 21:51	05:45 20:50	06:47 19:29	07:48 18:10	17:48 (PrRR3) 17:48 (PrRR3)	07:55 16:02	08:43 15:36
18	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	17:48 (PrRR3) 17:48 (PrRR3)	07:57 16:00	08:44 15:36
19	04:51 21:49	05:49 20:45	06:51 19:24	07:52 18:05	17:48 (PrRR3) 17:48 (PrRR3)	07:59 15:59	08:45 15:36
20	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	17:48 (PrRR3) 17:48 (PrRR3)	08:01 15:57	08:45 15:37
21	04:54 21:45	05:53 20:40	06:55 19:18	07:57 18:00	17:48 (PrRR3) 17:48 (PrRR3)	08:03 15:56	08:46 15:37
22	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:57	17:48 (PrRR3) 17:48 (PrRR3)	08:05 15:54	08:47 15:38
23	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	17:48 (PrRR3) 17:48 (PrRR3)	08:07 15:53	08:47 15:38
24	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:53	17:48 (PrRR3) 17:48 (PrRR3)	08:09 15:51	08:47 15:39
25	05:01 21:39	06:01 20:30	07:03 19:08	07:05 16:50	17:48 (PrRR3) 17:48 (PrRR3)	08:11 15:50	08:48 15:39
26	05:03 21:37	06:03 20:27	07:05 19:05	07:07 16:48	17:48 (PrRR3) 17:48 (PrRR3)	08:13 15:49	08:48 15:40
27	05:04 21:35	06:05 20:25	07:07 19:02	07:09 16:45	17:48 (PrRR3) 17:48 (PrRR3)	08:15 15:47	08:48 15:41
28	05:06 21:33	06:07 20:22	07:09 18:59	07:12 16:43	17:48 (PrRR3) 17:48 (PrRR3)	08:16 15:46	08:48 15:42
29	05:08 21:31	06:09 20:20	07:11 18:57	07:14 16:41	17:48 (PrRR3) 17:48 (PrRR3)	08:18 15:45	08:49 15:43
30	05:10 21:29	06:11 20:17	07:13 18:54	17:45 (PrRR3) 17:54 (PrRR3)	17:48 (PrRR3) 17:48 (PrRR3)	08:20 15:44	08:49 15:44
31	05:12 21:27	06:13 20:14		07:18 16:36	17:48 (PrRR3) 17:48 (PrRR3)		08:48 15:45
Potential sun hours	529	469	384	324		248	217
Total, worst case			9	239			
Sun reduction			0,43	0,29			
Oper. time red.			1,00	1,00			
Wind dir. red.			1,00	1,00			
Total reduction			0,43	0,29			
Total, real			4	69			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)