

Regione Basilicata



Provincia di Potenza



Comune di Castelgrande



Comune di Muro Lucano



Comune di Rapone



Comune di San Fele

**PROGETTO PER LA REALIZZAZIONE
DI UN PARCO EOLICO PER LA PRODUZIONE DI ENERGIA ELETTRICA,
DELLE OPERE CONNESSE E DELLE INFRASTRUTTURE INDISPENSABILI**
Comune di Castelgrande, Muro Lucano, San Fele e Rapone (PZ)

PROGETTO DEFINITIVO

A8

Studio degli effetti di shadow flickering

Proponente

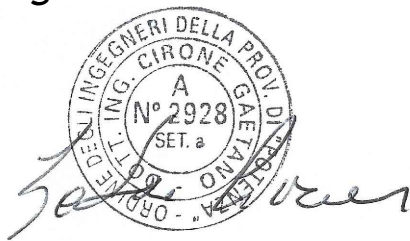


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Formato

A4

Scala

-

Scala stampa

-

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00	Prima emissione	07/01/2020	Ing. Gaetano Cirone	Ing. Gaetano Cirone	Ing. Francesco Rossi



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1. PREMESSA

Il presente documento contiene un'analisi dell'effetto di Shadow-Flickering del progetto di impianto eolico sito nel Comune di Castelgrande, Muro Lucano, San Fele e Rapone, costituito da 12 aerogeneratori con potenza di 4.8 MW ciascuno, proposto dalla Eolica Muro Lucano srl (di seguito "Impianto").

Nel presente documento si è descritto il quadro generale e normativo riferito all'ombreggiamento intermittente generato dagli aerogeneratori sulle strutture e osservatori, ad un determinato periodo del giorno in cui il sole si trova dietro al rotore, rispetto al punto di vista dell'osservatore.

Si sono dunque individuati i possibili recettori di questo effetto, e si è effettuata la verifica post-operam dell'esposizione al fenomeno di ombreggiamento intermittente degli stessi. Quindi, sotto opportune ipotesi cautelative, si è effettuata la simulazione post-operam dell'esposizione al fenomeno di ombreggiamento intermittente.

2. INTRODUZIONE

Un aerogeneratore è costituito da un rotore, composto da tre pale, che ruota attorno al proprio asse orizzontale. A causa di questa rotazione, l'ombra generata dal rotore è intermittente, generando un fenomeno, solitamente definito utilizzando il termine inglese "shadow-flickering", che può risultare di disturbo per gli esseri umani che si trovano all'interno della zona d'ombra intermittente. Nel valutare gli impatti dell'impianto eolico si devono pertanto considerare gli effetti dello shadow-flickering sui luoghi abitati siti nell'area di impianto.

Poiché nei momenti della giornata in cui sole è più prossimo all'orizzonte, l'angolo di incidenza della radiazione solare risulta molto basso, le ombre generate dagli aerogeneratori si allungano notevolmente e, sebbene per un periodo di tempo molto ristretto, interessano una porzione di terreno ampia. Sulla base dell'esperienza dei paesi del Nord Europa, ove il fenomeno è molto più sentito per l'effetto della minore altezza del sole sull'orizzonte, la valutazione del fenomeno viene effettuata per singolo recettore, determinando il numero di ore in cui esso è affetto da questo fenomeno.



3. NORMATIVA DI RIFERIMENTO

L'effetto Shadow-Flickering è più pronunciato nelle latitudini settentrionali durante i mesi invernali. Pertanto alcuni paesi hanno adottato dei limiti di legge relativi all'esposizione all'effetto in questione. In Italia invece non esiste normativa nazionale specifica che regolamenti il fenomeno. Non è previsto quindi alcun limite in termine di tempo di esposizione al fenomeno. Tuttavia, al fine di fornire una valutazione del progetto anche in termini qualitativi, nella definizione del layout di progetto si è valutato anche questo aspetto e si è cercato di mantenere l'esposizione di ogni recettore allo shadow flickering al di sotto delle 30 ore annue, parametro considerato a livello internazionale come di qualità.

4. IL PROGETTO

4.1. INQUADRAMENTO TERRITORIALE E PROGETTUALE

L'impianto eolico in progetto sarà costituito da 12 aerogeneratori ciascuno di potenza pari a 4,8 MW - per una potenza totale installata di 57,60 MW - con altezza al mozzo 120 m e diametro rotore 158m. Essi ricadranno nel territorio del Comune di Castelgrande, Muro Lucano e San Fele.

Il progetto prevede l'uso di aerogeneratori della più moderna tecnologia e di elevata potenza nominale unitaria, in modo da massimizzare la potenza dell'impianto e l'energia producibile, diminuendo così il numero di turbine e quindi l'impatto ambientale a parità di potenza installata.

4.2. LAYOUT IMPIANTO EOLICO

Il layout e le caratteristiche dimensionali degli aerogeneratori considerati sono riportati negli allegati elaborati grafici.

4.3. RECETTORI INTERESSATI

Il terreno dell'area di progetto è prevalentemente destinato ad uso agricolo ed in particolare condotto a pascoli.

Per l'identificazione dei recettori sensibili si è fatto riferimento all'analisi dei fabbricati svolta. La maggior parte dei fabbricati individuati nell'area sono edifici abbandonati in pessime condizioni, perlopiù depositi, stalle e fabbricati diruti o semidiruti. Questi fabbricati non sono stati considerati nello studio, in quanto la presenza di persone è solo saltuaria e per brevi periodi ed inoltre non sono classificati ricettori ai sensi del disciplinare al PIEAR della Regione



Basilicata. Sono quindi stati considerati i pochi fabbricati potenzialmente abitabili elencati nella tavola "A17_Integr.11_Analisi dei Ricettori".

Si riporta di seguito una vista aerea dell'area con l'individuazione dei ricettori considerati e degli aerogeneratori.

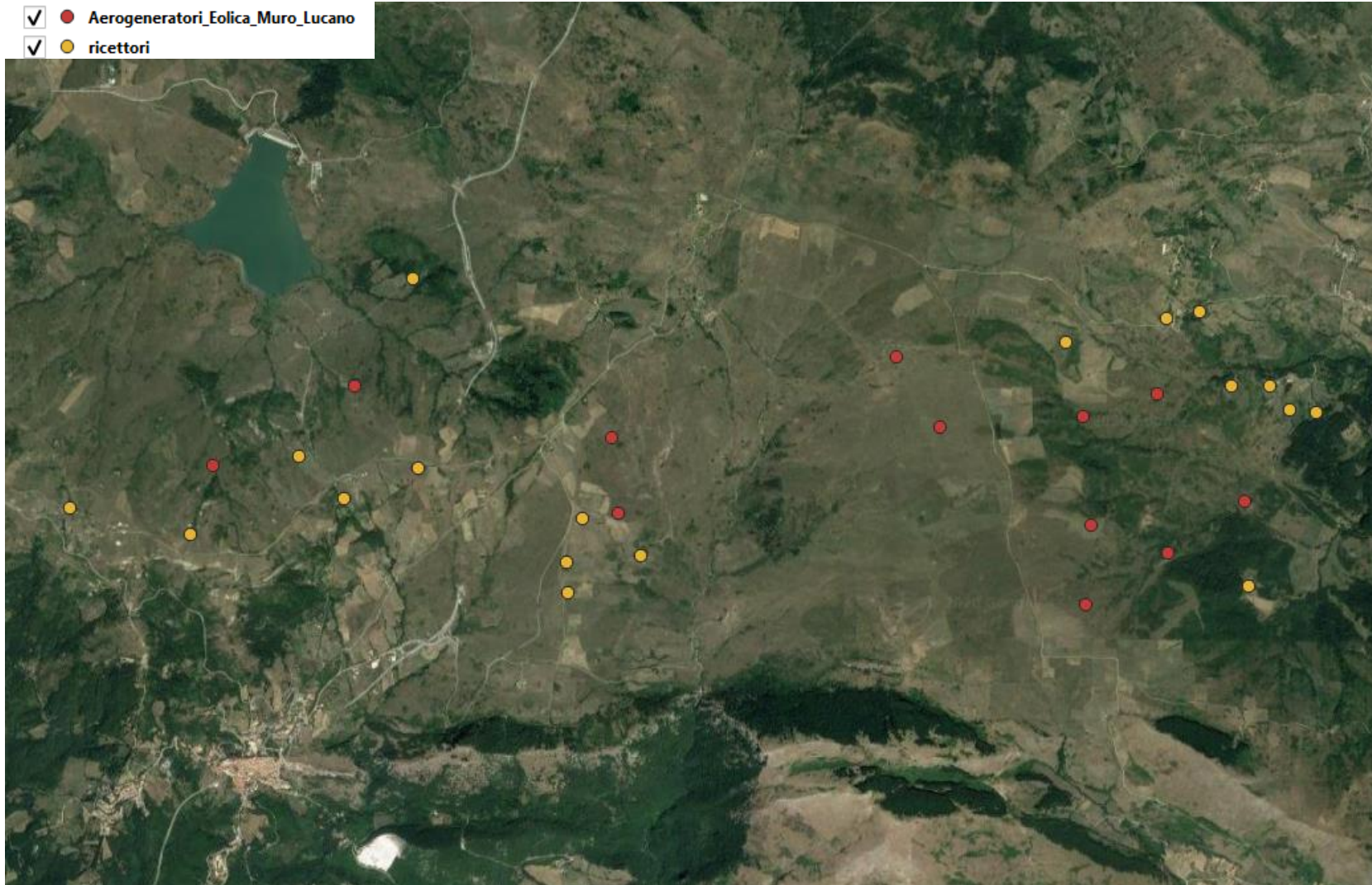


Figura 1 ortofoto dell'area di Impianto con individuazione dei recettori



5. ANALISI DELLO SHADOW FLICKERING

Shadow flickering è il fenomeno di ombreggiamento intermittente, caratterizzato dalle ombre che occorrono sulle strutture e osservatori ad un determinato periodo del giorno in cui il sole si trova dietro al rotore rispetto al punto di vista di un osservatore. L'effetto è dovuto alla rotazione delle pale che, quindi, proietta un ombreggiamento intermittente nell'area involvente, sempre che le pale passino davanti al sole.

Questo effetto è più marcato nelle latitudini a nord durante i mesi invernali, a causa dell'angolo del sole. Tuttavia, è possibile che accada l'ombreggiamento intermittente in qualunque breve momento tra l'alba ed il tramonto. L'effetto di ombreggiamento intermittente può interessare osservatori e strutture localizzate nelle vicinanze delle turbine eoliche.

Il fenomeno non accade in giorni nuvolosi, o quando qualsiasi altro fenomeno oscuri il sole, o quando gli aerogeneratori non sono in funzione.

L'effetto è più visibile dall'interno degli edifici. L'ombra mobile delle pale si proietta sulle finestre di una casa creando all'interno della stessa un effetto fastidioso di alternanza luce - ombra.

La rilevanza del fenomeno dipende dai seguenti fattori:

- posizione del recettore relativamente alla turbina;
- caratteristiche del vento (la direzione determina l'orientamento del rotore; l'intensità determina l'attivazione);
- dimensioni dell'aerogeneratore;
- periodo dell'anno;
- momento della giornata;
- condizione meteorologiche.

Alcune di queste variabili agiscono sulla percettibilità del fenomeno andando a ridurre quello che è l'impatto reale rispetto a quanto calcolato e l'esperienza pratica dimostra che l'effetto è trascurabile nelle seguenti condizioni:

- l'elevazione del sole è inferiore a 2 gradi rispetto all'orizzonte, a causa della diffusione ottica (scattering) della luce generata dall'atmosfera sugli angoli di incidenza minori;

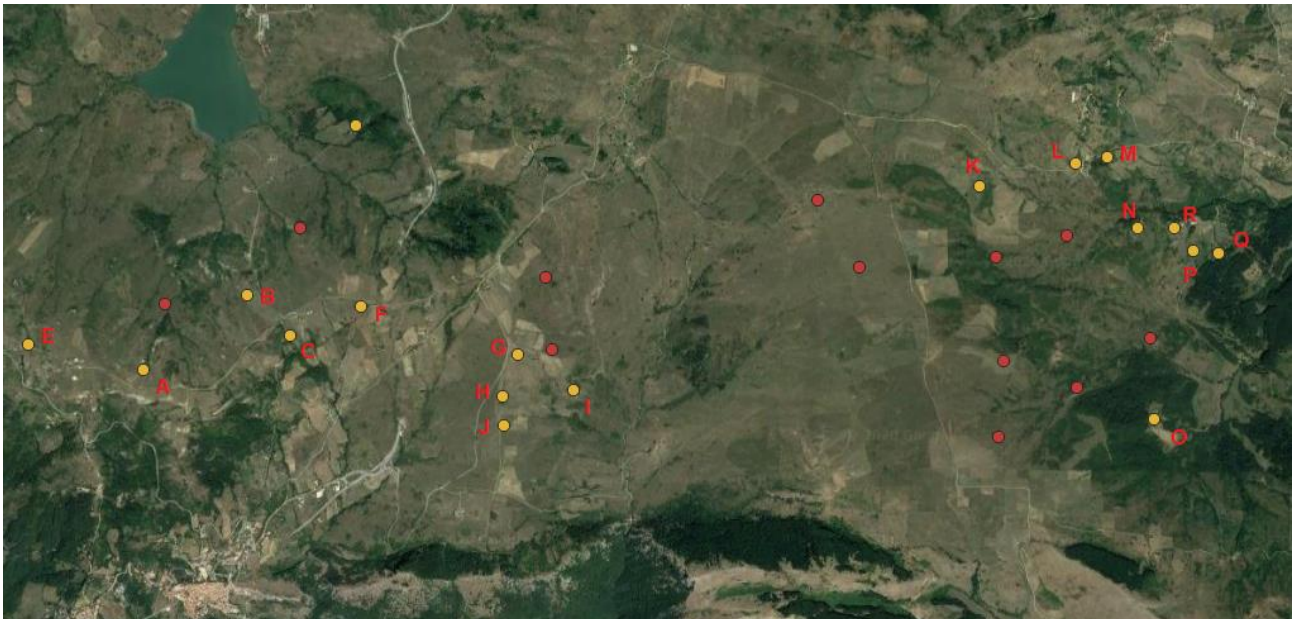


- l'intensità del vento è al di fuori del range di funzionamento dell'aerogeneratore;
- la percentuale di sole "mascherato" dalla pala è inferiore al 20%.

Tuttavia nel presente studio si è deciso per un approccio conservativo e pertanto non si sono considerati questi fenomeni di riduzione dell'impatto.

L'analisi è stata svolta con l'ausilio del software specialistico Wind Pro, con il quale è stata ottenuta l'esposizione di ciascuno dei recettori al fenomeno di Shadow Flickering, riassunta nella tabella seguente:

No.	Shadow, worst case		
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]
A	0:00	0	0:00
B	63:43	89	1:04
C	2:13	19	0:10
D	10:34	52	0:14
E	0:00	0	0:00
F	10:11	57	0:18
G	99:06	140	1:10
H	0:00	0	0:00
I	0:00	0	0:00
J	0:00	0	0:00
K	41:47	110	0:39
L	38:44	89	0:43
M	53:37	102	0:55
N	119:05	186	1:12
O	11:00	88	0:15
P	57:00	172	0:43
Q	115:28	177	1:21
R	43:31	98	0:49





6. CONCLUSIONI

Il layout dell'impianto eolico è stato definito in modo da considerare il fenomeno di shadow flickering. Dato che la normativa italiana non prevede limiti all'esposizione al fenomeno, la proponente ha elaborato il presente studio al fine di quantificare l'esposizione in termini di ore all'anno e poterla confrontare con quella considerata in letteratura come accettabile.

Lo studio è stato condotto in maniera cautelativa, escludendo tutti quei fattori variabili (illustrati in precedenza) che di fatto portano ad una riduzione del fenomeno.

Nel caso in questione, solo due dei recettori hanno un'esposizione al fenomeno di Shadow Flickering superiore 100 ore annue. Tenendo conto delle ipotesi cautelative considerate, in conclusione, si può affermare che l'impatto complessivo del fenomeno risulta in termini assoluti ridotto, e in linea con la best practice di settore.



ALLEGATO – TABULATO DI CALCOLO

SHADOW - Main Result

Calculation: Real case

Assumptions for shadow calculations

Maximum distance for influence
 Calculate only when more than 20 % of sun is covered by the blade
 Please look in WTG table

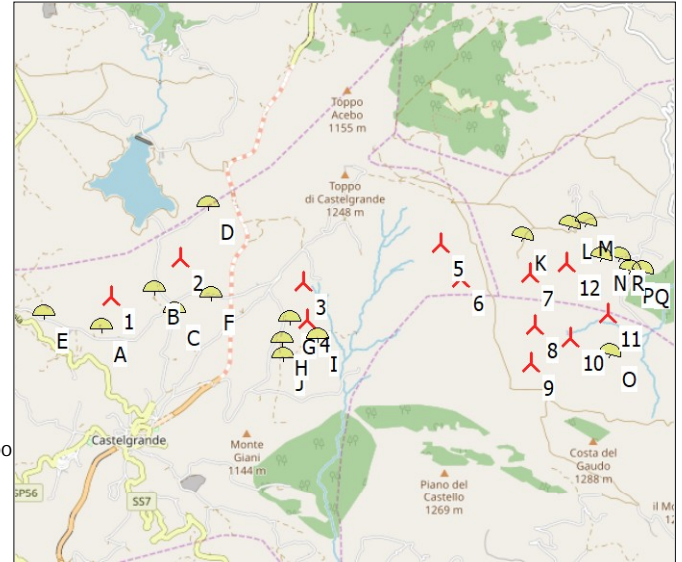
Minimum sun height over horizon for influence 3 °
 Day step for calculation 1 days
 Time step for calculation 1 minutes

The calculated times are "worst case" given by the following assumptions:
 The sun is shining all the day, from sunrise to sunset
 The rotor plane is always perpendicular to the line from the WTG to the sun
 The WTG is always operating

A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:
 Height contours used: Height Contours: CONTOURLINE_ONLINEDATA_0.wpo
 Obstacles used in calculation
 Eye height for map: 1,5 m
 Grid resolution: 1,0 m

All coordinates are in
 UTM (north)-WGS84 Zone: 33

WTGs



Scale 1:100.000
 ▲ New WTG 🟡 Shadow receptor

WTG	Easting	Northing	Z	Row data/Description	WTG type		Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.					Calculation distance [m]	RPM [RPM]
			[m]									
1	536.057	4.517.039	1.043,7	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0
2	536.961	4.517.544	1.020,3	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0
3	538.599	4.517.230	1.052,4	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0
4	538.644	4.516.746	1.018,8	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0
5	540.403	4.517.747	1.173,5	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0
6	540.684	4.517.303	1.182,4	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0
7	541.596	4.517.373	1.135,4	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0
8	541.650	4.516.687	1.164,0	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0
9	541.618	4.516.186	1.153,8	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0
10	542.139	4.516.514	1.068,0	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0
11	542.630	4.516.846	1.020,0	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0
12	542.066	4.517.521	1.066,9	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0

Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Degrees from south cw	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]	[°]		[m]
A	535.920	4.516.597	1.105,7	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
B	536.609	4.517.100	1.066,3	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
C	536.894	4.516.829	1.070,0	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
D	537.331	4.518.223	1.007,0	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
E	535.154	4.516.768	1.129,5	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
F	537.369	4.517.029	1.070,5	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
G	538.411	4.516.714	1.043,1	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
H	538.315	4.516.438	1.024,6	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
I	538.784	4.516.481	982,3	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
J	538.322	4.516.240	1.020,0	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
K	541.483	4.517.843	1.152,1	1,0	1,0	1,0	15,0	90,0	Fixed direction	2,0
L	542.118	4.517.997	1.090,3	1,0	1,0	1,0	15,0	90,0	Fixed direction	2,0
M	542.332	4.518.041	1.050,0	1,0	1,0	1,0	15,0	90,0	Fixed direction	2,0
N	542.535	4.517.579	1.011,0	1,0	1,0	1,0	15,0	90,0	Fixed direction	2,0
O	542.657	4.516.311	1.063,0	1,0	1,0	1,0	15,0	90,0	Fixed direction	2,0
P	542.913	4.517.424	980,0	1,0	1,0	1,0	15,0	90,0	Fixed direction	2,0
Q	543.079	4.517.411	980,0	1,0	1,0	1,0	15,0	90,0	Fixed direction	2,0
R	542.778	4.517.575	981,3	1,0	1,0	1,0	15,0	90,0	Fixed direction	2,0

SHADOW - Main Result

Calculation: Real case

Calculation Results

Shadow receptor

Shadow, worst case

No.	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]
A	0:00	0	0:00
B	63:43	89	1:04
C	2:13	19	0:10
D	18:11	52	0:25
E	0:00	0	0:00
F	10:11	57	0:18
G	99:06	140	1:10
H	0:00	0	0:00
I	0:00	0	0:00
J	0:00	0	0:00
K	41:47	110	0:39
L	42:16	91	0:43
M	60:08	114	0:55
N	142:42	187	1:28
O	26:53	104	0:34
P	76:10	180	0:43
Q	119:15	181	1:23
R	71:09	135	1:03

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case [h/year]
1	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (1)	63:04
2	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (2)	0:00
3	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (3)	18:11
4	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (4)	108:09
5	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (5)	5:17
6	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (6)	22:52
7	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (7)	112:01
8	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (8)	66:30
9	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (9)	47:08
10	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (10)	30:56
11	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (11)	41:57
12	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (12)	185:44

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

SHADOW - Calendar

Calculation: Real case Shadow receptor: A - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:41	07:10 17:15	06:34 17:49	06:44 19:23	05:59 19:54	05:30 20:23	05:31 20:34	05:54 20:16	06:25 19:33	06:54 18:43	06:28 16:56	07:03 16:32
2	07:23 16:42	07:09 17:16	06:33 17:50	06:42 19:24	05:57 19:55	05:30 20:24	05:31 20:34	05:55 20:14	06:26 19:31	06:55 18:41	06:29 16:55	07:04 16:32
3	07:23 16:43	07:08 17:18	06:31 17:51	06:41 19:25	05:56 19:56	05:29 20:25	05:32 20:34	05:56 20:13	06:27 19:30	06:56 18:39	06:31 16:54	07:05 16:32
4	07:23 16:44	07:07 17:19	06:30 17:52	06:39 19:26	05:55 19:57	05:29 20:26	05:32 20:34	05:57 20:12	06:28 19:28	06:57 18:38	06:32 16:53	07:06 16:31
5	07:23 16:45	07:06 17:20	06:28 17:54	06:37 19:27	05:54 19:58	05:28 20:26	05:33 20:34	05:58 20:11	06:29 19:26	06:58 18:36	06:33 16:51	07:07 16:31
6	07:23 16:46	07:05 17:21	06:27 17:55	06:36 19:28	05:52 19:59	05:28 20:27	05:33 20:33	05:59 20:10	06:30 19:25	06:59 18:34	06:34 16:50	07:08 16:31
7	07:23 16:47	07:04 17:23	06:25 17:56	06:34 19:29	05:51 20:00	05:28 20:27	05:34 20:33	06:00 20:09	06:31 19:23	07:00 18:33	06:35 16:49	07:09 16:31
8	07:23 16:48	07:03 17:24	06:24 17:57	06:33 19:30	05:50 20:01	05:28 20:28	05:34 20:33	06:01 20:07	06:32 19:21	07:02 18:31	06:36 16:48	07:10 16:31
9	07:23 16:49	07:02 17:25	06:22 17:58	06:31 19:31	05:49 20:02	05:27 20:29	05:35 20:32	06:02 20:06	06:33 19:20	07:03 18:29	06:38 16:47	07:10 16:31
10	07:23 16:50	07:00 17:26	06:20 17:59	06:29 19:32	05:48 20:03	05:27 20:29	05:36 20:32	06:03 20:05	06:34 19:18	07:04 18:28	06:39 16:46	07:11 16:31
11	07:23 16:51	06:59 17:28	06:19 18:00	06:28 19:33	05:47 20:04	05:27 20:30	05:36 20:32	06:04 20:04	06:34 19:16	07:05 18:26	06:40 16:45	07:12 16:31
12	07:22 16:52	06:58 17:29	06:17 18:01	06:26 19:34	05:46 20:05	05:27 20:30	05:37 20:31	06:05 20:02	06:35 19:15	07:06 18:25	06:41 16:44	07:13 16:31
13	07:22 16:53	06:57 17:30	06:15 18:02	06:25 19:35	05:45 20:06	05:27 20:31	05:38 20:31	06:06 20:01	06:36 19:13	07:07 18:23	06:42 16:43	07:14 16:31
14	07:22 16:54	06:56 17:31	06:14 18:03	06:23 19:36	05:43 20:07	05:27 20:31	05:39 20:30	06:07 20:00	06:37 19:11	07:08 18:22	06:44 16:42	07:15 16:32
15	07:21 16:55	06:54 17:32	06:12 18:05	06:22 19:37	05:43 20:08	05:27 20:32	05:39 20:30	06:08 19:58	06:38 19:10	07:09 18:20	06:45 16:41	07:15 16:32
16	07:21 16:56	06:53 17:34	06:11 18:06	06:20 19:38	05:42 20:09	05:27 20:32	05:40 20:29	06:09 19:57	06:39 19:08	07:10 18:18	06:46 16:41	07:16 16:32
17	07:21 16:57	06:52 17:35	06:09 18:07	06:18 19:39	05:41 20:10	05:27 20:32	05:41 20:28	06:10 19:56	06:40 19:06	07:11 18:17	06:47 16:40	07:17 16:32
18	07:20 16:58	06:50 17:36	06:07 18:08	06:17 19:40	05:40 20:11	05:27 20:33	05:42 20:28	06:11 19:54	06:41 19:04	07:12 18:15	06:48 16:39	07:17 16:33
19	07:20 16:59	06:49 17:37	06:06 18:09	06:15 19:42	05:39 20:12	05:27 20:33	05:43 20:27	06:12 19:53	06:42 19:03	07:13 18:14	06:49 16:38	07:18 16:33
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22	07:18 17:03	06:45 17:41	06:01 18:12	06:11 19:45	05:36 20:15	05:27 20:34	05:45 20:25	06:15 19:48	06:45 18:58	07:17 18:10	06:53 16:36	07:20 16:34
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24	07:17 17:05	06:42 17:43	05:57 18:14	06:08 19:47	05:35 20:17	05:28 20:34	05:47 20:23	06:17 19:45	06:47 18:54	07:19 18:07	06:55 16:35	07:21 16:35
25	07:16 17:07	06:40 17:44	05:56 18:15	06:07 19:48	05:34 20:18	05:28 20:34	05:48 20:22	06:18 19:44	06:48 18:53	06:20 17:05	06:56 16:35	07:21 16:36
26	07:15 17:08	06:39 17:45	05:54 18:16	06:05 19:49	05:33 20:19	05:29 20:34	05:49 20:21	06:19 19:42	06:49 18:51	06:21 17:04	06:57 16:34	07:21 16:37
27	07:14 17:09	06:37 17:47	05:52 18:17	06:04 19:50	05:33 20:19	05:29 20:34	05:50 20:21	06:20 19:41	06:50 18:49	06:22 17:03	06:58 16:34	07:22 16:37
28	07:14 17:10	06:36 17:48	05:51 18:18	06:03 19:51	05:32 20:20	05:29 20:34	05:50 20:20	06:21 19:39	06:51 18:48	06:24 17:01	07:00 16:33	07:22 16:38
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31	07:11 17:14		06:46 19:22		05:31 20:23		05:53 20:17	06:24 19:34		06:27 16:57		07:23 16:40
Potential sun hours Total, worst case	298	298	369	398	448	451	458	427	375	346	299	289

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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SHADOW - Calendar

Calculation: Real case Shadow receptor: B - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (2)
 Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07:23 16:41 17:15	07:10 17:15 17:49	06:34 17:49 17:49	06:44 19:23 19:23	17:47 (1) 18:42 (1) 19:54	05:59 20:23 20:23	05:30 20:34 20:15	05:54 20:15 20:15	06:25 19:33 19:33	17:54 (1) 18:21 (1) 18:43	06:54 18:20 (1) 18:43	17:37 (1) 18:20 (1) 16:56	06:28 16:32 16:32	
2	07:23 16:42 17:16	07:09 17:16 17:50	06:33 17:50 17:50	06:42 19:24 19:24	17:48 (1) 18:41 (1) 19:55	05:57 20:24 20:24	05:30 20:34 20:14	05:55 20:14 20:14	06:26 19:31 19:31	17:52 (1) 18:22 (1) 18:41	06:55 18:18 (1) 18:41	17:38 (1) 16:55 16:32	06:29 07:04 07:05	
3	07:23 16:43 17:18	07:08 17:18 17:51	06:31 17:51 17:51	06:50 (4) 19:25 19:25	06:41 17:48 (1) 19:56	05:59 20:25 20:25	05:31 20:34 20:13	05:56 20:13 20:13	06:27 19:29 19:29	17:50 (1) 18:24 (1) 18:39	06:56 18:16 (1) 18:39	17:39 (1) 16:54 16:32	07:05 07:06 07:06	
4	07:23 16:44 17:19	07:07 17:19 17:52	06:30 17:52 17:52	06:49 (4) 19:26 19:26	06:39 17:48 (1) 19:57	05:59 20:26 20:26	05:32 20:34 20:12	05:57 20:12 20:12	06:28 19:28 19:28	17:49 (1) 18:25 (1) 18:38	06:57 18:15 (1) 18:38	17:17 (4) 16:53 16:31	07:06 07:07 07:07	
5	07:23 16:45 17:20	07:06 17:20 17:53	06:28 17:53 17:53	06:47 (4) 19:27 19:27	06:37 17:49 (1) 19:58	05:58 20:26 20:26	05:33 20:34 20:11	05:58 20:11 20:11	06:29 19:26 19:26	17:47 (1) 18:27 (1) 18:36	06:58 18:13 (1) 18:36	17:18 (4) 16:51 16:31	07:07 07:08 07:08	
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7	07:23 16:47 17:23	07:04 17:23 17:56	06:25 17:56 17:56	06:44 (4) 19:29 19:29	06:34 17:35 (1) 20:00	05:58 20:27 20:27	05:34 20:33 20:09	06:00 20:09 20:09	06:31 19:23 19:23	17:44 (1) 18:30 (1) 18:33	07:00 18:10 (1) 18:33	17:21 (4) 16:49 16:31	07:09 07:10 07:10	
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Potential sun hours	298	297	369	398	522	448	451	458	427	375	346	286	299	289
Total, worst case			1375						62	1578				

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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SHADOW - Calendar

Calculation: Real case Shadow receptor: C - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:41	07:10 17:15	06:34 17:49	06:44 19:23	05:59 19:54	05:30 20:23	05:30 20:34	05:54 20:15	06:25 19:33	06:54 18:42	06:28 16:56	07:03 16:32
2	07:23 16:42	07:09 17:16	06:33 17:50	06:42 19:24	05:57 19:55	05:30 20:24	05:31 20:34	05:55 20:14	06:26 19:31	06:55 18:41	06:29 16:55	07:04 16:32
3	07:23 16:43	07:08 17:18	06:31 17:51	06:41 19:25	05:56 19:56	05:29 20:25	05:31 20:34	05:56 20:13	06:27 19:29	06:56 18:39	06:30 16:54	07:05 16:32
4	07:23 16:44	07:07 17:19	06:30 17:52	06:39 19:26	05:55 19:57	05:29 20:25	05:32 20:34	05:57 20:12	06:28 19:28	06:57 18:38	06:32 16:53	07:06 16:31
5	07:23 16:45	07:06 17:20	06:28 17:53	06:37 19:27	05:53 19:58	05:28 20:26	05:33 20:34	05:58 20:11	06:29 19:26	06:58 18:36	06:33 16:51	07:07 16:31
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15	07:21 16:55	06:54 17:32	06:12 18:05	06:22 19:37	05:42 20:08	05:27 20:32	05:39 20:30	06:08 19:58	06:38 19:09	07:09 18:20	06:45 16:41	07:15 16:32
16	07:21 16:56	06:53 17:34	06:11 18:06	06:20 19:38	05:41 20:09	05:27 20:32	05:40 20:29	06:09 19:57	06:39 19:08	07:10 18:18	06:46 16:41	07:16 16:32
17	07:21 16:57	06:52 17:35	06:09 18:07	06:27 (4) 19:39	06:18 20:10	05:41 20:32	05:41 20:28	06:10 19:55	06:40 19:06	07:11 18:17	06:47 16:40	07:17 16:32
18	07:20 16:58	06:50 17:36	06:07 18:08	06:26 (4) 19:40	06:17 20:11	05:40 20:33	05:42 20:28	06:11 19:54	06:41 19:04	07:12 18:15	06:48 16:39	07:17 16:33
19	07:20 16:59	06:49 17:37	06:06 18:09	06:24 (4) 19:42	06:15 20:12	05:39 20:33	05:43 20:27	06:12 19:53	06:42 19:03	07:13 (4) 18:14	06:49 16:38	07:18 16:33
20	07:19 17:01	06:47 17:38	06:04 18:10	06:22 (4) 19:43	06:14 19:43	05:38 20:13	05:27 20:33	06:13 19:51	06:43 19:01	07:11 (4) 18:12	07:14 16:38	07:19 16:33
21	07:19 17:02	06:46 17:40	06:02 18:11	06:21 (4) 19:44	06:12 19:44	05:37 20:14	05:27 20:34	06:14 19:50	06:44 18:59	07:10 (4) 18:11	07:16 16:37	07:19 16:34
22	07:18 17:03	06:45 17:41	06:01 18:12	06:19 (4) 19:45	06:11 20:15	05:36 20:15	05:27 20:34	06:15 19:48	06:45 18:58	07:05 (4) 18:10	07:17 16:36	07:20 16:34
23	07:17 17:04	06:43 17:42	05:59 18:13	06:17 (4) 19:46	06:10 20:16	05:35 20:34	05:28 20:24	06:16 19:47	06:46 18:56	07:06 (4) 18:08	07:18 16:36	07:20 16:35
24	07:17 17:05	06:42 17:43	05:57 18:14	06:16 (4) 19:47	06:08 20:17	05:35 20:34	05:47 20:23	06:17 19:45	06:47 18:54	07:07 (4) 18:07	07:19 16:35	07:21 16:35
25	07:16 17:07	06:40 17:44	05:56 18:15	06:25 (4) 19:48	06:07 20:18	05:34 20:34	05:48 20:22	06:18 19:44	06:48 18:53	07:08 (4) 17:05	06:20 16:35	07:21 16:36
26	07:15 17:08	06:39 17:45	05:54 18:16	06:05 19:49	05:33 20:18	05:28 20:34	05:49 20:21	06:19 19:42	06:49 18:51	07:09 (4) 17:04	06:21 16:34	07:21 16:37
27	07:14 17:09	06:37 17:47	05:52 18:17	06:04 19:50	05:33 20:19	05:29 20:34	05:50 20:20	06:20 19:41	06:50 18:49	07:10 (4) 17:03	06:22 16:34	07:22 16:37
28	07:14 17:10	06:36 17:48	05:51 18:18	06:03 19:51	05:32 20:20	05:29 20:34	05:50 20:20	06:21 19:39	06:51 18:48	07:11 (4) 17:01	07:23 16:33	07:22 16:38
29	07:13 17:11		06:49 19:19	06:01 19:52	05:32 20:21	05:30 20:34	05:51 20:19	06:22 19:37	06:52 18:46	07:12 (4) 17:00	06:25 16:33	07:22 16:39
30	07:12 17:13		06:47 19:20	06:00 19:53	05:31 20:22	05:30 20:34	05:52 20:18	06:23 19:36	06:53 18:44		07:02 16:59	07:23 16:39
31	07:11 17:14		06:46 19:22		05:30 20:23		05:53 20:17	06:24 19:34			06:27 16:57	07:23 16:40
Potential sun hours	298	298	369	398	448	451	458	427	375	346	299	289
Total, worst case			65						68			

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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SHADOW - Calendar

Calculation: Real case Shadow receptor: D - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (4)
 Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
 The sun is shining all the day, from sunrise to sunset
 The rotor plane is always perpendicular to the line from the WTG to the sun
 The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07:23 16:41	07:56 (3) 17:15	07:10 17:49	06:34 19:23	06:44 19:54	05:58 20:23	05:30 20:34	05:30 20:34	05:54 20:15	06:25 19:33	06:54 18:42	06:28 16:56	07:03 16:32	07:44 (3) 18 08:02 (3)
2	07:23 16:42	07:56 (3) 17:16	07:09 17:50	06:33 19:24	06:42 19:55	05:57 20:24	05:29 20:34	05:31 20:14	05:55 19:31	06:26 18:41	06:55 16:55	06:29 16:30	07:04 16:32	07:44 (3) 19 08:03 (3)
3	07:23 16:43	07:57 (3) 17:18	07:08 17:51	06:31 19:25	06:41 19:56	05:56 20:25	05:29 20:34	05:31 20:13	05:56 19:29	06:27 18:39	06:56 16:54	06:30 16:32	07:05 16:32	07:44 (3) 20 08:04 (3)
4	07:23 16:44	07:57 (3) 17:19	07:07 17:52	06:30 19:26	06:39 19:57	05:55 20:25	05:29 20:34	05:32 20:12	05:57 19:28	06:28 18:37	06:57 16:53	06:32 16:31	07:06 16:31	07:44 (3) 21 08:05 (3)
5	07:23 16:45	07:57 (3) 17:20	07:06 17:53	06:28 19:27	06:37 19:58	05:53 20:26	05:28 20:34	05:33 20:11	05:58 19:26	06:29 18:36	06:58 16:51	06:33 16:31	07:07 16:31	07:44 (3) 21 08:05 (3)
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7	07:23 16:46	07:59 (3) 17:23	07:04 17:56	06:25 19:29	06:34 19:29	05:51 20:00	05:28 20:27	05:34 20:33	06:00 20:09	06:30 19:23	07:00 18:33	06:35 16:49	07:09 16:31	07:44 (3) 23 08:07 (3)
8	07:23 16:47	08:00 (3) 17:24	07:03 17:57	06:23 19:30	06:33 19:30	05:50 20:01	05:27 20:28	05:34 20:33	06:01 20:07	06:31 19:21	07:01 18:31	06:36 16:48	07:10 16:31	07:44 (3) 24 08:08 (3)
9	07:23 16:48	08:01 (3) 17:25	07:02 17:58	06:22 19:31	06:31 19:31	05:49 20:02	05:27 20:29	05:35 20:32	06:02 20:06	06:32 19:20	07:03 18:29	06:38 16:47	07:10 16:31	07:45 (3) 23 08:08 (3)
10	07:23 16:49	08:02 (3) 17:26	07:00 17:59	06:20 19:32	06:29 19:32	05:48 20:03	05:27 20:29	05:36 20:32	06:03 20:05	06:33 19:18	07:04 18:28	06:39 16:46	07:11 16:31	07:45 (3) 24 08:09 (3)
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17	07:21 16:57	08:16 (3) 17:35	06:52 18:07	06:09 19:39	06:18 20:10	05:40 20:32	05:27 20:28	05:41 20:28	06:10 19:55	06:40 19:06	07:11 18:17	06:47 16:40	07:17 16:32	07:48 (3) 24 08:12 (3)
18	07:20 16:58	06:50 17:36	06:07 18:08	06:07 19:40	06:17 20:11	05:40 20:33	05:27 20:28	05:42 20:28	06:11 19:54	06:41 19:04	07:12 18:15	06:48 16:39	07:17 16:33	07:49 (3) 24 08:13 (3)
19	07:20 16:59	06:49 17:37	06:06 18:09	06:06 19:41	06:15 20:12	05:39 20:33	05:27 20:27	05:42 20:27	06:12 19:53	06:42 19:03	07:13 18:14	06:49 16:38	07:18 16:33	07:48 (3) 25 08:13 (3)
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22	07:18 17:03	06:45 17:41	06:01 18:12	06:11 19:45	06:11 20:15	05:36 20:34	05:27 20:25	05:45 20:25	06:15 19:48	06:45 18:58	07:17 18:10	06:53 16:36	07:20 16:34	07:50 (3) 25 08:15 (3)
23	07:17 17:04	06:43 17:42	05:59 18:13	06:09 19:46	05:35 20:16	05:28 20:34	05:26 20:24	05:46 20:24	06:16 19:47	06:46 18:56	07:18 18:08	06:54 16:36	07:20 16:35	07:50 (3) 25 08:15 (3)
24	07:17 17:05	06:42 17:43	05:57 18:14	06:08 19:47	05:35 20:17	05:28 20:34	05:27 20:23	05:47 19:45	06:17 18:54	06:47 18:07	07:19 16:35	06:55 16:35	07:21 16:35	07:51 (3) 25 08:16 (3)
25	07:16 17:07	06:40 17:44	05:56 18:15	06:07 19:48	05:34 20:18	05:28 20:34	05:28 20:22	05:48 20:22	06:18 19:44	06:48 18:53	07:20 17:05	06:56 16:34	07:21 16:36	07:52 (3) 24 08:16 (3)
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Potential sun hours	298	297	369	398	448	451	458	427	375	345	298	289	289	727
Total, worst case	302										62			

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

Day in month	Sun rise (hh:mm)	Minutes with flicker	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)

SHADOW - Calendar

Calculation: Real case Shadow receptor: E - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (5)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:41	07:10 17:15	06:34 17:49	06:44 19:23	05:59 19:54	05:30 20:23	05:31 20:34	05:54 20:16	06:25 19:33	06:54 18:43	06:28 16:56	07:03 16:32
2	07:23 16:42	07:09 17:16	06:33 17:50	06:42 19:24	05:57 19:55	05:30 20:24	05:31 20:34	05:55 20:14	06:26 19:31	06:55 18:41	06:29 16:55	07:04 16:32
3	07:23 16:43	07:08 17:18	06:31 17:51	06:41 19:25	05:56 19:56	05:29 20:25	05:32 20:34	05:56 20:13	06:27 19:30	06:56 18:39	06:31 16:54	07:05 16:32
4	07:23 16:44	07:07 17:19	06:30 17:52	06:39 19:26	05:55 19:57	05:29 20:26	05:32 20:34	05:57 20:12	06:28 19:28	06:57 18:38	06:32 16:53	07:06 16:31
5	07:23 16:45	07:06 17:20	06:28 17:54	06:38 19:27	05:54 19:58	05:28 20:26	05:33 20:34	05:58 20:11	06:29 19:26	06:58 18:36	06:33 16:52	07:07 16:31
6	07:23 16:46	07:05 17:21	06:27 17:55	06:36 19:28	05:52 19:59	05:28 20:27	05:33 20:33	05:59 20:10	06:30 19:25	06:59 18:34	06:34 16:50	07:08 16:31
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12	07:23 16:52	06:58 17:29	06:17 18:01	06:26 19:34	05:46 20:05	05:27 20:30	05:37 20:31	06:05 20:02	06:35 19:15	07:06 18:25	06:41 16:44	07:13 16:31
13	07:22 16:53	06:57 17:30	06:15 18:02	06:25 19:35	05:45 20:06	05:27 20:31	05:38 20:31	06:06 20:01	06:36 19:13	07:07 18:23	06:42 16:43	07:14 16:31
14	07:22 16:54	06:56 17:31	06:14 18:04	06:23 19:36	05:44 20:07	05:27 20:31	05:39 20:30	06:07 20:00	06:37 19:11	07:08 18:22	06:44 16:42	07:15 16:32
15	07:22 16:55	06:54 17:32	06:12 18:05	06:22 19:37	05:43 20:08	05:27 20:32	05:39 20:30	06:08 19:58	06:38 19:10	07:09 18:20	06:45 16:42	07:15 16:32
16	07:21 16:56	06:53 17:34	06:11 18:06	06:20 19:38	05:42 20:09	05:27 20:32	05:40 20:29	06:09 19:57	06:39 19:08	07:10 18:19	06:46 16:41	07:16 16:32
17	07:21 16:57	06:52 17:35	06:09 18:07	06:19 19:39	05:41 20:10	05:27 20:32	05:41 20:28	06:10 19:56	06:40 19:06	07:11 18:17	06:47 16:40	07:17 16:32
18	07:20 16:58	06:50 17:36	06:07 18:08	06:17 19:41	05:40 20:11	05:27 20:33	05:42 20:28	06:11 19:54	06:41 19:05	07:12 18:15	06:48 16:39	07:17 16:33
19	07:20 17:00	06:49 17:37	06:06 18:09	06:16 19:42	05:39 20:12	05:27 20:33	05:43 20:27	06:12 19:53	06:42 19:03	07:13 18:14	06:49 16:38	07:18 16:33
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22	07:18 17:03	06:45 17:41	06:01 18:12	06:11 19:45	05:36 20:15	05:27 20:34	05:45 20:25	06:15 19:48	06:45 18:58	07:17 18:10	06:53 16:36	07:20 16:34
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24	07:17 17:05	06:42 17:43	05:57 18:14	06:08 19:47	05:35 20:17	05:28 20:34	05:47 20:23	06:17 19:45	06:47 18:54	07:19 18:07	06:55 16:35	07:21 16:35
25	07:16 17:07	06:40 17:44	05:56 18:15	06:07 19:48	05:34 20:18	05:28 20:34	05:48 20:22	06:18 19:44	06:48 18:53	07:20 17:05	06:56 16:35	07:21 16:36
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31	07:11 17:14		06:46 19:22		05:31 20:23		05:53 20:17	06:24 19:34		06:27 16:58		07:23 16:40
Potential sun hours Total, worst case	298	298	369	398	448	451	458	427	375	346	299	289

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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SHADOW - Calendar

Calculation: Real case Shadow receptor: F - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (6)
 Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23 16:41 17:15	07:10 17:49	06:34 14 07:07 (4) 06:44 19:23	06:53 (4) 06:42 18:39 (1)	05:59 3 18:42 (1) 19:54	05:30 19:54	05:30 20:23	05:54 20:34	06:25 20:15		06:54 18:42	06:28 16:56	07:03 16:32
2	07:23 16:42 17:16	07:09 17:50	06:33 15 07:07 (4) 06:42 19:24	06:52 (4) 19:24	05:57 1 18:41 (1) 19:55	05:29 20:24	05:31 20:34	05:55 20:14	06:26 19:31		06:55 18:41	06:29 16:55	07:04 16:32
3	07:23 16:43 17:18	07:08 17:51	06:31 16 07:06 (4) 06:41 19:25	06:50 (4) 19:25	05:56 19:56	05:29 20:25	05:31 20:34	05:56 20:13	06:27 19:29		06:56 18:39	06:30 16:54	07:05 16:32
4	07:23 16:44 17:19	07:07 17:52	06:30 17 07:06 (4) 06:39 19:26	06:49 (4) 19:26	05:55 19:57	05:29 20:25	05:32 20:34	05:57 20:12	06:28 19:28		06:57 18:38	07:25 (4) 16:53	06:32 16:31
5	07:23 16:45 17:20	07:06 17:53	06:28 18 07:05 (4) 06:37 19:27	06:47 (4) 19:27	05:53 19:58	05:28 20:26	05:33 20:34	05:58 20:11	06:29 19:26		06:58 18:36	07:21 (4) 16:51	06:33 16:31
6	07:23 16:46 17:21	07:05 17:55	06:27 18 07:03 (4) 06:36 19:28	06:45 (4) 19:28	05:52 19:59	05:28 20:27	05:33 20:33	05:59 20:10	06:30 19:25		06:59 18:34	07:19 (4) 16:50	06:34 16:31
7	07:23 16:47 17:23	07:04 17:56	06:25 18 07:02 (4) 06:34 19:29	06:44 (4) 19:29	05:51 20:00	05:28 20:27	05:34 20:33	06:00 20:09	06:30 19:23		07:00 18:33	07:20 (4) 16:49	06:35 16:31
8	07:23 16:47 17:24	07:03 17:57	06:23 17 07:00 (4) 06:33 19:30	06:43 (4) 19:30	05:50 20:01	05:27 20:28	05:34 20:33	06:01 20:07	06:31 19:21		07:01 18:31	07:22 (4) 16:48	06:36 16:31
9	07:23 16:48 17:25	07:02 17:58	06:22 11 06:58 (4) 06:31 19:31	06:47 (4) 19:31	05:49 20:02	05:27 20:29	05:35 20:32	06:02 20:06	06:32 19:20		07:03 18:29	07:23 (4) 16:47	06:38 16:31
10	07:23 16:49 17:26	07:00 17:59	06:20 11 06:58 (4) 06:29 19:32	06:58 (4) 19:32	05:48 20:03	05:27 20:29	05:36 20:32	06:03 20:05	06:33 19:18		07:04 18:34	07:24 (4) 16:46	06:39 16:31
11	07:23 16:51 17:27	06:59 18:00	06:19 18:00	06:28 19:33	05:47 20:04	05:27 20:30	05:36 20:32	06:04 20:04	06:34 19:16	1 18:34 (1)	18:28	07:41 (4) 16:45	06:40 16:31
12	07:22 16:52 17:29	06:58 18:01	06:17 18:01	06:26 19:34	05:45 20:05	05:27 20:30	05:37 20:31	06:05 20:02	06:35 19:15	3 18:35 (1)	18:26	07:41 (4) 16:44	06:41 16:31
13	07:22 16:53 17:30	06:57 18:02	06:15 18:02	06:25 19:35	05:44 20:06	05:27 20:31	05:38 20:31	06:06 20:01	06:36 19:13	6 18:37 (1)	18:25	07:41 (4) 16:43	06:42 16:31
14	07:22 16:54 17:31	06:55 18:03	06:14 18:03	06:23 19:36	05:43 20:07	05:27 20:31	05:39 20:30	06:07 20:00	06:37 19:11	8 18:38 (1)	18:23	07:41 (4) 16:43	06:43 16:31
15	07:21 16:55 17:32	06:54 18:04	06:12 18:04	06:21 19:37	05:42 20:08	05:27 20:32	05:39 20:30	06:08 19:58	06:38 19:09	10 18:40 (1)	18:21	07:40 (4) 16:41	06:45 16:32
16	07:21 16:56 17:34	06:53 18:06	06:10 18:06	06:20 19:38	05:41 20:09	05:27 20:32	05:40 20:29	06:09 19:57	06:39 19:08	11 18:40 (1)	18:20	07:40 (4) 16:41	06:46 16:32
17	07:21 16:57 17:35	06:52 18:07	06:09 18:07	06:18 19:39	05:41 20:10	05:27 20:32	05:41 20:28	06:10 19:55	06:40 19:06	14 18:42 (1)	18:18	07:39 (4) 16:40	06:47 16:32
18	07:20 16:58 17:36	06:50 18:08	06:07 18:08	06:17 19:40	05:40 20:11	05:27 20:33	05:42 20:28	06:11 19:54	06:41 19:04	13 18:42 (1)	18:15	07:38 (4) 16:39	06:48 16:33
19	07:20 16:59 17:37	06:49 18:09	06:06 18:09	06:15 19:41	05:39 20:12	05:27 20:33	05:42 20:27	06:12 19:53	06:42 19:03	11 18:40 (1)	18:14	07:34 (4) 16:38	06:49 16:33
20	07:19 17:01 17:38	06:47 18:10	06:04 18:10	06:14 19:43	05:38 20:13	05:27 20:33	05:43 20:26	06:13 19:51	06:43 19:01	8 18:38 (1)	18:12	06:50 16:38	07:19 16:33
21	07:18 17:02 17:40	06:46 18:11	06:02 18:11	06:12 19:44	05:37 20:14	05:27 20:34	05:44 20:26	06:14 19:50	06:44 18:59	6 18:37 (1)	18:11	06:52 16:37	07:19 16:34
22	07:18 17:03 17:41	06:45 18:12	06:01 18:12	06:11 19:45	05:36 20:15	05:27 20:34	05:45 20:25	06:15 19:48	06:45 18:58	3 18:35 (1)	18:10	06:53 16:36	07:20 16:34
23	07:17 17:04 17:42	06:43 18:13	06:00 18:13	06:10 19:46	05:35 20:16	05:28 20:34	05:46 20:24	06:16 19:47	06:46 18:56		07:18	06:54 16:36	07:20 16:35
24	07:17 17:05 17:43	06:42 18:14	06:00 18:14	06:08 19:47	05:35 20:17	05:28 20:34	05:47 20:23	06:17 19:45	06:47 18:54		07:19	06:55 16:35	07:21 16:35
25	07:16 17:07 17:44	06:40 18:15	06:00 18:15	06:07 19:48	05:34 20:18	05:28 20:34	05:48 20:22	06:18 19:44	06:48 18:53		07:20	06:56 16:35	07:21 16:36
26	07:15 17:08 17:45	06:39 18:16	06:00 18:16	06:05 19:49	05:33 20:18	05:28 20:34	05:49 20:21	06:19 19:42	06:49 18:51		07:21	06:57 16:34	07:21 16:37
27	07:14 17:09 17:47	06:37 18:17	06:00 18:17	06:04 19:50	05:33 20:19	05:29 20:34	05:49 20:20	06:20 19:41	06:50 18:49		07:22	06:58 16:34	07:22 16:37
28	07:14 17:10 17:48	06:36 18:18	06:00 18:18	06:03 19:51	05:32 20:20	05:29 20:34	05:50 20:19	06:21 19:39	06:51 18:47		07:23	07:00 16:33	07:22 16:38
29	07:13 17:11 17:12	06:35 18:19	06:00 18:19	06:01 19:52	05:31 20:21	05:30 20:34	05:51 20:19	06:22 19:37	06:52 18:46		07:24	07:01 16:33	07:22 16:39
30	07:12 17:13 17:13	06:34 18:20	06:00 18:20	06:00 19:53	05:31 20:22	05:30 20:34	05:52 20:18	06:23 19:36	06:53 18:44		07:25	07:02 16:32	07:23 16:39
31	07:11 17:14	06:33 18:21	06:00 18:21	06:00 19:54	05:30 20:23	05:30 20:16	05:53 20:16	06:24 19:34	06:54 18:42		07:26	07:03 16:40	07:23 16:40
Potential sun hours	298	297	369	398	448	451	458	427	375	109	346	299	289
Total, worst case		49	247	4						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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SHADOW - Calendar

Calculation: Real case Shadow receptor: G - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (7)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	
1	07:23 16:41	07:10 17:15	06:34 17:49	06:44 19:23	07:25 (4) 08:33 (4)	05:58 19:54	08:10 (4) 05:30 08:55 (4) 20:23
2	07:23 16:42	07:09 17:16	06:33 17:50	06:42 19:24	07:27 (4) 08:36 (4)	05:57 19:55	08:10 (4) 05:29 08:54 (4) 20:24
3	07:23 16:43	07:08 17:18	06:31 17:51	06:41 19:25	07:28 (4) 08:37 (4)	05:56 19:56	08:12 (4) 05:29 08:54 (4) 20:25
4	07:23 16:44	07:07 17:19	06:30 17:52	06:39 19:26	07:29 (4) 08:39 (4)	05:55 19:57	08:13 (4) 05:29 08:54 (4) 20:25
5	07:23 16:45	07:06 17:20	06:28 17:53	06:37 19:27	07:31 (4) 08:41 (4)	05:53 19:58	08:15 (4) 05:28 08:55 (4) 20:26
6	07:23 16:46	07:05 17:21	06:27 17:55	06:36 19:28	07:32 (4) 08:42 (4)	05:52 19:59	08:17 (4) 05:28 08:55 (4) 20:27
7	07:23 16:46	07:04 17:23	06:25 17:56	06:34 19:29	07:34 (4) 08:44 (4)	05:51 20:00	08:18 (4) 05:28 08:55 (4) 20:27
8	07:23 16:47	07:03 17:24	06:23 17:57	06:32 19:30	07:35 (4) 08:45 (4)	05:50 20:01	08:19 (4) 05:27 08:54 (4) 20:28
9	07:23 16:48	07:01 17:25	06:22 17:58	06:31 19:31	07:37 (4) 08:45 (4)	05:49 20:02	08:20 (4) 05:27 08:53 (4) 20:29
10	07:23 16:49	07:00 17:26	06:20 17:59	06:29 19:32	07:39 (4) 08:47 (4)	05:48 20:03	08:22 (4) 05:27 08:53 (4) 20:29
11	07:23 16:50	06:59 17:27	06:19 18:00	06:28 19:33	07:40 (4) 08:48 (4)	05:47 20:04	08:23 (4) 05:27 08:53 (4) 20:30
12	07:22 16:52	06:58 17:29	06:17 18:01	06:26 19:34	07:42 (4) 08:49 (4)	05:45 20:05	08:24 (4) 05:27 08:53 (4) 20:30
13	07:22 16:53	06:57 17:30	06:15 18:02	06:25 19:35	07:43 (4) 08:49 (4)	05:44 20:06	08:26 (4) 05:27 08:53 (4) 20:31
14	07:22 16:54	06:55 17:31	06:14 18:03	06:23 19:36	07:45 (4) 08:51 (4)	05:43 20:07	08:27 (4) 05:27 08:53 (4) 20:31
15	07:21 16:55	06:54 17:32	06:12 18:04	06:21 19:37	07:46 (4) 08:51 (4)	05:42 20:08	08:28 (4) 05:27 08:52 (4) 20:32
16	07:21 16:56	06:53 17:33	06:10 18:06	06:20 19:38	07:47 (4) 08:51 (4)	05:41 20:09	08:31 (4) 05:27 08:53 (4) 20:32
17	07:21 16:57	06:52 17:35	06:09 18:07	06:18 19:39	07:49 (4) 08:52 (4)	05:40 20:10	08:32 (4) 05:27 08:53 (4) 20:32
18	07:20 16:58	06:50 17:36	06:07 18:08	06:17 19:40	07:50 (4) 08:52 (4)	05:40 20:11	08:33 (4) 05:27 08:53 (4) 20:33
19	07:20 16:59	06:49 17:37	06:05 18:09	06:15 19:41	07:52 (4) 08:53 (4)	05:39 20:12	08:34 (4) 05:27 08:52 (4) 20:33
20	07:19 17:01	06:47 17:38	06:04 18:10	06:14 19:42	07:54 (4) 08:54 (4)	05:38 20:13	08:35 (4) 05:27 08:52 (4) 20:33
21	07:18 17:02	06:46 17:40	06:02 18:11	06:12 19:44	07:54 (4) 08:53 (4)	05:37 20:14	08:37 (4) 05:27 08:52 (4) 20:33
22	07:18 17:03	06:45 17:41	06:01 18:12	06:11 19:45	07:56 (4) 08:54 (4)	05:36 20:15	08:38 (4) 05:27 08:52 (4) 20:34
23	07:17 17:04	06:43 17:42	05:59 18:13	06:09 19:46	07:57 (4) 08:54 (4)	05:35 20:16	08:39 (4) 05:28 08:51 (4) 20:34
24	07:16 17:05	06:42 17:43	05:57 18:14	06:08 19:47	07:59 (4) 08:54 (4)	05:35 20:17	08:40 (4) 05:28 08:51 (4) 20:34
25	07:16 17:06	06:40 17:44	05:56 18:15	06:07 19:48	08:01 (4) 08:55 (4)	05:34 20:18	08:42 (4) 05:28 08:52 (4) 20:34
26	07:15 17:08	06:39 17:45	05:54 18:16	06:05 19:49	08:02 (4) 08:54 (4)	05:33 20:18	08:42 (4) 05:28 08:51 (4) 20:34
27	07:14 17:09	06:37 17:47	05:52 18:17	06:04 19:50	08:04 (4) 08:55 (4)	05:33 20:19	08:44 (4) 05:29 08:51 (4) 20:34
28	07:13 17:10	06:36 17:48	05:51 18:18	06:02 19:51	08:04 (4) 08:54 (4)	05:32 20:20	08:45 (4) 05:29 08:51 (4) 20:34
29	07:13 17:11		06:49 19:19	06:01 19:52	08:06 (4) 08:54 (4)	05:31 20:21	08:46 (4) 05:30 08:51 (4) 20:34
30	07:12 17:13		06:47 19:20	06:00 19:53	07:22 (4) 08:08 (4)	05:31 20:22	08:47 (4) 05:30 08:51 (4) 20:34
31	07:11 17:14		06:46 19:21	05:31 08:31 (4)	07:24 (4) 08:31 (4)	05:30 20:22	08:48 (4) 05:30 08:51 (4)
Potential sun hours	298	298	369	398	448	451	
Total, worst case			370	1865	716	451	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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SHADOW - Calendar

Calculation: Real case Shadow receptor: G - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (7)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05:30	05:54	08:34 (4) 06:25	07:39 (4) 06:54	06:28	07:03
	20:34	20:15	09:04 (4) 19:33	08:47 (4) 18:42	16:56	16:32
2	05:31	05:55	08:33 (4) 06:26	07:37 (4) 06:55	06:29	07:04
	20:34	20:14	09:04 (4) 19:31	08:45 (4) 18:41	16:55	16:32
3	05:31	05:56	08:32 (4) 06:27	07:35 (4) 06:56	06:30	07:05
	20:34	20:13	09:04 (4) 19:29	08:43 (4) 18:39	16:54	16:32
4	05:32	05:57	08:30 (4) 06:28	07:32 (4) 06:57	06:32	07:06
	20:34	20:12	09:04 (4) 19:28	08:42 (4) 18:37	16:53	16:31
5	05:33	05:58	08:29 (4) 06:28	07:30 (4) 06:58	06:33	07:07
	20:33	20:11	09:04 (4) 19:26	08:40 (4) 18:36	16:51	16:31
6	05:33	05:59	08:27 (4) 06:29	07:28 (4) 06:59	06:34	07:08
	20:33	20:10	09:04 (4) 19:24	08:38 (4) 18:34	16:50	16:31
7	05:34	06:00	08:26 (4) 06:30	07:26 (4) 07:00	06:35	07:09
	20:33	20:09	09:04 (4) 19:23	08:36 (4) 18:33	16:49	16:31
8	05:34	06:01	08:24 (4) 06:31	07:24 (4) 07:01	06:36	07:09
	20:33	20:07	09:04 (4) 19:21	08:34 (4) 18:31	16:48	16:31
9	05:35	06:02	08:23 (4) 06:32	07:22 (4) 07:02	06:37	07:10
	20:32	20:06	09:04 (4) 19:20	08:32 (4) 18:29	16:47	16:31
10	05:36	06:03	08:21 (4) 06:33	07:20 (4) 07:04	06:39	07:11
	20:32	20:05	09:04 (4) 19:18	08:29 (4) 18:28	16:46	16:31
11	05:36	08:57 (4) 06:04	08:18 (4) 06:34	07:18 (4) 07:05	06:40	07:12
	20:31	08:59 (4) 20:04	09:03 (4) 19:16	08:27 (4) 18:26	16:45	16:31
12	05:37	08:56 (4) 06:05	08:17 (4) 06:35	07:16 (4) 07:06	06:41	07:13
	20:31	08:58 (4) 20:02	09:03 (4) 19:14	08:24 (4) 18:25	16:44	16:31
13	05:38	08:55 (4) 06:06	08:15 (4) 06:36	07:14 (4) 07:07	06:42	07:14
	20:31	08:59 (4) 20:01	09:02 (4) 19:13	08:21 (4) 18:23	16:43	16:31
14	05:38	08:55 (4) 06:07	08:13 (4) 06:37	07:11 (4) 07:08	06:43	07:14
	20:30	09:00 (4) 20:00	09:02 (4) 19:11	08:16 (4) 18:21	16:42	16:31
15	05:39	08:54 (4) 06:08	08:12 (4) 06:38	07:13 (4) 07:09	06:45	07:15
	20:29	09:00 (4) 19:58	09:02 (4) 19:09	08:12 (4) 18:20	16:41	16:32
16	05:40	08:53 (4) 06:09	08:10 (4) 06:39	07:16 (4) 07:10	06:46	07:16
	20:29	09:00 (4) 19:57	09:01 (4) 19:08	08:08 (4) 18:18	16:41	16:32
17	05:41	08:52 (4) 06:10	08:08 (4) 06:40	07:21 (4) 07:11	06:47	07:17
	20:28	09:00 (4) 19:55	09:01 (4) 19:06	08:02 (4) 18:17	16:40	16:32
18	05:42	08:51 (4) 06:11	08:06 (4) 06:41	07:27 (4) 07:12	06:48	07:17
	20:28	09:01 (4) 19:54	09:00 (4) 19:04	07:55 (4) 18:15	16:39	16:33
19	05:42	08:51 (4) 06:12	08:05 (4) 06:42	07:13	06:49	07:18
	20:27	09:01 (4) 19:53	09:00 (4) 19:03	18:14	16:38	16:33
20	05:43	08:50 (4) 06:13	08:03 (4) 06:43	07:14	06:50	07:18
	20:26	09:02 (4) 19:51	08:59 (4) 19:01	18:12	16:37	16:33
21	05:44	08:48 (4) 06:14	08:01 (4) 06:44	07:15	06:52	07:19
	20:25	09:01 (4) 19:50	08:59 (4) 18:59	18:11	16:37	16:34
22	05:45	08:47 (4) 06:15	07:59 (4) 06:45	07:17	06:53	07:20
	20:25	09:02 (4) 19:48	08:58 (4) 18:58	18:09	16:36	16:34
23	05:46	08:46 (4) 06:16	07:57 (4) 06:46	07:18	06:54	07:20
	20:24	09:02 (4) 19:47	08:57 (4) 18:56	18:08	16:36	16:35
24	05:47	08:45 (4) 06:17	07:55 (4) 06:47	07:19	06:55	07:21
	20:23	09:02 (4) 19:45	08:56 (4) 18:54	18:07	16:35	16:35
25	05:48	08:44 (4) 06:18	07:53 (4) 06:48	06:20	06:56	07:21
	20:22	09:03 (4) 19:44	08:56 (4) 18:52	17:05	16:34	16:36
26	05:49	08:43 (4) 06:19	07:51 (4) 06:49	06:21	06:57	07:21
	20:21	09:03 (4) 19:42	08:55 (4) 18:51	17:04	16:34	16:36
27	05:49	08:42 (4) 06:20	07:49 (4) 06:50	06:22	06:58	07:22
	20:20	09:04 (4) 19:41	08:54 (4) 18:49	17:03	16:34	16:37
28	05:50	08:40 (4) 06:21	07:47 (4) 06:51	06:23	06:59	07:22
	20:19	09:03 (4) 19:39	08:53 (4) 18:47	17:01	16:33	16:38
29	05:51	08:38 (4) 06:22	07:45 (4) 06:52	06:25	07:01	07:22
	20:18	09:03 (4) 19:37	08:50 (4) 18:46	17:00	16:33	16:39
30	05:52	08:37 (4) 06:23	07:43 (4) 06:53	06:26	07:02	07:23
	20:17	09:03 (4) 19:36	08:49 (4) 18:44	16:59	16:32	16:39
31	05:53	08:36 (4) 06:24	07:41 (4)	06:27		07:23
	20:16	09:04 (4) 19:34	08:48 (4)	16:57		16:40
Potential sun hours	458	427	375	346	299	289
Total, worst case	290	1561	1142			

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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SHADOW - Calendar

Calculation: Real case Shadow receptor: H - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (8)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:41	07:10 17:15	06:34 17:49	06:44 19:23	05:58 19:54	05:30 20:23	05:30 20:34	05:54 20:15	06:25 19:33	06:54 18:42	06:28 16:56	07:03 16:32
2	07:23 16:42	07:09 17:16	06:33 17:50	06:42 19:24	05:57 19:55	05:29 20:24	05:31 20:34	05:55 20:14	06:26 19:31	06:55 18:41	06:29 16:55	07:04 16:32
3	07:23 16:43	07:08 17:18	06:31 17:51	06:41 19:25	05:56 19:56	05:29 20:25	05:31 20:34	05:56 20:13	06:27 19:29	06:56 18:39	06:30 16:54	07:05 16:32
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31	07:11 17:14		06:46 19:21		05:30 20:22		05:53 20:16	06:24 19:34		06:27 16:57		07:23 16:40
Potential sun hours Total, worst case	298	298	369	398	448	451	458	427	375	346	299	289

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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SHADOW - Calendar

Calculation: Real case Shadow receptor: I - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (9)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
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SHADOW - Calendar

Calculation: Real case Shadow receptor: J - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (10)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
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18	07:20 16:58	06:50 17:36	06:07 18:08	06:17 19:40	05:40 20:11	05:27 20:33	05:42 20:28	06:11 19:54	06:41 19:04	07:12 18:15	06:48 16:39	07:17 16:33
19	07:20 16:59	06:49 17:37	06:05 18:09	06:15 19:41	05:39 20:12	05:27 20:33	05:42 20:27	06:12 19:53	06:42 19:03	07:13 18:14	06:49 16:38	07:18 16:33
20	07:19 17:01	06:47 17:38	06:04 18:10	06:14 19:42	05:38 20:13	05:27 20:33	05:43 20:26	06:13 19:51	06:43 19:01	07:14 18:12	06:50 16:38	07:18 16:33
21	07:18 17:02	06:46 17:40	06:02 18:11	06:12 19:44	05:37 20:14	05:27 20:33	05:44 20:25	06:14 19:50	06:44 18:59	07:15 18:11	06:52 16:37	07:19 16:34
22	07:18 17:03	06:45 17:41	06:01 18:12	06:11 19:45	05:36 20:15	05:27 20:34	05:45 20:25	06:15 19:48	06:45 18:58	07:17 18:09	06:53 16:36	07:20 16:34
23	07:17 17:04	06:43 17:42	05:59 18:13	06:09 19:46	05:35 20:16	05:28 20:34	05:46 20:24	06:16 19:47	06:46 18:56	07:18 18:08	06:54 16:36	07:20 16:35
24	07:16 17:05	06:42 17:43	05:57 18:14	06:08 19:47	05:35 20:17	05:28 20:34	05:47 20:23	06:17 19:45	06:47 18:54	07:19 18:07	06:55 16:35	07:21 16:35
25	07:16 17:06	06:40 17:44	05:56 18:15	06:07 19:48	05:34 20:18	05:28 20:34	05:48 20:22	06:18 19:44	06:48 18:52	06:20 17:05	06:56 16:34	07:21 16:36
26	07:15 17:08	06:39 17:45	05:54 18:16	06:05 19:49	05:33 20:18	05:28 20:34	05:49 20:21	06:19 19:42	06:49 18:51	06:21 17:04	06:57 16:34	07:21 16:37
27	07:14 17:09	06:37 17:47	05:52 18:17	06:04 19:50	05:33 20:19	05:29 20:34	05:49 20:20	06:20 19:41	06:50 18:49	06:22 17:03	06:58 16:34	07:22 16:37
28	07:13 17:10	06:36 17:48	05:51 18:18	06:02 19:51	05:32 20:20	05:29 20:34	05:50 20:19	06:21 19:39	06:51 18:47	06:23 17:01	06:59 16:33	07:22 16:38
29	07:13 17:11		06:49 19:19	06:01 19:52	05:31 20:21	05:30 20:34	05:51 20:18	06:22 19:37	06:52 18:46	06:25 17:00	07:01 16:33	07:22 16:39
30	07:12 17:13		06:47 19:20	06:00 19:53	05:31 20:22	05:30 20:34	05:52 20:17	06:23 19:36	06:53 18:44	06:26 16:59	07:02 16:32	07:23 16:39
31	07:11 17:14		06:46 19:21		05:30 20:22		05:53 20:16	06:24 19:34		06:27 16:57		07:23 16:40
Potential sun hours Total, worst case	298	298	369	398	448	451	458	427	375	346	299	289

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)

SHADOW - Calendar

Calculation: Real case Shadow receptor: K - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (11)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June		
1	07:23 16:41	07:45 (12) 07:55 (12)	07:10 17:15	07:30 (12) 08:07 (12)	06:34 17:49	06:44 19:22	05:58 19:54	05:30 20:23
2	07:23 16:42	07:45 (12) 07:55 (12)	07:09 17:16	07:29 (12) 08:06 (12)	06:33 17:50	06:42 19:23	05:57 19:55	05:29 20:24
3	07:23 16:43	07:45 (12) 07:56 (12)	07:08 17:17	07:28 (12) 08:06 (12)	06:31 17:51	06:40 19:24	05:56 19:56	05:29 20:25
4	07:23 16:43	07:45 (12) 07:57 (12)	07:07 17:19	07:27 (12) 08:05 (12)	06:30 17:52	06:39 19:26	05:54 19:57	05:28 20:25
5	07:23 16:44	07:45 (12) 07:57 (12)	07:06 17:20	07:26 (12) 08:05 (12)	06:28 17:53	06:37 19:27	05:53 19:58	05:28 20:26
6	07:23 16:45	07:45 (12) 07:58 (12)	07:05 17:21	07:24 (12) 08:03 (12)	06:26 17:54	06:36 19:28	05:52 19:59	05:28 20:27
7	07:23 16:46	07:45 (12) 07:59 (12)	07:04 17:22	07:23 (12) 08:02 (12)	06:25 17:55	06:34 19:29	05:51 20:00	05:28 20:27
8	07:23 16:47	07:45 (12) 08:00 (12)	07:02 17:24	07:22 (12) 08:01 (12)	06:23 17:57	06:32 19:30	05:50 20:01	05:27 20:28
9	07:23 16:48	07:45 (12) 08:01 (12)	07:01 17:25	07:21 (12) 08:00 (12)	06:22 17:58	06:31 19:31	05:49 20:02	05:27 20:28
10	07:23 16:49	07:44 (12) 08:01 (12)	07:00 17:26	07:23 (12) 07:59 (12)	06:20 17:59	06:29 19:32	05:47 20:03	05:27 20:29
11	07:22 16:50	07:44 (12) 08:02 (12)	06:59 17:27	07:24 (12) 07:56 (12)	06:18 18:00	06:28 19:33	05:46 20:04	05:27 20:30
12	07:22 16:51	07:44 (12) 08:02 (12)	06:58 17:29	07:27 (12) 07:55 (12)	06:17 18:01	06:26 19:34	05:45 20:05	05:27 20:30
13	07:22 16:52	07:43 (12) 08:02 (12)	06:57 17:30	07:30 (12) 07:52 (12)	06:15 18:02	06:24 19:35	05:44 20:06	05:26 20:31
14	07:22 16:54	07:43 (12) 08:03 (12)	06:55 17:31	07:34 (12) 07:48 (12)	06:14 18:03	06:23 19:36	05:43 20:07	05:26 20:31
15	07:21 16:55	07:42 (12) 08:03 (12)	06:54 17:32		06:12 18:04	06:21 19:37	05:42 20:08	05:26 20:31
16	07:21 16:56	07:42 (12) 08:04 (12)	06:53 17:33		06:10 18:05	06:20 19:38	05:41 20:09	05:26 20:32
17	07:20 16:57	07:41 (12) 08:04 (12)	06:51 17:35		06:09 18:06	06:18 19:39	05:40 20:10	05:26 20:32
18	07:20 16:58	07:41 (12) 08:05 (12)	06:50 17:36		06:07 18:08	06:17 19:40	05:39 20:11	05:27 20:33
19	07:19 16:59	07:40 (12) 08:05 (12)	06:49 17:37		06:05 18:09	06:15 19:41	05:39 20:12	05:27 20:33
20	07:19 17:00	07:40 (12) 08:06 (12)	06:47 17:38		06:04 18:10	06:14 19:42	05:38 20:13	05:27 20:33
21	07:18 17:02	07:39 (12) 08:06 (12)	06:46 17:39		06:02 18:11	06:12 19:43	05:37 20:14	05:27 20:33
22	07:18 17:03	07:38 (12) 08:06 (12)	06:44 17:41		06:00 18:12	06:11 19:44	05:36 20:15	05:27 20:34
23	07:17 17:04	07:38 (12) 08:07 (12)	06:43 17:42		05:59 18:13	06:09 19:46	05:35 20:16	05:27 20:34
24	07:16 17:05	07:37 (12) 08:07 (12)	06:42 17:43		05:57 18:14	06:08 19:47	05:35 20:17	05:28 20:34
25	07:16 17:06	07:36 (12) 08:07 (12)	06:40 17:44		05:55 18:15	06:06 19:48	05:34 20:17	05:28 20:34
26	07:15 17:08	07:35 (12) 08:07 (12)	06:39 17:45		05:54 18:16	06:05 19:49	05:33 20:18	05:28 20:34
27	07:14 17:09	07:34 (12) 08:07 (12)	06:37 17:46		05:52 18:17	06:04 19:50	05:32 20:19	05:29 20:34
28	07:13 17:10	07:34 (12) 08:08 (12)	06:36 17:48		05:50 18:18	06:02 19:51	05:32 20:20	05:29 20:34
29	07:12 17:11	07:33 (12) 08:08 (12)			06:49 19:19	06:01 19:52	05:31 20:21	05:29 20:34
30	07:12 17:12	07:32 (12) 08:07 (12)			06:47 19:20	06:00 19:53	05:31 20:22	05:30 20:34
31	07:11 17:14	07:31 (12) 08:07 (12)			06:45 19:21		05:30 20:22	
Potential sun hours	298		297	369	398	448	451	
Total, worst case	696		477					

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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SHADOW - Calendar

Calculation: Real case Shadow receptor: K - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (11)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

	July	August	September	October	November	December		
1	05:30 20:34	05:54 20:15	06:24 19:32	06:54 18:42	06:28 16:56	06:52 (12) 07:28 (12)	07:03 16:32	07:26 (12) 07:44 (12)
2	05:31 20:34	05:55 20:14	06:25 19:31	06:55 18:41	06:29 16:55	06:51 (12) 07:30 (12)	07:04 16:32	07:27 (12) 07:44 (12)
3	05:31 20:34	05:56 20:13	06:26 19:29	06:56 18:39	06:30 16:54	06:52 (12) 07:31 (12)	07:05 16:31	07:28 (12) 07:44 (12)
4	05:32 20:34	05:57 20:12	06:27 19:28	06:57 18:37	06:31 16:52	06:53 (12) 07:32 (12)	07:06 16:31	07:29 (12) 07:44 (12)
5	05:32 20:33	05:58 20:11	06:28 19:26	06:58 18:36	06:33 16:51	06:54 (12) 07:33 (12)	07:07 16:31	07:30 (12) 07:44 (12)
6	05:33 20:33	05:59 20:10	06:29 19:24	06:59 18:34	06:34 16:50	06:56 (12) 07:35 (12)	07:08 16:31	07:31 (12) 07:44 (12)
7	05:34 20:33	06:00 20:08	06:30 19:23	07:00 18:32	06:35 16:49	06:57 (12) 07:35 (12)	07:08 16:31	07:32 (12) 07:45 (12)
8	05:34 20:33	06:01 20:07	06:31 19:21	07:01 18:31	06:36 16:48	06:58 (12) 07:36 (12)	07:09 16:31	07:33 (12) 07:45 (12)
9	05:35 20:32	06:02 20:06	06:32 19:19	07:02 18:29	06:37 16:47	06:59 (12) 07:36 (12)	07:10 16:31	07:34 (12) 07:45 (12)
10	05:35 20:32	06:03 20:05	06:33 19:18	07:03 18:28	06:39 16:46	07:01 (12) 07:38 (12)	07:11 16:31	07:35 (12) 07:45 (12)
11	05:36 20:31	06:04 20:03	06:34 19:16	07:04 18:26	06:40 16:45	07:02 (12) 07:38 (12)	07:12 16:31	07:36 (12) 07:46 (12)
12	05:37 20:31	06:05 20:02	06:35 19:14	07:06 18:24	06:41 16:44	07:03 (12) 07:38 (12)	07:13 16:31	07:36 (12) 07:45 (12)
13	05:38 20:30	06:06 20:01	06:36 19:13	07:07 18:23	06:42 16:43	07:05 (12) 07:40 (12)	07:14 16:31	07:37 (12) 07:46 (12)
14	05:38 20:30	06:07 19:59	06:37 19:11	07:08 18:21	06:43 16:42	07:06 (12) 07:40 (12)	07:14 16:31	07:38 (12) 07:46 (12)
15	05:39 20:29	06:08 19:58	06:38 19:09	07:09 18:20	06:44 16:41	07:07 (12) 07:40 (12)	07:15 16:31	07:39 (12) 07:47 (12)
16	05:40 20:29	06:09 19:57	06:39 19:08	07:10 18:18	06:46 16:40	07:08 (12) 07:40 (12)	07:16 16:32	07:39 (12) 07:47 (12)
17	05:41 20:28	06:10 19:55	06:40 19:06	07:11 18:17	06:47 16:40	07:10 (12) 07:41 (12)	07:16 16:32	07:40 (12) 07:47 (12)
18	05:41 20:27	06:11 19:54	06:41 19:04	07:12 18:15	06:48 16:39	07:11 (12) 07:41 (12)	07:17 16:32	07:41 (12) 07:48 (12)
19	05:42 20:27	06:12 19:52	06:42 19:03	07:13 18:14	06:49 16:38	07:12 (12) 07:41 (12)	07:18 16:33	07:41 (12) 07:48 (12)
20	05:43 20:26	06:13 19:51	06:43 19:01	07:14 18:12	06:50 16:37	07:13 (12) 07:41 (12)	07:18 16:33	07:42 (12) 07:49 (12)
21	05:44 20:25	06:14 19:49	06:44 18:59	07:15 18:11	06:51 16:37	07:15 (12) 07:42 (12)	07:19 16:34	07:42 (12) 07:49 (12)
22	05:45 20:25	06:15 19:48	06:45 18:57	07:16 18:09	06:53 16:36	07:16 (12) 07:42 (12)	07:19 16:34	07:43 (12) 07:50 (12)
23	05:46 20:24	06:16 19:47	06:46 18:56	07:18 18:08	06:54 16:35	07:17 (12) 07:42 (12)	07:20 16:35	07:43 (12) 07:50 (12)
24	05:47 20:23	06:17 19:45	06:47 18:54	07:19 18:06	06:55 16:35	07:18 (12) 07:42 (12)	07:20 16:35	07:43 (12) 07:50 (12)
25	05:47 20:22	06:18 19:43	06:48 18:52	07:20 17:05	06:56 16:34	07:19 (12) 07:42 (12)	07:21 16:36	07:44 (12) 07:51 (12)
26	05:48 20:21	06:18 19:42	06:49 18:51	07:21 17:04	06:57 16:34	07:20 (12) 07:42 (12)	07:21 16:36	07:44 (12) 07:51 (12)
27	05:49 20:20	06:19 19:40	06:50 18:49	07:22 17:02	06:58 16:33	07:22 (12) 07:43 (12)	07:22 16:37	07:44 (12) 07:51 (12)
28	05:50 20:19	06:20 19:39	06:51 18:47	07:23 17:01	06:59 16:33	07:23 (12) 07:43 (12)	07:22 16:38	07:45 (12) 07:53 (12)
29	05:51 20:18	06:21 19:37	06:52 18:46	07:24 17:00	06:59 (12) 07:22 (12)	07:24 (12) 07:44 (12)	07:22 16:38	07:45 (12) 07:53 (12)
30	05:52 20:17	06:22 19:36	06:53 18:44	07:26 16:58	06:56 (12) 07:25 (12)	07:01 07:44 (12)	07:22 16:39	07:45 (12) 07:54 (12)
31	05:53 20:16	06:23 19:34		07:27 (12) 16:57	06:54 (12) 07:27 (12)		07:23 16:40	07:45 (12) 07:54 (12)
Potential sun hours	458	427	375	345	299	289	302	
Total, worst case				101	931		302	

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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SHADOW - Calendar

Calculation: Real case Shadow receptor: L - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (12)
 Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
 The sun is shining all the day, from sunrise to sunset
 The rotor plane is always perpendicular to the line from the WTG to the sun
 The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December			
1	07:23 16:41 16:42	14:39 (7) 15:20 (7) 15:20 (7)	07:10 17:15 07:09	06:34 17:49 06:33	06:44 19:22 06:42	05:58 19:54 05:57	05:30 20:23 05:29	05:30 20:34 05:31	05:54 20:15 05:55	06:24 19:32 06:25	06:54 18:42 06:55	06:28 16:56 16:20 (6)	07:02 18:32 07:04	14:31 (7) 15:02 (7) 14:31 (7)	
2	07:23 16:43	14:40 (7) 15:20 (7)	07:16 17:17	06:38 (6) 16:31 (6)	06:31 16:41 (6)	06:40 17:51	05:56 19:24	05:29 20:25	05:31 20:34	05:56 20:13	06:26 19:29	06:56 18:39	06:30 16:53 (6)	07:05 16:31 (6)	14:30 (7) 15:04 (7)
3	07:23 16:43	14:41 (7) 15:20 (7)	07:08 17:19	06:31 (6) 16:45 (6)	06:30 17:52	05:54 19:26	05:28 20:25	05:32 20:34	05:57 20:12	06:27 19:28	06:57 18:37	06:31 16:52 (6)	07:06 16:31 (6)	14:30 (7) 15:05 (7)	
4	07:23 16:44	14:42 (7) 15:20 (7)	07:06 17:20	06:28 (6) 16:47 (6)	06:28 17:53	05:53 19:27	05:28 20:26	05:32 20:33	05:58 20:11	06:28 19:26	06:58 18:36	06:33 16:51 (6)	07:07 16:31 (6)	14:30 (7) 15:06 (7)	
5	07:23 16:45	14:43 (7) 15:20 (7)	07:06 17:21	06:28 (6) 16:30 (6)	06:26 17:54	05:52 19:28	05:28 20:27	05:33 20:33	05:59 20:10	06:29 19:24	06:59 18:34	06:34 16:50 (6)	07:07 16:31 (6)	14:30 (7) 15:07 (7)	
6	07:23 16:46	14:45 (7) 15:21 (7)	07:04 17:22	06:25 (6) 16:49 (6)	06:34 17:55	05:51 19:29	05:27 20:27	05:33 20:33	06:00 20:08	06:30 19:23	07:00 18:32	06:35 16:49 (6)	07:08 16:31 (6)	14:30 (7) 15:07 (7)	
7	07:23 16:47	14:46 (7) 15:21 (7)	07:02 17:24	06:23 (6) 16:50 (6)	06:32 17:57	05:50 19:30	05:27 20:28	05:34 20:32	06:01 20:07	06:31 19:21	07:01 18:31	06:36 16:51 (6)	07:09 16:31 (6)	14:30 (7) 15:08 (7)	
8	07:23 16:48	14:47 (7) 15:21 (7)	07:01 17:25	06:22 (6) 16:51 (6)	06:31 17:58	05:49 19:31	05:27 20:28	05:35 20:32	06:02 20:06	06:32 19:19	07:02 18:29	06:37 16:47 (6)	07:10 16:31 (6)	14:30 (7) 15:09 (7)	
9	07:23 16:49	14:47 (7) 15:20 (7)	07:00 17:26	06:20 (6) 16:52 (6)	06:29 17:59	05:47 19:32	05:27 20:29	05:35 20:32	06:03 20:05	06:33 19:18	07:03 18:28	06:39 16:46 (6)	07:11 16:31 (6)	14:30 (7) 15:10 (7)	
10	07:23 16:50	14:48 (7) 15:20 (7)	06:59 17:27	06:18 (6) 16:51 (6)	06:28 18:00	05:46 19:33	05:27 20:30	05:36 20:31	06:04 20:03	06:34 19:16	07:04 18:26	06:40 16:45 (6)	07:12 16:31 (6)	14:30 (7) 15:11 (7)	
11	07:23 16:51	14:49 (7) 15:20 (7)	06:58 17:28	06:17 (6) 16:51 (6)	06:26 18:01	05:45 19:34	05:27 20:30	05:37 20:31	06:05 20:02	06:35 19:14	07:05 18:24	06:41 16:44 (6)	07:13 16:31 (6)	14:30 (7) 15:11 (7)	
12	07:23 16:52	14:50 (7) 15:20 (7)	06:57 17:30	06:15 (6) 16:52 (6)	06:24 18:02	05:44 19:35	05:26 20:31	05:38 20:30	06:06 20:01	06:36 19:13	07:07 18:23	06:42 16:43 (6)	07:14 16:31 (6)	14:30 (7) 15:11 (7)	
13	07:23 16:53	14:51 (7) 15:20 (7)	06:55 17:31	06:14 (6) 16:52 (6)	06:23 18:03	05:43 19:36	05:26 20:31	05:38 20:30	06:07 19:59	06:37 19:11	07:08 18:21	06:43 16:42 (6)	07:14 16:31 (6)	14:31 (7) 15:12 (7)	
14	07:23 16:54	14:52 (7) 15:20 (7)	06:54 17:32	06:12 (6) 16:51 (6)	06:21 18:04	05:42 19:37	05:26 20:31	05:39 20:29	06:08 19:58	06:38 19:09	07:09 18:20	06:44 16:41 (6)	07:15 16:31 (6)	14:31 (7) 15:13 (7)	
15	07:23 16:55	14:53 (7) 15:20 (7)	06:53 17:33	06:10 (6) 16:50 (6)	06:20 18:05	05:41 19:38	05:26 20:32	05:40 20:29	06:09 19:57	06:39 19:08	07:10 18:18	06:46 16:40 (6)	07:16 16:31 (6)	14:31 (7) 15:13 (7)	
16	07:23 16:56	14:54 (7) 15:20 (7)	06:51 17:35	06:09 (6) 16:51 (6)	06:18 18:06	05:40 19:39	05:26 20:32	05:41 20:28	06:10 19:55	06:40 19:06	07:11 18:17	06:47 16:40 (6)	07:16 16:31 (6)	14:32 (7) 15:14 (7)	
17	07:23 16:57	14:55 (7) 15:20 (7)	06:50 17:36	06:07 (6) 16:52 (6)	06:17 18:08	05:39 19:40	05:26 20:32	05:41 20:27	06:11 19:54	06:41 19:04	07:12 18:15	06:48 16:39 (6)	07:17 16:31 (6)	14:31 (7) 15:14 (7)	
18	07:23 16:58	14:56 (7) 15:20 (7)	06:49 17:37	06:05 (6) 16:46 (6)	06:15 18:09	05:38 19:41	05:27 20:33	05:42 20:27	06:12 19:52	06:42 19:02	07:13 18:14	06:49 16:38 (6)	07:18 16:31 (6)	14:32 (7) 15:15 (7)	
19	07:23 16:59	14:57 (7) 15:20 (7)	06:48 17:38	06:04 (6) 16:38 (6)	06:14 18:10	05:38 19:42	05:27 20:33	05:43 20:26	06:13 19:51	06:43 19:01	07:14 18:12	06:50 16:37 (6)	07:19 16:31 (6)	14:33 (7) 15:16 (7)	
20	07:23 17:00	14:58 (7) 15:20 (7)	06:47 17:39	06:03 (6) 16:41 (6)	06:13 18:11	05:37 19:43	05:27 20:33	05:44 20:25	06:14 19:49	06:44 18:59	07:15 18:11	06:51 16:37 (6)	07:19 16:31 (6)	14:33 (7) 15:17 (7)	
21	07:23 17:01	14:59 (7) 15:20 (7)	06:46 17:40	06:02 (6) 16:40 (6)	06:12 18:12	05:37 19:44	05:27 20:34	05:44 20:25	06:14 19:48	06:44 18:57	07:15 18:10	06:51 16:36 (6)	07:19 16:31 (6)	14:34 (7) 15:17 (7)	
22	07:23 17:02	15:00 (7) 15:20 (7)	06:45 17:41	06:01 (6) 16:40 (6)	06:11 18:12	05:36 19:44	05:27 20:34	05:45 20:25	06:15 19:48	06:45 18:57	07:16 18:09	06:52 16:36 (6)	07:19 16:31 (6)	14:34 (7) 15:17 (7)	
23	07:23 17:03	15:01 (7) 15:20 (7)	06:44 17:42	06:00 (6) 16:40 (6)	06:10 18:13	05:35 19:45	05:27 20:34	05:45 20:24	06:16 19:46	06:46 18:56	07:16 18:08	06:53 16:35 (6)	07:19 16:31 (6)	14:34 (7) 15:17 (7)	
24	07:23 17:04	15:02 (7) 15:20 (7)	06:43 17:43	05:59 (6) 16:40 (6)	06:09 18:13	05:34 19:46	05:27 20:34	05:46 20:24	06:17 19:47	06:47 18:57	07:17 18:07	06:54 16:35 (6)	07:20 16:31 (6)	14:34 (7) 15:17 (7)	
25	07:23 17:05	15:03 (7) 15:20 (7)	06:42 17:44	05:58 (6) 16:40 (6)	06:08 18:14	05:33 19:47	05:27 20:34	05:47 20:23	06:18 19:48	06:48 18:58	07:18 18:06	06:55 16:35 (6)	07:20 16:31 (6)	14:34 (7) 15:17 (7)	
26	07:23 17:06	15:04 (7) 15:20 (7)	06:41 17:45	05:57 (6) 16:40 (6)	06:07 18:15	05:32 19:48	05:27 20:34	05:48 20:22	06:19 19:49	06:49 18:59	07:19 18:05	06:56 16:34 (6)	07:21 16:31 (6)	14:35 (7) 15:18 (7)	
27	07:23 17:07	15:05 (7) 15:20 (7)	06:40 17:46	05:56 (6) 16:40 (6)	06:06 18:16	05:31 19:49	05:27 20:34	05:49 20:21	06:20 19:50	06:50 18:51	07:20 18:04	06:57 16:34 (6)	07:21 16:31 (6)	14:36 (7) 15:18 (7)	
28	07:23 17:08	15:06 (7) 15:20 (7)	06:39 17:47	05:55 (6) 16:40 (6)	06:05 18:17	05:30 19:50	05:27 20:34	05:50 20:20	06:21 19:49	06:51 18:52	07:21 18:03	06:58 16:34 (6)	07:22 16:31 (6)	14:36 (7) 15:18 (7)	
29	07:23 17:09	15:07 (7) 15:20 (7)	06:38 17:48	05:54 (6) 16:40 (6)	06:04 18:18	05:29 19:51	05:27 20:34	05:51 20:19	06:22 19:39	06:52 18:47	07:22 18:02	06:59 16:33 (6)	07:22 16:31 (6)	14:37 (7) 15:19 (7)	
30	07:23 17:10	15:08 (7) 15:20 (7)	06:37 17:49	05:53 (6) 16:40 (6)	06:03 18:19	05:28 19:52	05:27 20:34	05:52 20:18	06:23 19:37	06:53 18:46	07:23 18:01	06:59 16:32 (6)	07:23 16:31 (6)	14:37 (7) 15:19 (7)	
31	07:23 17:11	15:09 (7) 15:20 (7)	06:36 17:50	05:52 (6) 16:40 (6)	06:02 18:20	05:27 19:53	05:27 20:34	05:53 20:17	06:24 19:36	06:54 18:44	07:24 18:00	06:59 16:32 (6)	07:24 16:31 (6)	14:38 (7) 15:19 (7)	
Potential sun hours	298	297	314	369	398	448	451	458	427	375	345	299	259	1240	
Total, worst case	534	534	314	369	398	448	451	458	427	375	345	299	259	1240	

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

Day in month	Sun rise (hh:mm)	Minutes with flicker	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)

SHADOW - Calendar

Calculation: Real caseShadow receptor: M - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (13)
 Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23 16:41	15:08 (7) 17:15	11 15:32 (7)	06:34 17:49	06:44 19:22	05:58 19:54	05:30 20:23	05:30 20:34	05:54 20:15	06:24 19:32	06:54 18:42	06:28 16:08 (6)	07:02 14:54 (7)
2	07:23 16:42	15:08 (7) 17:16		06:33 17:50	06:42 19:23	05:57 19:55	05:29 20:24	05:31 20:34	05:55 20:14	06:25 19:31	06:55 18:41	06:29 16:55	07:04 15:32 (7)
3	07:23 16:43	15:09 (7) 17:17		06:31 17:51	06:40 19:24	05:56 19:56	05:29 20:25	05:31 20:34	05:56 20:13	06:26 19:29	06:56 18:39	06:30 16:53	07:05 15:32 (7)
4	07:23 16:43	15:09 (7) 17:19		06:30 17:52	06:39 19:25	05:54 19:57	05:28 20:25	05:32 20:34	05:57 20:12	06:27 19:28	06:57 18:37	06:31 16:52	07:06 15:33 (7)
5	07:23 16:44	15:09 (7) 17:20		06:28 17:53	06:37 19:27	05:53 19:58	05:28 20:26	05:32 20:33	05:58 20:11	06:28 19:26	06:58 18:36	06:33 16:51	07:07 15:33 (7)
6	07:23 16:45	15:10 (7) 17:21		06:26 17:54	06:36 19:28	05:52 19:59	05:28 20:27	05:33 20:33	05:59 20:10	06:29 19:24	06:59 18:34	06:34 16:50	07:07 15:33 (7)
7	07:23 16:46	15:10 (7) 17:22		06:25 17:55	06:34 19:29	05:51 20:01	05:27 20:27	05:33 20:33	06:00 20:08	06:30 19:23	07:00 18:32	06:35 16:49	07:08 15:33 (7)
8	07:23 16:47	15:11 (7) 17:24		06:23 17:57	06:32 19:30	05:50 20:01	05:27 20:28	05:34 20:32	06:01 20:07	06:31 19:21	07:01 18:31	06:36 16:48	07:09 15:34 (7)
9	07:23 16:48	15:11 (7) 17:25	5	16:41 (6) 06:22	06:31 19:31	05:49 19:58	05:27 20:02	05:35 20:28	06:02 20:32	06:32 20:06	07:02 19:19	06:37 18:29	07:10 16:47
10	07:23 16:49	15:11 (7) 17:26	11	16:39 (6) 06:20	06:29 19:32	05:47 20:03	05:27 20:29	05:35 20:32	06:03 20:05	06:33 19:18	07:03 18:28	06:39 16:46	07:11 15:34 (7)
11	07:22 16:50	15:12 (7) 17:27	15	16:50 (6) 06:18	06:28 19:33	05:46 20:04	05:27 20:30	05:36 20:31	06:04 20:03	06:34 19:16	07:04 18:26	06:40 16:45	07:12 15:35 (7)
12	07:22 16:51	15:12 (7) 17:28	17	16:51 (6) 06:17	06:26 19:34	05:45 20:05	05:27 20:30	05:37 20:31	06:05 20:02	06:35 19:14	07:05 18:24	06:41 16:44	07:13 15:35 (7)
13	07:22 16:52	15:12 (7) 17:30	18	16:52 (6) 06:15	06:24 19:35	05:44 20:06	05:26 20:31	05:38 20:30	06:06 20:01	06:36 19:13	07:07 18:23	06:42 16:43	07:14 15:36 (12)
14	07:22 16:53	15:13 (7) 17:31	19	16:53 (6) 06:14	06:23 19:36	05:43 20:07	05:26 20:31	05:38 20:30	06:07 19:59	06:37 19:11	07:08 18:21	06:43 16:42	07:14 15:36 (12)
15	07:21 16:55	15:13 (7) 17:32	20	16:54 (6) 06:12	06:21 19:37	05:42 20:08	05:26 20:31	05:39 20:29	06:08 19:58	06:38 19:09	07:09 18:20	06:44 16:41	07:15 15:37 (7)
16	07:21 16:56	15:14 (7) 17:33	20	16:54 (6) 06:10	06:20 19:38	05:41 20:09	05:26 20:32	05:40 20:29	06:09 19:57	06:39 19:08	07:10 18:18	06:46 16:40	07:16 15:37 (7)
17	07:20 16:57	15:14 (7) 17:35	20	16:54 (6) 06:09	06:18 19:39	05:40 20:10	05:26 20:32	05:41 20:28	06:10 19:55	06:40 19:06	07:11 18:17	06:47 16:39	07:16 15:37 (7)
18	07:20 16:58	15:15 (7) 17:36	19	16:54 (6) 06:07	06:17 19:40	05:39 20:11	05:26 20:32	05:41 20:27	06:11 19:54	06:41 19:04	07:12 18:15	06:48 16:39	07:17 15:38 (12)
19	07:19 16:59	15:15 (7) 17:37	18	16:55 (6) 06:05	06:15 19:41	05:38 20:12	05:27 20:33	05:42 20:27	06:12 19:52	06:42 19:02	07:13 18:14	06:49 16:38	07:18 15:39 (7)
20	07:19 17:00	15:16 (7) 17:38	17	16:55 (6) 06:04	06:14 19:42	05:38 20:13	05:27 20:33	05:43 20:26	06:13 19:51	06:43 19:01	07:14 18:12	06:50 16:37	07:19 15:40 (12)
21	07:18 17:01	15:16 (7) 17:39	15	16:56 (6) 06:02	06:12 19:43	05:37 20:14	05:27 20:33	05:44 20:25	06:14 19:49	06:44 18:59	07:15 18:11	06:51 16:37	07:20 15:41 (7)
22	07:18 17:03	15:17 (7) 17:40	12	16:57 (6) 06:00	06:11 19:44	05:36 20:15	05:27 20:34	05:45 20:25	06:14 19:48	06:45 18:57	07:16 18:09	06:53 16:36	07:21 15:42 (7)
23	07:17 17:04	15:18 (7) 17:42	5	16:58 (6) 06:00	06:09 19:45	05:35 20:16	05:27 20:34	05:46 20:24	06:15 19:46	06:46 18:56	07:18 18:08	06:54 16:35	07:22 15:43 (7)
24	07:16 17:05	15:19 (7) 17:43		06:00 18:14	06:08 19:47	05:34 20:17	05:28 20:34	05:47 20:23	06:16 19:45	06:47 18:54	07:19 18:06	06:55 16:35	07:23 15:44 (12)
25	07:16 17:06	15:19 (7) 17:44		06:00 18:15	06:06 19:48	05:34 20:17	05:28 20:34	05:47 20:22	06:17 19:43	06:48 18:52	07:20 18:05	06:56 16:34	07:24 15:45 (7)
26	07:15 17:07	15:20 (7) 17:45		06:00 18:16	06:05 19:49	05:33 20:18	05:28 20:34	05:48 20:21	06:18 19:42	06:49 18:51	07:21 18:04	06:57 16:34	07:25 15:46 (7)
27	07:14 17:09	15:21 (7) 17:46		06:00 18:17	06:04 19:50	05:32 20:19	05:29 20:34	05:49 20:20	06:19 19:40	06:50 18:49	07:22 18:02	06:58 16:33	07:26 15:47 (7)
28	07:13 17:10	15:23 (7) 17:47		06:00 18:18	06:02 19:51	05:32 20:20	05:29 20:34	05:50 20:19	06:20 19:39	06:23 18:47	07:23 18:01	06:59 16:33	07:27 15:48 (7)
29	07:12 17:11	15:25 (7) 17:49		06:00 18:19	06:01 19:52	05:31 20:21	05:29 20:34	05:51 20:18	06:21 19:37	06:52 18:46	07:24 18:00	07:00 16:32	07:28 15:49 (7)
30	07:12 17:12	15:27 (7) 17:50		06:00 19:20	06:00 19:53	05:31 20:22	05:30 20:34	05:18 20:17	06:22 19:36	06:53 18:44	07:25 18:00	07:01 16:32	07:29 15:50 (7)
31	07:11 17:14	15:29 (7) 17:51		06:00 19:21	06:00 19:54	05:30 20:22	05:30 20:34	05:53 20:16	06:23 19:34	06:27 18:44	07:26 18:00	07:02 16:32	07:30 15:51 (7)
Potential sun hours	298	297		369	398	448	451	458	427	375	298	223	1392
Total, worst case	1067	242		369	398	448	451	458	427	375	298	223	1392

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

Day in month	Sun rise (hh:mm)	Minutes with flicker	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)

SHADOW - Calendar

Calculation: Real case Shadow receptor: N - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (14)
 Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January		February		March		April		May		June	
1	07:23	14:59 (8)	07:10	06:34			06:44	17:10 (12)	05:58	17:17 (12)	05:30	
	16:41	31 15:30 (8)	17:15	17:49			19:22	65 18:15 (12)	19:54	42 17:59 (12)	20:23	
2	07:23	15:00 (8)	07:09	06:33			06:42	17:09 (12)	05:57	17:18 (12)	05:29	
	16:42	30 15:30 (8)	17:16	17:50			19:23	66 18:15 (12)	19:55	40 17:58 (12)	20:24	
3	07:23	15:00 (8)	07:08	06:31			06:40	17:09 (12)	05:56	17:20 (12)	05:29	
	16:43	31 15:31 (8)	17:17	17:51			19:24	67 18:16 (12)	19:56	36 17:56 (12)	20:25	
4	07:23	15:00 (8)	07:07	06:30			06:39	17:08 (12)	05:54	17:22 (12)	05:28	
	16:43	31 15:31 (8)	17:19	17:52			19:25	68 18:16 (12)	19:57	33 17:55 (12)	20:25	
5	07:23	15:01 (8)	07:06	06:28			06:37	17:08 (12)	05:53	17:25 (12)	05:28	
	16:44	31 15:32 (8)	17:20	17:53			19:27	69 18:17 (12)	19:58	28 17:53 (12)	20:26	
6	07:23	15:02 (8)	07:05	06:26			06:36	17:07 (12)	05:52	17:27 (12)	05:28	
	16:45	30 15:32 (8)	17:21	17:54			19:28	69 18:16 (12)	19:59	22 17:49 (12)	20:27	
7	07:23	15:02 (8)	07:04	06:25			06:34	17:06 (12)	05:51	17:30 (12)	05:27	
	16:46	31 15:33 (8)	17:22	17:55			19:29	79 18:54 (5)	20:00	16 17:46 (12)	20:27	
8	07:23	15:03 (8)	07:02	06:23			06:32	17:06 (12)	05:50		05:27	
	16:47	30 15:33 (8)	17:24	17:57			19:30	84 18:56 (5)	20:01		20:28	
9	07:23	15:04 (8)	07:01	06:22			06:31	17:05 (12)	05:49		05:27	
	16:48	30 15:34 (8)	17:25	17:58			19:31	86 18:57 (5)	20:02		20:28	
10	07:23	15:03 (8)	07:00	06:20			06:29	17:06 (12)	05:47		05:27	
	16:49	30 15:33 (8)	17:26	17:59	1	16:54 (7)	19:32	86 18:57 (5)	20:03		20:29	
11	07:22	15:04 (8)	06:59	06:18			06:28	17:05 (12)	05:46		05:27	
	16:50	30 15:34 (8)	17:27	18:00	15	17:01 (7)	19:33	88 18:57 (5)	20:04		20:29	
12	07:22	15:05 (8)	06:58	06:17			06:26	17:05 (12)	05:45		05:27	
	16:51	29 15:34 (8)	17:28	18:01	20	17:03 (7)	19:34	87 18:56 (5)	20:05		20:30	
13	07:22	15:05 (8)	06:56	06:15			06:24	17:05 (12)	05:44		05:26	
	16:52	29 15:34 (8)	17:30	18:02	25	17:06 (7)	19:35	86 18:56 (5)	20:06		20:30	
14	07:22	15:06 (8)	06:55	06:14			06:23	17:05 (12)	05:43		05:26	
	16:53	28 15:34 (8)	17:31	18:03	35	17:23 (6)	19:36	84 18:55 (5)	20:07		20:31	
15	07:21	15:06 (8)	06:54	06:12			06:21	17:06 (12)	05:42		05:26	
	16:55	28 15:34 (8)	17:32	18:04	43	17:25 (6)	19:37	83 18:55 (5)	20:08		20:31	
16	07:21	15:08 (8)	06:53	06:10			06:20	17:05 (12)	05:41		05:26	
	16:56	26 15:34 (8)	17:33	18:05	48	17:27 (6)	19:38	81 18:53 (5)	20:09		20:32	
17	07:20	15:08 (8)	06:51	06:09			06:18	17:06 (12)	05:40		05:26	
	16:57	26 15:34 (8)	17:35	18:06	51	17:27 (6)	19:39	75 18:51 (5)	20:10		20:32	
18	07:20	15:10 (8)	06:50	06:07			06:17	17:06 (12)	05:39		05:26	
	16:58	24 15:34 (8)	17:36	18:07	53	17:27 (6)	19:40	66 18:12 (12)	20:11		20:32	
19	07:19	15:10 (8)	06:49	06:05			06:15	17:07 (12)	05:38		05:27	
	16:59	23 15:33 (8)	17:37	18:09	54	17:28 (6)	19:41	65 18:12 (12)	20:12		20:33	
20	07:19	15:12 (8)	06:47	06:04			06:14	17:07 (12)	05:38		05:27	
	17:00	21 15:33 (8)	17:38	18:10	54	17:27 (6)	19:42	64 18:11 (12)	20:13		20:33	
21	07:18	15:13 (8)	06:46	06:02			06:12	17:08 (12)	05:37		05:27	
	17:01	19 15:32 (8)	17:39	18:11	56	17:26 (6)	19:43	63 18:11 (12)	20:14		20:33	
22	07:18	15:14 (8)	06:44	06:00			06:11	17:08 (12)	05:36		05:27	
	17:03	17 15:31 (8)	17:40	18:12	59	17:26 (6)	19:44	61 18:09 (12)	20:15		20:33	
23	07:17	15:17 (8)	06:43	05:59			06:09	17:09 (12)	05:35		05:27	
	17:04	13 15:30 (8)	17:42	18:13	61	17:25 (6)	19:45	60 18:09 (12)	20:16		20:34	
24	07:16	15:20 (8)	06:42	05:57			06:08	17:10 (12)	05:34		05:28	
	17:05	8 15:28 (8)	17:43	18:14	60	17:23 (6)	19:46	58 18:08 (12)	20:17		20:34	
25	07:16		06:40	05:55			06:06	17:10 (12)	05:34		05:28	
	17:06		17:44	18:15	59	17:21 (6)	19:48	57 18:07 (12)	20:17		20:34	
26	07:15		06:39	05:54			06:05	17:11 (12)	05:33		05:28	
	17:07		17:45	18:16	53	17:11 (12)	19:49	55 18:06 (12)	20:18		20:34	
27	07:14		06:37	05:52			06:04	17:13 (12)	05:32		05:29	
	17:09		17:46	18:17	55	17:11 (12)	19:50	52 18:05 (12)	20:19		20:34	
28	07:13		06:36	05:50			06:02	17:13 (12)	05:32		05:29	
	17:10		17:47	18:18	58	17:13 (12)	19:51	51 18:04 (12)	20:20		20:34	
29	07:12			06:49			06:01	17:15 (12)	05:31		05:29	
	17:11			19:19	60	18:13 (12)	19:52	48 18:03 (12)	20:21		20:34	
30	07:12			06:47			06:00	17:16 (12)	05:31		05:30	
	17:12			19:20	62	18:14 (12)	19:53	46 18:02 (12)	20:22		20:34	
31	07:11			06:45			06:00		05:30			
	17:14			19:21	64	18:15 (12)			20:22			
Potential sun hours	298		297	369			398	2069	448	217	451	
Total, worst case	626			1046								

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

Day in month	Sun rise (hh:mm)	Minutes with flicker	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)

SHADOW - Calendar

Calculation: Real case Shadow receptor: N - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (14)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December			
1	05:30 20:34	05:54 20:15	06:24 19:32	17:04 (12) 18:56 (5)	06:54 18:42	17:22 (7) 16:56	06:28 16:32	07:02 15:16 (8)	14:46 (8) 30
2	05:31 20:34	05:55 20:14	06:25 19:31	17:04 (12) 18:55 (5)	06:55 18:41	17:24 (7) 17:41 (7)	06:29 16:55	07:03 16:32	14:46 (8) 30
3	05:31 20:34	05:56 20:13	06:26 19:29	17:03 (12) 18:55 (5)	06:56 18:39	17:27 (7) 17:37 (7)	06:30 16:53	07:05 16:31	14:47 (8) 30
4	05:32 20:34	05:57 20:12	06:27 19:28	17:03 (12) 18:53 (5)	06:57 18:37	17:03 (12) 18:36	06:57 16:52	07:06 16:31	14:47 (8) 30
5	05:32 20:33	05:58 20:11	7 17:45 (12) 19:26	06:28 19:26	17:03 (12) 18:36	06:58 18:36	06:33 16:51	07:06 16:31	14:47 (8) 31
6	05:33 20:33	05:59 20:10	18 17:40 (12) 19:24	06:29 19:24	17:03 (12) 18:34	06:59 18:34	06:34 16:50	07:07 16:31	14:48 (8) 30
7	05:33 20:33	06:00 20:08	25 17:35 (12) 19:23	06:30 19:23	17:03 (12) 18:32	07:00 18:32	06:35 16:49	07:08 16:31	14:48 (8) 31
8	05:34 20:32	06:01 20:07	29 17:33 (12) 19:21	06:31 19:21	17:03 (12) 18:31	07:01 18:31	06:36 16:48	07:09 16:31	14:49 (8) 30
9	05:35 20:32	06:02 20:06	34 17:30 (12) 19:19	06:32 19:19	17:03 (12) 18:29	07:02 18:29	06:37 16:47	07:10 16:31	14:49 (8) 31
10	05:35 20:32	06:03 20:05	38 17:28 (12) 19:18	06:33 19:18	17:03 (12) 18:28	07:03 18:28	06:38 16:46	07:11 16:31	14:50 (8) 30
11	05:36 20:31	06:04 20:03	40 17:27 (12) 19:16	06:34 19:16	17:02 (12) 18:26	07:04 18:26	06:40 16:45	07:12 16:31	14:49 (8) 31
12	05:37 20:31	06:05 20:02	43 17:25 (12) 19:14	06:35 19:14	17:02 (12) 18:24	07:05 18:24	06:41 16:44	07:13 16:31	14:50 (8) 30
13	05:38 20:30	06:06 20:01	47 17:23 (12) 19:13	06:36 19:13	17:03 (12) 18:23	07:07 18:23	06:42 16:43	07:14 16:31	14:51 (8) 30
14	05:38 20:30	06:07 19:59	49 17:22 (12) 19:11	06:37 19:11	17:03 (12) 18:21	07:08 18:21	06:43 16:42	07:14 16:31	14:51 (8) 30
15	05:39 20:29	06:08 19:58	52 17:20 (12) 19:09	06:38 19:09	17:04 (12) 18:20	07:09 18:20	06:44 16:41	07:15 16:31	14:52 (8) 30
16	05:40 20:29	06:09 19:57	53 17:19 (12) 19:08	06:39 19:08	17:05 (12) 18:18	07:10 18:18	06:46 16:40	07:16 16:32	14:52 (8) 30
17	05:41 20:28	06:10 19:55	55 17:18 (12) 19:06	06:40 19:06	17:06 (12) 18:17	07:11 18:17	06:47 16:39	07:16 16:32	14:53 (8) 30
18	05:41 20:27	06:11 19:54	57 17:17 (12) 19:04	06:41 19:04	17:07 (12) 18:15	07:12 18:15	06:48 16:39	14:54 (8) 15:02 (8)	14:53 (8) 29
19	05:42 20:27	06:12 19:52	58 17:16 (12) 19:02	06:42 19:02	17:08 (12) 18:14	07:13 18:14	06:49 16:38	14:51 (8) 15:05 (8)	14:54 (8) 29
20	05:43 20:26	06:13 19:51	61 17:14 (12) 19:01	06:43 19:01	17:10 (12) 18:12	07:14 18:12	06:50 16:37	14:49 (8) 15:06 (8)	14:54 (8) 30
21	05:44 20:25	06:14 19:49	62 17:13 (12) 18:59	06:44 18:59	17:12 (12) 18:11	07:15 18:11	06:51 16:37	14:48 (8) 15:07 (8)	14:54 (8) 30
22	05:45 20:25	06:14 19:48	64 17:12 (12) 18:57	06:45 18:57	17:14 (12) 18:09	07:16 18:09	06:53 16:36	14:48 (8) 15:09 (8)	14:55 (8) 30
23	05:46 20:24	06:15 19:46	65 17:11 (12) 18:56	06:46 18:56	17:17 (12) 18:08	07:18 18:08	06:54 16:35	14:47 (8) 15:10 (8)	14:55 (8) 30
24	05:47 20:23	06:16 19:45	65 17:11 (12) 18:54	06:47 18:54	17:18 (7) 18:06	07:19 18:06	06:55 16:35	14:47 (8) 15:11 (8)	14:56 (8) 29
25	05:47 20:22	06:17 19:43	66 17:09 (12) 18:52	06:48 18:52	17:18 (7) 17:05	06:20 17:05	06:56 16:34	14:46 (8) 15:12 (8)	14:57 (8) 29
26	05:48 20:21	06:18 19:42	75 17:08 (12) 18:51	06:49 18:51	17:18 (7) 17:04	06:21 17:04	06:57 16:34	14:46 (8) 15:12 (8)	14:57 (8) 30
27	05:49 20:20	06:19 19:40	80 17:07 (12) 18:50	06:50 18:49	17:18 (7) 17:02	06:22 17:02	06:58 16:33	14:46 (8) 15:14 (8)	14:57 (8) 30
28	05:50 20:19	06:20 19:39	82 17:07 (12) 18:50	06:51 18:49	17:18 (7) 17:01	06:23 17:01	06:59 16:33	14:46 (8) 15:15 (8)	14:58 (8) 30
29	05:51 20:18	06:21 19:37	84 17:06 (12) 18:48	06:52 18:48	17:19 (7) 17:00	06:24 17:00	07:00 16:32	14:46 (8) 15:15 (8)	14:58 (8) 30
30	05:52 20:17	06:22 19:36	86 17:05 (12) 18:47	06:53 18:47	17:20 (7) 16:58	06:26 16:58	07:01 16:32	14:46 (8) 15:15 (8)	14:59 (8) 30
31	05:53 20:16	06:23 19:34	87 17:05 (12) 18:46	06:54 18:46	17:21 (7) 16:57	06:27 16:57	16:32 16:40	15:15 (8) 16:40	14:59 (8) 30
Potential sun hours	458	427	375	346	299	289			
Total, worst case		1482	1850	49	293	930			

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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SHADOW - Calendar

Calculation: Real case Shadow receptor: O - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (15)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June		
1	07:23 16:41	07:10 17:15	06:34 17:49	06:44 19:22	17:56 (9) 18:26 (9)	05:58 19:54	05:30 20:23	18:40 (10) 18:43 (10)
2	07:23 16:42	07:09 17:16	06:33 17:50	06:42 19:23	17:56 (9) 18:24 (9)	05:57 19:55	05:29 20:24	18:40 (10) 18:43 (10)
3	07:23 16:43	07:08 17:17	06:31 17:51	06:40 19:24	17:58 (9) 18:23 (9)	05:56 19:56	05:29 20:24	18:40 (10) 18:42 (10)
4	07:23 16:43	07:07 17:19	06:29 17:52	06:39 19:25	17:59 (9) 18:21 (9)	05:54 19:57	05:28 20:25	18:40 (10) 18:42 (10)
5	07:23 16:44	07:06 17:20	06:28 17:53	06:37 19:27	18:01 (9) 18:19 (9)	05:53 19:58	05:28 20:26	18:41 (10) 18:42 (10)
6	07:23 16:45	07:05 17:21	06:26 17:54	06:36 19:28	18:03 (9) 18:16 (9)	05:52 19:59	05:28 20:27	18:42 (10)
7	07:23 16:46	07:04 17:22	06:25 17:55	06:34 19:29	05:51 20:00	19:04 (10) 19:09 (10)	05:27 20:27	
8	07:23 16:47	07:02 17:24	06:23 17:57	06:32 19:30	05:50 20:01	19:00 (10) 19:08 (10)	05:27 20:28	
9	07:23 16:48	07:01 17:25	06:22 17:58	06:31 19:31	05:49 20:02	18:57 (10) 19:07 (10)	05:27 20:28	
10	07:23 16:49	07:00 17:26	06:20 17:59	06:29 19:32	05:47 20:03	18:55 (10) 19:05 (10)	05:27 20:29	
11	07:22 16:50	06:59 17:27	06:18 18:00	06:28 19:33	05:46 20:04	18:53 (10) 19:04 (10)	05:27 20:29	
12	07:22 16:51	06:58 17:28	06:17 18:01	06:26 19:34	05:45 20:05	18:51 (10) 19:03 (10)	05:27 20:30	
13	07:22 16:52	06:56 17:30	06:15 18:02	06:24 19:35	05:44 20:06	18:50 (10) 19:01 (10)	05:26 20:30	
14	07:22 16:54	06:55 17:31	06:14 18:03	06:23 19:36	05:43 20:07	18:48 (10) 19:00 (10)	05:26 20:31	
15	07:21 16:55	06:54 17:32	06:12 18:04	06:21 19:37	05:42 20:08	18:47 (10) 18:59 (10)	05:26 20:31	
16	07:21 16:56	06:53 17:33	06:10 18:05	06:20 19:38	05:41 20:09	18:46 (10) 18:57 (10)	05:26 20:32	
17	07:20 16:57	06:51 17:35	06:09 18:06	17:08 (9) 17:22 (9)	06:18 19:39	05:40 20:10	18:46 (10) 20:32	
18	07:20 16:58	06:50 17:36	06:07 18:07	17:05 (9) 17:24 (9)	06:17 19:40	05:39 20:11	18:45 (10) 18:56 (10)	05:27 20:32
19	07:19 16:59	06:49 17:37	06:05 18:09	17:03 (9) 17:26 (9)	06:15 19:41	05:38 20:12	18:44 (10) 18:54 (10)	05:27 20:33
20	07:19 17:00	06:47 17:38	06:04 18:10	17:01 (9) 17:27 (9)	06:14 19:42	05:38 20:13	18:43 (10) 18:53 (10)	05:27 20:33
21	07:18 17:02	06:46 17:39	06:02 18:11	16:59 (9) 17:28 (9)	06:12 19:43	05:37 20:14	18:43 (10) 18:52 (10)	05:27 20:33
22	07:18 17:03	06:44 17:41	06:00 18:12	16:59 (9) 17:29 (9)	06:11 19:44	05:36 20:15	18:43 (10) 18:52 (10)	05:27 20:33
23	07:17 17:04	06:43 17:42	05:59 18:13	16:57 (9) 17:29 (9)	06:09 19:45	05:35 20:16	18:42 (10) 18:50 (10)	05:27 20:34
24	07:16 17:05	06:42 17:43	05:57 18:14	16:56 (9) 17:29 (9)	06:08 19:46	05:34 20:16	18:41 (10) 18:49 (10)	05:28 20:34
25	07:16 17:06	06:40 17:44	05:55 18:15	16:56 (9) 17:30 (9)	06:06 19:48	05:34 20:17	18:42 (10) 18:49 (10)	05:28 20:34
26	07:15 17:08	06:39 17:45	05:54 18:16	16:56 (9) 17:29 (9)	06:05 19:49	05:33 20:18	18:41 (10) 18:48 (10)	05:28 20:34
27	07:14 17:09	06:37 17:46	05:52 18:17	16:55 (9) 17:29 (9)	06:04 19:50	05:32 20:19	18:40 (10) 18:46 (10)	05:29 20:34
28	07:13 17:10	06:36 17:47	05:50 18:18	16:55 (9) 17:29 (9)	06:02 19:51	05:32 20:20	18:41 (10) 18:46 (10)	05:29 20:34
29	07:12 17:11		06:49 19:19	17:55 (9) 18:28 (9)	06:01 19:52	05:31 20:21	18:40 (10) 18:45 (10)	05:29 20:34
30	07:12 17:12		06:47 19:20	17:55 (9) 18:27 (9)	06:00 19:53	05:31 20:21	18:40 (10) 18:45 (10)	05:30 20:34
31	07:11 17:14		06:45 19:21	17:56 (9) 18:27 (9)		05:30 20:22	18:40 (10) 18:44 (10)	
Potential sun hours	298	298	369	398	448	451	11	
Total, worst case			437	513	617	628		

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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SHADOW - Calendar

Calculation: Real case Shadow receptor: O - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (15)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:34	05:54 20:15	19:03 (10) 19:14 (10)	06:24 19:32	06:54 18:42	06:28 16:56
2	05:31 20:34	05:55 20:14	19:04 (10) 19:15 (10)	06:25 19:31	06:55 18:41	06:29 16:55
3	05:31 20:34	05:56 20:13	19:06 (10) 19:16 (10)	06:26 19:29	06:56 18:39	06:30 16:53
4	05:32 20:33	05:57 20:12	19:09 (10) 19:18 (10)	06:27 19:28	06:57 18:37	06:31 16:52
5	05:32 20:33	05:58 20:11	19:12 (10) 19:19 (10)	06:28 19:26	06:58 18:36	06:33 16:51
6	05:33 20:33	05:59 20:10	19:17 (10) 19:20 (10)	06:29 19:24	18:00 (9) 18:12 (9)	06:34 16:50
7	05:34 20:33	18:47 (10) 18:48 (10)	06:00 20:08	06:30 19:23	17:56 (9) 18:14 (9)	07:00 18:32
8	05:34 20:32	18:47 (10) 18:49 (10)	06:01 20:07	06:31 19:21	17:54 (9) 18:16 (9)	07:01 18:31
9	05:35 20:32	18:47 (10) 18:49 (10)	06:02 20:06	06:32 19:19	17:52 (9) 18:17 (9)	07:02 18:29
10	05:35 20:32	18:48 (10) 18:50 (10)	06:03 20:05	06:33 19:18	17:50 (9) 18:18 (9)	07:03 18:28
11	05:36 20:31	18:48 (10) 18:51 (10)	06:04 20:03	06:34 19:16	17:48 (9) 18:18 (9)	07:04 18:26
12	05:37 20:31	18:48 (10) 18:51 (10)	06:05 20:02	06:35 19:14	17:47 (9) 18:18 (9)	07:05 18:24
13	05:38 20:30	18:49 (10) 18:53 (10)	06:06 20:01	06:36 19:13	17:46 (9) 18:18 (9)	07:07 18:23
14	05:38 20:30	18:49 (10) 18:54 (10)	06:07 19:59	06:37 19:11	17:45 (9) 18:18 (9)	07:08 18:21
15	05:39 20:29	18:49 (10) 18:54 (10)	06:08 19:58	06:38 19:09	17:45 (9) 18:18 (9)	07:09 18:20
16	05:40 20:29	18:49 (10) 18:55 (10)	06:09 19:57	06:39 19:08	17:44 (9) 18:18 (9)	07:10 18:18
17	05:41 20:28	18:50 (10) 18:57 (10)	06:10 19:55	06:40 19:06	17:44 (9) 18:18 (9)	07:11 18:17
18	05:41 20:27	18:51 (10) 18:58 (10)	06:11 19:54	06:41 19:04	17:44 (9) 18:17 (9)	07:12 18:15
19	05:42 20:27	18:51 (10) 18:59 (10)	06:12 19:52	06:42 19:02	17:44 (9) 18:16 (9)	07:13 18:14
20	05:43 20:26	18:51 (10) 18:59 (10)	06:13 19:51	06:43 19:01	17:44 (9) 18:16 (9)	07:14 18:12
21	05:44 20:25	18:52 (10) 19:01 (10)	06:14 19:49	06:44 18:59	17:44 (9) 18:15 (9)	07:15 18:11
22	05:45 20:24	18:53 (10) 19:02 (10)	06:15 19:48	06:45 18:57	17:44 (9) 18:13 (9)	07:16 18:09
23	05:46 20:24	18:53 (10) 19:03 (10)	06:15 19:46	06:46 18:56	17:45 (9) 18:12 (9)	07:17 18:08
24	05:47 20:23	18:54 (10) 19:04 (10)	06:16 19:45	06:47 18:54	17:46 (9) 18:10 (9)	07:19 18:06
25	05:47 20:22	18:55 (10) 19:06 (10)	06:17 19:43	06:48 18:52	17:48 (9) 18:08 (9)	06:20 17:05
26	05:48 20:21	18:56 (10) 19:07 (10)	06:18 19:42	06:49 18:51	17:50 (9) 18:05 (9)	06:21 17:04
27	05:49 20:20	18:56 (10) 19:07 (10)	06:19 19:40	06:50 18:49	17:54 (9) 18:01 (9)	06:22 17:02
28	05:50 20:19	18:57 (10) 19:08 (10)	06:20 19:39	06:51 18:47	06:23 17:01	06:59 16:33
29	05:51 20:18	18:58 (10) 19:10 (10)	06:21 19:37	06:52 18:46	06:24 17:00	07:00 16:32
30	05:52 20:17	19:00 (10) 19:11 (10)	06:22 19:36	06:53 18:44	06:26 16:58	07:01 16:32
31	05:53 20:16	19:01 (10) 19:12 (10)	06:23 19:34		06:27 16:57	
Potential sun hours	458	427	375	582	346	289
Total, worst case	179	51	582		299	289

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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SHADOW - Calendar

Calculation: Real case Shadow receptor: P - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (16)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January		February		March		April		May		June			
1	07:23		15:17 (9)	07:10		06:34		06:44	18:09 (7)	05:58	18:10 (12)	05:30		
	16:41	20	15:37 (9)	17:15		17:49		19:22	24	18:33 (7)	19:54	41	18:51 (12)	20:23
2	07:23		15:18 (9)	07:09		06:33		06:42		18:08 (7)	05:57		18:10 (12)	05:29
	16:42	19	15:37 (9)	17:16		17:50		19:23	25	18:33 (7)	19:55	41	18:51 (12)	20:24
3	07:23		15:19 (9)	07:08		16:10 (8)	06:31	06:40		18:08 (7)	05:56		18:11 (12)	05:29
	16:43	19	15:38 (9)	17:17	9	16:19 (8)	17:51	19:24	26	18:34 (7)	19:56	39	18:50 (12)	20:25
4	07:23		15:19 (9)	07:07		16:08 (8)	06:29	06:39		18:07 (7)	05:54		18:11 (12)	05:28
	16:43	19	15:38 (9)	17:19	14	16:22 (8)	17:52	19:25	26	18:33 (7)	19:57	39	18:50 (12)	20:25
5	07:23		15:20 (9)	07:06		16:06 (8)	06:28	06:37		18:07 (7)	05:53		18:12 (12)	05:28
	16:44	18	15:38 (9)	17:20	17	16:23 (8)	17:53	19:27	27	18:34 (7)	19:58	37	18:49 (12)	20:26
6	07:23		15:21 (9)	07:05		16:05 (8)	06:26	06:36		18:06 (7)	05:52		18:12 (12)	05:28
	16:45	17	15:38 (9)	17:21	19	16:24 (8)	17:54	19:28	27	18:33 (7)	19:59	36	18:48 (12)	20:27
7	07:23		15:22 (9)	07:04		16:04 (8)	06:25	06:34		18:06 (7)	05:51		18:12 (12)	05:27
	16:46	16	15:38 (9)	17:22	21	16:25 (8)	17:55	19:29	26	18:32 (7)	20:00	35	18:47 (12)	20:27
8	07:23		15:23 (9)	07:02		16:04 (8)	06:23	06:32		18:07 (7)	05:50		18:13 (12)	05:27
	16:47	15	15:38 (9)	17:24	22	16:26 (8)	17:57	19:30	25	18:32 (7)	20:01	34	18:47 (12)	20:28
9	07:23		15:24 (9)	07:01		16:03 (8)	06:22	06:31		18:06 (7)	05:48		18:14 (12)	05:27
	16:48	13	15:37 (9)	17:25	24	16:27 (8)	17:58	19:31	25	18:31 (7)	20:02	32	18:46 (12)	20:28
10	07:23		15:25 (9)	07:00		16:03 (8)	06:20	06:29		18:08 (7)	05:47		18:15 (12)	05:27
	16:49	12	15:37 (9)	17:26	25	16:28 (8)	17:59	19:32	23	18:31 (7)	20:03	30	18:45 (12)	20:29
11	07:22		15:27 (9)	06:59		16:02 (8)	06:18	06:27		18:08 (7)	05:46		18:17 (12)	05:27
	16:50	10	15:37 (9)	17:27	25	16:27 (8)	18:00	19:33	21	18:29 (7)	20:04	27	18:44 (12)	20:29
12	07:22		15:30 (9)	06:58		16:03 (8)	06:17	06:26		18:09 (7)	05:45		18:18 (12)	05:27
	16:51	5	15:35 (9)	17:28	25	16:28 (8)	18:01	19:34	18	18:27 (7)	20:05	24	18:42 (12)	20:30
13	07:22			06:56		16:03 (8)	06:15	06:24		18:11 (7)	05:44		18:19 (12)	05:26
	16:52			17:30	25	16:28 (8)	18:02	19:35	26	18:40 (12)	20:06	22	18:41 (12)	20:30
14	07:22			06:55		16:04 (8)	06:14	06:23		18:13 (7)	05:43		18:21 (12)	05:26
	16:53			17:31	24	16:28 (8)	18:03	19:36	28	18:43 (12)	20:07	18	18:39 (12)	20:31
15	07:21			06:54		16:03 (8)	06:12	06:21		18:22 (12)	05:42		18:24 (12)	05:26
	16:55			17:32	24	16:27 (8)	18:04	19:37	24	18:46 (12)	20:08	12	18:36 (12)	20:31
16	07:21			06:53		16:04 (8)	06:10	06:20		18:19 (12)	05:41		18:29 (12)	05:26
	16:56			17:33	22	16:26 (8)	18:05	19:38	28	18:47 (12)	20:09	1	18:30 (12)	20:32
17	07:20			06:51		16:06 (8)	06:09	06:18		18:18 (12)	05:40			05:26
	16:57			17:35	20	16:26 (8)	18:06	19:39	31	18:49 (12)	20:10			20:32
18	07:20			06:50		16:06 (8)	06:07	06:17		18:16 (12)	05:39			05:26
	16:58			17:36	18	16:24 (8)	18:07	19:40	33	18:49 (12)	20:11			20:32
19	07:19			06:49		16:08 (8)	06:05	06:15		18:15 (12)	05:38			05:27
	16:59			17:37	15	16:23 (8)	18:09	19:41	35	18:50 (12)	20:12			20:33
20	07:19			06:47		16:10 (8)	06:04	06:14		18:13 (12)	05:38			05:27
	17:00			17:38	10	16:20 (8)	18:10	19:42	37	18:50 (12)	20:13			20:33
21	07:18			06:46			06:02	06:12		18:13 (12)	05:37			05:27
	17:01			17:39			18:11	19:43	38	18:51 (12)	20:14			20:33
22	07:18			06:44			06:00	06:11		18:12 (12)	05:36			05:27
	17:03			17:40			18:12	19:44	39	18:51 (12)	20:15			20:33
23	07:17			06:43			05:59	06:09		18:11 (12)	05:35			05:27
	17:04			17:42			18:13	19:45	41	18:52 (12)	20:16			20:34
24	07:16			06:42			05:57	06:08		18:11 (12)	05:34			05:28
	17:05			17:43			18:14	19:46	41	18:52 (12)	20:16			20:34
25	07:16			06:40			05:55	06:06		18:10 (12)	05:34			05:28
	17:06			17:44			18:15	19:48	42	18:52 (12)	20:17			20:34
26	07:15			06:39			05:54	06:05		18:10 (12)	05:33			05:28
	17:07			17:45			18:16	19:49	42	18:52 (12)	20:18			20:34
27	07:14			06:37			05:52	06:04		18:10 (12)	05:32			05:29
	17:09			17:46			18:17	19:50	43	18:53 (12)	20:19			20:34
28	07:13			06:36			05:50	06:02		18:10 (12)	05:32			05:29
	17:10			17:47			18:18	19:51	42	18:52 (12)	20:20			20:34
29	07:12						06:49	06:01		18:10 (12)	05:31			05:29
	17:11						19:19	19:52	42	18:52 (12)	20:21			20:34
30	07:12						06:47	06:00		18:10 (12)	05:31			05:30
	17:12						19:20	19:53	42	18:52 (12)	20:22			20:34
31	07:11						06:45	06:00			05:30			
	17:14						19:21	18:32 (7)			20:22			
Potential sun hours	298		297		369		58	398		448		451		
Total, worst case	183		359		58		947		468					

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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SHADOW - Calendar

Calculation: Real caseShadow receptor: P - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (16)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December				
1	05:30 20:34	05:54 20:15	18:28 (12) 18:53 (12)	06:24 19:32	18:07 (7) 18:28 (7)	06:54 18:42	06:28 15:32 (8)	07:02 16:32	15:09 (9) 15:19 (9)	
2	05:31 20:34	05:55 20:14	18:27 (12) 18:55 (12)	06:25 19:31	18:06 (7) 18:29 (7)	06:55 18:41	06:29 16:55	15:33 (8) 15:57 (8)	07:03 16:32	15:09 (9) 15:20 (9)
3	05:31 20:34	05:56 20:13	18:26 (12) 18:56 (12)	06:26 19:29	18:04 (7) 18:29 (7)	06:56 18:39	06:30 16:53	15:33 (8) 15:56 (8)	07:04 16:31	15:08 (9) 15:21 (9)
4	05:32 20:34	05:57 20:12	18:25 (12) 18:57 (12)	06:27 19:28	18:04 (7) 18:29 (7)	06:57 18:37	06:31 16:52	15:34 (8) 15:55 (8)	07:05 16:31	15:08 (9) 15:22 (9)
5	05:32 20:33	05:58 20:11	18:24 (12) 18:57 (12)	06:28 19:26	18:03 (7) 18:29 (7)	06:58 18:36	06:33 16:51	15:35 (8) 15:54 (8)	07:06 16:31	15:07 (9) 15:23 (9)
6	05:33 20:33	05:59 20:10	18:23 (12) 18:58 (12)	06:29 19:24	18:02 (7) 18:29 (7)	06:59 18:34	06:34 16:50	15:37 (8) 15:53 (8)	07:07 16:31	15:07 (9) 15:24 (9)
7	05:33 20:33	06:00 20:08	18:21 (12) 18:58 (12)	06:30 19:23	18:02 (7) 18:29 (7)	07:00 18:32	06:35 16:49	15:38 (8) 15:51 (8)	07:08 16:31	15:07 (9) 15:25 (9)
8	05:34 20:32	06:01 20:07	18:20 (12) 18:58 (12)	06:31 19:21	18:02 (7) 18:28 (7)	07:01 18:31	06:36 16:48	15:40 (8) 15:49 (8)	07:09 16:31	15:08 (9) 15:26 (9)
9	05:35 20:32	06:02 20:06	18:20 (12) 18:59 (12)	06:32 19:19	18:02 (7) 18:29 (7)	07:02 18:29	06:37 16:47	07:10 16:31	15:08 (9) 15:27 (9)	
10	05:35 20:32	06:03 20:05	18:19 (12) 18:59 (12)	06:33 19:18	18:02 (7) 18:27 (7)	07:03 18:28	06:38 16:46	07:11 16:31	15:08 (9) 15:27 (9)	
11	05:36 20:31	06:04 20:03	18:19 (12) 18:59 (12)	06:34 19:16	18:02 (7) 18:25 (7)	07:04 18:26	06:40 16:45	07:12 16:31	15:07 (9) 15:27 (9)	
12	05:37 20:31	06:05 20:02	18:18 (12) 18:59 (12)	06:35 19:14	18:02 (7) 18:24 (7)	07:05 18:24	06:41 16:44	07:13 16:31	15:08 (9) 15:28 (9)	
13	05:38 20:30	06:06 20:01	18:18 (12) 19:00 (12)	06:36 19:13	18:03 (7) 18:22 (7)	07:07 18:23	06:42 16:43	07:14 16:31	15:08 (9) 15:29 (9)	
14	05:38 20:30	06:07 19:59	18:18 (12) 19:00 (12)	06:37 19:11	18:05 (7) 18:19 (7)	07:08 18:21	06:43 16:42	07:14 16:31	15:09 (9) 15:30 (9)	
15	05:39 20:29	06:08 19:58	18:17 (12) 18:59 (12)	06:38 19:09	18:08 (7) 18:16 (7)	07:09 18:20	06:44 16:41	07:15 16:31	15:09 (9) 15:29 (9)	
16	05:40 20:29	06:09 19:57	18:17 (12) 18:59 (12)	06:39 19:08	07:10 18:18	07:10 18:18	06:46 16:40	07:16 16:32	14:55 (10) 15:30 (9)	
17	05:41 20:28	06:10 19:55	18:17 (12) 18:59 (12)	06:40 19:06	07:11 18:17	07:11 18:17	06:47 16:39	07:16 16:32	14:55 (10) 15:31 (9)	
18	05:41 20:27	06:11 19:54	18:17 (12) 18:59 (12)	06:41 19:04	07:12 18:15	07:12 18:15	06:48 16:39	07:17 16:32	14:54 (10) 15:31 (9)	
19	05:42 20:27	06:12 19:52	18:17 (12) 18:58 (12)	06:42 19:02	07:13 18:14	07:13 18:14	06:49 16:38	07:18 16:33	14:55 (10) 15:32 (9)	
20	05:43 20:26	06:12 19:51	18:17 (12) 18:58 (12)	06:43 19:01	07:14 18:12	07:14 18:12	06:50 16:37	07:18 16:33	14:55 (10) 15:33 (9)	
21	05:44 20:25	06:13 19:49	18:18 (12) 18:57 (12)	06:44 18:59	07:15 18:11	07:15 18:11	06:51 16:37	07:19 16:34	14:55 (10) 15:33 (9)	
22	05:45 20:24	06:14 19:48	18:18 (12) 18:56 (12)	06:45 18:57	07:16 18:09	07:16 18:09	16:40 (8) 16:51 (8)	06:53 16:36	07:19 16:34	14:56 (10) 15:34 (9)
23	05:46 20:24	06:15 19:46	18:18 (12) 18:55 (12)	06:46 18:56	07:17 18:08	07:17 18:08	16:37 (8) 16:53 (8)	06:54 16:35	07:20 16:35	14:56 (10) 15:34 (9)
24	05:47 20:23	06:16 19:45	18:19 (12) 18:54 (12)	06:47 18:54	07:19 18:06	07:19 18:06	16:36 (8) 16:54 (8)	06:55 16:35	07:20 16:35	14:57 (10) 15:34 (9)
25	05:47 20:22	06:17 19:43	18:19 (12) 18:52 (12)	06:48 18:52	07:20 17:05	07:20 17:05	16:54 (8) 15:35 (8)	06:56 16:34	07:21 16:36	14:58 (10) 15:35 (9)
26	05:48 20:21	06:18 19:42	18:20 (12) 18:50 (12)	06:49 18:51	07:21 17:04	07:21 17:04	15:34 (8) 15:56 (8)	06:57 16:34	07:21 16:36	14:59 (10) 15:35 (9)
27	05:49 20:20	06:19 19:40	18:21 (12) 18:49 (12)	06:50 18:49	07:22 17:02	07:22 17:02	15:33 (8) 15:57 (8)	06:58 16:33	07:22 16:37	15:00 (10) 15:35 (9)
28	05:50 20:19	06:20 18:36 (12)	18:23 (12) 18:45 (12)	06:51 18:47	07:23 17:01	07:23 17:01	15:32 (8) 15:57 (8)	06:59 16:33	07:22 16:38	15:02 (10) 15:36 (9)
29	05:51 20:18	9 18:33 (12)	18:33 (12)	06:52	07:24 17:00	07:24 17:00	15:33 (8) 15:57 (8)	07:00 16:32	07:22 16:38	15:16 (9) 15:36 (9)
30	05:52 20:17	15 18:48 (12)	18:48 (12)	06:53	07:25 17:00	07:25 17:00	15:32 (8) 15:57 (8)	07:01 16:32	07:22 16:39	15:16 (9) 15:37 (9)
31	05:53 20:16	19 18:50 (12)	18:50 (12)	06:54	07:26 16:58	07:26 16:58	15:32 (8) 15:57 (8)	5 15:11 (9) 15:16 (9)	07:22 07:23	15:17 (9) 15:37 (9)
Potential sun hours	458		427	375	346	211	299	289	695	
Total, worst case	66	1092	337	346	211	154	695			

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

Day in month	Sun rise (hh:mm)	Minutes with flicker	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)

SHADOW - Calendar

Calculation: Real case Shadow receptor: Q - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (17)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January		February		March		April		May		June	
1	07:23	14:28 (11)	07:10		06:34		06:44	18:16 (7)	05:58		18:22 (12)	05:30
	16:41	83 15:51 (9)	17:15		17:49		19:22	22 18:38 (6)	19:54	28	18:50 (12)	20:23
2	07:23	14:29 (11)	07:09		06:33		06:42	18:15 (7)	05:57		18:24 (12)	05:29
	16:42	82 15:51 (9)	17:16		17:50		19:23	23 18:38 (7)	19:55	25	18:49 (12)	20:24
3	07:23	14:30 (11)	07:08		06:31		06:40	18:15 (7)	05:56		18:25 (12)	05:29
	16:43	82 15:52 (9)	17:17		17:51		19:24	23 18:38 (7)	19:56	23	18:48 (12)	20:25
4	07:23	14:30 (11)	07:07		06:29		06:39	18:14 (7)	05:54		18:27 (12)	05:28
	16:43	83 15:53 (9)	17:19		17:52		19:25	24 18:38 (7)	19:57	19	18:46 (12)	20:25
5	07:23	14:31 (11)	07:06		06:28		06:37	18:14 (7)	05:53		18:29 (12)	05:28
	16:44	82 15:53 (9)	17:20		17:53		19:27	24 18:38 (7)	19:58	15	18:44 (12)	20:26
6	07:23	14:32 (11)	07:05		06:26		06:36	18:14 (7)	05:52		18:31 (12)	05:28
	16:45	82 15:54 (9)	17:21		17:54		19:28	24 18:38 (7)	19:59	9	18:40 (12)	20:27
7	07:23	14:33 (11)	07:04		06:25		06:34	18:13 (7)	05:51			05:27
	16:46	80 15:54 (9)	17:22		17:55		19:29	24 18:37 (7)	20:00			20:27
8	07:23	14:34 (11)	07:02		06:23		06:32	18:14 (7)	05:50			05:27
	16:47	79 15:55 (9)	17:24		17:57		19:30	22 18:36 (7)	20:01			20:28
9	07:23	14:34 (11)	07:01		06:22	16:23 (8)	06:31	18:14 (7)	05:48			05:27
	16:48	78 15:55 (9)	17:25	10	16:33 (8)	17:58	19:31	21 18:35 (7)	20:02			20:28
10	07:23	14:36 (11)	07:00		06:20	16:21 (8)	06:29	18:16 (7)	05:47			05:27
	16:49	74 15:55 (9)	17:26	14	16:35 (8)	17:59	19:32	18 18:34 (7)	20:03			20:29
11	07:22	14:37 (11)	06:59		06:18	16:19 (8)	06:27	18:17 (7)	05:46			05:27
	16:50	74 15:56 (9)	17:27	17	16:36 (8)	18:00	19:33	28 18:47 (12)	20:04			20:29
12	07:22	14:38 (11)	06:58		06:17	16:18 (8)	06:26	18:18 (7)	05:45			05:26
	16:51	71 15:56 (9)	17:28	19	16:37 (8)	18:01	19:34	30 18:49 (12)	20:05			20:30
13	07:22	14:39 (11)	06:56		06:15	16:18 (8)	06:24	18:29 (12)	05:44			05:26
	16:52	69 15:56 (9)	17:30	20	16:38 (8)	18:02	19:35	23 18:52 (12)	20:06			20:30
14	07:22	14:41 (11)	06:55		06:13	16:18 (8)	06:23	18:26 (12)	05:43			05:26
	16:53	65 15:56 (9)	17:31	21	16:39 (8)	18:03	19:36	27 18:53 (12)	20:07			20:31
15	07:21	14:41 (11)	06:54		06:12	16:17 (8)	06:21	18:26 (12)	05:42			05:26
	16:55	63 15:56 (9)	17:32	22	16:39 (8)	18:04	19:37	28 18:54 (12)	20:08			20:31
16	07:21	14:43 (11)	06:53		06:10	16:17 (8)	06:20	18:24 (12)	05:41			05:26
	16:56	58 15:56 (9)	17:33	22	16:39 (8)	18:05	19:38	30 18:54 (12)	20:09			20:32
17	07:20	14:45 (11)	06:51		06:09	16:17 (8)	06:18	18:23 (12)	05:40			05:26
	16:57	44 15:56 (9)	17:35	23	16:40 (8)	18:06	19:39	32 18:55 (12)	20:10			20:32
18	07:20	14:47 (11)	06:50		06:07	16:17 (8)	06:17	18:22 (12)	05:39			05:26
	16:58	40 15:56 (9)	17:36	22	16:39 (8)	18:07	19:40	33 18:55 (12)	20:11			20:32
19	07:19	14:49 (11)	06:49		06:05	16:17 (8)	06:15	18:22 (12)	05:38			05:27
	16:59	34 15:55 (9)	17:37	22	16:39 (8)	18:09	19:41	34 18:56 (12)	20:12			20:33
20	07:19	14:52 (11)	06:47		06:04	16:17 (8)	06:14	18:21 (12)	05:38			05:27
	17:00	27 15:54 (9)	17:38	21	16:38 (8)	18:10	19:42	34 18:55 (12)	20:13			20:33
21	07:18	14:56 (11)	06:46		06:02	16:19 (8)	06:12	18:21 (12)	05:37			05:27
	17:01	13 15:51 (9)	17:39	18	16:37 (8)	18:11	19:43	35 18:56 (12)	20:14			20:33
22	07:18		06:44		06:00	16:20 (8)	06:11	18:20 (12)	05:36			05:27
	17:03		17:40	16	16:36 (8)	18:12	19:44	35 18:55 (12)	20:15			20:33
23	07:17		06:43		05:59	16:22 (8)	06:09	18:20 (12)	05:35			05:27
	17:04		17:42	12	16:34 (8)	18:13	19:45	35 18:55 (12)	20:16			20:34
24	07:16		06:42		05:57	16:26 (8)	06:08	18:20 (12)	05:34			05:28
	17:05		17:43	5	16:31 (8)	18:14	19:46	36 18:56 (12)	20:16			20:34
25	07:16		06:40		05:55		06:06	18:20 (12)	05:34			05:28
	17:06		17:44		18:15	9 17:40 (6)	19:48	35 18:55 (12)	20:17			20:34
26	07:15		06:39		05:54		06:05	18:20 (12)	05:33			05:28
	17:07		17:45		18:16	12 17:41 (6)	19:49	34 18:54 (12)	20:18			20:34
27	07:14		06:37		05:52		06:04	18:21 (12)	05:32			05:29
	17:09		17:46		18:17	14 17:41 (6)	19:50	33 18:54 (12)	20:19			20:34
28	07:13		06:36		05:50		06:02	18:21 (12)	05:32			05:29
	17:10		17:47		18:18	15 17:42 (6)	19:51	32 18:53 (12)	20:20			20:34
29	07:12				06:49		06:01	18:21 (12)	05:31			05:29
	17:11				19:19	19 18:41 (6)	19:52	31 18:52 (12)	20:21			20:34
30	07:12				06:47		06:00	18:22 (12)	05:31			05:30
	17:12				19:20	21 18:40 (6)	19:53	30 18:52 (12)	20:21			20:34
31	07:11				06:45		06:00	18:18 (7)	05:30			05:30
	17:14				19:21	22 18:40 (6)			20:22			20:34
Potential sun hours	298		297		369		398		448			451
Total, worst case	1363		284		112		860		119			

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

Day in month	Sun rise (hh:mm)	Minutes with flicker	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)

SHADOW - Calendar

Calculation: Real case Shadow receptor: Q - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (17)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December	
1	05:30 20:34	05:54 20:15	06:24 19:32	18:16 (7) 18:46 (12)	06:54 18:42	06:28 16:56	15:50 (8) 14:19 (11)
2	05:31 20:34	05:55 20:14	06:25 19:31	18:14 (7) 18:32 (7)	06:55 18:41	06:29 16:55	15:53 (8) 14:18 (11)
3	05:31 20:34	05:56 20:13	06:26 19:29	18:12 (7) 18:33 (7)	06:56 18:39	06:30 16:53	15:58 (9) 14:18 (11)
4	05:32 20:33	05:57 20:12	06:27 19:28	18:11 (7) 18:33 (7)	06:57 18:37	06:31 16:52	15:59 (9) 14:18 (11)
5	05:32 20:33	05:58 20:11	06:28 19:26	18:10 (7) 18:34 (7)	06:58 18:36	06:33 16:51	15:59 (9) 14:18 (11)
6	05:33 20:33	05:59 20:10	06:29 19:24	18:10 (7) 18:34 (7)	06:59 18:34	06:34 16:50	15:59 (9) 14:18 (11)
7	05:33 20:33	06:00 20:08	06:30 19:23	18:09 (7) 18:33 (7)	07:00 18:32	06:35 16:49	15:59 (9) 14:18 (11)
8	05:34 20:32	06:01 20:07	06:31 19:21	18:09 (7) 18:33 (7)	07:01 18:31	06:36 16:48	15:59 (9) 14:18 (11)
9	05:35 20:32	06:02 20:06	06:32 19:19	18:09 (7) 18:32 (7)	07:02 18:29	06:37 16:47	15:59 (9) 14:19 (11)
10	05:35 20:32	06:03 20:05	06:33 19:18	18:08 (7) 18:31 (7)	07:03 18:27	06:38 16:46	15:59 (9) 14:19 (11)
11	05:36 20:31	06:04 20:03	06:34 19:16	18:08 (7) 18:30 (6)	07:04 18:26	06:40 16:45	15:59 (9) 14:19 (11)
12	05:37 20:31	06:05 20:02	06:35 19:14	18:09 (7) 18:31 (6)	07:05 18:24	06:41 16:44	15:59 (9) 14:19 (11)
13	05:38 20:30	06:06 20:01	06:36 19:13	18:10 (7) 18:32 (6)	07:07 18:23	06:42 16:43	15:59 (9) 14:19 (11)
14	05:38 20:30	06:07 19:59	06:37 19:11	18:12 (7) 18:31 (6)	07:08 18:21	06:43 16:42	15:59 (9) 14:20 (11)
15	05:39 20:29	06:08 19:58	06:38 19:09	18:15 (7) 18:31 (6)	07:09 18:20	06:44 16:41	15:59 (9) 14:19 (11)
16	05:40 20:29	06:09 19:57	06:39 19:08	18:16 (6) 18:30 (6)	07:10 18:18	06:46 16:40	15:59 (9) 14:20 (11)
17	05:41 20:28	06:10 19:55	06:40 19:06	18:27 (12) 18:29 (6)	07:11 18:17	06:47 16:39	15:59 (9) 14:21 (11)
18	05:41 20:27	06:11 19:54	06:41 19:04	18:26 (12) 18:28 (6)	07:12 18:15	06:48 16:54 (8)	15:59 (9) 14:20 (11)
19	05:42 20:27	06:12 19:52	06:42 19:02	18:26 (12) 18:24 (6)	07:13 18:14	06:49 16:52 (8)	15:59 (9) 14:21 (11)
20	05:43 20:26	06:12 19:51	06:43 19:01	18:26 (12) 18:12	07:14 17:07 (8)	06:50 16:50 (8)	15:59 (9) 14:22 (11)
21	05:44 20:25	06:13 19:49	06:44 19:01	18:26 (12) 18:11	07:15 17:08 (8)	06:51 16:49 (8)	15:59 (9) 14:22 (11)
22	05:45 20:24	06:14 19:48	06:45 18:57	18:25 (12) 18:09	07:16 17:08 (8)	06:53 16:36	15:59 (9) 14:23 (11)
23	05:46 20:24	06:15 19:46	06:46 18:56	18:25 (12) 18:08	07:17 17:09 (8)	06:54 16:35	15:59 (9) 14:23 (11)
24	05:46 20:23	06:16 19:45	06:47 18:54	18:26 (12) 18:06	07:19 17:09 (8)	06:55 16:35	15:59 (9) 14:23 (11)
25	05:47 20:22	06:17 19:43	06:48 18:52	18:25 (12) 17:05	07:20 16:57 (8)	06:56 16:34	15:59 (9) 14:24 (11)
26	05:48 20:21	06:18 19:42	06:49 18:51	18:25 (12) 17:04	07:21 16:57 (8)	06:57 16:34	15:59 (9) 14:25 (11)
27	05:49 20:20	06:19 19:40	06:50 18:49	18:26 (12) 17:02	07:22 16:58 (8)	06:58 16:33	15:59 (9) 14:25 (11)
28	05:50 20:19	06:20 19:39	06:51 18:47	18:26 (12) 17:01	07:23 16:58 (8)	06:59 16:33	15:59 (9) 14:26 (11)
29	05:51 20:18	06:21 19:37	06:52 18:46	18:27 (12) 17:00	07:24 16:58 (8)	07:00 16:32	15:59 (9) 14:27 (11)
30	05:52 20:17	06:22 19:36	06:53 18:44	18:29 (12) 16:58	07:25 16:57 (8)	07:01 16:32	15:59 (9) 14:27 (11)
31	05:53 20:16	06:23 19:34	06:54 18:43	18:28 (12) 16:57	07:26 16:56 (8)	07:02 16:32	15:59 (9) 14:27 (11)
Potential sun hours	458	427	375	372	268	299	289
Total, worst case		735				506	2536

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

Day in month	Sun rise (hh:mm)	Minutes with flicker	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)

SHADOW - Calendar

Calculation: Real case Shadow receptor: R - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (18)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	
1	07:23 16:41	07:10 17:15	15:39 (8) 16:01 (8)	06:34 17:49	06:44 19:22	17:41 (12) 19:54	05:58 20:23
2	07:23 16:42	07:09 17:16	15:40 (8) 16:00 (8)	06:33 17:50	06:42 19:23	17:40 (12) 19:55	05:57 20:24
3	07:23 16:43	07:08 17:17	15:41 (8) 15:59 (8)	06:31 17:51	06:40 19:24	17:40 (12) 19:56	05:56 20:25
4	07:23 16:43	07:07 17:19	15:43 (8) 15:58 (8)	06:29 17:52	06:39 19:25	17:38 (12) 19:57	05:54 20:25
5	07:23 16:44	07:06 17:20	15:44 (8) 15:55 (8)	06:28 17:53	06:37 19:27	17:38 (12) 19:58	05:53 20:26
6	07:23 16:45	07:05 17:21	15:55 (8)	06:26 17:54	06:36 19:28	17:37 (12) 18:52 (5)	05:52 19:59
7	07:23 16:46	07:04 17:22		06:25 17:55	06:34 19:29	17:37 (12) 18:54 (5)	05:51 20:00
8	07:23 16:47	07:02 17:24		06:23 17:57	06:32 19:30	17:37 (12) 18:55 (5)	05:50 20:01
9	07:23 16:48	07:01 17:25		06:22 17:58	06:31 19:31	17:36 (12) 18:55 (5)	05:48 20:02
10	07:23 16:49	07:00 17:26		06:20 17:59	06:29 19:32	17:37 (12) 18:56 (5)	05:47 20:03
11	07:22 16:50	06:59 17:27		06:18 18:00	06:27 19:33	17:36 (12) 18:55 (5)	05:46 20:04
12	07:22 16:51	15:40 (8) 15:47 (8)	06:58 17:28	06:17 18:01	06:26 19:34	17:36 (12) 18:55 (5)	05:45 20:05
13	07:22 16:52	15:38 (8) 15:49 (8)	06:56 17:30	06:15 18:02	06:24 19:35	17:37 (12) 18:54 (5)	05:44 20:06
14	07:22 16:53	15:37 (8) 15:51 (8)	06:55 17:31	06:14 18:03	06:23 19:36	17:37 (12) 18:53 (5)	05:43 20:07
15	07:21 16:54	15:36 (8) 15:54 (8)	06:54 17:33	06:12 18:04	06:21 17:00 (7) 17:06 (7)	17:38 (12) 18:53 (5)	05:42 20:08
16	07:21 16:55	15:36 (8) 15:55 (8)	06:53 17:35	06:10 18:05	06:20 17:11 (7)	17:38 (12) 18:47 (5)	05:41 20:09
17	07:20 16:56	15:35 (8) 15:57 (8)	06:51 17:37	06:09 18:06	06:18 17:13 (7)	17:39 (12) 18:20 (12)	05:40 20:10
18	07:20 16:57	15:35 (8) 15:58 (8)	06:50 17:39	06:07 18:07	06:17 17:14 (7)	17:39 (12) 18:18 (12)	05:39 20:11
19	07:19 16:58	15:35 (8) 15:59 (8)	06:49 17:41	06:05 18:08	06:15 17:15 (7)	17:40 (12) 18:18 (12)	05:38 20:12
20	07:19 17:00	15:35 (8) 15:58 (8)	06:47 17:38	06:04 18:10	06:14 17:16 (7)	17:41 (12) 18:16 (12)	05:38 20:13
21	07:18 17:01	15:35 (8) 15:59 (8)	06:46 17:39	06:02 18:11	06:12 17:16 (7)	17:42 (12) 18:15 (12)	05:37 20:14
22	07:18 17:02	15:34 (8) 15:59 (8)	06:44 17:40	06:00 18:12	06:11 17:16 (7)	17:43 (12) 18:12 (12)	05:36 20:15
23	07:17 17:04	15:35 (8) 16:00 (8)	06:43 17:42	05:59 18:13	06:09 17:16 (7)	17:45 (12) 18:11 (12)	05:35 20:16
24	07:16 17:05	15:35 (8) 16:00 (8)	06:42 17:43	05:57 18:14	06:08 17:16 (7)	17:48 (12) 18:08 (12)	05:34 20:16
25	07:16 17:06	15:35 (8) 16:01 (8)	06:40 17:44	05:55 18:15	06:06 17:16 (7)	17:51 (12) 18:04 (12)	05:34 20:17
26	07:15 17:07	15:35 (8) 16:01 (8)	06:39 17:45	05:54 18:16	06:05 17:17 (12)		05:33 20:18
27	07:14 17:09	15:35 (8) 16:01 (8)	06:37 17:46	05:52 18:17	06:04 17:18 (12)		05:32 20:19
28	07:13 17:10	15:35 (8) 16:01 (8)	06:36 17:47	05:50 18:18	06:02 17:21 (12)		05:32 20:20
29	07:12 17:11	15:37 (8) 16:02 (8)		06:49 19:19	06:01 18:22 (12)		05:31 20:21
30	07:12 17:12	15:37 (8) 16:01 (8)		06:47 19:20	06:00 18:22 (12)		05:31 20:22
31	07:11 17:14	15:38 (8) 16:01 (8)		06:45 19:21	06:00 18:24 (12)		05:30 20:22
Potential sun hours	298	297	369	398	448	451	
Total, worst case	427	86	471	1136			

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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SHADOW - Calendar

Calculation: Real case Shadow receptor: R - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (18)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:34	05:54 20:15	06:24 19:32	17:35 (12) 18:54 (5)	06:54 18:42	06:28 16:56
2	05:31 20:34	05:55 20:14	06:25 19:31	17:35 (12) 18:54 (5)	06:55 18:41	06:29 16:55
3	05:31 20:34	05:56 20:13	06:26 19:29	17:34 (12) 18:53 (5)	06:56 18:39	06:30 16:53
4	05:32 20:34	05:57 20:12	06:27 19:28	17:34 (12) 18:52 (5)	06:57 18:37	06:31 16:52
5	05:32 20:33	05:58 20:11	06:28 19:26	17:34 (12) 18:51 (5)	06:58 18:36	06:33 16:51
6	05:33 20:33	05:59 20:10	06:29 19:24	17:34 (12) 18:48 (5)	06:59 18:34	06:34 16:50
7	05:33 20:33	06:00 20:08	06:30 19:23	17:33 (12) 18:21 (12)	07:00 18:32	06:35 16:49
8	05:34 20:32	06:01 20:07	06:31 19:21	17:33 (12) 18:20 (12)	07:01 18:31	06:36 16:48
9	05:35 20:32	06:02 20:06	06:32 19:19	17:34 (12) 18:19 (12)	07:02 18:29	06:37 16:47
10	05:35 20:32	06:03 20:05	06:33 19:18	17:34 (12) 18:18 (12)	07:03 18:28	06:38 16:46
11	05:36 20:31	06:04 20:03	06:34 19:16	17:33 (12) 18:16 (12)	07:04 18:26	06:40 16:45
12	05:37 20:31	06:05 20:02	06:35 19:14	17:34 (12) 18:15 (12)	07:05 18:24	06:41 16:44
13	05:38 20:30	06:06 20:01	06:36 19:13	17:34 (12) 18:14 (12)	07:07 18:23	06:42 16:43
14	05:38 20:30	06:07 19:59	06:37 19:11	17:35 (12) 18:12 (12)	07:08 18:21	06:43 16:42
15	05:39 20:29	06:08 19:58	06:38 19:09	17:36 (12) 18:10 (12)	07:09 18:20	06:44 16:41
16	05:40 20:29	06:09 19:57	06:39 19:08	17:36 (7) 18:08 (12)	07:10 18:18	06:46 16:40
17	05:41 20:28	06:10 19:55	06:40 19:06	17:35 (7) 18:06 (12)	07:11 18:17	06:47 16:39
18	05:41 20:27	06:11 19:54	06:41 19:04	17:34 (7) 18:03 (7)	07:12 18:15	06:48 16:39
19	05:42 20:27	06:12 19:52	06:42 19:02	17:34 (7) 18:03 (7)	07:13 18:14	06:49 16:38
20	05:43 20:26	06:13 19:51	06:43 19:01	17:33 (7) 18:02 (7)	07:14 18:12	06:50 16:37
21	05:44 20:25	06:13 19:49	06:44 18:59	17:33 (7) 18:02 (7)	07:15 18:11	06:51 16:37
22	05:45 20:25	06:14 19:48	06:45 18:57	17:33 (7) 18:01 (7)	07:16 18:09	06:53 16:36
23	05:46 20:24	06:15 19:46	06:46 18:56	17:33 (7) 18:00 (7)	07:18 18:08	06:54 16:35
24	05:47 20:23	06:16 19:45	06:47 18:54	17:34 (7) 17:59 (7)	07:19 18:06	06:55 16:35
25	05:47 20:22	06:17 19:43	06:48 18:52	17:34 (7) 17:58 (7)	06:20 17:05	06:56 16:34
26	05:48 20:21	06:18 19:42	06:49 18:51	17:36 (7) 17:56 (7)	06:21 17:04	06:57 16:34
27	05:49 20:20	06:19 19:40	06:50 18:50	17:37 (7) 17:53 (7)	06:22 17:02	06:58 16:33
28	05:50 20:19	06:20 19:39	06:51 18:47	17:40 (7) 17:50 (7)	06:23 17:01	06:59 16:33
29	05:51 20:18	06:21 19:37	06:52 18:46		06:24 17:00	07:00 16:32
30	05:52 20:17	06:22 19:36	06:53 18:44		06:26 16:58	07:01 16:32
31	05:53 20:16	06:23 19:34	06:54 18:44		06:27 16:57	07:02 16:31
Potential sun hours	458	427	375	346	299	289
Total, worst case		561	1067		521	

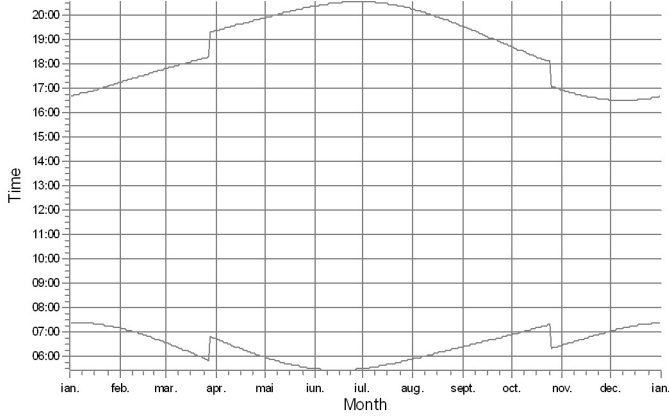
Table layout: For each day in each month the following matrix apply

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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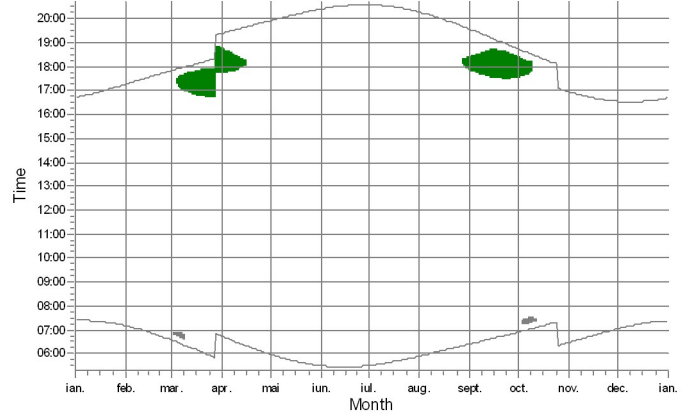
SHADOW - Calendar, graphical

Calculation: Real case

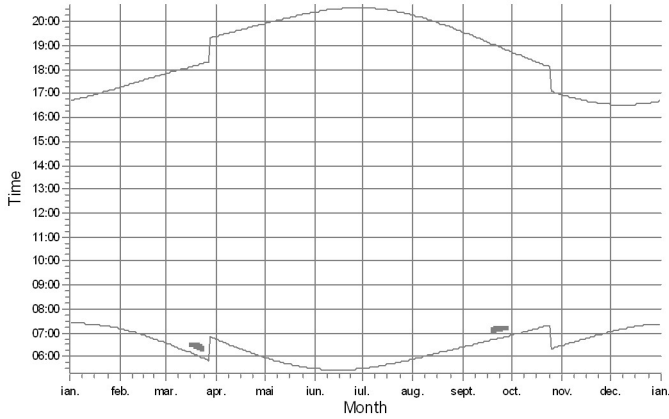
A: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)



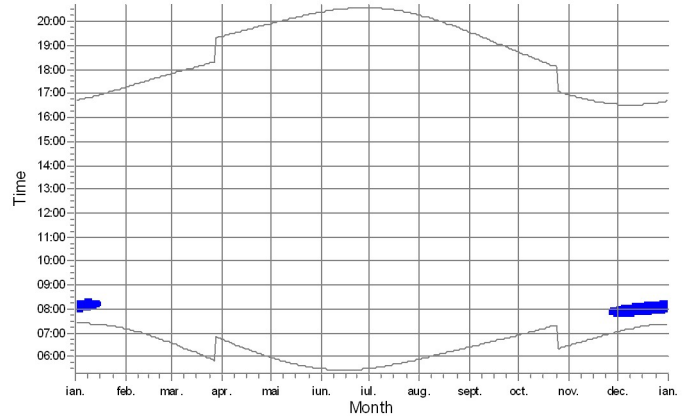
B: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (2)



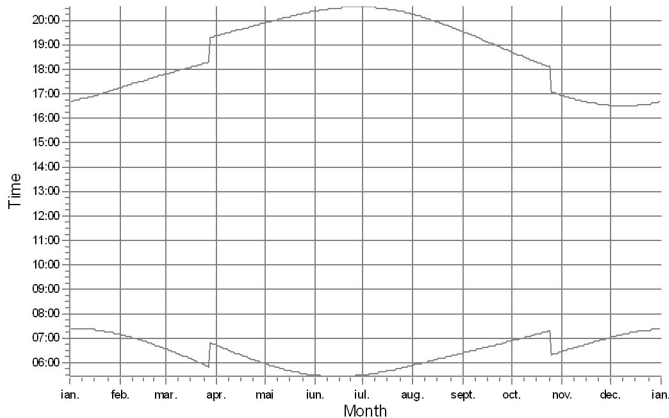
C: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)



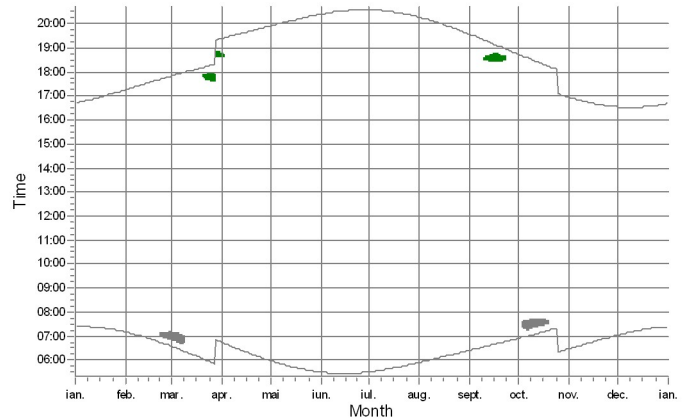
D: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (4)



E: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (5)



F: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (6)



WTGs

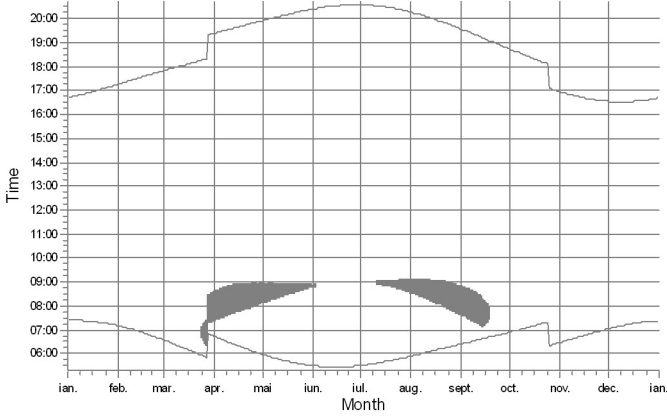
- 1: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (1)
- 3: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (3)

- 4: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (4)

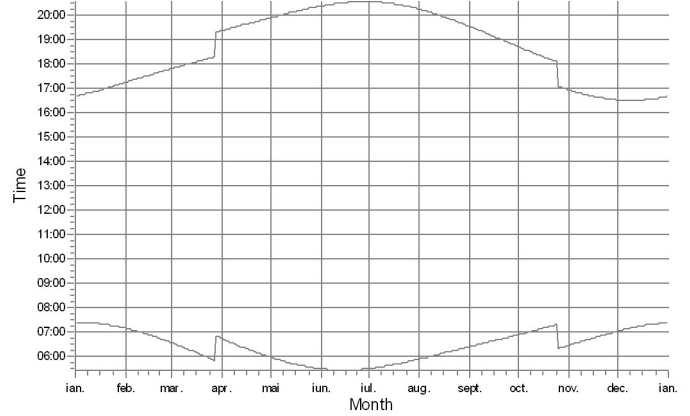
SHADOW - Calendar, graphical

Calculation: Real case

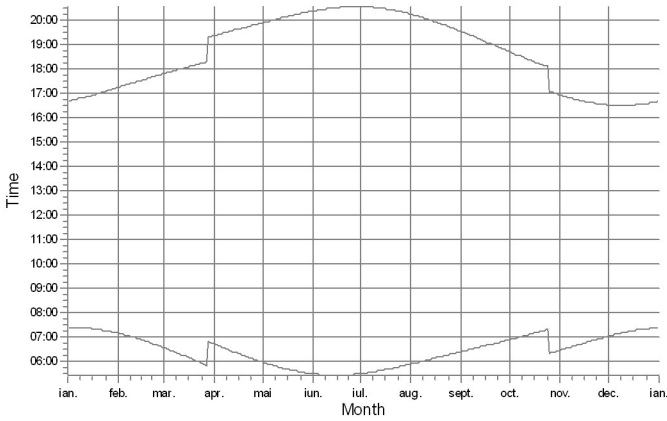
G: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (7)



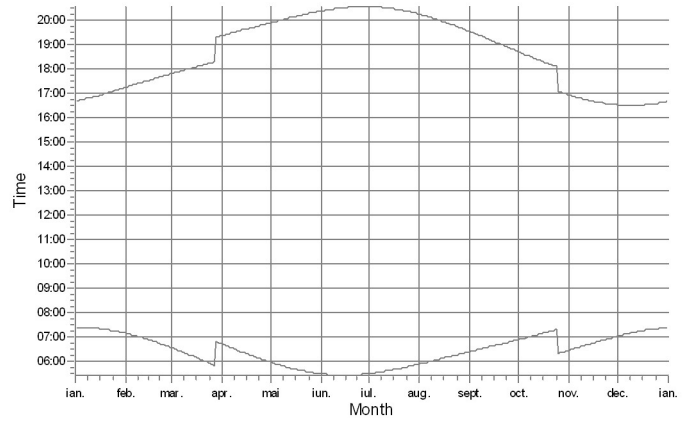
H: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (8)



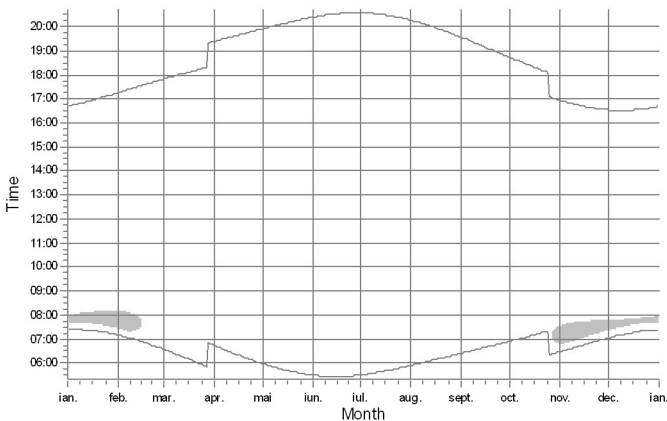
I: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (9)



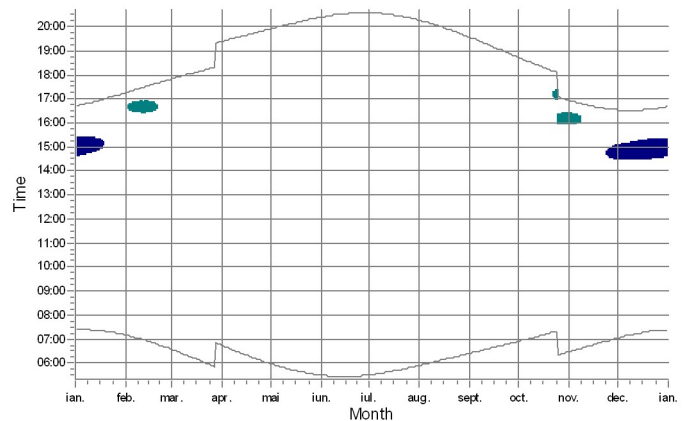
J: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (10)




K: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (11)





L: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (12)



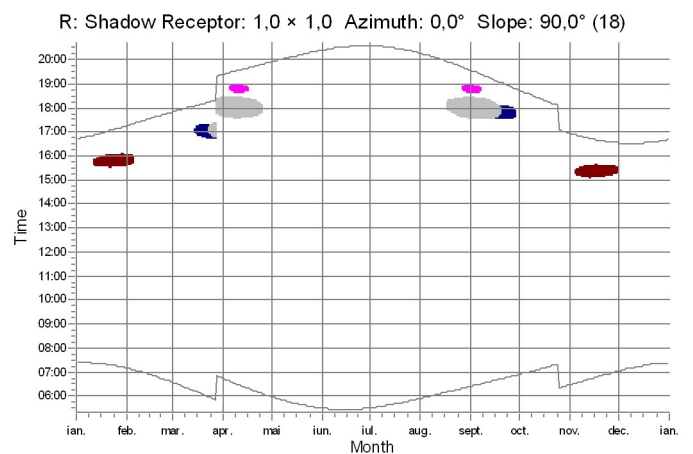
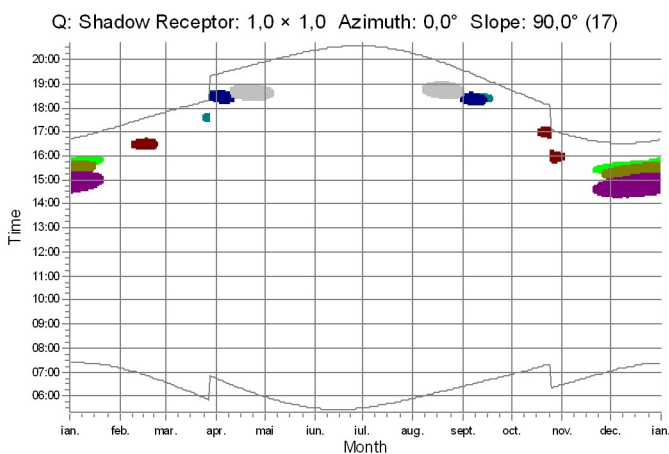
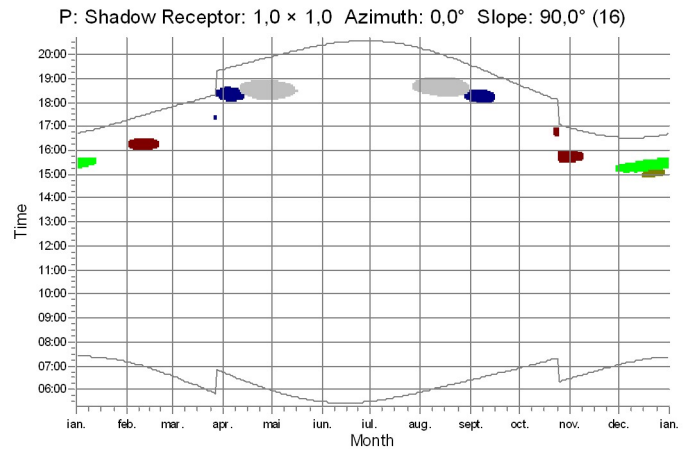
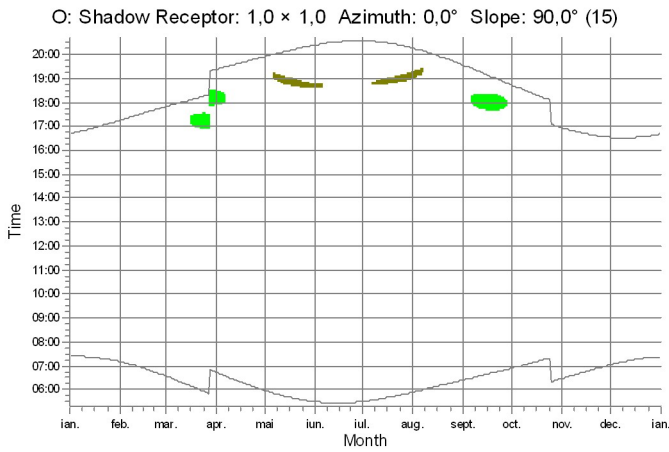
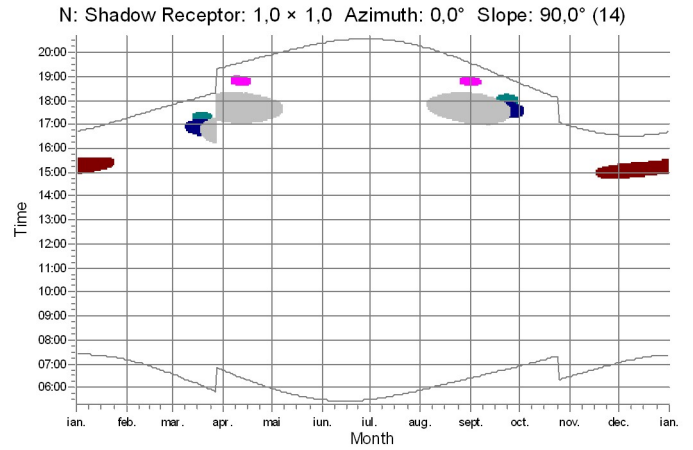
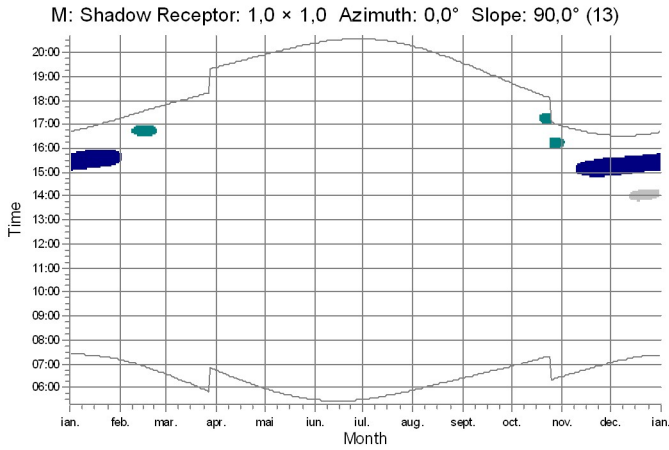
WTGs

-  4: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (4)
-  6: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (6)

-  7: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (7)
-  12: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (12)

SHADOW - Calendar, graphical

Calculation: Real case



WTGs

- 5: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (5)
- 6: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (6)
- 7: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (7)
- 8: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (8)

- 9: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (9)
- 10: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (10)
- 11: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (11)
- 12: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (12)

SHADOW - Calendar per WTG

Calculation: Real case WTG: 1 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (1)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23	07:10	06:34	06:44 17:47-18:42/55	05:59	05:30	05:31	05:54	06:25 17:54-18:21/27	06:54 17:37-18:20/43	06:28	07:03
2	07:23	07:09	06:33	19:23	19:54	20:23	20:34	20:16	19:33	18:43	16:56	16:32
3	07:23	07:08	06:31	06:42 17:48-18:41/53	05:57	05:30	05:31	05:55	06:26 17:52-18:22/30	06:55 17:38-18:18/40	06:29	07:04
4	07:23	07:07	06:30	19:24	19:55	20:24	20:34	20:14	19:31	18:41	16:55	16:32
5	07:23	07:06	06:28	06:41 17:48-18:38/50	05:56	05:29	05:32	05:56	06:27 17:50-18:24/34	06:56 17:39-18:16/37	06:31	07:05
6	07:23	07:05	06:27	19:25	19:56	20:25	20:34	20:13	19:30	18:39	16:54	16:32
7	07:23	07:04	06:26	06:39 17:48-18:36/48	05:55	05:29	05:32	05:57	06:28 17:49-18:25/36	06:57 17:40-18:15/35	06:32	07:06
8	07:23	07:03	06:24	19:26	19:57	20:26	20:34	20:12	19:28	18:38	16:53	16:31
9	07:23	07:02	06:22	06:37 17:49-18:35/46	05:54	05:28	05:33	05:58	06:29 17:47-18:27/40	06:58 17:42-18:13/31	06:33	07:07
10	07:23	07:01	06:20	19:27	19:58	20:26	20:34	20:11	19:26	18:36	16:51	16:31
11	07:23	07:00	06:19	06:36 17:49-18:32/43	05:52	05:28	05:33	05:59	06:30 17:46-18:28/42	06:59 17:44-18:11/27	06:34	07:08
12	07:23	07:00	06:19	19:28	19:59	20:27	20:33	20:10	19:25	18:34	16:50	16:31
13	07:23	07:00	06:19	06:34 17:51-18:31/40	05:51	05:28	05:34	06:00	06:31 17:44-18:30/46	07:00 17:48-18:10/22	06:35	07:09
14	07:23	07:00	06:19	19:29	20:00	20:27	20:33	20:09	19:23	18:33	16:49	16:31
15	07:23	07:00	06:19	06:33 17:52-18:28/36	05:50	05:28	05:34	06:01	06:32 17:43-18:31/48	07:02 17:52-18:08/16	06:36	07:10
16	07:23	07:00	06:19	19:30	20:01	20:28	20:33	20:07	19:21	18:31	16:48	16:31
17	07:23	07:00	06:19	06:31 17:52-18:26/34	05:49	05:27	05:35	06:02	06:33 17:42-18:32/50	07:03	06:38	07:10
18	07:23	07:00	06:19	19:31	20:02	20:29	20:32	20:06	19:20	18:29	16:47	16:31
19	07:23	07:00	06:19	06:29 17:54-18:24/30	05:48	05:27	05:36	06:03	06:33 17:41-18:34/53	07:04	06:39	07:11
20	07:23	07:00	06:19	19:32	20:03	20:29	20:32	20:05	19:18	18:28	16:46	16:31
21	07:23	07:00	06:19	06:28 17:55-18:22/27	05:47	05:27	05:36	06:04	06:34 17:40-18:35/55	07:05	06:40	07:12
22	07:23	07:00	06:19	19:33	20:04	20:30	20:32	20:04	19:16	18:26	16:45	16:31
23	07:23	07:00	06:19	06:26 17:58-18:20/22	05:46	05:27	05:37	06:05	06:35 17:39-18:37/58	07:06	06:41	07:13
24	07:23	07:00	06:19	19:34	20:05	20:30	20:31	20:02	19:15	18:25	16:44	16:31
25	07:23	07:00	06:19	06:25 18:00-18:18/18	05:44	05:27	05:38	06:06	06:36 17:38-18:38/60	07:07	06:42	07:14
26	07:23	07:00	06:19	19:35	20:06	20:31	20:31	20:01	19:13	18:23	16:43	16:31
27	07:23	07:00	06:19	06:23 18:03-18:16/13	05:43	05:27	05:39	06:07	06:37 17:37-18:40/63	07:08	06:44	07:15
28	07:23	07:00	06:19	19:36	20:07	20:31	20:30	20:00	19:11	18:22	16:42	16:32
29	07:23	07:00	06:19	06:22 18:07-18:14/7	05:42	05:27	05:39	06:08	06:38 17:37-18:40/63	07:09	06:45	07:15
30	07:23	07:00	06:19	19:37	20:08	20:32	20:30	20:03	19:10	18:20	16:41	16:32
31	07:23	07:00	06:19	06:20 16:53-17:45/52	05:42	05:27	05:40	06:09	06:39 17:35-18:42/67	07:10	06:46	07:16
32	07:23	07:00	06:19	19:38	20:09	20:32	20:29	19:57	19:08	18:18	16:41	16:32
33	07:23	07:00	06:19	06:18 16:51-17:45/54	05:41	05:27	05:41	06:10	06:40 17:35-18:43/68	07:11	06:47	07:17
34	07:23	07:00	06:19	19:39	20:10	20:32	20:28	19:56	19:06	18:17	16:40	16:32
35	07:23	07:00	06:19	06:17 16:51-17:47/56	05:40	05:27	05:42	06:11	06:41 17:34-18:42/68	07:12	06:48	07:17
36	07:23	07:00	06:19	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:39	16:33
37	07:23	07:00	06:19	06:15 16:50-17:48/58	05:39	05:27	05:43	06:12	06:42 17:34-18:40/66	07:13	06:49	07:18
38	07:23	07:00	06:19	19:42	20:12	20:33	20:27	19:53	19:03	18:14	16:38	16:33
39	07:23	07:00	06:19	06:14 16:49-17:49/60	05:38	05:27	05:43	06:13	06:43 17:34-18:38/64	07:14	06:51	07:19
40	07:23	07:00	06:19	19:43	20:13	20:33	20:26	19:51	19:01	18:12	16:38	16:33
41	07:23	07:00	06:19	06:12 16:49-17:50/61	05:37	05:27	05:44	06:14	06:44 17:33-18:37/64	07:16	06:52	07:19
42	07:23	07:00	06:19	19:44	20:14	20:34	20:26	19:50	18:59	18:11	16:37	16:34
43	07:23	07:00	06:19	06:11 16:48-17:51/63	05:36	05:27	05:45	06:15	06:45 17:33-18:35/62	07:17	06:53	07:20
44	07:23	07:00	06:19	19:45	20:15	20:34	20:25	19:48	18:58	18:10	16:36	16:34
45	07:23	07:00	06:19	06:10 16:47-17:52/65	05:36	05:28	05:46	06:16	06:46 17:33-18:33/60	07:18	06:54	07:20
46	07:23	07:00	06:19	19:46	20:16	20:34	20:24	19:47	18:56	18:08	16:36	16:35
47	07:23	07:00	06:19	06:09 16:48-17:54/66	05:35	05:28	05:47	06:17	06:47 17:33-18:32/59	07:19	06:55	07:21
48	07:23	07:00	06:19	19:47	20:17	20:34	20:23	19:45	18:54	18:07	16:35	16:35
49	07:23	07:00	06:19	06:08 16:47-17:54/67	05:34	05:28	05:48	06:18	06:48 17:33-18:30/57	06:20	06:56	07:21
50	07:23	07:00	06:19	19:48	20:18	20:34	20:22	19:44	18:53	17:05	16:35	16:36
51	07:23	07:00	06:19	06:07 16:46-17:55/69	05:33	05:28	05:49	06:19	06:49 17:34-18:28/54	06:21	06:57	07:21
52	07:23	07:00	06:19	19:49	20:19	20:34	20:21	19:42	18:51	17:04	16:34	16:37
53	07:23	07:00	06:19	06:04 16:47-17:54/67	05:33	05:29	05:50	06:20	06:50 17:34-18:27/53	06:22	06:58	07:22
54	07:23	07:00	06:19	19:50	20:19	20:34	20:21	19:41	18:49	17:03	16:34	16:37
55	07:23	07:00	06:19	06:03 16:47-17:51/64	05:32	05:29	05:50	06:21	06:51 17:34-18:25/51	06:24	07:00	07:22
56	07:23	07:00	06:19	19:51	20:20	20:34	20:20	19:39	18:48	17:01	16:33	16:38
57	07:23	07:00	06:19	06:02 17:46-18:49/63	05:32	05:30	05:51	06:22	06:52 17:35-18:23/48	06:25	07:01	07:22
58	07:23	07:00	06:19	19:52	20:21	20:34	20:19	19:38	18:46	17:00	16:33	16:39
59	07:23	07:00	06:19	06:01 17:47-18:47/60	05:31	05:30	05:52	06:23	06:53 17:36-18:21/45	06:26	07:02	07:23
60	07:23	07:00	06:19	19:53	20:22	20:34	20:18	19:36	18:44	16:59	16:32	16:39
61	07:23	07:00	06:19	06:00 17:47-18:45/58	05:30	05:30	05:53	06:24	06:54 17:37-18:19/22	06:27	07:03	07:23
62	07:23	07:00	06:19	19:54	20:23	20:34	20:17	19:34	18:44	16:57	16:40	16:40
63	07:23	07:00	06:19	06:00 17:47-18:45/58	05:30	05:30	05:53	06:24	06:54 17:37-18:19/22	06:27	07:03	07:23
64	07:23	07:00	06:19	19:55	20:24	20:34	20:17	19:34	18:44	16:57	16:40	16:40
65	07:23	07:00	06:19	06:00 17:47-18:45/58	05:30	05:30	05:53	06:24	06:54 17:37-18:19/22	06:27	07:03	07:23
66	07:23	07:00	06:19	19:56	20:25	20:34	20:17	19:34	18:44	16:57	16:40	16:40
67	07:23	07:00	06:19	06:00 17:47-18:45/58	05:30	05:30	05:53	06:24	06:54 17:37-18:19/22	06:27	07:03	07:23
68	07:23	07:00	06:19	19:57	20:26	20:34	20:17	19:34	18:44	16:57	16:40	16:40
69	07:23	07:00	06:19	06:00 17:47-18:45/58	05:30	05:30	05:53	06:24	06:54 17:37-18:19/22	06:27	07:03	07:23
70	07:23	07:00	06:19	19:58	20:27	20:34	20:17	19:34	18:44	16:57	16:40	16:40
71	07:23	07:00	06:19	06:00 17:47-18:45/58	05:30	05:30	05:53	06:24	06:54 17:37-18:19/22	06:27	07:03	07:23
72	07:23	07:00	06:19	19:59	20:28	20:34	20:17	19:34	18:44	16:57	16:40	16:40
73	07:23	07:00	06:19	06:00 17:47-18:45/58	05:30	05:30	05:53	06:24	06:54 17:37-18:19/22	06:27	07:03	07:23
74	07:23	07:00	06:19	19:60	20:29	20:34	20:17	19:34	18:44	16:57	16:40	16:40
75	07:23	07:00	06:19	06:00 17:47-18:45/58	05:30	05:30	05:53	06:24	06:54 17:37-18:19/22	06:27	07:03	07:23
76	07:23	07:00	06:19	19:61	20:30	20:34	20:17	19:34	18:44	16:57	16:40	16:40
77	07:23	07:00	06:19	06:00 17:47-18:45/58	05:30	05:30	05:53	06:24	06:54 17:37-18:19/22	06:27	07:03	07:23
78	07:23	07:00	06:19	19:62	20:31	20:34	20:17	19:34	18:44	16:57	16:40	16:40
79	07:23	07:00	06:19	06:00 17:47-18:45/58	05:30	05:3						

SHADOW - Calendar per WTG

Calculation: Real case WTG: 2 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (2)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:41	07:10 17:15	06:34 17:49	06:44 19:23	05:59 19:54	05:30 20:23	05:30 20:34	05:54 20:15	06:25 19:33	06:54 18:42	06:28 16:56	07:03 16:32
2	07:23 16:42	07:09 17:16	06:33 17:50	06:42 19:24	05:57 19:55	05:29 20:24	05:31 20:34	05:55 20:14	06:26 19:31	06:55 18:41	06:29 16:55	07:04 16:32
3	07:23 16:43	07:08 17:18	06:31 17:51	06:41 19:25	05:56 19:56	05:29 20:25	05:31 20:34	05:56 20:13	06:27 19:29	06:56 18:39	06:30 16:54	07:05 16:32
4	07:23 16:44	07:07 17:19	06:30 17:52	06:39 19:26	05:55 19:57	05:29 20:25	05:32 20:34	05:57 20:12	06:28 19:28	06:57 18:38	06:32 16:53	07:06 16:31
5	07:23 16:45	07:06 17:20	06:28 17:53	06:37 19:27	05:53 19:58	05:28 20:26	05:33 20:34	05:58 20:11	06:29 19:26	06:58 18:36	06:33 16:51	07:07 16:31
6	07:23 16:46	07:05 17:21	06:27 17:55	06:36 19:28	05:52 19:59	05:28 20:27	05:33 20:33	05:59 20:10	06:30 19:25	06:59 18:34	06:34 16:50	07:08 16:31
7	07:23 16:47	07:04 17:23	06:25 17:56	06:34 19:29	05:51 20:00	05:28 20:27	05:34 20:33	06:00 20:09	06:31 19:23	07:00 18:33	06:35 16:49	07:09 16:31
8	07:23 16:47	07:03 17:24	06:23 17:57	06:33 19:30	05:50 20:01	05:27 20:28	05:34 20:33	06:01 20:07	06:31 19:21	07:01 18:31	06:36 16:48	07:10 16:31
9	07:23 16:48	07:02 17:25	06:22 17:58	06:31 19:31	05:49 20:02	05:27 20:29	05:35 20:32	06:02 20:06	06:32 19:20	07:03 18:29	06:38 16:47	07:10 16:31
10	07:23 16:50	07:00 17:26	06:20 17:59	06:29 19:32	05:48 20:03	05:27 20:29	05:36 20:32	06:03 20:05	06:33 19:18	07:04 18:28	06:39 16:46	07:11 16:31
11	07:23 16:51	06:59 17:28	06:19 18:00	06:28 19:33	05:47 20:04	05:27 20:30	05:36 20:32	06:04 20:04	06:34 19:16	07:05 18:26	06:40 16:45	07:12 16:31
12	07:22 16:52	06:58 17:29	06:17 18:01	06:26 19:34	05:45 20:05	05:27 20:30	05:37 20:31	06:05 20:02	06:35 19:15	07:06 18:25	06:41 16:44	07:13 16:31
13	07:22 16:53	06:57 17:30	06:15 18:02	06:25 19:35	05:44 20:06	05:27 20:31	05:38 20:31	06:06 20:01	06:36 19:13	07:07 18:23	06:42 16:43	07:14 16:31
14	07:22 16:54	06:55 17:31	06:14 18:03	06:23 19:36	05:43 20:07	05:27 20:31	05:39 20:30	06:07 20:00	06:37 19:11	07:08 18:21	06:43 16:42	07:15 16:31
15	07:21 16:55	06:54 17:32	06:12 18:05	06:22 19:37	05:42 20:08	05:27 20:32	05:39 20:30	06:08 19:58	06:38 19:09	07:09 18:20	06:45 16:41	07:15 16:32
16	07:21 16:56	06:53 17:34	06:11 18:06	06:20 19:38	05:41 20:09	05:27 20:32	05:40 20:29	06:09 19:57	06:39 19:08	07:10 18:18	06:46 16:41	07:16 16:32
17	07:21 16:57	06:52 17:35	06:09 18:07	06:18 19:39	05:41 20:10	05:27 20:32	05:41 20:28	06:10 19:55	06:40 19:06	07:11 18:17	06:47 16:40	07:17 16:32
18	07:20 16:58	06:50 17:36	06:07 18:08	06:17 19:40	05:40 20:11	05:27 20:33	05:42 20:28	06:11 19:54	06:41 19:04	07:12 18:15	06:48 16:39	07:17 16:33
19	07:20 16:59	06:49 17:37	06:06 18:09	06:15 19:42	05:39 20:12	05:27 20:33	05:42 20:27	06:12 19:53	06:42 19:03	07:13 18:14	06:49 16:38	07:18 16:33
20	07:19 17:01	06:48 17:38	06:04 18:10	06:14 19:43	05:38 20:13	05:27 20:33	05:43 20:26	06:13 19:51	06:43 19:01	07:14 18:12	06:51 16:38	07:19 16:33
21	07:19 17:02	06:46 17:40	06:02 18:11	06:12 19:44	05:37 20:14	05:27 20:34	05:44 20:26	06:14 19:50	06:44 18:59	07:16 18:11	06:52 16:37	07:19 16:34
22	07:18 17:03	06:45 17:41	06:01 18:12	06:11 19:45	05:36 20:15	05:27 20:34	05:45 20:25	06:15 19:48	06:45 18:58	07:17 18:10	06:53 16:36	07:20 16:34
23	07:17 17:04	06:43 17:42	05:59 18:13	06:10 19:46	05:35 20:16	05:28 20:34	05:46 20:24	06:16 19:47	06:46 18:56	07:18 18:08	06:54 16:36	07:20 16:35
24	07:17 17:05	06:42 17:43	05:57 18:14	06:08 19:47	05:35 20:17	05:28 20:34	05:47 20:23	06:17 19:45	06:47 18:54	07:19 18:07	06:55 16:35	07:21 16:35
25	07:16 17:07	06:40 17:44	05:56 18:15	06:07 19:48	05:34 20:18	05:28 20:34	05:48 20:22	06:18 19:44	06:48 18:53	07:20 17:05	06:56 16:35	07:21 16:36
26	07:15 17:08	06:39 17:45	05:54 18:16	06:05 19:49	05:33 20:19	05:28 20:34	05:49 20:21	06:19 19:42	06:49 18:51	07:21 17:04	06:57 16:34	07:21 16:37
27	07:14 17:09	06:37 17:47	05:52 18:17	06:04 19:50	05:33 20:19	05:29 20:34	05:49 20:20	06:20 19:41	06:50 18:49	07:22 17:03	06:58 16:34	07:22 16:37
28	07:14 17:10	06:36 17:48	05:51 18:18	06:03 19:51	05:32 20:20	05:29 20:34	05:50 20:20	06:21 19:39	06:51 18:48	07:23 17:01	06:59 16:33	07:22 16:38
29	07:13 17:11		06:49 19:19	06:01 19:52	05:32 20:21	05:30 20:34	05:51 20:19	06:22 19:37	06:52 18:46	07:24 17:00	07:00 16:33	07:22 16:39
30	07:12 17:13		06:47 19:20	06:00 19:53	05:31 20:22	05:30 20:34	05:52 20:18	06:23 19:36	06:53 18:44	07:25 16:59	07:01 16:32	07:23 16:39
31	07:11 17:14		06:46 19:22		05:30 20:23		05:53 20:17	06:24 19:34		06:27 16:57		07:23 16:40
Potential sun hours	298	297	369	398	448	451	458	427	375	346	299	289
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Real case WTG: 3 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (3)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 07:56-08:20/24 16:41	07:10 17:15	06:34 17:49	06:44 19:23	05:58 19:54	05:30 20:23	05:30 20:34	05:54 20:15	06:25 19:33	06:54 18:42	06:28 16:56	07:03 07:44-08:02/18 16:32
2	07:23 07:56-08:20/24 16:42	07:09 17:16	06:33 17:50	06:42 19:24	05:57 19:55	05:29 20:24	05:31 20:34	05:55 20:14	06:26 19:31	06:55 18:41	06:29 16:55	07:04 07:44-08:03/19 16:32
3	07:23 07:57-08:20/23 16:43	07:08 17:18	06:31 17:51	06:41 19:25	05:56 19:56	05:29 20:25	05:31 20:34	05:56 20:13	06:27 19:29	06:56 18:39	06:30 16:54	07:05 07:44-08:04/20 16:31
4	07:23 07:57-08:20/23 16:44	07:07 17:19	06:30 17:52	06:39 19:26	05:55 19:57	05:29 20:25	05:32 20:34	05:57 20:12	06:27 19:28	06:57 18:37	06:32 16:52	07:06 07:44-08:05/21 16:31
5	07:23 07:57-08:20/23 16:45	07:06 17:20	06:28 17:53	06:37 19:27	05:53 19:58	05:28 20:26	05:32 20:33	05:58 20:11	06:28 19:26	06:58 18:36	06:33 16:51	07:07 07:44-08:05/21 16:31
6	07:23 07:58-08:20/22 16:45	07:05 17:21	06:27 17:55	06:36 19:28	05:52 19:59	05:28 20:27	05:33 20:33	05:59 20:10	06:29 19:24	06:59 18:34	06:34 16:50	07:08 07:44-08:06/22 16:31
7	07:23 07:59-08:20/21 16:46	07:04 17:22	06:25 17:56	06:34 19:29	05:51 20:00	05:28 20:27	05:34 20:33	06:00 20:09	06:30 19:23	07:00 18:33	06:35 16:49	07:09 07:44-08:07/23 16:31
8	07:23 08:00-08:21/21 16:47	07:03 17:24	06:23 17:57	06:32 19:30	05:50 20:01	05:27 20:28	05:34 20:33	06:01 20:07	06:31 19:21	07:01 18:31	06:36 16:48	07:09 07:44-08:08/24 16:31
9	07:23 08:01-08:21/20 16:48	07:01 17:25	06:22 17:58	06:31 19:31	05:49 20:02	05:27 20:29	05:35 20:32	06:02 20:06	06:32 19:20	07:02 18:29	06:37 16:47	07:10 07:45-08:08/23 16:31
10	07:23 08:02-08:21/19 16:49	07:00 17:26	06:20 17:59	06:29 19:32	05:48 20:03	05:27 20:29	05:36 20:32	06:03 20:05	06:33 19:18	07:04 18:28	06:39 16:46	07:11 07:45-08:09/24 16:31
11	07:23 08:02-08:20/18 16:50	06:59 17:27	06:19 18:00	06:28 19:33	05:46 20:04	05:27 20:30	05:36 20:31	06:04 20:04	06:34 19:16	07:05 18:26	06:40 16:45	07:12 07:46-08:10/24 16:31
12	07:22 08:03-08:20/17 16:52	06:58 17:29	06:17 18:01	06:26 19:34	05:45 20:05	05:27 20:30	05:37 20:31	06:05 20:02	06:35 19:14	07:06 18:25	06:41 16:44	07:13 07:46-08:10/24 16:31
13	07:22 08:04-08:19/15 16:53	06:57 17:30	06:15 18:02	06:25 19:35	05:44 20:06	05:27 20:31	05:38 20:31	06:06 20:01	06:36 19:13	07:07 18:23	06:42 16:43	07:14 07:46-08:10/24 16:31
14	07:22 08:05-08:19/14 16:54	06:55 17:31	06:14 18:03	06:23 19:36	05:43 20:07	05:27 20:31	05:38 20:30	06:07 20:00	06:37 19:11	07:08 18:21	06:43 16:42	07:14 07:47-08:11/24 16:31
15	07:21 08:08-08:19/11 16:55	06:54 17:32	06:12 18:04	06:21 19:37	05:42 20:08	05:27 20:32	05:39 20:29	06:08 19:58	06:38 19:09	07:09 18:20	06:45 16:41	07:15 07:47-08:12/25 16:32
16	07:21 08:09-08:16/7 16:56	06:53 17:34	06:10 18:06	06:20 19:38	05:41 20:09	05:27 20:32	05:40 20:29	06:09 19:57	06:39 19:08	07:10 18:18	06:46 16:40	07:16 07:47-08:11/24 16:32
17	07:21 16:57	06:52 17:35	06:09 18:07	06:18 19:39	05:40 20:10	05:27 20:32	05:41 20:28	06:10 19:55	06:40 19:06	07:11 18:17	06:47 16:40	07:17 07:48-08:12/24 16:32
18	07:20 16:58	06:50 17:36	06:07 18:08	06:17 19:40	05:40 20:11	05:27 20:33	05:42 20:28	06:11 19:54	06:41 19:04	07:12 18:15	06:48 16:39	07:17 07:49-08:13/24 16:33
19	07:20 16:59	06:49 17:37	06:05 18:09	06:15 19:41	05:39 20:12	05:27 20:33	05:42 20:27	06:12 19:53	06:42 19:03	07:13 18:14	06:49 16:38	07:18 07:48-08:13/25 16:33
20	07:19 17:01	06:47 17:38	06:04 18:10	06:14 19:42	05:38 20:13	05:27 20:33	05:43 20:26	06:13 19:51	06:43 19:01	07:14 18:12	06:50 16:37	07:19 07:49-08:14/25 16:33
21	07:18 17:02	06:46 17:40	06:02 18:11	06:12 19:44	05:37 20:14	05:27 20:33	05:44 20:25	06:14 19:50	06:44 18:59	07:15 18:11	06:52 16:37	07:19 07:49-08:14/25 16:34
22	07:18 17:03	06:45 17:41	06:00 18:12	06:11 19:45	05:36 20:15	05:27 20:34	05:45 20:25	06:15 19:48	06:45 18:58	07:17 18:09	06:53 16:36	07:20 07:50-08:15/25 16:34
23	07:17 17:04	06:43 17:42	05:59 18:13	06:09 19:46	05:35 20:16	05:28 20:34	05:46 20:24	06:16 19:47	06:46 18:56	07:18 18:08	06:54 16:36	07:20 07:50-08:15/25 16:35
24	07:16 17:05	06:42 17:43	05:57 18:14	06:08 19:47	05:35 20:17	05:28 20:34	05:47 20:23	06:17 19:45	06:47 18:54	07:19 18:07	06:55 16:35	07:21 07:51-08:16/25 16:35
25	07:16 17:06	06:40 17:44	05:56 18:15	06:07 19:48	05:34 20:18	05:28 20:34	05:48 20:22	06:18 19:44	06:48 18:52	07:20 17:05	06:56 16:34	07:21 07:52-08:16/24 16:36
26	07:15 17:08	06:39 17:45	05:54 18:16	06:05 19:49	05:33 20:18	05:28 20:34	05:49 20:21	06:19 19:42	06:49 18:51	07:21 17:04	06:57 07:49-07:55/6 16:34	07:21 07:52-08:16/24 16:36
27	07:14 17:09	06:37 17:47	05:52 18:17	06:04 19:50	05:33 20:19	05:29 20:34	05:49 20:20	06:20 19:41	06:50 18:49	07:22 17:03	06:58 07:47-07:58/11 16:33	07:22 07:53-08:17/24 16:37
28	07:13 17:10	06:36 17:48	05:51 18:18	06:02 19:51	05:32 20:20	05:29 20:34	05:50 20:19	06:21 19:39	06:51 18:47	07:23 17:01	06:59 07:46-07:59/13 16:33	07:22 07:53-08:17/24 16:38
29	07:13 17:11	06:35 17:49	05:50 18:19	06:01 19:52	05:31 20:21	05:30 20:34	05:51 20:18	06:22 19:37	06:52 18:46	07:24 17:00	07:01 07:45-08:00/15 16:33	07:22 07:53-08:18/25 16:39
30	07:12 17:13	06:34 17:50	05:49 18:20	06:00 19:53	05:31 20:22	05:30 20:34	05:52 20:17	06:23 19:36	06:53 18:44	07:25 16:59	07:02 07:44-08:01/17 16:32	07:23 07:54-08:18/24 16:39
31	07:11 17:14	06:33 17:51	05:48 18:21	05:59 19:54	05:30 20:23	05:29 20:34	05:53 20:16	06:24 19:34	06:54 18:45	07:26 16:57	07:03 07:45-08:02/18 16:32	07:23 07:54-08:18/24 16:40
Potential sun hours	298	297	369	398	448	451	458	427	375	346	299	289
Sum of minutes with flicker	302	0	0	0	0	0	0	0	0	0	62	727

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Real case WTG: 4 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (4)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:23 16:41	07:10 17:15	06:34 06:53-07:07/14 17:49	06:44 07:25-08:33/68 19:23	05:58 08:10-08:55/45 19:54	05:30 08:49-08:50/1 20:23
2	07:23 16:42	07:09 17:16	06:33 06:52-07:07/15 17:50	06:42 07:27-08:36/69 19:24	05:57 08:10-08:54/44 19:55	05:29 08:50-08:51/1 20:24
3	07:23 16:43	07:08 17:18	06:31 06:50-07:06/16 17:51	06:41 07:28-08:37/69 19:25	05:56 08:12-08:54/42 19:56	05:29 20:25
4	07:23 16:44	07:07 17:19	06:30 06:49-07:06/17 17:52	06:39 07:29-08:39/70 19:26	05:55 08:13-08:54/41 19:57	05:29 20:25
5	07:23 16:45	07:06 17:20	06:28 06:47-07:05/18 17:53	06:37 07:31-08:41/70 19:27	05:53 08:15-08:55/40 19:58	05:28 20:26
6	07:23 16:45	07:05 17:21	06:27 06:45-07:03/18 17:55	06:36 07:32-08:42/70 19:28	05:52 08:17-08:55/38 19:59	05:28 20:27
7	07:23 16:46	07:04 17:23	06:25 06:44-07:02/18 17:56	06:34 07:34-08:44/70 19:29	05:51 08:18-08:55/37 20:00	05:28 20:27
8	07:23 16:47	07:03 17:24	06:23 06:42-07:00/18 17:57	06:32 07:35-08:45/70 19:30	05:50 08:19-08:54/35 20:01	05:27 20:28
9	07:23 16:48	07:01 17:25	06:22 06:41-06:58/17 17:58	06:31 07:37-08:45/68 19:31	05:49 08:20-08:53/33 20:02	05:27 20:29
10	07:23 16:49	07:00 17:26	06:20 17:59	06:29 07:39-08:47/68 19:32	05:48 08:22-08:53/31 20:03	05:27 20:29
11	07:23 16:50	06:59 17:27	06:19 18:00	06:28 07:40-08:48/68 19:33	05:46 08:23-08:53/30 20:04	05:27 20:30
12	07:22 16:52	06:58 17:29	06:17 18:01	06:26 07:42-08:49/67 19:34	05:45 08:24-08:53/29 20:05	05:27 20:30
13	07:22 16:53	06:57 17:30	06:15 18:02	06:25 07:43-08:49/66 19:35	05:44 08:26-08:53/27 20:06	05:27 20:31
14	07:22 16:54	06:55 17:31	06:14 18:03	06:23 07:45-08:51/66 19:36	05:43 08:27-08:53/26 20:07	05:27 20:31
15	07:21 16:55	06:54 17:32	06:12 18:04	06:21 07:46-08:51/65 19:37	05:42 08:28-08:52/24 20:08	05:27 20:32
16	07:21 16:56	06:53 17:34	06:10 06:29-06:31/2 18:06	06:20 07:47-08:51/64 19:38	05:41 08:31-08:53/22 20:09	05:27 20:32
17	07:21 16:57	06:51 17:35	06:09 06:27-06:31/4 18:07	06:18 07:49-08:52/63 19:39	05:40 08:32-08:53/21 20:10	05:27 20:32
18	07:20 16:58	06:50 17:36	06:07 06:26-06:32/6 18:08	06:17 07:50-08:52/62 19:40	05:40 08:33-08:53/20 20:11	05:27 20:33
19	07:20 16:59	06:49 17:37	06:05 06:24-06:31/7 18:09	06:15 07:52-08:53/61 19:41	05:39 08:34-08:52/18 20:12	05:27 20:33
20	07:19 17:01	06:47 17:38	06:04 06:22-06:30/8 18:10	06:14 07:54-08:54/60 19:42	05:38 08:35-08:52/17 20:13	05:27 20:33
21	07:18 17:02	06:46 17:40	06:02 06:21-06:30/9 18:11	06:12 07:54-08:53/59 19:44	05:37 08:37-08:52/15 20:14	05:27 20:33
22	07:18 17:03	06:45 17:41	06:00 06:19-06:29/10 18:12	06:11 07:56-08:54/58 19:45	05:36 08:38-08:52/14 20:15	05:27 20:34
23	07:17 17:04	06:43 07:02-07:05/3 17:42	05:59 06:17-06:27/10 18:13	06:09 07:57-08:54/57 19:46	05:35 08:39-08:51/12 20:16	05:28 20:34
24	07:16 17:05	06:42 07:01-07:06/5 17:43	05:57 06:16-06:25/9 18:14	06:08 07:59-08:54/55 19:47	05:35 08:40-08:51/11 20:17	05:28 20:34
25	07:16 17:06	06:40 06:59-07:07/8 17:44	05:56 06:42-07:06/24 18:15	06:07 08:01-08:55/54 19:48	05:34 08:42-08:52/10 20:18	05:28 20:34
26	07:15 17:08	06:39 06:58-07:07/9 17:45	05:54 06:34-07:13/39 18:16	06:05 08:02-08:54/52 19:49	05:33 08:42-08:51/9 20:18	05:28 20:34
27	07:14 17:09	06:37 06:56-07:07/11 17:47	05:52 06:29-07:19/50 18:17	06:04 08:04-08:55/51 19:50	05:33 08:44-08:51/7 20:19	05:29 20:34
28	07:13 17:10	06:36 06:55-07:08/13 17:48	05:51 06:24-07:22/58 18:18	06:02 08:04-08:54/50 19:51	05:32 08:45-08:51/6 20:20	05:29 20:34
29	07:13 17:11		06:49 07:20-08:25/65 19:19	06:01 08:06-08:54/48 19:52	05:31 08:46-08:51/5 20:21	05:30 20:34
30	07:12 17:13		06:47 07:22-08:29/67 19:20	06:00 08:08-08:55/47 19:53	05:31 08:47-08:51/4 20:22	05:30 20:34
31	07:11 17:14		06:46 07:24-08:31/67 19:21		05:30 08:48-08:51/3 20:22	
Potential sun hours	298	298	369	398	448	451
Sum of minutes with flicker	0	49	586	1865	716	2

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

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker
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SHADOW - Calendar per WTG

Calculation: Real case WTG: 4 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (4)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:34	05:54 08:34-09:04/30 20:15	06:25 07:39-08:47/68 19:33	06:54 18:42	06:28 16:56	07:03 16:32
2	05:31 20:34	05:55 08:33-09:04/31 20:14	06:26 07:37-08:45/68 19:31	06:55 18:41	06:29 16:55	07:04 16:32
3	05:31 20:34	05:56 08:32-09:04/32 20:13	06:27 07:35-08:43/68 19:29	06:56 18:39	06:30 16:54	07:05 16:31
4	05:32 20:34	05:57 08:30-09:04/34 20:12	06:27 07:32-08:42/70 19:28	06:57 07:25-07:32/7 18:37 07:17-07:22/5	06:32 16:53	07:06 16:31
5	05:32 20:33	05:58 08:29-09:04/35 20:11	06:28 07:30-08:40/70 19:26	06:58 07:18-07:36/18 18:36	06:33 16:51	07:07 16:31
6	05:33 20:33	05:59 08:27-09:04/37 20:10	06:29 07:28-08:38/70 19:24	06:59 07:19-07:37/18 18:34	06:34 16:50	07:08 16:31
7	05:34 20:33	06:00 08:26-09:04/38 20:09	06:30 07:26-08:36/70 19:23	07:00 07:20-07:38/18 18:33	06:35 16:49	07:09 16:31
8	05:34 20:33	06:01 08:24-09:04/40 20:07	06:31 07:24-08:34/70 19:21	07:01 07:22-07:40/18 18:31	06:36 16:48	07:09 16:31
9	05:35 20:32	06:02 08:23-09:04/41 20:06	06:32 07:22-08:32/70 19:20	07:02 07:23-07:41/18 18:29	06:37 16:47	07:10 16:31
10	05:36 20:32	06:03 08:21-09:04/43 20:05	06:33 07:20-08:29/69 19:18	07:04 07:24-07:41/17 18:28	06:39 16:46	07:11 16:31
11	05:36 08:57-08:59/2 20:31	06:04 08:18-09:03/45 20:04	06:34 07:18-08:27/69 19:16	07:05 07:25-07:41/16 18:26	06:40 16:45	07:12 16:31
12	05:37 08:56-08:58/2 20:31	06:05 08:17-09:03/46 20:02	06:35 07:16-08:24/68 19:14	07:06 07:26-07:41/15 18:25	06:41 16:44	07:13 16:31
13	05:38 08:55-08:59/4 20:31	06:06 08:15-09:02/47 20:01	06:36 07:14-08:21/67 19:13	07:07 07:27-07:41/14 18:23	06:42 16:43	07:14 16:31
14	05:38 08:55-09:00/5 20:30	06:07 08:13-09:02/49 20:00	06:37 07:11-08:16/65 19:11	07:08 07:28-07:40/12 18:21	06:43 16:42	07:14 16:31
15	05:39 08:54-09:00/6 20:29	06:08 08:12-09:02/50 19:58	06:38 07:13-08:12/59 19:09	07:09 07:29-07:40/11 18:20	06:45 16:41	07:15 16:32
16	05:40 08:53-09:00/7 20:29	06:09 08:10-09:01/51 19:57	06:39 07:16-08:08/52 19:08	07:10 07:30-07:39/9 18:18	06:46 16:41	07:16 16:32
17	05:41 08:52-09:00/8 20:28	06:10 08:08-09:01/53 19:55	06:40 07:21-08:02/41 19:06	07:11 07:32-07:39/7 18:17	06:47 16:40	07:17 16:32
18	05:42 08:51-09:01/10 20:28	06:11 08:06-09:00/54 19:54	06:41 07:27-07:55/28 19:04	07:12 07:33-07:38/5 18:15	06:48 16:39	07:17 16:33
19	05:42 08:51-09:01/10 20:27	06:12 08:05-09:00/55 19:53	06:42 07:02-07:11/9 19:03	07:13 07:34-07:36/2 18:14	06:49 16:38	07:18 16:33
20	05:43 08:50-09:02/12 20:26	06:13 08:03-08:59/56 19:51	06:43 07:03-07:13/10 19:01	07:14 18:12	06:50 16:37	07:18 16:33
21	05:44 08:48-09:01/13 20:25	06:14 08:01-08:59/58 19:50	06:44 07:04-07:14/10 18:59	07:15 18:11	06:52 16:37	07:19 16:34
22	05:45 08:47-09:02/15 20:25	06:15 07:59-08:58/59 19:48	06:45 07:05-07:14/9 18:58	07:17 18:09	06:53 16:36	07:20 16:34
23	05:46 08:46-09:02/16 20:24	06:16 07:57-08:57/60 19:47	06:46 07:06-07:14/8 18:56	07:18 18:08	06:54 16:36	07:20 16:35
24	05:47 08:45-09:02/17 20:23	06:17 07:55-08:56/61 19:45	06:47 07:07-07:14/7 18:54	07:19 18:07	06:55 16:35	07:21 16:35
25	05:48 08:44-09:03/19 20:22	06:18 07:53-08:56/63 19:44	06:48 07:08-07:14/6 18:52	06:20 17:05	06:56 16:34	07:21 16:36
26	05:49 08:43-09:03/20 20:21	06:19 07:51-08:55/64 19:42	06:49 07:09-07:14/5 18:51	06:21 17:04	06:57 16:34	07:21 16:36
27	05:49 08:42-09:04/22 20:20	06:20 07:49-08:54/65 19:41	06:50 07:10-07:13/3 18:49	06:22 17:03	06:58 16:33	07:22 16:37
28	05:50 08:40-09:03/23 20:19	06:21 07:47-08:53/66 19:39	06:51 07:11-07:12/1 18:47	06:23 17:01	06:59 16:33	07:22 16:38
29	05:51 08:38-09:03/25 20:18	06:22 07:45-08:50/65 19:37	06:52 18:46	06:25 17:00	07:01 16:33	07:22 16:39
30	05:52 08:37-09:03/26 20:17	06:23 07:43-08:49/66 19:36	06:53 18:44	06:26 16:59	07:02 16:32	07:23 16:40
31	05:53 08:36-09:04/28 20:16	06:24 07:41-08:48/67 19:34		06:27 16:57		07:23 16:40
Potential sun hours	458	427	375	346	299	289
Sum of minutes with flicker	290	1561	1210	210	0	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Real case WTG: 5 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (5)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23 16:41	07:10 17:15	06:34 17:49	06:44 19:22	05:58 19:54	05:30 20:23	05:30 20:34	05:54 20:15	06:24 19:33	18:39-18:56/17 18:42	06:54 16:56	06:28 16:32	
2	07:23 16:42	07:09 17:16	06:33 17:50	06:42 19:23	05:57 19:55	05:29 20:24	05:31 20:34	05:55 20:14	06:25 19:31	18:39-18:55/16 18:41	06:55 16:55	07:04 16:32	
3	07:23 16:43	07:08 17:17	06:31 17:51	06:41 19:25	05:56 19:56	05:29 20:25	05:31 20:34	05:56 20:13	06:26 19:29	18:39-18:55/16 18:39	06:56 16:54	07:05 16:31	
4	07:23 16:44	07:07 17:19	06:30 17:52	06:39 19:26	05:55 19:57	05:29 20:25	05:32 20:34	05:57 20:12	06:27 19:28	18:40-18:53/13 18:37	06:57 16:52	07:06 16:31	
5	07:23 16:44	07:06 17:20	06:28 17:53	06:37 19:27	05:53 19:58	05:28 20:26	05:32 20:33	05:58 20:11	06:28 19:26	18:41-18:51/10 18:36	06:58 16:51	07:07 16:31	
6	07:23 16:45	07:05 17:21	06:26 17:54	06:36 19:28	18:47-18:52/5 05:52	05:28 20:27	05:33 20:33	05:59 20:10	06:29 19:24	18:43-18:48/5 18:34	06:59 16:50	07:08 16:31	
7	07:23 16:46	07:04 17:22	06:25 17:56	06:34 19:29	18:44-18:54/10 05:51	05:28 20:27	05:34 20:33	06:00 20:08	06:30 19:23	07:00 18:32	06:35 16:49	07:08 16:31	
8	07:23 16:47	07:03 17:24	06:23 17:57	06:32 19:30	18:43-18:56/13 05:50	05:27 20:28	05:34 20:33	06:01 20:07	06:31 19:21	07:01 18:31	06:36 16:48	07:09 16:31	
9	07:23 16:48	07:01 17:25	06:22 17:58	06:31 19:31	18:41-18:57/16 05:49	05:27 20:29	05:35 20:32	06:02 20:06	06:32 19:19	07:02 18:29	06:37 16:47	07:10 16:31	
10	07:23 16:49	07:00 17:26	06:20 17:59	06:29 19:32	18:41-18:57/16 05:47	05:27 20:29	05:36 20:32	06:03 20:05	06:33 19:18	07:03 18:28	06:39 16:46	07:11 16:31	
11	07:23 16:50	06:59 17:27	06:18 18:00	06:28 19:33	18:40-18:57/17 05:46	05:27 20:30	05:36 20:31	06:04 20:03	06:34 19:16	07:04 18:26	06:40 16:45	07:12 16:31	
12	07:22 16:51	06:58 17:29	06:17 18:01	06:26 19:34	18:39-18:56/17 05:45	05:27 20:30	05:37 20:31	06:05 20:02	06:35 19:14	07:06 18:24	06:41 16:44	07:13 16:31	
13	07:22 16:53	06:57 17:30	06:15 18:02	06:24 19:35	18:40-18:56/16 05:44	05:27 20:31	05:38 20:30	06:06 20:01	06:36 19:13	07:07 18:23	06:42 16:43	07:14 16:31	
14	07:22 16:54	06:55 17:31	06:14 18:03	06:23 19:36	18:40-18:55/15 05:43	05:26 20:31	05:38 20:30	06:07 19:59	06:37 19:11	07:08 18:21	06:43 16:42	07:14 16:31	
15	07:21 16:55	06:54 17:32	06:12 18:04	06:21 19:37	18:41-18:55/14 05:42	05:26 20:31	05:39 20:29	06:08 19:58	06:38 19:09	07:09 18:20	06:45 16:41	07:15 16:32	
16	07:21 16:56	06:53 17:33	06:10 18:05	06:20 19:38	18:41-18:53/12 05:41	05:26 20:32	05:40 20:29	06:09 19:57	06:39 19:08	07:10 18:18	06:46 16:40	07:16 16:32	
17	07:20 16:57	06:51 17:35	06:09 18:07	06:18 19:39	18:44-18:51/7 05:40	05:26 20:32	05:41 20:28	06:10 19:55	06:40 19:06	07:11 18:17	06:47 16:40	07:17 16:32	
18	07:20 16:58	06:50 17:36	06:07 18:08	06:17 19:40	05:39 20:11	05:27 20:33	05:42 20:28	06:11 19:54	06:41 19:04	07:12 18:15	06:48 16:39	07:17 16:32	
19	07:19 16:59	06:49 17:37	06:05 18:09	06:15 19:41	05:39 20:12	05:27 20:33	05:42 20:27	06:12 19:52	06:42 19:03	07:13 18:14	06:49 16:38	07:18 16:33	
20	07:19 17:00	06:47 17:38	06:04 18:10	06:14 19:42	05:38 20:13	05:27 20:33	05:43 20:26	06:13 19:51	06:43 19:01	07:14 18:12	06:50 16:37	07:18 16:33	
21	07:18 17:02	06:46 17:39	06:02 18:11	06:12 19:43	05:37 20:14	05:27 20:33	05:44 20:25	06:14 19:50	06:44 18:59	07:15 18:11	06:52 16:37	07:19 16:34	
22	07:18 17:03	06:45 17:41	06:00 18:12	06:11 19:44	05:36 20:15	05:27 20:34	05:45 20:25	06:15 19:48	06:45 18:57	07:16 18:09	06:53 16:36	07:20 16:34	
23	07:17 17:04	06:43 17:42	05:59 18:13	06:09 19:46	05:35 20:16	05:27 20:34	05:46 20:24	06:16 19:47	06:46 18:56	07:18 18:08	06:54 16:35	07:20 16:35	
24	07:16 17:05	06:42 17:43	05:57 18:14	06:08 19:47	05:35 20:17	05:28 20:34	05:47 20:23	06:17 19:45	06:47 18:54	07:19 18:07	06:55 16:35	07:20 16:35	
25	07:16 17:06	06:40 17:44	05:55 18:15	06:07 19:48	05:34 20:17	05:28 20:34	05:48 20:22	06:18 19:44	06:48 18:52	07:20 17:05	06:56 16:34	07:21 16:36	
26	07:15 17:08	06:39 17:45	05:54 18:16	06:05 19:49	05:33 20:18	05:28 20:34	05:48 20:21	06:19 19:42	06:49 18:51	07:21 17:04	06:57 16:34	07:21 16:36	
27	07:14 17:09	06:37 17:46	05:52 18:17	06:04 19:50	05:33 20:19	05:29 20:34	05:49 20:20	06:20 19:40	06:50 18:49	07:22 17:02	06:58 16:33	07:22 16:37	
28	07:13 17:10	06:36 17:48	05:50 18:18	06:02 19:51	05:32 20:20	05:29 20:34	05:50 20:19	06:21 19:39	06:51 18:47	07:23 17:01	06:59 16:33	07:22 16:38	
29	07:13 17:11	06:35 17:49	05:49 18:19	06:01 19:52	05:31 20:21	05:29 20:34	05:51 20:18	06:22 19:37	06:52 18:46	07:24 17:00	07:00 16:33	07:22 16:38	
30	07:12 17:12	06:34 17:50	05:48 18:20	06:00 19:53	05:31 20:22	05:30 20:34	05:52 20:17	06:22 19:36	06:53 18:44	07:25 16:59	07:02 16:32	07:22 16:39	
31	07:11 17:14	06:33 17:51	05:47 18:21	06:00 19:54	05:30 20:23	05:29 20:34	05:53 20:16	06:23 19:34	06:54 18:39-18:56/17	07:26 16:57	07:03 16:40	07:23 16:40	
Potential sun hours	298	297	369	398	448	451	458	427	375	77	346	299	289
Sum of minutes with flicker	0	0	0	158	0	0	0	82	77	0	0	0	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Real case WTG: 6 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (6)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

	January	February	March	April	May	June
1	07:23 16:41	07:10 17:15	06:34 17:49	06:44 19:22	18:27-18:38/11 19:54	05:30 20:23
2	07:23 16:42	07:09 17:16	06:33 17:50	06:42 19:23	18:28-18:36/8 19:55	05:29 20:24
3	07:23 16:43	07:08 17:17	16:38-16:41/3 06:31 17:51	06:41 19:25	05:56 19:56	05:29 20:25
4	07:23 16:44	07:07 17:19	16:34-16:45/11 06:30 17:52	06:39 19:26	05:55 19:57	05:29 20:25
5	07:23 16:44	07:06 17:20	16:33-16:47/14 06:28 17:53	06:37 19:27	05:53 19:58	05:28 20:26
6	07:23 16:45	07:05 17:21	16:31-16:48/17 06:26 17:54	06:36 19:28	05:52 19:59	05:28 20:27
7	07:23 16:46	07:04 17:22	16:30-16:49/19 06:25 17:56	06:34 19:29	05:51 20:00	05:28 20:27
8	07:23 16:47	07:03 17:24	16:29-16:50/21 06:23 17:57	06:32 19:30	05:50 20:01	05:27 20:28
9	07:23 16:48	07:01 17:25	16:29-16:51/22 06:22 17:58	06:31 19:31	05:49 20:02	05:27 20:28
10	07:23 16:49	07:00 17:26	16:29-16:52/23 06:20 17:59	06:29 19:32	05:47 20:03	05:27 20:29
11	07:23 16:50	06:59 17:27	16:28-16:51/23 06:18 18:00	06:28 19:33	05:46 20:04	05:27 20:30
12	07:22 16:51	06:58 17:29	16:28-16:52/24 06:17 18:01	06:26 19:34	05:45 20:05	05:27 20:30
13	07:22 16:52	06:57 17:30	16:29-16:53/24 06:15 18:02	06:24 19:35	05:44 20:06	05:27 20:31
14	07:22 16:54	06:55 17:31	16:29-16:54/25 06:14 18:03	17:16-17:23/7 06:23 19:36	05:43 20:07	05:26 20:31
15	07:21 16:55	06:54 17:32	16:29-16:54/25 06:12 18:04	17:12-17:25/13 06:21 19:37	05:42 20:08	05:26 20:31
16	07:21 16:56	06:53 17:33	16:30-16:54/24 06:10 18:05	17:11-17:27/16 06:20 19:38	05:41 20:09	05:26 20:32
17	07:20 16:57	06:51 17:35	16:31-16:54/23 06:09 18:06	17:10-17:27/17 06:18 19:39	05:40 20:10	05:26 20:32
18	07:20 16:58	06:50 17:36	16:32-16:53/21 06:07 18:08	17:09-17:27/18 06:17 19:40	05:39 20:11	05:27 20:33
19	07:19 16:59	06:49 17:37	16:34-16:53/19 06:05 18:09	17:09-17:28/19 06:15 19:41	05:39 20:12	05:27 20:33
20	07:19 17:00	06:47 17:38	16:35-16:52/17 06:04 18:10	17:08-17:27/19 06:14 19:42	05:38 20:13	05:27 20:33
21	07:18 17:02	06:46 17:39	16:36-16:51/15 06:02 18:11	17:08-17:26/18 06:12 19:43	05:37 20:14	05:27 20:33
22	07:18 17:03	06:45 17:41	16:38-16:50/12 06:00 18:12	17:09-17:26/17 06:11 19:44	05:36 20:15	05:27 20:34
23	07:17 17:04	06:43 17:42	16:41-16:46/5 05:59 18:13	17:09-17:25/16 06:09 19:46	05:35 20:16	05:27 20:34
24	07:16 17:05	06:42 17:43	06:42 18:14	17:10-17:23/13 06:08 19:47	05:35 20:17	05:28 20:34
25	07:16 17:06	06:40 17:44	06:40 18:15	17:31-17:40/9 06:06 19:48	05:34 20:17	05:28 20:34
26	07:15 17:08	06:39 17:45	06:39 18:16	17:29-17:41/12 06:05 19:49	05:33 20:18	05:28 20:34
27	07:14 17:09	06:37 17:46	06:37 18:17	17:27-17:41/14 06:04 19:50	05:33 20:19	05:29 20:34
28	07:13 17:10	06:36 17:48	06:36 18:18	17:27-17:42/15 06:02 19:51	05:32 20:20	05:29 20:34
29	07:13 17:11		06:49 19:19	18:26-18:41/15 06:01 19:52	05:31 20:21	05:29 20:34
30	07:12 17:12		06:47 19:20	18:26-18:40/14 06:00 19:53	05:31 20:22	05:30 20:34
31	07:11 17:14		06:45 19:21	18:27-18:40/13 05:30 20:22	05:30 20:22	
Potential sun hours	298	297	369	398	448	451
Sum of minutes with flicker	0	387	274	19	0	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Real case WTG: 6 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (6)
 Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
 The sun is shining all the day, from sunrise to sunset
 The rotor plane is always perpendicular to the line from the WTG to the sun
 The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:34	05:54 20:15	06:24 19:33	06:54 18:42	06:28 15:58-16:20/22 16:56	07:03 16:32
2	05:31 20:34	05:55 20:14	06:25 19:31	06:55 18:41	06:29 15:59-16:21/22 16:55	07:04 16:32
3	05:31 20:34	05:56 20:13	06:26 19:29	06:56 18:39	06:30 15:59-16:20/21 16:54	07:05 16:31
4	05:32 20:34	05:57 20:12	06:27 19:28	06:57 18:37	06:31 16:00-16:19/19 16:52	07:06 16:31
5	05:32 20:33	05:58 20:11	06:28 19:26	06:58 18:36	06:33 16:01-16:18/17 16:51	07:07 16:31
6	05:33 20:33	05:59 20:10	06:29 19:24	06:59 18:34	06:34 16:03-16:17/14 16:50	07:08 16:31
7	05:34 20:33	06:00 20:08	06:30 19:23	07:00 18:32	06:35 16:05-16:15/10 16:49	07:08 16:31
8	05:34 20:33	06:01 20:07	06:31 19:21	07:01 18:31	06:36 16:48	07:09 16:31
9	05:35 20:32	06:02 20:06	06:32 19:19	07:02 18:29	06:37 16:47	07:10 16:31
10	05:36 20:32	06:03 20:05	06:33 18:22-18:29/7 19:18	07:03 18:28	06:39 16:46	07:11 16:31
11	05:36 20:31	06:04 20:03	06:34 18:19-18:30/11 19:16	07:04 18:26	06:40 16:45	07:12 16:31
12	05:37 20:31	06:05 20:02	06:35 18:18-18:31/13 19:14	07:06 18:24	06:41 16:44	07:13 16:31
13	05:38 20:30	06:06 20:01	06:36 18:17-18:32/15 19:13	07:07 18:23	06:42 16:43	07:14 16:31
14	05:38 20:30	06:07 19:59	06:37 18:16-18:31/15 19:11	07:08 18:21	06:43 16:42	07:14 16:31
15	05:39 20:29	06:08 19:58	06:38 18:16-18:31/15 19:09	07:09 18:20	06:44 16:41	07:15 16:32
16	05:40 20:29	06:09 19:57	06:39 18:16-18:30/14 19:08	07:10 18:18	06:46 16:40	07:16 16:32
17	05:41 20:28	06:10 19:55	06:40 18:17-18:29/12 19:06	07:11 18:17	06:47 16:40	07:17 16:32
18	05:42 20:28	06:11 19:54	06:41 18:18-18:28/10 19:04 18:00-18:07/7	07:12 18:15	06:48 16:39	07:17 16:32
19	05:42 20:27	06:12 19:52	06:42 18:20-18:24/4 19:03 17:57-18:10/13	07:13 17:11-17:19/8 18:14	06:49 16:38	07:18 16:33
20	05:43 20:26	06:13 19:51	06:43 17:56-18:11/15 19:01	07:14 17:08-17:21/13 18:12	06:50 16:37	07:18 16:33
21	05:44 20:25	06:14 19:50	06:44 17:54-18:11/17 18:59	07:15 17:06-17:22/16 18:11	06:51 16:37	07:19 16:34
22	05:45 20:25	06:15 19:48	06:45 17:53-18:12/19 18:57	07:16 17:05-17:23/18 18:09	06:53 16:36	07:19 16:34
23	05:46 20:24	06:16 19:47	06:46 17:53-18:12/19 18:56	07:18 17:03-17:23/20 18:08	06:54 16:35	07:20 16:35
24	05:47 20:23	06:17 19:45	06:47 17:52-18:11/19 18:54	07:19 17:02-17:24/22 18:07	06:55 16:35	07:20 16:35
25	05:48 20:22	06:18 19:44	06:48 17:52-18:11/19 18:52	06:20 16:01-16:24/23 17:05	06:56 16:34	07:21 16:36
26	05:48 20:21	06:19 19:42	06:49 17:52-18:10/18 18:51	06:21 16:00-16:24/24 17:04	06:57 16:34	07:21 16:36
27	05:49 20:20	06:20 19:40	06:50 17:52-18:09/17 18:49	06:22 15:59-16:23/24 17:02	06:58 16:33	07:22 16:37
28	05:50 20:19	06:21 19:39	06:51 17:53-18:07/14 18:47	06:23 15:58-16:23/25 17:01	06:59 16:33	07:22 16:38
29	05:51 20:18	06:21 19:37	06:52 17:55-18:05/10 18:46	06:24 15:58-16:23/25 17:00	07:00 16:33	07:22 16:38
30	05:52 20:17	06:22 19:36	06:53 18:44	06:26 15:58-16:21/23 16:59	07:01 16:32	07:22 16:39
31	05:53 20:16	06:23 19:34		06:27 15:58-16:21/23 16:57		07:23 16:40
Potential sun hours	458	427	375	346	299	289
Sum of minutes with flicker	0	0	303	264	125	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Real case WTG: 7 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (7)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

	January	February	March	April	May	June
1	07:23 14:39-15:44/65 16:41	07:10 15:32-15:43/11 17:15	06:34 17:49	06:44 17:41-18:07/26 19:22 18:09-18:37/28	05:58 19:54	05:30 20:23
2	07:23 14:40-15:44/64 16:42	07:09 17:16	06:33 17:50	06:42 17:54-18:03/9 17:46-17:50/4 19:23 18:08-18:38/30	05:57 19:55	05:29 20:24
3	07:23 14:41-15:45/64 16:43	07:08 17:17	06:31 17:51	06:40 18:08-18:38/30 19:24	05:56 19:56	05:29 20:25
4	07:23 14:42-15:46/64 16:43	07:07 17:19	06:30 17:52	06:39 18:07-18:38/31 19:26	05:54 19:57	05:28 20:25
5	07:23 14:43-15:46/63 16:44	07:06 17:20	06:28 17:53	06:37 18:07-18:38/31 19:27	05:53 19:58	05:28 20:26
6	07:23 14:44-15:47/63 16:45	07:05 17:21	06:26 17:54	06:36 18:06-18:38/32 19:28	05:52 19:59	05:28 20:27
7	07:23 14:45-15:48/63 16:46	07:04 17:22	06:25 17:55	06:34 18:06-18:37/31 19:29	05:51 20:00	05:28 20:27
8	07:23 14:46-15:48/62 16:47	07:02 17:24	06:23 17:57	06:32 18:07-18:36/29 19:30	05:50 20:01	05:27 20:28
9	07:23 14:47-15:49/62 16:48	07:01 17:25	06:22 17:58	06:31 18:06-18:35/29 19:31	05:49 20:02	05:27 20:28
10	07:23 14:47-15:49/62 16:49	07:00 17:26	06:20 16:54-16:55/1 17:59	06:29 18:08-18:34/26 19:32	05:47 20:03	05:27 20:29
11	07:22 14:49-15:50/61 16:50	06:59 17:27	06:18 16:46-17:01/15 18:00	06:28 18:08-18:32/24 19:33	05:46 20:04	05:27 20:30
12	07:22 14:51-15:51/60 16:51	06:58 17:29	06:17 16:43-17:03/20 18:01	06:26 18:09-18:29/20 19:34	05:45 20:05	05:27 20:30
13	07:22 14:52-15:50/58 16:52	06:57 17:30	06:15 16:41-17:06/25 18:02	06:24 18:11-18:25/14 19:35	05:44 20:06	05:26 20:31
14	07:22 14:54-15:51/57 16:54	06:55 17:31	06:14 16:39-17:07/28 18:03	06:23 18:13-18:22/9 19:36	05:43 20:07	05:26 20:31
15	07:21 14:55-15:51/56 16:55	06:54 17:32	06:12 16:37-17:07/30 18:04	06:21 19:37	05:42 20:08	05:26 20:31
16	07:21 14:58-15:52/54 16:56	06:53 17:33	06:10 16:37-17:11/34 18:05	06:20 19:38	05:41 20:09	05:26 20:32
17	07:20 15:14-15:51/37 16:57 15:00-15:13/13	06:51 17:35	06:09 16:35-17:13/38 18:06	06:18 19:39	05:40 20:10	05:26 20:32
18	07:20 15:15-15:52/37 16:58 15:06-15:09/3	06:50 17:36	06:07 16:34-17:14/40 18:08	06:17 19:40	05:39 20:11	05:27 20:32
19	07:19 15:15-15:52/37 16:59	06:49 17:37	06:05 16:34-17:15/41 18:09	06:15 19:41	05:39 20:12	05:27 20:33
20	07:19 15:16-15:53/37 17:00	06:47 17:38	06:04 16:33-17:16/43 18:10	06:14 19:42	05:38 20:13	05:27 20:33
21	07:18 15:16-15:52/36 17:02	06:46 17:39	06:02 16:33-17:16/43 18:11	06:12 19:43	05:37 20:14	05:27 20:33
22	07:18 15:17-15:52/35 17:03	06:44 17:41	06:00 16:33-17:16/43 18:12	06:11 19:44	05:36 20:15	05:27 20:34
23	07:17 15:18-15:53/35 17:04	06:43 17:42	05:59 16:33-17:16/43 18:13	06:09 19:45	05:35 20:16	05:27 20:34
24	07:16 15:19-15:52/33 17:05	06:42 17:43	05:57 16:32-17:16/44 18:14	06:08 19:47	05:35 20:17	05:28 20:34
25	07:16 15:19-15:51/32 17:06	06:40 17:44	05:55 16:33-17:16/43 18:15	06:06 19:48	05:34 20:17	05:28 20:34
26	07:15 15:20-15:51/31 17:08	06:39 17:45	05:54 16:33-17:15/42 18:16	06:05 19:49	05:33 20:18	05:28 20:34
27	07:14 15:21-15:50/29 17:09	06:37 17:46	05:52 16:34-17:14/40 18:17	06:04 19:50	05:32 20:19	05:29 20:34
28	07:13 15:23-15:50/27 17:10	06:36 17:48	05:50 16:35-17:14/39 18:18 17:20-17:25/5	06:02 19:51	05:32 20:20	05:29 20:34
29	07:12 15:25-15:49/24 17:11		06:49 17:36-18:12/36 19:19 18:15-18:34/19	06:01 19:52	05:31 20:21	05:29 20:34
30	07:12 15:27-15:48/21 17:12		06:47 17:37-18:11/34 19:20 18:12-18:35/23	06:00 19:53	05:31 20:22	05:30 20:34
31	07:11 15:29-15:46/17 17:14		06:45 17:39-18:09/30 19:21 18:11-18:37/26		05:30 20:22	
Potential sun hours	298	297	369	398	448	451
Sum of minutes with flicker	1462	11	825	403	0	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Real case WTG: 7 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (7)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:34	05:54 20:15	06:24 18:07-18:31/24 19:32	06:54 17:22-17:44/22 18:42	06:28 16:56	07:02 14:31-15:32/61 16:32
2	05:31 20:34	05:55 20:14	06:25 18:06-18:32/26 19:31	06:55 17:24-17:41/17 18:41	06:29 16:55	07:04 14:31-15:32/61 16:32
3	05:31 20:34	05:56 20:13	06:26 18:04-18:33/29 19:29	06:56 17:27-17:37/10 18:39	06:30 16:54	07:05 14:30-15:32/62 16:31
4	05:32 20:34	05:57 20:12	06:27 18:04-18:33/29 19:28	06:57 18:37	06:31 16:52	07:06 14:30-15:33/63 16:31
5	05:32 20:33	05:58 20:11	06:28 18:03-18:34/31 19:26	06:58 18:36	06:33 16:51	07:07 14:30-15:33/63 16:31
6	05:33 20:33	05:59 20:10	06:29 18:02-18:34/32 19:24	06:59 18:34	06:34 16:50	07:07 14:30-15:33/63 16:31
7	05:34 20:33	06:00 20:08	06:30 18:02-18:33/31 19:23	07:00 18:32	06:35 16:49	07:08 14:30-15:33/63 16:31
8	05:34 20:32	06:01 20:07	06:31 18:02-18:33/31 19:21	07:01 18:31	06:36 16:48	07:09 14:30-15:34/64 16:31
9	05:35 20:32	06:02 20:06	06:32 18:02-18:32/30 19:19	07:02 18:29	06:37 16:47	07:10 14:30-15:34/64 16:31
10	05:35 20:32	06:03 20:05	06:33 17:49-17:57/8 19:18	07:03 18:28	06:39 15:02-15:15/13 16:46	07:11 14:30-15:35/65 16:31
11	05:36 20:31	06:04 20:03	06:34 17:34-17:59/25 19:16	07:04 18:26	06:40 15:00-15:17/17 16:45	07:12 14:30-15:35/65 16:31
12	05:37 20:31	06:05 20:02	06:35 17:30-18:00/30 19:14	07:06 18:24	06:41 14:57-15:19/22 16:44	07:13 14:30-15:34/64 16:31
13	05:38 20:30	06:06 20:01	06:36 17:28-18:02/34 19:13	07:07 18:23	06:42 14:57-15:21/24 16:43	07:14 14:30-15:35/65 16:31
14	05:38 20:30	06:07 19:59	06:37 17:26-18:02/36 19:11	07:08 18:21	06:43 14:55-15:22/27 16:42	07:14 14:31-15:36/65 16:31
15	05:39 20:29	06:08 19:58	06:38 17:24-18:03/39 19:09	07:09 18:20	06:44 14:54-15:23/29 16:41	07:15 14:31-15:36/65 16:31
16	05:40 20:29	06:09 19:57	06:39 17:23-18:03/40 19:08	07:10 18:18	06:46 14:53-15:24/31 16:40	07:16 14:31-15:36/65 16:32
17	05:41 20:28	06:10 19:55	06:40 17:22-18:03/41 19:06	07:11 18:17	06:47 14:53-15:25/32 16:40	07:16 14:32-15:37/65 16:32
18	05:41 20:27	06:11 19:54	06:41 17:21-18:03/42 19:04	07:12 18:15	06:48 14:53-15:26/33 16:39	07:17 14:31-15:36/65 16:32
19	05:42 20:27	06:12 19:52	06:42 17:20-18:03/43 19:03	07:13 18:14	06:49 14:52-15:27/35 16:38	07:18 14:32-15:37/65 16:33
20	05:43 20:26	06:13 19:51	06:43 17:19-18:02/43 19:01	07:14 18:12	06:50 14:52-15:27/35 16:37	07:18 14:33-15:38/65 16:33
21	05:44 20:25	06:14 19:49	06:44 17:19-18:02/43 18:59	07:15 18:11	06:51 14:51-15:27/36 16:37	07:19 14:33-15:38/65 16:34
22	05:45 20:25	06:15 19:48	06:45 17:18-18:01/43 18:57	07:16 18:09	06:53 14:52-15:29/37 16:36	07:19 14:34-15:39/65 16:34
23	05:46 20:24	06:16 19:47	06:46 17:18-18:00/42 18:56	07:18 18:08	06:54 14:52-15:29/37 16:35	07:20 14:34-15:39/65 16:35
24	05:47 20:23	06:17 19:45	06:47 17:18-17:59/41 18:54	07:19 18:06	06:55 14:52-15:29/37 16:35	07:20 14:34-15:39/65 16:35
25	05:47 20:22	06:18 19:43	06:48 17:18-17:58/40 18:52	06:20 17:05	06:56 14:52-15:29/37 16:34	07:21 14:35-15:40/65 16:36
26	05:48 20:21	06:18 19:42	06:49 17:18-17:56/38 18:51	06:21 17:04	06:57 14:36-15:30/54 16:34	07:21 14:36-15:40/64 16:36
27	05:49 20:20	06:19 19:40	06:50 17:18-17:53/35 18:49	06:22 17:02	06:58 14:35-15:31/56 16:33	07:22 14:36-15:41/65 16:37
28	05:50 20:19	06:20 19:39	06:51 17:18-17:50/32 18:47	06:23 17:01	06:59 14:34-15:31/57 16:33	07:22 14:37-15:42/65 16:38
29	05:51 20:18	06:21 18:13-18:23/10 19:37	06:52 17:19-17:48/29 18:46	06:24 17:00	07:00 14:33-15:31/58 16:33	07:22 14:38-15:42/64 16:38
30	05:52 20:17	06:22 18:10-18:26/16 19:36	06:53 17:20-17:46/26 18:44	06:26 16:58	07:01 14:32-15:32/60 16:32	07:22 14:38-15:43/65 16:39
31	05:53 20:16	06:23 18:08-18:29/21 19:34		06:27 16:57		07:23 14:39-15:43/64 16:40
Potential sun hours	458	427	375	346	299	289
Sum of minutes with flicker	0	47	1151	49	783	1990

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Real case WTG: 8 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (8)
 Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23 14:59-15:30/31 16:41 16:42	07:10 15:39-16:01/22 17:15 17:49	06:34 17:49	06:44 17:22	05:58 19:22	05:30 20:23	05:30 20:34	05:54 20:15	06:24 19:32	06:54 18:42	06:28 15:32-16:04/32 16:56	07:02 14:46-15:16/30 16:32	
2	07:23 15:00-15:30/30 16:42	07:09 15:40-16:00/20 17:16	06:33 17:50	06:42 19:23	05:57 19:55	05:29 20:24	05:31 20:34	05:55 20:14	06:25 19:31	06:55 18:41	06:29 15:33-16:02/29 16:55	07:04 14:46-15:16/30 16:32	
3	07:23 15:00-15:31/31 16:43	07:08 15:41-15:59/18 17:17	06:31 17:51	06:40 19:24	05:56 19:56	05:29 20:25	05:31 20:34	05:56 20:13	06:26 19:29	06:56 18:39	06:30 15:33-15:56/23 16:54	07:05 14:47-15:17/30 16:31	
4	07:23 15:00-15:31/31 16:44	07:07 15:43-15:58/15 17:19	06:30 17:52	06:39 19:26	05:55 19:57	05:28 20:25	05:32 20:34	05:57 20:12	06:27 19:28	06:57 18:37	06:31 15:34-15:55/21 16:52	07:06 14:47-15:17/30 16:31	
5	07:23 15:01-15:32/31 16:44	07:06 15:44-15:55/11 17:20	06:28 17:53	06:37 19:27	05:53 19:58	05:28 20:26	05:32 20:33	05:58 20:11	06:28 19:26	06:58 18:36	06:33 15:18-15:22/4 16:51	07:07 14:47-15:18/31 16:31	
6	07:23 15:02-15:32/30 16:45	07:05 16:06-16:23/17 17:21	06:26 17:54	06:36 19:28	05:52 19:59	05:28 20:27	05:33 20:33	05:59 20:10	06:29 19:24	06:59 18:34	06:34 15:15-15:26/11 16:50	07:07 14:48-15:18/30 16:31	
7	07:23 15:02-15:33/31 16:46	07:04 16:04-16:25/21 17:22	06:25 17:55	06:34 19:29	05:51 20:00	05:28 20:27	05:34 20:33	06:00 20:08	06:30 19:23	07:00 18:32	06:35 15:12-15:28/16 16:49	07:08 14:48-15:19/31 16:31	
8	07:23 15:03-15:33/30 16:47	07:02 16:04-16:26/22 17:24	06:23 17:57	06:32 19:30	05:50 20:01	05:27 20:28	05:34 20:32	06:01 20:07	06:31 19:21	07:01 18:31	06:36 15:11-15:29/18 16:48	07:09 14:49-15:19/30 16:31	
9	07:23 15:04-15:34/30 16:48	07:01 16:03-16:33/30 17:25	06:22 17:58	06:31 19:31	05:49 20:02	05:27 20:28	05:35 20:32	06:02 20:06	06:32 19:19	07:02 18:29	06:37 15:09-15:30/21 16:47	07:10 14:49-15:20/31 16:31	
10	07:23 15:03-15:33/30 16:49	07:00 16:03-16:35/32 17:26	06:20 17:59	06:29 19:32	05:47 20:03	05:27 20:29	05:35 20:32	06:03 20:05	06:33 19:18	07:03 18:28	06:39 15:09-15:32/23 16:46	07:11 14:50-15:20/30 16:31	
11	07:22 15:04-15:34/30 16:50	06:59 16:02-16:36/34 17:27	06:18 18:00	06:28 19:33	05:46 20:04	05:27 20:30	05:36 20:31	06:04 20:03	06:34 19:16	07:04 18:26	06:40 15:09-15:32/23 16:45	07:12 14:49-15:20/31 16:31	
12	07:22 15:40-15:47/7 16:51	06:58 16:03-16:37/34 17:29	06:17 18:01	06:26 19:34	05:45 20:05	05:27 20:30	05:37 20:31	06:05 20:02	06:35 19:14	07:05 18:24	06:41 15:08-15:32/24 16:44	07:13 14:50-15:20/30 16:31	
13	07:22 15:38-15:49/11 16:52	06:57 16:03-16:38/35 17:30	06:15 18:02	06:24 19:35	05:44 20:06	05:26 20:30	05:38 20:30	06:06 20:01	06:36 19:13	07:07 18:23	06:42 15:07-15:33/26 16:43	07:14 14:51-15:21/30 16:31	
14	07:22 15:37-15:51/14 16:54	06:55 16:04-16:39/35 17:31	06:14 18:03	06:23 19:36	05:43 20:07	05:26 20:31	05:38 20:30	06:07 19:59	06:37 19:11	07:08 18:21	06:43 15:08-15:34/26 16:42	07:14 14:51-15:21/30 16:31	
15	07:21 15:36-15:52/16 16:55	06:54 16:03-16:39/36 17:32	06:12 18:04	06:21 19:37	05:42 20:08	05:26 20:31	05:39 20:29	06:08 19:58	06:38 19:09	07:09 18:20	06:44 15:08-15:34/26 16:41	07:15 14:52-15:22/30 16:31	
16	07:21 15:36-15:54/18 16:56	06:53 16:04-16:39/35 17:33	06:10 18:05	06:20 19:38	05:41 20:09	05:26 20:32	05:40 20:29	06:09 19:57	06:39 19:08	07:10 18:18	06:46 15:08-15:34/26 16:40	07:16 14:52-15:22/30 16:32	
17	07:20 15:35-15:55/20 16:57	06:51 16:06-16:40/34 17:35	06:09 18:06	06:18 19:39	05:40 20:10	05:26 20:32	05:41 20:28	06:10 19:55	06:40 19:06	07:11 18:17	06:47 15:09-15:35/26 16:40	07:16 14:53-15:23/30 16:32	
18	07:20 15:35-15:56/21 16:58	06:50 16:06-16:39/33 17:36	06:07 18:08	06:17 19:40	05:39 20:11	05:27 20:32	05:41 20:27	06:11 19:54	06:41 19:04	07:12 18:15	06:48 15:09-15:34/25 16:39	07:17 14:53-15:22/29 16:32	
19	07:19 15:35-15:57/22 16:59	06:49 16:08-16:39/31 17:37	06:05 18:09	06:15 19:41	05:39 20:12	05:27 20:33	05:42 20:27	06:12 19:52	06:42 19:02	07:13 18:14	06:49 15:09-15:34/25 16:38	07:18 14:54-15:23/29 16:33	
20	07:19 15:35-15:58/23 17:00	06:47 16:10-16:38/28 17:38	06:04 18:10	06:14 19:42	05:38 20:13	05:27 20:33	05:43 20:26	06:13 19:51	06:43 19:01	07:14 18:12	06:50 15:09-15:34/25 16:37	07:18 14:54-15:24/30 16:33	
21	07:18 15:35-15:59/24 17:02	06:46 16:19-16:37/18 17:39	06:02 18:11	06:12 19:43	05:37 20:14	05:27 20:33	05:44 20:25	06:14 19:49	06:44 18:59	07:15 18:11	06:51 15:10-15:34/24 16:37	07:19 14:54-15:24/30 16:34	
22	07:18 15:34-15:59/25 17:03	06:44 16:20-16:36/16 17:41	06:00 18:12	06:11 19:44	05:36 20:15	05:27 20:34	05:45 20:25	06:15 19:48	06:45 18:57	07:16 18:09	06:52 15:11-15:34/23 16:36	07:19 14:55-15:25/30 16:34	
23	07:17 15:35-16:00/25 17:04	06:43 16:22-16:34/12 17:42	05:59 18:13	06:09 19:45	05:35 20:16	05:27 20:34	05:46 20:24	06:16 19:46	06:46 18:56	07:18 18:08	06:54 15:12-15:34/22 16:35	07:20 14:55-15:25/30 16:35	
24	07:16 15:35-16:00/25 17:05	06:42 16:26-16:31/5 17:43	05:57 18:14	06:08 19:47	05:35 20:17	05:28 20:34	05:47 20:23	06:17 19:45	06:47 18:54	07:19 18:06	06:55 15:12-15:33/21 16:35	07:21 14:56-15:25/29 16:35	
25	07:16 15:35-16:01/26 17:06	06:40 17:44	06:40 18:15	05:55 19:48	05:34 20:17	05:28 20:34	05:28 20:22	06:18 19:43	06:48 18:52	07:20 18:05	06:56 15:13-15:33/20 16:34	07:21 14:57-15:26/29 16:36	
26	07:15 15:35-16:01/26 17:08	06:39 17:45	06:39 18:16	05:54 19:49	05:33 20:18	05:28 20:34	05:28 20:21	06:18 19:42	06:49 18:51	07:21 18:04	06:57 15:14-15:32/18 16:34	07:21 14:57-15:27/30 16:36	
27	07:14 15:35-16:01/26 17:09	06:37 17:46	06:37 18:17	05:52 19:50	05:33 20:19	05:29 20:34	05:29 20:20	06:19 19:40	06:50 18:49	07:22 18:02	06:58 15:16-15:32/16 16:33	07:22 14:57-15:27/30 16:37	
28	07:13 15:35-16:01/26 17:10	06:36 17:48	06:36 18:18	05:50 19:51	05:32 20:20	05:29 20:34	05:30 20:19	06:20 19:39	06:51 18:47	07:23 18:01	06:59 15:17-15:31/14 16:33	07:22 14:58-15:28/30 16:38	
29	07:12 15:37-16:02/25 17:11	06:49 17:48	06:49 18:19	06:01 19:52	05:31 20:21	05:29 20:34	05:29 20:18	06:21 19:37	06:52 18:46	07:24 18:00	06:24 15:33-16:08/35 16:33	07:22 14:58-15:28/30 16:38	
30	07:12 15:37-16:01/24 17:12	06:47 17:48	06:47 19:20	06:00 19:53	05:31 20:22	05:30 20:34	05:30 20:17	06:22 19:36	06:53 18:44	07:25 18:00	06:26 15:32-16:07/35 16:58	07:22 14:59-15:29/30 16:39	
31	07:11 15:38-16:01/23 17:14	06:45 19:21	06:45 19:21	05:30 20:22	05:30 20:22	05:30 20:22	05:30 20:16	06:23 19:34	06:27 18:44	07:26 18:00	06:27 15:32-16:05/33 16:57	07:23 14:59-15:29/30 16:40	
	Potential sun hours Sum of minutes with flicker	298 1053	298 636	369 0	398 0	448 0	451 0	458 0	427 0	375 0	346 395	299 976	930 289

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

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker
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SHADOW - Calendar per WTG

Calculation: Real case WTG: 9 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (9)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

	January	February	March	April	May	June
1	07:23 15:17-15:51/34 16:41	07:10 17:15	06:34 17:49	06:44 17:56-18:26/30 19:22	05:58 19:54	05:30 20:23
2	07:23 15:18-15:51/33 16:42	07:09 17:16	06:33 17:50	06:42 17:56-18:24/28 19:23	05:57 19:55	05:29 20:24
3	07:23 15:19-15:52/33 16:43	07:08 17:17	06:31 17:51	06:40 17:58-18:23/25 19:24	05:56 19:56	05:29 20:25
4	07:23 15:19-15:53/34 16:44	07:07 17:19	06:30 17:52	06:39 17:59-18:21/22 19:26	05:55 19:57	05:29 20:25
5	07:23 15:20-15:53/33 16:44	07:06 17:20	06:28 17:53	06:37 18:01-18:19/18 19:27	05:53 19:58	05:28 20:26
6	07:23 15:21-15:54/33 16:45	07:05 17:21	06:26 17:54	06:36 18:03-18:16/13 19:28	05:52 19:59	05:28 20:27
7	07:23 15:22-15:54/32 16:46	07:04 17:22	06:25 17:55	06:34 19:29	05:51 20:00	05:28 20:27
8	07:23 15:23-15:55/32 16:47	07:02 17:24	06:23 17:57	06:32 19:30	05:50 20:01	05:27 20:28
9	07:23 15:24-15:55/31 16:48	07:01 17:25	06:22 17:58	06:31 19:31	05:49 20:02	05:27 20:28
10	07:23 15:25-15:55/30 16:49	07:00 17:26	06:20 17:59	06:29 19:32	05:47 20:03	05:27 20:29
11	07:22 15:27-15:56/29 16:50	06:59 17:27	06:18 18:00	06:28 19:33	05:46 20:04	05:27 20:29
12	07:22 15:37-15:56/19 16:51 15:30-15:35/5	06:58 17:29	06:17 18:01	06:26 19:34	05:45 20:05	05:27 20:30
13	07:22 15:37-15:56/19 16:52	06:57 17:30	06:15 18:02	06:24 19:35	05:44 20:06	05:27 20:30
14	07:22 15:38-15:56/18 16:54	06:55 17:31	06:14 18:03	06:23 19:36	05:43 20:07	05:26 20:31
15	07:21 15:38-15:56/18 16:55	06:54 17:32	06:12 18:04	06:21 19:37	05:42 20:08	05:26 20:31
16	07:21 15:39-15:56/17 16:56	06:53 17:33	06:10 18:05	06:20 19:38	05:41 20:09	05:26 20:32
17	07:20 15:40-15:56/16 16:57	06:51 17:35	06:09 18:06	06:18 19:39	05:40 20:10	05:26 20:32
18	07:20 15:42-15:56/14 16:58	06:50 17:36	06:07 18:08	06:17 19:40	05:39 20:11	05:27 20:32
19	07:19 15:43-15:55/12 16:59	06:49 17:37	06:05 18:09	06:15 19:41	05:39 20:12	05:27 20:33
20	07:19 15:45-15:54/9 17:00	06:47 17:38	06:04 18:10	06:14 19:42	05:38 20:13	05:27 20:33
21	07:18 15:48-15:51/3 17:02	06:46 17:39	06:02 18:11	06:12 19:43	05:37 20:14	05:27 20:33
22	07:18 17:03	06:44 17:41	06:00 18:12	06:11 19:44	05:36 20:15	05:27 20:33
23	07:17 17:04	06:43 17:42	05:59 18:13	06:09 19:45	05:35 20:16	05:27 20:34
24	07:16 17:05	06:42 17:43	05:57 18:14	06:08 19:47	05:35 20:17	05:28 20:34
25	07:16 17:06	06:40 17:44	05:55 18:15	06:06 19:48	05:34 20:17	05:28 20:34
26	07:15 17:08	06:39 17:45	05:54 18:16	06:05 19:49	05:33 20:18	05:28 20:34
27	07:14 17:09	06:37 17:46	05:52 18:17	06:04 19:50	05:33 20:19	05:29 20:34
28	07:13 17:10	06:36 17:48	05:50 18:18	06:02 19:51	05:32 20:20	05:29 20:34
29	07:12 17:11		06:49 19:19	06:01 19:52	05:31 20:21	05:29 20:34
30	07:12 17:12		06:47 19:20	06:00 19:53	05:31 20:22	05:30 20:34
31	07:11 17:14		06:45 19:21		05:30 20:22	
Potential sun hours	298	298	369	398	448	451
Sum of minutes with flicker	504	0	437	136	0	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Real case WTG: 9 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (9)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:34	05:54 20:15	06:24 19:32	06:54 18:42	06:28 16:56	07:02 15:09-15:38/29 16:32
2	05:31 20:34	05:55 20:14	06:25 19:31	06:55 18:41	06:29 16:55	07:04 15:09-15:38/29 16:32
3	05:31 20:34	05:56 20:13	06:26 19:29	06:56 18:39	06:30 16:54	07:05 15:08-15:39/31 16:31
4	05:32 20:34	05:57 20:12	06:27 19:28	06:57 18:37	06:31 16:52	07:06 15:08-15:39/31 16:31
5	05:32 20:33	05:58 20:11	06:28 19:26	06:58 18:36	06:33 16:51	07:06 15:07-15:39/32 16:31
6	05:33 20:33	05:59 20:10	06:29 18:00-18:12/12 19:24	06:59 18:34	06:34 16:50	07:07 15:07-15:40/33 16:31
7	05:34 20:33	06:00 20:08	06:30 17:56-18:14/18 19:23	07:00 18:32	06:35 16:49	07:08 15:07-15:40/33 16:31
8	05:34 20:32	06:01 20:07	06:31 17:54-18:16/22 19:21	07:01 18:31	06:36 16:48	07:09 15:08-15:41/33 16:31
9	05:35 20:32	06:02 20:06	06:32 17:52-18:17/25 19:19	07:02 18:29	06:37 16:47	07:10 15:08-15:41/33 16:31
10	05:36 20:32	06:03 20:05	06:33 17:50-18:18/28 19:18	07:03 18:28	06:39 16:46	07:11 15:08-15:42/34 16:31
11	05:36 20:31	06:04 20:03	06:34 17:48-18:18/30 19:16	07:04 18:26	06:40 16:45	07:12 15:07-15:41/34 16:31
12	05:37 20:31	06:05 20:02	06:35 17:47-18:18/31 19:14	07:05 18:24	06:41 16:44	07:13 15:08-15:41/33 16:31
13	05:38 20:30	06:06 20:01	06:36 17:46-18:18/32 19:13	07:07 18:23	06:42 16:43	07:14 15:08-15:42/34 16:31
14	05:38 20:30	06:07 19:59	06:37 17:45-18:18/33 19:11	07:08 18:21	06:43 16:42	07:14 15:09-15:43/34 16:31
15	05:39 20:29	06:08 19:58	06:38 17:45-18:18/33 19:09	07:09 18:20	06:44 16:41	07:15 15:09-15:42/33 16:31
16	05:40 20:29	06:09 19:57	06:39 17:44-18:18/34 19:08	07:10 18:18	06:46 16:40	07:16 15:09-15:43/34 16:32
17	05:41 20:28	06:10 19:55	06:40 17:44-18:18/34 19:06	07:11 18:17	06:47 16:40	07:16 15:10-15:44/34 16:32
18	05:41 20:27	06:11 19:54	06:41 17:44-18:17/33 19:04	07:12 18:15	06:48 16:39	07:17 15:10-15:43/33 16:32
19	05:42 20:27	06:12 19:52	06:42 17:44-18:16/32 19:02	07:13 18:14	06:49 16:38	07:18 15:11-15:44/33 16:33
20	05:43 20:26	06:13 19:51	06:43 17:44-18:16/32 19:01	07:14 18:12	06:50 16:37	07:18 15:12-15:45/33 16:33
21	05:44 20:25	06:14 19:49	06:44 17:44-18:15/31 18:59	07:15 18:11	06:51 15:23-15:26/3 16:37	07:19 15:12-15:45/33 16:34
22	05:45 20:25	06:15 19:48	06:45 17:44-18:13/29 18:57	07:16 18:09	06:53 15:21-15:30/9 16:36	07:19 15:13-15:46/33 16:34
23	05:46 20:24	06:16 19:46	06:46 17:45-18:12/27 18:56	07:18 18:08	06:54 15:20-15:32/12 16:35	07:20 15:13-15:46/33 16:35
24	05:47 20:23	06:17 19:45	06:47 17:46-18:10/24 18:54	07:19 18:07	06:55 15:19-15:33/14 16:35	07:20 15:13-15:46/33 16:35
25	05:47 20:22	06:18 19:43	06:48 17:48-18:08/20 18:52	06:20 17:05	06:56 15:18-15:34/16 16:34	07:21 15:14-15:47/33 16:36
26	05:48 20:21	06:19 19:42	06:49 17:50-18:05/15 18:51	06:21 17:04	06:57 15:17-15:34/17 16:34	07:21 15:14-15:47/33 16:36
27	05:49 20:20	06:19 19:40	06:50 17:54-18:01/7 18:49	06:22 17:02	06:58 15:18-15:36/18 16:33	07:22 15:14-15:48/34 16:37
28	05:50 20:19	06:20 19:39	06:51 18:47	06:23 17:01	06:59 15:18-15:37/19 16:33	07:22 15:16-15:49/33 16:38
29	05:51 20:18	06:21 19:37	06:52 18:46	06:24 17:00	07:00 15:18-15:37/19 16:33	07:22 15:16-15:49/33 16:38
30	05:52 20:17	06:22 19:36	06:53 18:44	06:26 16:58	07:01 15:18-15:37/19 16:32	07:22 15:16-15:50/34 16:39
31	05:53 20:16	06:23 19:34		06:27 16:57		07:23 15:17-15:50/33 16:40
Potential sun hours	458	427	375	346	299	289
Sum of minutes with flicker	0	0	582	0	151	1018

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

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker
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SHADOW - Calendar per WTG

Calculation: Real case WTG: 10 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (10)
 Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
 The sun is shining all the day, from sunrise to sunset
 The rotor plane is always perpendicular to the line from the WTG to the sun
 The WTG is always operating

	January	February	March	April	May	June
1	07:23 15:14-15:42/28 16:41	07:10 17:15	06:34 17:49	06:44 19:22	05:58 19:54	05:30 18:40-18:43/3 20:23
2	07:23 15:15-15:42/27 16:42	07:09 17:16	06:33 17:50	06:42 19:23	05:57 19:55	05:29 18:40-18:43/3 20:24
3	07:23 15:15-15:43/28 16:43	07:08 17:17	06:31 17:51	06:40 19:24	05:56 19:56	05:29 18:40-18:42/2 20:25
4	07:23 15:16-15:43/27 16:43	07:07 17:19	06:30 17:52	06:39 19:25	05:54 19:57	05:28 18:40-18:42/2 20:25
5	07:23 15:17-15:43/26 16:44	07:06 17:20	06:28 17:53	06:37 19:27	05:53 19:58	05:28 18:41-18:42/1 20:26
6	07:23 15:17-15:43/26 16:45	07:05 17:21	06:26 17:54	06:36 19:28	05:52 19:59	05:28 20:27
7	07:23 15:18-15:44/26 16:46	07:04 17:22	06:25 17:55	06:34 19:29	05:51 19:04-19:09/5 20:00	05:28 20:27
8	07:23 15:19-15:44/25 16:47	07:02 17:24	06:23 17:57	06:32 19:30	05:50 20:01 19:00-19:08/8	05:27 20:28
9	07:23 15:19-15:43/24 16:48	07:01 17:25	06:22 17:58	06:31 19:31	05:49 20:02 18:57-19:07/10	05:27 20:28
10	07:23 15:21-15:43/22 16:49	07:00 17:26	06:20 17:59	06:29 19:32	05:47 20:03 18:55-19:05/10	05:27 20:29
11	07:22 15:22-15:43/21 16:50	06:59 17:27	06:18 18:00	06:28 19:33	05:46 20:04 18:53-19:04/11	05:27 20:29
12	07:22 15:24-15:43/19 16:51	06:58 17:28	06:17 18:01	06:26 19:34	05:45 20:05 18:51-19:03/12	05:27 20:30
13	07:22 15:24-15:42/18 16:52	06:56 17:30	06:15 18:02	06:24 19:35	05:44 20:06 18:50-19:01/11	05:26 20:30
14	07:22 15:26-15:42/16 16:54	06:55 17:31	06:14 18:03	06:23 19:36	05:43 20:07 18:48-19:00/12	05:26 20:31
15	07:21 15:27-15:40/13 16:55	06:54 17:32	06:12 18:04	06:21 19:37	05:42 20:08 18:47-18:59/12	05:26 20:31
16	07:21 15:30-15:39/9 16:56	06:53 17:33	06:10 18:05	06:20 19:38	05:41 20:09 18:46-18:57/11	05:26 20:32
17	07:20 16:57	06:51 17:35	06:09 18:06	06:18 19:39	05:40 20:10 18:46-18:57/11	05:26 20:32
18	07:20 16:58	06:50 17:36	06:07 18:08	06:17 19:40	05:39 20:11 18:45-18:56/11	05:27 20:32
19	07:19 16:59	06:49 17:37	06:05 18:09	06:15 19:41	05:39 20:12 18:44-18:54/10	05:27 20:33
20	07:19 17:00	06:47 17:38	06:04 18:10	06:14 19:42	05:38 20:13 18:43-18:53/10	05:27 20:33
21	07:18 17:02	06:46 17:39	06:02 18:11	06:12 19:43	05:37 20:14 18:43-18:52/9	05:27 20:33
22	07:18 17:03	06:44 17:41	06:00 18:12	06:11 19:44	05:36 20:15 18:43-18:52/9	05:27 20:33
23	07:17 17:04	06:43 17:42	05:59 18:13	06:09 19:45	05:35 20:16 18:42-18:50/8	05:27 20:34
24	07:16 17:05	06:42 17:43	05:57 18:14	06:08 19:47	05:35 20:16 18:41-18:49/8	05:28 20:34
25	07:16 17:06	06:40 17:44	05:55 18:15	06:06 19:48	05:34 20:17 18:42-18:49/7	05:28 20:34
26	07:15 17:08	06:39 17:45	05:54 18:16	06:05 19:49	05:33 20:18 18:41-18:48/7	05:28 20:34
27	07:14 17:09	06:37 17:46	05:52 18:17	06:04 19:50	05:32 20:19 18:40-18:46/6	05:29 20:34
28	07:13 17:10	06:36 17:48	05:50 18:18	06:02 19:51	05:32 20:20 18:41-18:46/5	05:29 20:34
29	07:12 17:11		06:49 19:19	06:01 19:52	05:31 20:21 18:40-18:45/5	05:29 20:34
30	07:12 17:12		06:47 19:20	06:00 19:53	05:31 20:22 18:40-18:45/5	05:30 20:34
31	07:11 17:14		06:45 19:21		05:30 20:22 18:40-18:44/4	
Potential sun hours	298	298	369	398	448	451
Sum of minutes with flicker	355	0	0	0	217	11

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Real case WTG: 10 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (10)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:34	05:54 19:03-19:14/11 20:15	06:24 19:32	06:54 18:42	06:28 16:56	07:02 15:04-15:25/21 16:32
2	05:31 20:34	05:55 19:04-19:15/11 20:14	06:25 19:31	06:55 18:41	06:29 16:55	07:03 15:04-15:26/22 16:32
3	05:31 20:34	05:56 19:06-19:16/10 20:13	06:26 19:29	06:56 18:39	06:30 16:54	07:04 15:04-15:27/23 16:31
4	05:32 20:33	05:57 19:09-19:18/9 20:12	06:27 19:28	06:57 18:37	06:31 16:52	07:05 15:03-15:28/25 16:31
5	05:32 20:33	05:58 19:12-19:19/7 20:11	06:28 19:26	06:58 18:36	06:33 16:51	07:06 15:03-15:29/26 16:31
6	05:33 20:33	05:59 19:17-19:20/3 20:10	06:29 19:24	06:59 18:34	06:34 16:50	07:07 15:04-15:30/26 16:31
7	05:34 18:47-18:48/1 20:33	06:00 20:08	06:30 19:23	07:00 18:32	06:35 16:49	07:08 15:04-15:30/26 16:31
8	05:34 18:47-18:49/2 20:32	06:01 20:07	06:31 19:21	07:01 18:31	06:36 16:48	07:09 15:04-15:31/27 16:31
9	05:35 18:47-18:49/2 20:32	06:02 20:06	06:32 19:19	07:02 18:29	06:37 16:47	07:10 15:04-15:32/28 16:31
10	05:35 18:48-18:50/2 20:32	06:03 20:05	06:33 19:18	07:03 18:28	06:38 16:46	07:11 15:05-15:32/27 16:31
11	05:36 18:48-18:51/3 20:31	06:04 20:03	06:34 19:16	07:04 18:26	06:40 16:45	07:12 15:04-15:32/28 16:31
12	05:37 18:48-18:51/3 20:31	06:05 20:02	06:35 19:14	07:05 18:24	06:41 16:44	07:13 15:05-15:33/28 16:31
13	05:38 18:49-18:53/4 20:30	06:06 20:01	06:36 19:13	07:07 18:23	06:42 16:43	07:14 15:05-15:34/29 16:31
14	05:38 18:49-18:54/5 20:30	06:07 19:59	06:37 19:11	07:08 18:21	06:43 16:42	07:14 15:06-15:35/29 16:31
15	05:39 18:49-18:54/5 20:29	06:08 19:58	06:38 19:09	07:09 18:20	06:44 16:41	07:15 15:05-15:34/29 16:31
16	05:40 18:49-18:55/6 20:29	06:09 19:57	06:39 19:08	07:10 18:18	06:46 16:40	07:16 15:06-15:35/29 16:32 14:55-15:00/5
17	05:41 18:50-18:57/7 20:28	06:10 19:55	06:40 19:06	07:11 18:17	06:47 16:40	07:16 15:07-15:36/29 16:32 14:55-15:02/7
18	05:41 18:51-18:58/7 20:27	06:11 19:54	06:41 19:04	07:12 18:15	06:48 16:39	07:17 15:07-15:36/29 16:32 14:54-15:03/9
19	05:42 18:51-18:59/8 20:27	06:12 19:52	06:42 19:02	07:13 18:14	06:49 16:38	07:18 15:07-15:37/30 16:33 14:55-15:04/9
20	05:43 18:51-18:59/8 20:26	06:13 19:51	06:43 19:01	07:14 18:12	06:50 16:37	07:18 15:08-15:38/30 16:33 14:55-15:05/10
21	05:44 18:52-19:01/9 20:25	06:14 19:49	06:44 18:59	07:15 18:11	06:51 16:37	07:19 15:08-15:38/30 16:34 14:55-15:05/10
22	05:45 18:53-19:02/9 20:25	06:15 19:48	06:45 18:57	07:16 18:09	06:53 16:36	07:19 15:09-15:39/30 16:34 14:56-15:06/10
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24	05:47 18:54-19:04/10 20:23	06:17 19:45	06:47 18:54	07:19 18:06	06:55 16:35	07:20 15:09-15:39/30 16:35 14:57-15:06/9
25	05:47 18:55-19:06/11 20:22	06:17 19:43	06:48 18:52	07:20 17:05	06:56 16:34	07:21 15:11-15:40/29 16:36 14:58-15:07/9
26	05:48 18:56-19:07/11 20:21	06:18 19:42	06:49 18:51	07:21 17:04	06:57 15:08-15:17/9 16:34	07:21 15:11-15:40/29 16:36 14:59-15:06/7
27	05:49 18:56-19:07/11 20:20	06:19 19:40	06:50 18:49	07:22 17:02	06:58 15:07-15:20/13 16:33	07:22 15:11-15:40/29 16:37 15:00-15:06/6
28	05:50 18:57-19:08/11 20:19	06:20 19:39	06:51 18:47	07:23 17:01	06:59 15:06-15:22/16 16:33	07:22 15:12-15:41/29 16:38 15:02-15:06/4
29	05:51 18:58-19:10/12 20:18	06:21 19:37	06:52 18:46	07:24 17:00	07:00 15:05-15:23/18 16:33	07:22 15:13-15:41/28 16:38
30	05:52 19:00-19:11/11 20:17	06:22 19:36	06:53 18:44	07:26 16:58	07:01 15:05-15:24/19 16:32	07:22 15:13-15:42/29 16:39
31	05:53 19:01-19:12/11 20:16	06:23 19:34			06:27 16:57	07:23 15:13-15:42/29 16:40
Potential sun hours	458	427	375	346	299	289
Sum of minutes with flicker	179	51	0	0	75	968

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Real case WTG: 11 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (11)

Assumptions for shadow calculations

- The calculated times are "worst case" given by the following assumptions:
- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23 14:28-15:16/48 16:41	07:10 17:15 07:09 17:49	06:34 17:49 06:33 17:49	06:44 19:22 06:42 19:22	05:58 19:54 05:57 19:54	05:30 20:23 20:34	05:30 20:15 20:34	05:54 19:32 20:15	06:24 18:42 19:32	06:54 16:56 16:56	06:28 16:32 16:32	07:02 14:19-14:59/40 16:32	
2	07:23 14:29-15:16/47 16:42	07:09 17:16 07:08 17:50	06:33 19:23 06:31 19:23	06:42 19:55 06:40 19:55	05:57 20:24 05:56 20:24	05:29 20:34 05:31 20:34	05:31 20:14 05:56 20:14	05:54 19:31 06:26 19:31	06:26 18:41 06:56 16:55	06:30 16:55 16:55	06:29 16:31 16:31	07:03 14:19-15:00/41 16:32	
3	07:23 14:30-15:16/46 16:43	07:08 17:17 07:07 17:51	06:31 19:24 06:29 19:24	06:40 19:56 06:39 19:56	05:56 20:25 05:54 20:25	05:29 20:34 05:32 20:34	05:31 20:13 05:57 20:13	05:56 19:29 06:27 19:29	06:26 18:39 06:57 16:53	06:30 16:31 16:31	06:27 06:31 16:31	07:04 14:18-15:00/42 16:31	
4	07:23 14:30-15:16/46 16:43	07:07 17:19 07:06 17:52	06:29 19:25 06:28 19:25	06:39 19:57 06:37 19:57	05:54 20:25 05:53 20:25	05:28 20:34 05:32 20:34	05:32 20:12 05:58 20:12	05:57 19:28 06:28 19:28	06:27 18:37 06:58 16:52	06:31 16:52 16:52	06:28 16:31 16:31	07:05 14:18-15:01/43 16:31	
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	Potential sun hours Sum of minutes with flicker	298 768	298 0	369 0	398 0	448 0	451 0	458 0	427 0	375 0	346 0	299 279	289 1470

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Real case WTG: 12 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (12)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	07:23 07:45-07:55/10 16:41	07:10 07:30-08:07/37 17:15	06:34 17:49	06:44 17:10-18:24/74 19:22	05:58 18:10-18:51/41 19:54 17:17-17:59/42	05:30 20:23
2	07:23 07:45-07:55/10 16:42	07:09 07:29-08:06/37 17:16	06:33 17:50	06:42 17:09-18:24/75 19:23	05:57 18:10-18:51/41 19:55 17:18-17:58/40	05:29 20:24
3	07:23 07:45-07:56/11 16:43	07:08 07:28-08:06/38 17:17	06:31 17:51	06:40 17:09-18:25/76 19:24	05:56 18:11-18:50/39 19:56 17:20-17:56/36	05:29 20:25
4	07:23 07:45-07:57/12 16:43	07:07 07:27-08:05/38 17:19	06:30 17:52	06:39 17:08-18:25/77 19:26	05:54 18:11-18:50/39 19:57 17:22-17:55/33	05:28 20:25
5	07:23 07:45-07:57/12 16:44	07:06 07:26-08:05/39 17:20	06:28 17:53	06:37 17:08-18:26/78 19:27	05:53 18:12-18:49/37 19:58 17:25-17:53/28	05:28 20:26
6	07:23 07:45-07:58/13 16:45	07:05 07:24-08:03/39 17:21	06:26 17:54	06:36 17:07-18:25/78 19:28	05:52 18:12-18:48/36 19:59 17:27-17:49/22	05:28 20:27
7	07:23 07:45-07:59/14 16:46	07:04 07:23-08:02/39 17:22	06:25 17:55	06:34 17:06-18:25/79 19:29	05:51 18:12-18:47/35 20:00 17:30-17:46/16	05:27 20:27
8	07:23 07:45-08:00/15 16:47	07:02 07:22-08:01/39 17:24	06:23 17:57	06:32 17:06-18:25/79 19:30	05:50 18:13-18:47/34 20:01	05:27 20:28
9	07:23 07:45-08:01/16 16:48	07:01 07:21-08:00/39 17:25	06:22 17:58	06:31 17:05-18:25/80 19:31	05:49 18:14-18:46/32 20:02	05:27 20:28
10	07:23 07:44-08:01/17 16:49	07:00 07:23-07:59/36 17:26	06:20 17:59	06:29 17:06-18:25/79 19:32	05:47 18:15-18:45/30 20:03	05:27 20:29
11	07:22 07:44-08:02/18 16:50	06:59 07:24-07:56/32 17:27	06:18 18:00	06:28 17:05-18:24/79 19:33 18:34-18:47/13	05:46 18:17-18:44/27 20:04	05:27 20:30
12	07:22 07:44-08:02/18 16:51	06:58 07:27-07:55/28 17:28	06:17 18:01	06:26 17:05-18:23/78 19:34 18:30-18:49/19	05:45 18:18-18:42/24 20:05	05:27 20:30
13	07:22 07:43-08:02/19 16:52	06:57 07:30-07:52/22 17:30	06:15 18:02	06:24 17:05-18:23/78 19:35 18:28-18:52/24	05:44 18:19-18:41/22 20:06	05:26 20:31
14	07:22 07:43-08:03/20 16:54	06:55 07:34-07:48/14 17:31	06:14 18:03	06:23 17:05-18:22/77 19:36 18:24-18:53/29	05:43 18:21-18:39/18 20:07	05:26 20:31
15	07:21 07:42-08:03/21 16:55	06:54 17:32	06:12 18:04	06:21 17:06-18:54/108 19:37	05:42 18:24-18:36/12 20:08	05:26 20:31
16	07:21 07:42-08:04/22 16:56	06:53 17:33	06:10 18:05	06:20 17:05-18:54/109 19:38	05:41 18:29-18:30/1 20:09	05:26 20:32
17	07:20 07:41-08:04/23 16:57	06:51 17:35	06:09 18:06	06:18 17:06-18:55/109 19:39	05:40 20:10	05:26 20:32
18	07:20 07:41-08:05/24 16:58	06:50 17:36	06:07 18:08	06:17 17:06-18:55/109 19:40	05:39 20:11	05:26 20:32
19	07:19 07:40-08:05/25 16:59	06:49 17:37	06:05 16:42-16:51/9 18:09	06:15 17:07-18:56/109 19:41	05:38 20:12	05:27 20:33
20	07:19 07:40-08:06/26 17:00	06:47 17:38	06:04 16:34-16:57/23 18:10	06:14 17:07-18:55/108 19:42	05:38 20:13	05:27 20:33
21	07:18 07:39-08:06/27 17:02	06:46 17:39	06:02 16:30-17:01/31 18:11	06:12 17:08-18:56/108 19:43	05:37 20:14	05:27 20:33
22	07:18 07:38-08:06/28 17:03	06:44 17:41	06:00 16:27-17:04/37 18:12	06:11 17:08-18:55/107 19:44	05:36 20:15	05:27 20:34
23	07:17 07:38-08:07/29 17:04	06:43 17:42	05:59 16:24-17:06/42 18:13	06:09 17:09-18:55/106 19:45	05:35 20:16	05:27 20:34
24	07:16 07:37-08:07/30 17:05	06:42 17:43	05:57 16:21-17:07/46 18:14	06:08 17:10-18:08/58 19:47 18:11-18:56/45	05:34 20:17	05:28 20:34
25	07:16 07:36-08:07/31 17:06	06:40 17:44	05:55 16:20-17:14/54 18:15	06:06 17:10-18:07/57 19:48 18:10-18:55/45	05:34 20:17	05:28 20:34
26	07:15 07:35-08:07/32 17:08	06:39 17:45	05:54 16:18-17:17/59 18:16	06:05 18:10-18:54/44 19:49 17:11-18:06/55	05:33 20:18	05:28 20:34
27	07:14 07:34-08:07/33 17:09	06:37 17:46	05:52 16:16-17:18/62 18:17	06:04 18:10-18:54/44 19:50 17:13-18:05/52	05:32 20:19	05:29 20:34
28	07:13 07:34-08:08/34 17:10	06:36 17:48	05:50 16:15-17:21/66 18:18	06:02 18:10-18:53/43 19:51 17:13-18:04/51	05:32 20:20	05:29 20:34
29	07:12 07:33-08:08/35 17:11		06:49 17:13-18:22/69 19:19	06:01 18:10-18:52/42 19:52 17:15-18:03/48	05:31 20:21	05:29 20:34
30	07:12 07:32-08:07/35 17:12		06:47 17:12-18:22/70 19:20	06:00 18:10-18:52/42 19:53 17:16-18:02/46	05:31 20:22	05:30 20:34
31	07:11 07:31-08:07/36 17:14		06:45 17:11-18:24/73 19:21		05:30 20:22	
Potential sun hours	298	297	369	398	448	451
Sum of minutes with flicker	696	477	641	2817	685	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Real case WTG: 12 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (12)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:34	05:54 18:28-18:53/25 20:15	06:24 17:04-18:23/79 19:32 18:33-18:46/13	06:54 18:42	06:28 06:52-07:28/36 16:56	07:02 07:26-07:44/18 16:32
2	05:31 20:34	05:55 18:27-18:55/28 20:14	06:25 17:04-18:23/79 19:31	06:55 18:41	06:29 06:51-07:30/39 16:55	07:04 07:27-07:44/17 16:32
3	05:31 20:34	05:56 18:26-18:56/30 20:13	06:26 17:03-18:23/80 19:29	06:56 18:39	06:30 06:52-07:31/39 16:54	07:05 07:28-07:44/16 16:31
4	05:32 20:34	05:57 18:25-18:57/32 20:12	06:27 17:03-18:22/79 19:28	06:57 18:37	06:31 06:53-07:32/39 16:52	07:06 07:29-07:44/15 16:31
5	05:32 20:33	05:58 18:24-18:57/33 20:11 17:45-17:52/7	06:28 17:03-18:22/79 19:26	06:58 18:36	06:33 06:54-07:33/39 16:51	07:07 07:30-07:44/14 16:31
6	05:33 20:33	05:59 18:23-18:58/35 20:10 17:40-17:58/18	06:29 17:03-18:21/78 19:24	06:59 18:34	06:34 06:56-07:35/39 16:50	07:07 07:31-07:44/13 16:31
7	05:34 20:33	06:00 18:21-18:58/37 20:08 17:35-18:00/25	06:30 17:03-18:21/78 19:23	07:00 18:32	06:35 06:57-07:35/38 16:49	07:08 07:32-07:45/13 16:31
8	05:34 20:32	06:01 18:20-18:58/38 20:07 17:33-18:02/29	06:31 17:03-18:20/77 19:21	07:01 18:31	06:36 06:58-07:36/38 16:48	07:09 07:33-07:45/12 16:31
9	05:35 20:32	06:02 18:20-18:59/39 20:06 17:30-18:04/34	06:32 17:03-18:19/76 19:19	07:02 18:29	06:37 06:59-07:36/37 16:47	07:10 07:34-07:45/11 16:31
10	05:35 20:32	06:03 18:19-18:59/40 20:05 17:28-18:06/38	06:33 17:03-18:18/75 19:18	07:03 18:28	06:39 07:01-07:38/37 16:46	07:11 07:35-07:45/10 16:31
11	05:36 20:31	06:04 18:19-18:59/40 20:03 17:27-18:07/40	06:34 17:02-18:16/74 19:16	07:04 18:26	06:40 07:02-07:38/36 16:45	07:12 07:36-07:46/10 16:31
12	05:37 20:31	06:05 18:18-18:59/41 20:02 17:25-18:08/43	06:35 17:02-18:15/73 19:14	07:05 18:24	06:41 07:03-07:38/35 16:44	07:13 07:36-07:45/9 16:31
13	05:38 20:30	06:06 18:18-19:00/42 20:01 17:23-18:10/47	06:36 17:03-18:14/71 19:13	07:07 18:23	06:42 07:05-07:40/35 16:43	07:14 13:56-14:02/6 16:31
14	05:38 20:30	06:07 18:18-19:00/42 19:59 17:22-18:11/49	06:37 17:03-18:12/69 19:11	07:08 18:21	06:43 07:06-07:40/34 16:42	07:14 13:54-14:05/11 16:31
15	05:39 20:29	06:08 18:17-19:01/44 19:58 17:20-18:12/52	06:38 17:04-18:10/66 19:09	07:09 18:20	06:44 07:07-07:40/33 16:41	07:15 13:53-14:07/14 16:31
16	05:40 20:29	06:09 18:17-19:01/44 19:57 17:19-18:12/53	06:39 17:05-18:08/63 19:08	07:10 18:18	06:46 07:08-07:40/32 16:40	07:16 13:52-14:08/16 16:32
17	05:41 20:28	06:10 18:17-19:01/44 19:55 17:18-18:13/55	06:40 17:06-18:06/60 19:06	07:11 18:17	06:47 07:10-07:41/31 16:40	07:16 13:52-14:10/18 16:32
18	05:41 20:27	06:11 17:17-18:14/57 19:54 18:17-19:01/44	06:41 17:07-18:02/55 19:04	07:12 18:15	06:48 07:11-07:41/30 16:39	07:17 13:51-14:10/19 16:32
19	05:42 20:27	06:12 17:16-18:15/59 19:52 18:17-19:01/44	06:42 17:08-17:57/49 19:02	07:13 18:14	06:49 07:12-07:41/29 16:38	07:18 13:52-14:11/19 16:33
20	05:43 20:26	06:13 17:14-19:01/107 19:51	06:43 17:10-17:53/43 19:01	07:14 18:12	06:50 07:13-07:41/28 16:37	07:18 13:53-14:12/19 16:33
21	05:44 20:25	06:14 17:13-19:01/108 19:49	06:44 17:12-17:50/38 18:59	07:15 18:11	06:51 07:15-07:42/27 16:37	07:19 13:52-14:13/21 16:34
22	05:45 20:25	06:15 17:12-19:01/109 19:48	06:45 17:14-17:47/33 18:57	07:16 18:09	06:53 07:16-07:42/26 16:36	07:19 13:53-14:14/21 16:34
23	05:46 20:24	06:16 17:11-19:00/109 19:46	06:46 17:17-17:43/26 18:56	07:18 18:08	06:54 07:17-07:42/25 16:35	07:20 13:53-14:13/20 16:35
24	05:47 20:23	06:16 17:11-19:00/109 19:45	06:47 17:22-17:37/15 18:54	07:19 18:06	06:55 07:18-07:42/24 16:35	07:20 13:54-14:13/19 16:35
25	05:47 20:22	06:17 17:09-18:58/109 19:43	06:48 18:52	06:20 17:05	06:56 07:19-07:42/23 16:34	07:21 13:55-14:14/19 16:36
26	05:48 20:21	06:18 17:08-18:57/109 19:42	06:49 18:51	06:21 17:04	06:57 07:20-07:42/22 16:34	07:21 13:56-14:14/18 16:36
27	05:49 20:20	06:19 17:07-18:56/109 19:40	06:50 18:49	06:22 17:02	06:58 07:22-07:43/21 16:33	07:22 13:57-14:13/16 16:37
28	05:50 18:36-18:45/9 20:19	06:20 17:07-18:55/108 19:39	06:51 18:47	06:23 07:02-07:18/16 17:01	06:59 07:23-07:43/20 16:33	07:22 13:59-14:14/15 16:38
29	05:51 18:33-18:48/15 20:18	06:21 17:06-18:23/77 19:37 18:25-18:53/28	06:52 18:46	06:24 06:59-07:22/23 17:00	07:00 07:24-07:44/20 16:32	07:22 14:00-14:13/13 16:38
30	05:52 18:31-18:50/19 20:17	06:22 17:05-18:23/78 19:36 18:28-18:52/24	06:53 18:44	06:26 06:56-07:25/29 16:58	07:01 07:25-07:44/19 16:32	07:22 14:03-14:11/8 16:39
31	05:53 18:29-18:52/23 20:16	06:23 17:05-18:23/78 19:34 18:31-18:49/18		06:27 06:54-07:27/33 16:57		07:23 07:45-07:54/9 16:40
Potential sun hours	458	427	375	346	299	289
Sum of minutes with flicker	66	2608	1528	101	931	594

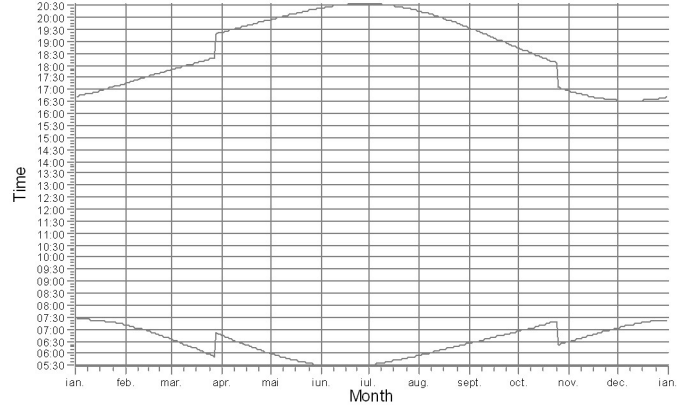
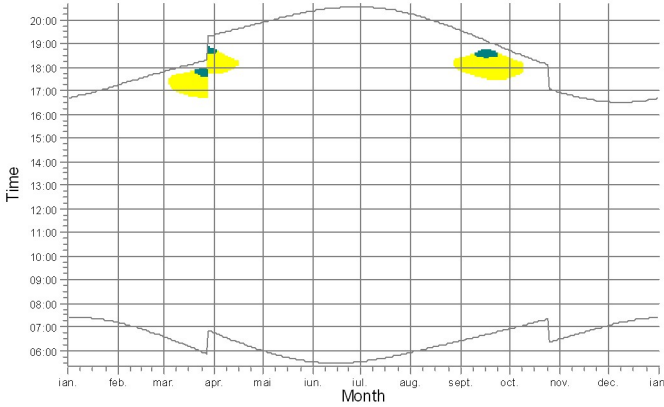
Table layout: For each day in each month the following matrix apply

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

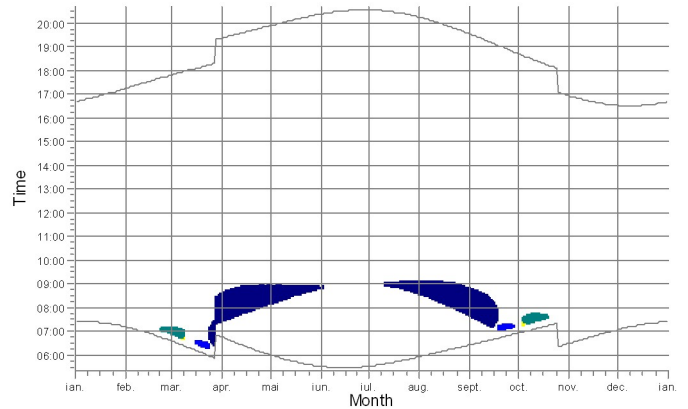
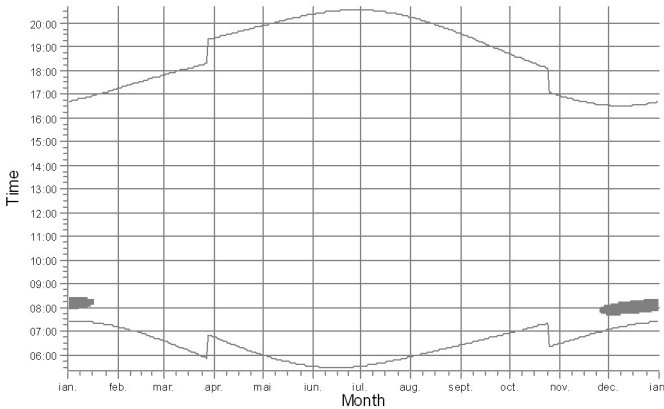
SHADOW - Calendar per WTG, graphical

Calculation: Real case

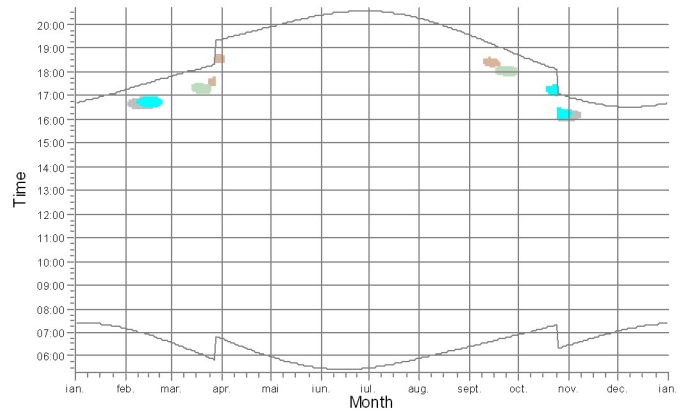
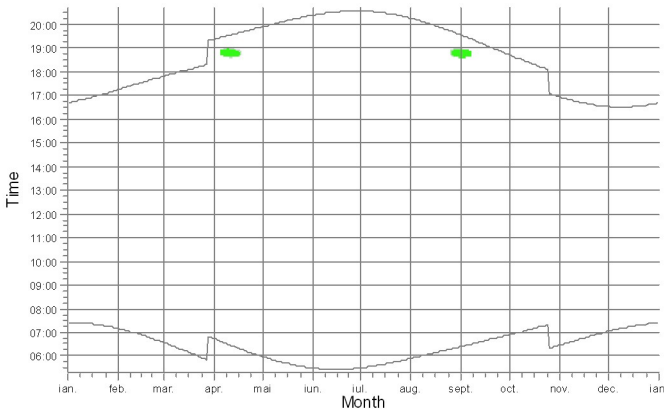
1: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) | 2: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (2)



3: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) | 4: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (4)



5: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) | 6: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (6)



Shadow receptors

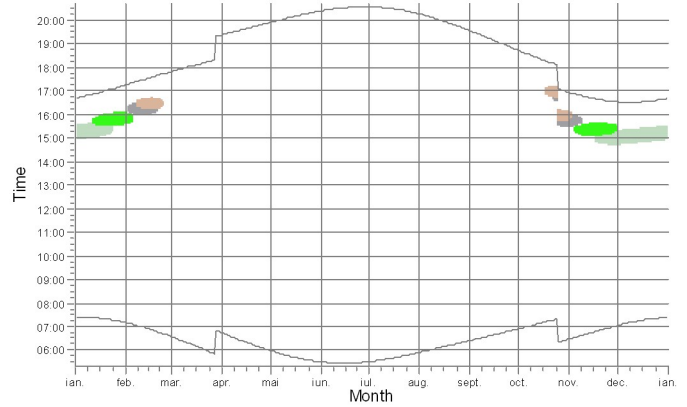
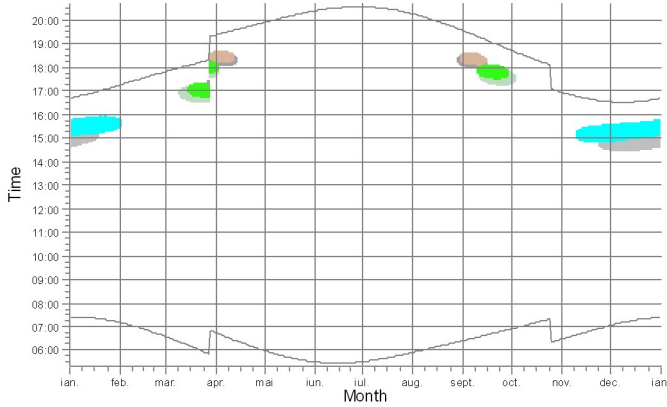
- B: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (2)
- C: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)
- D: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (4)
- F: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (6)
- G: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (7)

- L: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (12)
- M: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (13)
- N: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (14)
- Q: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (17)
- R: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (18)

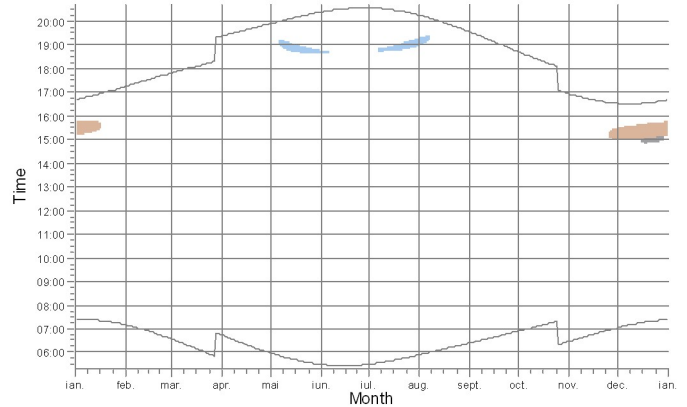
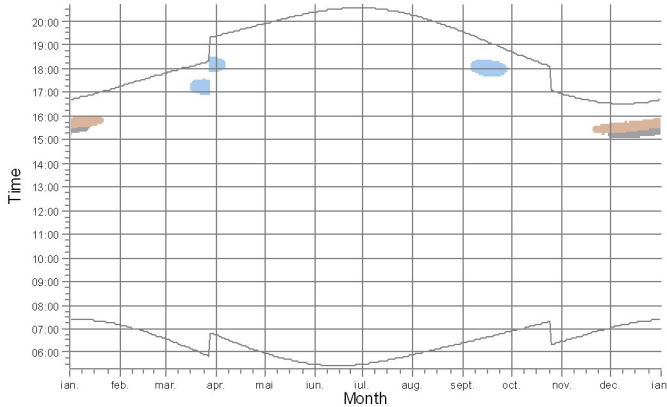
SHADOW - Calendar per WTG, graphical

Calculation: Real case

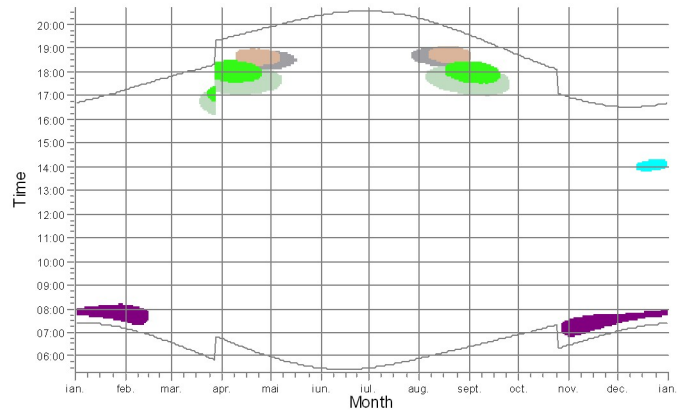
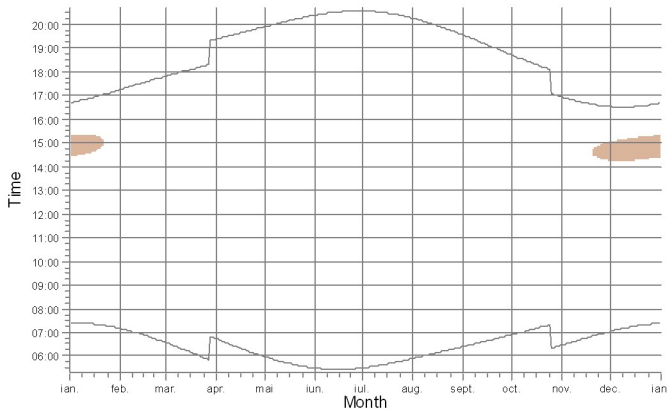
7: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) | 8: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (8)



9: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) | 10: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (10)



11: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) | 12: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (12)

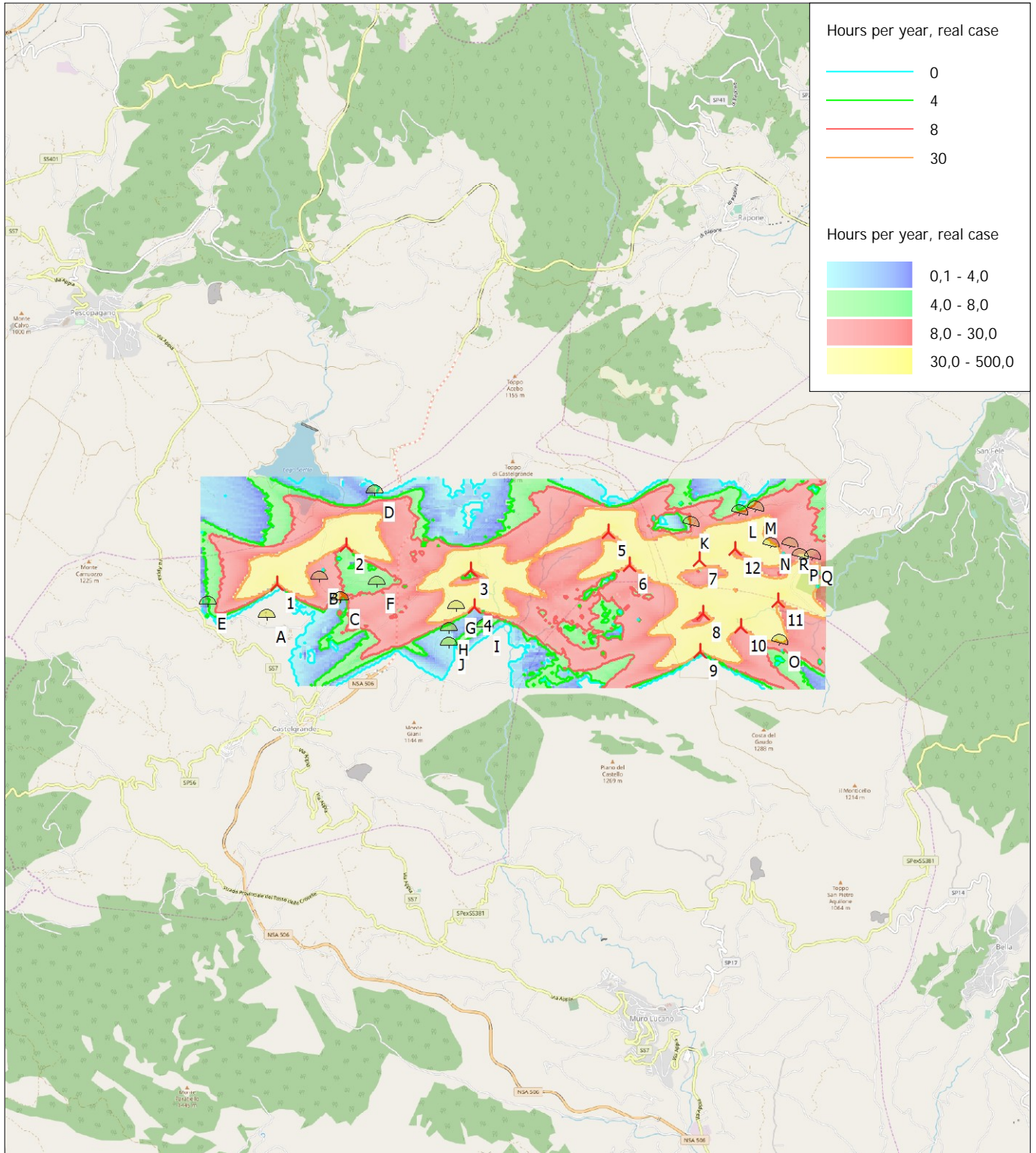


Shadow receptors

- K: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (11)
- L: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (12)
- M: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (13)
- N: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (14)

- O: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (15)
- P: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (16)
- Q: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (17)
- R: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (18)

SHADOW - Map
Calculation: Real case



Map: EMD OpenStreetMap , Print scale 1:75.000, Map center UTM (north)-WGS84 Zone: 33 East: 539.160 North: 4.517.070
 📍 New WTG 📍 Shadow receptor
 Flicker map level: Height Contours: CONTOURLINE_ONLINEDATA_0.wpo (1)

SHADOW - Main Result

Calculation: Worst case

Assumptions for shadow calculations

Maximum distance for influence
Calculate only when more than 20 % of sun is covered by the blade
Please look in WTG table

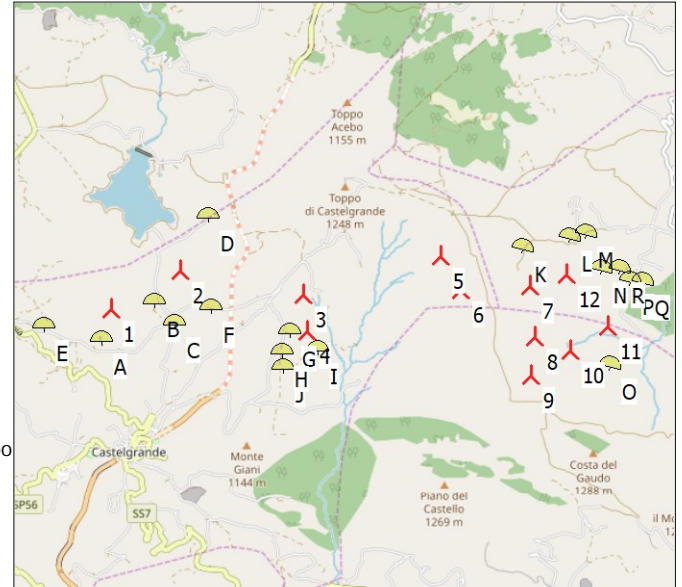
Minimum sun height over horizon for influence 3 °
Day step for calculation 1 days
Time step for calculation 1 minutes

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:
Height contours used: Height Contours: CONTOURLINE_ONLINEDATA_0.wpo
Obstacles used in calculation
Eye height for map: 1,5 m
Grid resolution: 1,0 m
Topographic shadow included in calculation

All coordinates are in
UTM (north)-WGS84 Zone: 33

WTGs



Scale 1:100.000
New WTG Shadow receptor

	Easting	Northing	Z	Row data/Description	WTG type		Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.					Calculation distance [m]	RPM
			[m]									
1	536.057	4.517.039	1.043,7	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0
2	536.961	4.517.544	1.020,3	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0
3	538.599	4.517.230	1.052,4	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0
4	538.644	4.516.746	1.018,8	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0
5	540.403	4.517.747	1.173,5	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0
6	540.684	4.517.303	1.182,4	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0
7	541.596	4.517.373	1.135,4	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0
8	541.650	4.516.687	1.164,0	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0
9	541.618	4.516.186	1.153,8	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0
10	542.139	4.516.514	1.068,0	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0
11	542.630	4.516.846	1.020,0	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0
12	542.066	4.517.521	1.066,9	GE WIND ENERGY 4.8-...	Yes	GE WIND ENERGY	4.8-158-4.800	4.800	158,0	120,9	2.500	0,0

Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation	Degrees from	Slope of	Direction mode	Eye height
			[m]	[m]	[m]	a.g.l. [m]	south cw [°]	window [°]		(ZVI) a.g.l. [m]
A	535.920	4.516.597	1.105,7	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
B	536.609	4.517.100	1.066,3	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
C	536.894	4.516.829	1.070,0	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
D	537.331	4.518.223	1.007,0	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
E	535.154	4.516.768	1.129,5	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
F	537.369	4.517.029	1.070,5	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
G	538.411	4.516.714	1.043,1	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
H	538.315	4.516.438	1.024,6	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
I	538.784	4.516.481	982,3	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
J	538.322	4.516.240	1.020,0	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
K	541.483	4.517.843	1.152,1	1,0	1,0	1,0	15,0	90,0	Fixed direction	2,0
L	542.118	4.517.997	1.090,3	1,0	1,0	1,0	15,0	90,0	Fixed direction	2,0
M	542.332	4.518.041	1.050,0	1,0	1,0	1,0	15,0	90,0	Fixed direction	2,0
N	542.535	4.517.579	1.011,0	1,0	1,0	1,0	15,0	90,0	Fixed direction	2,0
O	542.657	4.516.311	1.063,0	1,0	1,0	1,0	15,0	90,0	Fixed direction	2,0
P	542.913	4.517.424	980,0	1,0	1,0	1,0	15,0	90,0	Fixed direction	2,0
Q	543.079	4.517.411	980,0	1,0	1,0	1,0	15,0	90,0	Fixed direction	2,0
R	542.778	4.517.575	981,3	1,0	1,0	1,0	15,0	90,0	Fixed direction	2,0

SHADOW - Main Result

Calculation: Worst case

Calculation Results

Shadow receptor

Shadow, worst case

No.	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]
A	0:00	0	0:00
B	63:43	89	1:04
C	2:13	19	0:10
D	10:34	52	0:14
E	0:00	0	0:00
F	10:11	57	0:18
G	99:06	140	1:10
H	0:00	0	0:00
I	0:00	0	0:00
J	0:00	0	0:00
K	41:47	110	0:39
L	38:44	89	0:43
M	53:37	102	0:55
N	119:05	186	1:12
O	11:00	88	0:15
P	57:00	172	0:43
Q	115:28	177	1:21
R	43:31	98	0:49

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case [h/year]
1	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (1)	63:04
2	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (2)	0:00
3	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (3)	10:34
4	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (4)	108:09
5	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (5)	0:24
6	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (6)	13:49
7	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (7)	109:06
8	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (8)	28:54
9	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (9)	24:49
10	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (10)	30:56
11	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (11)	41:57
12	GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (12)	183:28

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

SHADOW - Calendar

Calculation: Worst case Shadow receptor: A - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:41	07:10 17:15	06:34 17:49	06:44 19:23	05:59 19:54	05:30 20:23	05:31 20:34	05:54 20:16	06:25 19:33	06:54 18:43	06:28 16:56	07:03 16:32
2	07:23 16:42	07:09 17:16	06:33 17:50	06:42 19:24	05:57 19:55	05:30 20:24	05:31 20:34	05:55 20:14	06:26 19:31	06:55 18:41	06:29 16:55	07:04 16:32
3	07:23 16:43	07:08 17:18	06:31 17:51	06:41 19:25	05:56 19:56	05:29 20:25	05:32 20:34	05:56 20:13	06:27 19:30	06:56 18:39	06:31 16:54	07:05 16:32
4	07:23 16:44	07:07 17:19	06:30 17:52	06:39 19:26	05:55 19:57	05:29 20:26	05:32 20:34	05:57 20:12	06:28 19:28	06:57 18:38	06:32 16:53	07:06 16:31
5	07:23 16:45	07:06 17:20	06:28 17:54	06:37 19:27	05:54 19:58	05:28 20:26	05:33 20:34	05:58 20:11	06:29 19:26	06:58 18:36	06:33 16:51	07:07 16:31
6	07:23 16:46	07:05 17:21	06:27 17:55	06:36 19:28	05:52 19:59	05:28 20:27	05:33 20:33	05:59 20:10	06:30 19:25	06:59 18:34	06:34 16:50	07:08 16:31
7	07:23 16:47	07:04 17:23	06:25 17:56	06:34 19:29	05:51 20:00	05:28 20:27	05:34 20:33	06:00 20:09	06:31 19:23	07:00 18:33	06:35 16:49	07:09 16:31
8	07:23 16:48	07:03 17:24	06:24 17:57	06:33 19:30	05:50 20:01	05:28 20:28	05:34 20:33	06:01 20:07	06:32 19:21	07:02 18:31	06:36 16:48	07:10 16:31
9	07:23 16:49	07:02 17:25	06:22 17:58	06:31 19:31	05:49 20:02	05:27 20:29	05:35 20:32	06:02 20:06	06:33 19:20	07:03 18:29	06:38 16:47	07:10 16:31
10	07:23 16:50	07:00 17:26	06:20 17:59	06:29 19:32	05:48 20:03	05:27 20:29	05:36 20:32	06:03 20:05	06:34 19:18	07:04 18:28	06:39 16:46	07:11 16:31
11	07:23 16:51	06:59 17:28	06:19 18:00	06:28 19:33	05:47 20:04	05:27 20:30	05:36 20:32	06:04 20:04	06:34 19:16	07:05 18:26	06:40 16:45	07:12 16:31
12	07:22 16:52	06:58 17:29	06:17 18:01	06:26 19:34	05:46 20:05	05:27 20:30	05:37 20:31	06:05 20:02	06:35 19:15	07:06 18:25	06:41 16:44	07:13 16:31
13	07:22 16:53	06:57 17:30	06:15 18:02	06:25 19:35	05:45 20:06	05:27 20:31	05:38 20:31	06:06 20:01	06:36 19:13	07:07 18:23	06:42 16:43	07:14 16:31
14	07:22 16:54	06:56 17:31	06:14 18:03	06:23 19:36	05:43 20:07	05:27 20:31	05:39 20:30	06:07 20:00	06:37 19:11	07:08 18:22	06:44 16:42	07:15 16:32
15	07:21 16:55	06:54 17:32	06:12 18:05	06:22 19:37	05:43 20:08	05:27 20:32	05:39 20:30	06:08 19:58	06:38 19:10	07:09 18:20	06:45 16:41	07:15 16:32
16	07:21 16:56	06:53 17:34	06:11 18:06	06:20 19:38	05:42 20:09	05:27 20:32	05:40 20:29	06:09 19:57	06:39 19:08	07:10 18:18	06:46 16:41	07:16 16:32
17	07:21 16:57	06:52 17:35	06:09 18:07	06:18 19:39	05:41 20:10	05:27 20:32	05:41 20:28	06:10 19:56	06:40 19:06	07:11 18:17	06:47 16:40	07:17 16:32
18	07:20 16:58	06:50 17:36	06:07 18:08	06:17 19:40	05:40 20:11	05:27 20:33	05:42 20:28	06:11 19:54	06:41 19:04	07:12 18:15	06:48 16:39	07:17 16:33
19	07:20 16:59	06:49 17:37	06:06 18:09	06:15 19:42	05:39 20:12	05:27 20:33	05:43 20:27	06:12 19:53	06:42 19:03	07:13 18:14	06:49 16:38	07:18 16:33
20	07:19 17:01	06:48 17:38	06:04 18:10	06:14 19:43	05:38 20:13	05:27 20:33	05:43 20:26	06:13 19:51	06:43 19:01	07:14 18:12	06:51 16:38	07:19 16:33
21	07:19 17:02	06:46 17:40	06:02 18:11	06:13 19:44	05:37 20:14	05:27 20:34	05:44 20:26	06:14 19:50	06:44 18:59	07:16 18:11	06:52 16:37	07:19 16:34
22	07:18 17:03	06:45 17:41	06:01 18:12	06:11 19:45	05:36 20:15	05:27 20:34	05:45 20:25	06:15 19:48	06:45 18:58	07:17 18:10	06:53 16:36	07:20 16:34
23	07:17 17:04	06:43 17:42	05:59 18:13	06:10 19:46	05:36 20:16	05:28 20:34	05:46 20:24	06:16 19:47	06:46 18:56	07:18 18:08	06:54 16:36	07:20 16:35
24	07:17 17:05	06:42 17:43	05:57 18:14	06:08 19:47	05:35 20:17	05:28 20:34	05:47 20:23	06:17 19:45	06:47 18:54	07:19 18:07	06:55 16:35	07:21 16:35
25	07:16 17:07	06:40 17:44	05:56 18:15	06:07 19:48	05:34 20:18	05:28 20:34	05:48 20:22	06:18 19:44	06:48 18:53	06:20 17:05	06:56 16:35	07:21 16:36
26	07:15 17:08	06:39 17:45	05:54 18:16	06:05 19:49	05:33 20:19	05:29 20:34	05:49 20:21	06:19 19:42	06:49 18:51	06:21 17:04	06:57 16:34	07:21 16:37
27	07:14 17:09	06:37 17:47	05:52 18:17	06:04 19:50	05:33 20:19	05:29 20:34	05:50 20:21	06:20 19:41	06:50 18:49	06:22 17:03	06:58 16:34	07:22 16:37
28	07:14 17:10	06:36 17:48	05:51 18:18	06:03 19:51	05:32 20:20	05:29 20:34	05:50 20:20	06:21 19:39	06:51 18:48	06:24 17:01	07:00 16:33	07:22 16:38
29	07:13 17:11		06:49 19:19	06:01 19:52	05:32 20:21	05:30 20:34	05:51 20:19	06:22 19:38	06:52 18:46	06:25 17:00	07:01 16:33	07:22 16:39
30	07:12 17:13		06:47 19:21	06:00 19:53	05:31 20:22	05:30 20:34	05:52 20:18	06:23 19:36	06:53 18:44	06:26 16:59	07:02 16:32	07:23 16:39
31	07:11 17:14		06:46 19:22		05:31 20:23		05:53 20:17	06:24 19:34		06:27 16:57		07:23 16:40
Potential sun hours Total, worst case	298	298	369	398	448	451	458	427	375	346	299	289

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:

Castelgrande Italy

Licensed user:

VSB Neue Energien Deutschland GmbH
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DE-01069 Dresden
+49 (0) 351 / 211 83 - 46
ionut.mihai / ionut.mihai@vsb.energy
Calculated:
16.12.2019 18:31/3.3.274

SHADOW - Calendar

Calculation: Worst case Shadow receptor: B - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (2)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

Table with columns for months (January to December) and rows for days (1 to 31). Each cell contains a time range (e.g., 07:23 | 07:10 | 06:34) and a numerical value representing shadow duration. Summary rows at the bottom show 'Potential sun hours' and 'Total, worst case' for each month.

Potential sun hours Total, worst case

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)



SHADOW - Calendar

Calculation: Worst case Shadow receptor: C - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:41	07:10 17:15	06:34 17:49	06:44 19:23	05:59 19:54	05:30 20:23	05:30 20:34	05:54 20:15	06:25 19:33	06:54 18:42	06:28 16:56	07:03 16:32
2	07:23 16:42	07:09 17:16	06:33 17:50	06:42 19:24	05:57 19:55	05:30 20:24	05:31 20:34	05:55 20:14	06:26 19:31	06:55 18:41	06:29 16:55	07:04 16:32
3	07:23 16:43	07:08 17:18	06:31 17:51	06:41 19:25	05:56 19:56	05:29 20:25	05:31 20:34	05:56 20:13	06:27 19:29	06:56 18:39	06:30 16:54	07:05 16:32
4	07:23 16:44	07:07 17:19	06:30 17:52	06:39 19:26	05:55 19:57	05:29 20:25	05:32 20:34	05:57 20:12	06:28 19:28	06:57 18:38	06:32 16:53	07:06 16:31
5	07:23 16:45	07:06 17:20	06:28 17:53	06:37 19:27	05:53 19:58	05:28 20:26	05:33 20:34	05:58 20:11	06:29 19:26	06:58 18:36	06:33 16:51	07:07 16:31
6	07:23 16:46	07:05 17:21	06:27 17:55	06:36 19:28	05:52 19:59	05:28 20:27	05:33 20:33	05:59 20:10	06:30 19:25	06:59 18:34	06:34 16:50	07:08 16:31
7	07:23 16:47	07:04 17:23	06:25 17:56	06:34 19:29	05:51 20:00	05:28 20:27	05:34 20:33	06:00 20:09	06:31 19:23	07:00 18:33	06:35 16:49	07:09 16:31
8	07:23 16:48	07:03 17:24	06:23 17:57	06:33 19:30	05:50 20:01	05:27 20:28	05:34 20:33	06:01 20:07	06:31 19:21	07:01 18:31	06:36 16:48	07:10 16:31
9	07:23 16:49	07:02 17:25	06:22 17:58	06:31 19:31	05:49 20:02	05:27 20:29	05:35 20:32	06:02 20:06	06:32 19:20	07:03 18:29	06:38 16:47	07:10 16:31
10	07:23 16:50	07:00 17:26	06:20 17:59	06:29 19:32	05:48 20:03	05:27 20:29	05:36 20:32	06:03 20:05	06:33 19:18	07:04 18:28	06:39 16:46	07:11 16:31
11	07:23 16:51	06:59 17:28	06:19 18:00	06:28 19:33	05:47 20:04	05:27 20:30	05:36 20:32	06:04 20:04	06:34 19:16	07:05 18:26	06:40 16:45	07:12 16:31
12	07:22 16:52	06:58 17:29	06:17 18:01	06:26 19:34	05:46 20:05	05:27 20:30	05:37 20:31	06:05 20:02	06:35 19:15	07:06 18:25	06:41 16:44	07:13 16:31
13	07:22 16:53	06:57 17:30	06:15 18:02	06:25 19:35	05:44 20:06	05:27 20:31	05:38 20:31	06:06 20:01	06:36 19:13	07:07 18:23	06:42 16:43	07:14 16:31
14	07:22 16:54	06:55 17:31	06:14 18:03	06:23 19:36	05:43 20:07	05:27 20:31	05:39 20:30	06:07 20:00	06:37 19:11	07:08 18:21	06:43 16:42	07:15 16:31
15	07:21 16:55	06:54 17:32	06:12 18:05	06:22 19:37	05:42 20:08	05:27 20:32	05:39 20:30	06:08 19:58	06:38 19:09	07:09 18:20	06:45 16:41	07:15 16:32
16	07:21 16:56	06:53 17:34	06:11 18:06	06:20 19:38	05:41 20:09	05:27 20:32	05:40 20:29	06:09 19:57	06:39 19:08	07:10 18:18	06:46 16:41	07:16 16:32
17	07:21 16:57	06:52 17:35	06:09 18:07	06:27 (4) 19:39	06:18 20:10	05:41 20:32	05:41 20:28	06:10 19:55	06:40 19:06	07:11 18:17	06:47 16:40	07:17 16:32
18	07:20 16:58	06:50 17:36	06:07 18:08	06:26 (4) 19:40	06:17 20:11	05:40 20:33	05:42 20:28	06:11 19:54	06:41 19:04	07:12 18:15	06:48 16:39	07:17 16:33
19	07:20 16:59	06:49 17:37	06:06 18:09	06:24 (4) 19:42	06:15 20:12	05:39 20:33	05:43 20:27	06:12 19:53	06:42 19:03	07:13 (4) 18:14	06:49 16:38	07:18 16:33
20	07:19 17:01	06:47 17:38	06:04 18:10	06:22 (4) 19:43	06:14 19:43	05:38 20:13	05:27 20:33	06:13 19:51	06:43 19:01	07:14 (4) 18:12	07:14 16:38	07:19 16:33
21	07:19 17:02	06:46 17:40	06:02 18:11	06:21 (4) 19:44	06:12 19:44	05:37 20:14	05:27 20:34	06:14 19:50	06:44 18:59	07:15 (4) 18:11	07:16 16:37	07:19 16:34
22	07:18 17:03	06:45 17:41	06:01 18:12	06:19 (4) 19:45	06:11 20:15	05:36 20:15	05:27 20:34	06:15 19:48	06:45 18:58	07:16 (4) 18:10	07:17 16:36	07:20 16:34
23	07:17 17:04	06:43 17:42	05:59 18:13	06:17 (4) 19:46	06:10 20:16	05:35 20:34	05:28 20:24	06:16 19:47	06:46 18:56	07:17 (4) 18:08	07:18 16:36	07:20 16:35
24	07:17 17:05	06:42 17:43	05:57 18:14	06:16 (4) 19:47	06:08 20:17	05:35 20:34	05:28 20:23	06:17 19:45	06:47 18:54	07:18 (4) 18:07	07:19 16:35	07:21 16:35
25	07:16 17:07	06:40 17:44	05:56 18:15	06:15 (4) 19:48	06:07 20:18	05:34 20:34	05:48 20:22	06:18 19:44	06:48 18:53	07:19 (4) 17:05	07:20 16:35	07:21 16:36
26	07:15 17:08	06:39 17:45	05:54 18:16	06:05 19:49	05:33 20:18	05:28 20:34	05:49 20:21	06:19 19:42	06:49 18:51	07:20 (4) 17:04	06:21 16:34	07:21 16:37
27	07:14 17:09	06:37 17:47	05:52 18:17	06:04 19:50	05:33 20:19	05:29 20:34	05:50 20:20	06:20 19:41	06:50 18:49	07:21 (4) 17:03	06:22 16:34	07:22 16:37
28	07:14 17:10	06:36 17:48	05:51 18:18	06:03 19:51	05:32 20:20	05:29 20:34	05:50 20:20	06:21 19:39	06:51 18:48	07:22 (4) 17:01	07:23 16:33	07:22 16:38
29	07:13 17:11		06:49 19:19	06:01 19:52	05:32 20:21	05:30 20:34	05:51 20:19	06:22 19:37	06:52 18:46	07:23 (4) 17:00	06:25 16:33	07:22 16:39
30	07:12 17:13		06:47 19:20	06:00 19:53	05:31 20:22	05:30 20:34	05:52 20:18	06:23 19:36	06:53 18:44		07:24 16:32	07:23 16:39
31	07:11 17:14		06:46 19:22		05:30 20:23		05:53 20:17	06:24 19:34			06:27 16:57	07:23 16:40
Potential sun hours	298	298	369	398	448	451	458	427	375	346	299	289
Total, worst case			65						68			

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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SHADOW - Calendar

Calculation: Worst caseShadow receptor: D - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (4)
 Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23 16:41	08:07 (3) 17:15	07:10 17:49	06:34 19:23	06:44 19:54	05:58 20:23	05:30 20:34	05:30 20:34	05:54 19:33	06:25 18:42	06:54 16:56	06:28 16:32	07:48 (3) 08:02 (3)
2	07:23 16:42	08:08 (3) 17:16	07:09 17:50	06:33 19:24	06:42 19:55	05:57 20:24	05:29 20:34	05:31 20:14	05:55 19:31	06:26 18:41	06:55 16:55	06:29 16:32	07:49 (3) 08:03 (3)
3	07:23 16:43	08:08 (3) 17:18	07:08 17:51	06:31 19:25	06:41 19:56	05:56 20:25	05:29 20:34	05:31 20:13	05:56 19:29	06:27 18:39	06:56 16:54	06:30 16:32	07:50 (3) 08:04 (3)
4	07:23 16:44	08:08 (3) 17:19	07:07 17:52	06:30 19:26	06:39 19:57	05:55 20:25	05:29 20:34	05:32 20:12	05:57 19:28	06:28 18:37	06:57 16:53	06:32 16:31	07:51 (3) 08:05 (3)
5	07:23 16:45	08:07 (3) 17:20	07:06 17:53	06:28 19:27	06:37 19:58	05:53 20:26	05:28 20:34	05:33 20:11	05:58 19:26	06:29 18:36	06:58 16:51	06:33 16:31	07:52 (3) 08:05 (3)
6	07:23 16:46	08:07 (3) 17:21	07:05 17:55	06:27 19:28	06:36 19:59	05:52 20:27	05:28 20:33	05:33 20:10	05:59 19:25	06:30 18:34	06:59 16:50	06:34 16:31	07:53 (3) 08:06 (3)
7	07:23 16:46	08:07 (3) 17:23	07:04 17:56	06:25 19:29	06:34 19:59	05:51 20:00	05:28 20:27	05:34 20:33	06:00 20:09	06:30 19:23	07:00 18:33	06:35 16:49	07:54 (3) 08:07 (3)
8	07:23 16:47	08:07 (3) 17:24	07:03 17:57	06:23 19:30	06:33 19:30	05:50 20:01	05:27 20:28	05:34 20:33	06:01 20:07	06:31 19:21	07:01 18:31	06:36 16:48	07:55 (3) 08:08 (3)
9	07:23 16:48	08:07 (3) 17:25	07:02 17:58	06:22 19:31	06:31 19:31	05:49 20:02	05:27 20:29	05:35 20:32	06:02 20:06	06:32 19:20	07:03 18:29	06:38 16:47	07:56 (3) 08:08 (3)
10	07:23 16:49	08:07 (3) 17:26	07:00 17:59	06:20 19:32	06:29 19:32	05:48 20:03	05:27 20:29	05:36 20:32	06:03 20:05	06:33 19:18	07:04 18:28	06:39 16:46	07:57 (3) 08:09 (3)
11	07:23 16:51	08:06 (3) 17:27	06:59 18:00	06:19 19:33	06:28 20:04	05:47 20:30	05:27 20:30	05:36 20:32	06:04 20:04	06:34 19:16	07:05 18:26	06:40 16:45	07:58 (3) 08:10 (3)
12	07:22 16:52	08:06 (3) 17:29	06:58 18:01	06:17 19:34	06:26 20:05	05:45 20:30	05:27 20:30	05:37 20:31	06:05 20:02	06:35 19:15	07:06 18:25	06:41 16:44	07:58 (3) 08:10 (3)
13	07:22 16:53	08:05 (3) 17:30	06:57 18:02	06:15 19:35	06:25 20:06	05:44 20:31	05:27 20:31	05:38 20:31	06:06 20:01	06:36 19:13	07:07 18:23	06:42 16:43	07:58 (3) 08:10 (3)
14	07:22 16:54	08:05 (3) 17:31	06:55 18:03	06:14 19:36	06:23 20:07	05:43 20:31	05:27 20:31	05:39 20:30	06:07 20:00	06:37 19:11	07:08 18:21	06:43 16:42	07:59 (3) 08:11 (3)
15	07:21 16:55	08:08 (3) 17:32	06:54 18:04	06:12 19:37	06:21 20:08	05:42 20:32	05:27 20:30	05:39 20:30	06:08 19:58	06:38 19:09	07:09 18:20	06:45 16:41	08:00 (3) 08:12 (3)
16	07:21 16:56	08:09 (3) 17:34	06:53 18:06	06:10 19:38	06:20 20:09	05:41 20:32	05:27 20:29	05:40 20:29	06:09 19:57	06:39 19:08	07:10 18:18	06:46 16:41	08:00 (3) 08:11 (3)
17	07:21 16:57	08:16 (3) 17:35	06:52 18:07	06:09 19:39	06:18 20:10	05:40 20:32	05:27 20:28	05:41 20:28	06:10 19:55	06:40 19:06	07:11 18:17	06:47 16:40	08:01 (3) 08:12 (3)
18	07:20 16:58	06:50 17:36	06:07 18:08	06:07 19:40	06:17 20:11	05:40 20:33	05:27 20:28	05:42 20:28	06:11 19:54	06:41 19:04	07:12 18:15	06:48 16:39	08:02 (3) 08:13 (3)
19	07:20 16:59	06:49 17:37	06:06 18:09	06:06 19:41	06:15 20:12	05:39 20:33	05:27 20:27	05:42 20:27	06:12 19:53	06:42 19:03	07:13 18:14	06:49 16:38	08:02 (3) 08:13 (3)
20	07:19 17:01	06:47 17:38	06:04 18:10	06:14 19:43	06:14 20:13	05:38 20:33	05:27 20:33	05:43 20:26	06:13 19:51	06:43 19:01	07:14 18:12	06:51 16:38	08:03 (3) 08:14 (3)
21	07:19 17:02	06:46 17:40	06:02 18:11	06:12 19:44	06:12 20:14	05:37 20:34	05:27 20:26	05:44 20:26	06:14 19:50	06:44 18:59	07:16 18:11	06:52 16:37	08:03 (3) 08:14 (3)
22	07:18 17:03	06:45 17:41	06:01 18:12	06:11 19:45	06:11 20:15	05:36 20:34	05:27 20:25	05:45 20:25	06:15 19:48	06:45 18:58	07:17 18:10	06:53 16:36	08:04 (3) 08:15 (3)
23	07:17 17:04	06:43 17:42	05:59 18:13	06:09 19:46	05:35 20:16	05:28 20:34	05:46 20:24	05:46 20:24	06:16 19:47	06:46 18:56	07:18 18:08	06:54 16:36	08:04 (3) 08:15 (3)
24	07:17 17:05	06:42 17:43	05:57 18:14	06:08 19:47	05:35 20:17	05:28 20:34	05:47 20:23	05:47 20:23	06:17 19:45	06:47 18:54	07:19 18:07	06:55 16:35	08:05 (3) 08:16 (3)
25	07:16 17:07	06:40 17:44	05:56 18:15	06:07 19:48	05:34 20:18	05:28 20:34	05:48 20:22	05:48 20:22	06:18 19:44	06:48 18:53	06:20 17:05	06:56 16:34	08:05 (3) 08:16 (3)
26	07:15 17:08	06:39 17:45	05:54 18:16	06:05 19:49	05:33 20:19	05:28 20:34	05:49 20:21	05:49 20:21	06:19 19:42	06:49 18:51	06:21 17:04	06:57 16:34	08:05 (3) 08:16 (3)
27	07:14 17:09	06:37 17:47	05:52 18:17	06:04 19:50	05:33 20:19	05:29 20:34	05:49 20:20	05:49 20:20	06:20 19:41	06:50 18:49	06:22 17:03	06:58 16:34	08:06 (3) 08:17 (3)
28	07:14 17:10	06:36 17:48	05:51 18:18	06:02 19:51	05:32 20:20	05:29 20:34	05:50 20:20	05:50 20:20	06:21 19:39	06:51 18:47	06:23 17:01	07:00 16:33	08:06 (3) 08:17 (3)
29	07:13 17:11	06:35 17:49	05:50 18:19	06:01 19:52	05:31 20:21	05:30 20:34	05:51 20:19	05:51 20:19	06:22 19:37	06:52 18:46	06:25 17:00	07:01 16:33	08:06 (3) 08:18 (3)
30	07:12 17:13	06:34 17:50	05:49 18:20	06:00 19:53	05:31 20:22	05:30 20:34	05:52 20:18	05:52 20:18	06:23 19:36	06:53 18:44	06:26 16:59	07:02 16:32	08:06 (3) 08:18 (3)
31	07:11 17:14	06:33 17:51	05:48 18:21	06:00 19:54	05:30 20:23	05:30 20:34	05:53 20:17	05:53 20:17	06:24 19:34	06:54 18:44	06:27 16:57	07:03 16:40	08:06 (3) 08:18 (3)
Potential sun hours	298	297	369	398	448	451	458	427	375	345	298	289	
Total, worst case	204										58		372

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

Day in month	Sun rise (hh:mm)	Minutes with flicker	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)

SHADOW - Calendar

Calculation: Worst case Shadow receptor: E - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (5)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:41	07:10 17:15	06:34 17:49	06:44 19:23	05:59 19:54	05:30 20:23	05:31 20:34	05:54 20:16	06:25 19:33	06:54 18:43	06:28 16:56	07:03 16:32
2	07:23 16:42	07:09 17:16	06:33 17:50	06:42 19:24	05:57 19:55	05:30 20:24	05:31 20:34	05:55 20:14	06:26 19:31	06:55 18:41	06:29 16:55	07:04 16:32
3	07:23 16:43	07:08 17:18	06:31 17:51	06:41 19:25	05:56 19:56	05:29 20:25	05:32 20:34	05:56 20:13	06:27 19:30	06:56 18:39	06:31 16:54	07:05 16:32
4	07:23 16:44	07:07 17:19	06:30 17:52	06:39 19:26	05:55 19:57	05:29 20:26	05:32 20:34	05:57 20:12	06:28 19:28	06:57 18:38	06:32 16:53	07:06 16:31
5	07:23 16:45	07:06 17:20	06:28 17:54	06:38 19:27	05:54 19:58	05:28 20:26	05:33 20:34	05:58 20:11	06:29 19:26	06:58 18:36	06:33 16:52	07:07 16:31
6	07:23 16:46	07:05 17:21	06:27 17:55	06:36 19:28	05:52 19:59	05:28 20:27	05:33 20:33	05:59 20:10	06:30 19:25	06:59 18:34	06:34 16:50	07:08 16:31
7	07:23 16:47	07:04 17:23	06:25 17:56	06:34 19:29	05:51 20:00	05:28 20:28	05:34 20:33	06:00 20:09	06:31 19:23	07:01 18:33	06:35 16:49	07:09 16:31
8	07:23 16:48	07:03 17:24	06:24 17:57	06:33 19:30	05:50 20:01	05:28 20:28	05:34 20:33	06:01 20:07	06:32 19:21	07:02 18:31	06:36 16:48	07:10 16:31
9	07:23 16:49	07:02 17:25	06:22 17:58	06:31 19:31	05:49 20:02	05:27 20:29	05:35 20:32	06:02 20:06	06:33 19:20	07:03 18:29	06:38 16:47	07:11 16:31
10	07:23 16:50	07:00 17:26	06:20 17:59	06:29 19:32	05:48 20:03	05:27 20:29	05:36 20:32	06:03 20:05	06:34 19:18	07:04 18:28	06:39 16:46	07:11 16:31
11	07:23 16:51	06:59 17:28	06:19 18:00	06:28 19:33	05:47 20:04	05:27 20:30	05:36 20:32	06:04 20:04	06:35 19:16	07:05 18:26	06:40 16:45	07:12 16:31
12	07:23 16:52	06:58 17:29	06:17 18:01	06:26 19:34	05:46 20:05	05:27 20:30	05:37 20:31	06:05 20:02	06:35 19:15	07:06 18:25	06:41 16:44	07:13 16:31
13	07:22 16:53	06:57 17:30	06:15 18:02	06:25 19:35	05:45 20:06	05:27 20:31	05:38 20:31	06:06 20:01	06:36 19:13	07:07 18:23	06:42 16:43	07:14 16:31
14	07:22 16:54	06:56 17:31	06:14 18:04	06:23 19:36	05:44 20:07	05:27 20:31	05:39 20:30	06:07 20:00	06:37 19:11	07:08 18:22	06:44 16:42	07:15 16:32
15	07:22 16:55	06:54 17:32	06:12 18:05	06:22 19:37	05:43 20:08	05:27 20:32	05:39 20:30	06:08 19:58	06:38 19:10	07:09 18:20	06:45 16:42	07:15 16:32
16	07:21 16:56	06:53 17:34	06:11 18:06	06:20 19:38	05:42 20:09	05:27 20:32	05:40 20:29	06:09 19:57	06:39 19:08	07:10 18:19	06:46 16:41	07:16 16:32
17	07:21 16:57	06:52 17:35	06:09 18:07	06:19 19:39	05:41 20:10	05:27 20:32	05:41 20:28	06:10 19:56	06:40 19:06	07:11 18:17	06:47 16:40	07:17 16:32
18	07:20 16:58	06:50 17:36	06:07 18:08	06:17 19:41	05:40 20:11	05:27 20:33	05:42 20:28	06:11 19:54	06:41 19:05	07:12 18:15	06:48 16:39	07:17 16:33
19	07:20 17:00	06:49 17:37	06:06 18:09	06:16 19:42	05:39 20:12	05:27 20:33	05:43 20:27	06:12 19:53	06:42 19:03	07:13 18:14	06:49 16:38	07:18 16:33
20	07:19 17:01	06:48 17:38	06:04 18:10	06:14 19:43	05:38 20:13	05:27 20:33	05:43 20:26	06:13 19:51	06:43 19:01	07:15 18:13	06:51 16:38	07:19 16:33
21	07:19 17:02	06:46 17:40	06:02 18:11	06:13 19:44	05:37 20:14	05:27 20:34	05:44 20:26	06:14 19:50	06:44 18:59	07:16 18:11	06:52 16:37	07:19 16:34
22	07:18 17:03	06:45 17:41	06:01 18:12	06:11 19:45	05:36 20:15	05:27 20:34	05:45 20:25	06:15 19:48	06:45 18:58	07:17 18:10	06:53 16:36	07:20 16:34
23	07:17 17:04	06:43 17:42	05:59 18:13	06:10 19:46	05:36 20:16	05:28 20:34	05:46 20:24	06:16 19:47	06:46 18:56	07:18 18:08	06:54 16:36	07:20 16:35
24	07:17 17:05	06:42 17:43	05:57 18:14	06:08 19:47	05:35 20:17	05:28 20:34	05:47 20:23	06:17 19:45	06:47 18:54	07:19 18:07	06:55 16:35	07:21 16:35
25	07:16 17:07	06:40 17:44	05:56 18:15	06:07 19:48	05:34 20:18	05:28 20:34	05:48 20:22	06:18 19:44	06:48 18:53	06:20 17:05	06:56 16:35	07:21 16:36
26	07:15 17:08	06:39 17:46	05:54 18:16	06:05 19:49	05:33 20:19	05:29 20:34	05:49 20:21	06:19 19:42	06:49 18:51	06:21 17:04	06:57 16:34	07:22 16:37
27	07:14 17:09	06:37 17:47	05:52 18:17	06:04 19:50	05:33 20:19	05:29 20:34	05:50 20:21	06:20 19:41	06:50 18:49	06:22 17:03	06:59 16:34	07:22 16:37
28	07:14 17:10	06:36 17:48	05:51 18:18	06:03 19:51	05:32 20:20	05:29 20:34	05:51 20:20	06:21 19:39	06:51 18:48	06:24 17:01	07:00 16:33	07:22 16:38
29	07:13 17:12		06:49 19:20	06:01 19:52	05:32 20:21	05:30 20:34	05:51 20:19	06:22 19:38	06:52 18:46	06:25 17:00	07:01 16:33	07:22 16:39
30	07:12 17:13		06:47 19:21	06:00 19:53	05:31 20:22	05:30 20:34	05:52 20:18	06:23 19:36	06:53 18:44	06:26 16:59	07:02 16:32	07:23 16:39
31	07:11 17:14		06:46 19:22		05:31 20:23		05:53 20:17	06:24 19:34		06:27 16:58		07:23 16:40
Potential sun hours Total, worst case	298	298	369	398	448	451	458	427	375	346	299	289

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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SHADOW - Calendar

Calculation: Worst case Shadow receptor: F - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (6)
 Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:41	07:10 17:15	06:34 17:49	06:53 (4) 07:07 (4)	06:44 19:23	18:39 (1) 19:54	05:59 20:23	05:30 20:34	05:54 20:15	06:25 19:33	06:54 18:42	06:28 16:56
2	07:23 16:42	07:09 17:16	06:33 17:50	06:52 (4) 07:07 (4)	06:42 19:24	18:40 (1) 19:55	05:57 20:24	05:29 20:34	05:31 20:14	05:55 19:31	06:26 18:41	06:29 16:55
3	07:23 16:43	07:08 17:18	06:31 17:51	06:50 (4) 07:06 (4)	06:41 19:25	18:41 (1) 19:56	05:56 20:25	05:29 20:34	05:56 20:13	06:27 19:29	06:56 18:39	06:30 16:54
4	07:23 16:44	07:07 17:19	06:30 17:52	06:49 (4) 07:06 (4)	06:39 19:26	19:57 20:25	05:55 20:34	05:29 20:12	05:57 19:28	06:28 18:38	07:25 (4) 07:32 (4)	06:32 16:53
5	07:23 16:45	07:06 17:20	06:28 17:53	06:47 (4) 07:05 (4)	06:37 19:27	19:58 20:26	05:53 20:34	05:58 20:11	06:29 19:26	06:58 18:34	07:21 (4) 07:36 (4)	06:33 16:51
6	07:23 16:46	07:05 17:21	06:27 17:55	06:45 (4) 07:03 (4)	06:36 19:28	19:59 20:27	05:52 20:33	05:59 20:10	06:30 19:25	06:59 18:34	07:19 (4) 07:37 (4)	06:34 16:50
7	07:23 16:47	07:04 17:23	06:25 17:56	06:44 (4) 07:02 (4)	06:34 19:29	20:00 20:27	05:51 20:33	06:00 20:09	06:30 19:23	07:00 18:33	07:20 (4) 07:38 (4)	06:35 16:49
8	07:23 16:47	07:03 17:24	06:23 17:57	06:43 (4) 07:00 (4)	06:33 19:30	20:01 20:28	05:50 20:33	06:01 20:07	06:31 19:21	07:01 18:31	07:22 (4) 07:40 (4)	06:36 16:48
9	07:23 16:48	07:02 17:25	06:22 17:58	06:47 (4) 07:05 (4)	06:31 19:31	20:02 20:29	05:49 20:32	06:02 20:06	06:32 19:20	07:03 18:29	07:23 (4) 07:41 (4)	06:38 16:47
10	07:23 16:49	07:00 17:26	06:20 17:59	06:58 (4) 07:16 (4)	06:29 19:32	20:03 20:29	05:48 20:32	06:03 20:05	06:33 19:18	07:04 18:34	07:24 (4) 07:42 (4)	06:39 16:46
11	07:23 16:51	06:59 17:27	06:19 18:00	06:28 19:33	06:28 19:33	20:04 20:30	05:47 20:32	06:04 20:04	06:34 19:16	18:34 (1) 18:35 (1)	07:05 07:06	06:40 16:45
12	07:22 16:52	06:58 17:29	06:17 18:01	06:26 19:34	06:26 19:34	20:05 20:30	05:45 20:31	06:05 20:02	06:35 19:15	3 18:35 (1) 18:37 (1)	07:06 07:07	06:41 16:44
13	07:22 16:53	06:57 17:30	06:15 18:02	06:25 19:35	06:25 19:35	20:05 20:31	05:44 20:31	06:06 20:01	06:36 19:13	6 18:37 (1) 18:38 (1)	07:07 07:08	06:42 16:43
14	07:22 16:54	06:55 17:31	06:14 18:03	06:23 19:36	06:23 19:36	20:06 20:31	05:43 20:31	06:07 20:00	06:37 19:11	8 18:38 (1) 18:40 (1)	07:08 07:09	06:43 16:42
15	07:21 16:55	06:54 17:32	06:12 18:04	06:21 19:37	06:21 19:37	20:07 20:32	05:42 20:30	06:08 19:58	06:38 19:09	10 18:40 (1) 18:42 (1)	07:09 07:10	06:45 16:41
16	07:21 16:56	06:53 17:34	06:10 18:06	06:20 19:38	06:20 19:38	20:08 20:32	05:41 20:29	06:09 19:57	06:39 19:08	11 18:40 (1) 18:42 (1)	07:10 07:11	06:46 16:41
17	07:21 16:57	06:52 17:35	06:09 18:07	06:18 19:39	06:18 19:39	20:09 20:32	05:41 20:28	06:10 19:55	06:40 19:06	14 18:42 (1) 18:43 (1)	07:11 07:12	06:47 16:40
18	07:20 16:58	06:50 17:36	06:07 18:08	06:17 19:40	06:17 19:40	20:10 20:33	05:40 20:28	06:11 19:54	06:41 19:04	13 18:29 (1) 18:42 (1)	07:12 07:13	06:48 16:39
19	07:20 16:59	06:49 17:37	06:06 18:09	06:15 19:41	06:15 19:41	20:11 20:33	05:40 20:27	06:12 19:53	06:42 19:03	11 18:29 (1) 18:40 (1)	07:13 07:14	06:49 16:38
20	07:19 17:01	06:47 17:38	06:04 18:10	06:14 19:43	06:14 19:43	20:12 20:33	05:42 20:26	06:13 19:51	06:43 19:01	11 18:30 (1) 18:38 (1)	07:14 07:15	06:50 16:38
21	07:18 17:02	06:46 17:40	06:02 18:11	17:49 (1) 19:44	06:12 19:44	20:13 20:34	05:37 20:26	06:14 19:50	06:44 18:59	8 18:31 (1) 18:37 (1)	07:16 07:17	06:52 16:37
22	07:18 17:03	06:45 17:41	06:01 18:12	17:46 (1) 19:45	06:11 19:45	20:14 20:34	05:37 20:25	06:15 19:48	06:45 18:58	6 18:32 (1) 18:35 (1)	07:17 07:18	06:53 16:36
23	07:17 17:04	06:43 17:42	06:00 18:13	17:44 (1) 19:46	06:10 19:46	20:15 20:34	05:36 20:24	06:16 19:47	06:46 18:56	3 18:35 (1) 18:37 (1)	07:18 07:19	06:54 16:35
24	07:17 17:05	06:42 17:43	06:00 18:14	17:52 (1) 19:47	06:08 19:47	20:16 20:34	05:35 20:23	06:17 19:45	06:47 18:54	8 18:38 (1) 18:40 (1)	07:19 07:20	06:55 16:35
25	07:16 17:07	06:40 17:44	06:00 18:15	17:41 (1) 19:48	06:07 19:48	20:17 20:34	05:34 20:22	06:18 19:44	06:48 18:53	5 18:36 (1) 18:38 (1)	07:20 07:21	06:56 16:35
26	07:15 17:08	06:39 17:45	06:58 (4) 07:07 (4)	05:54 18:16	06:05 19:49	20:18 20:34	05:33 20:21	06:19 19:42	06:49 18:51	8 18:39 (1) 18:41 (1)	07:21 07:22	06:57 16:34
27	07:14 17:09	06:37 17:47	06:56 (4) 07:07 (4)	05:52 18:17	06:04 19:50	20:19 20:34	05:33 20:20	06:20 19:41	06:50 18:49	9 18:40 (1) 18:42 (1)	07:22 07:23	06:58 16:33
28	07:14 17:10	06:36 17:48	06:55 (4) 07:08 (4)	05:51 18:18	06:03 19:51	20:20 20:34	05:32 20:19	06:21 19:39	06:51 18:47	11 18:37 (1) 18:39 (1)	07:23 07:24	06:59 16:33
29	07:13 17:11		06:49 18:19	17:51 (1) 19:52	06:01 19:52	20:21 20:34	05:31 20:19	06:22 19:37	06:52 18:46	12 18:38 (1) 18:40 (1)	07:24 07:25	06:59 16:33
30	07:12 17:13		06:47 18:39	18:39 (1) 19:53	06:00 19:53	20:22 20:34	05:30 20:18	06:24 19:36	06:53 18:44	13 18:39 (1) 18:41 (1)	07:25 07:26	06:59 16:33
31	07:11 17:14		06:46 18:39	18:39 (1) 19:53	06:00 19:53	20:23 20:34	05:30 20:16	06:24 19:34	06:54 18:44	14 18:40 (1) 18:42 (1)	07:26 07:27	06:59 16:33
Potential sun hours	298	297	369	398	448	451	458	427	375	346	299	289
Total, worst case		49	247	4					109	202		

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

Day in month	Sun rise (hh:mm)	Minutes with flicker	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)

SHADOW - Calendar

Calculation: Worst case Shadow receptor: G - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (7)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	
1	07:23 16:41	07:10 17:15	06:34 17:49	06:44 19:23	07:25 (4) 08:33 (4)	05:58 19:54	08:10 (4) 05:30
2	07:23 16:42	07:09 17:16	06:33 17:50	06:42 19:24	07:27 (4) 08:36 (4)	05:57 19:55	08:10 (4) 05:29
3	07:23 16:43	07:08 17:18	06:31 17:51	06:41 19:25	07:28 (4) 08:37 (4)	05:56 19:56	08:12 (4) 05:29
4	07:23 16:44	07:07 17:19	06:30 17:52	06:39 19:26	07:29 (4) 08:39 (4)	05:55 19:57	08:13 (4) 05:29
5	07:23 16:45	07:06 17:20	06:28 17:53	06:37 19:27	07:31 (4) 08:41 (4)	05:53 19:58	08:15 (4) 05:28
6	07:23 16:46	07:05 17:21	06:27 17:55	06:36 19:28	07:32 (4) 08:42 (4)	05:52 19:59	08:17 (4) 05:28
7	07:23 16:46	07:04 17:23	06:25 17:56	06:34 19:29	07:34 (4) 08:44 (4)	05:51 20:00	08:18 (4) 05:28
8	07:23 16:47	07:03 17:24	06:23 17:57	06:32 19:30	07:35 (4) 08:45 (4)	05:50 20:01	08:19 (4) 05:27
9	07:23 16:48	07:01 17:25	06:22 17:58	06:31 19:31	07:37 (4) 08:45 (4)	05:49 20:02	08:20 (4) 05:27
10	07:23 16:49	07:00 17:26	06:20 17:59	06:29 19:32	07:39 (4) 08:47 (4)	05:48 20:03	08:22 (4) 05:27
11	07:23 16:50	06:59 17:27	06:19 18:00	06:28 19:33	07:40 (4) 08:48 (4)	05:47 20:04	08:23 (4) 05:27
12	07:22 16:52	06:58 17:29	06:17 18:01	06:26 19:34	07:42 (4) 08:49 (4)	05:45 20:05	08:24 (4) 05:27
13	07:22 16:53	06:57 17:30	06:15 18:02	06:25 19:35	07:43 (4) 08:49 (4)	05:44 20:06	08:26 (4) 05:27
14	07:22 16:54	06:55 17:31	06:14 18:03	06:23 19:36	07:45 (4) 08:51 (4)	05:43 20:07	08:27 (4) 05:27
15	07:21 16:55	06:54 17:32	06:12 18:04	06:21 19:37	07:46 (4) 08:51 (4)	05:42 20:08	08:28 (4) 05:27
16	07:21 16:56	06:53 17:33	06:10 18:06	06:20 19:38	07:47 (4) 08:51 (4)	05:41 20:09	08:31 (4) 05:27
17	07:21 16:57	06:52 17:35	06:09 18:07	06:18 19:39	07:49 (4) 08:52 (4)	05:40 20:10	08:32 (4) 05:27
18	07:20 16:58	06:50 17:36	06:07 18:08	06:17 19:40	07:50 (4) 08:52 (4)	05:40 20:11	08:33 (4) 05:27
19	07:20 16:59	06:49 17:37	06:05 18:09	06:15 19:41	07:52 (4) 08:53 (4)	05:39 20:12	08:34 (4) 05:27
20	07:19 17:01	06:47 17:38	06:04 18:10	06:14 19:42	07:54 (4) 08:54 (4)	05:38 20:13	08:35 (4) 05:27
21	07:18 17:02	06:46 17:40	06:02 18:11	06:12 19:44	07:54 (4) 08:53 (4)	05:37 20:14	08:37 (4) 05:27
22	07:18 17:03	06:45 17:41	06:01 18:12	06:11 19:45	07:56 (4) 08:54 (4)	05:36 20:15	08:38 (4) 05:27
23	07:17 17:04	06:43 17:42	05:59 18:13	06:09 19:46	07:57 (4) 08:54 (4)	05:35 20:16	08:39 (4) 05:28
24	07:16 17:05	06:42 17:43	05:57 18:14	06:08 19:47	07:59 (4) 08:54 (4)	05:35 20:17	08:40 (4) 05:28
25	07:16 17:06	06:40 17:44	05:56 18:15	06:07 19:48	08:01 (4) 08:55 (4)	05:34 20:18	08:42 (4) 05:28
26	07:15 17:08	06:39 17:45	05:54 18:16	06:05 19:49	08:02 (4) 08:54 (4)	05:33 20:18	08:42 (4) 05:28
27	07:14 17:09	06:37 17:47	05:52 18:17	06:04 19:50	08:04 (4) 08:55 (4)	05:33 20:19	08:44 (4) 05:29
28	07:13 17:10	06:36 17:48	05:51 18:18	06:02 19:51	08:04 (4) 08:54 (4)	05:32 20:20	08:45 (4) 05:29
29	07:13 17:11		06:49 19:19	06:01 19:52	08:06 (4) 08:54 (4)	05:31 20:21	08:46 (4) 05:30
30	07:12 17:13		06:47 19:20	06:00 19:53	07:22 (4) 08:08 (4)	05:31 05:31	08:47 (4) 05:30
31	07:11 17:14		06:46 19:21	05:31 08:31 (4)	07:24 (4) 08:31 (4)	05:30 20:22	08:48 (4) 05:31
Potential sun hours	298	298	369	398	448	451	
Total, worst case			370	1865	716	451	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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SHADOW - Calendar

Calculation: Worst case Shadow receptor: G - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (7)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05:30	05:54	08:34 (4) 06:25	07:39 (4) 06:54	06:28	07:03
	20:34	20:15	09:04 (4) 19:33	08:47 (4) 18:42	16:56	16:32
2	05:31	05:55	08:33 (4) 06:26	07:37 (4) 06:55	06:29	07:04
	20:34	20:14	09:04 (4) 19:31	08:45 (4) 18:41	16:55	16:32
3	05:31	05:56	08:32 (4) 06:27	07:35 (4) 06:56	06:30	07:05
	20:34	20:13	09:04 (4) 19:29	08:43 (4) 18:39	16:54	16:32
4	05:32	05:57	08:30 (4) 06:28	07:32 (4) 06:57	06:32	07:06
	20:34	20:12	09:04 (4) 19:28	08:42 (4) 18:37	16:53	16:31
5	05:33	05:58	08:29 (4) 06:28	07:30 (4) 06:58	06:33	07:07
	20:33	20:11	09:04 (4) 19:26	08:40 (4) 18:36	16:51	16:31
6	05:33	05:59	08:27 (4) 06:29	07:28 (4) 06:59	06:34	07:08
	20:33	20:10	09:04 (4) 19:24	08:38 (4) 18:34	16:50	16:31
7	05:34	06:00	08:26 (4) 06:30	07:26 (4) 07:00	06:35	07:09
	20:33	20:09	09:04 (4) 19:23	08:36 (4) 18:33	16:49	16:31
8	05:34	06:01	08:24 (4) 06:31	07:24 (4) 07:01	06:36	07:09
	20:33	20:07	09:04 (4) 19:21	08:34 (4) 18:31	16:48	16:31
9	05:35	06:02	08:23 (4) 06:32	07:22 (4) 07:02	06:37	07:10
	20:32	20:06	09:04 (4) 19:20	08:32 (4) 18:29	16:47	16:31
10	05:36	06:03	08:21 (4) 06:33	07:20 (4) 07:04	06:39	07:11
	20:32	20:05	09:04 (4) 19:18	08:29 (4) 18:28	16:46	16:31
11	05:36	08:57 (4) 06:04	08:18 (4) 06:34	07:18 (4) 07:05	06:40	07:12
	20:31	08:59 (4) 20:04	09:03 (4) 19:16	08:27 (4) 18:26	16:45	16:31
12	05:37	08:56 (4) 06:05	08:17 (4) 06:35	07:16 (4) 07:06	06:41	07:13
	20:31	08:58 (4) 20:02	09:03 (4) 19:14	08:24 (4) 18:25	16:44	16:31
13	05:38	08:55 (4) 06:06	08:15 (4) 06:36	07:14 (4) 07:07	06:42	07:14
	20:31	08:59 (4) 20:01	09:02 (4) 19:13	08:21 (4) 18:23	16:43	16:31
14	05:38	08:55 (4) 06:07	08:13 (4) 06:37	07:11 (4) 07:08	06:43	07:14
	20:30	09:00 (4) 20:00	09:02 (4) 19:11	08:16 (4) 18:21	16:42	16:31
15	05:39	08:54 (4) 06:08	08:12 (4) 06:38	07:13 (4) 07:09	06:45	07:15
	20:29	09:00 (4) 19:58	09:02 (4) 19:09	08:12 (4) 18:20	16:41	16:32
16	05:40	08:53 (4) 06:09	08:10 (4) 06:39	07:16 (4) 07:10	06:46	07:16
	20:29	09:00 (4) 19:57	09:01 (4) 19:08	08:08 (4) 18:18	16:41	16:32
17	05:41	08:52 (4) 06:10	08:08 (4) 06:40	07:21 (4) 07:11	06:47	07:17
	20:28	09:00 (4) 19:55	09:01 (4) 19:06	08:02 (4) 18:17	16:40	16:32
18	05:42	08:51 (4) 06:11	08:06 (4) 06:41	07:27 (4) 07:12	06:48	07:17
	20:28	09:01 (4) 19:54	09:00 (4) 19:04	07:55 (4) 18:15	16:39	16:33
19	05:42	08:51 (4) 06:12	08:05 (4) 06:42	07:13	06:49	07:18
	20:27	09:01 (4) 19:53	09:00 (4) 19:03	18:14	16:38	16:33
20	05:43	08:50 (4) 06:13	08:03 (4) 06:43	07:14	06:50	07:18
	20:26	09:02 (4) 19:51	08:59 (4) 19:01	18:12	16:37	16:33
21	05:44	08:48 (4) 06:14	08:01 (4) 06:44	07:15	06:52	07:19
	20:25	09:01 (4) 19:50	08:59 (4) 18:59	18:11	16:37	16:34
22	05:45	08:47 (4) 06:15	07:59 (4) 06:45	07:17	06:53	07:20
	20:25	09:02 (4) 19:48	08:58 (4) 18:58	18:09	16:36	16:34
23	05:46	08:46 (4) 06:16	07:57 (4) 06:46	07:18	06:54	07:20
	20:24	09:02 (4) 19:47	08:57 (4) 18:56	18:08	16:36	16:35
24	05:47	08:45 (4) 06:17	07:55 (4) 06:47	07:19	06:55	07:21
	20:23	09:02 (4) 19:45	08:56 (4) 18:54	18:07	16:35	16:35
25	05:48	08:44 (4) 06:18	07:53 (4) 06:48	06:20	06:56	07:21
	20:22	09:03 (4) 19:44	08:56 (4) 18:52	17:05	16:34	16:36
26	05:49	08:43 (4) 06:19	07:51 (4) 06:49	06:21	06:57	07:21
	20:21	09:03 (4) 19:42	08:55 (4) 18:51	17:04	16:34	16:36
27	05:49	08:42 (4) 06:20	07:49 (4) 06:50	06:22	06:58	07:22
	20:20	09:04 (4) 19:41	08:54 (4) 18:49	17:03	16:34	16:37
28	05:50	08:40 (4) 06:21	07:47 (4) 06:51	06:23	06:59	07:22
	20:19	09:03 (4) 19:39	08:53 (4) 18:47	17:01	16:33	16:38
29	05:51	08:38 (4) 06:22	07:45 (4) 06:52	06:25	07:01	07:22
	20:18	09:03 (4) 19:37	08:50 (4) 18:46	17:00	16:33	16:39
30	05:52	08:37 (4) 06:23	07:43 (4) 06:53	06:26	07:02	07:23
	20:17	09:03 (4) 19:36	08:49 (4) 18:44	16:59	16:32	16:39
31	05:53	08:36 (4) 06:24	07:41 (4)	06:27		07:23
	20:16	09:04 (4) 19:34	08:48 (4)	16:57		16:40
Potential sun hours	458	427	375	346	299	289
Total, worst case	290	1561	1142			

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

Day in month	Sun rise (hh:mm)	Minutes with flicker	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)

SHADOW - Calendar

Calculation: Worst case Shadow receptor: H - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (8)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:41	07:10 17:15	06:34 17:49	06:44 19:23	05:58 19:54	05:30 20:23	05:30 20:34	05:54 20:15	06:25 19:33	06:54 18:42	06:28 16:56	07:03 16:32
2	07:23 16:42	07:09 17:16	06:33 17:50	06:42 19:24	05:57 19:55	05:29 20:24	05:31 20:34	05:55 20:14	06:26 19:31	06:55 18:41	06:29 16:55	07:04 16:32
3	07:23 16:43	07:08 17:18	06:31 17:51	06:41 19:25	05:56 19:56	05:29 20:25	05:31 20:34	05:56 20:13	06:27 19:29	06:56 18:39	06:30 16:54	07:05 16:32
4	07:23 16:44	07:07 17:19	06:30 17:52	06:39 19:26	05:55 19:57	05:29 20:25	05:32 20:34	05:57 20:12	06:28 19:28	06:57 18:37	06:32 16:53	07:06 16:31
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Potential sun hours Total, worst case	298	298	369	398	448	451	458	427	375	346	299	289

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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SHADOW - Calendar

Calculation: Worst case Shadow receptor: I - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (9)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:41	07:10 17:15	06:34 17:49	06:44 17:22	05:58 19:54	05:30 20:23	05:30 20:34	05:54 20:15	06:25 19:33	06:54 18:42	06:28 16:56	07:03 16:32
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Potential sun hours Total, worst case	298	298	369	398	448	451	458	427	375	346	299	289

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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SHADOW - Calendar

Calculation: Worst case Shadow receptor: J - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (10)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
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27	07:14 17:09	06:37 17:47	05:52 18:17	06:04 19:50	05:33 20:19	05:29 20:34	05:49 20:20	06:20 19:41	06:50 18:49	06:22 17:03	06:58 16:34	07:22 16:37
28	07:13 17:10	06:36 17:48	05:51 18:18	06:02 19:51	05:32 20:20	05:29 20:34	05:50 20:19	06:21 19:39	06:51 18:47	06:23 17:01	06:59 16:33	07:22 16:38
29	07:13 17:11		06:49 19:19	06:01 19:52	05:31 20:21	05:30 20:34	05:51 20:18	06:22 19:37	06:52 18:46	06:25 17:00	07:01 16:33	07:22 16:39
30	07:12 17:13		06:47 19:20	06:00 19:53	05:31 20:22	05:30 20:34	05:52 20:17	06:23 19:36	06:53 18:44	06:26 16:59	07:02 16:32	07:23 16:39
31	07:11 17:14		06:46 19:21		05:30 20:22		05:53 20:16	06:24 19:34		06:27 16:57		07:23 16:40
Potential sun hours Total, worst case	298	298	369	398	448	451	458	427	375	346	299	289

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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SHADOW - Calendar

Calculation: Worst case Shadow receptor: K - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (11)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June	
1	07:23 16:41	07:45 (12) 07:55 (12)	07:10 17:15	07:30 (12) 08:07 (12)	06:34 17:49	06:44 19:22	05:58 19:54
2	07:23 16:42	07:45 (12) 07:55 (12)	07:09 17:16	07:29 (12) 08:06 (12)	06:33 17:50	06:42 19:23	05:57 19:55
3	07:23 16:43	07:45 (12) 07:56 (12)	07:08 17:17	07:28 (12) 08:06 (12)	06:31 17:51	06:40 19:24	05:56 19:56
4	07:23 16:43	07:45 (12) 07:57 (12)	07:07 17:19	07:27 (12) 08:05 (12)	06:30 17:52	06:39 19:26	05:54 19:57
5	07:23 16:44	07:45 (12) 07:57 (12)	07:06 17:20	07:26 (12) 08:05 (12)	06:28 17:53	06:37 19:27	05:53 19:58
6	07:23 16:45	07:45 (12) 07:58 (12)	07:05 17:21	07:24 (12) 08:03 (12)	06:26 17:54	06:36 19:28	05:52 19:59
7	07:23 16:46	07:45 (12) 07:59 (12)	07:04 17:22	07:23 (12) 08:02 (12)	06:25 17:55	06:34 19:29	05:51 20:00
8	07:23 16:47	07:45 (12) 08:00 (12)	07:02 17:24	07:22 (12) 08:01 (12)	06:23 17:57	06:32 19:30	05:50 20:01
9	07:23 16:48	07:45 (12) 08:01 (12)	07:01 17:25	07:21 (12) 08:00 (12)	06:22 17:58	06:31 19:31	05:49 20:02
10	07:23 16:49	07:44 (12) 08:01 (12)	07:00 17:26	07:23 (12) 07:59 (12)	06:20 17:59	06:29 19:32	05:47 20:03
11	07:22 16:50	07:44 (12) 08:02 (12)	06:59 17:27	07:24 (12) 07:56 (12)	06:18 18:00	06:28 19:33	05:46 20:04
12	07:22 16:51	07:44 (12) 08:02 (12)	06:58 17:29	07:27 (12) 07:55 (12)	06:17 18:01	06:26 19:34	05:45 20:05
13	07:22 16:52	07:43 (12) 08:02 (12)	06:57 17:30	07:30 (12) 07:52 (12)	06:15 18:02	06:24 19:35	05:44 20:06
14	07:22 16:54	07:43 (12) 08:03 (12)	06:55 17:31	07:34 (12) 07:48 (12)	06:14 18:03	06:23 19:36	05:43 20:07
15	07:21 16:55	07:42 (12) 08:03 (12)	06:54 17:32		06:12 18:04	06:21 19:37	05:42 20:08
16	07:21 16:56	07:42 (12) 08:04 (12)	06:53 17:33		06:10 18:05	06:20 19:38	05:41 20:09
17	07:20 16:57	07:41 (12) 08:04 (12)	06:51 17:35		06:09 18:06	06:18 19:39	05:40 20:10
18	07:20 16:58	07:41 (12) 08:05 (12)	06:50 17:36		06:07 18:08	06:17 19:40	05:39 20:11
19	07:19 16:59	07:40 (12) 08:05 (12)	06:49 17:37		06:05 18:09	06:15 19:41	05:39 20:12
20	07:19 17:00	07:40 (12) 08:06 (12)	06:47 17:38		06:04 18:10	06:14 19:42	05:38 20:13
21	07:18 17:02	07:39 (12) 08:06 (12)	06:46 17:39		06:02 18:11	06:12 19:43	05:37 20:14
22	07:18 17:03	07:38 (12) 08:06 (12)	06:44 17:41		06:00 18:12	06:11 19:44	05:36 20:15
23	07:17 17:04	07:38 (12) 08:07 (12)	06:43 17:42		05:59 18:13	06:09 19:46	05:35 20:16
24	07:16 17:05	07:37 (12) 08:07 (12)	06:42 17:43		05:57 18:14	06:08 19:47	05:35 20:17
25	07:16 17:06	07:36 (12) 08:07 (12)	06:40 17:44		05:55 18:15	06:06 19:48	05:34 20:17
26	07:15 17:08	07:35 (12) 08:07 (12)	06:39 17:45		05:54 18:16	06:05 19:49	05:33 20:18
27	07:14 17:09	07:34 (12) 08:07 (12)	06:37 17:46		05:52 18:17	06:04 19:50	05:32 20:19
28	07:13 17:10	07:34 (12) 08:08 (12)	06:36 17:48		05:50 18:18	06:02 19:51	05:32 20:20
29	07:12 17:11	07:33 (12) 08:08 (12)			06:49 19:19	06:01 19:52	05:31 20:21
30	07:12 17:12	07:32 (12) 08:07 (12)			06:47 19:20	06:00 19:53	05:31 20:22
31	07:11 17:14	07:31 (12) 08:07 (12)			06:45 19:21		05:30 20:22
Potential sun hours	298		297	369	398	448	451
Total, worst case	696		477				

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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SHADOW - Calendar

Calculation: Worst case Shadow receptor: K - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (11)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:34	05:54 20:15	06:24 19:32	06:54 18:42	06:28 16:56	06:52 (12) 07:28 (12)
2	05:31 20:34	05:55 20:14	06:25 19:31	06:55 18:41	06:29 16:55	06:51 (12) 07:30 (12)
3	05:31 20:34	05:56 20:13	06:26 19:29	06:56 18:39	06:30 16:54	06:52 (12) 07:31 (12)
4	05:32 20:34	05:57 20:12	06:27 19:28	06:57 18:37	06:31 16:52	06:53 (12) 07:32 (12)
5	05:32 20:33	05:58 20:11	06:28 19:26	06:58 18:36	06:33 16:51	06:54 (12) 07:33 (12)
6	05:33 20:33	05:59 20:10	06:29 19:24	06:59 18:34	06:34 16:50	06:56 (12) 07:35 (12)
7	05:34 20:33	06:00 20:08	06:30 19:23	07:00 18:32	06:35 16:49	06:57 (12) 07:35 (12)
8	05:34 20:33	06:01 20:07	06:31 19:21	07:01 18:31	06:36 16:48	06:58 (12) 07:36 (12)
9	05:35 20:32	06:02 20:06	06:32 19:19	07:02 18:29	06:37 16:47	06:59 (12) 07:36 (12)
10	05:35 20:32	06:03 20:05	06:33 19:18	07:03 18:28	06:39 16:46	07:01 (12) 07:38 (12)
11	05:36 20:31	06:04 20:03	06:34 19:16	07:04 18:26	06:40 16:45	07:02 (12) 07:38 (12)
12	05:37 20:31	06:05 20:02	06:35 19:14	07:06 18:24	06:41 16:44	07:03 (12) 07:38 (12)
13	05:38 20:30	06:06 20:01	06:36 19:13	07:07 18:23	06:42 16:43	07:05 (12) 07:40 (12)
14	05:38 20:30	06:07 19:59	06:37 19:11	07:08 18:21	06:43 16:42	07:06 (12) 07:40 (12)
15	05:39 20:29	06:08 19:58	06:38 19:09	07:09 18:20	06:44 16:41	07:07 (12) 07:40 (12)
16	05:40 20:29	06:09 19:57	06:39 19:08	07:10 18:18	06:46 16:40	07:08 (12) 07:40 (12)
17	05:41 20:28	06:10 19:55	06:40 19:06	07:11 18:17	06:47 16:40	07:10 (12) 07:41 (12)
18	05:41 20:27	06:11 19:54	06:41 19:04	07:12 18:15	06:48 16:39	07:11 (12) 07:41 (12)
19	05:42 20:27	06:12 19:52	06:42 19:03	07:13 18:14	06:49 16:38	07:12 (12) 07:41 (12)
20	05:43 20:26	06:13 19:51	06:43 19:01	07:14 18:12	06:50 16:37	07:13 (12) 07:41 (12)
21	05:44 20:25	06:14 19:49	06:44 18:59	07:15 18:11	06:51 16:37	07:15 (12) 07:42 (12)
22	05:45 20:25	06:15 19:48	06:45 18:57	07:16 18:09	06:53 16:36	07:16 (12) 07:42 (12)
23	05:46 20:24	06:16 19:47	06:46 18:56	07:18 18:08	06:54 16:35	07:17 (12) 07:42 (12)
24	05:47 20:23	06:17 19:45	06:47 18:54	07:19 18:06	06:55 16:35	07:18 (12) 07:42 (12)
25	05:47 20:22	06:18 19:43	06:48 18:52	07:20 17:05	06:56 16:34	07:19 (12) 07:42 (12)
26	05:48 20:21	06:18 19:42	06:49 18:51	07:21 17:04	06:57 16:34	07:20 (12) 07:42 (12)
27	05:49 20:20	06:19 19:40	06:50 18:49	07:22 17:02	06:58 16:33	07:22 (12) 07:43 (12)
28	05:50 20:19	06:20 19:39	06:51 18:47	07:23 17:01	06:59 16:33	07:23 (12) 07:43 (12)
29	05:51 20:18	06:21 19:37	06:52 18:46	07:24 17:00	07:00 16:33	07:24 (12) 07:44 (12)
30	05:52 20:17	06:22 19:36	06:53 18:44	07:26 16:58	07:01 16:32	07:25 (12) 07:44 (12)
31	05:53 20:16	06:23 19:34	06:54 18:43	07:27 16:57	07:02 16:32	07:26 (12) 07:44 (12)
Potential sun hours	458	427	375	345	299	289
Total, worst case				101	931	302

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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SHADOW - Calendar

Calculation: Worst case Shadow receptor: L - Shadow Receptor: 1,0 x 1,0 Azimuth: 0,0° Slope: 90,0° (12)
 Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23 16:41 16:43	14:39 (7) 15:20 (7) 15:20 (7)	07:10 17:15 07:09	06:34 17:49 06:33	06:44 19:22 06:42	05:58 19:54 05:57	05:30 20:23 05:29	05:30 20:34 05:31	05:54 20:15 05:55	06:24 19:32 06:25	06:54 18:42 06:55	06:28 16:56 16:12 (6)	07:02 18:32 16:32
2	07:23 16:42	14:40 (7) 15:20 (7)	07:16 17:16	06:31 17:50	06:40 19:23	05:56 19:55	05:29 20:24	05:31 20:34	05:56 20:14	06:26 19:31	06:56 18:41	06:30 16:53	07:05 16:31
3	07:23 16:43	14:41 (7) 15:20 (7)	07:08 17:17	06:31 17:51	06:40 19:24	05:56 19:56	05:29 20:25	05:31 20:34	05:56 20:13	06:26 19:29	06:56 18:39	06:30 16:53	07:05 16:31
4	07:23 16:43	14:42 (7) 15:20 (7)	07:07 17:19	16:34 (6) 06:30	06:39 19:26	05:54 19:57	05:28 20:25	05:32 20:34	05:57 20:12	06:27 19:28	06:57 18:37	06:31 16:52	07:06 16:31
5	07:23 16:44	14:43 (7) 15:20 (7)	07:06 17:20	16:33 (6) 06:28	06:37 19:27	05:53 19:58	05:28 20:26	05:32 20:33	05:58 20:11	06:28 19:26	06:58 18:36	06:33 16:51	07:07 16:31
6	07:23 16:45	14:44 (7) 15:20 (7)	07:05 17:21	16:31 (6) 06:26	06:36 19:28	05:52 19:59	05:28 20:27	05:33 20:33	05:59 20:10	06:29 19:24	06:59 18:34	06:34 16:50	07:07 16:31
7	07:23 16:46	14:45 (7) 15:21 (7)	07:04 17:22	16:30 (6) 06:25	06:34 19:29	05:51 20:00	05:27 20:27	05:33 20:33	06:00 20:08	06:30 19:23	07:00 18:32	06:35 16:49	07:08 16:31
8	07:23 16:47	14:46 (7) 15:21 (7)	07:02 17:24	16:29 (6) 06:23	06:32 19:30	05:50 20:01	05:27 20:28	05:34 20:32	06:01 20:07	06:31 19:21	07:01 18:31	06:36 16:48	07:09 16:31
9	07:23 16:48	14:47 (7) 15:21 (7)	07:01 17:25	16:29 (6) 06:22	06:31 19:31	05:49 20:02	05:27 20:28	05:35 20:32	06:02 20:06	06:32 19:19	07:02 18:29	06:37 16:47	07:10 16:31
10	07:23 16:49	14:47 (7) 15:20 (7)	07:00 17:26	16:29 (6) 06:20	06:29 19:32	05:47 20:03	05:27 20:29	05:35 20:32	06:03 20:05	06:33 19:18	07:03 18:28	06:39 16:46	07:11 16:31
11	07:22 16:50	14:49 (7) 15:20 (7)	06:59 17:27	16:28 (6) 06:18	06:28 19:33	05:46 20:04	05:27 20:30	05:36 20:31	06:04 20:03	06:34 19:16	07:04 18:26	06:40 16:45	07:12 16:31
12	07:22 16:51	14:51 (7) 15:20 (7)	06:58 17:28	16:28 (6) 06:17	06:26 19:34	05:45 20:05	05:27 20:30	05:37 20:31	06:05 20:02	06:35 19:14	07:05 18:24	06:41 16:44	07:13 16:31
13	07:22 16:52	14:52 (7) 15:18 (7)	06:57 17:30	16:29 (6) 06:15	06:24 19:35	05:44 20:06	05:26 20:31	05:38 20:30	06:06 20:01	06:36 19:13	07:07 18:23	06:42 16:43	07:14 16:31
14	07:22 16:53	14:54 (7) 15:18 (7)	06:55 17:31	16:29 (6) 06:14	06:23 19:36	05:43 20:07	05:26 20:31	05:38 20:30	06:07 19:59	06:37 19:11	07:08 18:21	06:43 16:42	07:14 16:31
15	07:21 16:54	14:55 (7) 15:17 (7)	06:54 17:32	16:29 (6) 06:12	06:21 19:37	05:42 20:08	05:26 20:31	05:39 20:29	06:08 19:58	06:38 19:09	07:09 18:20	06:44 16:41	07:15 16:31
16	07:21 16:55	14:56 (7) 15:16 (7)	06:53 17:33	16:30 (6) 06:10	06:20 19:38	05:41 20:09	05:26 20:32	05:40 20:29	06:09 19:57	06:39 19:08	07:10 18:18	06:46 16:40	07:16 16:32
17	07:20 16:56	15:00 (7) 15:13 (7)	06:51 17:35	16:31 (6) 06:09	06:18 19:39	05:40 20:10	05:26 20:32	05:41 20:28	06:10 19:55	06:40 19:06	07:11 18:17	06:47 16:40	07:16 16:32
18	07:20 16:57	15:06 (7) 15:09 (7)	06:50 17:36	16:32 (6) 06:07	06:17 19:40	05:39 20:11	05:26 20:32	05:41 20:27	06:11 19:54	06:41 19:04	07:12 18:15	06:48 16:39	07:17 16:32
19	07:19 16:58	15:09 (7) 15:17 (7)	06:49 17:37	16:34 (6) 06:05	06:15 19:41	05:38 20:12	05:27 20:33	05:42 20:27	06:12 19:52	06:42 19:02	07:13 18:14	06:49 16:38	07:18 16:33
20	07:19 17:00	15:18 (7) 15:26 (7)	06:47 17:38	16:38 (6) 06:04	06:14 19:42	05:38 20:13	05:27 20:33	05:43 20:26	06:13 19:51	06:43 19:01	07:14 18:12	06:50 16:37	07:19 16:33
21	07:18 17:01	15:33 (7) 15:41 (7)	06:46 17:39	16:41 (6) 06:02	06:12 19:43	05:37 20:14	05:27 20:33	05:44 20:25	06:14 19:49	06:44 18:59	07:15 18:11	06:51 16:37	07:19 16:34
22	07:18 17:03	15:44 (7) 15:52 (7)	06:44 17:41	06:00 18:12	06:11 19:44	05:36 20:15	05:27 20:34	05:45 20:25	06:15 19:48	06:45 18:57	07:16 18:09	06:53 16:36	07:19 16:34
23	07:17 17:04	15:59 (7) 16:07 (7)	06:43 17:42	05:59 18:13	06:09 19:45	05:35 20:16	05:27 20:34	05:46 20:24	06:15 19:46	06:46 18:56	07:18 18:08	06:54 16:35	07:20 16:35
24	07:16 17:05	16:04 (7) 16:12 (7)	06:42 17:43	05:57 18:14	06:08 19:47	05:34 20:17	05:28 20:34	05:47 20:23	06:16 19:45	06:47 18:54	07:19 18:06	06:55 16:35	07:20 16:35
25	07:16 17:06	16:17 (7) 16:25 (7)	06:40 17:44	05:55 18:15	06:06 19:48	05:34 20:17	05:28 20:34	05:47 20:22	06:17 19:43	06:48 18:52	07:19 18:05	06:56 16:34	07:21 16:36
26	07:15 17:07	16:32 (7) 16:40 (7)	06:39 17:45	05:54 18:16	06:05 19:49	05:33 20:18	05:28 20:34	05:48 20:21	06:18 19:42	06:49 18:51	07:20 18:04	06:57 16:34	07:21 16:36
27	07:14 17:09	16:47 (7) 16:55 (7)	06:37 17:46	05:52 18:17	06:04 19:50	05:32 20:19	05:29 20:34	05:49 20:20	06:19 19:40	06:50 18:49	07:22 18:02	06:58 16:33	07:22 16:37
28	07:13 17:10	16:59 (7) 17:07 (7)	06:36 17:48	05:50 18:18	06:02 19:51	05:32 20:20	05:29 20:34	05:50 20:19	06:20 19:39	06:51 18:47	07:23 18:01	06:59 16:33	07:23 16:37
29	07:12 17:11	17:18 (7) 17:26 (7)	06:35 17:48	06:49 18:19	06:01 19:52	05:31 20:21	05:29 20:34	05:51 20:18	06:21 19:37	06:52 18:46	07:24 18:00	07:00 16:32	07:24 16:38
30	07:12 17:12	17:33 (7) 17:41 (7)	06:34 17:48	06:47 19:20	06:00 19:53	05:31 20:22	05:30 20:34	05:52 20:17	06:22 19:36	06:53 18:44	07:25 18:00	07:01 16:32	07:25 16:39
31	07:11 17:14	17:42 (7) 17:50 (7)	06:33 17:48	06:45 19:21	06:02 19:54	05:30 20:23	05:29 20:34	05:53 20:16	06:23 19:34	06:54 18:45	07:26 18:00	07:02 16:32	07:26 16:40
Potential sun hours	298	297	369	398	448	451	458	427	375	345	299	289	
Total, worst case	534	207	369	398	448	451	458	427	375	345	299	289	

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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SHADOW - Calendar

Calculation: Worst case Shadow receptor: M - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (13)
 Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:41 36	15:08 (7) 15:44 (7) 17:15	07:10 11 15:32 (7)	06:34 17:49 19:22	06:44 19:54 20:23	05:58 19:54 20:23	05:30 20:34 20:15	05:30 20:34 20:15	05:54 19:32 18:42	06:24 18:42 16:56	06:54 18:42 16:56	06:28 16:32 15:32 (7)
2	07:23 16:42 36	15:08 (7) 15:44 (7) 17:16	07:09 16:32 15:32 (7)	06:33 17:50 19:23	06:42 19:23 19:55	05:57 19:55 20:24	05:29 20:34 20:14	05:31 20:14 19:31	05:55 18:41 16:55	06:25 18:41 16:55	06:29 18:41 16:55	07:04 16:32 15:32 (7)
3	07:23 16:43 36	15:09 (7) 15:45 (7) 17:17	07:08 16:31 15:32 (7)	06:31 17:51 19:24	06:40 19:24 19:56	05:56 19:56 20:25	05:29 20:34 20:13	05:31 20:13 19:29	05:56 18:39 16:56	06:26 18:39 16:56	06:26 18:39 16:56	07:05 16:31 15:32 (7)
4	07:23 16:43 37	15:09 (7) 15:46 (7) 17:19	07:07 16:30 15:33 (7)	06:30 17:52 19:25	06:39 19:25 19:57	05:54 19:57 20:25	05:28 20:34 20:12	05:32 20:12 19:28	05:57 18:37 16:57	06:27 18:37 16:57	06:27 18:37 16:57	07:06 16:31 15:33 (7)
5	07:23 16:44 37	15:09 (7) 15:46 (7) 17:20	07:06 16:28 15:33 (7)	06:28 17:53 19:27	06:37 19:27 19:58	05:53 19:58 20:26	05:28 20:33 20:11	05:32 20:11 19:26	05:58 18:36 16:58	06:28 18:36 16:58	06:28 18:36 16:58	07:07 16:31 15:33 (7)
6	07:23 16:45 37	15:10 (7) 15:47 (7) 17:21	07:05 16:26 15:34 (7)	06:26 17:54 19:28	06:36 19:28 19:59	05:52 19:59 20:27	05:28 20:33 20:10	05:33 20:10 19:24	05:59 18:34 16:59	06:29 18:34 16:59	06:29 18:34 16:59	07:07 16:31 15:33 (7)
7	07:23 16:46 38	15:10 (7) 15:48 (7) 17:22	07:04 16:25 15:35 (7)	06:25 17:55 19:29	06:34 19:29 20:00	05:51 20:00 20:27	05:27 20:33 20:08	05:33 20:08 19:23	06:00 18:32 16:59	06:30 18:32 16:59	06:30 18:32 16:59	07:08 16:31 15:33 (7)
8	07:23 16:47 37	15:11 (7) 15:48 (7) 17:24	07:02 16:23 15:36 (7)	06:23 17:57 19:30	06:32 19:30 20:01	05:50 20:01 20:28	05:27 20:32 20:07	05:34 20:07 19:21	06:01 18:31 16:57	06:31 18:31 16:57	06:31 18:31 16:57	07:09 16:31 15:34 (7)
9	07:23 16:48 38	15:11 (7) 15:49 (7) 17:25	07:01 16:22 15:37 (7)	06:22 17:58 19:31	06:31 19:31 20:02	05:49 20:02 20:28	05:27 20:32 20:06	05:35 20:06 19:19	06:02 18:29 16:58	06:32 18:29 16:58	06:32 18:29 16:58	07:10 16:31 15:34 (7)
10	07:23 16:49 38	15:11 (7) 15:49 (7) 17:26	07:00 16:20 15:38 (7)	06:20 17:59 19:32	06:29 19:32 20:03	05:47 20:03 20:29	05:27 20:32 20:05	05:35 20:05 19:18	06:03 18:28 16:58	06:33 18:28 16:58	06:33 18:28 16:58	07:11 16:31 15:34 (7)
11	07:22 16:50 38	15:12 (7) 15:50 (7) 17:27	06:59 16:16 15:40 (7)	06:18 18:00 19:33	06:28 19:33 20:04	05:46 20:04 20:30	05:27 20:30 20:03	05:36 20:03 19:16	06:04 18:26 16:58	06:34 18:26 16:58	06:34 18:26 16:58	07:12 16:31 15:35 (7)
12	07:22 16:51 39	15:12 (7) 15:51 (7) 17:28	06:58 16:15 15:41 (7)	06:17 18:01 19:34	06:26 19:34 20:05	05:45 20:05 20:30	05:27 20:30 20:03	05:37 20:02 19:14	06:05 18:24 16:58	06:35 18:24 16:58	06:35 18:24 16:58	07:13 16:31 15:35 (7)
13	07:22 16:52 38	15:12 (7) 15:52 (7) 17:30	06:57 16:14 15:42 (7)	06:15 18:02 19:35	06:24 19:35 20:06	05:44 20:06 20:31	05:26 20:30 20:01	05:38 20:01 19:13	06:06 18:23 16:58	06:36 18:23 16:58	06:36 18:23 16:58	07:14 16:31 15:35 (7)
14	07:22 16:53 38	15:13 (7) 15:53 (7) 17:31	06:55 16:13 15:43 (7)	06:14 18:03 19:36	06:23 19:36 20:07	05:43 20:07 20:31	05:26 20:30 20:01	05:38 19:59 19:11	06:07 18:21 16:58	06:37 18:21 16:58	06:37 18:21 16:58	07:14 16:31 15:35 (7)
15	07:21 16:55 38	15:13 (7) 15:53 (7) 17:32	06:54 16:12 15:44 (7)	06:12 18:04 19:37	06:21 19:37 20:08	05:42 20:08 20:31	05:26 20:29 20:02	05:39 19:58 19:09	06:08 18:20 16:58	06:38 18:20 16:58	06:38 18:20 16:58	07:15 16:31 15:36 (7)
16	07:21 16:56 38	15:14 (7) 15:54 (7) 17:33	06:53 16:11 15:45 (7)	06:10 18:05 19:38	06:20 19:38 20:09	05:41 20:09 20:32	05:26 20:29 20:02	05:40 19:57 19:08	06:09 18:18 16:58	06:39 18:18 16:58	06:39 18:18 16:58	07:16 16:31 15:36 (7)
17	07:20 16:57 37	15:14 (7) 15:51 (7) 17:35	06:51 16:34 (6) 18:06	06:09 18:06 19:39	06:18 18:06 19:39	05:40 20:10 20:32	05:26 20:28 20:01	05:41 19:55 19:06	06:10 18:17 16:58	06:40 18:17 16:58	06:40 18:17 16:58	07:16 16:31 15:36 (7)
18	07:20 16:58 37	15:15 (7) 15:52 (7) 17:36	06:50 16:33 (6) 18:07	06:07 18:07 19:40	06:17 19:40 20:11	05:39 20:11 20:32	05:26 20:27 20:01	05:41 19:54 19:04	06:11 18:15 16:58	06:41 18:15 16:58	06:41 18:15 16:58	07:17 16:31 15:37 (7)
19	07:19 16:59 37	15:15 (7) 15:52 (7) 17:37	06:49 16:35 (6) 18:09	06:05 18:09 19:41	06:15 19:41 20:12	05:38 20:12 20:33	05:27 20:27 20:01	05:42 19:52 19:02	06:12 18:14 16:58	06:42 18:14 16:58	06:42 18:14 16:58	07:18 16:31 15:37 (7)
20	07:19 17:00 37	15:16 (7) 15:53 (7) 17:38	06:47 16:40 (6) 18:10	06:04 18:10 19:42	06:14 19:42 20:13	05:38 20:13 20:33	05:27 20:26 20:01	05:43 19:51 19:01	06:13 18:12 16:58	06:43 18:12 16:58	06:43 18:12 16:58	07:18 16:31 15:37 (7)
21	07:18 17:01 36	15:16 (7) 15:52 (7) 17:39	06:46 16:36 (6) 18:11	06:02 18:11 19:43	06:12 19:43 20:14	05:37 20:14 20:33	05:27 20:25 20:01	05:44 19:49 18:59	06:14 18:11 16:58	06:44 18:11 16:58	06:44 18:11 16:58	07:19 16:31 15:38 (7)
22	07:18 17:03 35	15:17 (7) 15:52 (7) 17:40	06:44 16:38 (6) 18:12	06:00 18:12 19:44	06:11 19:44 20:15	05:36 20:15 20:34	05:27 20:25 20:01	05:45 19:48 18:57	06:14 18:09 16:58	06:45 18:09 16:58	06:45 18:09 16:58	07:19 16:31 15:38 (7)
23	07:17 17:04 35	15:18 (7) 15:53 (7) 17:42	06:43 16:41 (6) 18:13	06:00 18:13 19:45	06:11 19:45 20:16	05:35 20:16 20:34	05:27 20:24 20:01	05:46 19:46 18:56	06:15 18:08 16:58	06:46 18:08 16:58	06:46 18:08 16:58	07:20 16:31 15:39 (7)
24	07:16 17:05 33	15:19 (7) 15:52 (7) 17:43	06:42 16:40 (6) 18:14	06:00 18:14 19:47	06:10 19:47 20:17	05:34 20:17 20:34	05:28 20:23 20:01	05:47 19:45 18:54	06:16 18:06 16:58	06:47 18:06 16:58	06:47 18:06 16:58	07:20 16:31 15:39 (7)
25	07:16 17:06 32	15:19 (7) 15:51 (7) 17:44	06:40 16:40 (6) 18:15	06:00 18:15 19:48	06:06 19:48 20:17	05:34 20:17 20:34	05:28 20:22 20:01	05:47 19:43 18:52	06:17 18:05 16:58	06:48 18:05 16:58	06:48 18:05 16:58	07:21 16:31 15:39 (7)
26	07:15 17:07 31	15:20 (7) 15:51 (7) 17:45	06:39 16:40 (6) 18:16	06:00 18:16 19:49	06:05 19:49 20:18	05:33 20:18 20:34	05:28 20:21 20:01	05:48 19:42 18:51	06:18 18:04 16:58	06:49 18:04 16:58	06:49 18:04 16:58	07:21 16:31 15:39 (7)
27	07:14 17:09 29	15:21 (7) 15:50 (7) 17:46	06:37 16:40 (6) 18:17	06:00 18:17 19:50	06:04 19:50 20:19	05:32 20:19 20:34	05:29 20:20 20:01	05:49 19:40 18:49	06:19 18:02 16:58	06:50 18:02 16:58	06:50 18:02 16:58	07:22 16:31 15:40 (7)
28	07:13 17:10 27	15:23 (7) 15:50 (7) 17:47	06:36 16:40 (6) 18:18	06:00 18:18 19:51	06:02 19:51 20:20	05:32 20:20 20:34	05:29 20:19 20:01	05:50 19:39 18:47	06:20 18:01 16:58	06:51 18:01 16:58	06:51 18:01 16:58	07:22 16:31 15:40 (7)
29	07:12 17:11 24	15:25 (7) 15:49 (7) 17:47	06:35 16:41 (6) 18:19	06:00 18:19 19:52	06:01 19:52 20:21	05:31 20:21 20:34	05:29 20:18 20:01	05:51 19:37 18:46	06:21 18:01 16:58	06:52 18:01 16:58	06:52 18:01 16:58	07:22 16:31 15:40 (7)
30	07:12 17:12 21	15:27 (7) 15:48 (7) 17:48	06:34 16:42 (6) 18:20	06:00 18:20 19:53	06:00 19:53 20:22	05:30 20:22 20:34	05:28 20:17 20:01	05:52 19:36 18:44	06:22 18:01 16:58	06:53 18:01 16:58	06:53 18:01 16:58	07:22 16:31 15:40 (7)
31	07:11 17:14 17	15:29 (7) 15:46 (7) 17:47	06:33 16:40 (6) 18:21	06:00 18:21 19:54	06:00 19:54 20:22	05:30 20:22 20:34	05:28 20:16 20:01	05:53 19:34 18:44	06:23 18:01 16:58	06:54 18:01 16:58	06:54 18:01 16:58	07:23 16:31 15:40 (7)
Potential sun hours	298	297	369	398	448	451	458	427	375	345	298	289
Total, worst case	1067	47	369	398	448	451	458	427	375	345	298	289

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

Day in month	Sun rise (hh:mm)	Minutes with flicker	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)

SHADOW - Calendar

Calculation: Worst case Shadow receptor: N - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (14)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	07:23 16:41	14:59 (8) 15:03 (8)	07:10 17:15	06:34 17:49	06:44 19:22	17:10 (12) 19:58 17:17 (12) 05:30
2	07:23 16:42	15:00 (8) 15:04 (8)	07:09 17:16	06:33 17:50	06:42 19:23	65 18:15 (12) 19:54 17:18 (12) 05:29
3	07:23 16:43	15:00 (8) 15:05 (8)	07:08 17:17	06:31 17:51	06:40 19:24	66 18:15 (12) 19:55 17:20 (12) 05:29
4	07:23 16:43	15:00 (8) 15:07 (8)	07:07 17:19	06:30 17:52	06:39 19:25	67 18:16 (12) 19:56 17:22 (12) 05:28
5	07:23 16:44	15:01 (8) 15:10 (8)	07:06 17:20	06:28 17:53	06:37 19:27	68 18:16 (12) 19:57 17:25 (12) 05:28
6	07:23 16:45	15:02 (8) 15:13 (8)	07:05 17:21	06:26 17:54	06:36 19:28	69 18:17 (12) 19:58 17:27 (12) 05:28
7	07:23 16:46	15:02 (8) 15:16 (8)	07:04 17:22	06:25 17:55	06:34 19:29	69 18:16 (12) 19:59 17:30 (12) 05:27
8	07:23 16:47	15:03 (8) 15:19 (8)	07:02 17:24	06:23 17:57	06:32 19:30	70 18:16 (12) 20:00 17:30 (12) 05:27
9	07:23 16:48	15:04 (8) 15:23 (8)	07:01 17:25	06:22 17:58	06:31 19:31	71 18:17 (12) 20:01 17:30 (12) 05:27
10	07:23 16:49	15:03 (8) 15:24 (8)	07:00 17:26	06:20 17:59	06:29 19:32	71 18:16 (12) 20:02 17:30 (12) 05:27
11	07:22 16:50	15:04 (8) 15:25 (8)	06:59 17:27	06:18 18:00	06:28 19:33	70 18:16 (12) 20:03 17:30 (12) 05:27
12	07:22 16:51	15:05 (8) 15:27 (8)	06:58 17:28	06:17 18:01	06:26 19:34	71 18:16 (12) 20:04 17:30 (12) 05:27
13	07:22 16:52	15:05 (8) 15:28 (8)	06:56 17:30	06:15 18:02	06:24 19:35	71 18:40 (5) 20:05 17:30 (12) 05:26
14	07:22 16:53	15:06 (8) 15:30 (8)	06:55 17:31	06:14 18:03	06:23 19:36	72 17:05 (12) 05:43 18:42 (5) 20:07 05:26
15	07:21 16:55	15:06 (8) 15:31 (8)	06:54 17:32	06:12 18:04	06:21 19:37	71 17:06 (12) 05:42 18:43 (5) 20:08 05:26
16	07:21 16:56	15:08 (8) 15:33 (8)	06:53 17:33	06:10 18:05	06:20 19:38	71 17:05 (12) 05:41 18:43 (5) 20:09 05:26
17	07:20 16:57	15:08 (8) 15:34 (8)	06:51 17:35	06:09 18:06	06:18 19:39	68 17:06 (12) 05:40 18:14 (12) 20:10 05:26
18	07:20 16:58	15:10 (8) 15:34 (8)	06:50 17:36	06:07 18:07	06:17 19:40	66 17:06 (12) 05:39 18:12 (12) 20:11 05:26
19	07:19 16:59	15:10 (8) 15:33 (8)	06:49 17:37	06:05 18:09	06:15 19:41	65 17:07 (12) 05:38 18:12 (12) 20:12 05:27
20	07:19 17:00	15:12 (8) 15:33 (8)	06:47 17:38	06:04 18:10	06:14 19:42	64 17:07 (12) 05:38 18:11 (12) 20:13 05:27
21	07:18 17:01	15:13 (8) 15:32 (8)	06:46 17:39	06:02 18:11	06:12 19:43	63 16:30 (12) 06:12 18:11 (12) 20:14 05:27
22	07:18 17:03	15:14 (8) 15:31 (8)	06:44 17:40	06:00 18:12	06:11 19:44	61 16:27 (12) 06:11 17:08 (12) 05:36 18:09 (12) 20:15 05:27
23	07:17 17:04	15:17 (8) 15:30 (8)	06:43 17:42	05:59 18:13	06:09 19:45	60 16:24 (12) 06:09 17:09 (12) 05:35 18:09 (12) 20:16 05:28
24	07:16 17:05	15:20 (8) 15:28 (8)	06:42 17:43	05:57 18:14	06:08 19:46	58 16:21 (12) 06:08 17:10 (12) 05:34 18:08 (12) 20:17 05:28
25	07:16 17:06	15:28 (8) 17:44	17:43 17:44	06:40 18:15	05:55 19:48	57 16:20 (12) 06:06 17:10 (12) 05:34 18:07 (12) 20:17 05:28
26	07:15 17:07	17:45 17:45	17:45 18:16	06:39 18:16	05:54 19:49	55 16:18 (12) 06:05 17:11 (12) 05:33 18:06 (12) 20:18 05:29
27	07:14 17:09	06:37 17:46	17:46 18:17	05:52 18:17	06:04 19:50	52 16:16 (12) 06:04 17:13 (12) 05:32 18:05 (12) 20:19 05:29
28	07:13 17:10	06:36 17:47	17:47 18:18	05:50 18:18	06:02 19:51	51 16:15 (12) 06:02 17:13 (12) 05:32 18:04 (12) 20:20 05:29
29	07:12 17:11	06:47 19:20	19:20 19:19	06:49 18:13	06:01 19:52	48 17:13 (12) 06:01 18:03 (12) 20:21 05:29
30	07:12 17:12	06:47 19:20	19:20 19:20	06:47 18:14	06:00 19:53	46 17:12 (12) 06:00 18:02 (12) 20:22 05:30
31	07:11 17:14	06:45 19:21	19:21 19:21	06:45 18:15	06:00 19:53	46 17:11 (12) 06:00 18:02 (12) 20:22 05:30
Potential sun hours	298	297	369	398	448	451
Total, worst case	401		988	1927	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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SHADOW - Calendar

Calculation: Worst case Shadow receptor: N - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (14)
 Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December				
1	05:30 20:34	05:54 20:15	06:24 19:32	17:04 (12) 18:15 (12)	06:54 18:42	17:22 (7) 17:44 (7)	06:28 16:56	07:02 16:32	14:46 (8) 15:07 (8)	
2	05:31 20:34	05:55 20:14	06:25 19:31	17:04 (12) 18:14 (12)	06:55 18:41	17:24 (7) 17:41 (7)	06:29 16:55	07:03 16:32	14:46 (8) 15:07 (8)	
3	05:31 20:34	05:56 20:13	06:26 19:29	17:03 (12) 18:14 (12)	06:56 18:39	17:27 (7) 17:37 (7)	06:30 16:53	07:05 16:31	14:47 (8) 15:06 (8)	
4	05:32 20:34	05:57 20:12	06:27 19:28	17:03 (12) 18:14 (12)	06:57 18:37		06:31 16:52	07:06 16:31	14:47 (8) 15:03 (8)	
5	05:32 20:33	05:58 20:11	17:45 (12) 19:26	06:28 17:03 (12)	06:58 18:36		06:33 16:51	07:06 16:31	14:47 (8) 15:01 (8)	
6	05:33 20:33	05:59 20:10	17:40 (12) 17:58 (12)	06:29 19:24	17:03 (12) 18:34		06:34 16:50	07:07 16:31	14:48 (8) 14:59 (8)	
7	05:33 20:33	06:00 20:08	17:35 (12) 18:00 (12)	06:30 19:23	17:03 (12) 18:32		06:35 16:49	07:08 16:31	14:48 (8) 14:57 (8)	
8	05:34 20:32	06:01 20:07	17:33 (12) 18:02 (12)	06:31 19:21	17:03 (12) 18:31		06:36 16:48	07:09 16:31	14:49 (8) 14:55 (8)	
9	05:35 20:32	06:02 20:06	17:30 (12) 18:04 (12)	06:32 19:19	17:03 (12) 18:29		06:37 16:47	07:10 16:31	14:49 (8) 14:54 (8)	
10	05:35 20:32	06:03 20:05	17:28 (12) 18:06 (12)	06:33 19:18	17:03 (12) 18:28		06:38 16:46	07:11 16:31	14:50 (8) 14:54 (8)	
11	05:36 20:31	06:04 20:03	17:27 (12) 18:07 (12)	06:34 19:16	17:02 (12) 18:26		06:40 16:45	07:12 16:31	14:49 (8) 14:53 (8)	
12	05:37 20:31	06:05 20:02	17:25 (12) 18:08 (12)	06:35 19:14	17:02 (12) 18:24		06:41 16:44	07:13 16:31	14:50 (8) 14:53 (8)	
13	05:38 20:30	06:06 20:01	17:23 (12) 18:10 (12)	06:36 19:13	17:03 (12) 18:23		06:42 16:43	07:14 16:31	14:51 (8) 14:54 (8)	
14	05:38 20:30	06:07 19:59	17:22 (12) 18:11 (12)	06:37 19:11	17:03 (12) 18:21		06:43 16:42	07:14 16:31	14:51 (8) 14:54 (8)	
15	05:39 20:29	06:08 19:58	17:20 (12) 18:12 (12)	06:38 19:09	17:04 (12) 18:20		06:44 16:41	07:15 16:31	14:52 (8) 14:54 (8)	
16	05:40 20:29	06:09 19:57	17:19 (12) 18:12 (12)	06:39 19:08	17:05 (12) 18:18		06:46 16:40	07:16 16:32	14:52 (8) 14:54 (8)	
17	05:41 20:28	06:10 19:55	17:18 (12) 18:13 (12)	06:40 19:06	17:06 (12) 18:17		06:47 16:39	07:16 16:32	14:53 (8) 14:54 (8)	
18	05:41 20:27	06:11 19:54	17:17 (12) 18:14 (12)	06:41 19:04	17:07 (12) 18:15		06:48 16:39	14:54 (8) 15:02 (8)	07:17 16:32	14:53 (8) 14:54 (8)
19	05:42 20:27	06:12 19:52	17:16 (12) 18:14 (12)	06:42 19:02	17:08 (12) 18:14		06:49 16:38	14:51 (8) 15:05 (8)	07:18 16:33	14:54 (8) 14:55 (8)
20	05:43 20:26	06:13 19:51	17:14 (12) 18:15 (12)	06:43 19:01	17:10 (12) 18:12		06:50 16:37	14:49 (8) 15:06 (8)	07:18 16:33	14:54 (8) 14:55 (8)
21	05:44 20:25	06:14 19:49	17:13 (12) 18:15 (12)	06:44 18:59	17:12 (12) 18:11		06:51 16:37	14:48 (8) 15:07 (8)	07:19 16:34	14:54 (8) 14:55 (8)
22	05:45 20:25	06:14 19:48	17:12 (12) 18:16 (12)	06:45 18:57	17:14 (12) 18:09		06:53 16:36	14:48 (8) 15:09 (8)	07:19 16:34	14:55 (8) 14:56 (8)
23	05:46 20:24	06:15 19:46	17:11 (12) 18:16 (12)	06:46 18:56	17:17 (12) 18:07		06:54 16:35	14:47 (8) 15:10 (8)	07:20 16:35	14:55 (8) 14:56 (8)
24	05:47 20:23	06:16 19:45	17:11 (12) 18:16 (12)	06:47 18:54	17:18 (7) 18:05		06:55 16:35	14:47 (8) 15:11 (8)	07:20 16:35	14:56 (8) 14:58 (8)
25	05:47 20:22	06:17 19:43	17:09 (12) 18:15 (12)	06:48 18:52	17:18 (7) 17:05		06:56 16:34	14:46 (8) 15:12 (8)	07:21 16:36	14:57 (8) 14:58 (8)
26	05:48 20:21	06:18 19:42	17:08 (12) 18:46 (5)	06:49 18:51	17:18 (7) 18:01		06:57 16:34	14:46 (8) 15:11 (8)	07:21 16:36	14:57 (8) 14:58 (8)
27	05:49 20:20	06:19 19:40	17:07 (12) 18:45 (5)	06:50 18:49	17:18 (7) 17:59		06:58 16:33	14:46 (8) 15:11 (8)	07:22 16:37	14:57 (8) 14:58 (8)
28	05:50 20:19	06:20 19:39	17:07 (12) 18:44 (5)	06:51 18:47	17:18 (7) 17:58		06:59 16:33	14:46 (8) 15:10 (8)	07:22 16:38	14:58 (8) 15:00 (8)
29	05:51 20:18	06:21 19:37	17:06 (12) 18:43 (5)	06:52 18:46	17:19 (7) 17:56		07:00 16:32	14:46 (8) 15:09 (8)	07:22 16:38	14:58 (8) 15:01 (8)
30	05:52 20:17	06:22 19:36	17:05 (12) 18:42 (5)	06:53 18:44	17:20 (7) 17:46		06:26 16:58	14:46 (8) 15:08 (8)	07:22 16:39	14:59 (8) 15:01 (8)
31	05:53 20:16	06:23 19:34	17:05 (12) 18:40 (5)		06:27 16:57			07:23 16:40	14:59 (8) 15:02 (8)	
Potential sun hours	458	427	375	346	299	289				
Total, worst case		1410	1719	49	271	163				

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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SHADOW - Calendar

Calculation: Worst case Shadow receptor: O - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (15)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June		
1	07:23 16:41	07:10 17:15	06:34 17:49	06:44 19:22	17:56 (9) 18:02 (9)	05:58 19:54	05:30 20:23	18:40 (10) 18:43 (10)
2	07:23 16:42	07:09 17:16	06:33 17:50	06:42 19:23	17:56 (9) 18:10 (9)	05:57 19:55	05:29 20:24	18:40 (10) 18:43 (10)
3	07:23 16:43	07:08 17:17	06:31 17:51	06:40 19:24	17:58 (9) 18:13 (9)	05:56 19:56	05:29 20:24	18:40 (10) 18:42 (10)
4	07:23 16:43	07:07 17:19	06:29 17:52	06:39 19:25	17:59 (9) 18:14 (9)	05:54 19:57	05:28 20:25	18:40 (10) 18:42 (10)
5	07:23 16:44	07:06 17:20	06:28 17:53	06:37 19:27	18:01 (9) 18:16 (9)	05:53 19:58	05:28 20:26	18:41 (10) 18:42 (10)
6	07:23 16:45	07:05 17:21	06:26 17:54	06:36 19:28	18:03 (9) 18:16 (9)	05:52 19:59	05:28 20:27	
7	07:23 16:46	07:04 17:22	06:25 17:55	06:34 19:29	05:51 20:00	19:04 (10) 19:09 (10)	05:27 20:27	
8	07:23 16:47	07:02 17:24	06:23 17:57	06:32 19:30	05:50 20:01	19:00 (10) 19:08 (10)	05:27 20:28	
9	07:23 16:48	07:01 17:25	06:22 17:58	06:31 19:31	05:49 20:02	18:57 (10) 19:07 (10)	05:27 20:28	
10	07:23 16:49	07:00 17:26	06:20 17:59	06:29 19:32	05:47 20:03	18:55 (10) 19:05 (10)	05:27 20:29	
11	07:22 16:50	06:59 17:27	06:18 18:00	06:28 19:33	05:46 20:04	18:53 (10) 19:04 (10)	05:27 20:29	
12	07:22 16:51	06:58 17:28	06:17 18:01	06:26 19:34	05:45 20:05	18:51 (10) 19:03 (10)	05:27 20:30	
13	07:22 16:52	06:56 17:30	06:15 18:02	06:24 19:35	05:44 20:06	18:50 (10) 19:01 (10)	05:26 20:30	
14	07:22 16:54	06:55 17:31	06:14 18:03	06:23 19:36	05:43 20:07	18:48 (10) 19:00 (10)	05:26 20:31	
15	07:21 16:55	06:54 17:32	06:12 18:04	06:21 19:37	05:42 20:08	18:47 (10) 18:59 (10)	05:26 20:31	
16	07:21 16:56	06:53 17:33	06:10 18:05	06:20 19:38	05:41 20:09	18:46 (10) 18:57 (10)	05:26 20:32	
17	07:20 16:57	06:51 17:35	06:09 18:06	06:18 19:39	05:40 20:10	18:46 (10) 18:57 (10)	05:26 20:32	
18	07:20 16:58	06:50 17:36	06:07 18:07	06:17 19:40	05:39 20:11	18:45 (10) 18:56 (10)	05:27 20:32	
19	07:19 16:59	06:49 17:37	06:05 18:09	06:15 19:41	05:38 20:12	18:44 (10) 18:54 (10)	05:27 20:33	
20	07:19 17:00	06:47 17:38	06:04 18:10	06:14 19:42	05:38 20:13	18:43 (10) 18:53 (10)	05:27 20:33	
21	07:18 17:02	06:46 17:39	06:02 18:11	06:12 19:43	05:37 20:14	18:43 (10) 18:52 (10)	05:27 20:33	
22	07:18 17:03	06:44 17:41	06:00 18:12	06:11 19:44	05:36 20:15	18:43 (10) 18:52 (10)	05:27 20:33	
23	07:17 17:04	06:43 17:42	05:59 18:13	06:09 19:45	05:35 20:16	18:42 (10) 18:50 (10)	05:27 20:34	
24	07:16 17:05	06:42 17:43	05:57 18:14	16:56 (9) 16:57 (9)	06:08 19:46	18:41 (10) 18:49 (10)	05:28 20:34	
25	07:16 17:06	06:40 17:44	05:55 18:15	16:56 (9) 16:58 (9)	06:06 19:48	18:42 (10) 18:49 (10)	05:28 20:34	
26	07:15 17:08	06:39 17:45	05:54 18:16	16:56 (9) 16:58 (9)	06:05 19:49	18:41 (10) 18:48 (10)	05:28 20:34	
27	07:14 17:09	06:37 17:46	05:52 18:17	16:55 (9) 16:58 (9)	06:04 19:50	18:40 (10) 18:46 (10)	05:29 20:34	
28	07:13 17:10	06:36 17:47	05:50 18:18	16:55 (9) 16:59 (9)	06:02 19:51	18:41 (10) 18:46 (10)	05:29 20:34	
29	07:12 17:11		06:49 19:19	17:55 (9) 17:59 (9)	06:01 19:52	18:40 (10) 18:45 (10)	05:29 20:34	
30	07:12 17:12		06:47 19:20	17:55 (9) 17:59 (9)	06:00 19:53	18:40 (10) 18:45 (10)	05:30 20:34	
31	07:11 17:14		06:45 19:21	17:56 (9) 18:00 (9)		18:40 (10) 18:44 (10)		
Potential sun hours	298	298	369	398	448	451		
Total, worst case			24	78	217	11		

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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SHADOW - Calendar

Calculation: Worst case Shadow receptor: O - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (15)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:34	05:54	19:03 (10) 06:24	06:54	06:28	07:02
2	05:31 20:34	05:55	19:14 (10) 06:25	18:42	06:29	07:03
3	05:31 20:34	05:56	19:04 (10) 06:25	06:55	06:29	07:03
4	05:32 20:33	05:57	19:15 (10) 06:26	18:41	06:30	07:04
5	05:32 20:33	05:58	19:06 (10) 06:26	06:56	06:30	07:04
6	05:33 20:33	05:59	19:16 (10) 06:29	18:39	06:33	07:06
7	05:34 20:33	06:00	19:09 (10) 06:27	06:57	06:31	07:05
8	05:34 20:32	18:47 (10) 06:01	9 19:18 (10) 06:28	18:37	06:32	07:06
9	05:35 20:32	18:47 (10) 06:02	7 19:12 (10) 06:28	06:58	06:33	07:06
10	05:35 20:32	18:48 (10) 06:03	19:17 (10) 06:29	18:36	06:34	07:07
11	05:36 20:31	18:48 (10) 06:04	3 19:20 (10) 06:29	18:00 (9) 06:59	06:34	07:07
12	05:37 20:31	18:48 (10) 06:05	12 19:24 06:30	18:12 (9) 06:59	06:35	07:08
13	05:38 20:30	18:49 (10) 06:06	15 19:23 06:31	17:56 (9) 07:00	06:35	07:08
14	05:38 20:30	18:49 (10) 06:07	15 19:21 06:31	18:11 (9) 07:01	06:36	07:09
15	05:39 20:29	18:49 (10) 06:08	15 19:19 06:31	17:54 (9) 07:01	06:36	07:09
16	05:40 20:29	18:49 (10) 06:09	6 19:17 06:32	18:09 (9) 07:02	06:37	07:10
17	05:41 20:28	18:50 (10) 06:10	15 19:19 06:32	17:52 (9) 07:02	06:37	07:10
18	05:41 20:27	18:51 (10) 06:11	15 19:18 06:33	18:07 (9) 07:02	06:37	07:10
19	05:42 20:27	18:51 (10) 06:12	4 19:18 06:33	18:29 07:03	06:38	07:11
20	05:43 20:26	18:51 (10) 06:13	15 19:18 06:34	17:50 (9) 07:03	06:38	07:11
21	05:44 20:25	18:52 (10) 06:14	6 19:18 06:34	18:05 (9) 07:03	06:38	07:11
22	05:45 20:24	18:53 (10) 06:15	15 19:18 06:34	17:48 (9) 07:04	06:40	07:12
23	05:46 20:24	18:53 (10) 06:15	4 19:11 06:35	17:54 (9) 07:04	06:40	07:12
24	05:47 20:23	18:54 (10) 06:16	3 19:11 06:35	17:47 (9) 07:05	06:41	07:13
25	05:47 20:22	18:55 (10) 06:17	2 19:14 06:35	17:52 (9) 07:05	06:41	07:13
26	05:48 20:21	18:55 (10) 06:18	1 19:14 06:36	17:46 (9) 07:07	06:42	07:13
27	05:49 20:20	18:56 (10) 06:19	4 19:13 06:36	17:50 (9) 07:07	06:42	07:13
28	05:50 20:19	18:57 (10) 06:20	3 19:13 06:37	17:45 (9) 07:08	06:43	07:14
29	05:51 20:18	18:58 (10) 06:21	2 19:11 06:37	17:49 (9) 07:08	06:43	07:14
30	05:52 20:17	18:59 (10) 06:22	1 19:11 06:38	17:45 (9) 07:09	06:44	07:15
31	05:53 20:16	19:01 (10) 06:23	3 19:09 06:38	17:49 (9) 07:09	06:44	07:15
Potential sun hours	458	427	375	346	299	289
Total, worst case	179	51	100			

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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SHADOW - Calendar

Calculation: Worst case Shadow receptor: P - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (16)
 Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
 The sun is shining all the day, from sunrise to sunset
 The rotor plane is always perpendicular to the line from the WTG to the sun
 The WTG is always operating

	January		February		March		April		May		June				
1	07:23	15:17 (9)	07:10		06:34		06:44	18:09 (7)	05:58		18:10 (12)	05:30			
	16:41	7	15:24 (9)	17:15		17:49		19:22	12	18:21 (7)	19:54	41	18:51 (12)	20:23	
2	07:23	15:18 (9)	07:09		06:33		06:42	18:08 (7)	05:57		18:10 (12)	05:29			
	16:42	7	15:25 (9)	17:16		17:50		19:23	14	18:22 (7)	19:55	41	18:51 (12)	20:24	
3	07:23	15:19 (9)	07:08		06:31		06:40	18:08 (7)	05:56		18:11 (12)	05:29			
	16:43	7	15:26 (9)	17:17		17:51		19:24	16	18:24 (7)	19:56	39	18:50 (12)	20:25	
4	07:23	15:19 (9)	07:07		06:29		06:39	18:07 (7)	05:54		18:11 (12)	05:28			
	16:43	8	15:27 (9)	17:19		17:52		19:25	17	18:24 (7)	19:57	39	18:50 (12)	20:25	
5	07:23	15:20 (9)	07:06		06:28		06:37	18:07 (7)	05:53		18:12 (12)	05:28			
	16:44	8	15:28 (9)	17:20		17:53		19:27	19	18:26 (7)	19:58	37	18:49 (12)	20:26	
6	07:23	15:21 (9)	07:05		16:05 (8)	06:26		06:36	18:06 (7)	05:52	18:12 (12)	05:28			
	16:45	8	15:29 (9)	17:21	1	16:06 (8)	17:54		19:28	21	18:27 (7)	19:59	36	18:48 (12)	20:27
7	07:23	15:22 (9)	07:04		16:04 (8)	06:25		06:34	18:06 (7)	05:51	18:12 (12)	05:27			
	16:46	9	15:31 (9)	17:22	4	16:08 (8)	17:55		19:29	22	18:28 (7)	20:00	35	18:47 (12)	20:27
8	07:23	15:23 (9)	07:02		16:04 (8)	06:23		06:32	18:07 (7)	05:50	18:13 (12)	05:27			
	16:47	9	15:32 (9)	17:24	6	16:10 (8)	17:57		19:30	22	18:29 (7)	20:01	34	18:47 (12)	20:28
9	07:23	15:24 (9)	07:01		16:03 (8)	06:22		06:31	18:06 (7)	05:48	18:14 (12)	05:27			
	16:48	8	15:32 (9)	17:25	8	16:11 (8)	17:58		19:31	24	18:30 (7)	20:02	32	18:46 (12)	20:28
10	07:23	15:25 (9)	07:00		16:03 (8)	06:20		06:29	18:08 (7)	05:47	18:15 (12)	05:27			
	16:49	9	15:34 (9)	17:26	10	16:13 (8)	17:59		19:32	23	18:31 (7)	20:03	30	18:45 (12)	20:29
11	07:22	15:27 (9)	06:59		16:02 (8)	06:18		06:27	18:08 (7)	05:46	18:17 (12)	05:27			
	16:50	7	15:34 (9)	17:27	12	16:14 (8)	18:00		19:33	21	18:29 (7)	20:04	27	18:44 (12)	20:29
12	07:22	15:30 (9)	06:58		16:03 (8)	06:17		06:26	18:09 (7)	05:45	18:18 (12)	05:27			
	16:51	5	15:35 (9)	17:28	12	16:15 (8)	18:01		19:34	18	18:27 (7)	20:05	24	18:42 (12)	20:30
13	07:22		06:56		16:03 (8)	06:15		06:24	18:11 (7)	05:44	18:19 (12)	05:26			
	16:52		17:30	14	16:17 (8)	18:02		19:35	22	18:36 (12)	20:06	22	18:41 (12)	20:30	
14	07:22		06:55		16:04 (8)	06:14		06:23	18:13 (7)	05:43	18:21 (12)	05:26			
	16:53		17:31	14	16:18 (8)	18:03		19:36	22	18:37 (12)	20:07	18	18:39 (12)	20:31	
15	07:21		06:54		16:03 (8)	06:12		06:21	18:22 (12)	05:42	18:24 (12)	05:26			
	16:55		17:32	16	16:19 (8)	18:04		19:37	17	18:39 (12)	20:08	12	18:36 (12)	20:31	
16	07:21		06:53		16:04 (8)	06:10		06:20	18:19 (12)	05:41	18:29 (12)	05:26			
	16:56		17:33	17	16:21 (8)	18:05		19:38	21	18:40 (12)	20:09	1	18:30 (12)	20:32	
17	07:20		06:51		16:06 (8)	06:09		06:18	18:18 (12)	05:40		05:26			
	16:57		17:35	17	16:23 (8)	18:06		19:39	24	18:42 (12)	20:10		20:32		
18	07:20		06:50		16:06 (8)	06:07		06:17	18:16 (12)	05:39		05:26			
	16:58		17:36	18	16:24 (8)	18:07		19:40	27	18:43 (12)	20:11		20:32		
19	07:19		06:49		16:08 (8)	06:05		06:15	18:15 (12)	05:38		05:27			
	16:59		17:37	15	16:23 (8)	18:09		19:41	30	18:48 (12)	20:12		20:33		
20	07:19		06:47		16:10 (8)	06:04		06:14	18:13 (12)	05:38		05:27			
	17:00		17:38	10	16:20 (8)	18:10		19:42	35	18:48 (12)	20:13		20:33		
21	07:18		06:46		06:02			06:12	18:13 (12)	05:37		05:27			
	17:01		17:39		18:11			19:43	37	18:50 (12)	20:14		20:33		
22	07:18		06:44		06:00			06:11	18:12 (12)	05:36		05:27			
	17:03		17:40		18:12			19:44	39	18:51 (12)	20:15		20:33		
23	07:17		06:43		05:59			06:09	18:11 (12)	05:35		05:27			
	17:04		17:42		18:13			19:45	41	18:52 (12)	20:16		20:34		
24	07:16		06:42		05:57			06:08	18:11 (12)	05:34		05:28			
	17:05		17:43		18:14			19:46	41	18:52 (12)	20:16		20:34		
25	07:16		06:40		05:55			06:06	18:10 (12)	05:34		05:28			
	17:06		17:44		18:15			19:48	42	18:52 (12)	20:17		20:34		
26	07:15		06:39		05:54			06:05	18:10 (12)	05:33		05:28			
	17:07		17:45		18:16			19:49	42	18:52 (12)	20:18		20:34		
27	07:14		06:37		05:52			06:04	18:10 (12)	05:32		05:29			
	17:09		17:46		18:17			19:50	43	18:53 (12)	20:19		20:34		
28	07:13		06:36		05:50			06:02	18:10 (12)	05:32		05:29			
	17:10		17:47		18:18			19:51	42	18:52 (12)	20:20		20:34		
29	07:12				06:49		18:15 (7)	06:01	18:10 (12)	05:31		05:29			
	17:11				19:19	3	18:18 (7)	19:52	42	18:52 (12)	20:21		20:34		
30	07:12				06:47		18:12 (7)	06:00	18:10 (12)	05:31		05:30			
	17:12				19:20	7	18:19 (7)	19:53	42	18:52 (12)	20:22		20:34		
31	07:11				06:45		18:11 (7)			05:30					
	17:14				19:21	9	18:20 (7)			20:22					
Potential sun hours	298		297		369			398		448			451		
Total, worst case	92		174		19		838		468						

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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SHADOW - Calendar

Calculation: Worst case Shadow receptor: P - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (16)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December					
1	05:30	05:54	18:28 (12)	06:24	18:07 (7)	06:54	06:28	15:32 (8)	07:02	15:09 (9)	
	20:34	20:15	25 18:53 (12)	19:32	21 18:28 (7)	18:42	16:56	9 15:41 (8)	16:32	7 15:16 (9)	
2	05:31	05:55	18:27 (12)	06:25	18:06 (7)	06:55	06:29	15:33 (8)	07:03	15:09 (9)	
	20:34	20:14	28 18:55 (12)	19:31	23 18:29 (7)	18:41	16:55	8 15:41 (8)	16:32	8 15:17 (9)	
3	05:31	05:56	18:26 (12)	06:26	18:04 (7)	06:56	06:30	15:33 (8)	07:04	15:08 (9)	
	20:34	20:13	30 18:56 (12)	19:29	24 18:28 (7)	18:39	16:53	6 15:39 (8)	16:31	8 15:16 (9)	
4	05:32	05:57	18:25 (12)	06:27	18:04 (7)	06:57	06:31	15:34 (8)	07:05	15:08 (9)	
	20:34	20:12	32 18:57 (12)	19:28	22 18:26 (7)	18:37	16:52	4 15:38 (8)	16:31	8 15:16 (9)	
5	05:32	05:58	18:24 (12)	06:28	18:03 (7)	06:58	06:33	15:35 (8)	07:06	15:07 (9)	
	20:33	20:11	33 18:57 (12)	19:26	22 18:25 (7)	18:36	16:51	1 15:36 (8)	16:31	9 15:16 (9)	
6	05:33	05:59	18:23 (12)	06:29	18:02 (7)	06:59	06:34		07:07	15:07 (9)	
	20:33	20:10	35 18:58 (12)	19:24	21 18:23 (7)	18:34	16:50		16:31	8 15:15 (9)	
7	05:33	06:00	18:21 (12)	06:30	18:02 (7)	07:00	06:35		07:08	15:07 (9)	
	20:33	20:08	37 18:58 (12)	19:23	19 18:21 (7)	18:32	16:49		16:31	8 15:15 (9)	
8	05:34	06:01	18:20 (12)	06:31	18:02 (7)	07:01	06:36		07:09	15:08 (9)	
	20:32	20:07	38 18:58 (12)	19:21	18 18:20 (7)	18:31	16:48		16:31	7 15:15 (9)	
9	05:35	06:02	18:20 (12)	06:32	18:02 (7)	07:02	06:37		07:10	15:08 (9)	
	20:32	20:06	39 18:59 (12)	19:19	16 18:18 (7)	18:29	16:47		16:31	7 15:15 (9)	
10	05:35	06:03	18:19 (12)	06:33	18:02 (7)	07:03	06:38		07:11	15:08 (9)	
	20:32	20:05	40 18:59 (12)	19:18	14 18:16 (7)	18:28	16:46		16:31	7 15:15 (9)	
11	05:36	06:04	18:19 (12)	06:34	18:02 (7)	07:04	06:40		07:12	15:07 (9)	
	20:31	20:03	40 18:59 (12)	19:16	12 18:14 (7)	18:26	16:45		16:31	8 15:15 (9)	
12	05:37	06:05	18:18 (12)	06:35	18:02 (7)	07:05	06:41		07:13	15:08 (9)	
	20:31	20:02	41 18:59 (12)	19:14	10 18:12 (7)	18:24	16:44		16:31	7 15:15 (9)	
13	05:38	06:06	18:18 (12)	06:36	18:03 (7)	07:07	06:42		07:14	15:08 (9)	
	20:30	20:01	42 19:00 (12)	19:13	7 18:10 (7)	18:23	16:43		16:31	7 15:15 (9)	
14	05:38	06:07	18:18 (12)	06:37	18:05 (7)	07:08	06:43		07:14	15:09 (9)	
	20:30	19:59	42 19:00 (12)	19:11	4 18:09 (7)	18:21	16:42		16:31	6 15:15 (9)	
15	05:39	06:08	18:17 (12)	06:38		07:09	06:44		07:15	15:09 (9)	
	20:29	19:58	42 18:59 (12)	19:09		18:20	16:41		16:31	6 15:15 (9)	
16	05:40	06:09	18:17 (12)	06:39		07:10	06:46		07:16	14:55 (10)	
	20:29	19:57	42 18:59 (12)	19:08		18:18	16:40		16:32	11 15:15 (9)	
17	05:41	06:10	18:17 (12)	06:40		07:11	06:47		07:16	14:55 (10)	
	20:28	19:55	42 18:59 (12)	19:06		18:17	16:39		16:32	13 15:16 (9)	
18	05:41	06:11	18:17 (12)	06:41		07:12	06:48		07:17	14:54 (10)	
	20:27	19:54	42 18:59 (12)	19:04		18:15	16:39		16:32	15 15:16 (9)	
19	05:42	06:12	18:17 (12)	06:42		07:13	06:49		07:18	14:55 (10)	
	20:27	19:52	41 18:58 (12)	19:02		18:14	16:38		16:33	14 15:16 (9)	
20	05:43	06:12	18:17 (12)	06:43		07:14	06:50		07:18	14:55 (10)	
	20:26	19:51	41 18:58 (12)	19:01		18:12	16:37		16:33	15 15:17 (9)	
21	05:44	06:13	18:18 (12)	06:44		07:15	06:51		07:19	14:55 (10)	
	20:25	19:49	38 18:56 (12)	18:59		18:11	16:37		16:34	15 15:17 (9)	
22	05:45	06:14	18:18 (12)	06:45		07:16	16:40 (8)	06:53	07:19	14:56 (10)	
	20:24	19:48	37 18:55 (12)	18:57		18:09	11 16:51 (8)	16:36	16:34	15 15:18 (9)	
23	05:46	06:15	18:18 (12)	06:46		07:17	16:37 (8)	06:54	07:20	14:56 (10)	
	20:24	19:46	35 18:53 (12)	18:56		18:08	16 16:53 (8)	16:35	16:35	15 15:18 (9)	
24	05:47	06:16	18:19 (12)	06:47		07:19	16:36 (8)	06:55	07:20	14:57 (10)	
	20:23	19:45	30 18:52 (12)	18:54		18:06	17 16:53 (8)	16:35	16:35	14 15:18 (9)	
25	05:47	06:17	18:19 (12)	06:48		06:20	15:35 (8)	06:56	07:21	14:58 (10)	
	20:22	19:43	26 18:45 (12)	18:52		17:05	17 15:52 (8)	16:34	16:36	15 15:20 (9)	
26	05:48	06:18	18:20 (12)	06:49		06:21	15:34 (8)	06:57	07:21	14:59 (10)	
	20:21	19:42	23 18:43 (12)	18:51		17:04	16 15:50 (8)	16:34	16:36	13 15:20 (9)	
27	05:49	06:19	18:21 (12)	06:50		06:22	15:33 (8)	06:58	07:22	15:00 (10)	
	20:20	19:40	21 18:42 (12)	18:49		17:02	15 15:48 (8)	16:33	16:37	12 15:20 (9)	
28	05:50	06:20	18:23 (12)	06:51		06:23	15:32 (8)	06:59	07:22	15:02 (10)	
	20:19	9 18:45 (12)	19:39	17 18:40 (12)	18:47	17:01	15 15:47 (8)	16:33	16:38	10 15:22 (9)	
29	05:51	18:33 (12)	06:21	18:13 (7)	06:52	06:24	15:33 (8)	07:00	07:22	15:16 (9)	
	20:18	15 18:48 (12)	19:37	23 18:38 (12)	18:46	17:00	13 15:46 (8)	16:32	16:38	6 15:22 (9)	
30	05:52	18:31 (12)	06:22	18:10 (7)	06:53	06:26	15:32 (8)	07:01	07:22	15:16 (9)	
	20:17	19 18:50 (12)	19:36	24 18:36 (12)	18:44	16:58	13 15:45 (8)	16:32	5 15:16 (9)	16:39	7 15:23 (9)
31	05:53	18:29 (12)	06:23	18:08 (7)		06:27	15:32 (8)		07:23	15:17 (9)	
	20:16	23 18:52 (12)	19:34	19 18:27 (7)		16:57	11 15:43 (8)		16:40	7 15:24 (9)	
Potential sun hours	458		427		375		346		299		289
Total, worst case	66		1045		233		144		33		308

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

Day in month	Sun rise (hh:mm)	Minutes with flicker	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)

SHADOW - Calendar

Calculation: Worst case Shadow receptor: Q - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (17)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January		February		March		April		May		June	
1	07:23	14:28 (11)	07:10		06:34		06:44	18:16 (7)	05:58		18:22 (12)	05:30
	16:41	80 15:48 (9)	17:15		17:49		19:22	22 18:38 (6)	19:54	28	18:50 (12)	20:23
2	07:23	14:29 (11)	07:09		06:33		06:42	18:15 (7)	05:57		18:24 (12)	05:29
	16:42	80 15:49 (9)	17:16		17:50		19:23	23 18:38 (7)	19:55	25	18:49 (12)	20:24
3	07:23	14:30 (11)	07:08		06:31		06:40	18:15 (7)	05:56		18:25 (12)	05:29
	16:43	80 15:50 (9)	17:17		17:51		19:24	23 18:38 (7)	19:56	23	18:48 (12)	20:25
4	07:23	14:30 (11)	07:07		06:29		06:39	18:14 (7)	05:54		18:27 (12)	05:28
	16:43	81 15:51 (9)	17:19		17:52		19:25	24 18:38 (7)	19:57	19	18:46 (12)	20:25
5	07:23	14:31 (11)	07:06		06:28		06:37	18:14 (7)	05:53		18:29 (12)	05:28
	16:44	81 15:52 (9)	17:20		17:53		19:27	24 18:38 (7)	19:58	15	18:44 (12)	20:26
6	07:23	14:32 (11)	07:05		06:26		06:36	18:14 (7)	05:52		18:31 (12)	05:28
	16:45	81 15:53 (9)	17:21		17:54		19:28	24 18:38 (7)	19:59	9	18:40 (12)	20:27
7	07:23	14:33 (11)	07:04		06:25		06:34	18:13 (7)	05:51			05:27
	16:46	80 15:54 (9)	17:22		17:55		19:29	24 18:37 (7)	20:00			20:27
8	07:23	14:34 (11)	07:02		06:23		06:32	18:14 (7)	05:50			05:27
	16:47	79 15:55 (9)	17:24		17:57		19:30	22 18:36 (7)	20:01			20:28
9	07:23	14:34 (11)	07:01		06:22	16:23 (8)	06:31	18:14 (7)	05:48			05:27
	16:48	78 15:55 (9)	17:25	8	16:31 (8)	17:58	19:31	21 18:35 (7)	20:02			20:28
10	07:23	14:36 (11)	07:00		06:20	16:21 (8)	06:29	18:16 (7)	05:47			05:27
	16:49	74 15:55 (9)	17:26	12	16:33 (8)	17:59	19:32	18 18:34 (7)	20:03			20:29
11	07:22	14:37 (11)	06:59		06:18	16:19 (8)	06:27	18:17 (7)	05:46			05:27
	16:50	74 15:56 (9)	17:27	14	16:33 (8)	18:00	19:33	28 18:47 (12)	20:04			20:29
12	07:22	14:38 (11)	06:58		06:17	16:18 (8)	06:26	18:18 (7)	05:45			05:26
	16:51	71 15:56 (9)	17:28	17	16:35 (8)	18:01	19:34	30 18:49 (12)	20:05			20:30
13	07:22	14:39 (11)	06:56		06:15	16:18 (8)	06:24	18:29 (12)	05:44			05:26
	16:52	69 15:56 (9)	17:30	18	16:36 (8)	18:02	19:35	23 18:52 (12)	20:06			20:30
14	07:22	14:41 (11)	06:55		06:13	16:18 (8)	06:23	18:26 (12)	05:43			05:26
	16:53	65 15:56 (9)	17:31	20	16:38 (8)	18:03	19:36	27 18:53 (12)	20:07			20:31
15	07:21	14:41 (11)	06:54		06:12	16:17 (8)	06:21	18:26 (12)	05:42			05:26
	16:55	63 15:56 (9)	17:32	21	16:38 (8)	18:04	19:37	28 18:54 (12)	20:08			20:31
16	07:21	14:43 (11)	06:53		06:10	16:17 (8)	06:20	18:24 (12)	05:41			05:26
	16:56	58 15:56 (9)	17:33	22	16:39 (8)	18:05	19:38	30 18:54 (12)	20:09			20:32
17	07:20	14:45 (11)	06:51		06:09	16:17 (8)	06:18	18:23 (12)	05:40			05:26
	16:57	44 15:56 (9)	17:35	23	16:40 (8)	18:06	19:39	32 18:55 (12)	20:10			20:32
18	07:20	14:47 (11)	06:50		06:07	16:17 (8)	06:17	18:22 (12)	05:39			05:26
	16:58	40 15:56 (9)	17:36	22	16:39 (8)	18:07	19:40	33 18:55 (12)	20:11			20:32
19	07:19	14:49 (11)	06:49		06:05	16:17 (8)	06:15	18:22 (12)	05:38			05:27
	16:59	34 15:55 (9)	17:37	22	16:39 (8)	18:09	19:41	34 18:56 (12)	20:12			20:33
20	07:19	14:52 (11)	06:47		06:04	16:17 (8)	06:14	18:21 (12)	05:38			05:27
	17:00	27 15:54 (9)	17:38	21	16:38 (8)	18:10	19:42	34 18:55 (12)	20:13			20:33
21	07:18	14:56 (11)	06:46		06:02	16:19 (8)	06:12	18:21 (12)	05:37			05:27
	17:01	13 15:51 (9)	17:39	18	16:37 (8)	18:11	19:43	35 18:56 (12)	20:14			20:33
22	07:18		06:44		06:00	16:20 (8)	06:11	18:20 (12)	05:36			05:27
	17:03		17:40	16	16:36 (8)	18:12	19:44	35 18:55 (12)	20:15			20:33
23	07:17		06:43		05:59	16:22 (8)	06:09	18:20 (12)	05:35			05:27
	17:04		17:42	12	16:34 (8)	18:13	19:45	35 18:55 (12)	20:16			20:34
24	07:16		06:42		05:57	16:26 (8)	06:08	18:20 (12)	05:34			05:28
	17:05		17:43	5	16:31 (8)	18:14	19:46	36 18:56 (12)	20:16			20:34
25	07:16		06:40		05:55		06:06	18:20 (12)	05:34			05:28
	17:06		17:44		18:15		19:48	35 18:55 (12)	20:17			20:34
26	07:15		06:39		05:54		06:05	18:20 (12)	05:33			05:28
	17:07		17:45		18:16		19:49	34 18:54 (12)	20:18			20:34
27	07:14		06:37		05:52		06:04	18:21 (12)	05:32			05:29
	17:09		17:46		18:17	4	17:31 (6)	19:50	33 18:54 (12)	20:19		20:34
28	07:13		06:36		05:50		06:02	18:21 (12)	05:32			05:29
	17:10		17:47		18:18	7	17:34 (6)	19:51	32 18:53 (12)	20:20		20:34
29	07:12				06:49		06:01	18:21 (12)	05:31			05:29
	17:11				19:19	13	18:35 (6)	19:52	31 18:52 (12)	20:21		20:34
30	07:12				06:47		06:00	18:22 (12)	05:31			05:30
	17:12				19:20	18	18:37 (6)	19:53	30 18:52 (12)	20:21		20:34
31	07:11				06:45				05:30			
	17:14				19:21	21	18:39 (6)		20:22			
Potential sun hours	298		297		369		398		448			451
Total, worst case	1352		271		63		860		119			

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

Day in month	Sun rise (hh:mm)	Minutes with flicker	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)

SHADOW - Calendar

Calculation: Worst case Shadow receptor: Q - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (17)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:34	05:54 20:15	06:24 19:32	18:16 (7) 18:46 (12)	06:54 18:42	06:28 15:50 (8) 07:02 14:19 (11)
2	05:31 20:34	05:55 20:14	06:25 19:31	18:14 (7) 18:32 (7)	06:55 18:55	06:29 15:53 (8) 07:03 14:19 (11)
3	05:31 20:34	05:56 20:13	06:26 19:29	18:12 (7) 18:33 (7)	06:56 18:39	06:30 16:53 07:04 14:18 (11)
4	05:32 20:33	05:57 20:12	06:27 19:28	18:11 (7) 18:33 (7)	06:57 18:37	06:31 16:52 07:05 14:18 (11)
5	05:32 20:33	05:58 20:11	06:28 19:26	18:10 (7) 18:34 (7)	06:58 18:36	06:33 16:51 07:06 14:18 (11)
6	05:33 20:33	05:59 20:10	06:29 19:24	18:10 (7) 18:34 (7)	06:59 18:34	06:34 16:50 07:07 14:18 (11)
7	05:33 20:33	06:00 20:08	06:30 19:23	18:09 (7) 18:33 (7)	07:00 18:32	06:35 16:49 07:08 14:18 (11)
8	05:34 20:32	06:01 20:07	06:31 19:21	18:09 (7) 18:33 (7)	07:01 18:31	06:36 16:48 07:09 14:18 (11)
9	05:35 20:32	06:02 20:06	06:32 19:19	18:09 (7) 18:32 (7)	07:02 18:29	06:37 16:47 07:10 14:19 (11)
10	05:35 20:32	06:03 20:05	06:33 19:18	18:08 (7) 18:31 (7)	07:03 18:27	06:38 16:46 07:11 14:19 (11)
11	05:36 20:31	06:04 20:03	06:34 19:16	18:08 (7) 18:30 (6)	07:04 18:26	06:40 16:45 07:12 14:18 (11)
12	05:37 20:31	06:05 20:02	06:35 19:14	18:09 (7) 18:30 (6)	07:05 18:24	06:41 16:44 07:13 14:19 (11)
13	05:38 20:30	06:06 20:01	06:36 19:13	18:10 (7) 18:28 (6)	07:07 18:23	06:42 16:43 07:13 14:19 (11)
14	05:38 20:30	06:07 19:59	06:37 19:11	18:12 (7) 18:26 (6)	07:08 18:21	06:43 16:42 07:14 14:20 (11)
15	05:39 20:29	06:08 19:58	06:38 19:09	18:15 (7) 18:23 (6)	07:09 18:20	06:44 16:41 07:15 14:19 (11)
16	05:40 20:29	06:09 19:57	06:39 19:08	18:16 (6) 18:20 (6)	07:10 18:18	06:46 16:40 07:16 14:20 (11)
17	05:41 20:28	06:10 19:55	06:40 19:06	18:17 (6) 18:18 (6)	07:11 18:17	06:47 16:39 07:16 14:21 (11)
18	05:41 20:27	06:11 19:54	06:41 19:04	07:12 18:15	16:54 (8) 17:03 (8)	06:48 16:39 07:17 14:20 (11)
19	05:42 20:27	06:12 19:52	06:42 19:02	07:13 18:14	16:52 (8) 17:06 (8)	06:49 16:38 07:18 14:21 (11)
20	05:43 20:26	06:12 19:51	06:43 19:01	07:14 18:12	16:50 (8) 17:07 (8)	06:50 16:37 07:18 14:22 (11)
21	05:44 20:25	06:13 19:49	06:44 18:59	07:15 18:11	16:49 (8) 17:08 (8)	06:51 16:37 14:31 (11) 15:26 (9)
22	05:45 20:24	06:14 19:48	06:45 18:57	07:16 18:09	16:48 (8) 17:08 (8)	06:53 16:36 14:28 (11) 15:30 (9)
23	05:46 20:24	06:15 19:46	06:46 18:56	07:17 18:08	16:47 (8) 17:09 (8)	06:54 16:35 14:26 (11) 15:32 (9)
24	05:46 20:23	06:16 19:45	06:47 18:54	07:19 18:06	16:46 (8) 17:09 (8)	06:55 16:35 14:24 (11) 15:33 (9)
25	05:47 20:22	06:17 19:43	06:48 18:52	06:20 17:05	15:47 (8) 16:09 (8)	06:56 16:34 14:23 (11) 15:34 (9)
26	05:48 20:21	06:18 19:42	06:49 18:51	06:21 17:04	15:46 (8) 16:09 (8)	06:57 16:34 14:21 (11) 15:34 (9)
27	05:49 20:20	06:19 19:40	06:50 18:49	06:22 17:02	15:46 (8) 16:08 (8)	06:58 16:33 14:21 (11) 15:36 (9)
28	05:50 20:19	06:20 19:39	06:51 18:47	06:23 17:01	15:46 (8) 16:06 (8)	06:59 16:33 14:21 (11) 15:37 (9)
29	05:51 20:18	06:21 19:37	06:52 18:46	06:24 17:00	15:48 (8) 16:06 (8)	07:00 16:32 14:20 (11) 15:37 (9)
30	05:52 20:17	06:22 19:36	06:53 18:44	06:26 16:58	15:48 (8) 16:04 (8)	07:01 16:32 14:19 (11) 15:37 (9)
31	05:53 20:16	06:23 19:34	06:54 18:43	06:27 16:57	15:49 (8) 16:03 (8)	07:02 16:40 14:21 (11) 15:47 (9)
Potential sun hours	458	427	375	319	259	299
Total, worst case		735			502	2448

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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SHADOW - Calendar

Calculation: Worst case Shadow receptor: R - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (18)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June		
1	07:23 16:41	07:10 17:15	15:39 (8) 15:43 (8)	06:34 17:49	06:44 19:22	17:41 (12) 18:17 (12)	05:58 19:54	05:30 20:23
2	07:23 16:42	07:09 17:16	15:40 (8) 15:44 (8)	06:33 17:50	06:42 19:23	17:40 (12) 18:19 (12)	05:57 19:55	05:29 20:24
3	07:23 16:43	07:08 17:17	15:41 (8) 15:45 (8)	06:31 17:51	06:40 19:24	17:40 (12) 18:22 (12)	05:56 19:56	05:29 20:25
4	07:23 16:43	07:07 17:19	15:43 (8) 15:47 (8)	06:29 17:52	06:39 19:25	17:38 (12) 18:23 (12)	05:54 19:57	05:28 20:25
5	07:23 16:44	07:06 17:20	15:44 (8) 15:47 (8)	06:28 17:53	06:37 19:27	17:38 (12) 18:26 (12)	05:53 19:58	05:28 20:26
6	07:23 16:45	07:05 17:21	06:26 17:54	06:26 17:54	06:36 19:28	17:37 (12) 18:25 (12)	05:52 19:59	05:28 20:27
7	07:23 16:46	07:04 17:22	06:25 17:55	06:25 17:55	06:34 19:29	17:37 (12) 18:25 (12)	05:51 20:00	05:27 20:27
8	07:23 16:47	07:02 17:24	06:23 17:57	06:23 17:57	06:32 19:30	17:37 (12) 18:25 (12)	05:50 20:01	05:27 20:28
9	07:23 16:48	07:01 17:25	06:22 17:58	06:22 17:58	06:31 19:31	17:36 (12) 18:25 (12)	05:48 20:02	05:27 20:28
10	07:23 16:49	07:00 17:26	06:20 17:59	06:20 17:59	06:29 19:32	17:37 (12) 18:25 (12)	05:47 20:03	05:27 20:29
11	07:22 16:50	06:59 17:27	06:18 18:00	06:18 18:00	06:27 19:33	17:36 (12) 18:24 (12)	05:46 20:04	05:27 20:29
12	07:22 16:51	06:58 17:28	06:17 18:01	06:17 18:01	06:26 19:34	17:36 (12) 18:23 (12)	05:45 20:05	05:27 20:30
13	07:22 16:52	06:56 17:30	06:15 18:02	06:15 18:02	06:24 19:35	17:37 (12) 18:42 (5)	05:44 20:06	05:26 20:30
14	07:22 16:53	06:55 17:31	06:14 18:03	06:14 18:03	06:23 19:36	17:37 (12) 18:43 (5)	05:43 20:07	05:26 20:31
15	07:21 16:55	06:54 17:32	06:12 18:04	06:12 18:04	06:21 19:37	17:38 (12) 18:44 (5)	05:42 20:08	05:26 20:31
16	07:21 16:56	06:53 17:33	06:10 18:05	06:10 18:05	06:20 19:38	17:38 (12) 18:20 (12)	05:41 20:09	05:26 20:32
17	07:20 16:57	06:51 17:35	06:09 18:06	06:09 18:06	06:18 19:39	17:39 (12) 18:20 (12)	05:40 20:10	05:26 20:32
18	07:20 16:58	06:50 17:36	06:07 18:07	2 6	16:54 (7) 16:57 (7)	17:39 (12) 19:40	05:39 20:11	05:26 20:32
19	07:19 16:59	06:49 17:37	06:05 18:09	8	16:51 (7) 16:59 (7)	06:15 19:41	05:38 20:12	05:27 20:33
20	07:19 17:00	06:47 17:38	06:04 18:10	11	16:49 (7) 17:00 (7)	06:14 19:42	05:38 20:13	05:27 20:33
21	07:18 17:01	06:46 17:39	06:02 18:11	13	16:48 (7) 17:01 (7)	06:12 19:43	05:37 20:14	05:27 20:33
22	07:18 17:03	06:44 17:40	06:00 18:12	15	16:48 (7) 17:03 (7)	06:11 19:44	05:36 20:15	05:27 20:33
23	07:17 17:04	06:43 17:42	05:59 18:13	17	16:47 (7) 17:04 (7)	06:09 19:45	05:35 20:16	05:27 20:34
24	07:16 17:05	06:42 17:43	05:57 18:14	19	16:46 (7) 17:05 (12)	06:08 19:46	05:34 20:16	05:28 20:34
25	07:16 17:06	06:40 17:44	05:55 18:15	19	16:47 (7) 17:06 (12)	06:06 19:48	05:34 20:17	05:28 20:34
26	07:15 17:07	06:39 17:45	05:54 18:16	21	16:46 (7) 17:07 (12)	06:05 19:49	05:33 20:18	05:28 20:34
27	07:14 17:09	06:37 17:46	05:52 18:17	22	16:46 (7) 17:08 (12)	06:04 19:50	05:32 20:19	05:29 20:34
28	07:13 17:10	15:35 (8) 15:37 (8)	06:36 18:18	23	16:47 (7) 17:10 (12)	06:02 19:51	05:32 20:20	05:29 20:34
29	07:12 17:11	15:37 (8) 15:39 (8)	06:49 19:19	26	17:45 (12) 18:11 (12)	06:01 19:52	05:31 20:21	05:29 20:34
30	07:12 17:12	15:37 (8) 15:40 (8)	06:47 19:20	30	17:43 (12) 18:13 (12)	06:00 19:53	05:31 20:22	05:30 20:34
31	07:11 17:14	15:38 (8) 15:41 (8)	06:45 19:21	33	17:43 (12) 18:16 (12)		05:30 20:22	
Potential sun hours	298	297	369	398	448	451		
Total, worst case	10	19	265	1002				

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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SHADOW - Calendar

Calculation: Worst case Shadow receptor: R - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (18)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:34	05:54 20:15	06:24 19:32	17:35 (12) 18:23 (12)	06:54 18:42	06:28 16:56
2	05:31 20:34	05:55 20:14	06:25 19:31	17:35 (12) 18:23 (12)	06:55 18:41	06:29 16:55
3	05:31 20:34	05:56 20:13	06:26 19:29	17:34 (12) 18:23 (12)	06:56 18:39	06:30 16:53
4	05:32 20:34	05:57 20:12	06:27 19:28	17:34 (12) 18:22 (12)	06:57 18:37	06:31 16:52
5	05:32 20:33	05:58 20:11	06:28 19:26	17:34 (12) 18:22 (12)	06:58 18:36	06:33 16:51
6	05:33 20:33	05:59 20:10	06:29 19:24	17:34 (12) 18:21 (12)	06:59 18:34	06:34 16:50
7	05:33 20:33	06:00 20:08	06:30 19:23	17:33 (12) 18:21 (12)	07:00 18:32	06:35 16:49
8	05:34 20:32	06:01 20:07	06:31 19:21	17:33 (12) 18:19 (12)	07:01 18:31	06:36 16:48
9	05:35 20:32	06:02 20:06	06:32 19:19	17:34 (12) 18:16 (12)	07:02 18:29	06:37 16:47
10	05:35 20:32	06:03 20:05	06:33 19:18	17:34 (12) 18:13 (12)	07:03 18:28	06:38 16:46
11	05:36 20:31	06:04 20:03	06:34 19:16	17:33 (12) 18:10 (12)	07:04 18:26	06:40 16:45
12	05:37 20:31	06:05 20:02	06:35 19:14	17:34 (12) 18:07 (12)	07:05 18:24	06:41 16:44
13	05:38 20:30	06:06 20:01	06:36 19:13	17:34 (12) 18:05 (12)	07:07 18:23	06:42 16:43
14	05:38 20:30	06:07 19:59	06:37 19:11	17:35 (12) 18:02 (12)	07:08 18:21	06:43 16:42
15	05:39 20:29	06:08 19:58	06:38 19:09	17:36 (12) 18:00 (12)	07:09 18:20	06:44 16:41
16	05:40 20:29	06:09 19:57	06:39 19:08	17:36 (7) 17:58 (12)	07:10 18:18	06:46 16:40
17	05:41 20:28	06:10 19:55	06:40 19:06	17:35 (7) 17:56 (12)	07:11 18:17	06:47 16:39
18	05:41 20:27	06:11 19:54	17:57 (12) 19:04	06:41 17:34 (7)	07:12 18:15	06:48 16:39
19	05:42 20:27	06:12 19:52	17:53 (12) 18:15 (12)	06:42 19:02	07:13 18:14	06:49 16:38
20	05:43 20:26	06:13 19:51	17:51 (12) 18:17 (12)	06:43 19:01	07:14 18:12	06:50 16:37
21	05:44 20:25	06:13 19:49	17:49 (12) 18:18 (12)	06:44 18:59	07:15 18:11	06:51 16:37
22	05:45 20:25	06:14 19:48	17:47 (12) 18:20 (12)	06:45 18:57	07:16 18:09	06:53 16:36
23	05:46 20:24	06:15 19:46	17:45 (12) 18:21 (12)	06:46 18:56	07:18 18:08	06:54 16:35
24	05:47 20:23	06:16 19:45	17:44 (12) 18:21 (12)	06:47 18:54	07:19 18:06	06:55 16:35
25	05:47 20:22	06:17 19:43	17:42 (12) 18:21 (12)	06:48 18:52	07:20 17:05	06:56 16:34
26	05:48 20:21	06:18 19:42	17:40 (12) 18:22 (12)	06:49 18:51	07:21 17:04	06:57 16:34
27	05:49 20:20	06:19 19:40	17:39 (12) 18:47 (5)	06:50 18:49	07:22 17:02	06:58 16:33
28	05:50 20:19	06:20 19:39	17:38 (12) 18:45 (5)	06:51 18:47	07:23 17:01	06:59 16:33
29	05:51 20:18	06:21 19:37	17:37 (12) 18:44 (5)	06:52 18:46	07:24 17:00	07:00 16:32
30	05:52 20:17	06:22 19:36	17:37 (12) 18:42 (5)	06:53 18:44	07:25 16:58	07:01 16:32
31	05:53 20:16	06:23 19:34	17:36 (12) 18:23 (12)		06:57 16:57	07:23 16:40
Potential sun hours	458	427	375	346	299	289
Total, worst case		513	771		31	

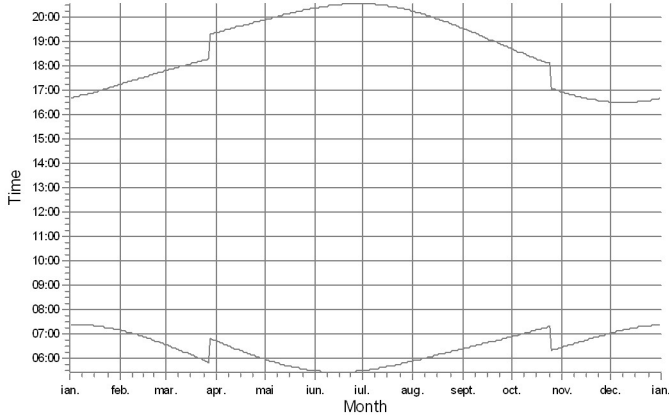
Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	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)

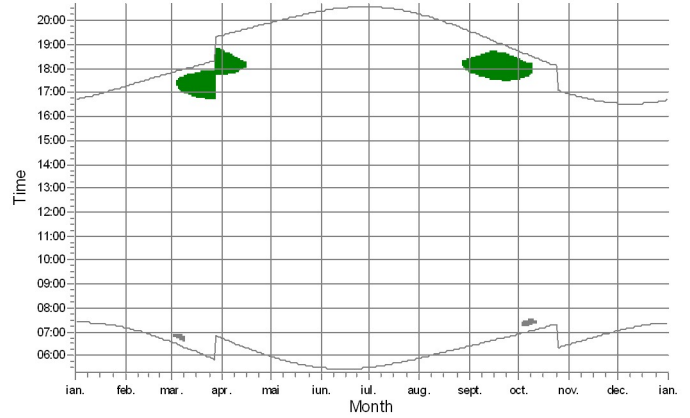
SHADOW - Calendar, graphical

Calculation: Worst case

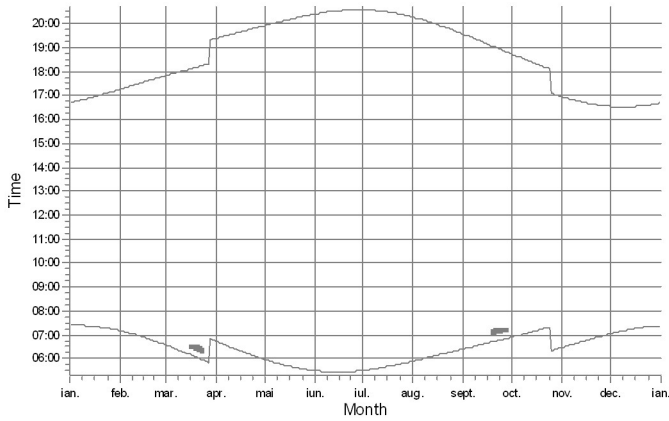
A: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)



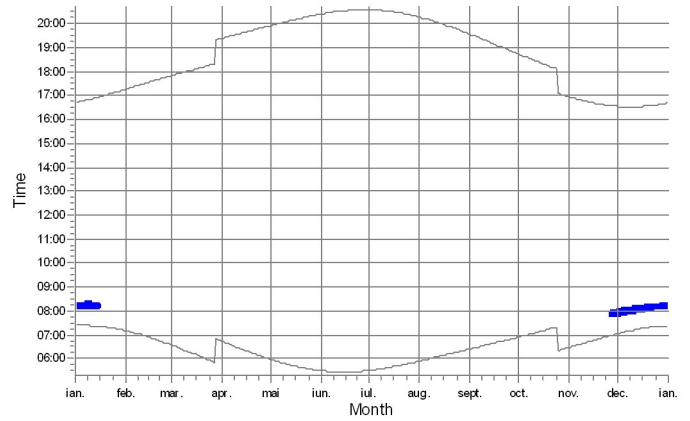
B: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (2)



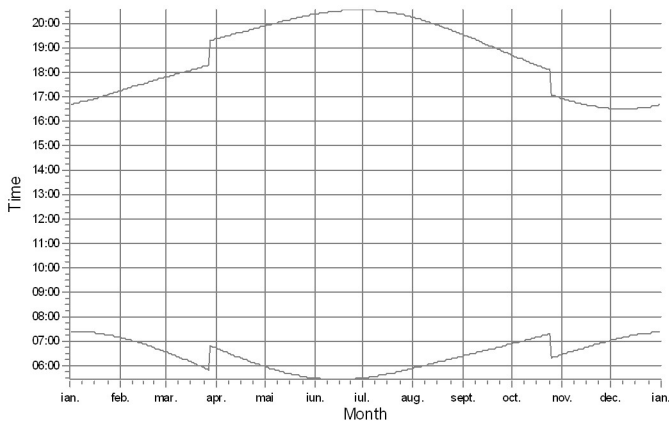
C: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)



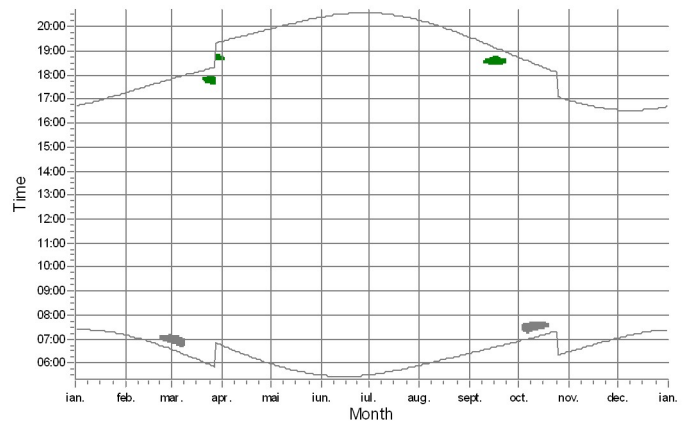
D: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (4)



E: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (5)



F: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (6)



WTGs

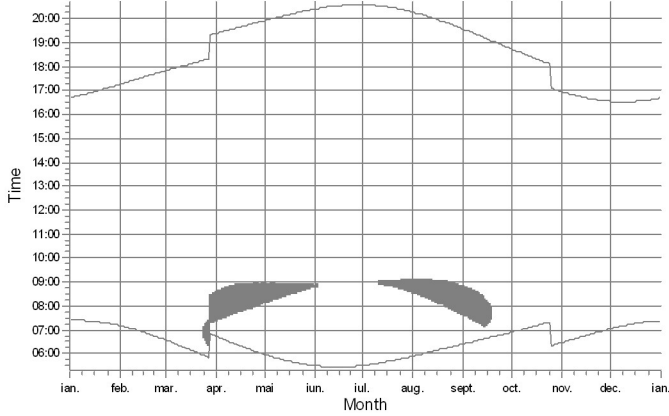
- 1: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (1)
- 3: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (3)

- 4: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (4)

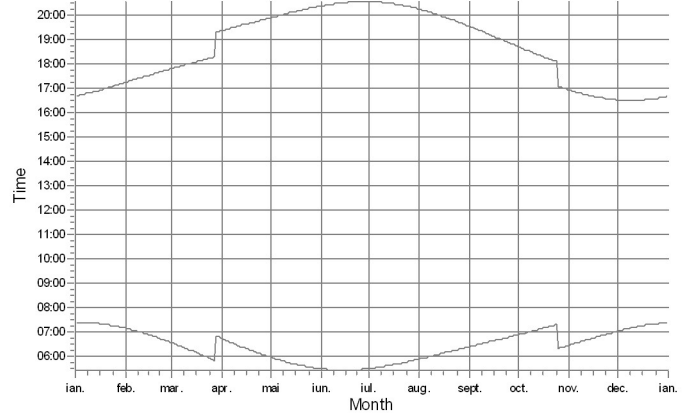
SHADOW - Calendar, graphical

Calculation: Worst case

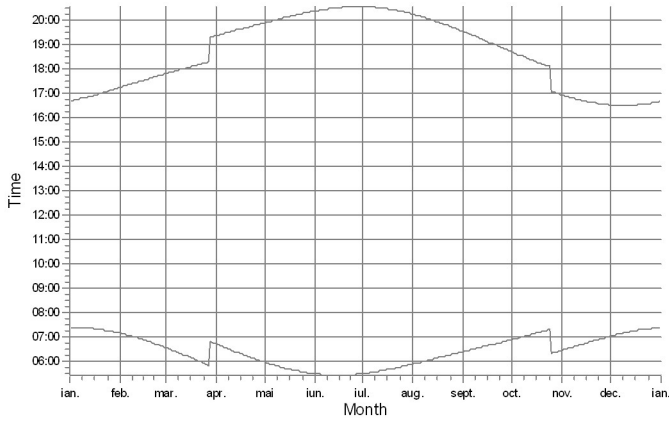
G: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (7)



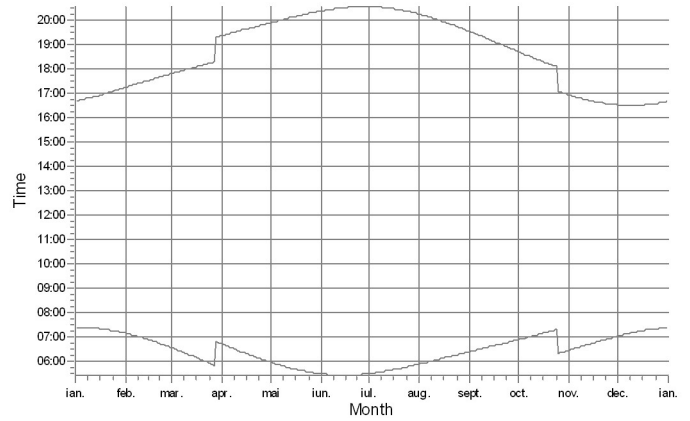
H: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (8)



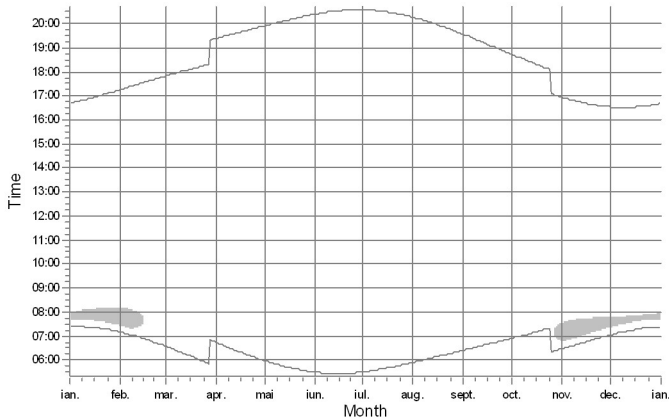
I: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (9)



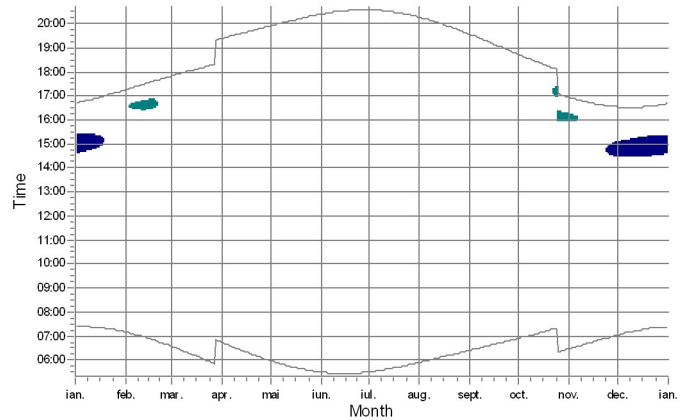
J: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (10)



K: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (11)



L: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (12)



WTGs

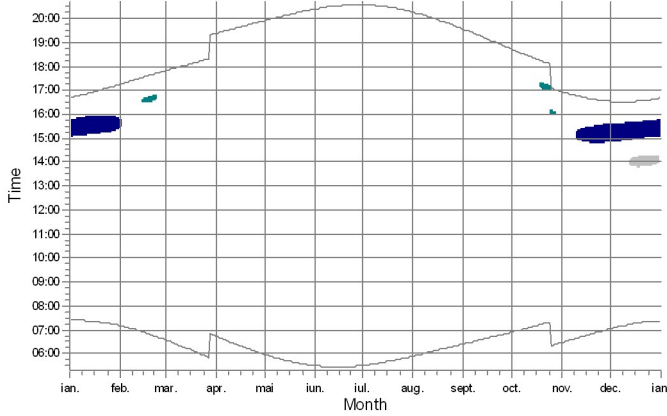
- 4: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (4)
- 6: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (6)

- 7: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (7)
- 12: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (12)

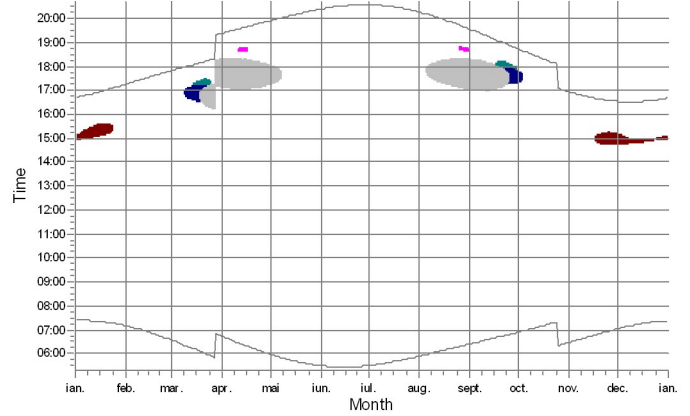
SHADOW - Calendar, graphical

Calculation: Worst case

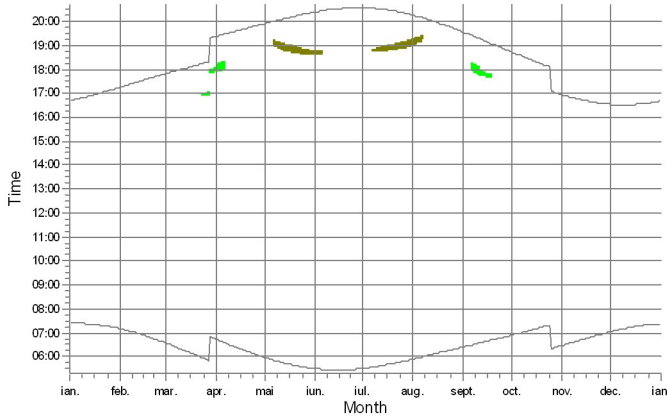
M: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (13)



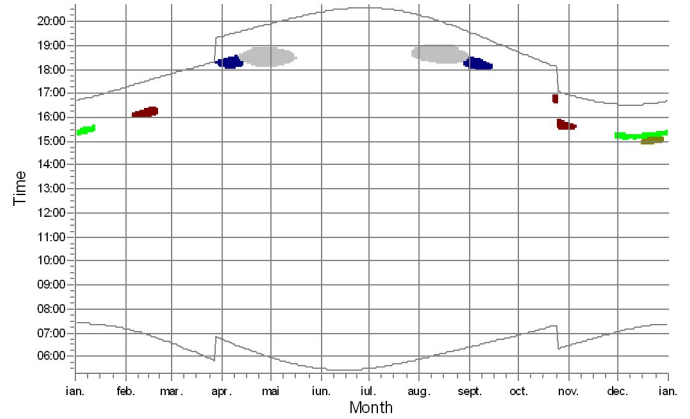
N: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (14)



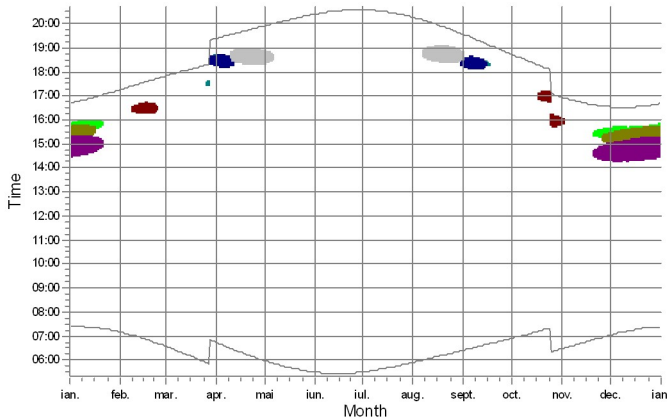
O: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (15)



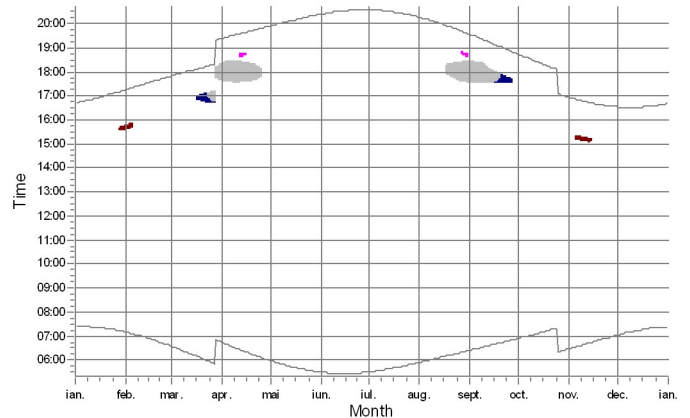
P: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (16)



Q: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (17)



R: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (18)



WTGs

- 5: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (5)
- 6: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (6)
- 7: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (7)
- 8: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (8)

- 9: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (9)
- 10: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (10)
- 11: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (11)
- 12: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (12)

SHADOW - Calendar per WTG

Calculation: Worst case WTG: 1 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (1)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23	07:10	06:34	06:44 17:47-18:42/55	05:59	05:30	05:31	05:54	06:25 17:54-18:21/27	06:54 17:37-18:20/43	06:28	07:03
2	07:23	07:09	06:33	19:23	19:54	20:23	20:34	20:16	19:33	18:43	16:56	16:32
3	07:23	07:08	06:31	06:42 17:48-18:41/53	05:57	05:30	05:31	05:55	06:26 17:52-18:22/30	06:55 17:38-18:18/40	06:29	07:04
4	07:23	07:18	06:31	19:24	19:55	20:24	20:34	20:14	19:31	18:41	16:55	16:32
5	07:23	07:07	06:30	06:41 17:48-18:38/50	05:56	05:29	05:32	05:56	06:27 17:50-18:24/34	06:56 17:39-18:16/37	06:31	07:05
6	07:23	07:19	06:30	19:25	19:56	20:25	20:34	20:13	19:30	18:39	16:54	16:32
7	07:23	07:19	06:30	06:39 17:48-18:36/48	05:55	05:29	05:32	05:57	06:28 17:49-18:25/36	06:57 17:40-18:15/35	06:32	07:06
8	07:23	07:19	06:30	19:26	19:57	20:26	20:34	20:12	19:28	18:38	16:53	16:31
9	07:23	07:06	06:28	06:37 17:49-18:35/46	05:54	05:28	05:33	05:58	06:29 17:47-18:27/40	06:58 17:42-18:13/31	06:33	07:07
10	07:23	07:06	06:28	19:27	19:58	20:26	20:34	20:11	19:26	18:36	16:51	16:31
11	07:23	07:05	06:27	06:36 17:49-18:32/43	05:52	05:28	05:33	05:59	06:30 17:46-18:28/42	06:59 17:44-18:11/27	06:34	07:08
12	07:23	07:05	06:27	19:28	19:59	20:27	20:33	20:10	19:25	18:34	16:50	16:31
13	07:23	07:04	06:25	06:34 17:51-18:31/40	05:51	05:28	05:34	06:00	06:31 17:44-18:30/46	07:00 17:48-18:10/22	06:35	07:09
14	07:23	07:04	06:25	19:29	20:00	20:27	20:33	20:09	19:23	18:33	16:49	16:31
15	07:23	07:03	06:24	06:33 17:52-18:28/36	05:50	05:28	05:34	06:01	06:32 17:43-18:31/48	07:02 17:52-18:08/16	06:36	07:10
16	07:23	07:02	06:22	19:30	20:01	20:28	20:33	20:07	19:21	18:31	16:48	16:31
17	07:23	07:02	06:22	06:31 17:52-18:26/34	05:49	05:27	05:35	06:02	06:33 17:42-18:32/50	07:03	06:38	07:10
18	07:23	07:00	06:20	19:31	20:02	20:29	20:32	20:06	19:20	18:29	16:47	16:31
19	07:23	07:00	06:20	06:29 17:54-18:24/30	05:48	05:27	05:36	06:03	06:33 17:41-18:34/53	07:04	06:39	07:11
20	07:23	07:00	06:20	19:32	20:03	20:29	20:32	20:05	19:18	18:28	16:46	16:31
21	07:23	06:59	06:19	06:28 17:55-18:22/27	05:47	05:27	05:36	06:04	06:34 17:40-18:35/55	07:05	06:40	07:12
22	07:23	06:59	06:19	19:33	20:04	20:30	20:32	20:04	19:16	18:26	16:45	16:31
23	07:22	06:58	06:17	06:26 17:58-18:20/22	05:46	05:27	05:37	06:05	06:35 17:39-18:37/58	07:06	06:41	07:13
24	07:22	06:58	06:17	19:34	20:05	20:30	20:31	20:02	19:15	18:25	16:44	16:31
25	07:22	06:57	06:15	06:25 18:00-18:18/18	05:44	05:27	05:38	06:06	06:36 17:38-18:38/60	07:07	06:42	07:14
26	07:22	06:57	06:15	19:35	20:06	20:31	20:31	20:01	19:13	18:23	16:43	16:31
27	07:22	06:56	06:14	06:23 18:03-18:16/13	05:43	05:27	05:39	06:07	06:37 17:37-18:40/63	07:08	06:44	07:15
28	07:22	06:56	06:14	19:36	20:07	20:31	20:30	20:00	19:11	18:22	16:42	16:32
29	07:22	06:54	06:12	06:22 18:07-18:14/7	05:42	05:27	05:39	06:08	06:38 17:37-18:40/63	07:09	06:45	07:15
30	07:22	06:54	06:12	19:37	20:08	20:32	20:30	20:03	19:10	18:20	16:41	16:32
31	07:21	06:53	06:11	06:20	05:42	05:27	05:40	06:09	06:39 17:35-18:42/67	07:10	06:46	07:16
32	07:21	06:53	06:11	19:38	20:09	20:32	20:29	19:57	19:08	18:18	16:41	16:32
33	07:21	06:52	06:09	06:18	05:41	05:27	05:41	06:10	06:40 17:35-18:43/68	07:11	06:47	07:17
34	07:21	06:52	06:09	19:39	20:10	20:32	20:28	19:56	19:06	18:17	16:40	16:32
35	07:20	06:50	06:07	06:17	05:40	05:27	05:42	06:11	06:41 17:34-18:42/68	07:12	06:48	07:17
36	07:20	06:50	06:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:39	16:33
37	07:20	06:49	06:06	06:15	05:39	05:27	05:43	06:12	06:42 17:34-18:40/66	07:13	06:49	07:18
38	07:20	06:49	06:06	19:42	20:12	20:33	20:27	19:53	19:03	18:14	16:38	16:33
39	07:19	06:48	06:04	06:14	05:38	05:27	05:43	06:13	06:43 17:34-18:38/64	07:14	06:51	07:19
40	07:19	06:48	06:04	19:43	20:13	20:33	20:26	19:51	19:01	18:12	16:38	16:33
41	07:19	06:46	06:02	06:12	05:37	05:27	05:44	06:14	06:44 17:33-18:37/64	07:16	06:52	07:19
42	07:19	06:46	06:02	19:44	20:14	20:34	20:26	19:50	18:59	18:11	16:37	16:34
43	07:18	06:45	06:01	06:11	05:36	05:27	05:45	06:15	06:45 17:33-18:35/62	07:17	06:53	07:20
44	07:18	06:45	06:01	19:45	20:15	20:34	20:25	19:48	18:58	18:10	16:36	16:34
45	07:17	06:43	05:59	06:10	05:36	05:28	05:46	06:16	06:46 17:33-18:33/60	07:18	06:54	07:20
46	07:17	06:43	05:59	19:46	20:16	20:34	20:24	19:47	18:56	18:08	16:36	16:35
47	07:17	06:42	05:57	06:08	05:35	05:28	05:47	06:17	06:47 17:33-18:32/59	07:19	06:55	07:21
48	07:17	06:42	05:57	19:47	20:17	20:34	20:23	19:45	18:54	18:07	16:35	16:35
49	07:16	06:40	05:56	06:07	05:34	05:28	05:48	06:18	06:48 17:33-18:30/57	06:20	06:56	07:21
50	07:16	06:40	05:56	19:48	20:18	20:34	20:22	19:44	18:53	17:05	16:35	16:36
51	07:15	06:39	05:54	06:05	05:33	05:28	05:49	06:19	06:49 17:34-18:28/54	06:21	06:57	07:21
52	07:15	06:39	05:54	19:49	20:19	20:34	20:21	19:42	18:51	17:04	16:34	16:37
53	07:14	06:37	05:52	06:04	05:33	05:29	05:50	06:20	06:50 17:34-18:27/53	06:22	06:58	07:22
54	07:14	06:37	05:52	19:50	20:19	20:34	20:21	19:41	18:49	17:03	16:34	16:37
55	07:14	06:36	05:51	06:03	05:32	05:29	05:50	06:21	06:51 17:34-18:25/51	06:24	07:00	07:22
56	07:14	06:36	05:51	19:51	20:20	20:34	20:20	19:39	18:48	17:01	16:33	16:38
57	07:13	06:35	05:50	06:01	05:32	05:30	05:51	06:22	06:52 17:35-18:23/48	06:25	07:01	07:22
58	07:13	06:35	05:50	19:52	20:21	20:34	20:19	19:38	18:46	17:00	16:33	16:39
59	07:12	06:34	05:49	06:00	05:31	05:30	05:52	06:23	06:53 17:36-18:21/45	06:26	07:02	07:23
60	07:12	06:34	05:49	19:53	20:22	20:34	20:18	19:36	18:44	16:59	16:32	16:39
61	07:11	06:33	05:48	06:00	05:30	05:30	05:53	06:24	06:54 17:37-18:19/22	06:27	07:03	07:23
62	07:11	06:33	05:48	19:54	20:23	20:34	20:17	19:34	18:44	16:57	16:40	16:40
63	07:11	06:33	05:48	06:00	05:30	05:30	05:53	06:24	06:54 17:37-18:19/22	06:27	07:03	07:23
64	07:11	06:33	05:48	19:54	20:23	20:34	20:17	19:34	18:44	16:57	16:40	16:40
65	07:11	06:33	05:48	06:00	05:30	05:30	05:53	06:24	06:54 17:37-18:19/22	06:27	07:03	07:23
66	07:11	06:33	05:48	19:54	20:23	20:34	20:17	19:34	18:44	16:57	16:40	16:40
67	07:11	06:33	05:48	06:00	05:30	05:30	05:53	06:24	06:54 17:37-18:19/22	06:27	07:03	07:23
68	07:11	06:33	05:48	19:54	20:23	20:34	20:17	19:34	18:44	16:57	16:40	16:40
69	07:11	06:33	05:48	06:00	05:30	05:30	05:53	06:24	06:54 17:37-18:19/22	06:27	07:03	07:23
70	07:11	06:33	05:48	19:54	20:23	20:34	20:17	19:34	18:44	16:57	16:40	16:40
71	07:11	06:33	05:48	06:00	05:30	05:30	05:53	06:24	06:54 17:37-18:19/22	06:27	07:03	07:23
72	07:11	06:33	05:48	19:54	20:23	20:34	20:17	19:34	18:44	16:57	16:40	16:40
73	07:11	06:33	05:48	06:00	05:30	05:30	05:53	06:24	06:54 17:37-18:19/22	06:27	07:03	07:23
74	07:11	06:33	05:48	19:54	20:23	20:34	20:17	19:34	18:44	16:57	16:40	16:40
75	07:11	06:33	05:48	06:00	05:30	05:30	05:53	06:24	06:54 17:37-18:19/22	06:27	07:03	07:23
76	07:11	06:33	05:48	19:54	20:23	20:34	20:17	19:34	18:44	16:57	16:40	16:40
77	07:11	06:33	05:48	06:00	05:30	05:30	05:53	06:24	06:54 17:37-18:19/22	06:27	07:03	07:23
78	07:11	06:33	05:48	19:54	20:23	20:34	20:17	19:34	18:44	16:57	16:40	16:40
79	07:11	06:33	05:48	06:00	05:30	05:30	05:53	06:24	06:54 17:37-18:19/22	06:27	07:03	07:23
80	07:11	06:33	05:48	19:54	20:23	20:34	20:17	19:34	18:44	16:57	16:40	16:40
81	07:11	06:33	05:48	06:00	05:30	05:30	05:53	06:24	06:54 17:37-18:19/22	06:27	07:03	07:23
82	07:											

SHADOW - Calendar per WTG

Calculation: Worst case WTG: 2 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (2)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:41	07:10 17:15	06:34 17:49	06:44 19:23	05:59 19:54	05:30 20:23	05:30 20:34	05:54 20:15	06:25 19:33	06:54 18:42	06:28 16:56	07:03 16:32
2	07:23 16:42	07:09 17:16	06:33 17:50	06:42 19:24	05:57 19:55	05:29 20:24	05:31 20:34	05:55 20:14	06:26 19:31	06:55 18:41	06:29 16:55	07:04 16:32
3	07:23 16:43	07:08 17:18	06:31 17:51	06:41 19:25	05:56 19:56	05:29 20:25	05:31 20:34	05:56 20:13	06:27 19:29	06:56 18:39	06:30 16:54	07:05 16:32
4	07:23 16:44	07:07 17:19	06:30 17:52	06:39 19:26	05:55 19:57	05:29 20:25	05:32 20:34	05:57 20:12	06:28 19:28	06:57 18:38	06:32 16:53	07:06 16:31
5	07:23 16:45	07:06 17:20	06:28 17:53	06:37 19:27	05:53 19:58	05:28 20:26	05:33 20:34	05:58 20:11	06:29 19:26	06:58 18:36	06:33 16:51	07:07 16:31
6	07:23 16:46	07:05 17:21	06:27 17:55	06:36 19:28	05:52 19:59	05:28 20:27	05:33 20:33	05:59 20:10	06:30 19:25	06:59 18:34	06:34 16:50	07:08 16:31
7	07:23 16:47	07:04 17:23	06:25 17:56	06:34 19:29	05:51 20:00	05:28 20:27	05:34 20:33	06:00 20:09	06:31 19:23	07:00 18:33	06:35 16:49	07:09 16:31
8	07:23 16:47	07:03 17:24	06:23 17:57	06:33 19:30	05:50 20:01	05:27 20:28	05:34 20:33	06:01 20:07	06:31 19:21	07:01 18:31	06:36 16:48	07:10 16:31
9	07:23 16:48	07:02 17:25	06:22 17:58	06:31 19:31	05:49 20:02	05:27 20:29	05:35 20:32	06:02 20:06	06:32 19:20	07:03 18:29	06:38 16:47	07:10 16:31
10	07:23 16:50	07:00 17:26	06:20 17:59	06:29 19:32	05:48 20:03	05:27 20:29	05:36 20:32	06:03 20:05	06:33 19:18	07:04 18:28	06:39 16:46	07:11 16:31
11	07:23 16:51	06:59 17:28	06:19 18:00	06:28 19:33	05:47 20:04	05:27 20:30	05:36 20:32	06:04 20:04	06:34 19:16	07:05 18:26	06:40 16:45	07:12 16:31
12	07:22 16:52	06:58 17:29	06:17 18:01	06:26 19:34	05:45 20:05	05:27 20:30	05:37 20:31	06:05 20:02	06:35 19:15	07:06 18:25	06:41 16:44	07:13 16:31
13	07:22 16:53	06:57 17:30	06:15 18:02	06:25 19:35	05:44 20:06	05:27 20:31	05:38 20:31	06:06 20:01	06:36 19:13	07:07 18:23	06:42 16:43	07:14 16:31
14	07:22 16:54	06:55 17:31	06:14 18:03	06:23 19:36	05:43 20:07	05:27 20:31	05:39 20:30	06:07 20:00	06:37 19:11	07:08 18:21	06:43 16:42	07:15 16:31
15	07:21 16:55	06:54 17:32	06:12 18:05	06:22 19:37	05:42 20:08	05:27 20:32	05:39 20:30	06:08 19:58	06:38 19:09	07:09 18:20	06:45 16:41	07:15 16:32
16	07:21 16:56	06:53 17:34	06:11 18:06	06:20 19:38	05:41 20:09	05:27 20:32	05:40 20:29	06:09 19:57	06:39 19:08	07:10 18:18	06:46 16:41	07:16 16:32
17	07:21 16:57	06:52 17:35	06:09 18:07	06:18 19:39	05:41 20:10	05:27 20:32	05:41 20:28	06:10 19:55	06:40 19:06	07:11 18:17	06:47 16:40	07:17 16:32
18	07:20 16:58	06:50 17:36	06:07 18:08	06:17 19:40	05:40 20:11	05:27 20:33	05:42 20:28	06:11 19:54	06:41 19:04	07:12 18:15	06:48 16:39	07:17 16:33
19	07:20 16:59	06:49 17:37	06:06 18:09	06:15 19:42	05:39 20:12	05:27 20:33	05:42 20:27	06:12 19:53	06:42 19:03	07:13 18:14	06:49 16:38	07:18 16:33
20	07:19 17:01	06:48 17:38	06:04 18:10	06:14 19:43	05:38 20:13	05:27 20:33	05:43 20:26	06:13 19:51	06:43 19:01	07:14 18:12	06:51 16:38	07:19 16:33
21	07:19 17:02	06:46 17:40	06:02 18:11	06:12 19:44	05:37 20:14	05:27 20:34	05:44 20:26	06:14 19:50	06:44 18:59	07:16 18:11	06:52 16:37	07:19 16:34
22	07:18 17:03	06:45 17:41	06:01 18:12	06:11 19:45	05:36 20:15	05:27 20:34	05:45 20:25	06:15 19:48	06:45 18:58	07:17 18:10	06:53 16:36	07:20 16:34
23	07:17 17:04	06:43 17:42	05:59 18:13	06:10 19:46	05:35 20:16	05:28 20:34	05:46 20:24	06:16 19:47	06:46 18:56	07:18 18:08	06:54 16:36	07:20 16:35
24	07:17 17:05	06:42 17:43	05:57 18:14	06:08 19:47	05:35 20:17	05:28 20:34	05:47 20:23	06:17 19:45	06:47 18:54	07:19 18:07	06:55 16:35	07:21 16:35
25	07:16 17:07	06:40 17:44	05:56 18:15	06:07 19:48	05:34 20:18	05:28 20:34	05:48 20:22	06:18 19:44	06:48 18:53	07:20 17:05	06:56 16:35	07:21 16:36
26	07:15 17:08	06:39 17:45	05:54 18:16	06:05 19:49	05:33 20:19	05:28 20:34	05:49 20:21	06:19 19:42	06:49 18:51	07:21 17:04	06:57 16:34	07:21 16:37
27	07:14 17:09	06:37 17:47	05:52 18:17	06:04 19:50	05:33 20:19	05:29 20:34	05:49 20:20	06:20 19:41	06:50 18:49	07:22 17:03	06:58 16:34	07:22 16:37
28	07:14 17:10	06:36 17:48	05:51 18:18	06:03 19:51	05:32 20:20	05:29 20:34	05:50 20:20	06:21 19:39	06:51 18:48	07:23 17:01	07:00 16:33	07:22 16:38
29	07:13 17:11		06:49 19:19	06:01 19:52	05:32 20:21	05:30 20:34	05:51 20:19	06:22 19:37	06:52 18:46	07:24 17:00	07:01 16:33	07:22 16:39
30	07:12 17:13		06:47 19:20	06:00 19:53	05:31 20:22	05:30 20:34	05:52 20:18	06:23 19:36	06:53 18:44	07:25 16:59	07:02 16:32	07:23 16:39
31	07:11 17:14		06:46 19:22		05:30 20:23		05:53 20:17	06:24 19:34		06:27 16:57		07:23 16:40
Potential sun hours	298	297	369	398	448	451	458	427	375	346	299	289
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Worst case WTG: 3 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (3)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 08:07-08:20/13 16:41	07:10 17:15	06:34 17:49	06:44 19:23	05:58 19:54	05:30 20:23	05:30 20:34	05:54 20:15	06:25 19:33	06:54 18:42	06:28 16:56	07:03 07:48-08:02/14 16:32
2	07:23 08:08-08:20/12 16:42	07:09 17:16	06:33 17:50	06:42 19:24	05:57 19:55	05:29 20:24	05:31 20:34	05:55 20:14	06:26 19:31	06:55 18:41	06:29 16:55	07:04 07:49-08:03/14 16:32
3	07:23 08:08-08:20/12 16:43	07:08 17:18	06:31 17:51	06:41 19:25	05:56 19:56	05:29 20:25	05:31 20:34	05:56 20:13	06:27 19:29	06:56 18:39	06:30 16:54	07:05 07:50-08:04/14 16:31
4	07:23 08:08-08:20/12 16:44	07:07 17:19	06:30 17:52	06:39 19:26	05:55 19:57	05:29 20:25	05:32 20:34	05:57 20:12	06:27 19:28	06:57 18:37	06:27 16:52	07:06 07:51-08:05/14 16:31
5	07:23 08:07-08:20/13 16:45	07:06 17:20	06:28 17:53	06:37 19:27	05:53 19:58	05:28 20:26	05:32 20:33	05:58 20:11	06:28 19:26	06:58 18:36	06:33 16:51	07:07 07:52-08:05/13 16:31
6	07:23 08:07-08:20/13 16:45	07:05 17:21	06:27 17:55	06:36 19:28	05:52 19:59	05:28 20:27	05:33 20:33	05:59 20:10	06:29 19:24	06:59 18:34	06:34 16:50	07:08 07:53-08:06/13 16:31
7	07:23 08:07-08:20/13 16:46	07:04 17:22	06:25 17:56	06:34 19:29	05:51 20:00	05:28 20:27	05:34 20:33	06:00 20:09	06:30 19:23	07:00 18:33	06:35 16:49	07:09 07:54-08:07/13 16:31
8	07:23 08:07-08:21/14 16:47	07:03 17:24	06:23 17:57	06:32 19:30	05:50 20:01	05:27 20:28	05:34 20:33	06:01 20:07	06:31 19:21	07:01 18:31	06:36 16:48	07:09 07:55-08:08/13 16:31
9	07:23 08:07-08:21/14 16:48	07:01 17:25	06:22 17:58	06:31 19:31	05:49 20:02	05:27 20:29	05:35 20:32	06:02 20:06	06:32 19:20	07:02 18:29	06:37 16:47	07:10 07:56-08:08/12 16:31
10	07:23 08:07-08:21/14 16:49	07:00 17:26	06:20 17:59	06:29 19:32	05:48 20:03	05:27 20:29	05:36 20:32	06:03 20:05	06:33 19:18	07:04 18:28	06:39 16:46	07:11 07:57-08:09/12 16:31
11	07:23 08:06-08:20/14 16:50	06:59 17:27	06:19 18:00	06:28 19:33	05:46 20:04	05:27 20:30	05:36 20:31	06:04 20:04	06:34 19:16	07:05 18:26	06:40 16:45	07:12 07:57-08:10/13 16:31
12	07:22 08:06-08:20/14 16:52	06:58 17:29	06:17 18:01	06:26 19:34	05:45 20:05	05:27 20:30	05:37 20:31	06:05 20:02	06:35 19:14	07:06 18:25	06:41 16:44	07:13 07:58-08:10/12 16:31
13	07:22 08:05-08:19/14 16:53	06:57 17:30	06:15 18:02	06:25 19:35	05:44 20:06	05:27 20:31	05:38 20:31	06:06 20:01	06:36 19:13	07:07 18:23	06:42 16:43	07:14 07:58-08:10/12 16:31
14	07:22 08:05-08:19/14 16:54	06:55 17:31	06:14 18:03	06:23 19:36	05:43 20:07	05:27 20:31	05:38 20:30	06:07 20:00	06:37 19:11	07:08 18:21	06:43 16:42	07:14 07:59-08:11/12 16:31
15	07:21 08:08-08:19/11 16:55	06:54 17:32	06:12 18:04	06:21 19:37	05:42 20:08	05:27 20:32	05:39 20:29	06:08 19:58	06:38 19:09	07:09 18:20	06:45 16:41	07:15 08:00-08:12/12 16:32
16	07:21 08:09-08:16/7 16:56	06:53 17:34	06:10 18:06	06:20 19:38	05:41 20:09	05:27 20:32	05:40 20:29	06:09 19:57	06:39 19:08	07:10 18:18	06:46 16:40	07:16 08:00-08:11/11 16:32
17	07:21 16:57	06:52 17:35	06:09 18:07	06:18 19:39	05:40 20:10	05:27 20:32	05:41 20:28	06:10 19:55	06:40 19:06	07:11 18:17	06:47 16:40	07:17 08:01-08:12/11 16:32
18	07:20 16:58	06:50 17:36	06:07 18:08	06:17 19:40	05:40 20:11	05:27 20:33	05:42 20:28	06:11 19:54	06:41 19:04	07:12 18:15	06:48 16:39	07:17 08:02-08:13/11 16:33
19	07:20 16:59	06:49 17:37	06:05 18:09	06:15 19:41	05:39 20:12	05:27 20:33	05:42 20:27	06:12 19:53	06:42 19:03	07:13 18:14	06:49 16:38	07:18 08:02-08:13/11 16:33
20	07:19 17:01	06:47 17:38	06:04 18:10	06:14 19:42	05:38 20:13	05:27 20:33	05:43 20:26	06:13 19:51	06:43 19:01	07:14 18:12	06:50 16:37	07:19 08:03-08:14/11 16:33
21	07:18 17:02	06:46 17:40	06:02 18:11	06:12 19:44	05:37 20:14	05:27 20:33	05:44 20:25	06:14 19:50	06:44 18:59	07:15 18:11	06:52 16:37	07:19 08:03-08:14/11 16:34
22	07:18 17:03	06:45 17:41	06:00 18:12	06:11 19:45	05:36 20:15	05:27 20:34	05:45 20:25	06:15 19:48	06:45 18:58	07:17 18:09	06:53 16:36	07:20 08:04-08:15/11 16:34
23	07:17 17:04	06:43 17:42	05:59 18:13	06:09 19:46	05:35 20:16	05:28 20:34	05:46 20:24	06:16 19:47	06:46 18:56	07:18 18:08	06:54 16:36	07:20 08:04-08:15/11 16:35
24	07:16 17:05	06:42 17:43	05:57 18:14	06:08 19:47	05:35 20:17	05:28 20:34	05:47 20:23	06:17 19:45	06:47 18:54	07:19 18:07	06:55 16:35	07:21 08:05-08:16/11 16:35
25	07:16 17:06	06:40 17:44	05:56 18:15	06:07 19:48	05:34 20:18	05:28 20:34	05:48 20:22	06:18 19:44	06:48 18:52	07:20 17:05	06:56 16:34	07:21 08:05-08:16/11 16:36
26	07:15 17:08	06:39 17:45	05:54 18:16	06:05 19:49	05:33 20:18	05:28 20:34	05:49 20:21	06:19 19:42	06:49 18:51	07:21 17:04	06:57 07:49-07:55/6 16:34	07:21 08:05-08:16/11 16:36
27	07:14 17:09	06:37 17:47	05:52 18:17	06:04 19:50	05:33 20:19	05:29 20:34	05:49 20:20	06:20 19:41	06:50 18:49	07:22 17:03	06:58 07:47-07:58/11 16:33	07:22 08:06-08:17/11 16:37
28	07:13 17:10	06:36 17:48	05:51 18:18	06:02 19:51	05:32 20:20	05:29 20:34	05:50 20:19	06:21 19:39	06:51 18:47	07:23 17:01	06:59 07:46-07:59/13 16:33	07:22 08:06-08:17/11 16:38
29	07:13 17:11	06:35 17:49	05:50 18:19	06:01 19:52	05:31 20:21	05:30 20:34	05:51 20:18	06:22 19:37	06:52 18:46	07:24 17:00	07:01 07:46-08:00/14 16:33	07:22 08:06-08:18/12 16:39
30	07:12 17:13	06:34 17:50	05:49 18:20	06:00 19:53	05:31 20:22	05:30 20:34	05:52 20:17	06:23 19:36	06:53 18:44	07:25 16:59	07:02 07:47-08:01/14 16:32	07:23 08:06-08:18/12 16:39
31	07:11 17:14	06:33 17:51	05:48 18:21	05:59 19:54	05:30 20:23	05:29 20:34	05:53 20:16	06:24 19:34	06:54 18:45	07:26 16:57	07:03 07:48-08:02/14 16:32	07:23 08:06-08:18/12 16:40
Potential sun hours	298	297	369	398	448	451	458	427	375	346	299	289
Sum of minutes with flicker	204	0	0	0	0	0	0	0	0	0	58	372

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Worst case WTG: 4 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (4)

Assumptions for shadow calculations

- The calculated times are "worst case" given by the following assumptions:
- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:23 16:41	07:10 17:15	06:34 06:53-07:07/14 17:49	06:44 07:25-08:33/68 19:23	05:58 08:10-08:55/45 19:54	05:30 08:49-08:50/1 20:23
2	07:23 16:42	07:09 17:16	06:33 06:52-07:07/15 17:50	06:42 07:27-08:36/69 19:24	05:57 08:10-08:54/44 19:55	05:29 08:50-08:51/1 20:24
3	07:23 16:43	07:08 17:18	06:31 06:50-07:06/16 17:51	06:41 07:28-08:37/69 19:25	05:56 08:12-08:54/42 19:56	05:29 20:25
4	07:23 16:44	07:07 17:19	06:30 06:49-07:06/17 17:52	06:39 07:29-08:39/70 19:26	05:55 08:13-08:54/41 19:57	05:29 20:25
5	07:23 16:45	07:06 17:20	06:28 06:47-07:05/18 17:53	06:37 07:31-08:41/70 19:27	05:53 08:15-08:55/40 19:58	05:28 20:26
6	07:23 16:45	07:05 17:21	06:27 06:45-07:03/18 17:55	06:36 07:32-08:42/70 19:28	05:52 08:17-08:55/38 19:59	05:28 20:27
7	07:23 16:46	07:04 17:23	06:25 06:44-07:02/18 17:56	06:34 07:34-08:44/70 19:29	05:51 08:18-08:55/37 20:00	05:28 20:27
8	07:23 16:47	07:03 17:24	06:23 06:42-07:00/18 17:57	06:32 07:35-08:45/70 19:30	05:50 08:19-08:54/35 20:01	05:27 20:28
9	07:23 16:48	07:01 17:25	06:22 06:41-06:58/17 17:58	06:31 07:37-08:45/68 19:31	05:49 08:20-08:53/33 20:02	05:27 20:29
10	07:23 16:49	07:00 17:26	06:20 17:59	06:29 07:39-08:47/68 19:32	05:48 08:22-08:53/31 20:03	05:27 20:29
11	07:23 16:50	06:59 17:27	06:19 18:00	06:28 07:40-08:48/68 19:33	05:46 08:23-08:53/30 20:04	05:27 20:30
12	07:22 16:52	06:58 17:29	06:17 18:01	06:26 07:42-08:49/67 19:34	05:45 08:24-08:53/29 20:05	05:27 20:30
13	07:22 16:53	06:57 17:30	06:15 18:02	06:25 07:43-08:49/66 19:35	05:44 08:26-08:53/27 20:06	05:27 20:31
14	07:22 16:54	06:55 17:31	06:14 18:03	06:23 07:45-08:51/66 19:36	05:43 08:27-08:53/26 20:07	05:27 20:31
15	07:21 16:55	06:54 17:32	06:12 18:04	06:21 07:46-08:51/65 19:37	05:42 08:28-08:52/24 20:08	05:27 20:32
16	07:21 16:56	06:53 17:34	06:10 06:29-06:31/2 18:06	06:20 07:47-08:51/64 19:38	05:41 08:31-08:53/22 20:09	05:27 20:32
17	07:21 16:57	06:51 17:35	06:09 06:27-06:31/4 18:07	06:18 07:49-08:52/63 19:39	05:40 08:32-08:53/21 20:10	05:27 20:32
18	07:20 16:58	06:50 17:36	06:07 06:26-06:32/6 18:08	06:17 07:50-08:52/62 19:40	05:40 08:33-08:53/20 20:11	05:27 20:33
19	07:20 16:59	06:49 17:37	06:05 06:24-06:31/7 18:09	06:15 07:52-08:53/61 19:41	05:39 08:34-08:52/18 20:12	05:27 20:33
20	07:19 17:01	06:47 17:38	06:04 06:22-06:30/8 18:10	06:14 07:54-08:54/60 19:42	05:38 08:35-08:52/17 20:13	05:27 20:33
21	07:18 17:02	06:46 17:40	06:02 06:21-06:30/9 18:11	06:12 07:54-08:53/59 19:44	05:37 08:37-08:52/15 20:14	05:27 20:33
22	07:18 17:03	06:45 17:41	06:00 06:19-06:29/10 18:12	06:11 07:56-08:54/58 19:45	05:36 08:38-08:52/14 20:15	05:27 20:34
23	07:17 17:04	06:43 07:02-07:05/3 17:42	05:59 06:17-06:27/10 18:13	06:09 07:57-08:54/57 19:46	05:35 08:39-08:51/12 20:16	05:28 20:34
24	07:16 17:05	06:42 07:01-07:06/5 17:43	05:57 06:16-06:25/9 18:14	06:08 07:59-08:54/55 19:47	05:35 08:40-08:51/11 20:17	05:28 20:34
25	07:16 17:06	06:40 06:59-07:07/8 17:44	05:56 06:42-07:06/24 18:15	06:07 08:01-08:55/54 19:48	05:34 08:42-08:52/10 20:18	05:28 20:34
26	07:15 17:08	06:39 06:58-07:07/9 17:45	05:54 06:34-07:13/39 18:16	06:05 08:02-08:54/52 19:49	05:33 08:42-08:51/9 20:18	05:28 20:34
27	07:14 17:09	06:37 06:56-07:07/11 17:47	05:52 06:29-07:19/50 18:17	06:04 08:04-08:55/51 19:50	05:33 08:44-08:51/7 20:19	05:29 20:34
28	07:13 17:10	06:36 06:55-07:08/13 17:48	05:51 06:24-07:22/58 18:18	06:02 08:04-08:54/50 19:51	05:32 08:45-08:51/6 20:20	05:29 20:34
29	07:13 17:11		06:49 07:20-08:25/65 19:19	06:01 08:06-08:54/48 19:52	05:31 08:46-08:51/5 20:21	05:30 20:34
30	07:12 17:13		06:47 07:22-08:29/67 19:20	06:00 08:08-08:55/47 19:53	05:31 08:47-08:51/4 20:22	05:30 20:34
31	07:11 17:14		06:46 07:24-08:31/67 19:21		05:30 08:48-08:51/3 20:22	
Potential sun hours	298	298	369	398	448	451
Sum of minutes with flicker	0	49	586	1865	716	2

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

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker
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SHADOW - Calendar per WTG

Calculation: Worst case WTG: 4 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (4)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:34	05:54 08:34-09:04/30 20:15	06:25 07:39-08:47/68 19:33	06:54 18:42	06:28 16:56	07:03 16:32
2	05:31 20:34	05:55 08:33-09:04/31 20:14	06:26 07:37-08:45/68 19:31	06:55 18:41	06:29 16:55	07:04 16:32
3	05:31 20:34	05:56 08:32-09:04/32 20:13	06:27 07:35-08:43/68 19:29	06:56 18:39	06:30 16:54	07:05 16:31
4	05:32 20:34	05:57 08:30-09:04/34 20:12	06:27 07:32-08:42/70 19:28	06:57 07:25-07:32/7 18:37 07:17-07:22/5	06:32 16:53	07:06 16:31
5	05:32 20:33	05:58 08:29-09:04/35 20:11	06:28 07:30-08:40/70 19:26	06:58 07:18-07:36/18 18:36	06:33 16:51	07:07 16:31
6	05:33 20:33	05:59 08:27-09:04/37 20:10	06:29 07:28-08:38/70 19:24	06:59 07:19-07:37/18 18:34	06:34 16:50	07:08 16:31
7	05:34 20:33	06:00 08:26-09:04/38 20:09	06:30 07:26-08:36/70 19:23	07:00 07:20-07:38/18 18:33	06:35 16:49	07:09 16:31
8	05:34 20:33	06:01 08:24-09:04/40 20:07	06:31 07:24-08:34/70 19:21	07:01 07:22-07:40/18 18:31	06:36 16:48	07:09 16:31
9	05:35 20:32	06:02 08:23-09:04/41 20:06	06:32 07:22-08:32/70 19:20	07:02 07:23-07:41/18 18:29	06:37 16:47	07:10 16:31
10	05:36 20:32	06:03 08:21-09:04/43 20:05	06:33 07:20-08:29/69 19:18	07:04 07:24-07:41/17 18:28	06:39 16:46	07:11 16:31
11	05:36 08:57-08:59/2 20:31	06:04 08:18-09:03/45 20:04	06:34 07:18-08:27/69 19:16	07:05 07:25-07:41/16 18:26	06:40 16:45	07:12 16:31
12	05:37 08:56-08:58/2 20:31	06:05 08:17-09:03/46 20:02	06:35 07:16-08:24/68 19:14	07:06 07:26-07:41/15 18:25	06:41 16:44	07:13 16:31
13	05:38 08:55-08:59/4 20:31	06:06 08:15-09:02/47 20:01	06:36 07:14-08:21/67 19:13	07:07 07:27-07:41/14 18:23	06:42 16:43	07:14 16:31
14	05:38 08:55-09:00/5 20:30	06:07 08:13-09:02/49 20:00	06:37 07:11-08:16/65 19:11	07:08 07:28-07:40/12 18:21	06:43 16:42	07:14 16:31
15	05:39 08:54-09:00/6 20:29	06:08 08:12-09:02/50 19:58	06:38 07:13-08:12/59 19:09	07:09 07:29-07:40/11 18:20	06:45 16:41	07:15 16:32
16	05:40 08:53-09:00/7 20:29	06:09 08:10-09:01/51 19:57	06:39 07:16-08:08/52 19:08	07:10 07:30-07:39/9 18:18	06:46 16:41	07:16 16:32
17	05:41 08:52-09:00/8 20:28	06:10 08:08-09:01/53 19:55	06:40 07:21-08:02/41 19:06	07:11 07:32-07:39/7 18:17	06:47 16:40	07:17 16:32
18	05:42 08:51-09:01/10 20:28	06:11 08:06-09:00/54 19:54	06:41 07:27-07:55/28 19:04	07:12 07:33-07:38/5 18:15	06:48 16:39	07:17 16:33
19	05:42 08:51-09:01/10 20:27	06:12 08:05-09:00/55 19:53	06:42 07:02-07:11/9 19:03	07:13 07:34-07:36/2 18:14	06:49 16:38	07:18 16:33
20	05:43 08:50-09:02/12 20:26	06:13 08:03-08:59/56 19:51	06:43 07:03-07:13/10 19:01	07:14 18:12	06:50 16:37	07:18 16:33
21	05:44 08:48-09:01/13 20:25	06:14 08:01-08:59/58 19:50	06:44 07:04-07:14/10 18:59	07:15 18:11	06:52 16:37	07:19 16:34
22	05:45 08:47-09:02/15 20:25	06:15 07:59-08:58/59 19:48	06:45 07:05-07:14/9 18:58	07:17 18:09	06:53 16:36	07:20 16:34
23	05:46 08:46-09:02/16 20:24	06:16 07:57-08:57/60 19:47	06:46 07:06-07:14/8 18:56	07:18 18:08	06:54 16:36	07:20 16:35
24	05:47 08:45-09:02/17 20:23	06:17 07:55-08:56/61 19:45	06:47 07:07-07:14/7 18:54	07:19 18:07	06:55 16:35	07:21 16:35
25	05:48 08:44-09:03/19 20:22	06:18 07:53-08:56/63 19:44	06:48 07:08-07:14/6 18:52	06:20 17:05	06:56 16:34	07:21 16:36
26	05:49 08:43-09:03/20 20:21	06:19 07:51-08:55/64 19:42	06:49 07:09-07:14/5 18:51	06:21 17:04	06:57 16:34	07:21 16:36
27	05:49 08:42-09:04/22 20:20	06:20 07:49-08:54/65 19:41	06:50 07:10-07:13/3 18:49	06:22 17:03	06:58 16:33	07:22 16:37
28	05:50 08:40-09:03/23 20:19	06:21 07:47-08:53/66 19:39	06:51 07:11-07:12/1 18:47	06:23 17:01	06:59 16:33	07:22 16:38
29	05:51 08:38-09:03/25 20:18	06:22 07:45-08:50/65 19:37	06:52 18:46	06:25 17:00	07:01 16:33	07:22 16:39
30	05:52 08:37-09:03/26 20:17	06:23 07:43-08:49/66 19:36	06:53 18:44	06:26 16:59	07:02 16:32	07:23 16:40
31	05:53 08:36-09:04/28 20:16	06:24 07:41-08:48/67 19:34		06:27 16:57		07:23 16:40
Potential sun hours	458	427	375	346	299	289
Sum of minutes with flicker	290	1561	1210	210	0	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Worst case WTG: 5 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (5)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:41	07:10 17:15	06:34 17:49	06:44 19:22	05:58 19:54	05:30 20:23	05:30 20:34	05:54 20:15	06:24 19:33	06:54 18:42	06:28 16:56	07:03 16:32
2	07:23 16:42	07:09 17:16	06:33 17:50	06:42 19:23	05:57 19:55	05:29 20:24	05:31 20:34	05:55 20:14	06:25 19:31	06:55 18:41	06:29 16:55	07:04 16:32
3	07:23 16:43	07:08 17:17	06:31 17:51	06:41 19:25	05:56 19:56	05:29 20:25	05:31 20:34	05:56 20:13	06:26 19:29	06:56 18:39	06:30 16:54	07:05 16:31
4	07:23 16:44	07:07 17:19	06:30 17:52	06:39 19:26	05:55 19:57	05:29 20:25	05:32 20:34	05:57 20:12	06:27 19:28	06:57 18:37	06:31 16:52	07:06 16:31
5	07:23 16:44	07:06 17:20	06:28 17:53	06:37 19:27	05:53 19:58	05:28 20:26	05:32 20:33	05:58 20:11	06:28 19:26	06:58 18:36	06:33 16:51	07:07 16:31
6	07:23 16:45	07:05 17:21	06:26 17:54	06:36 19:28	05:52 19:59	05:28 20:27	05:33 20:33	05:59 20:10	06:29 19:24	06:59 18:34	06:34 16:50	07:08 16:31
7	07:23 16:46	07:04 17:22	06:25 17:56	06:34 19:29	05:51 20:00	05:28 20:27	05:34 20:33	06:00 20:08	06:30 19:23	07:00 18:32	06:35 16:49	07:08 16:31
8	07:23 16:47	07:03 17:24	06:23 17:57	06:32 19:30	05:50 20:01	05:27 20:28	05:34 20:33	06:01 20:07	06:31 19:21	07:01 18:31	06:36 16:48	07:09 16:31
9	07:23 16:48	07:01 17:25	06:22 17:58	06:31 19:31	05:49 20:02	05:27 20:29	05:35 20:32	06:02 20:06	06:32 19:19	07:02 18:29	06:37 16:47	07:10 16:31
10	07:23 16:49	07:00 17:26	06:20 17:59	06:29 19:32	05:47 20:03	05:27 20:29	05:36 20:32	06:03 20:05	06:33 19:18	07:03 18:28	06:39 16:46	07:11 16:31
11	07:23 16:50	06:59 17:27	06:18 18:00	06:28 19:33	05:46 20:04	05:27 20:30	05:36 20:31	06:04 20:03	06:34 19:16	07:04 18:26	06:40 16:45	07:12 16:31
12	07:22 16:51	06:58 17:29	06:17 18:01	06:26 19:34	18:39-18:40/1 20:05	05:45 20:30	05:27 20:31	06:05 20:02	06:35 19:14	07:06 18:24	06:41 16:44	07:13 16:31
13	07:22 16:53	06:57 17:30	06:15 18:02	06:24 19:35	18:40-18:42/2 20:06	05:44 20:31	05:27 20:30	06:06 20:01	06:36 19:13	07:07 18:23	06:42 16:43	07:14 16:31
14	07:22 16:54	06:55 17:31	06:14 18:03	06:23 19:36	18:40-18:43/3 20:07	05:43 20:31	05:26 20:30	06:07 19:59	06:37 19:11	07:08 18:21	06:43 16:42	07:14 16:31
15	07:21 16:55	06:54 17:32	06:12 18:04	06:21 19:37	18:41-18:44/3 20:08	05:42 20:31	05:26 20:29	06:08 19:58	06:38 19:09	07:09 18:20	06:45 16:41	07:15 16:32
16	07:21 16:56	06:53 17:33	06:10 18:05	06:20 19:38	18:41-18:43/2 20:09	05:41 20:32	05:26 20:29	06:09 19:57	06:39 19:08	07:10 18:18	06:46 16:40	07:16 16:32
17	07:20 16:57	06:51 17:35	06:09 18:07	06:18 19:39	05:40 20:10	05:26 20:32	05:41 20:28	06:10 19:55	06:40 19:06	07:11 18:17	06:47 16:40	07:17 16:32
18	07:20 16:58	06:50 17:36	06:07 18:08	06:17 19:40	05:39 20:11	05:27 20:33	05:42 20:28	06:11 19:54	06:41 19:04	07:12 18:15	06:48 16:39	07:17 16:32
19	07:19 16:59	06:49 17:37	06:05 18:09	06:15 19:41	05:39 20:12	05:27 20:33	05:42 20:27	06:12 19:52	06:42 19:03	07:13 18:14	06:49 16:38	07:18 16:33
20	07:19 17:00	06:47 17:38	06:04 18:10	06:14 19:42	05:38 20:13	05:27 20:33	05:43 20:26	06:13 19:51	06:43 19:01	07:14 18:12	06:50 16:37	07:18 16:33
21	07:18 17:02	06:46 17:39	06:02 18:11	06:12 19:43	05:37 20:14	05:27 20:33	05:44 20:25	06:14 19:50	06:44 18:59	07:15 18:11	06:52 16:37	07:19 16:34
22	07:18 17:03	06:45 17:41	06:00 18:12	06:11 19:44	05:36 20:15	05:27 20:34	05:45 20:25	06:15 19:48	06:45 18:57	07:16 18:09	06:53 16:36	07:20 16:34
23	07:17 17:04	06:43 17:42	05:59 18:13	06:09 19:46	05:35 20:16	05:27 20:34	05:46 20:24	06:16 19:47	06:46 18:56	07:18 18:08	06:54 16:35	07:20 16:35
24	07:16 17:05	06:42 17:43	05:57 18:14	06:08 19:47	05:35 20:17	05:28 20:34	05:47 20:23	06:17 19:45	06:47 18:54	07:19 18:07	06:55 16:35	07:20 16:35
25	07:16 17:06	06:40 17:44	05:55 18:15	06:07 19:48	05:34 20:17	05:28 20:34	05:48 20:22	06:18 19:44	06:48 18:52	06:20 17:05	06:56 16:34	07:21 16:36
26	07:15 17:08	06:39 17:45	05:54 18:16	06:05 19:49	05:33 20:18	05:28 20:34	05:48 20:21	06:19 19:42	18:45-18:46/1 06:49	06:21 17:04	06:57 16:34	07:21 16:36
27	07:14 17:09	06:37 17:46	05:52 18:17	06:04 19:50	05:33 20:19	05:29 20:34	05:49 20:20	06:20 18:46-18:47/1 18:43-18:45/2	06:50 18:49	06:22 17:02	06:58 16:33	07:22 16:37
28	07:13 17:10	06:36 17:48	05:50 18:18	06:02 19:51	05:32 20:20	05:29 20:34	05:50 20:19	06:21 19:39	18:42-18:45/3 06:51	06:23 17:01	06:59 16:33	07:22 16:38
29	07:13 17:11		06:49 19:19	06:01 19:52	05:31 20:21	05:29 20:34	05:51 20:18	06:22 19:37	18:41-18:44/3 06:52	06:24 17:00	07:00 16:33	07:22 16:38
30	07:12 17:12		06:47 19:20	06:00 19:53	05:31 20:22	05:30 20:34	05:52 20:17	06:22 19:36	18:40-18:42/2 06:53	06:26 16:59	07:02 16:32	07:22 16:39
31	07:11 17:14		06:45 19:21		05:30 20:22		05:53 20:16	06:23 19:34	18:39-18:40/1 06:54	06:27 16:57		07:23 16:40
Potential sun hours	298	297	369	398	448	451	458	427	375	346	299	289
Sum of minutes with flicker	0	0	0	11	0	0	0	13	0	0	0	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Worst case WTG: 6 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (6)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	07:23 16:41	07:10 17:15	06:34 17:49	06:44 19:22	18:27-18:38/11 19:54	05:30 20:23
2	07:23 16:42	07:09 17:16	06:33 17:50	06:42 19:23	18:28-18:36/8 19:55	05:29 20:24
3	07:23 16:43	07:08 17:17	06:31 17:51	06:41 19:25	05:56 19:56	05:29 20:25
4	07:23 16:44	07:07 17:19	06:30 17:52	06:39 19:26	16:34-16:35/1 19:57	05:29 20:25
5	07:23 16:44	07:06 17:20	06:28 17:53	06:37 19:27	16:33-16:37/4 19:58	05:28 20:26
6	07:23 16:45	07:05 17:21	06:26 17:54	06:36 19:28	16:31-16:37/6 19:59	05:28 20:27
7	07:23 16:46	07:04 17:22	06:25 17:56	06:34 19:29	16:30-16:39/9 20:00	05:28 20:27
8	07:23 16:47	07:03 17:24	06:23 17:57	06:32 19:30	16:29-16:40/11 20:01	05:27 20:28
9	07:23 16:48	07:01 17:25	06:22 17:58	06:31 19:31	16:29-16:42/13 20:02	05:27 20:28
10	07:23 16:49	07:00 17:26	06:20 17:59	06:29 19:32	16:29-16:43/14 20:03	05:27 20:29
11	07:23 16:50	06:59 17:27	06:18 18:00	06:28 19:33	16:28-16:44/16 20:04	05:27 20:30
12	07:22 16:51	06:58 17:29	06:17 18:01	06:26 19:34	16:28-16:44/16 20:05	05:27 20:30
13	07:22 16:52	06:57 17:30	06:15 18:02	06:24 19:35	16:29-16:45/16 20:06	05:27 20:31
14	07:22 16:54	06:55 17:31	06:14 18:03	06:23 19:36	16:29-16:46/17 20:07	05:26 20:31
15	07:21 16:55	06:54 17:32	06:12 18:04	06:21 19:37	16:29-16:47/18 20:08	05:26 20:31
16	07:21 16:56	06:53 17:33	06:10 18:05	06:20 19:38	16:29-16:48/18 20:09	05:26 20:32
17	07:20 16:57	06:51 17:35	06:09 18:06	06:18 19:39	16:31-16:48/17 20:10	05:26 20:32
18	07:20 16:58	06:50 17:36	06:07 18:08	06:17 19:40	16:32-16:48/16 20:11	05:27 20:33
19	07:19 16:59	06:49 17:37	06:05 18:09	06:15 19:41	16:34-16:46/12 20:12	05:27 20:33
20	07:19 17:00	06:47 17:38	06:04 18:10	06:14 19:42	16:35-16:41/6 20:13	05:27 20:33
21	07:18 17:02	06:46 17:39	06:02 18:11	06:12 19:43	16:36-16:42/6 20:14	05:27 20:33
22	07:18 17:03	06:45 17:41	06:00 18:12	06:11 19:44	16:38-16:44/6 20:15	05:27 20:34
23	07:17 17:04	06:43 17:42	05:59 18:13	06:09 19:46	16:41-16:44/3 20:16	05:27 20:34
24	07:16 17:05	06:42 17:43	05:57 18:14	06:08 19:47	17:10-17:23/13 20:17	05:28 20:34
25	07:16 17:06	06:40 17:44	05:55 18:15	06:06 19:48	17:12-17:21/9 20:17	05:28 20:34
26	07:15 17:08	06:39 17:45	05:54 18:16	06:05 19:49	05:33 20:18	05:28 20:34
27	07:14 17:09	06:37 17:46	05:52 18:17	06:04 19:50	17:27-17:31/4 20:19	05:29 20:34
28	07:13 17:10	06:36 17:48	05:50 18:18	06:02 19:51	17:27-17:34/7 20:20	05:29 20:34
29	07:13 17:11		06:49 19:19	06:01 19:52	18:26-18:35/9 20:21	05:29 20:34
30	07:12 17:12		06:47 19:20	06:00 19:53	18:26-18:37/11 20:22	05:30 20:34
31	07:11 17:14		06:45 19:21		18:27-18:39/12 20:22	
Potential sun hours	298	297	369	398	448	451
Sum of minutes with flicker	0	225	167	19	0	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Worst case WTG: 6 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (6)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:34	05:54 20:15	06:24 19:33	06:54 18:42	06:28 15:58-16:12/14 16:56	07:03 16:32
2	05:31 20:34	05:55 20:14	06:25 19:31	06:55 18:41	06:29 15:59-16:11/12 16:55	07:04 16:32
3	05:31 20:34	05:56 20:13	06:26 19:29	06:56 18:39	06:30 15:59-16:10/11 16:54	07:05 16:31
4	05:32 20:34	05:57 20:12	06:27 19:28	06:57 18:37	06:31 16:00-16:09/9 16:52	07:06 16:31
5	05:32 20:33	05:58 20:11	06:28 19:26	06:58 18:36	06:33 16:01-16:07/6 16:51	07:07 16:31
6	05:33 20:33	05:59 20:10	06:29 19:24	06:59 18:34	06:34 16:03-16:06/3 16:50	07:08 16:31
7	05:34 20:33	06:00 20:08	06:30 19:23	07:00 18:32	06:35 16:49	07:08 16:31
8	05:34 20:33	06:01 20:07	06:31 19:21	07:01 18:31	06:36 16:48	07:09 16:31
9	05:35 20:32	06:02 20:06	06:32 19:19	07:02 18:29	06:37 16:47	07:10 16:31
10	05:36 20:32	06:03 20:05	06:33 18:22-18:29/7 19:18	07:03 18:28	06:39 16:46	07:11 16:31
11	05:36 20:31	06:04 20:03	06:34 18:19-18:30/11 19:16	07:04 18:26	06:40 16:45	07:12 16:31
12	05:37 20:31	06:05 20:02	06:35 18:18-18:30/12 19:14	07:06 18:24	06:41 16:44	07:13 16:31
13	05:38 20:30	06:06 20:01	06:36 18:17-18:28/11 19:13	07:07 18:23	06:42 16:43	07:14 16:31
14	05:38 20:30	06:07 19:59	06:37 18:16-18:26/10 19:11	07:08 18:21	06:43 16:42	07:14 16:31
15	05:39 20:29	06:08 19:58	06:38 18:16-18:23/7 19:09	07:09 18:20	06:44 16:41	07:15 16:32
16	05:40 20:29	06:09 19:57	06:39 18:16-18:20/4 19:08	07:10 18:18	06:46 16:40	07:16 16:32
17	05:41 20:28	06:10 19:55	06:40 18:17-18:18/1 19:06	07:11 18:17	06:47 16:40	07:17 16:32
18	05:42 20:28	06:11 19:54	06:41 18:00-18:07/7 19:04	07:12 18:15	06:48 16:39	07:17 16:32
19	05:42 20:27	06:12 19:52	06:42 17:57-18:10/13 19:03	07:13 17:11-17:15/4 18:14	06:49 16:38	07:18 16:33
20	05:43 20:26	06:13 19:51	06:43 17:56-18:11/15 19:01	07:14 17:08-17:14/6 18:12	06:50 16:37	07:18 16:33
21	05:44 20:25	06:14 19:50	06:44 17:54-18:11/17 18:59	07:15 17:06-17:12/6 18:11	06:51 16:37	07:19 16:34
22	05:45 20:25	06:15 19:48	06:45 17:53-18:09/16 18:57	07:16 17:05-17:14/9 18:09	06:53 16:36	07:19 16:34
23	05:46 20:24	06:16 19:47	06:46 17:53-18:07/14 18:56	07:18 17:03-17:16/13 18:08	06:54 16:35	07:20 16:35
24	05:47 20:23	06:17 19:45	06:47 17:52-18:05/13 18:54	07:19 17:02-17:19/17 18:07	06:55 16:35	07:20 16:35
25	05:48 20:22	06:18 19:44	06:48 17:52-18:03/11 18:52	06:20 16:01-16:18/17 17:05	06:56 16:34	07:21 16:36
26	05:48 20:21	06:19 19:42	06:49 17:52-18:01/9 18:51	06:21 16:00-16:18/18 17:04	06:57 16:34	07:21 16:36
27	05:49 20:20	06:20 19:40	06:50 17:52-17:59/7 18:49	06:22 15:59-16:16/17 17:02	06:58 16:33	07:22 16:37
28	05:50 20:19	06:21 19:39	06:51 17:53-17:58/5 18:47	06:23 15:58-16:15/17 17:01	06:59 16:33	07:22 16:38
29	05:51 20:18	06:21 19:37	06:52 17:55-17:56/1 18:46	06:24 15:58-16:15/17 17:00	07:00 16:33	07:22 16:38
30	05:52 20:17	06:22 19:36	06:53 18:44	06:26 15:58-16:14/16 16:59	07:01 16:32	07:22 16:39
31	05:53 20:16	06:23 19:34		06:27 15:58-16:13/15 16:57		07:23 16:40
Potential sun hours	458	427	375	346	299	289
Sum of minutes with flicker	0	0	191	172	55	0

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

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker
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SHADOW - Calendar per WTG

Calculation: Worst case WTG: 7 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (7)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	07:23 14:39-15:44/65 16:41	07:10 15:32-15:43/11 17:15	06:34 17:49	06:44 17:41-18:07/26 19:22 18:09-18:37/28	05:58 19:54	05:30 20:23
2	07:23 14:40-15:44/64 16:42	07:09 17:16	06:33 17:50	06:42 17:54-18:03/9 17:46-17:50/4 19:23 18:08-18:38/30	05:57 19:55	05:29 20:24
3	07:23 14:41-15:45/64 16:43	07:08 17:17	06:31 17:51	06:40 18:08-18:38/30 19:24	05:56 19:56	05:29 20:25
4	07:23 14:42-15:46/64 16:43	07:07 17:19	06:30 17:52	06:39 18:07-18:38/31 19:26	05:54 19:57	05:28 20:25
5	07:23 14:43-15:46/63 16:44	07:06 17:20	06:28 17:53	06:37 18:07-18:38/31 19:27	05:53 19:58	05:28 20:26
6	07:23 14:44-15:47/63 16:45	07:05 17:21	06:26 17:54	06:36 18:06-18:38/32 19:28	05:52 19:59	05:28 20:27
7	07:23 14:45-15:48/63 16:46	07:04 17:22	06:25 17:55	06:34 18:06-18:37/31 19:29	05:51 20:00	05:28 20:27
8	07:23 14:46-15:48/62 16:47	07:02 17:24	06:23 17:57	06:32 18:07-18:36/29 19:30	05:50 20:01	05:27 20:28
9	07:23 14:47-15:49/62 16:48	07:01 17:25	06:22 17:58	06:31 18:06-18:35/29 19:31	05:49 20:02	05:27 20:28
10	07:23 14:47-15:49/62 16:49	07:00 17:26	06:20 16:54-16:55/1 17:59	06:29 18:08-18:34/26 19:32	05:47 20:03	05:27 20:29
11	07:22 14:49-15:50/61 16:50	06:59 17:27	06:18 16:46-17:01/15 18:00	06:28 18:08-18:32/24 19:33	05:46 20:04	05:27 20:30
12	07:22 14:51-15:51/60 16:51	06:58 17:29	06:17 16:43-17:03/20 18:01	06:26 18:09-18:29/20 19:34	05:45 20:05	05:27 20:30
13	07:22 14:52-15:50/58 16:52	06:57 17:30	06:15 16:41-17:06/25 18:02	06:24 18:11-18:25/14 19:35	05:44 20:06	05:26 20:31
14	07:22 14:54-15:51/57 16:54	06:55 17:31	06:14 16:39-17:07/28 18:03	06:23 18:13-18:22/9 19:36	05:43 20:07	05:26 20:31
15	07:21 14:55-15:51/56 16:55	06:54 17:32	06:12 16:37-17:07/30 18:04	06:21 19:37	05:42 20:08	05:26 20:31
16	07:21 14:58-15:52/54 16:56	06:53 17:33	06:10 16:37-17:09/32 18:05	06:20 19:38	05:41 20:09	05:26 20:32
17	07:20 15:14-15:51/37 16:57 15:00-15:13/13	06:51 17:35	06:09 16:35-17:09/34 18:06	06:18 19:39	05:40 20:10	05:26 20:32
18	07:20 15:15-15:52/37 16:58 15:06-15:09/3	06:50 17:36	06:07 16:34-17:09/35 18:08	06:17 19:40	05:39 20:11	05:27 20:32
19	07:19 15:15-15:52/37 16:59	06:49 17:37	06:05 16:34-17:10/36 18:09	06:15 19:41	05:39 20:12	05:27 20:33
20	07:19 15:16-15:53/37 17:00	06:47 17:38	06:04 16:33-17:09/36 18:10	06:14 19:42	05:38 20:13	05:27 20:33
21	07:18 15:16-15:52/36 17:02	06:46 17:39	06:02 16:33-17:09/36 18:11	06:12 19:43	05:37 20:14	05:27 20:33
22	07:18 15:17-15:52/35 17:03	06:44 17:41	06:00 16:33-17:09/36 18:12	06:11 19:44	05:36 20:15	05:27 20:34
23	07:17 15:18-15:53/35 17:04	06:43 17:42	05:59 16:33-17:09/36 18:13	06:09 19:45	05:35 20:16	05:27 20:34
24	07:16 15:19-15:52/33 17:05	06:42 17:43	05:57 16:32-17:08/36 18:14	06:08 19:47	05:35 20:17	05:28 20:34
25	07:16 15:19-15:51/32 17:06	06:40 17:44	05:55 16:33-17:08/35 18:15	06:06 19:48	05:34 20:17	05:28 20:34
26	07:15 15:20-15:51/31 17:08	06:39 17:45	05:54 16:33-17:07/34 18:16	06:05 19:49	05:33 20:18	05:28 20:34
27	07:14 15:21-15:50/29 17:09	06:37 17:46	05:52 16:34-17:08/34 18:17	06:04 19:50	05:32 20:19	05:29 20:34
28	07:13 15:23-15:50/27 17:10	06:36 17:48	05:50 16:35-17:10/35 18:18	06:02 19:51	05:32 20:20	05:29 20:34
29	07:12 15:25-15:49/24 17:11		06:49 17:36-18:11/35 18:15-18:18/3 19:19 18:22-18:34/12	06:01 19:52	05:31 20:21	05:29 20:34
30	07:12 15:27-15:48/21 17:12		06:47 17:37-18:11/34 19:20 18:12-18:35/23	06:00 19:53	05:31 20:22	05:30 20:34
31	07:11 15:29-15:46/17 17:14		06:45 17:39-18:09/30 19:21 18:11-18:37/26		05:30 20:22	
Potential sun hours	298	297	369	398	448	451
Sum of minutes with flicker	1462	11	737	403	0	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Worst case WTG: 7 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (7)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:34	05:54 20:15	06:24 18:07-18:31/24 19:32	06:54 17:22-17:44/22 18:42	06:28 16:56	07:02 14:31-15:32/61 16:32
2	05:31 20:34	05:55 20:14	06:25 18:06-18:32/26 19:31	06:55 17:24-17:41/17 18:41	06:29 16:55	07:04 14:31-15:32/61 16:32
3	05:31 20:34	05:56 20:13	06:26 18:04-18:33/29 19:29	06:56 17:27-17:37/10 18:39	06:30 16:54	07:05 14:30-15:32/62 16:31
4	05:32 20:34	05:57 20:12	06:27 18:04-18:33/29 19:28	06:57 18:37	06:31 16:52	07:06 14:30-15:33/63 16:31
5	05:32 20:33	05:58 20:11	06:28 18:03-18:34/31 19:26	06:58 18:36	06:33 16:51	07:07 14:30-15:33/63 16:31
6	05:33 20:33	05:59 20:10	06:29 18:02-18:34/32 19:24	06:59 18:34	06:34 16:50	07:07 14:30-15:33/63 16:31
7	05:34 20:33	06:00 20:08	06:30 18:02-18:33/31 19:23	07:00 18:32	06:35 16:49	07:08 14:30-15:33/63 16:31
8	05:34 20:32	06:01 20:07	06:31 18:02-18:33/31 19:21	07:01 18:31	06:36 16:48	07:09 14:30-15:34/64 16:31
9	05:35 20:32	06:02 20:06	06:32 18:02-18:32/30 19:19	07:02 18:29	06:37 16:47	07:10 14:30-15:34/64 16:31
10	05:35 20:32	06:03 20:05	06:33 17:49-17:57/8 19:18 18:02-18:31/29	07:03 18:28	06:39 15:02-15:15/13 16:46	07:11 14:30-15:35/65 16:31
11	05:36 20:31	06:04 20:03	06:34 17:34-17:59/25 19:16 18:02-18:30/28	07:04 18:26	06:40 15:00-15:17/17 16:45	07:12 14:30-15:35/65 16:31
12	05:37 20:31	06:05 20:02	06:35 17:30-18:00/30 19:14 18:02-18:28/26	07:06 18:24	06:41 14:57-15:19/22 16:44	07:13 14:30-15:34/64 16:31
13	05:38 20:30	06:06 20:01	06:36 17:28-18:02/34 19:13 18:03-18:27/24	07:07 18:23	06:42 14:57-15:21/24 16:43	07:14 14:30-15:35/65 16:31
14	05:38 20:30	06:07 19:59	06:37 17:26-18:02/36 18:05-18:09/4 19:11 18:12-18:24/12	07:08 18:21	06:43 14:55-15:22/27 16:42	07:14 14:31-15:36/65 16:31
15	05:39 20:29	06:08 19:58	06:38 17:24-18:00/36 19:09 18:15-18:20/5	07:09 18:20	06:44 14:54-15:23/29 16:41	07:15 14:31-15:36/65 16:31
16	05:40 20:29	06:09 19:57	06:39 17:23-17:58/35 19:08	07:10 18:18	06:46 14:53-15:24/31 16:40	07:16 14:31-15:36/65 16:32
17	05:41 20:28	06:10 19:55	06:40 17:22-17:56/34 19:06	07:11 18:17	06:47 14:53-15:25/32 16:40	07:16 14:32-15:37/65 16:32
18	05:41 20:27	06:11 19:54	06:41 17:21-17:55/34 19:04	07:12 18:15	06:48 14:53-15:26/33 16:39	07:17 14:31-15:36/65 16:32
19	05:42 20:27	06:12 19:52	06:42 17:20-17:55/35 19:03	07:13 18:14	06:49 14:52-15:27/35 16:38	07:18 14:32-15:37/65 16:33
20	05:43 20:26	06:13 19:51	06:43 17:19-17:55/36 19:01	07:14 18:12	06:50 14:52-15:27/35 16:37	07:18 14:33-15:38/65 16:33
21	05:44 20:25	06:14 19:49	06:44 17:19-17:55/36 18:59	07:15 18:11	06:51 14:51-15:27/36 16:37	07:19 14:33-15:38/65 16:34
22	05:45 20:25	06:15 19:48	06:45 17:18-17:54/36 18:57	07:16 18:09	06:53 14:52-15:29/37 16:36	07:19 14:34-15:39/65 16:34
23	05:46 20:24	06:16 19:47	06:46 17:18-17:54/36 18:56	07:18 18:08	06:54 14:52-15:29/37 16:35	07:20 14:34-15:39/65 16:35
24	05:47 20:23	06:17 19:45	06:47 17:18-17:53/35 18:54	07:19 18:06	06:55 14:52-15:29/37 16:35	07:20 14:34-15:39/65 16:35
25	05:47 20:22	06:18 19:43	06:48 17:18-17:52/34 18:52	06:20 17:05	06:56 14:52-15:29/37 16:34	07:21 14:35-15:40/65 16:36
26	05:48 20:21	06:18 19:42	06:49 17:18-17:52/34 18:51	06:21 17:04	06:57 14:36-15:30/54 16:34	07:21 14:36-15:40/64 16:36
27	05:49 20:20	06:19 19:40	06:50 17:18-17:51/33 18:49	06:22 17:02	06:58 14:35-15:31/56 16:33	07:22 14:36-15:41/65 16:37
28	05:50 20:19	06:20 19:39	06:51 17:18-17:49/31 18:47	06:23 17:01	06:59 14:34-15:31/57 16:33	07:22 14:37-15:42/65 16:38
29	05:51 20:18	06:21 18:13-18:23/10 19:37	06:52 17:19-17:48/29 18:46	06:24 17:00	07:00 14:33-15:31/58 16:33	07:22 14:38-15:42/64 16:38
30	05:52 20:17	06:22 18:10-18:26/16 19:36	06:53 17:20-17:46/26 18:44	06:26 16:58	07:01 14:32-15:32/60 16:32	07:22 14:38-15:43/65 16:39
31	05:53 20:16	06:23 18:08-18:29/21 19:34		06:27 16:57		07:23 14:39-15:43/64 16:40
Potential sun hours	458	427	375	346	299	289
Sum of minutes with flicker	0	47	1064	49	783	1990

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Worst case WTG: 8 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (8)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23 14:59-15:03/4 16:41	07:10 15:39-15:43/4 17:15	06:34 06:44 17:49	05:58 06:44 19:22	05:30 05:58 19:54	05:30 05:30 20:23	05:30 05:30 20:34	05:54 05:54 20:15	06:24 06:24 19:32	06:54 06:54 18:42	06:28 15:50-16:01/11 16:56	07:02 14:46-15:07/21 16:32	
2	07:23 15:00-15:04/4 16:42	07:09 15:40-15:44/4 17:16	06:33 06:43 17:50	05:57 05:57 19:23	05:29 05:29 19:55	05:31 05:31 20:24	05:55 05:55 20:34	06:25 06:25 20:14	06:55 06:55 19:31	06:25 06:25 18:41	06:29 15:32-15:41/9 16:55	07:04 14:46-15:07/21 16:32	
3	07:23 15:00-15:05/5 16:43	07:08 15:41-15:45/4 17:17	06:31 06:40 17:51	05:56 05:56 19:24	05:29 05:29 19:56	05:31 05:31 20:25	05:56 05:56 20:34	06:26 06:26 20:13	06:56 06:56 19:29	06:26 06:26 18:39	06:30 15:33-15:39/6 16:54	07:05 14:47-15:06/19 16:31	
4	07:23 15:00-15:07/7 16:44	07:07 15:43-15:47/4 17:19	06:30 06:39 17:52	05:55 05:55 19:26	05:28 05:28 19:57	05:32 05:32 20:25	05:57 05:57 20:34	06:27 06:27 20:12	06:57 06:57 19:28	06:27 06:27 18:37	06:31 15:34-15:38/4 16:52	07:06 14:47-15:03/16 16:31	
5	07:23 15:01-15:10/9 16:44	07:06 15:44-15:47/3 17:20	06:28 06:37 17:53	05:53 05:53 19:27	05:28 05:28 19:58	05:32 05:32 20:26	05:58 05:58 20:33	06:28 06:28 20:11	06:58 06:58 19:26	06:28 06:28 18:36	06:33 15:35-15:36/1 16:51	07:07 14:47-15:01/14 16:31	
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12	07:22 15:05-15:27/22 16:51	06:58 16:18-16:35/17 17:29	06:17 06:26 18:01	05:45 05:45 19:34	05:27 05:27 20:05	05:37 05:37 20:30	06:05 06:05 20:31	06:35 06:35 20:02	07:05 07:05 19:14	07:05 07:05 18:24	06:41 15:08-15:11/3 16:44	07:13 14:50-14:53/3 16:31	
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14	07:22 15:06-15:30/24 16:54	06:55 16:04-16:38/34 17:31	06:14 06:23 18:03	05:43 05:43 19:36	05:26 05:26 20:07	05:38 05:38 20:31	06:07 06:07 20:30	06:37 06:37 19:59	07:08 07:08 19:11	07:08 07:08 18:21	06:43 15:08-15:09/1 16:42	07:14 14:51-14:54/3 16:31	
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16	07:21 15:08-15:33/25 16:56	06:53 16:04-16:39/35 17:33	06:10 06:20 18:05	05:41 05:41 19:38	05:26 05:26 20:09	05:40 05:40 20:32	06:09 06:09 20:29	06:39 06:39 19:57	07:10 07:10 19:08	07:10 07:10 18:18	06:46 15:09-15:12/3 16:40	07:16 14:52-14:54/2 16:32	
17	07:20 15:08-15:34/26 16:57	06:51 16:06-16:40/34 17:35	06:09 06:18 18:06	05:40 05:40 19:39	05:26 05:26 20:10	05:41 05:41 20:32	06:10 06:10 20:28	06:40 06:40 19:55	07:11 07:11 19:06	07:11 07:11 18:17	06:47 15:07-15:11/3 16:40	07:16 14:53-14:54/1 16:32	
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26	07:15 17:08 17:14	06:39 17:45 17:45	05:54 06:05 18:16	05:33 05:33 19:49	05:28 05:28 20:18	05:48 05:48 20:34	06:18 06:18 20:21	06:49 06:49 19:42	07:20 07:20 18:51	07:20 07:20 17:04	06:57 14:46-15:11/25 16:34	07:21 14:57-14:58/1 16:36	
27	07:14 17:09 17:12	06:37 17:46 17:46	05:52 06:04 18:17	05:33 05:33 19:50	05:29 05:29 20:19	05:47 05:47 20:34	06:19 06:19 20:20	06:50 06:50 19:40	07:21 07:21 17:02	07:21 07:21 16:33	06:58 14:46-15:11/25 16:33	07:22 14:57-14:58/1 16:37	
28	07:13 15:35-15:37/2 17:10	06:36 17:48 17:48	05:50 06:02 18:18	05:32 05:32 19:51	05:29 05:29 20:20	05:49 05:49 20:34	06:20 06:20 20:19	06:51 06:51 19:39	07:22 07:22 17:01	07:22 07:22 16:33	06:59 14:46-15:10/24 16:33	07:22 14:58-15:00/2 16:38	
29	07:12 15:37-15:39/2 17:11	06:49 19:19 19:19	06:01 06:11 19:52	05:31 05:31 20:21	05:29 05:29 20:34	05:51 05:51 20:18	06:21 06:21 20:18	06:52 06:52 19:37	07:23 07:23 18:46	07:23 07:23 17:00	06:24 15:48-16:06/18 16:33	07:22 14:58-15:01/3 16:38	
30	07:12 15:37-15:40/3 17:12	06:47 19:20 19:20	06:00 06:10 19:53	05:31 05:31 20:22	05:30 05:30 20:34	05:52 05:52 20:17	06:22 06:22 20:17	06:53 06:53 19:36	07:24 07:24 18:44	07:24 07:24 16:58	06:26 15:48-16:04/16 16:32	07:22 14:59-15:01/2 16:39	
31	07:11 15:38-15:41/3 17:14	06:45 19:21 19:21	06:00 06:10 19:51	05:30 05:30 20:22	05:30 05:30 20:34	05:53 05:53 20:16	06:23 06:23 20:16	06:54 06:54 19:34	07:25 07:25 16:57	07:25 07:25 15:32-15:43/11	06:27 15:49-16:03/14 16:32	07:23 14:59-15:02/3 16:40	
	Potential sun hours Sum of minutes with flicker	298 411	298 436	369 0	398 0	448 0	451 0	458 0	427 0	375 0	346 375	299 349	289 163

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Worst case WTG: 9 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (9)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

	January	February	March	April	May	June
1	07:23 15:32-15:48/16 16:41 15:17-15:24/7	07:10 17:15	06:34 17:49	06:44 17:56-18:02/6 19:22	05:58 19:54	05:30 20:23
2	07:23 15:32-15:49/17 16:42 15:18-15:25/7	07:09 17:16	06:33 17:50	06:42 17:56-18:10/14 19:23	05:57 19:55	05:29 20:24
3	07:23 15:32-15:50/18 16:43 15:19-15:26/7	07:08 17:17	06:31 17:51	06:40 17:58-18:13/15 19:24	05:56 19:56	05:29 20:25
4	07:23 15:33-15:51/18 16:44 15:19-15:27/8	07:07 17:19	06:30 17:52	06:39 17:59-18:14/15 19:26	05:55 19:57	05:29 20:25
5	07:23 15:33-15:52/19 16:44 15:20-15:28/8	07:06 17:20	06:28 17:53	06:37 18:01-18:16/15 19:27	05:53 19:58	05:28 20:26
6	07:23 15:34-15:53/19 16:45 15:21-15:29/8	07:05 17:21	06:26 17:54	06:36 18:03-18:16/13 19:28	05:52 19:59	05:28 20:27
7	07:23 15:34-15:54/20 16:46 15:22-15:31/9	07:04 17:22	06:25 17:55	06:34 19:29	05:51 20:00	05:28 20:27
8	07:23 15:35-15:55/20 16:47 15:23-15:32/9	07:02 17:24	06:23 17:57	06:32 19:30	05:50 20:01	05:27 20:28
9	07:23 15:34-15:55/21 16:48 15:24-15:32/8	07:01 17:25	06:22 17:58	06:31 19:31	05:49 20:02	05:27 20:28
10	07:23 15:35-15:55/20 16:49 15:25-15:34/9	07:00 17:26	06:20 17:59	06:29 19:32	05:47 20:03	05:27 20:29
11	07:22 15:36-15:56/20 16:50 15:27-15:34/7	06:59 17:27	06:18 18:00	06:28 19:33	05:46 20:04	05:27 20:29
12	07:22 15:37-15:56/19 16:51 15:30-15:35/5	06:58 17:29	06:17 18:01	06:26 19:34	05:45 20:05	05:27 20:30
13	07:22 15:37-15:56/19 16:52	06:57 17:30	06:15 18:02	06:24 19:35	05:44 20:06	05:27 20:30
14	07:22 15:38-15:56/18 16:54	06:55 17:31	06:14 18:03	06:23 19:36	05:43 20:07	05:26 20:31
15	07:21 15:38-15:56/18 16:55	06:54 17:32	06:12 18:04	06:21 19:37	05:42 20:08	05:26 20:31
16	07:21 15:39-15:56/17 16:56	06:53 17:33	06:10 18:05	06:20 19:38	05:41 20:09	05:26 20:32
17	07:20 15:40-15:56/16 16:57	06:51 17:35	06:09 18:06	06:18 19:39	05:40 20:10	05:26 20:32
18	07:20 15:42-15:56/14 16:58	06:50 17:36	06:07 18:08	06:17 19:40	05:39 20:11	05:27 20:32
19	07:19 15:43-15:55/12 16:59	06:49 17:37	06:05 18:09	06:15 19:41	05:39 20:12	05:27 20:33
20	07:19 15:45-15:54/9 17:00	06:47 17:38	06:04 18:10	06:14 19:42	05:38 20:13	05:27 20:33
21	07:18 15:48-15:51/3 17:02	06:46 17:39	06:02 18:11	06:12 19:43	05:37 20:14	05:27 20:33
22	07:18 17:03	06:44 17:41	06:00 18:12	06:11 19:44	05:36 20:15	05:27 20:33
23	07:17 17:04	06:43 17:42	05:59 18:13	06:09 19:45	05:35 20:16	05:27 20:34
24	07:16 17:05	06:42 17:43	05:57 16:56-16:57/1 18:14	06:08 19:47	05:35 20:17	05:28 20:34
25	07:16 17:06	06:40 17:44	05:55 16:56-16:58/2 18:15	06:06 19:48	05:34 20:17	05:28 20:34
26	07:15 17:08	06:39 17:45	05:54 16:56-16:58/2 18:16	06:05 19:49	05:33 20:18	05:28 20:34
27	07:14 17:09	06:37 17:46	05:52 16:55-16:58/3 18:17	06:04 19:50	05:33 20:19	05:29 20:34
28	07:13 17:10	06:36 17:48	05:50 16:55-16:59/4 18:18	06:02 19:51	05:32 20:20	05:29 20:34
29	07:12 17:11		06:49 17:55-17:59/4 19:19	06:01 19:52	05:31 20:21	05:29 20:34
30	07:12 17:12		06:47 17:55-17:59/4 19:20	06:00 19:53	05:31 20:22	05:30 20:34
31	07:11 17:14		06:45 17:56-18:00/4 19:21		05:30 20:22	
Potential sun hours	298	298	369	398	448	451
Sum of minutes with flicker	445	0	24	78	0	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Worst case WTG: 9 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (9)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:34	05:54 20:15	06:24 19:32	06:54 18:42	06:28 16:56	07:02 15:18-15:38/20 16:32 15:09-15:16/7
2	05:31 20:34	05:55 20:14	06:25 19:31	06:55 18:41	06:29 16:55	07:04 15:18-15:38/20 16:32 15:09-15:17/8
3	05:31 20:34	05:56 20:13	06:26 19:29	06:56 18:39	06:30 16:54	07:05 15:18-15:39/21 16:31 15:08-15:16/8
4	05:32 20:34	05:57 20:12	06:27 19:28	06:57 18:37	06:31 16:52	07:06 15:19-15:39/20 16:31 15:08-15:16/8
5	05:32 20:33	05:58 20:11	06:28 19:26	06:58 18:36	06:33 16:51	07:06 15:19-15:39/20 16:31 15:07-15:16/9
6	05:33 20:33	05:59 20:10	06:29 18:00-18:12/12 19:24	06:59 18:34	06:34 16:50	07:07 15:20-15:39/19 16:31 15:07-15:15/8
7	05:34 20:33	06:00 20:08	06:30 17:56-18:11/15 19:23	07:00 18:32	06:35 16:49	07:08 15:20-15:39/19 16:31 15:07-15:15/8
8	05:34 20:32	06:01 20:07	06:31 17:54-18:09/15 19:21	07:01 18:31	06:36 16:48	07:09 15:21-15:39/18 16:31 15:08-15:15/7
9	05:35 20:32	06:02 20:06	06:32 17:52-18:07/15 19:19	07:02 18:29	06:37 16:47	07:10 15:21-15:39/18 16:31 15:08-15:15/7
10	05:36 20:32	06:03 20:05	06:33 17:50-18:05/15 19:18	07:03 18:28	06:39 16:46	07:11 15:22-15:39/17 16:31 15:08-15:15/7
11	05:36 20:31	06:04 20:03	06:34 17:48-17:54/6 19:16	07:04 18:26	06:40 16:45	07:12 15:22-15:38/16 16:31 15:07-15:15/8
12	05:37 20:31	06:05 20:02	06:35 17:47-17:52/5 19:14	07:05 18:24	06:41 16:44	07:13 15:22-15:38/16 16:31 15:08-15:15/7
13	05:38 20:30	06:06 20:01	06:36 17:46-17:50/4 19:13	07:07 18:23	06:42 16:43	07:14 15:23-15:39/16 16:31 15:08-15:15/7
14	05:38 20:30	06:07 19:59	06:37 17:45-17:49/4 19:11	07:08 18:21	06:43 16:42	07:14 15:24-15:39/15 16:31 15:09-15:15/6
15	05:39 20:29	06:08 19:58	06:38 17:45-17:48/3 19:09	07:09 18:20	06:44 16:41	07:15 15:24-15:38/14 16:31 15:09-15:15/6
16	05:40 20:29	06:09 19:57	06:39 17:44-17:47/3 19:08	07:10 18:18	06:46 16:40	07:16 15:25-15:39/14 16:32 15:09-15:15/6
17	05:41 20:28	06:10 19:55	06:40 17:44-17:46/2 19:06	07:11 18:17	06:47 16:40	07:16 15:26-15:40/14 16:32 15:10-15:16/6
18	05:41 20:27	06:11 19:54	06:41 17:44-17:45/1 19:04	07:12 18:15	06:48 16:39	07:17 15:26-15:39/13 16:32 15:10-15:16/6
19	05:42 20:27	06:12 19:52	06:42 19:02	07:13 18:14	06:49 16:38	07:18 15:27-15:40/13 16:33 15:11-15:16/5
20	05:43 20:26	06:13 19:51	06:43 19:01	07:14 18:12	06:50 16:37	07:18 15:28-15:41/13 16:33 15:12-15:17/5
21	05:44 20:25	06:14 19:49	06:44 18:59	07:15 18:11	06:51 15:23-15:26/3 16:37	07:19 15:28-15:41/13 16:34 15:12-15:17/5
22	05:45 20:25	06:15 19:48	06:45 18:57	07:16 18:09	06:53 15:21-15:30/9 16:36	07:19 15:29-15:42/13 16:34 15:13-15:18/5
23	05:46 20:24	06:16 19:46	06:46 18:56	07:18 18:08	06:54 15:20-15:32/12 16:35	07:20 15:29-15:42/13 16:35 15:13-15:18/5
24	05:47 20:23	06:17 19:45	06:47 18:54	07:19 18:07	06:55 15:19-15:33/14 16:35	07:20 15:29-15:42/13 16:35 15:13-15:18/5
25	05:47 20:22	06:18 19:43	06:48 18:52	06:20 17:05	06:56 15:18-15:34/16 16:34	07:21 15:30-15:43/13 16:36 15:14-15:20/6
26	05:48 20:21	06:19 19:42	06:49 18:51	06:21 17:04	06:57 15:17-15:34/17 16:34	07:21 15:30-15:43/13 16:36 15:14-15:20/6
27	05:49 20:20	06:19 19:40	06:50 18:49	06:22 17:02	06:58 15:18-15:36/18 16:33	07:22 15:30-15:44/14 16:37 15:14-15:20/6
28	05:50 20:19	06:20 19:39	06:51 18:47	06:23 17:01	06:59 15:18-15:37/19 16:33	07:22 15:31-15:45/14 16:38 15:16-15:22/6
29	05:51 20:18	06:21 19:37	06:52 18:46	06:24 17:00	07:00 15:18-15:37/19 16:33	07:22 15:31-15:46/15 16:38 15:16-15:22/6
30	05:52 20:17	06:22 19:36	06:53 18:44	06:26 16:58	07:01 15:18-15:37/19 16:32	07:22 15:31-15:46/15 16:39 15:16-15:23/7
31	05:53 20:16	06:23 19:34		06:27 16:57		07:23 15:31-15:47/16 16:40 15:17-15:24/7
Potential sun hours	458	427	375	346	299	289
Sum of minutes with flicker	0	0	100	0	151	691

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

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker
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SHADOW - Calendar per WTG

Calculation: Worst case WTG: 10 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (10)
 Assumptions for shadow calculations

- The calculated times are "worst case" given by the following assumptions:
- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:23 15:14-15:42/28 16:41	07:10 17:15	06:34 17:49	06:44 19:22	05:58 19:54	05:30 18:40-18:43/3 20:23
2	07:23 15:15-15:42/27 16:42	07:09 17:16	06:33 17:50	06:42 19:23	05:57 19:55	05:29 18:40-18:43/3 20:24
3	07:23 15:15-15:43/28 16:43	07:08 17:17	06:31 17:51	06:40 19:24	05:56 19:56	05:29 18:40-18:42/2 20:25
4	07:23 15:16-15:43/27 16:43	07:07 17:19	06:30 17:52	06:39 19:25	05:54 19:57	05:28 18:40-18:42/2 20:25
5	07:23 15:17-15:43/26 16:44	07:06 17:20	06:28 17:53	06:37 19:27	05:53 19:58	05:28 18:41-18:42/1 20:26
6	07:23 15:17-15:43/26 16:45	07:05 17:21	06:26 17:54	06:36 19:28	05:52 19:59	05:28 20:27
7	07:23 15:18-15:44/26 16:46	07:04 17:22	06:25 17:55	06:34 19:29	05:51 19:04-19:09/5 20:00	05:28 20:27
8	07:23 15:19-15:44/25 16:47	07:02 17:24	06:23 17:57	06:32 19:30	05:50 20:01 19:00-19:08/8	05:27 20:28
9	07:23 15:19-15:43/24 16:48	07:01 17:25	06:22 17:58	06:31 19:31	05:49 20:02 18:57-19:07/10	05:27 20:28
10	07:23 15:21-15:43/22 16:49	07:00 17:26	06:20 17:59	06:29 19:32	05:47 20:03 18:55-19:05/10	05:27 20:29
11	07:22 15:22-15:43/21 16:50	06:59 17:27	06:18 18:00	06:28 19:33	05:46 20:04 18:53-19:04/11	05:27 20:29
12	07:22 15:24-15:43/19 16:51	06:58 17:28	06:17 18:01	06:26 19:34	05:45 20:05 18:51-19:03/12	05:27 20:30
13	07:22 15:24-15:42/18 16:52	06:56 17:30	06:15 18:02	06:24 19:35	05:44 20:06 18:50-19:01/11	05:26 20:30
14	07:22 15:26-15:42/16 16:54	06:55 17:31	06:14 18:03	06:23 19:36	05:43 20:07 18:48-19:00/12	05:26 20:31
15	07:21 15:27-15:40/13 16:55	06:54 17:32	06:12 18:04	06:21 19:37	05:42 20:08 18:47-18:59/12	05:26 20:31
16	07:21 15:30-15:39/9 16:56	06:53 17:33	06:10 18:05	06:20 19:38	05:41 20:09 18:46-18:57/11	05:26 20:32
17	07:20 16:57	06:51 17:35	06:09 18:06	06:18 19:39	05:40 20:10 18:46-18:57/11	05:26 20:32
18	07:20 16:58	06:50 17:36	06:07 18:08	06:17 19:40	05:39 20:11 18:45-18:56/11	05:27 20:32
19	07:19 16:59	06:49 17:37	06:05 18:09	06:15 19:41	05:39 20:12 18:44-18:54/10	05:27 20:33
20	07:19 17:00	06:47 17:38	06:04 18:10	06:14 19:42	05:38 20:13 18:43-18:53/10	05:27 20:33
21	07:18 17:02	06:46 17:39	06:02 18:11	06:12 19:43	05:37 20:14 18:43-18:52/9	05:27 20:33
22	07:18 17:03	06:44 17:41	06:00 18:12	06:11 19:44	05:36 20:15 18:43-18:52/9	05:27 20:33
23	07:17 17:04	06:43 17:42	05:59 18:13	06:09 19:45	05:35 20:16 18:42-18:50/8	05:27 20:34
24	07:16 17:05	06:42 17:43	05:57 18:14	06:08 19:47	05:35 20:16 18:41-18:49/8	05:28 20:34
25	07:16 17:06	06:40 17:44	05:55 18:15	06:06 19:48	05:34 20:17 18:42-18:49/7	05:28 20:34
26	07:15 17:08	06:39 17:45	05:54 18:16	06:05 19:49	05:33 20:18 18:41-18:48/7	05:28 20:34
27	07:14 17:09	06:37 17:46	05:52 18:17	06:04 19:50	05:32 20:19 18:40-18:46/6	05:29 20:34
28	07:13 17:10	06:36 17:48	05:50 18:18	06:02 19:51	05:32 20:20 18:41-18:46/5	05:29 20:34
29	07:12 17:11		06:49 19:19	06:01 19:52	05:31 20:21 18:40-18:45/5	05:29 20:34
30	07:12 17:12		06:47 19:20	06:00 19:53	05:31 20:22 18:40-18:45/5	05:30 20:34
31	07:11 17:14		06:45 19:21		05:30 20:22 18:40-18:44/4	
Potential sun hours	298	298	369	398	448	451
Sum of minutes with flicker	355	0	0	0	217	11

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Worst case WTG: 10 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (10)
 Assumptions for shadow calculations

- The calculated times are "worst case" given by the following assumptions:
- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:34	05:54 19:03-19:14/11 20:15	06:24 19:32	06:54 18:42	06:28 16:56	07:02 15:04-15:25/21 16:32
2	05:31 20:34	05:55 19:04-19:15/11 20:14	06:25 19:31	06:55 18:41	06:29 16:55	07:03 15:04-15:26/22 16:32
3	05:31 20:34	05:56 19:06-19:16/10 20:13	06:26 19:29	06:56 18:39	06:30 16:54	07:04 15:04-15:27/23 16:31
4	05:32 20:33	05:57 19:09-19:18/9 20:12	06:27 19:28	06:57 18:37	06:31 16:52	07:05 15:03-15:28/25 16:31
5	05:32 20:33	05:58 19:12-19:19/7 20:11	06:28 19:26	06:58 18:36	06:33 16:51	07:06 15:03-15:29/26 16:31
6	05:33 20:33	05:59 19:17-19:20/3 20:10	06:29 19:24	06:59 18:34	06:34 16:50	07:07 15:04-15:30/26 16:31
7	05:34 18:47-18:48/1 20:33	06:00 20:08	06:30 19:23	07:00 18:32	06:35 16:49	07:08 15:04-15:30/26 16:31
8	05:34 18:47-18:49/2 20:32	06:01 20:07	06:31 19:21	07:01 18:31	06:36 16:48	07:09 15:04-15:31/27 16:31
9	05:35 18:47-18:49/2 20:32	06:02 20:06	06:32 19:19	07:02 18:29	06:37 16:47	07:10 15:04-15:32/28 16:31
10	05:35 18:48-18:50/2 20:32	06:03 20:05	06:33 19:18	07:03 18:28	06:38 16:46	07:11 15:05-15:32/27 16:31
11	05:36 18:48-18:51/3 20:31	06:04 20:03	06:34 19:16	07:04 18:26	06:40 16:45	07:12 15:04-15:32/28 16:31
12	05:37 18:48-18:51/3 20:31	06:05 20:02	06:35 19:14	07:05 18:24	06:41 16:44	07:13 15:05-15:33/28 16:31
13	05:38 18:49-18:53/4 20:30	06:06 20:01	06:36 19:13	07:07 18:23	06:42 16:43	07:14 15:05-15:34/29 16:31
14	05:38 18:49-18:54/5 20:30	06:07 19:59	06:37 19:11	07:08 18:21	06:43 16:42	07:14 15:06-15:35/29 16:31
15	05:39 18:49-18:54/5 20:29	06:08 19:58	06:38 19:09	07:09 18:20	06:44 16:41	07:15 15:05-15:34/29 16:31
16	05:40 18:49-18:55/6 20:29	06:09 19:57	06:39 19:08	07:10 18:18	06:46 16:40	07:16 15:06-15:35/29 16:32 14:55-15:00/5
17	05:41 18:50-18:57/7 20:28	06:10 19:55	06:40 19:06	07:11 18:17	06:47 16:40	07:16 15:07-15:36/29 16:32 14:55-15:02/7
18	05:41 18:51-18:58/7 20:27	06:11 19:54	06:41 19:04	07:12 18:15	06:48 16:39	07:17 15:07-15:36/29 16:32 14:54-15:03/9
19	05:42 18:51-18:59/8 20:27	06:12 19:52	06:42 19:02	07:13 18:14	06:49 16:38	07:18 15:07-15:37/30 16:33 14:55-15:04/9
20	05:43 18:51-18:59/8 20:26	06:13 19:51	06:43 19:01	07:14 18:12	06:50 16:37	07:18 15:08-15:38/30 16:33 14:55-15:05/10
21	05:44 18:52-19:01/9 20:25	06:14 19:49	06:44 18:59	07:15 18:11	06:51 16:37	07:19 15:08-15:38/30 16:34 14:55-15:05/10
22	05:45 18:53-19:02/9 20:25	06:15 19:48	06:45 18:57	07:16 18:09	06:53 16:36	07:19 15:09-15:39/30 16:34 14:56-15:06/10
23	05:46 18:53-19:03/10 20:24	06:16 19:46	06:46 18:56	07:18 18:08	06:54 16:35	07:20 15:09-15:39/30 16:35 14:56-15:06/10
24	05:47 18:54-19:04/10 20:23	06:17 19:45	06:47 18:54	07:19 18:06	06:55 16:35	07:20 15:09-15:39/30 16:35 14:57-15:06/9
25	05:47 18:55-19:06/11 20:22	06:17 19:43	06:48 18:52	07:20 17:05	06:56 16:34	07:21 15:11-15:40/29 16:36 14:58-15:07/9
26	05:48 18:56-19:07/11 20:21	06:18 19:42	06:49 18:51	07:21 17:04	06:57 15:08-15:17/9 16:34	07:21 15:11-15:40/29 16:36 14:59-15:06/7
27	05:49 18:56-19:07/11 20:20	06:19 19:40	06:50 18:49	07:22 17:02	06:58 15:07-15:20/13 16:33	07:22 15:11-15:40/29 16:37 15:00-15:06/6
28	05:50 18:57-19:08/11 20:19	06:20 19:39	06:51 18:47	07:23 17:01	06:59 15:06-15:22/16 16:33	07:22 15:12-15:41/29 16:38 15:02-15:06/4
29	05:51 18:58-19:10/12 20:18	06:21 19:37	06:52 18:46	07:24 17:00	07:00 15:05-15:23/18 16:33	07:22 15:13-15:41/28 16:38
30	05:52 19:00-19:11/11 20:17	06:22 19:36	06:53 18:44	07:26 16:58	07:01 15:05-15:24/19 16:32	07:22 15:13-15:42/29 16:39
31	05:53 19:01-19:12/11 20:16	06:23 19:34		06:27 16:57		07:23 15:13-15:42/29 16:40
Potential sun hours	458	427	375	346	299	289
Sum of minutes with flicker	179	51	0	0	75	968

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Castelgrande Italy

Licensed user:

VSB Neue Energien Deutschland GmbH
Schweizer Straße 3a
DE-01069 Dresden
+49 (0) 351 / 211 83 - 46
ionut.mihai / ionut.mihai@vsb.energy
Calculated:
16.12.2019 18:31/3.3.274

SHADOW - Calendar per WTG

Calculation: Worst case WTG: 11 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (11)

Assumptions for shadow calculations

- The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

Table with columns for months (January to December) and rows for days (1 to 31). Each cell contains a time range (e.g., 07:23 14:28-15:16/48) representing shadow periods. Summary rows at the bottom show 'Potential sun hours' and 'Sum of minutes with flicker' for each month.

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

Matrix with 2 rows and 3 columns: Day in month, Sun rise (hh:mm) / Sun set (hh:mm), and First time (hh:mm) with flicker - Last time (hh:mm) with flicker / Minutes with flicker.

SHADOW - Calendar per WTG

Calculation: Worst case WTG: 12 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (12)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	January	February	March	April	May	June
1	07:23 07:45-07:55/10 16:41	07:10 07:30-08:07/37 17:15	06:34 17:49	06:44 17:10-18:17/67 19:22	05:58 18:10-18:51/41 19:54 17:17-17:59/42	05:30 20:23
2	07:23 07:45-07:55/10 16:42	07:09 07:29-08:06/37 17:16	06:33 17:50	06:42 17:09-18:19/70 19:23	05:57 18:10-18:51/41 19:55 17:18-17:58/40	05:29 20:24
3	07:23 07:45-07:56/11 16:43	07:08 07:28-08:06/38 17:17	06:31 17:51	06:40 17:09-18:22/73 19:24	05:56 18:11-18:50/39 19:56 17:20-17:56/36	05:29 20:25
4	07:23 07:45-07:57/12 16:43	07:07 07:27-08:05/38 17:19	06:30 17:52	06:39 17:08-18:23/75 19:26	05:54 18:11-18:50/39 19:57 17:22-17:55/33	05:28 20:25
5	07:23 07:45-07:57/12 16:44	07:06 07:26-08:05/39 17:20	06:28 17:53	06:37 17:08-18:26/78 19:27	05:53 18:12-18:49/37 19:58 17:25-17:53/28	05:28 20:26
6	07:23 07:45-07:58/13 16:45	07:05 07:24-08:03/39 17:21	06:26 17:54	06:36 17:07-18:25/78 19:28	05:52 18:12-18:48/36 19:59 17:27-17:49/22	05:28 20:27
7	07:23 07:45-07:59/14 16:46	07:04 07:23-08:02/39 17:22	06:25 17:55	06:34 17:06-18:25/79 19:29	05:51 18:12-18:47/35 20:00 17:30-17:46/16	05:27 20:27
8	07:23 07:45-08:00/15 16:47	07:02 07:22-08:01/39 17:24	06:23 17:57	06:32 17:06-18:25/79 19:30	05:50 18:13-18:47/34 20:01	05:27 20:28
9	07:23 07:45-08:01/16 16:48	07:01 07:21-08:00/39 17:25	06:22 17:58	06:31 17:05-18:25/80 19:31	05:49 18:14-18:46/32 20:02	05:27 20:28
10	07:23 07:44-08:01/17 16:49	07:00 07:23-07:59/36 17:26	06:20 17:59	06:29 17:06-18:25/79 19:32	05:47 18:15-18:45/30 20:03	05:27 20:29
11	07:22 07:44-08:02/18 16:50	06:59 07:24-07:56/32 17:27	06:18 18:00	06:28 17:05-18:24/79 19:33 18:34-18:47/13	05:46 18:17-18:44/27 20:04	05:27 20:30
12	07:22 07:44-08:02/18 16:51	06:58 07:27-07:55/28 17:28	06:17 18:01	06:26 17:05-18:23/78 19:34 18:30-18:49/19	05:45 18:18-18:42/24 20:05	05:27 20:30
13	07:22 07:43-08:02/19 16:52	06:57 07:30-07:52/22 17:30	06:15 18:02	06:24 17:05-18:23/78 19:35 18:28-18:52/24	05:44 18:19-18:41/22 20:06	05:26 20:31
14	07:22 07:43-08:03/20 16:54	06:55 07:34-07:48/14 17:31	06:14 18:03	06:23 17:05-18:22/77 19:36 18:24-18:53/29	05:43 18:21-18:39/18 20:07	05:26 20:31
15	07:21 07:42-08:03/21 16:55	06:54 17:32	06:12 18:04	06:21 17:06-18:54/108 19:37	05:42 18:24-18:36/12 20:08	05:26 20:31
16	07:21 07:42-08:04/22 16:56	06:53 17:33	06:10 18:05	06:20 17:05-18:54/109 19:38	05:41 18:29-18:30/1 20:09	05:26 20:32
17	07:20 07:41-08:04/23 16:57	06:51 17:35	06:09 18:06	06:18 17:06-18:55/109 19:39	05:40 20:10	05:26 20:32
18	07:20 07:41-08:05/24 16:58	06:50 17:36	06:07 18:08	06:17 17:06-18:55/109 19:40	05:39 20:11	05:26 20:32
19	07:19 07:40-08:05/25 16:59	06:49 17:37	06:05 16:42-16:51/9 18:09	06:15 17:07-18:56/109 19:41	05:38 20:12	05:27 20:33
20	07:19 07:40-08:06/26 17:00	06:47 17:38	06:04 16:34-16:57/23 18:10	06:14 17:07-18:55/108 19:42	05:38 20:13	05:27 20:33
21	07:18 07:39-08:06/27 17:02	06:46 17:39	06:02 16:30-17:01/31 18:11	06:12 17:08-18:56/108 19:43	05:37 20:14	05:27 20:33
22	07:18 07:38-08:06/28 17:03	06:44 17:41	06:00 16:27-17:04/37 18:12	06:11 17:08-18:55/107 19:44	05:36 20:15	05:27 20:34
23	07:17 07:38-08:07/29 17:04	06:43 17:42	05:59 16:24-17:06/42 18:13	06:09 17:09-18:55/106 19:45	05:35 20:16	05:27 20:34
24	07:16 07:37-08:07/30 17:05	06:42 17:43	05:57 16:21-17:07/46 18:14	06:08 17:10-18:08/58 19:47 18:11-18:56/45	05:34 20:17	05:28 20:34
25	07:16 07:36-08:07/31 17:06	06:40 17:44	05:55 16:20-17:10/50 18:15	06:06 17:10-18:07/57 19:48 18:10-18:55/45	05:34 20:17	05:28 20:34
26	07:15 07:35-08:07/32 17:08	06:39 17:45	05:54 16:18-17:11/53 18:16	06:05 18:10-18:54/44 19:49 17:11-18:06/55	05:33 20:18	05:28 20:34
27	07:14 07:34-08:07/33 17:09	06:37 17:46	05:52 16:16-17:11/55 18:17	06:04 18:10-18:54/44 19:50 17:13-18:05/52	05:32 20:19	05:29 20:34
28	07:13 07:34-08:08/34 17:10	06:36 17:48	05:50 16:15-17:13/58 18:18	06:02 18:10-18:53/43 19:51 17:13-18:04/51	05:32 20:20	05:29 20:34
29	07:12 07:33-08:08/35 17:11		06:49 17:13-18:13/60 19:19	06:01 18:10-18:52/42 19:52 17:15-18:03/48	05:31 20:21	05:29 20:34
30	07:12 07:32-08:07/35 17:12		06:47 17:12-18:14/62 19:20	06:00 18:10-18:52/42 19:53 17:16-18:02/46	05:31 20:22	05:30 20:34
31	07:11 07:31-08:07/36 17:14		06:45 17:11-18:16/65 19:21		05:30 20:22	
Potential sun hours	298	297	369	398	448	451
Sum of minutes with flicker	696	477	591	2800	685	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: Worst case WTG: 12 - GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (12)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:34	05:54 18:28-18:53/25 20:15	06:24 17:04-18:23/79 19:32 18:33-18:46/13	06:54 18:42	06:28 06:52-07:28/36 16:56	07:02 07:26-07:44/18 16:32
2	05:31 20:34	05:55 18:27-18:55/28 20:14	06:25 17:04-18:23/79 19:31	06:55 18:41	06:29 06:51-07:30/39 16:55	07:04 07:27-07:44/17 16:32
3	05:31 20:34	05:56 18:26-18:56/30 20:13	06:26 17:03-18:23/80 19:29	06:56 18:39	06:30 06:52-07:31/39 16:54	07:05 07:28-07:44/16 16:31
4	05:32 20:34	05:57 18:25-18:57/32 20:12	06:27 17:03-18:22/79 19:28	06:57 18:37	06:31 06:53-07:32/39 16:52	07:06 07:29-07:44/15 16:31
5	05:32 20:33	05:58 18:24-18:57/33 20:11	06:28 17:03-18:22/79 19:26	06:58 18:36	06:33 06:54-07:33/39 16:51	07:07 07:30-07:44/14 16:31
6	05:33 20:33	05:59 18:23-18:58/35 20:10	06:29 17:03-18:21/78 19:24	06:59 18:34	06:34 06:56-07:35/39 16:50	07:07 07:31-07:44/13 16:31
7	05:34 20:33	06:00 18:21-18:58/37 20:08	06:30 17:03-18:21/78 19:23	07:00 18:32	06:35 06:57-07:35/38 16:49	07:08 07:32-07:45/13 16:31
8	05:34 20:32	06:01 18:20-18:58/38 20:07	06:31 17:03-18:19/76 19:21	07:01 18:31	06:36 06:58-07:36/38 16:48	07:09 07:33-07:45/12 16:31
9	05:35 20:32	06:02 18:20-18:59/39 20:06	06:32 17:03-18:16/73 19:19	07:02 18:29	06:37 06:59-07:36/37 16:47	07:10 07:34-07:45/11 16:31
10	05:35 20:32	06:03 18:19-18:59/40 20:05	06:33 17:03-18:13/70 19:18	07:03 18:28	06:39 07:01-07:38/37 16:46	07:11 07:35-07:45/10 16:31
11	05:36 20:31	06:04 18:19-18:59/40 20:03	06:34 17:02-18:10/68 19:16	07:04 18:26	06:40 07:02-07:38/36 16:45	07:12 07:36-07:46/10 16:31
12	05:37 20:31	06:05 18:18-18:59/41 20:02	06:35 17:02-18:07/65 19:14	07:05 18:24	06:41 07:03-07:38/35 16:44	07:13 07:36-07:45/9 16:31
13	05:38 20:30	06:06 18:18-19:00/42 20:01	06:36 17:03-18:05/62 19:13	07:07 18:23	06:42 07:05-07:40/35 16:43	07:14 13:56-14:02/6 16:31
14	05:38 20:30	06:07 18:18-19:00/42 19:59	06:37 17:03-18:04/61 19:11	07:08 18:21	06:43 07:06-07:40/34 16:42	07:14 13:54-14:05/11 16:31
15	05:39 20:29	06:08 18:17-19:01/44 19:58	06:38 17:04-18:02/58 19:09	07:09 18:20	06:44 07:07-07:40/33 16:41	07:15 13:53-14:07/14 16:31
16	05:40 20:29	06:09 18:17-19:01/44 19:57	06:39 17:05-18:01/56 19:08	07:10 18:18	06:46 07:08-07:40/32 16:40	07:16 13:52-14:08/16 16:32
17	05:41 20:28	06:10 18:17-19:01/44 19:55	06:40 17:06-17:59/53 19:06	07:11 18:17	06:47 07:10-07:41/31 16:40	07:16 13:52-14:10/18 16:32
18	05:41 20:27	06:11 17:17-18:14/57 19:54	06:41 17:07-17:57/50 19:04	07:12 18:15	06:48 07:11-07:41/30 16:39	07:17 13:51-14:10/19 16:32
19	05:42 20:27	06:12 17:16-18:15/59 19:52	06:42 17:08-17:55/47 19:02	07:13 18:14	06:49 07:12-07:41/29 16:38	07:18 13:52-14:11/19 16:33
20	05:43 20:26	06:13 17:14-19:01/107 19:51	06:43 17:10-17:53/43 19:01	07:14 18:12	06:50 07:13-07:41/28 16:37	07:18 13:53-14:12/19 16:33
21	05:44 20:25	06:14 17:13-19:01/108 19:49	06:44 17:12-17:50/38 18:59	07:15 18:11	06:51 07:15-07:42/27 16:37	07:19 13:52-14:13/21 16:34
22	05:45 20:25	06:15 17:12-19:01/109 19:48	06:45 17:14-17:47/33 18:57	07:16 18:09	06:53 07:16-07:42/26 16:36	07:19 13:53-14:14/21 16:34
23	05:46 20:24	06:16 17:11-19:00/109 19:46	06:46 17:17-17:43/26 18:56	07:18 18:08	06:54 07:17-07:42/25 16:35	07:20 13:53-14:13/20 16:35
24	05:47 20:23	06:16 17:11-19:00/109 19:45	06:47 17:22-17:37/15 18:54	07:19 18:06	06:55 07:18-07:42/24 16:35	07:20 13:54-14:13/19 16:35
25	05:47 20:22	06:17 17:09-18:58/109 19:43	06:48 18:52	06:20 17:05	06:56 07:19-07:42/23 16:34	07:21 13:55-14:14/19 16:36
26	05:48 20:21	06:18 17:08-18:57/109 19:42	06:49 18:51	06:21 17:04	06:57 07:20-07:42/22 16:34	07:21 13:56-14:14/18 16:36
27	05:49 20:20	06:19 17:07-18:56/109 19:40	06:50 18:49	06:22 17:02	06:58 07:22-07:43/21 16:33	07:22 13:57-14:13/16 16:37
28	05:50 18:36-18:45/9 20:19	06:20 17:07-18:55/108 19:39	06:51 18:47	06:23 07:02-07:18/16 17:01	06:59 07:23-07:43/20 16:33	07:22 13:59-14:14/15 16:38
29	05:51 18:33-18:48/15 20:18	06:21 17:06-18:23/77 19:37	06:52 18:46	06:24 06:59-07:22/23 17:00	07:00 07:24-07:44/20 16:32	07:22 14:00-14:13/13 16:38
30	05:52 18:31-18:50/19 20:17	06:22 17:05-18:23/78 19:36	06:53 18:44	06:26 06:56-07:25/29 16:58	07:01 07:25-07:44/19 16:32	07:22 14:03-14:11/8 16:39
31	05:53 18:29-18:52/23 20:16	06:23 17:05-18:23/78 19:34	06:54 18:43	06:27 06:54-07:27/33 16:57	07:02 07:26-07:44/19 16:40	07:23 07:45-07:54/9 16:40
Potential sun hours	458	427	375	346	299	289
Sum of minutes with flicker	66	2608	1459	101	931	594

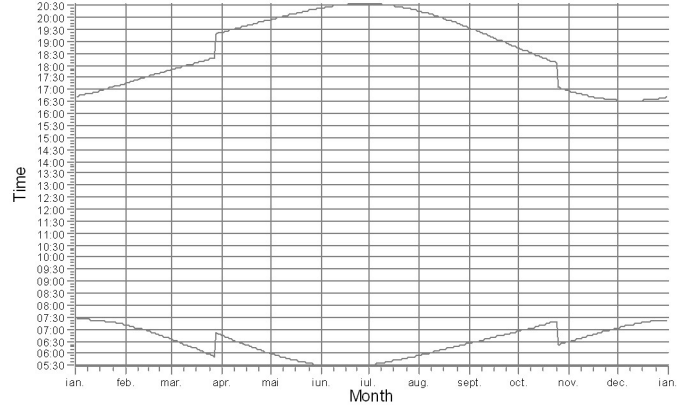
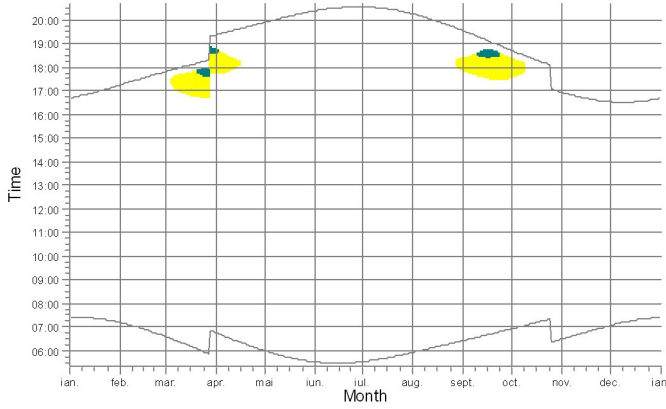
Table layout: For each day in each month the following matrix apply

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

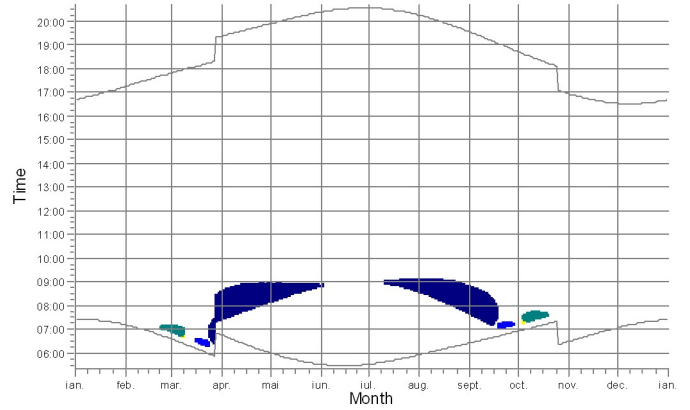
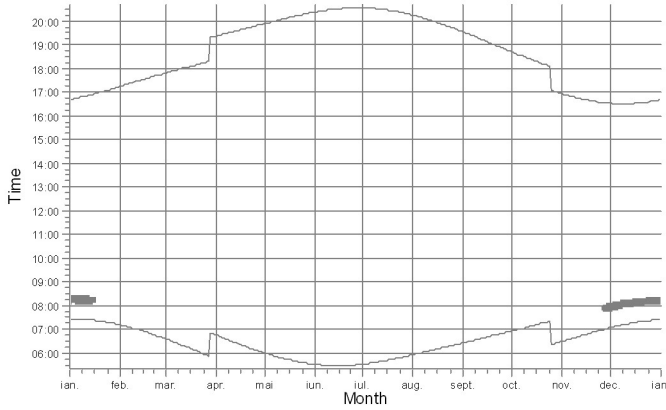
SHADOW - Calendar per WTG, graphical

Calculation: Worst case

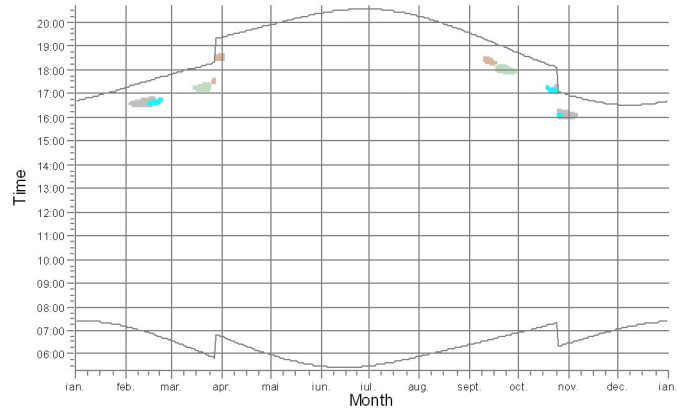
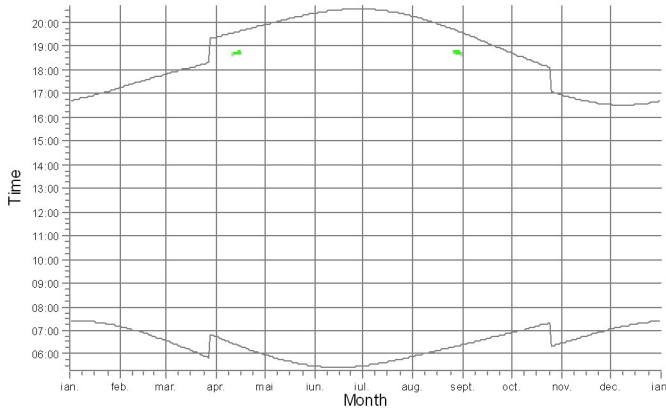
1: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) | 2: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (2)



3: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) | 4: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (4)



5: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) | 6: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (6)



Shadow receptors

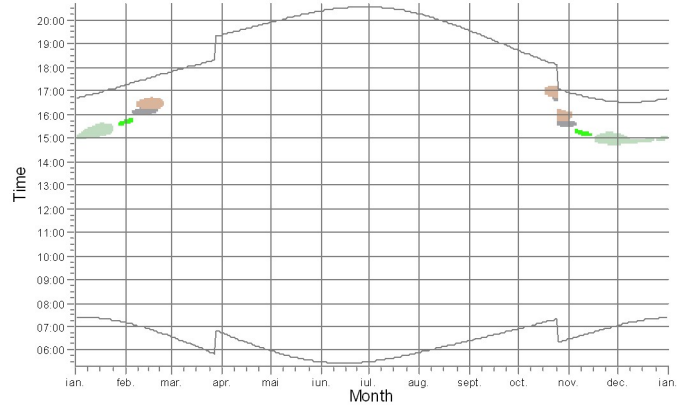
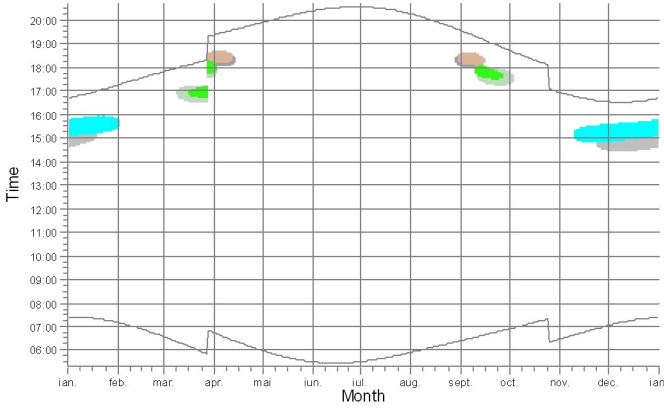
- B: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (2)
- C: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)
- D: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (4)
- F: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (6)
- G: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (7)

- L: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (12)
- M: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (13)
- N: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (14)
- O: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (17)
- R: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (18)

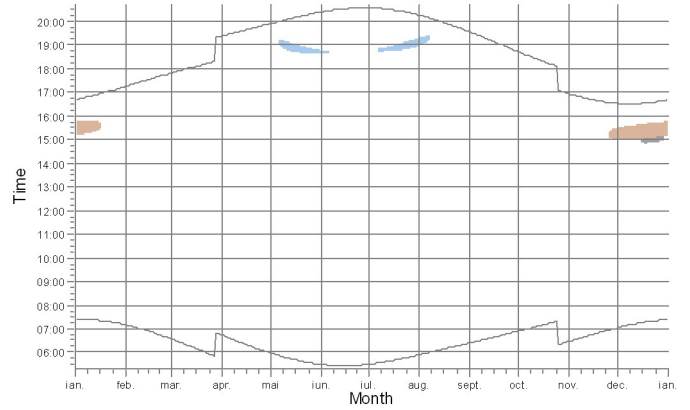
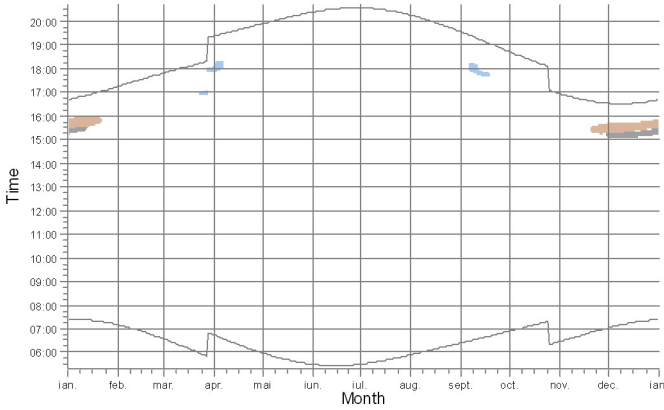
SHADOW - Calendar per WTG, graphical

Calculation: Worst case

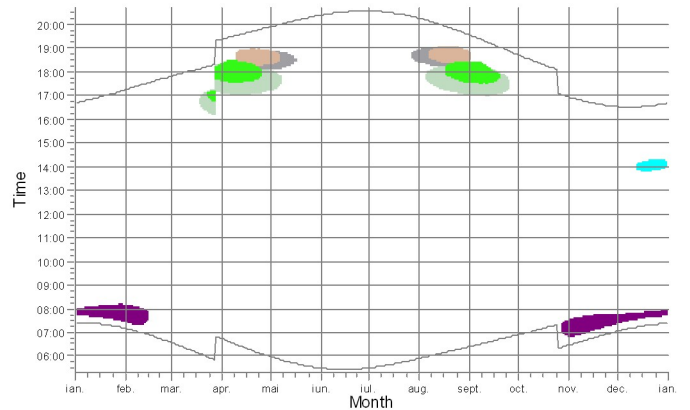
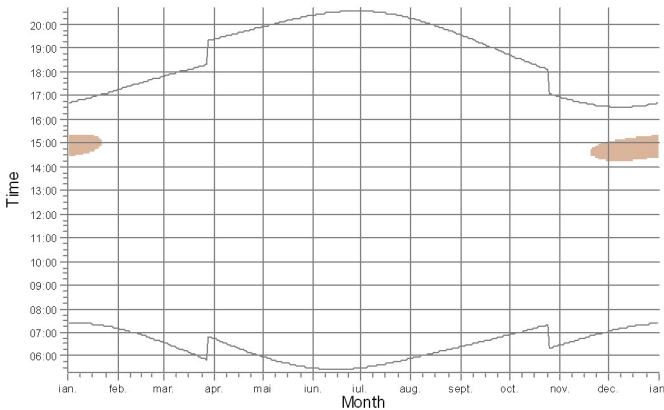
7: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) | 8: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (8)



9: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) | 10: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (10)



11: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) | 12: GE WIND ENERGY 4.8-158 4800 158.0 !O! hub: 120,9 m (TOT: 199,9 m) (12)



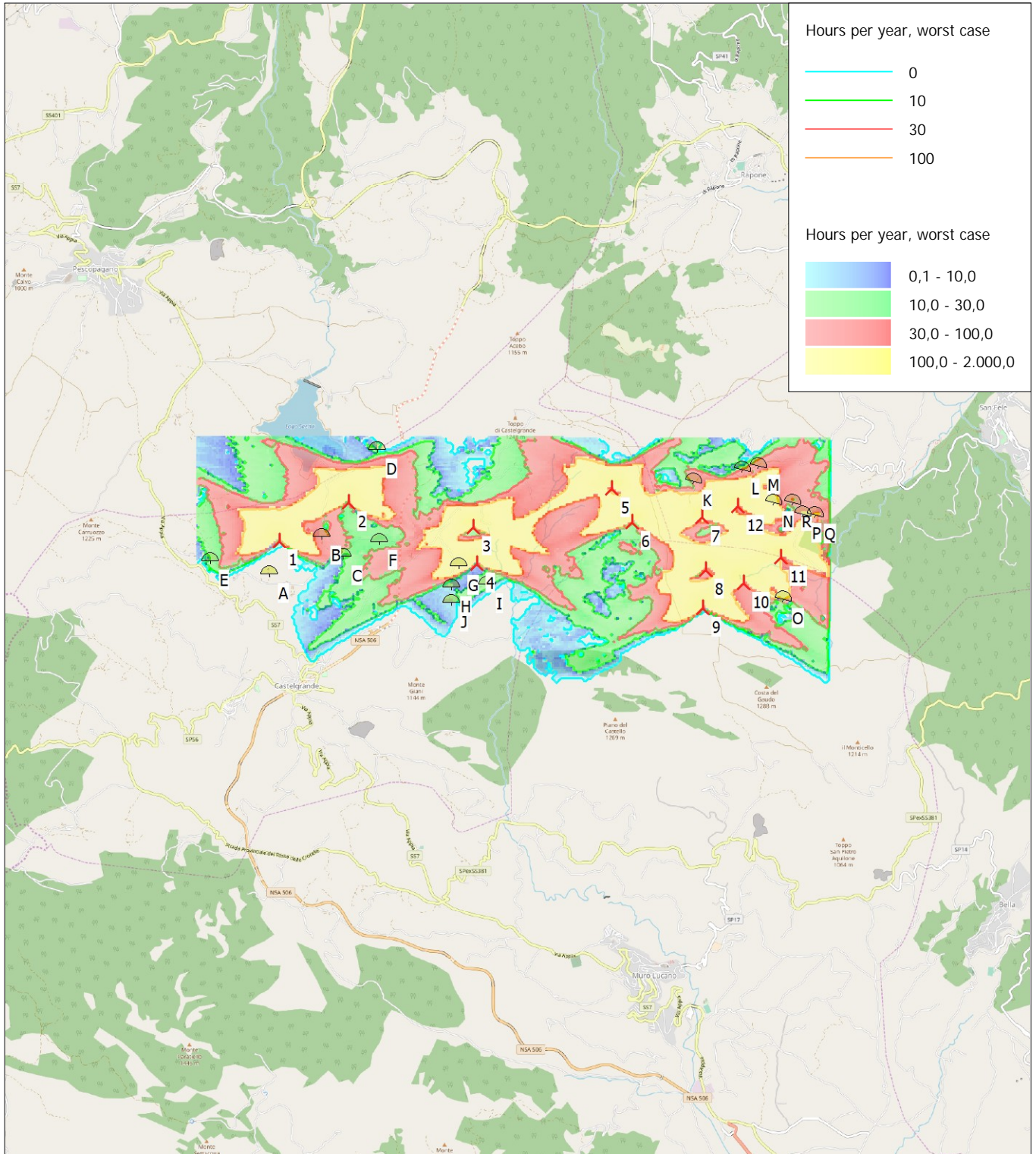
Shadow receptors

- K: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (11)
- L: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (12)
- M: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (13)
- N: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (14)

- O: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (15)
- P: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (16)
- Q: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (17)
- R: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (18)

SHADOW - Map

Calculation: Worst case



Map: EMD OpenStreetMap , Print scale 1:75.000, Map center UTM (north)-WGS84 Zone: 33 East: 539.130 North: 4.516.500
 📍 New WTG 🌑 Shadow receptor
 Flicker map level: Height Contours: CONTOURLINE_ONLINEDATA_0.wpo (1)