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PROVINCIA di FOGGIA

COMUNE di FOGGIA

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Opera

Progetto di un impianto eolico composto da n. 10 Aerogeneratori nel Comune di Foggia (FG) alla località "La Stella - Duanera"

Oggetto

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PROGETTO - Parte C

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1. INTRODUZIONE

Il presente elaborato ha lo scopo di valutare in maniera tecnica l'eventuale impatto generato dall'evoluzione dell'ombra derivante dalla futura installazione di un impianto di produzione di energia da fonte eolica nel Comune di Foggia ubicato a 8 km a nord del centro abitato alla località "La Stella-Duanera", costituito da n. 10 aerogeneratori da 4.3 MW per una potenza complessiva di 43 MW e aventi un'altezza al mozzo pari a 107,5 metri ed un diametro del rotore pari a 145 metri. In particolare la posizione degli aerogeneratori è la seguente:

WTG	EST	NORD
1	539007,639	4597893,495
2	539310,322	4597429,501
3	541036,376	4596848,913
4	540864,690	4597433,644
5	540992,371	4598044,344
6	542859,389	4601646,158
7	544074,680	4601711,274
8	544449,342	4600342,277
9	545064,443	4601624,954
10	546189,989	4601781,337

Tab. 1 – Coordinate aeroogeneratori



Figura 1: Planimetria dell'impianto

Lo Shadow-Flickering è l'espressione comunemente impiegata in ambito specialistico per descrivere l'effetto stroboscopico delle ombre proiettate dalle pale rotanti degli aerogeneratori eolici quando sussistono le condizioni meteorologiche opportune; infatti la possibilità e la durata di tali effetti dipendono da una serie di condizioni ambientali, tra cui : la posizione del sole, l'ora del giorno, il giorno dell'anno, le condizioni atmosferiche ambientali e la posizione della turbina eolica rispetto ad un recettore sensibile. La valutazione tecnica è eseguita con l'ausilio di un software di simulazione specifico per la progettazione degli impianti eolici WIND PRO®, costituito da un insieme di moduli di elaborazione orientati alla simulazione di una serie di aspetti che caratterizzano le diverse fasi progettuali. Il modulo SHADOW è quello specifico per la valutazione dell'evoluzione dell'ombra e del flickering. In tale report è riportata:

- *La descrizione del caso studio con le posizioni delle turbine e loro caratteristiche tecniche*
- *Una breve descrizione tecnica del fenomeno di shadow flickering*
- *La descrizione dei recettori soggetti al fenomeno per i quali è stata richiesta questa analisi*
- *Sintesi della metodologia di analisi seguita per lo studio*
- *Sintesi dei risultati ottenuti, con allegati grafici ed analitici di dettaglio che descrivono il fenomeno su ognuno dei recettori e da parte di ognuna delle turbine per tutto l'anno solare.*

2. STUDIO DELL'EVOLUZIONE DELL'OMBRA GIORNALIERA GENERATA DAGLI AEROGENERATORI

Le turbine eoliche, come altre strutture fortemente sviluppate in altezza, proiettano un'ombra sulle aree adiacenti in presenza della luce solare diretta. Per chi vive in tali zone prossime all'insediamento eolico può essere molto fastidioso il cosiddetto fenomeno del "flicker" che consiste in un effetto di lampeggiamento che si verifica quando le pale del rotore in movimento "tagliano" la luce solare in maniera intermittente. Una progettazione attenta a questa problematica permette di evitare questo spiacevole fenomeno semplicemente prevedendo il luogo di incidenza dell'ombra e disponendo le turbine in maniera tale che l'ombra sulle zone sensibili non superi un certo numero di ore all'anno. Il grafico in figura i riporta l'evoluzione annuale dell'ombra di una turbina considerando il caso peggiore di pale sempre in rotazione intorno al mozzo, e orientate sempre ortogonalmente al sole durante la sua evoluzione giornaliera.

Come è evidente dal grafico e dalla legenda le ore annue di ombra sono sempre minori con l'aumentare della distanza dal pilone secondo una particolare geometria dettata dalla posizione geografica; da osservare che l'ombra arriva a proiettarsi anche sino ad una distanza di 1 km, anche se solo per pochi minuti all'anno.

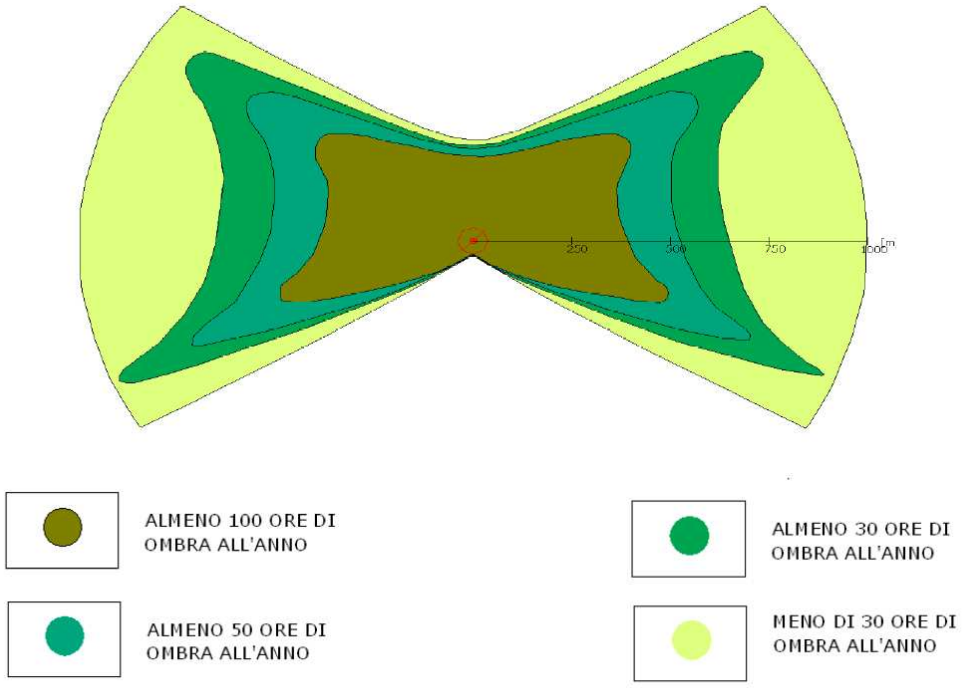


Figura 2: Evoluzione annuale tipo dell'ombra di una pala

Considerati i pochi precedenti esistenti (Germania) e le ipotesi così penalizzanti con cui è stata calcolato tale grafico si è ritenuto opportuno effettuare una sovrapposizione sull'impianto della parte più interna del grafico ovvero dell'area **che supera le 100 ore all'anno di ombra dei punti di installazione, intendendo questo come limite da non superarsi.**

In Italia, così come nella maggior parte dei paesi Europei ed extraeuropei non esiste una normativa specifica in relativa al disturbo generato dal fenomeno di Shadow – Flickering. Esistono delle regolamentazioni locali ma quasi mai comprendono limiti numerici specifici, quanto piuttosto delle raccomandazioni tese a sottolineare che il fenomeno non sia "unreasonable" o "significant".

3. INDIVIDUAZIONE DEI RECETTORI ED IPOTESI DI CALCOLO

3.1 Individuazione dei ricettori

Il progetto in esame nel comune di Foggia prevede l'istallazione di 10 aerogeneratori in località "La Stella - Duanera".

L'analisi di shadow-flickering di cui al presente studio è stata elaborata per specifici 13 recettori che

circondano l'impianto; tuttavia alcune strutture inserite nel modello di simulazione potrebbero essere ruderi non abitati e sostanzialmente privi di caratteristiche minime di abitabilità o agibilità.

A tal riguardo per eventuali approfondimenti, si faccia riferimento allo specifico elaborato di progetto "Allegato 1 – Documentazione fotografica relativa ai ricettori considerati nelle analisi acustiche".

N.	EST	NORD	Z [m]
A	540.436	4.598.132	57,7
B	541.493	4.596.567	60,0
C	544.741	4.599.982	42,1
D	544.546	4.599.912	43,8
E	544.267	4.599.884	45,6
F	544.519	4.601.349	40,0
G	546.310	4.602.312	33,2
H	544.443	4.600.018	43,7
I	544.735	4.600.036	41,8
J	541.504	4.596.704	60,0
K	541.521	4.596.910	60,0
L	541.633	4.597.003	59,7
M	541.784	4.597.024	58,4

Tab. 2 – Coordinate ricettori

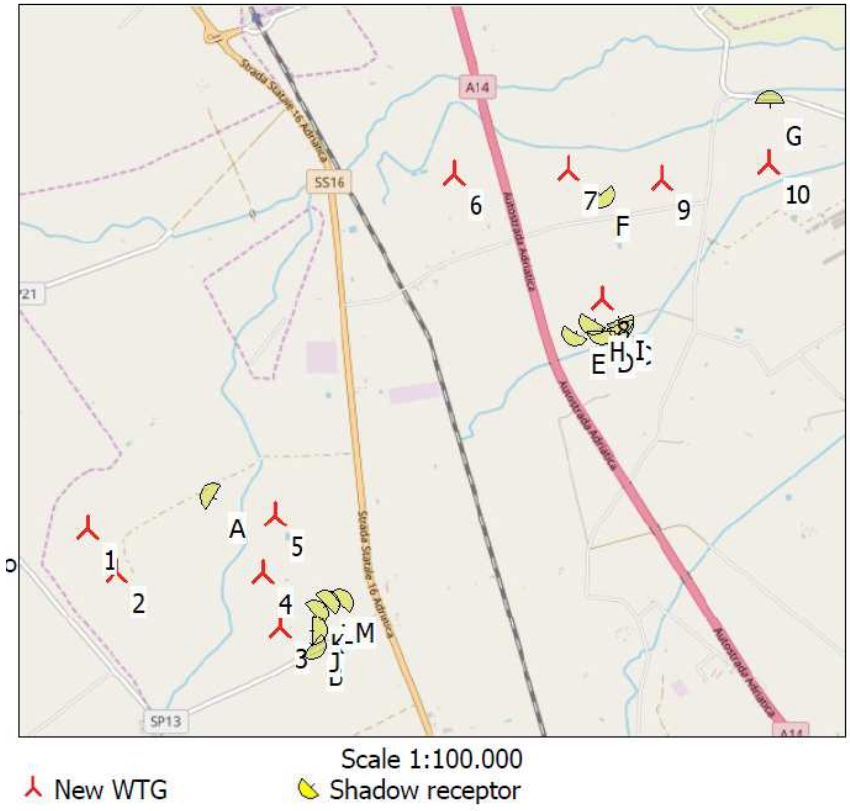


Figura 3 -Indicazione dei recettori su igm

Nella tabella a seguire sono riportate le distanze minime intercorrenti tra recettori in oggetto e l'aerogeneratore più prossimo.

Ricettore	Torre più prossima	Distanza m
A	**5**	563
B	**3**	536
C	**8**	463
D	**8**	441
E	**8**	493
F	**8**	324
G	**8**	419
H	**10**	543
I	**7**	573
L	**3**	489

M	**3**	488
N	**3**	615
O	**3**	767

Tab. 3 –Distanze delle turbine dai ricettori più prossimi

In relazione a ciò, si fa presente che già in fase di scelta delle aree sulle quali ubicare l'impianto si è cercato di allontanarsi il più possibile dall'area urbana e dalle abitazioni ed edifici ritenuti sensibili.

Tale fascia è stata definita in fase di progetto al fine di garantire il rispetto dei limiti in merito non solo all'ombreggiamento ma anche agli impatti acustici, elettromagnetici e in termini di calcolo della gittata.

Lo studio, i cui risultati in dettaglio sono riportati di seguito, è stato condotto con uno specifico software (WindPRO).

Nello studio ci si è posti nella condizione più sfavorevole possibile, in quanto si è considerato che:

- il sole risplende per tutta la giornata dall'alba al tramonto (cioè si è sempre in assenza di copertura nuvolosa);
- il piano di rotazione delle pale è sempre perpendicolare alla linea che passa per il sole e per l'aerogeneratore (l'aerogeneratore "insegue" il sole);
- l'aerogeneratore è sempre operativo.

Allo stesso tempo, si è trascurata la presenza degli alberi e di altri ostacoli che bordano le strade "intercettando" l'ombra degli aerogeneratori riducendo il fastidio del flickering.

Ciò significa che i risultati ai quali si perverrà sono ampiamente cautelativi.

3.2 Base dati e parametri di calcolo

In base alla metodologia descritta nei paragrafi precedenti, sono stati utilizzati i seguenti dati di input per impostare il modello di simulazione per la valutazione del fenomeno di Shadow-Flickering degli aerogeneratori di progetto:

a) **Il DTM o Modello del terreno digitale** per caratterizzare l'orografica è stato estrapolato dal grid disponibile in download dal SIT della Regione Puglia, georeferenziato, sovrapposto, confrontato e adeguato con le curve di livello presenti sulla cartografia ufficiale CTR 1:5.000 con uno step di 5 m. Il modello digitale ottenuto copre un'area sufficiente ad inglobare l'area del parco eolico di progetto e trova una buon riscontro con l'andamento orografico verificato in sito.

b) **Posizioni geografiche di recettori con dettaglio dimensionale delle aree più esposte.** Sono i ricettori individuati dallo studio acustico e classificati secondo la loro abitabilità e destinazione d'uso. Per tutti

i ricettori si è ritenuto opportuno usare l'ipotesi di cautela della modalità "green house mode". Questa scelta è stata operata poiché in talune circostanze anche lo spazio antistante le strutture può essere considerato o adibito a luogo di riposo e relax. La scelta di una singola finestra o di una facciata in alcune condizioni potrebbe risultare riduttiva allo scopo di una vera valutazione d'impatto.

c) Posizioni geografiche delle turbine eoliche e loro caratteristiche dimensionali

Gli aerogeneratori di progetto con le loro caratteristiche dimensionali e tecnologiche

d) Nessun ostacolo naturale o artificiale è stato modellato.

4. I RISULTATI DEL CALCOLO DELL'EVOLUZIONE DELL'OMBRA

Nella procedura "Worst case" il fenomeno di shadow/flickering viene calcolato non tenendo conto delle condizioni di soleggiamento del sito e del vento, dati che allo stato dell'arte per il sito in questione non sono disponibili. Invece se avessimo di dati di cui sopra potremmo calcolare il fenomeno di shadow/flickering con la metodologia ("real case"), che secondo altri casi simili comporterebbe la riduzione del fenomeno ad 1/3 dei valori, il quale seppur più realistico, è comunque sovrastimato poiché non tiene conto della presenza di nubi e di vegetazione ad alto fusto. Dalle simulazioni effettuate, si evince che gli aerogeneratori di progetto generano maggiormente il fenomeno di shadow/flickering sui recettori "J, K e L" individuati nell'analisi che, nelle ipotesi di "Worst case", subiscono il fenomeno per un periodo che si avvicina o supera di poco le 100 ore/anno, per tutti gli altri rimanenti recettori considerati invece, l'effetto calcolato è più modesto e/o comunque meno rilevante fino a divenire irrilevante e in alcuni casi nullo.

Con le considerazioni di cui sopra, ovvero prevedendo la riduzione ad 1/3 si avranno valori sicuramente più ridotti per i ricettori con J = 65 ore/anno, K = 35 ore/anno e L = 36 ore/anno e comunque sono ruderi e quindi la probabilità di accadimento si riduce quasi al nulla.

E' stato elaborato un calendario dell'ombra riportato in appendice (rif. Appendice Calendar), che riporta in maniera grafica giorno per giorno, per tutto l'anno, la durata giornaliera del fenomeno, l'orario di inizio e di fine del fenomeno, nelle condizioni di caso reale. Dalla lettura del "Calendar" si legge che il fenomeno dell'ombreggiamento, si esplica sui recettori con intensità maggiore nel periodo compreso tra Gennaio, Marzo, Aprile, Settembre, Novembre e Dicembre nelle prime ore della giornata, oppure al primo pomeriggio. Nella figura che segue è riportato a titolo di esempio il grafico "calendar" di un recettore: le macchie

individuano i momenti di shadow, la posizione nel grafico individua tempo e durata del fenomeno, il colore della macchia individua la turbina che causa il fenomeno.

L'allegato 2 riporta il dettaglio analitico di quanto espresso dal grafico precedente con gli specifici orari di inizio e di fine del fenomeno. A seguire è altresì riportata la sintesi grafica annuale (come mostra l'immagine precedente) dell'apporto di ombreggiamento a carico di ogni recettore ed il/gli aerogeneratore/i responsabile/i del fenomeno.

E' stata inoltre elaborata una mappa (report Map, Allegato 3) in cui vengono riportate, con diverse gradazioni di colore, le zone soggette ad una determinata durata del fenomeno dell'ombreggiamento oltre all'estensione areale nella quale il fenomeno risulta significativo.

Il fenomeno dell'ombreggiamento interessa marginalmente tratti di strade comunali e/o private per un numero di ore all'anno del tutto irrilevanti e cioè pari ad un massimo di 30 ore/anno, ma solo in alcuni tratti. Preme tuttavia evidenziare che nelle simulazioni non si è tenuto conto della possibile presenza di vegetazione capace di offrire un effetto "barriera" ai recettori e/o alle strade limitrofe. Inoltre, la percezione dell'impianto dalla strada risulterebbe essere "in movimento" e quindi legata alla breve permanenza delle automobili in transito, per cui il fastidio indotto sarebbe temporalmente limitato. A questo si aggiunge che le simulazioni sono state effettuate assumendo le "condizioni peggiori", sovrastimando pertanto l'effetto di flickering.

5. CONCLUSIONI E RACCOMANDAZIONI

In conclusione, si può affermare che i risultati ottenuti della elaborazioni evidenziano, pur considerando le condizioni più sfavorevoli, che le turbine di progetto generano effetti di shadow flickering **i cui impatti risultano essere nulli per molte strutture, e piuttosto modesti (o non particolarmente problematici) per altre.**

In ogni caso è comunque da rimarcare l'effetto di sovrastima dovuto al grado di cautela utilizzato per la simulazione che non tiene in conto di tutte le possibili fonti di attenuazione dell'effetto cui ogni recettore è (o può essere) soggetto quali presenza di alberi, ostacoli, siepi e quant'altro possa attenuare il fenomeno dell'evoluzione giornaliera dell'ombra.

6. ELENCO ALLEGATI

1. Main result: quadro sintetico dei risultati di calcolo;

2. Calendar: analisi giornaliera dell'effetto "flickering" ricevuto da ogni recettore;

3. Calendar, graphical: grafico dell'analisi giornaliera dell'effetto "flickering" ricevuto da ogni recettore;

4. Calendar per WTG: analisi giornaliera dell'effetto "flickering" indotto da ogni aerogeneratore sui recettori;

6. Map: mappa delle aree soggette ad ombreggiamento.

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SHADOW - Main Result

Assumptions for shadow calculations

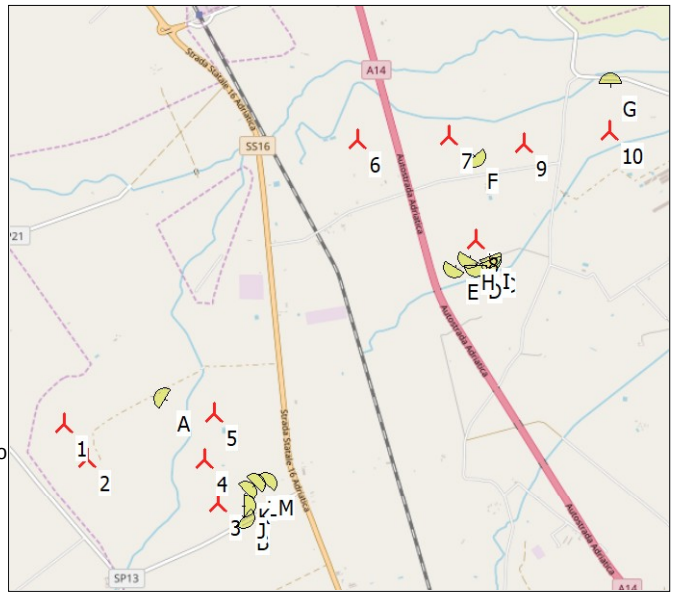
Maximum distance for influence
Calculate only when more than 20 % of sun is covered by the blade
Please look in WTG table

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



Scale 1:100.000
New WTG
Shadow receptor

WTGs

	Easting	Northing	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Shadow data Calculation distance	RPM
			[m]					[kW]	[m]	[m]	[m]	[RPM]
1	539.108	4.597.794	59,5	Siemens Gamesa SG-145 ...	Yes	Siemens Gamesa	SG-145 4.5 -4.500	4.500	145,0	107,5	1.918	10,7
2	539.411	4.597.330	60,0	Siemens Gamesa SG-145 ...	Yes	Siemens Gamesa	SG-145 4.5 -4.500	4.500	145,0	107,5	1.918	10,7
3	541.137	4.596.750	60,0	Siemens Gamesa SG-145 ...	Yes	Siemens Gamesa	SG-145 4.5 -4.500	4.500	145,0	107,5	1.918	10,7
4	540.966	4.597.334	60,0	Siemens Gamesa SG-145 ...	Yes	Siemens Gamesa	SG-145 4.5 -4.500	4.500	145,0	107,5	1.918	10,7
5	541.093	4.597.945	56,4	Siemens Gamesa SG-145 ...	Yes	Siemens Gamesa	SG-145 4.5 -4.500	4.500	145,0	107,5	1.918	10,7
6	542.960	4.601.547	40,8	Siemens Gamesa SG-145 ...	Yes	Siemens Gamesa	SG-145 4.5 -4.500	4.500	145,0	107,5	1.918	10,7
7	544.176	4.601.612	39,5	Siemens Gamesa SG-145 ...	Yes	Siemens Gamesa	SG-145 4.5 -4.500	4.500	145,0	107,5	1.918	10,7
8	544.550	4.600.243	41,7	Siemens Gamesa SG-145 ...	Yes	Siemens Gamesa	SG-145 4.5 -4.500	4.500	145,0	107,5	1.918	10,7
9	545.165	4.601.526	40,0	Siemens Gamesa SG-145 ...	Yes	Siemens Gamesa	SG-145 4.5 -4.500	4.500	145,0	107,5	1.918	10,7
10	546.291	4.601.682	39,4	Siemens Gamesa SG-145 ...	Yes	Siemens Gamesa	SG-145 4.5 -4.500	4.500	145,0	107,5	1.918	10,7

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	540.436	4.598.132	57,7	1,0	1,0	1,0	-60,0	90,0	Fixed direction	2,0
B	541.493	4.596.567	60,0	1,0	1,0	1,0	130,0	90,0	Fixed direction	2,0
C	544.741	4.599.982	42,1	1,0	1,0	1,0	160,0	90,0	Fixed direction	2,0
D	544.546	4.599.912	43,8	1,0	1,0	1,0	180,0	90,0	Fixed direction	2,0
E	544.267	4.599.884	45,6	1,0	1,0	1,0	-150,0	90,0	Fixed direction	2,0
F	544.519	4.601.349	40,0	1,0	1,0	1,0	140,0	90,0	Fixed direction	2,0
G	546.310	4.602.312	33,2	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
H	544.443	4.600.018	43,7	1,0	1,0	1,0	-150,0	90,0	Fixed direction	2,0
I	544.735	4.600.036	41,8	1,0	1,0	1,0	160,0	90,0	Fixed direction	2,0
J	541.504	4.596.704	60,0	1,0	1,0	1,0	90,0	90,0	Fixed direction	2,0
K	541.521	4.596.910	60,0	1,0	1,0	1,0	45,0	90,0	Fixed direction	2,0
L	541.633	4.597.003	59,7	1,0	1,0	1,0	45,0	90,0	Fixed direction	2,0
M	541.784	4.597.024	58,4	1,0	1,0	1,0	45,0	90,0	Fixed direction	2,0

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SHADOW - Main Result

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	40:01	64	0:49
B	57:41	64	1:08
C	0:00	0	0:00
D	0:00	0	0:00
E	0:00	0	0:00
F	5:42	28	0:18
G	20:39	74	0:25
H	0:00	0	0:00
I	0:00	0	0:00
J	196:10	160	1:29
K	105:11	105	1:18
L	109:22	156	1:01
M	96:08	166	0:48

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

No.	Name	Worst case [h/year]
1	Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (11)	0:00
2	Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (12)	0:00
3	Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (13)	372:22
4	Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (14)	68:19
5	Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (15)	40:01
6	Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (16)	5:42
7	Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (17)	0:00
8	Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (18)	0:00
9	Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (19)	20:39
10	Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (20)	0:00

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.

Project:
WE_LaRocca

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar

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	07:25	07:11		06:35		06:43	05:57	05:27	05:28	05:52	06:24		06:54		06:29	07:05
	16:39	17:13		17:48	47	07:43 (5)	19:23	19:55	20:25	20:36	20:17	19:33		18:42	41	08:17 (5)	16:55	16:30
2	07:25	07:10		06:33		06:55 (5)	06:42	05:56	05:27	05:28	05:53	06:25		06:55		07:34 (5)	06:30	07:06
	16:40	17:15		17:49	48	07:43 (5)	19:24	19:56	20:26	20:36	20:16	19:32		18:40	44	08:18 (5)	16:53	16:29
3	07:25	07:09		06:32		06:55 (5)	06:40	05:54	05:27	05:29	05:54	06:26		06:56		07:33 (5)	06:32	07:07
	16:40	17:16		17:50	49	07:44 (5)	19:25	19:58	20:27	20:36	20:15	19:30		18:39	45	08:18 (5)	16:52	16:29
4	07:25	07:08		06:30		06:55 (5)	06:38	05:53	05:26	05:29	05:55	06:27		06:57		07:32 (5)	06:33	07:08
	16:41	17:17		17:52	48	07:43 (5)	19:26	19:59	20:28	20:36	20:14	19:28		18:37	47	08:19 (5)	16:51	16:29
5	07:25	07:07		06:29		06:55 (5)	06:37	05:52	05:26	05:30	05:56	06:28		06:59		07:32 (5)	06:34	07:09
	16:42	17:18		17:53	49	07:44 (5)	19:27	20:00	20:28	20:36	20:13	19:27		18:35	47	08:19 (5)	16:50	16:29
6	07:25	07:06		06:27		06:55 (5)	06:35	05:50	05:25	05:31	05:57	06:29		07:00		07:31 (5)	06:35	07:10
	16:43	17:20		17:54	48	07:43 (5)	19:28	20:01	20:29	20:36	20:11	19:25		18:34	48	08:19 (5)	16:49	16:29
7	07:25	07:05		06:25		06:54 (5)	06:33	05:49	05:25	05:31	05:58	06:30		07:01		07:30 (5)	06:36	07:11
	16:44	17:21		17:55	48	07:42 (5)	19:29	20:02	20:30	20:35	20:10	19:23		18:32	49	08:19 (5)	16:48	16:29
8	07:25	07:04		06:24		06:55 (5)	06:32	05:48	05:25	05:32	05:59	06:31		07:02		07:30 (5)	06:38	07:12
	16:45	17:22		17:56	47	07:42 (5)	19:30	20:03	20:30	20:35	20:09	19:22		18:30	48	08:18 (5)	16:46	16:29
9	07:25	07:03		06:22		06:55 (5)	06:30	05:47	05:25	05:32	06:00	06:32		07:03		07:29 (5)	06:39	07:13
	16:46	17:24		17:57	46	07:41 (5)	19:32	20:04	20:31	20:35	20:08	19:20		18:29	49	08:18 (5)	16:45	16:29
10	07:25	07:02		06:20		06:55 (5)	06:28	05:46	05:24	05:33	06:01	06:33		07:04		07:29 (5)	06:40	07:13
	16:47	17:25		17:59	45	07:40 (5)	19:33	20:05	20:31	20:34	20:06	19:18		18:27	49	08:18 (5)	16:44	16:29
11	07:25	07:00		06:19		06:56 (5)	06:27	05:45	05:24	05:34	06:02	06:34		07:05		07:29 (5)	06:41	07:14
	16:48	17:26		18:00	44	07:40 (5)	19:34	20:06	20:32	20:34	20:05	19:17		18:25	48	08:17 (5)	16:43	16:29
12	07:24	06:59		06:17		06:56 (5)	06:25	05:44	05:24	05:35	06:03	06:35		07:06		07:30 (5)	06:43	07:15
	16:49	17:27		18:01	42	07:38 (5)	19:35	20:07	20:33	20:33	20:04	19:15		18:24	47	08:17 (5)	16:42	16:29
13	07:24	06:58		06:15		06:56 (5)	06:24	05:42	05:24	05:35	06:04	06:36		07:07		07:30 (5)	06:44	07:16
	16:50	17:29		18:02	41	07:37 (5)	19:36	20:08	20:33	20:33	20:02	19:13		18:22	47	08:17 (5)	16:41	16:29
14	07:24	06:56		06:14		06:58 (5)	06:22	05:41	05:24	05:36	06:05	06:37		07:08		07:30 (5)	06:45	07:17
	16:52	17:30		18:03	38	07:36 (5)	19:37	20:09	20:33	20:32	20:01	19:11		18:21	46	08:16 (5)	16:40	16:29
15	07:23	06:55		06:12		06:58 (5)	06:20	05:40	05:24	05:37	06:06	06:38		07:09		07:30 (5)	06:46	07:17
	16:53	17:31		18:04	36	07:34 (5)	19:38	20:10	20:34	20:32	19:59	19:10		18:19	45	08:15 (5)	16:40	16:29
16	07:23	06:54		06:10		06:59 (5)	06:19	05:39	05:24	05:38	06:07	06:39		07:11		07:31 (5)	06:47	07:18
	16:54	17:32		18:05	33	07:32 (5)	19:39	20:11	20:34	20:31	19:58	19:08		18:17	43	08:14 (5)	16:39	16:29
17	07:22	06:52		07:15 (5)		06:09	07:01 (5)	06:17	05:38	05:24	05:38	06:08	06:40		07:12		07:32 (5)	06:49	07:19
	16:55	17:34	12	07:27 (5)		18:06	29	07:30 (5)	19:40	20:12	20:35	20:30	19:57	19:06		18:16	41	08:13 (5)	16:38	16:30
18	07:22	06:51		07:12 (5)		06:07	07:03 (5)	06:16	05:37	05:24	05:39	06:09	06:41		07:13		07:34 (5)	06:50	07:19
	16:56	17:35	20	07:32 (5)		18:08	24	07:27 (5)	19:41	20:13	20:35	20:30	19:55	19:04		18:14	38	08:12 (5)	16:37	16:30
19	07:21	06:50		07:09 (5)		06:05	07:05 (5)	06:14	05:37	05:24	05:40	06:10	06:42		07:14		07:35 (5)	06:51	07:20
	16:57	17:36	25	07:34 (5)		18:09	19	07:24 (5)	19:42	20:14	20:35	20:29	19:54	19:03		18:13	36	08:11 (5)	16:36	16:30
20	07:21	06:48		07:08 (5)		06:04	07:10 (5)	06:13	05:36	05:24	05:41	06:11	06:43		07:15		07:36 (5)	06:52	07:21
	16:58	17:37	28	07:36 (5)		18:10	8	07:18 (5)	19:43	20:15	20:36	20:28	19:52	19:01		18:11	33	08:09 (5)	16:35	16:31
21	07:20	06:47		07:06 (5)		06:02			06:11	05:35	05:24	05:42	06:12	06:44		07:16		07:37 (5)	06:53	07:21
	17:00	17:38	31	07:37 (5)		18:11			19:45	20:16	20:36	20:27	19:51	18:59		18:10	30	08:07 (5)	16:35	16:31
22	07:20	06:45		07:05 (5)		06:00			06:10	05:34	05:25	05:43	06:13	06:45		07:17		07:38 (5)	06:55	07:22
	17:01	17:40	34	07:39 (5)		18:12			19:46	20:17	20:36	20:27	19:49	18:58		18:08	27	08:05 (5)	16:34	16:32
23	07:19	06:44		07:03 (5)		05:59			06:08	05:33	05:25	05:44	06:14	06:46		07:19		07:40 (5)	06:56	07:22
	17:02	17:41	37	07:40 (5)		18:13			19:47	20:18	20:36	20:26	19:48	18:56		18:07	24	08:04 (5)	16:34	16:32
24	07:18	06:42		07:02 (5)		05:57			06:07	05:32	05:25	05:45	06:15	06:47		07:20		07:42 (5)	06:57	07:23
	17:03	17:42	39	07:41 (5)		18:14			19:48	20:19	20:36	20:25	19:46	18:54	16	08:06 (5)	18:06	18	08:00 (5)	16:33	16:33
25	07:17	06:41		07:00 (5)		05:55			06:05	05:32	05:25	05:45	06:16	06:48		07:46 (5)	06:21		06:47 (5)	06:58	07:23
	17:05	17:43	41	07:41 (5)		18:15			19:49	20:20	20:37	20:24	19:45	18:52	23	08:09 (5)	17:04	8	06:55 (5)	16:32	16:33
26	07:17	06:39		06:59 (5)		05:54			06:04	05:31	05:26	05:46	06:17	06:49		07:44 (5)	06:22			06:59	07:24
	17:06	17:44	44	07:43 (5)		18:16			19:50	20:20	20:37	20:23	19:43	18:51	27	08:11 (5)	17:03			16:32	16:34
27	07:16	06:38		06:57 (5)		05:52			06:02	05:30	05:26	05:47	06:19	06:50		07:41 (5)	06:23			07:00	07:24
	17:07	17:46	46	07:43 (5)		18:17			19:51	20:21	20:37	20:22	19:41	18:49	32	08:13 (5)	17:01			16:31	16:35
28	07:15	06:36		06:57 (5)		05:50			06:01	05:30	05:27	05:48	06:20	06:51		07:39 (5)	06:24			07:01	07:24
	17:08	17:47	47	07:44 (5)		18:18			19:52	20:22	20:37	20:21	19:40	18:47	35	08:14 (5)	17:00			16:31	16:35
29	07:14					06:48			06:00	05:29	05:27	05:49	06:21	06:52		07:38 (5)	06:26			07:02	07:25
	17:10					19:20			19:53	20:23	20:37	20:20	19:38	18:45	37	08:15 (5)	16:59			16:30	16:36
30	07:13					06:47			05:58	05:29	05:27	05:50	06:22	06:53		07:36 (5)	06:27			07:04	07:25
	17:11					19:21			19:54	20:24	20:37	20:19	19:37	18:44	40	08:16 (5)	16:57			16:30	16:37
31	07:12					06:45				05:28		05:51	06:23				06:28				07:25
	17:12					19:22				20:25		20:18	19:35				16:56				16:38
Potential sun hours	296	296				369			399	450	454	461	429	375			345			297	286
Total, worst case			404				789								210			998			

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)

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar

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	07:25	07:11	06:35	06:43	05:57		05:27		05:28		05:52	06:24	06:54	06:29	07:05
	16:39	17:13	17:48	19:23	19:55		20:25	54	20:36	65	20:17	19:33	18:42	16:55	16:30
2	07:25	07:10	06:33	06:42	05:56		05:27		05:28		05:53	06:25	06:55	06:30	07:06
	16:40	17:15	17:49	19:24	19:56		20:26	55	20:36	65	20:16	19:32	18:40	16:53	16:29
3	07:25	07:09	06:32	06:40	05:54		05:27		05:29		05:54	06:26	06:56	06:32	07:07
	16:40	17:16	17:50	19:25	19:57		20:27	57	20:36	64	20:15	19:30	18:39	16:52	16:29
4	07:25	07:08	06:30	06:38	05:53		05:26		05:29		05:55	06:27	06:57	06:33	07:08
	16:41	17:17	17:52	19:26	19:59		20:28	58	20:36	63	20:14	19:28	18:37	16:51	16:29
5	07:25	07:07	06:28	06:37	05:52		05:26		05:30		05:56	06:28	06:58	06:34	07:09
	16:42	17:18	17:53	19:27	20:00		20:28	60	20:36	62	20:12	19:27	18:35	16:50	16:29
6	07:25	07:06	06:27	06:35	05:50		05:25		05:31		05:57	06:29	07:00	06:35	07:10
	16:43	17:20	17:54	19:28	20:01		20:29	61	20:35	61	20:11	19:25	18:34	16:49	16:29
7	07:25	07:05	06:25	06:33	05:49		05:25		05:31		05:58	06:30	07:01	06:36	07:11
	16:44	17:21	17:55	19:29	20:02		20:30	62	20:35	60	20:10	19:23	18:32	16:48	16:29
8	07:25	07:04	06:24	06:32	05:48		05:25		05:32		05:59	06:31	07:02	06:38	07:12
	16:45	17:22	17:56	19:30	20:03		20:30	63	20:35	58	20:09	19:22	18:30	16:46	16:29
9	07:25	07:03	06:22	06:30	05:47		05:25		05:32		06:00	06:32	07:03	06:39	07:12
	16:46	17:23	17:57	19:31	20:04		20:31	64	20:34	57	20:07	19:20	18:29	16:45	16:28
10	07:25	07:01	06:20	06:28	05:46		05:24		05:33		06:01	06:33	07:04	06:40	07:13
	16:47	17:25	17:58	19:33	20:05		20:31	64	20:34	56	20:06	19:18	18:27	16:44	16:29
11	07:25	07:00	06:19	06:27	05:45		05:24		05:34		06:02	06:34	07:05	06:41	07:14
	16:48	17:26	18:00	19:34	20:06		20:32	65	20:34	55	20:05	19:16	18:25	16:43	16:29
12	07:24	06:59	06:17	06:25	05:43		05:24		05:35		06:03	06:35	07:06	06:42	07:15
	16:49	17:27	18:01	19:35	20:07		20:32	65	20:33	53	20:04	19:15	18:24	16:42	16:29
13	07:24	06:58	06:15	06:24	05:42		05:24		05:35		06:04	06:36	07:07	06:44	07:16
	16:50	17:29	18:02	19:36	20:08		20:33	66	20:33	51	20:02	19:13	18:22	16:41	16:29
14	07:24	06:56	06:14	06:22	05:41		05:24		05:36		06:05	06:37	07:08	06:45	07:17
	16:51	17:30	18:03	19:37	20:09		20:33	66	20:32	49	20:01	19:11	18:21	16:40	16:29
15	07:23	06:55	06:12	06:20	05:40		05:24		05:37		06:06	06:38	07:09	06:46	07:17
	16:53	17:31	18:04	19:38	20:10		20:34	67	20:32	47	19:59	19:10	18:19	16:39	16:29
16	07:23	06:54	06:10	06:19	05:39		05:24		05:38		06:07	06:39	07:11	06:47	07:18
	16:54	17:32	18:05	19:39	20:11		20:34	67	20:31	45	19:58	19:08	18:17	16:39	16:29
17	07:22	06:52	06:09	06:17	05:38		05:24		05:38		06:08	06:40	07:12	06:49	07:19
	16:55	17:34	18:06	19:40	20:12		20:35	67	20:30	42	19:57	19:06	18:16	16:38	16:30
18	07:22	06:51	06:07	06:16	05:37		05:24		05:39		06:09	06:41	07:13	06:50	07:19
	16:56	17:35	18:07	19:41	20:13		20:35	68	20:30	38	19:55	19:04	18:14	16:37	16:30
19	07:21	06:50	06:05	06:14	05:37		05:24		05:40		06:10	06:42	07:14	06:51	07:20
	16:57	17:36	18:09	19:42	20:14		20:35	68	20:29	35	19:54	19:03	18:13	16:36	16:30
20	07:21	06:48	06:04	06:13	05:36		05:24		05:41		06:11	06:43	07:15	06:52	07:21
	16:58	17:37	18:10	19:43	20:15		20:35	68	20:28	31	19:52	19:01	18:11	16:35	16:31
21	07:20	06:47	06:02	06:11	05:35		05:24		05:42		06:12	06:44	07:16	06:53	07:21
	17:00	17:38	18:11	19:44	20:16	13	19:28 (3)	68	20:27	26	19:51	18:59	18:10	16:35	16:31
22	07:20	06:45	06:00	06:10	05:34		19:10 (3)	05:25	05:43		06:13	06:45	07:17	06:54	07:22
	17:01	17:40	18:12	19:46	20:17	23	19:33 (3)	68	20:27	19	19:49	18:57	18:08	16:34	16:32
23	07:19	06:44	05:59	06:08	05:33		19:07 (3)	05:25	05:44		06:14	06:46	07:18	06:56	07:22
	17:02	17:41	18:13	19:47	20:18	28	19:35 (3)	68	20:26	6	19:48	18:56	18:07	16:33	16:32
24	07:18	06:42	05:57	06:07	05:32		19:04 (3)	05:25	05:45		06:15	06:47	07:20	06:57	07:23
	17:03	17:42	18:14	19:48	20:19	33	19:37 (3)	68	20:25		19:46	18:54	18:05	16:33	16:33
25	07:17	06:41	05:55	06:05	05:32		19:03 (3)	05:25	05:45		06:16	06:48	06:21	06:58	07:23
	17:05	17:43	18:15	19:49	20:20	37	19:40 (3)	68	20:24		19:44	18:52	17:04	16:32	16:33
26	07:17	06:39	05:53	06:04	05:31		19:01 (3)	05:26	05:46		06:17	06:49	06:22	06:59	07:23
	17:06	17:44	18:16	19:50	20:20	40	19:41 (3)	67	20:23		19:43	18:51	17:03	16:32	16:34
27	07:16	06:38	05:52	06:02	05:30		19:00 (3)	05:26	05:47		06:18	06:50	06:23	07:00	07:24
	17:07	17:46	18:17	19:51	20:21	44	19:44 (3)	67	20:22		19:41	18:49	17:01	16:31	16:35
28	07:15	06:36	05:50	06:01	05:30		18:59 (3)	05:27	05:48		06:19	06:51	06:24	07:01	07:24
	17:08	17:47	18:18	19:52	20:22	46	19:45 (3)	67	20:21		19:40	18:47	17:00	16:31	16:35
29	07:14		06:48	06:00	05:29		18:58 (3)	05:27	05:49		06:21	06:52	06:26	07:02	07:24
	17:10		19:20	19:53	20:23	48	19:46 (3)	66	20:20		19:38	18:45	16:59	16:30	16:36
30	07:13		06:47	05:58	05:29		18:57 (3)	05:27	05:50		06:22	06:53	06:27	07:03	07:25
	17:11		19:21	19:54	20:24	50	19:47 (3)	66	20:19		19:37	18:44	16:57	16:30	16:37
31	07:12		06:45		05:28		18:56 (3)		05:51		06:23		06:28		07:25
	17:12		19:22		20:25	53	19:49 (3)		20:18		19:35		16:56		16:38
Potential sun hours	296	296	369	399	450		454		460		429	375	345	297	286
Total, worst case						415		1938		1108					

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)

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar

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	07:25	07:11	06:35	06:43	05:57	05:27	05:28	05:52	06:23	06:54	06:29	07:04
	16:38	17:13	17:48	19:23	19:55	20:25	20:36	20:17	19:33	18:42	16:54	16:30
2	07:25	07:10	06:33	06:41	05:55	05:27	05:28	05:53	06:24	06:55	06:30	07:06
	16:39	17:14	17:49	19:24	19:56	20:26	20:36	20:16	19:31	18:40	16:53	16:29
3	07:25	07:09	06:32	06:40	05:54	05:26	05:29	05:54	06:25	06:56	06:31	07:07
	16:40	17:16	17:50	19:25	19:57	20:27	20:36	20:15	19:30	18:38	16:52	16:29
4	07:25	07:08	06:30	06:38	05:53	05:26	05:29	05:55	06:26	06:57	06:33	07:08
	16:41	17:17	17:51	19:26	19:58	20:28	20:36	20:14	19:28	18:37	16:51	16:29
5	07:25	07:07	06:28	06:36	05:51	05:26	05:30	05:56	06:27	06:58	06:34	07:09
	16:42	17:18	17:53	19:27	20:00	20:28	20:36	20:12	19:27	18:35	16:50	16:29
6	07:25	07:06	06:27	06:35	05:50	05:25	05:30	05:57	06:28	06:59	06:35	07:10
	16:43	17:19	17:54	19:28	20:01	20:29	20:35	20:11	19:25	18:33	16:48	16:28
7	07:25	07:05	06:25	06:33	05:49	05:25	05:31	05:58	06:29	07:00	06:36	07:11
	16:44	17:21	17:55	19:29	20:02	20:30	20:35	20:10	19:23	18:32	16:47	16:28
8	07:25	07:04	06:24	06:31	05:48	05:25	05:32	05:59	06:30	07:02	06:38	07:11
	16:45	17:22	17:56	19:30	20:03	20:30	20:35	20:09	19:21	18:30	16:46	16:28
9	07:25	07:03	06:22	06:30	05:47	05:24	05:32	06:00	06:32	07:03	06:39	07:12
	16:46	17:23	17:57	19:31	20:04	20:31	20:34	20:07	19:20	18:28	16:45	16:28
10	07:25	07:01	06:20	06:28	05:45	05:24	05:33	06:01	06:33	07:04	06:40	07:13
	16:47	17:25	17:58	19:32	20:05	20:31	20:34	20:06	19:18	18:27	16:44	16:28
11	07:24	07:00	06:19	06:27	05:44	05:24	05:34	06:02	06:34	07:05	06:41	07:14
	16:48	17:26	17:59	19:34	20:06	20:32	20:34	20:05	19:16	18:25	16:43	16:28
12	07:24	06:59	06:17	06:25	05:43	05:24	05:34	06:03	06:35	07:06	06:42	07:15
	16:49	17:27	18:01	19:35	20:07	20:32	20:33	20:03	19:15	18:24	16:42	16:28
13	07:24	06:58	06:15	06:23	05:42	05:24	05:35	06:04	06:36	07:07	06:44	07:16
	16:50	17:28	18:02	19:36	20:08	20:33	20:33	20:02	19:13	18:22	16:41	16:29
14	07:24	06:56	06:14	06:22	05:41	05:24	05:36	06:05	06:37	07:08	06:45	07:17
	16:51	17:30	18:03	19:37	20:09	20:33	20:32	20:01	19:11	18:20	16:40	16:29
15	07:23	06:55	06:12	06:20	05:40	05:24	05:37	06:06	06:38	07:09	06:46	07:17
	16:52	17:31	18:04	19:38	20:10	20:34	20:31	19:59	19:09	18:19	16:39	16:29
16	07:23	06:54	06:10	06:19	05:39	05:24	05:37	06:07	06:39	07:10	06:47	07:18
	16:54	17:32	18:05	19:39	20:11	20:34	20:31	19:58	19:08	18:17	16:38	16:29
17	07:22	06:52	06:09	06:17	05:38	05:24	05:38	06:08	06:40	07:12	06:48	07:19
	16:55	17:33	18:06	19:40	20:12	20:35	20:30	19:56	19:06	18:16	16:38	16:29
18	07:22	06:51	06:07	06:15	05:37	05:24	05:39	06:09	06:41	07:13	06:50	07:19
	16:56	17:35	18:07	19:41	20:13	20:35	20:30	19:55	19:04	18:14	16:37	16:30
19	07:21	06:50	06:05	06:14	05:36	05:24	05:40	06:10	06:42	07:14	06:51	07:20
	16:57	17:36	18:08	19:42	20:14	20:35	20:29	19:54	19:03	18:13	16:36	16:30
20	07:21	06:48	06:03	06:12	05:35	05:24	05:41	06:11	06:43	07:15	06:52	07:21
	16:58	17:37	18:10	19:43	20:15	20:35	20:28	19:52	19:01	18:11	16:35	16:31
21	07:20	06:47	06:02	06:11	05:35	05:24	05:42	06:12	06:44	07:16	06:53	07:21
	16:59	17:38	18:11	19:44	20:16	20:36	20:27	19:51	18:59	18:10	16:35	16:31
22	07:19	06:45	06:00	06:09	05:34	05:24	05:42	06:13	06:45	07:17	06:54	07:22
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	17:02	17:41	18:13	19:47	20:18	20:36	20:26	19:47	18:56	18:07	16:33	16:32
24	07:18	06:42	05:57	06:06	05:32	05:25	05:44	06:15	06:47	07:20	06:57	07:23
	17:03	17:42	18:14	19:48	20:19	20:36	20:25	19:46	18:54	18:05	16:33	16:33
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	17:08	17:47	18:18	19:52	20:22	20:36	20:21	19:40	18:47	17:00	16:31	16:35
29	07:14		06:48	05:59	05:29	05:27	05:49	06:20	06:52	06:25	07:02	07:24
	17:09		19:19	19:53	20:23	20:36	20:20	19:38	18:45	16:58	16:30	16:36
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	17:11		19:20	19:54	20:24	20:36	20:19	19:36	18:44	16:57	16:30	16:37
31	07:12		06:45		05:28		05:51	06:22		06:28		07:25
	17:12		19:22		20:25		20:18	19:35		16:56		16:37
Potential sun hours	296	296	369	399	450	454	461	429	375	345	297	286
Total, worst case												

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)

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar

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
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	16:38	17:13	17:48	19:23	19:55	20:25	20:36	20:17	19:33	18:42	16:54	16:30
2	07:25	07:10	06:33	06:41	05:55	05:27	05:28	05:53	06:24	06:55	06:30	07:06
	16:39	17:14	17:49	19:24	19:56	20:26	20:36	20:16	19:32	18:40	16:53	16:29
3	07:25	07:09	06:32	06:40	05:54	05:26	05:29	05:54	06:25	06:56	06:31	07:07
	16:40	17:16	17:50	19:25	19:57	20:27	20:36	20:15	19:30	18:38	16:52	16:29
4	07:25	07:08	06:30	06:38	05:53	05:26	05:29	05:55	06:26	06:57	06:33	07:08
	16:41	17:17	17:51	19:26	19:58	20:28	20:36	20:14	19:28	18:37	16:51	16:29
5	07:25	07:07	06:28	06:36	05:51	05:26	05:30	05:56	06:27	06:58	06:34	07:09
	16:42	17:18	17:53	19:27	20:00	20:28	20:36	20:12	19:27	18:35	16:50	16:29
6	07:25	07:06	06:27	06:35	05:50	05:25	05:30	05:57	06:28	06:59	06:35	07:10
	16:43	17:19	17:54	19:28	20:01	20:29	20:35	20:11	19:25	18:33	16:48	16:28
7	07:25	07:05	06:25	06:33	05:49	05:25	05:31	05:58	06:29	07:00	06:36	07:11
	16:44	17:21	17:55	19:29	20:02	20:30	20:35	20:10	19:23	18:32	16:47	16:28
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11	07:24	07:00	06:19	06:27	05:44	05:24	05:34	06:02	06:34	07:05	06:41	07:14
	16:48	17:26	17:59	19:34	20:06	20:32	20:34	20:05	19:16	18:25	16:43	16:28
12	07:24	06:59	06:17	06:25	05:43	05:24	05:34	06:03	06:35	07:06	06:42	07:15
	16:49	17:27	18:01	19:35	20:07	20:32	20:33	20:03	19:15	18:24	16:42	16:28
13	07:24	06:58	06:15	06:23	05:42	05:24	05:35	06:04	06:36	07:07	06:44	07:16
	16:50	17:28	18:02	19:36	20:08	20:33	20:33	20:02	19:13	18:22	16:41	16:29
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	16:55	17:33	18:06	19:40	20:12	20:35	20:30	19:56	19:06	18:16	16:38	16:29
18	07:22	06:51	06:07	06:15	05:37	05:24	05:39	06:09	06:41	07:13	06:50	07:19
	16:56	17:35	18:07	19:41	20:13	20:35	20:30	19:55	19:04	18:14	16:37	16:30
19	07:21	06:50	06:05	06:14	05:36	05:24	05:40	06:10	06:42	07:14	06:51	07:20
	16:57	17:36	18:08	19:42	20:14	20:35	20:29	19:54	19:03	18:13	16:36	16:30
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	16:59	17:38	18:11	19:44	20:16	20:36	20:27	19:51	18:59	18:10	16:35	16:31
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	17:01	17:39	18:12	19:45	20:17	20:36	20:27	19:49	18:57	18:08	16:34	16:32
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	17:06	17:44	18:16	19:50	20:20	20:36	20:23	19:43	18:50	17:02	16:32	16:34
27	07:16	06:38	05:52	06:02	05:30	05:26	05:47	06:18	06:50	06:23	07:00	07:24
	17:07	17:45	18:17	19:51	20:21	20:36	20:22	19:41	18:49	17:01	16:31	16:34
28	07:15	06:36	05:50	06:01	05:29	05:26	05:48	06:19	06:51	06:24	07:01	07:24
	17:08	17:47	18:18	19:52	20:22	20:37	20:21	19:40	18:47	17:00	16:31	16:35
29	07:14		06:48	05:59	05:29	05:27	05:49	06:20	06:52	06:25	07:02	07:24
	17:09		19:19	19:53	20:23	20:36	20:20	19:38	18:45	16:58	16:30	16:36
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31	07:12		06:45		05:28		05:51	06:22		06:28		07:25
	17:12		19:22		20:25		20:18	19:35		16:56		16:37
Potential sun hours	296	296	369	399	450	454	461	429	375	345	297	286
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)

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar

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
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	16:38	17:13	17:48	19:23	19:55	20:25	20:36	20:17	19:33	18:42	16:54	16:30
2	07:25	07:10	06:33	06:41	05:55	05:27	05:28	05:53	06:24	06:55	06:30	07:06
	16:39	17:14	17:49	19:24	19:56	20:26	20:36	20:16	19:32	18:40	16:53	16:29
3	07:25	07:09	06:32	06:40	05:54	05:26	05:29	05:54	06:25	06:56	06:31	07:07
	16:40	17:16	17:50	19:25	19:57	20:27	20:36	20:15	19:30	18:38	16:52	16:29
4	07:25	07:08	06:30	06:38	05:53	05:26	05:29	05:55	06:26	06:57	06:33	07:08
	16:41	17:17	17:51	19:26	19:58	20:28	20:36	20:14	19:28	18:37	16:51	16:29
5	07:25	07:07	06:28	06:36	05:51	05:26	05:30	05:56	06:27	06:58	06:34	07:09
	16:42	17:18	17:53	19:27	20:00	20:28	20:36	20:12	19:27	18:35	16:50	16:29
6	07:25	07:06	06:27	06:35	05:50	05:25	05:30	05:57	06:28	06:59	06:35	07:10
	16:43	17:19	17:54	19:28	20:01	20:29	20:35	20:11	19:25	18:33	16:48	16:28
7	07:25	07:05	06:25	06:33	05:49	05:25	05:31	05:58	06:30	07:01	06:36	07:11
	16:44	17:21	17:55	19:29	20:02	20:30	20:35	20:10	19:23	18:32	16:47	16:28
8	07:25	07:04	06:24	06:32	05:48	05:25	05:32	05:59	06:31	07:02	06:38	07:11
	16:45	17:22	17:56	19:30	20:03	20:30	20:35	20:09	19:21	18:30	16:46	16:28
9	07:25	07:03	06:22	06:30	05:47	05:24	05:32	06:00	06:32	07:03	06:39	07:12
	16:46	17:23	17:57	19:31	20:04	20:31	20:34	20:07	19:20	18:28	16:45	16:28
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11	07:25	07:00	06:19	06:27	05:44	05:24	05:34	06:02	06:34	07:05	06:41	07:14
	16:48	17:26	17:59	19:34	20:06	20:32	20:34	20:05	19:16	18:25	16:43	16:28
12	07:24	06:59	06:17	06:25	05:43	05:24	05:34	06:03	06:35	07:06	06:42	07:15
	16:49	17:27	18:01	19:35	20:07	20:32	20:33	20:03	19:15	18:24	16:42	16:28
13	07:24	06:58	06:15	06:23	05:42	05:24	05:35	06:04	06:36	07:07	06:44	07:16
	16:50	17:28	18:02	19:36	20:08	20:33	20:33	20:02	19:13	18:22	16:41	16:29
14	07:24	06:56	06:14	06:22	05:41	05:24	05:36	06:05	06:37	07:08	06:45	07:17
	16:51	17:30	18:03	19:37	20:09	20:33	20:32	20:01	19:11	18:20	16:40	16:29
15	07:23	06:55	06:12	06:20	05:40	05:24	05:37	06:06	06:38	07:09	06:46	07:17
	16:52	17:31	18:04	19:38	20:10	20:34	20:31	19:59	19:09	18:19	16:39	16:29
16	07:23	06:54	06:10	06:19	05:39	05:24	05:37	06:07	06:39	07:10	06:47	07:18
	16:54	17:32	18:05	19:39	20:11	20:34	20:31	19:58	19:08	18:17	16:38	16:29
17	07:22	06:52	06:09	06:17	05:38	05:24	05:38	06:08	06:40	07:12	06:48	07:19
	16:55	17:33	18:06	19:40	20:12	20:35	20:30	19:56	19:06	18:16	16:38	16:30
18	07:22	06:51	06:07	06:16	05:37	05:24	05:39	06:09	06:41	07:13	06:50	07:19
	16:56	17:35	18:07	19:41	20:13	20:35	20:30	19:55	19:04	18:14	16:37	16:30
19	07:21	06:50	06:05	06:14	05:36	05:24	05:40	06:10	06:42	07:14	06:51	07:20
	16:57	17:36	18:08	19:42	20:14	20:35	20:29	19:54	19:03	18:13	16:36	16:30
20	07:21	06:48	06:04	06:12	05:35	05:24	05:41	06:11	06:43	07:15	06:52	07:21
	16:58	17:37	18:10	19:43	20:15	20:35	20:28	19:52	19:01	18:11	16:35	16:31
21	07:20	06:47	06:02	06:11	05:35	05:24	05:42	06:12	06:44	07:16	06:53	07:21
	16:59	17:38	18:11	19:44	20:16	20:36	20:27	19:51	18:59	18:10	16:35	16:31
22	07:19	06:45	06:00	06:09	05:34	05:24	05:43	06:13	06:45	07:17	06:54	07:22
	17:01	17:39	18:12	19:45	20:17	20:36	20:27	19:49	18:57	18:08	16:34	16:32
23	07:19	06:44	05:58	06:08	05:33	05:25	05:43	06:14	06:46	07:18	06:56	07:22
	17:02	17:41	18:13	19:47	20:18	20:36	20:26	19:48	18:56	18:07	16:33	16:32
24	07:18	06:42	05:57	06:06	05:32	05:25	05:44	06:15	06:47	07:20	06:57	07:23
	17:03	17:42	18:14	19:48	20:19	20:36	20:25	19:46	18:54	18:05	16:33	16:33
25	07:17	06:41	05:55	06:05	05:31	05:25	05:45	06:16	06:48	06:21	06:58	07:23
	17:04	17:43	18:15	19:49	20:19	20:36	20:24	19:44	18:52	17:04	16:32	16:33
26	07:17	06:39	05:53	06:04	05:31	05:26	05:46	06:17	06:49	06:22	06:59	07:23
	17:06	17:44	18:16	19:50	20:20	20:36	20:23	19:43	18:50	17:02	16:32	16:34
27	07:16	06:38	05:52	06:02	05:30	05:26	05:47	06:18	06:50	06:23	07:00	07:24
	17:07	17:45	18:17	19:51	20:21	20:37	20:22	19:41	18:49	17:01	16:31	16:34
28	07:15	06:36	05:50	06:01	05:29	05:26	05:48	06:19	06:51	06:24	07:01	07:24
	17:08	17:47	18:18	19:52	20:22	20:37	20:21	19:40	18:47	17:00	16:31	16:35
29	07:14		06:48	05:59	05:29	05:27	05:49	06:20	06:52	06:25	07:02	07:24
	17:09		19:19	19:53	20:23	20:36	20:20	19:38	18:45	16:58	16:30	16:36
30	07:13		06:47	05:58	05:28	05:27	05:50	06:21	06:53	06:27	07:03	07:25
	17:11		19:21	19:54	20:24	20:36	20:19	19:36	18:44	16:57	16:30	16:37
31	07:12		06:45		05:28		05:51	06:22		06:28		07:25
	17:12		19:22		20:25		20:18	19:35		16:56		16:37
Potential sun hours	296	296	369	399	450	454	461	429	375	345	297	286
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)

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar

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	07:25	07:11	06:35	06:43		05:57	05:27	05:28	05:52		06:23	18:55 (6)	06:54	06:29	07:05
	16:38	17:13	17:48	19:23		19:55	20:25	20:36	20:17		19:33	15 19:10 (6)	18:42	16:54	16:29
2	07:25	07:10	06:33	06:41		05:55	05:27	05:28	05:53		06:24	18:55 (6)	06:55	06:30	07:06
	16:39	17:14	17:49	19:24		19:56	20:26	20:36	20:16		19:32	14 19:09 (6)	18:40	16:53	16:29
3	07:25	07:09	06:32	06:40		05:54	05:26	05:29	05:54		06:25	18:55 (6)	06:56	06:31	07:07
	16:40	17:16	17:50	19:25		19:57	20:27	20:36	20:15		19:30	12 19:07 (6)	18:38	16:52	16:29
4	07:25	07:08	06:30	06:38		05:53	05:26	05:29	05:55		06:26	18:55 (6)	06:57	06:33	07:08
	16:41	17:17	17:51	19:26		19:58	20:28	20:36	20:14		19:28	11 19:06 (6)	18:37	16:51	16:29
5	07:25	07:07	06:28	06:36	19:03 (6)	05:51	05:26	05:30	05:56		06:27	18:56 (6)	06:58	06:34	07:09
	16:42	17:18	17:53	19:27	2 19:05 (6)	20:00	20:28	20:36	20:12		19:27	8 19:04 (6)	18:35	16:50	16:29
6	07:25	07:06	06:27	06:35	19:01 (6)	05:50	05:25	05:30	05:57		06:28	18:57 (6)	06:59	06:35	07:10
	16:43	17:19	17:54	19:28	5 19:06 (6)	20:01	20:29	20:35	20:11		19:25	5 19:02 (6)	18:33	16:48	16:28
7	07:25	07:05	06:25	06:33	19:00 (6)	05:49	05:25	05:31	05:58		06:29	18:58 (6)	07:01	06:36	07:11
	16:44	17:21	17:55	19:29	8 19:08 (6)	20:02	20:30	20:35	20:10		19:23	3 19:01 (6)	18:32	16:47	16:28
8	07:25	07:04	06:24	06:31	18:58 (6)	05:48	05:25	05:32	05:59		06:30		07:02	06:38	07:11
	16:45	17:22	17:56	19:30	10 19:08 (6)	20:03	20:30	20:35	20:09		19:21		18:30	16:46	16:28
9	07:25	07:03	06:22	06:30	18:57 (6)	05:47	05:24	05:32	06:00		06:32		07:03	06:39	07:12
	16:46	17:23	17:57	19:31	12 19:09 (6)	20:04	20:31	20:34	20:07		19:20		18:28	16:45	16:28
10	07:25	07:01	06:20	06:28	18:57 (6)	05:45	05:24	05:33	06:01		06:33		07:04	06:40	07:13
	16:47	17:25	17:58	19:32	14 19:11 (6)	20:05	20:31	20:34	20:06		19:18		18:27	16:44	16:28
11	07:25	07:00	06:19	06:27	18:56 (6)	05:44	05:24	05:34	06:02		06:34		07:05	06:41	07:14
	16:48	17:26	17:59	19:34	15 19:11 (6)	20:06	20:32	20:34	20:05		19:16		18:25	16:43	16:28
12	07:24	06:59	06:17	06:25	18:57 (6)	05:43	05:24	05:34	06:03		06:35		07:06	06:42	07:15
	16:49	17:27	18:01	19:35	16 19:13 (6)	20:07	20:32	20:33	20:03		19:15		18:24	16:42	16:28
13	07:24	06:58	06:15	06:23	18:56 (6)	05:42	05:24	05:35	06:04		06:36		07:07	06:44	07:16
	16:50	17:28	18:02	19:36	18 19:14 (6)	20:08	20:33	20:33	20:02		19:13		18:22	16:41	16:29
14	07:24	06:56	06:14	06:22	18:56 (6)	05:41	05:24	05:36	06:05		06:37		07:08	06:45	07:17
	16:51	17:30	18:03	19:37	18 19:14 (6)	20:09	20:33	20:32	20:01		19:11		18:20	16:40	16:29
15	07:23	06:55	06:12	06:20	18:57 (6)	05:40	05:24	05:37	06:06		06:38		07:09	06:46	07:17
	16:52	17:31	18:04	19:38	18 19:15 (6)	20:10	20:34	20:31	19:59		19:09		18:19	16:39	16:29
16	07:23	06:54	06:10	06:19	18:58 (6)	05:39	05:24	05:37	06:07		06:39		07:10	06:47	07:18
	16:53	17:32	18:05	19:39	15 19:13 (6)	20:11	20:34	20:31	19:58		19:08		18:17	16:38	16:29
17	07:22	06:52	06:09	06:17	19:00 (6)	05:38	05:24	05:38	06:08		06:40		07:12	06:48	07:19
	16:55	17:33	18:06	19:40	12 19:12 (6)	20:12	20:35	20:30	19:56		19:06		18:16	16:38	16:29
18	07:22	06:51	06:07	06:15	19:02 (6)	05:37	05:24	05:39	06:09		06:41		07:13	06:50	07:19
	16:56	17:35	18:07	19:41	6 19:08 (6)	20:13	20:35	20:30	19:55		19:04		18:14	16:37	16:30
19	07:21	06:50	06:05	06:14		05:36	05:24	05:40	06:10		06:42		07:14	06:51	07:20
	16:57	17:36	18:08	19:42		20:14	20:35	20:29	19:54		19:03		18:13	16:36	16:30
20	07:21	06:48	06:04	06:12		05:35	05:24	05:41	06:11		06:43		07:15	06:52	07:21
	16:58	17:37	18:10	19:43		20:15	20:36	20:28	19:52		19:01		18:11	16:35	16:31
21	07:20	06:47	06:02	06:11		05:35	05:24	05:42	06:12		06:44		07:16	06:53	07:21
	16:59	17:38	18:11	19:44		20:16	20:36	20:27	19:51		18:59		18:10	16:35	16:31
22	07:19	06:45	06:00	06:09		05:34	05:24	05:42	06:13		06:45		07:17	06:54	07:22
	17:01	17:39	18:12	19:45		20:17	20:36	20:27	19:49		18:57		18:08	16:34	16:31
23	07:19	06:44	05:58	06:08		05:33	05:25	05:43	06:14		06:46		07:18	06:56	07:22
	17:02	17:41	18:13	19:47		20:18	20:36	20:26	19:48		18:56		18:07	16:33	16:32
24	07:18	06:42	05:57	06:06		05:32	05:25	05:44	06:15		06:47		07:20	06:57	07:23
	17:03	17:42	18:14	19:48		20:19	20:36	20:25	19:46		18:54		18:05	16:33	16:33
25	07:17	06:41	05:55	06:05		05:31	05:25	05:45	06:16	19:05 (6)	06:48		06:21	06:58	07:23
	17:04	17:43	18:15	19:49		20:19	20:36	20:24	19:44	7 19:12 (6)	18:52		17:04	16:32	16:33
26	07:17	06:39	05:53	06:04		05:31	05:25	05:46	06:17	19:02 (6)	06:49		06:22	06:59	07:23
	17:06	17:44	18:16	19:50		20:20	20:36	20:23	19:43	13 19:15 (6)	18:50		17:02	16:32	16:34
27	07:16	06:38	05:52	06:02		05:30	05:26	05:47	06:18	19:00 (6)	06:50		06:23	07:00	07:24
	17:07	17:45	18:17	19:51		20:21	20:37	20:22	19:41	15 19:15 (6)	18:49		17:01	16:31	16:34
28	07:15	06:36	05:50	06:01		05:29	05:26	05:48	06:19	18:58 (6)	06:51		06:24	07:01	07:24
	17:08	17:47	18:18	19:52		20:22	20:37	20:21	19:40	18 19:16 (6)	18:47		17:00	16:31	16:35
29	07:14		06:48	05:59		05:29	05:27	05:49	06:20	18:57 (6)	06:52		06:25	07:02	07:24
	17:09		19:19	19:53		20:23	20:37	20:20	19:38	18 19:15 (6)	18:45		16:58	16:30	16:36
30	07:13		06:47	05:58		05:28	05:27	05:50	06:21	18:56 (6)	06:53		06:27	07:03	07:25
	17:11		19:20	19:54		20:24	20:36	20:19	19:36	18 19:14 (6)	18:44		16:57	16:30	16:37
31	07:12		06:45			05:28		05:51	06:22	18:56 (6)			06:28		07:25
	17:12		19:22			20:25		20:18	19:35	16 19:12 (6)			16:56		16:37
Potential sun hours	296	296	369	399		450	454	461	429		375		345	297	286
Total, worst case					169					105		68			

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)

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar

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	July	August	September	October	November			December		
1	07:25		15:59 (9)	07:11	06:35	06:43	05:57	05:27	05:27	05:52	06:23	06:54	06:29			07:04		15:43 (9)
	16:38	13	16:12 (9)	17:13	17:48	19:23	19:55	20:25	20:36	20:17	19:33	18:42	16:54			16:29	21	16:04 (9)
2	07:25		15:59 (9)	07:10	06:33	06:41	05:55	05:27	05:28	05:53	06:24	06:55	06:30			07:06		15:43 (9)
	16:39	14	16:13 (9)	17:14	17:49	19:24	19:56	20:26	20:36	20:16	19:31	18:40	16:53			16:29	20	16:03 (9)
3	07:25		15:59 (9)	07:09	06:31	06:40	05:54	05:26	05:28	05:54	06:25	06:56	06:31			07:07		15:44 (9)
	16:40	15	16:14 (9)	17:16	17:50	19:25	19:57	20:27	20:36	20:15	19:30	18:38	16:52			16:29	19	16:03 (9)
4	07:25		16:00 (9)	07:08	06:30	06:38	05:53	05:26	05:29	05:55	06:26	06:57	06:33			07:08		15:45 (9)
	16:41	15	16:15 (9)	17:17	17:51	19:26	19:58	20:27	20:36	20:14	19:28	18:37	16:51			16:29	19	16:04 (9)
5	07:25		16:00 (9)	07:07	06:28	06:36	05:51	05:25	05:30	05:56	06:27	06:58	06:34			07:09		15:46 (9)
	16:42	16	16:16 (9)	17:18	17:52	19:27	19:59	20:28	20:36	20:12	19:26	18:35	16:49			16:28	17	16:03 (9)
6	07:25		16:00 (9)	07:06	06:27	06:35	05:50	05:25	05:30	05:57	06:28	06:59	06:35			07:10		15:46 (9)
	16:43	17	16:17 (9)	17:19	17:54	19:28	20:01	20:29	20:35	20:11	19:25	18:33	16:48			16:28	17	16:03 (9)
7	07:25		16:00 (9)	07:05	06:25	06:33	05:49	05:25	05:31	05:58	06:29	07:00	06:36			07:10		15:46 (9)
	16:44	17	16:17 (9)	17:21	17:55	19:29	20:02	20:30	20:35	20:10	19:23	18:32	16:47			16:28	16	16:02 (9)
8	07:25		16:00 (9)	07:04	06:23	06:31	05:48	05:24	05:31	05:59	06:30	07:02	06:37			07:11		15:47 (9)
	16:45	19	16:19 (9)	17:22	17:56	19:30	20:03	20:30	20:35	20:09	19:21	18:30	16:46			16:28	15	16:02 (9)
9	07:25		16:01 (9)	07:03	06:22	06:30	05:47	05:24	05:32	06:00	06:31	07:03	06:39			07:12		15:47 (9)
	16:46	19	16:20 (9)	17:23	17:57	19:31	20:04	20:31	20:34	20:07	19:20	18:28	16:45			16:28	15	16:02 (9)
10	07:25		16:01 (9)	07:01	06:20	06:28	05:45	05:24	05:33	06:01	06:32	07:04	06:40			07:13		15:48 (9)
	16:47	20	16:21 (9)	17:24	17:58	19:32	20:05	20:31	20:34	20:06	19:18	18:27	16:44			16:28	14	16:02 (9)
11	07:24		16:01 (9)	07:00	06:19	06:26	05:44	05:24	05:33	06:02	06:33	07:05	06:41			07:14		15:49 (9)
	16:48	21	16:22 (9)	17:26	17:59	19:33	20:06	20:32	20:34	20:05	19:16	18:25	16:43			16:28	13	16:02 (9)
12	07:24		16:02 (9)	06:59	06:17	06:25	05:43	05:24	05:34	06:03	06:34	07:06	06:42			07:15		15:50 (9)
	16:49	21	16:23 (9)	17:27	18:00	19:35	20:07	20:32	20:33	20:03	19:15	18:24	16:42			16:28	13	16:03 (9)
13	07:24		16:02 (9)	06:58	06:15	06:23	05:42	05:24	05:35	06:04	06:35	07:07	06:44			07:16		15:51 (9)
	16:50	23	16:25 (9)	17:28	18:02	19:36	20:08	20:33	20:33	20:02	19:13	18:22	16:41			16:28	12	16:03 (9)
14	07:24		16:02 (9)	06:56	06:14	06:22	05:41	05:24	05:36	06:05	06:36	07:08	06:45			07:16		15:51 (9)
	16:51	23	16:25 (9)	17:29	18:03	19:37	20:09	20:33	20:32	20:01	19:11	18:20	16:40			16:29	11	16:02 (9)
15	07:23		16:03 (9)	06:55	06:12	06:20	05:40	05:24	05:36	06:06	06:37	07:09	06:46		15:49 (9)	07:17		15:52 (9)
	16:52	24	16:27 (9)	17:31	18:04	19:38	20:10	20:34	20:31	19:59	19:09	18:19	16:39	6	15:55 (9)	16:29	11	16:03 (9)
16	07:23		16:03 (9)	06:54	06:10	06:18	05:39	05:24	05:37	06:07	06:39	07:10	06:47		15:46 (9)	07:18		15:53 (9)
	16:53	25	16:28 (9)	17:32	18:05	19:39	20:11	20:34	20:31	19:58	19:08	18:17	16:38	12	15:58 (9)	16:29	10	16:03 (9)
17	07:22		16:04 (9)	06:52	06:08	06:17	05:38	05:24	05:38	06:08	06:40	07:11	06:48		15:45 (9)	07:19		15:52 (9)
	16:55	25	16:29 (9)	17:33	18:06	19:40	20:12	20:35	20:30	19:56	19:06	18:16	16:37	15	16:00 (9)	16:29	11	16:03 (9)
18	07:22		16:04 (9)	06:51	06:07	06:15	05:37	05:24	05:39	06:09	06:41	07:13	06:50		15:44 (9)	07:19		15:53 (9)
	16:56	25	16:29 (9)	17:34	18:07	19:41	20:13	20:35	20:30	19:55	19:04	18:14	16:37	17	16:01 (9)	16:30	11	16:04 (9)
19	07:21		16:04 (9)	06:49	06:05	06:14	05:36	05:24	05:40	06:10	06:42	07:14	06:51		15:43 (9)	07:20		15:54 (9)
	16:57	24	16:28 (9)	17:36	18:08	19:42	20:14	20:35	20:29	19:53	19:02	18:13	16:36	19	16:02 (9)	16:30	10	16:04 (9)
20	07:21		16:06 (9)	06:48	06:03	06:12	05:35	05:24	05:41	06:11	06:43	07:15	06:52		15:42 (9)	07:21		15:54 (9)
	16:58	23	16:29 (9)	17:37	18:09	19:43	20:15	20:35	20:28	19:52	19:01	18:11	16:35	21	16:03 (9)	16:30	10	16:04 (9)
21	07:20		16:06 (9)	06:47	06:02	06:11	05:34	05:24	05:41	06:12	06:44	07:16	06:53		15:42 (9)	07:21		15:55 (9)
	16:59	23	16:29 (9)	17:38	18:11	19:44	20:16	20:36	20:27	19:50	18:59	18:10	16:34	23	16:05 (9)	16:31	10	16:05 (9)
22	07:19		16:07 (9)	06:45	06:00	06:09	05:34	05:24	05:42	06:13	06:45	07:17	06:54		15:42 (9)	07:22		15:55 (9)
	17:00	21	16:28 (9)	17:39	18:12	19:45	20:17	20:36	20:26	19:49	18:57	18:08	16:34	23	16:05 (9)	16:31	10	16:05 (9)
23	07:19		16:09 (9)	06:44	05:58	06:08	05:33	05:24	05:43	06:14	06:46	07:18	06:56		15:41 (9)	07:22		15:56 (9)
	17:02	19	16:28 (9)	17:41	18:13	19:47	20:18	20:36	20:26	19:47	18:56	18:07	16:33	24	16:05 (9)	16:32	10	16:06 (9)
24	07:18		16:10 (9)	06:42	05:57	06:06	05:32	05:25	05:44	06:15	06:47	07:19	06:57		15:41 (9)	07:23		15:56 (9)
	17:03	17	16:27 (9)	17:42	18:14	19:48	20:19	20:36	20:25	19:46	18:54	18:05	16:33	25	16:06 (9)	16:32	10	16:06 (9)
25	07:17		16:11 (9)	06:41	05:55	06:05	05:31	05:25	05:45	06:16	06:48	06:21	06:58		15:41 (9)	07:23		15:56 (9)
	17:04	15	16:26 (9)	17:43	18:15	19:49	20:19	20:36	20:24	19:44	18:52	17:04	16:32	25	16:06 (9)	16:33	10	16:06 (9)
26	07:17		16:13 (9)	06:39	05:53	06:03	05:31	05:25	05:46	06:17	06:49	06:22	06:59		15:42 (9)	07:23		15:57 (9)
	17:05	11	16:24 (9)	17:44	18:16	19:50	20:20	20:36	20:23	19:43	18:50	17:02	16:31	25	16:07 (9)	16:34	11	16:08 (9)
27	07:16		16:16 (9)	06:38	05:52	06:02	05:30	05:26	05:47	06:18	06:50	06:23	07:00		15:42 (9)	07:24		15:57 (9)
	17:07	6	16:22 (9)	17:45	18:17	19:51	20:21	20:36	20:22	19:41	18:49	17:01	16:31	24	16:06 (9)	16:34	11	16:08 (9)
28	07:15			06:36	05:50	06:01	05:29	05:26	05:48	06:19	06:51	06:24	07:01		15:42 (9)	07:24		15:58 (9)
	17:08			17:47	18:18	19:52	20:22	20:36	20:21	19:40	18:47	17:00	16:31	23	16:05 (9)	16:35	10	16:08 (9)
29	07:14				06:48	05:59	05:29	05:27	05:49	06:20	06:52	06:25	07:02		15:42 (9)	07:24		15:58 (9)
	17:09				19:19	19:53	20:23	20:36	20:20	19:38	18:45	16:58	16:30	23	16:05 (9)	16:36	11	16:09 (9)
30	07:13				06:46	05:58	05:28	05:27	05:50	06:21	06:53	06:27	07:03		15:43 (9)	07:25		15:59 (9)
	17:10				19:20	19:54	20:24	20:36	20:19	19:36	18:43	16:57	16:30	21	16:04 (9)	16:36	12	16:11 (9)
31	07:12				06:45		05:28		05:51	06:22		06:28				07:25		15:59 (9)
	17:12				19:22		20:24		20:18	19:35		16:56				16:37	12	16:11 (9)
Potential sun hours	296			296	369	399	450	454	461	429	375	345	297			286		
Total, worst case		511												326			402	

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)

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar

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	07:25	07:11	06:35	06:43	05:57	05:27	05:28	05:52	06:23	06:54	06:29	07:04
	16:38	17:13	17:48	19:23	19:55	20:25	20:36	20:17	19:33	18:42	16:54	16:30
2	07:25	07:10	06:33	06:41	05:55	05:27	05:28	05:53	06:24	06:55	06:30	07:06
	16:39	17:14	17:49	19:24	19:56	20:26	20:36	20:16	19:32	18:40	16:53	16:29
3	07:25	07:09	06:32	06:40	05:54	05:26	05:29	05:54	06:25	06:56	06:31	07:07
	16:40	17:16	17:50	19:25	19:57	20:27	20:36	20:15	19:30	18:38	16:52	16:29
4	07:25	07:08	06:30	06:38	05:53	05:26	05:29	05:55	06:26	06:57	06:33	07:08
	16:41	17:17	17:51	19:26	19:58	20:28	20:36	20:14	19:28	18:37	16:51	16:29
5	07:25	07:07	06:28	06:36	05:51	05:26	05:30	05:56	06:27	06:58	06:34	07:09
	16:42	17:18	17:53	19:27	20:00	20:28	20:36	20:12	19:27	18:35	16:50	16:29
6	07:25	07:06	06:27	06:35	05:50	05:25	05:30	05:57	06:28	06:59	06:35	07:10
	16:43	17:19	17:54	19:28	20:01	20:29	20:35	20:11	19:25	18:33	16:48	16:28
7	07:25	07:05	06:25	06:33	05:49	05:25	05:31	05:58	06:29	07:01	06:36	07:11
	16:44	17:21	17:55	19:29	20:02	20:30	20:35	20:10	19:23	18:32	16:47	16:28
8	07:25	07:04	06:24	06:31	05:48	05:25	05:32	05:59	06:31	07:02	06:38	07:11
	16:45	17:22	17:56	19:30	20:03	20:30	20:35	20:09	19:21	18:30	16:46	16:28
9	07:25	07:03	06:22	06:30	05:47	05:24	05:32	06:00	06:32	07:03	06:39	07:12
	16:46	17:23	17:57	19:31	20:04	20:31	20:34	20:07	19:20	18:28	16:45	16:28
10	07:25	07:01	06:20	06:28	05:46	05:24	05:33	06:01	06:33	07:04	06:40	07:13
	16:47	17:25	17:58	19:32	20:05	20:31	20:34	20:06	19:18	18:27	16:44	16:28
11	07:25	07:00	06:19	06:27	05:44	05:24	05:34	06:02	06:34	07:05	06:41	07:14
	16:48	17:26	17:59	19:34	20:06	20:32	20:34	20:05	19:16	18:25	16:43	16:28
12	07:24	06:59	06:17	06:25	05:43	05:24	05:34	06:03	06:35	07:06	06:42	07:15
	16:49	17:27	18:01	19:35	20:07	20:32	20:33	20:03	19:15	18:24	16:42	16:28
13	07:24	06:58	06:15	06:23	05:42	05:24	05:35	06:04	06:36	07:07	06:44	07:16
	16:50	17:28	18:02	19:36	20:08	20:33	20:33	20:02	19:13	18:22	16:41	16:29
14	07:24	06:56	06:14	06:22	05:41	05:24	05:36	06:05	06:37	07:08	06:45	07:17
	16:51	17:30	18:03	19:37	20:09	20:33	20:32	20:01	19:11	18:20	16:40	16:29
15	07:23	06:55	06:12	06:20	05:40	05:24	05:37	06:06	06:38	07:09	06:46	07:17
	16:52	17:31	18:04	19:38	20:10	20:34	20:31	19:59	19:09	18:19	16:39	16:29
16	07:23	06:54	06:10	06:19	05:39	05:24	05:37	06:07	06:39	07:10	06:47	07:18
	16:54	17:32	18:05	19:39	20:11	20:34	20:31	19:58	19:08	18:17	16:38	16:29
17	07:22	06:52	06:09	06:17	05:38	05:24	05:38	06:08	06:40	07:12	06:48	07:19
	16:55	17:33	18:06	19:40	20:12	20:35	20:30	19:56	19:06	18:16	16:38	16:29
18	07:22	06:51	06:07	06:15	05:37	05:24	05:39	06:09	06:41	07:13	06:50	07:19
	16:56	17:35	18:07	19:41	20:13	20:35	20:30	19:55	19:04	18:14	16:37	16:30
19	07:21	06:50	06:05	06:14	05:36	05:24	05:40	06:10	06:42	07:14	06:51	07:20
	16:57	17:36	18:08	19:42	20:14	20:35	20:29	19:54	19:03	18:13	16:36	16:30
20	07:21	06:48	06:04	06:12	05:35	05:24	05:41	06:11	06:43	07:15	06:52	07:21
	16:58	17:37	18:10	19:43	20:15	20:35	20:28	19:52	19:01	18:11	16:35	16:31
21	07:20	06:47	06:02	06:11	05:35	05:24	05:42	06:12	06:44	07:16	06:53	07:21
	16:59	17:38	18:11	19:44	20:16	20:36	20:27	19:51	18:59	18:10	16:35	16:31
22	07:19	06:45	06:00	06:09	05:34	05:24	05:43	06:13	06:45	07:17	06:54	07:22
	17:01	17:39	18:12	19:45	20:17	20:36	20:27	19:49	18:57	18:08	16:34	16:32
23	07:19	06:44	05:58	06:08	05:33	05:25	05:43	06:14	06:46	07:18	06:56	07:22
	17:02	17:41	18:13	19:47	20:18	20:36	20:26	19:47	18:56	18:07	16:33	16:32
24	07:18	06:42	05:57	06:06	05:32	05:25	05:44	06:15	06:47	07:20	06:57	07:23
	17:03	17:42	18:14	19:48	20:19	20:36	20:25	19:46	18:54	18:05	16:33	16:33
25	07:17	06:41	05:55	06:05	05:31	05:25	05:45	06:16	06:48	06:21	06:58	07:23
	17:04	17:43	18:15	19:49	20:19	20:36	20:24	19:44	18:52	17:04	16:32	16:33
26	07:17	06:39	05:53	06:04	05:31	05:26	05:46	06:17	06:49	06:22	06:59	07:23
	17:06	17:44	18:16	19:50	20:20	20:36	20:23	19:43	18:50	17:02	16:32	16:34
27	07:16	06:38	05:52	06:02	05:30	05:26	05:47	06:18	06:50	06:23	07:00	07:24
	17:07	17:45	18:17	19:51	20:21	20:36	20:22	19:41	18:49	17:01	16:31	16:34
28	07:15	06:36	05:50	06:01	05:29	05:26	05:48	06:19	06:51	06:24	07:01	07:24
	17:08	17:47	18:18	19:52	20:22	20:37	20:21	19:40	18:47	17:00	16:31	16:35
29	07:14		06:48	05:59	05:29	05:27	05:49	06:20	06:52	06:25	07:02	07:24
	17:09		19:19	19:53	20:23	20:36	20:20	19:38	18:45	16:58	16:30	16:36
30	07:13		06:47	05:58	05:28	05:27	05:50	06:21	06:53	06:27	07:03	07:25
	17:11		19:20	19:54	20:24	20:36	20:19	19:36	18:44	16:57	16:30	16:37
31	07:12		06:45		05:28		05:51	06:22		06:28		07:25
	17:12		19:22		20:25		20:18	19:35		16:56		16:37
Potential sun hours	296	296	369	399	450	454	461	429	375	345	297	286
Total, worst case												

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)

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar

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	07:25	07:11	06:35	06:43	05:57	05:27	05:28	05:52	06:23	06:54	06:29	07:04
	16:38	17:13	17:48	19:23	19:55	20:25	20:36	20:17	19:33	18:42	16:54	16:30
2	07:25	07:10	06:33	06:41	05:55	05:27	05:28	05:53	06:24	06:55	06:30	07:06
	16:39	17:14	17:49	19:24	19:56	20:26	20:36	20:16	19:31	18:40	16:53	16:29
3	07:25	07:09	06:32	06:40	05:54	05:26	05:29	05:54	06:25	06:56	06:31	07:07
	16:40	17:16	17:50	19:25	19:57	20:27	20:36	20:15	19:30	18:38	16:52	16:29
4	07:25	07:08	06:30	06:38	05:53	05:26	05:29	05:55	06:26	06:57	06:33	07:08
	16:41	17:17	17:51	19:26	19:58	20:28	20:36	20:14	19:28	18:37	16:51	16:29
5	07:25	07:07	06:28	06:36	05:51	05:26	05:30	05:56	06:27	06:58	06:34	07:09
	16:42	17:18	17:53	19:27	20:00	20:28	20:36	20:12	19:27	18:35	16:50	16:29
6	07:25	07:06	06:27	06:35	05:50	05:25	05:30	05:57	06:28	06:59	06:35	07:10
	16:43	17:19	17:54	19:28	20:01	20:29	20:35	20:11	19:25	18:33	16:48	16:28
7	07:25	07:05	06:25	06:33	05:49	05:25	05:31	05:58	06:29	07:00	06:36	07:11
	16:44	17:21	17:55	19:29	20:02	20:30	20:35	20:10	19:23	18:32	16:47	16:28
8	07:25	07:04	06:24	06:31	05:48	05:25	05:32	05:59	06:30	07:02	06:38	07:11
	16:45	17:22	17:56	19:30	20:03	20:30	20:35	20:09	19:21	18:30	16:46	16:28
9	07:25	07:03	06:22	06:30	05:47	05:24	05:32	06:00	06:32	07:03	06:39	07:12
	16:46	17:23	17:57	19:31	20:04	20:31	20:34	20:07	19:20	18:28	16:45	16:28
10	07:25	07:01	06:20	06:28	05:45	05:24	05:33	06:01	06:33	07:04	06:40	07:13
	16:47	17:25	17:58	19:32	20:05	20:31	20:34	20:06	19:18	18:27	16:44	16:28
11	07:24	07:00	06:19	06:27	05:44	05:24	05:34	06:02	06:34	07:05	06:41	07:14
	16:48	17:26	17:59	19:34	20:06	20:32	20:34	20:05	19:16	18:25	16:43	16:28
12	07:24	06:59	06:17	06:25	05:43	05:24	05:34	06:03	06:35	07:06	06:42	07:15
	16:49	17:27	18:01	19:35	20:07	20:32	20:33	20:03	19:15	18:24	16:42	16:28
13	07:24	06:58	06:15	06:23	05:42	05:24	05:35	06:04	06:36	07:07	06:44	07:16
	16:50	17:28	18:02	19:36	20:08	20:33	20:33	20:02	19:13	18:22	16:41	16:29
14	07:24	06:56	06:14	06:22	05:41	05:24	05:36	06:05	06:37	07:08	06:45	07:17
	16:51	17:30	18:03	19:37	20:09	20:33	20:32	20:01	19:11	18:20	16:40	16:29
15	07:23	06:55	06:12	06:20	05:40	05:24	05:37	06:06	06:38	07:09	06:46	07:17
	16:52	17:31	18:04	19:38	20:10	20:34	20:31	19:59	19:09	18:19	16:39	16:29
16	07:23	06:54	06:10	06:19	05:39	05:24	05:37	06:07	06:39	07:10	06:47	07:18
	16:54	17:32	18:05	19:39	20:11	20:34	20:31	19:58	19:08	18:17	16:38	16:29
17	07:22	06:52	06:09	06:17	05:38	05:24	05:38	06:08	06:40	07:12	06:48	07:19
	16:55	17:33	18:06	19:40	20:12	20:35	20:30	19:56	19:06	18:16	16:38	16:29
18	07:22	06:51	06:07	06:15	05:37	05:24	05:39	06:09	06:41	07:13	06:50	07:19
	16:56	17:35	18:07	19:41	20:13	20:35	20:30	19:55	19:04	18:14	16:37	16:30
19	07:21	06:50	06:05	06:14	05:36	05:24	05:40	06:10	06:42	07:14	06:51	07:20
	16:57	17:36	18:08	19:42	20:14	20:35	20:29	19:54	19:03	18:13	16:36	16:30
20	07:21	06:48	06:03	06:12	05:35	05:24	05:41	06:11	06:43	07:15	06:52	07:21
	16:58	17:37	18:10	19:43	20:15	20:35	20:28	19:52	19:01	18:11	16:35	16:31
21	07:20	06:47	06:02	06:11	05:35	05:24	05:42	06:12	06:44	07:16	06:53	07:21
	16:59	17:38	18:11	19:44	20:16	20:36	20:27	19:51	18:59	18:10	16:35	16:31
22	07:19	06:45	06:00	06:09	05:34	05:24	05:42	06:13	06:45	07:17	06:54	07:22
	17:01	17:39	18:12	19:45	20:17	20:36	20:27	19:49	18:57	18:08	16:34	16:32
23	07:19	06:44	05:58	06:08	05:33	05:25	05:43	06:14	06:46	07:18	06:56	07:22
	17:02	17:41	18:13	19:47	20:18	20:36	20:26	19:47	18:56	18:07	16:33	16:32
24	07:18	06:42	05:57	06:06	05:32	05:25	05:44	06:15	06:47	07:20	06:57	07:23
	17:03	17:42	18:14	19:48	20:19	20:36	20:25	19:46	18:54	18:05	16:33	16:33
25	07:17	06:41	05:55	06:05	05:31	05:25	05:45	06:16	06:48	06:21	06:58	07:23
	17:04	17:43	18:15	19:49	20:19	20:36	20:24	19:44	18:52	17:04	16:32	16:33
26	07:17	06:39	05:53	06:04	05:31	05:26	05:46	06:17	06:49	06:22	06:59	07:23
	17:06	17:44	18:16	19:50	20:20	20:36	20:23	19:43	18:50	17:02	16:32	16:34
27	07:16	06:38	05:52	06:02	05:30	05:26	05:47	06:18	06:50	06:23	07:00	07:24
	17:07	17:45	18:17	19:51	20:21	20:36	20:22	19:41	18:49	17:01	16:31	16:34
28	07:15	06:36	05:50	06:01	05:29	05:26	05:48	06:19	06:51	06:24	07:01	07:24
	17:08	17:47	18:18	19:52	20:22	20:36	20:21	19:40	18:47	17:00	16:31	16:35
29	07:14		06:48	05:59	05:29	05:27	05:49	06:20	06:52	06:25	07:02	07:24
	17:09		19:19	19:53	20:23	20:36	20:20	19:38	18:45	16:58	16:30	16:36
30	07:13		06:47	05:58	05:28	05:27	05:50	06:21	06:53	06:27	07:03	07:25
	17:11		19:20	19:54	20:24	20:36	20:19	19:36	18:44	16:57	16:30	16:37
31	07:12		06:45		05:28		05:51	06:22		06:28		07:25
	17:12		19:22		20:25		20:18	19:35		16:56		16:37
Potential sun hours	296	296	369	399	450	454	461	429	375	345	297	286
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)

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar

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	
1	07:25		07:11		06:35		06:43		05:57		17:41 (3)	05:27		17:52 (3)
	16:39		17:13		17:48		19:23		19:55	89	19:10 (3)	20:25	72	19:04 (3)
2	07:25		07:10		06:33		06:42		05:56		17:41 (3)	05:27		17:53 (3)
	16:40		17:15		17:49		19:24		19:56	89	19:10 (3)	20:26	71	19:04 (3)
3	07:25		07:09		06:32		06:40		18:23 (3)	05:54	17:41 (3)	05:27		17:53 (3)
	16:40		17:16		17:50		19:25	18	18:41 (3)	19:57	89	19:10 (3)	20:27	70	19:03 (3)
4	07:25		07:08		06:30		06:38		18:17 (3)	05:53	17:42 (3)	05:26		17:54 (3)
	16:41		17:17		17:52		19:26	29	18:46 (3)	19:59	88	19:10 (3)	20:28	69	19:03 (3)
5	07:25		07:07		06:28		06:37		18:12 (3)	05:52	17:41 (3)	05:26		17:55 (3)
	16:42		17:18		17:53		19:27	37	18:49 (3)	20:00	88	19:09 (3)	20:28	68	19:03 (3)
6	07:25		07:06		06:27		06:35		18:09 (3)	05:50	17:41 (3)	05:25		17:55 (3)
	16:43		17:20		17:54		19:28	44	18:53 (3)	20:01	89	19:10 (3)	20:29	68	19:03 (3)
7	07:25		07:05		06:25		06:33		18:06 (3)	05:49	17:41 (3)	05:25		17:56 (3)
	16:44		17:21		17:55		19:29	49	18:55 (3)	20:02	89	19:10 (3)	20:30	67	19:03 (3)
8	07:25		07:04		06:24		06:32		18:03 (3)	05:48	17:42 (3)	05:25		17:56 (3)
	16:45		17:22		17:56		19:30	53	18:56 (3)	20:03	88	19:10 (3)	20:30	67	19:03 (3)
9	07:25		07:03		06:22		06:30		18:02 (3)	05:47	17:42 (3)	05:25		17:57 (3)
	16:46		17:23		17:57		19:31	56	18:58 (3)	20:04	88	19:10 (3)	20:31	66	19:03 (3)
10	07:25		07:01		06:20		06:28		17:59 (3)	05:46	17:42 (3)	05:24		17:58 (3)
	16:47		17:25		17:58		19:33	60	18:59 (3)	20:05	87	19:09 (3)	20:31	65	19:03 (3)
11	07:25		07:00		06:19		06:27		17:57 (3)	05:45	17:43 (3)	05:24		17:58 (3)
	16:48		17:26		18:00		19:34	63	19:00 (3)	20:06	86	19:09 (3)	20:32	65	19:03 (3)
12	07:24		06:59		06:17		06:25		17:56 (3)	05:43	17:43 (3)	05:24		17:58 (3)
	16:49		17:27		18:01		19:35	66	19:02 (3)	20:07	86	19:09 (3)	20:32	64	19:02 (3)
13	07:24		06:58		06:15		06:24		17:54 (3)	05:42	17:43 (3)	05:24		17:58 (3)
	16:50		17:29		18:02		19:36	69	19:03 (3)	20:08	86	19:09 (3)	20:33	64	19:02 (3)
14	07:24		06:56		06:14		06:22		17:53 (3)	05:41	17:43 (3)	05:24		17:59 (3)
	16:51		17:30		18:03		19:37	71	19:04 (3)	20:09	86	19:09 (3)	20:33	63	19:02 (3)
15	07:23		06:55		06:12		06:20		17:51 (3)	05:40	17:44 (3)	05:24		17:59 (3)
	16:53		17:31		18:04		19:38	74	19:05 (3)	20:10	84	19:08 (3)	20:34	63	19:02 (3)
16	07:23		06:54		06:10		06:19		17:51 (3)	05:39	17:44 (3)	05:24		17:59 (3)
	16:54		17:32		18:05		19:39	75	19:06 (3)	20:11	84	19:08 (3)	20:34	63	19:02 (3)
17	07:22		06:52		06:09		06:17		17:49 (3)	05:38	17:44 (3)	05:24		18:01 (3)
	16:55		17:34		18:06		19:40	77	19:06 (3)	20:12	84	19:08 (3)	20:35	62	19:03 (3)
18	07:22		06:51		06:07		06:16		17:48 (3)	05:37	17:45 (3)	05:24		18:01 (3)
	16:56		17:35		18:07		19:41	79	19:07 (3)	20:13	82	19:07 (3)	20:35	62	19:03 (3)
19	07:21		06:50		06:05		06:14		17:47 (3)	05:37	17:45 (3)	05:24		18:01 (3)
	16:57		17:36		18:09		19:42	80	19:07 (3)	20:14	82	19:07 (3)	20:35	62	19:03 (3)
20	07:21		06:48		06:04		06:13		17:47 (3)	05:36	17:45 (3)	05:24		18:01 (3)
	16:58		17:37		18:10		19:43	81	19:08 (3)	20:15	81	19:06 (3)	20:36	62	19:03 (3)
21	07:20		06:47		06:02		06:11		17:45 (3)	05:35	17:47 (3)	05:24		18:01 (3)
	17:00		17:38		18:11		19:44	83	19:08 (3)	20:16	80	19:07 (3)	20:36	62	19:03 (3)
22	07:20		06:45		06:00		06:10		17:45 (3)	05:34	17:47 (3)	05:25		18:01 (3)
	17:01		17:40		18:12		19:46	84	19:09 (3)	20:17	79	19:06 (3)	20:36	62	19:03 (3)
23	07:19		06:44		05:59		06:08		17:44 (3)	05:33	17:47 (3)	05:25		18:02 (3)
	17:02		17:41		18:13		19:47	85	19:09 (3)	20:18	79	19:06 (3)	20:36	62	19:04 (3)
24	07:18		06:42		05:57		06:07		17:44 (3)	05:32	17:47 (3)	05:25		18:02 (3)
	17:03		17:42		18:14		19:48	85	19:09 (3)	20:19	78	19:05 (3)	20:36	62	19:04 (3)
25	07:17		06:41		05:55		06:05		17:43 (3)	05:32	17:48 (3)	05:25		18:02 (3)
	17:05		17:43		18:15		19:49	86	19:09 (3)	20:20	78	19:06 (3)	20:36	62	19:04 (3)
26	07:17		06:39		05:53		06:04		17:43 (3)	05:31	17:49 (3)	05:26		18:03 (3)
	17:06		17:44		18:16		19:50	87	19:10 (3)	20:20	76	19:05 (3)	20:36	62	19:05 (3)
27	07:16		06:38		05:52		06:02		17:43 (3)	05:30	17:50 (3)	05:26		18:02 (3)
	17:07		17:46		18:17		19:51	87	19:10 (3)	20:21	75	19:05 (3)	20:37	63	19:05 (3)
28	07:15		06:36		05:50		06:01		17:42 (3)	05:30	17:50 (3)	05:27		18:02 (3)
	17:08		17:47		18:18		19:52	88	19:10 (3)	20:22	75	19:05 (3)	20:37	63	19:05 (3)
29	07:14				06:48		06:00		17:42 (3)	05:29	17:51 (3)	05:27		18:03 (3)
	17:10				19:20		19:53	88	19:10 (3)	20:23	74	19:05 (3)	20:37	63	19:06 (3)
30	07:13				06:47		05:58		17:42 (3)	05:29	17:51 (3)	05:27		18:02 (3)
	17:11				19:21		19:54	88	19:10 (3)	20:24	73	19:04 (3)	20:36	64	19:06 (3)
31	07:12				06:45					05:28	17:52 (3)			
	17:12				19:22					20:25	72	19:04 (3)		
Potential sun hours	296		296		369		399			450		454		
Total, worst case								1942			2564			1938

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)

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar

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

	July			August			September			October	November	December
1	05:28		18:03 (3)	05:52		17:52 (3)	06:24		17:57 (3)	06:54	06:29	07:05
	20:36	64	19:07 (3)	20:17	87	19:19 (3)	19:33	63	19:00 (3)	18:42	16:55	16:30
2	05:28		18:02 (3)	05:53		17:52 (3)	06:25		17:58 (3)	06:55	06:30	07:06
	20:36	65	19:07 (3)	20:16	87	19:19 (3)	19:32	60	18:58 (3)	18:40	16:53	16:29
3	05:29		18:02 (3)	05:54		17:52 (3)	06:26		17:59 (3)	06:56	06:32	07:07
	20:36	66	19:08 (3)	20:15	87	19:19 (3)	19:30	56	18:55 (3)	18:39	16:52	16:29
4	05:29		18:02 (3)	05:55		17:51 (3)	06:27		18:00 (3)	06:57	06:33	07:08
	20:36	66	19:08 (3)	20:14	88	19:19 (3)	19:28	53	18:53 (3)	18:37	16:51	16:29
5	05:30		18:02 (3)	05:56		17:51 (3)	06:28		18:02 (3)	06:58	06:34	07:09
	20:36	67	19:09 (3)	20:12	88	19:19 (3)	19:27	49	18:51 (3)	18:35	16:50	16:29
6	05:31		18:01 (3)	05:57		17:51 (3)	06:29		18:04 (3)	07:00	06:35	07:10
	20:35	68	19:09 (3)	20:11	88	19:19 (3)	19:25	44	18:48 (3)	18:34	16:49	16:29
7	05:31		18:01 (3)	05:58		17:51 (3)	06:30		18:07 (3)	07:01	06:36	07:11
	20:35	68	19:09 (3)	20:10	88	19:19 (3)	19:23	37	18:44 (3)	18:32	16:48	16:29
8	05:32		18:02 (3)	05:59		17:51 (3)	06:31		18:10 (3)	07:02	06:38	07:12
	20:35	68	19:10 (3)	20:09	88	19:19 (3)	19:22	30	18:40 (3)	18:30	16:46	16:29
9	05:32		18:01 (3)	06:00		17:50 (3)	06:32		18:16 (3)	07:03	06:39	07:12
	20:34	69	19:10 (3)	20:07	89	19:19 (3)	19:20	19	18:35 (3)	18:29	16:45	16:28
10	05:33		18:01 (3)	06:01		17:50 (3)	06:33			07:04	06:40	07:13
	20:34	70	19:11 (3)	20:06	89	19:19 (3)	19:18			18:27	16:44	16:29
11	05:34		18:01 (3)	06:02		17:50 (3)	06:34			07:05	06:41	07:14
	20:34	71	19:12 (3)	20:05	89	19:19 (3)	19:16			18:25	16:43	16:29
12	05:35		18:00 (3)	06:03		17:50 (3)	06:35			07:06	06:42	07:15
	20:33	72	19:12 (3)	20:04	88	19:18 (3)	19:15			18:24	16:42	16:29
13	05:35		18:00 (3)	06:04		17:50 (3)	06:36			07:07	06:44	07:16
	20:33	72	19:12 (3)	20:02	88	19:18 (3)	19:13			18:22	16:41	16:29
14	05:36		18:00 (3)	06:05		17:50 (3)	06:37			07:08	06:45	07:17
	20:32	73	19:13 (3)	20:01	88	19:18 (3)	19:11			18:21	16:40	16:29
15	05:37		18:00 (3)	06:06		17:50 (3)	06:38			07:09	06:46	07:17
	20:32	74	19:14 (3)	19:59	87	19:17 (3)	19:10			18:19	16:39	16:29
16	05:38		17:58 (3)	06:07		17:50 (3)	06:39			07:11	06:47	07:18
	20:31	76	19:14 (3)	19:58	87	19:17 (3)	19:08			18:17	16:39	16:29
17	05:38		17:58 (3)	06:08		17:50 (3)	06:40			07:12	06:49	07:19
	20:30	76	19:14 (3)	19:57	86	19:16 (3)	19:06			18:16	16:38	16:30
18	05:39		17:58 (3)	06:09		17:50 (3)	06:41			07:13	06:50	07:19
	20:30	77	19:15 (3)	19:55	86	19:16 (3)	19:04			18:14	16:37	16:30
19	05:40		17:58 (3)	06:10		17:50 (3)	06:42			07:14	06:51	07:20
	20:29	77	19:15 (3)	19:54	85	19:15 (3)	19:03			18:13	16:36	16:30
20	05:41		17:58 (3)	06:11		17:50 (3)	06:43			07:15	06:52	07:21
	20:28	78	19:16 (3)	19:52	84	19:14 (3)	19:01			18:11	16:35	16:31
21	05:42		17:57 (3)	06:12		17:50 (3)	06:44			07:16	06:53	07:21
	20:27	80	19:17 (3)	19:51	84	19:14 (3)	18:59			18:10	16:35	16:31
22	05:43		17:56 (3)	06:13		17:50 (3)	06:45			07:17	06:54	07:22
	20:27	80	19:16 (3)	19:49	83	19:13 (3)	18:57			18:08	16:34	16:32
23	05:44		17:56 (3)	06:14		17:51 (3)	06:46			07:18	06:56	07:22
	20:26	81	19:17 (3)	19:48	81	19:12 (3)	18:56			18:07	16:33	16:32
24	05:45		17:56 (3)	06:15		17:51 (3)	06:47			07:20	06:57	07:23
	20:25	81	19:17 (3)	19:46	80	19:11 (3)	18:54			18:05	16:33	16:33
25	05:45		17:55 (3)	06:16		17:51 (3)	06:48			06:21	06:58	07:23
	20:24	83	19:18 (3)	19:44	79	19:10 (3)	18:52			17:04	16:32	16:33
26	05:46		17:55 (3)	06:17		17:52 (3)	06:49			06:22	06:59	07:23
	20:23	83	19:18 (3)	19:43	77	19:09 (3)	18:51			17:03	16:32	16:34
27	05:47		17:55 (3)	06:18		17:52 (3)	06:50			06:23	07:00	07:24
	20:22	83	19:18 (3)	19:41	76	19:08 (3)	18:49			17:01	16:31	16:35
28	05:48		17:55 (3)	06:19		17:53 (3)	06:51			06:24	07:01	07:24
	20:21	84	19:19 (3)	19:40	74	19:07 (3)	18:47			17:00	16:31	16:35
29	05:49		17:54 (3)	06:21		17:54 (3)	06:52			06:26	07:02	07:24
	20:20	85	19:19 (3)	19:38	71	19:05 (3)	18:45			16:59	16:30	16:36
30	05:50		17:54 (3)	06:22		17:55 (3)	06:53			06:27	07:03	07:25
	20:19	85	19:19 (3)	19:37	69	19:04 (3)	18:44			16:57	16:30	16:37
31	05:51		17:54 (3)	06:23		17:56 (3)				06:28		07:25
	20:18	86	19:20 (3)	19:35	66	19:02 (3)				16:56		16:38
Potential sun hours	460			429			375			345	297	286
Total, worst case		2328			2587			411				

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)

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06/03/2020 16:15/3.3.274

SHADOW - Calendar

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	July	August	September		October		November		December
1	07:25	07:11		06:35		15:50 (3)	06:43	05:57	05:27	05:28	05:52	06:24		06:54		16:30 (3)	06:29		15:35 (3)	07:05
	16:39	17:13		17:48	77	17:07 (3)	19:23	19:55	20:25	20:36	20:17	19:33		18:42	71	17:41 (3)	16:55	47	16:22 (3)	16:30
2	07:25	07:10		06:33		15:49 (3)	06:42	05:56	05:27	05:28	05:53	06:25		06:55		16:30 (3)	06:30		15:37 (3)	07:06
	16:40	17:15		17:49	78	17:07 (3)	19:24	19:56	20:26	20:36	20:16	19:32		18:40	72	17:42 (3)	16:53	43	16:20 (3)	16:29
3	07:25	07:09		06:32		15:49 (3)	06:40	05:54	05:27	05:29	05:54	06:26		06:56		16:29 (3)	06:32		15:39 (3)	07:07
	16:40	17:16		17:50	78	17:07 (3)	19:25	19:57	20:27	20:36	20:15	19:30		18:39	73	17:42 (3)	16:52	38	16:17 (3)	16:29
4	07:25	07:08	16:26 (3)	06:30		15:49 (3)	06:38	05:53	05:26	05:29	05:55	06:27		06:57		16:28 (3)	06:33		15:42 (3)	07:08
	16:41	17:17	5 16:31 (3)	17:52	78	17:07 (3)	19:26	19:59	20:28	20:36	20:14	19:28		18:37	74	17:42 (3)	16:51	34	16:16 (3)	16:29
5	07:25	07:07	16:18 (3)	06:28		15:49 (3)	06:37	05:52	05:26	05:30	05:56	06:28		06:58		16:27 (3)	06:34		15:45 (3)	07:09
	16:42	17:18	21 16:39 (3)	17:53	77	17:06 (3)	19:27	20:00	20:28	20:36	20:12	19:27		18:35	75	17:42 (3)	16:50	27	16:12 (3)	16:29
6	07:25	07:06	16:15 (3)	06:27		15:49 (3)	06:35	05:50	05:25	05:31	05:57	06:29		07:00		16:26 (3)	06:35		15:49 (3)	07:10
	16:43	17:20	28 16:43 (3)	17:54	77	17:06 (3)	19:28	20:01	20:29	20:35	20:11	19:25		18:34	76	17:42 (3)	16:49	19	16:08 (3)	16:29
7	07:25	07:05	16:12 (3)	06:25		15:49 (3)	06:33	05:49	05:25	05:31	05:58	06:30		07:01		16:25 (3)	06:36			07:11
	16:44	17:21	34 16:46 (3)	17:55	77	17:06 (3)	19:29	20:02	20:30	20:35	20:10	19:23		18:32	77	17:42 (3)	16:48			16:29
8	07:25	07:04	16:10 (3)	06:24		15:50 (3)	06:32	05:48	05:25	05:32	05:59	06:31		07:02		16:24 (3)	06:38			07:12
	16:45	17:22	39 16:49 (3)	17:56	76	17:06 (3)	19:30	20:03	20:30	20:35	20:09	19:22		18:30	78	17:42 (3)	16:46			16:29
9	07:25	07:03	16:07 (3)	06:22		15:50 (3)	06:30	05:47	05:25	05:32	06:00	06:32		07:03		16:24 (3)	06:39			07:12
	16:46	17:23	43 16:50 (3)	17:57	75	17:05 (3)	19:31	20:04	20:31	20:34	20:07	19:20		18:29	77	17:41 (3)	16:45			16:28
10	07:25	07:01	16:05 (3)	06:20		15:50 (3)	06:28	05:46	05:24	05:33	06:01	06:33		07:04		16:23 (3)	06:40			07:13
	16:47	17:25	47 16:52 (3)	17:58	74	17:04 (3)	19:33	20:05	20:31	20:34	20:06	19:18		18:27	78	17:41 (3)	16:44			16:29
11	07:25	07:00	16:04 (3)	06:19		15:51 (3)	06:27	05:45	05:24	05:34	06:02	06:34		07:05		16:23 (3)	06:41			07:14
	16:48	17:26	50 16:54 (3)	18:00	73	17:04 (3)	19:34	20:06	20:32	20:34	20:05	19:16		18:25	78	17:41 (3)	16:43			16:29
12	07:24	06:59	16:03 (3)	06:17		15:51 (3)	06:25	05:43	05:24	05:35	06:03	06:35		07:06		16:23 (3)	06:42			07:15
	16:49	17:27	53 16:56 (3)	18:01	72	17:03 (3)	19:35	20:07	20:32	20:33	20:04	19:15		18:24	78	17:41 (3)	16:42			16:29
13	07:24	06:58	16:01 (3)	06:15		15:51 (3)	06:24	05:42	05:24	05:35	06:04	06:36		07:07		16:23 (3)	06:44			07:16
	16:50	17:29	56 16:57 (3)	18:02	71	17:02 (3)	19:36	20:08	20:33	20:33	20:02	19:13		18:22	78	17:41 (3)	16:41			16:29
14	07:24	06:56	16:00 (3)	06:14		15:52 (3)	06:22	05:41	05:24	05:36	06:05	06:37		07:08		16:23 (3)	06:45			07:17
	16:51	17:30	59 16:59 (3)	18:03	69	17:01 (3)	19:37	20:09	20:33	20:32	20:01	19:11		18:21	77	17:40 (3)	16:40			16:29
15	07:23	06:55	15:59 (3)	06:12		15:53 (3)	06:20	05:40	05:24	05:37	06:06	06:38		07:09		16:23 (3)	06:46			07:17
	16:53	17:31	61 17:00 (3)	18:04	67	17:00 (3)	19:38	20:10	20:34	20:32	19:59	19:10		18:19	76	17:39 (3)	16:39			16:29
16	07:23	06:54	15:57 (3)	06:10		15:53 (3)	06:19	05:39	05:24	05:38	06:07	06:39	17:03 (3)	07:11		16:22 (3)	06:47			07:18
	16:54	17:32	64 17:01 (3)	18:05	66	16:59 (3)	19:39	20:11	20:34	20:31	19:58	19:08	20 17:23 (3)	18:17	77	17:39 (3)	16:39			16:29
17	07:22	06:52	15:57 (3)	06:09		15:54 (3)	06:17	05:38	05:24	05:38	06:08	06:40	16:58 (3)	07:12		16:22 (3)	06:49			07:19
	16:55	17:34	65 17:02 (3)	18:06	63	16:57 (3)	19:40	20:12	20:35	20:30	19:57	19:06	29 17:27 (3)	18:16	76	17:38 (3)	16:38			16:30
18	07:22	06:51	15:55 (3)	06:07		15:56 (3)	06:16	05:37	05:24	05:39	06:09	06:41	16:55 (3)	07:13		16:23 (3)	06:50			07:19
	16:56	17:35	67 17:02 (3)	18:07	60	16:56 (3)	19:41	20:13	20:35	20:30	19:55	19:04	34 17:29 (3)	18:14	75	17:38 (3)	16:37			16:30
19	07:21	06:50	15:55 (3)	06:05		15:56 (3)	06:14	05:37	05:24	05:40	06:10	06:42	16:52 (3)	07:14		16:23 (3)	06:51			07:20
	16:57	17:36	69 17:04 (3)	18:09	59	16:55 (3)	19:42	20:14	20:35	20:29	19:54	19:03	39 17:31 (3)	18:13	74	17:37 (3)	16:36			16:30
20	07:21	06:48	15:54 (3)	06:04		15:57 (3)	06:13	05:36	05:24	05:41	06:11	06:43	16:49 (3)	07:15		16:24 (3)	06:52			07:21
	16:58	17:37	71 17:05 (3)	18:10	56	16:53 (3)	19:43	20:15	20:36	20:28	19:52	19:01	44 17:33 (3)	18:11	72	17:36 (3)	16:35			16:31
21	07:20	06:47	15:53 (3)	06:02		15:59 (3)	06:11	05:35	05:24	05:42	06:12	06:44	16:47 (3)	07:16		16:24 (3)	06:53			07:21
	17:00	17:38	72 17:05 (3)	18:11	53	16:52 (3)	19:44	20:16	20:36	20:27	19:51	18:59	48 17:35 (3)	18:10	71	17:35 (3)	16:35			16:31
22	07:20	06:45	15:53 (3)	06:00		16:01 (3)	06:10	05:34	05:25	05:43	06:13	06:45	16:44 (3)	07:17		16:24 (3)	06:54			07:22
	17:01	17:40	73 17:06 (3)	18:12	49	16:50 (3)	19:46	20:17	20:36	20:27	19:49	18:57	52 17:36 (3)	18:08	70	17:34 (3)	16:34			16:32
23	07:19	06:44	15:52 (3)	05:59		16:02 (3)	06:08	05:33	05:25	05:44	06:14	06:46	16:42 (3)	07:18		16:25 (3)	06:56			07:22
	17:02	17:41	74 17:06 (3)	18:13	45	16:47 (3)	19:47	20:18	20:36	20:26	19:48	18:56	55 17:37 (3)	18:07	69	17:34 (3)	16:33			16:32
24	07:18	06:42	15:52 (3)	05:57		16:05 (3)	06:07	05:32	05:25	05:45	06:15	06:47	16:40 (3)	07:20		16:26 (3)	06:57			07:23
	17:03	17:42	75 17:07 (3)	18:14	41	16:46 (3)	19:48	20:19	20:36	20:25	19:46	18:54	58 17:38 (3)	18:05	67	17:33 (3)	16:33			16:33
25	07:17	06:41	15:51 (3)	05:55		16:07 (3)	06:05	05:32	05:25	05:45	06:16	06:48	16:38 (3)	06:21		15:27 (3)	06:58			07:23
	17:05	17:43	75 17:06 (3)	18:15	36	16:43 (3)	19:49	20:20	20:36	20:24	19:44	18:52	61 17:39 (3)	17:04	64	16:31 (3)	16:32			16:33
26	07:17	06:39	15:51 (3)	05:53		16:09 (3)	06:04	05:31	05:26	05:46	06:17	06:49	16:37 (3)	06:22		15:27 (3)	06:59			07:23
	17:06	17:44	76 17:07 (3)	18:16	30	16:39 (3)	19:50	20:20	20:36	20:23	19:43	18:51	62 17:39 (3)	17:03	63	16:30 (3)	16:32			16:34
27	07:16	06:38	15:50 (3)	05:52		16:13 (3)	06:02	05:30	05:26	05:47	06:18	06:50	16:35 (3)	06:23		15:29 (3)	07:00			07:24
	17:07	17:46	77 17:07 (3)	18:17	22	16:35 (3)	19:51	20:21	20:37	20:22	19:41	18:49	65 17:40 (3)	17:01	61	16:30 (3)	16:31			16:35
28	07:15	06:36	15:49 (3)	05:50		16:21 (3)	06:01	05:30	05:26	05:48	06:19	06:51	16:34 (3)	06:24		15:30 (3)	07:01			07:24
	17:08	17:47	78 17:07 (3)	18:18	7	16:28 (3)	19:52	20:22	20:37	20:21	19:40	18:47	66 17:40 (3)	17:00	58	16:28 (3)	16:31			16:35
29	07:14			06:48			06:00	05:29	05:27	05:49	06:21	06:52	16:32 (3)	06:26		15:31 (3)	07:02			07:24
	17:10			19:20			19:53	20:23	20:37	20:20	19:38	18:45	69 17:41 (3)	16:59	55	16:26 (3)	16:30			16:36
30	07:13			06:47			05:58	05:29	05:27	05:50	06:22	06:53	16:31 (3)	06:27		15:32 (3)	07:03			07:25
	17:11			19:21			19:54	20:24	20:36	20:19	19:37	18:44	70 17:41 (3)	16:57	53	16:25 (3)	16:30			16:37
31	07:12			06:45				05:28		05:51	06:23			06:28		15:34 (3)				07:25
	17:12			19:22				20:25		20:18	19:35			16:56	50	16:24 (3)				16:38
Potential sun hours	296	296		369		399	450	454	461	429	375		345		297		286			
Total, worst case			1432		1706							772		2193		208				

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)

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar

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		
1	07:25			07:11		16:04 (3)	06:35		16:03 (3)	06:43			05:57			05:27		19:24 (4)
	16:39			17:13	44	16:48 (3)	17:48	47	16:50 (3)	19:23			19:55			20:25	36	20:00 (4)
2	07:25			07:10		16:03 (3)	06:33		16:03 (3)	06:42			05:56			05:27		19:24 (4)
	16:39			17:15	46	16:49 (3)	17:49	45	16:48 (3)	19:24			19:56			20:26	37	20:01 (4)
3	07:25			07:09		16:01 (3)	06:32		16:05 (3)	06:40			05:54			05:27		19:23 (4)
	16:40			17:16	48	16:49 (3)	17:50	42	16:47 (3)	19:25			19:57			20:27	38	20:01 (4)
4	07:25			07:08		16:01 (3)	06:30		16:07 (3)	06:38			05:53			05:26		19:23 (4)
	16:41			17:17	49	16:50 (3)	17:52	38	16:45 (3)	19:26			19:59			20:28	39	20:02 (4)
5	07:25			07:07		16:00 (3)	06:28		16:08 (3)	06:37			05:52			05:26		19:23 (4)
	16:42			17:18	51	16:51 (3)	17:53	34	16:42 (3)	19:27			20:00			20:28	40	20:03 (4)
6	07:25			07:06		16:00 (3)	06:27		16:11 (3)	06:35			05:50			05:25		19:22 (4)
	16:43			17:20	52	16:52 (3)	17:54	29	16:40 (3)	19:28			20:01			20:29	41	20:03 (4)
7	07:25			07:05		15:59 (3)	06:25		16:13 (3)	06:33			05:49			05:25		19:23 (4)
	16:44			17:21	54	16:53 (3)	17:55	24	16:37 (3)	19:29			20:02			20:30	41	20:04 (4)
8	07:25			07:04		15:59 (3)	06:24		16:18 (3)	06:32			05:48			05:25		19:23 (4)
	16:45			17:22	55	16:54 (3)	17:56	15	16:33 (3)	19:30			20:03			20:30	42	20:05 (4)
9	07:25			07:03		15:58 (3)	06:22			06:30			05:47			05:25		19:23 (4)
	16:46			17:23	56	16:54 (3)	17:57			19:31			20:04			20:31	43	20:06 (4)
10	07:25			07:01		15:58 (3)	06:20			06:28			05:46			05:24		19:23 (4)
	16:47			17:25	57	16:55 (3)	17:58			19:33			20:05			20:31	43	20:06 (4)
11	07:25			07:00		15:57 (3)	06:19			06:27			05:45			05:24		19:23 (4)
	16:48			17:26	59	16:56 (3)	18:00			19:34			20:06			20:32	44	20:07 (4)
12	07:24			06:59		15:58 (3)	06:17			06:25			05:43			05:24		19:22 (4)
	16:49			17:27	58	16:56 (3)	18:01			19:35			20:07			20:32	44	20:06 (4)
13	07:24			06:58		15:57 (3)	06:15			06:24			05:42			05:24		19:23 (4)
	16:50			17:29	59	16:56 (3)	18:02			19:36			20:08			20:33	44	20:07 (4)
14	07:24			06:56		15:57 (3)	06:14			06:22			05:41			05:24		19:23 (4)
	16:51			17:30	60	16:57 (3)	18:03			19:37			20:09			20:33	44	20:07 (4)
15	07:23			06:55		15:57 (3)	06:12			06:20			05:40			05:24		19:23 (4)
	16:53			17:31	60	16:57 (3)	18:04			19:38			20:10			20:34	45	20:08 (4)
16	07:23			06:54		15:56 (3)	06:10			06:19			05:39			05:24		19:23 (4)
	16:54			17:32	60	16:56 (3)	18:05			19:39			20:11			20:34	45	20:08 (4)
17	07:22			06:52		15:57 (3)	06:09			06:17			05:38			05:24		19:23 (4)
	16:55			17:34	60	16:57 (3)	18:06			19:40			20:12			20:35	45	20:08 (4)
18	07:22			06:51		15:56 (3)	06:07			06:16			05:37			05:24		19:24 (4)
	16:56			17:35	60	16:56 (3)	18:07			19:41			20:13			20:35	46	20:10 (4)
19	07:21			06:50		15:57 (3)	06:05			06:14			05:37		19:39 (4)	05:24		19:24 (4)
	16:57			17:36	59	16:56 (3)	18:09			19:42			20:14	5	19:44 (4)	20:35	46	20:10 (4)
20	07:21			06:48		15:57 (3)	06:04			06:13			05:36		19:35 (4)	05:24		19:24 (4)
	16:58			17:37	60	16:57 (3)	18:10			19:43			20:15	14	19:49 (4)	20:36	46	20:10 (4)
21	07:20			06:47		15:57 (3)	06:02			06:11			05:35		19:33 (4)	05:24		19:24 (4)
	17:00			17:38	59	16:56 (3)	18:11			19:44			20:16	19	19:52 (4)	20:36	46	20:10 (4)
22	07:20			06:45		15:58 (3)	06:00			06:10			05:34		19:31 (4)	05:25		19:24 (4)
	17:01			17:40	58	16:56 (3)	18:12			19:46			20:17	21	19:52 (4)	20:36	46	20:10 (4)
23	07:19			06:44		15:58 (3)	05:59			06:08			05:33		19:29 (4)	05:25		19:25 (4)
	17:02			17:41	57	16:55 (3)	18:13			19:47			20:18	24	19:53 (4)	20:36	46	20:11 (4)
24	07:18		16:18 (3)	06:42		15:59 (3)	05:57			06:07			05:32		19:28 (4)	05:25		19:25 (4)
	17:03	11	16:29 (3)	17:42	56	16:55 (3)	18:14			19:48			20:19	25	19:53 (4)	20:36	46	20:11 (4)
25	07:17		16:14 (3)	06:41		15:59 (3)	05:55			06:05			05:32		19:28 (4)	05:25		19:25 (4)
	17:05	19	16:33 (3)	17:43	55	16:54 (3)	18:15			19:49			20:20	27	19:55 (4)	20:36	45	20:10 (4)
26	07:17		16:12 (3)	06:39		16:00 (3)	05:53			06:04			05:31		19:26 (4)	05:26		19:26 (4)
	17:06	24	16:36 (3)	17:44	53	16:53 (3)	18:16			19:50			20:20	29	19:55 (4)	20:36	45	20:11 (4)
27	07:16		16:10 (3)	06:38		16:01 (3)	05:52			06:02			05:30		19:26 (4)	05:26		19:26 (4)
	17:07	28	16:38 (3)	17:46	51	16:52 (3)	18:17			19:51			20:21	31	19:57 (4)	20:37	45	20:11 (4)
28	07:15		16:08 (3)	06:36		16:01 (3)	05:50			06:01			05:30		19:25 (4)	05:26		19:26 (4)
	17:08	32	16:40 (3)	17:47	49	16:50 (3)	18:18			19:52			20:22	32	19:57 (4)	20:37	45	20:11 (4)
29	07:14		16:07 (3)				06:48			06:00			05:29		19:25 (4)	05:27		19:27 (4)
	17:10	36	16:43 (3)				19:20			19:53			20:23	33	19:58 (4)	20:37	44	20:11 (4)
30	07:13		16:06 (3)				06:47			05:58			05:28		19:24 (4)	05:27		19:26 (4)
	17:11	39	16:45 (3)				19:21			19:54			20:24	35	19:59 (4)	20:36	45	20:11 (4)
31	07:12		16:05 (3)				06:45						05:28		19:24 (4)			
	17:12	41	16:46 (3)				19:22						20:25	36	20:00 (4)			
Potential sun hours	296			296			369			399			450			454		
Total, worst case		230			1545			274						331			1302	

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)

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar

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

	July			August		September	October			November			December
1	05:28		19:27 (4)	05:52		06:24	06:54			06:29		15:27 (3)	07:05
	20:36	44	20:11 (4)	20:17		19:33	18:42			16:55	58	16:25 (3)	16:30
2	05:28		19:27 (4)	05:53		06:25	06:55			06:30		15:28 (3)	07:06
	20:36	43	20:10 (4)	20:16		19:32	18:40			16:53	56	16:24 (3)	16:29
3	05:29		19:28 (4)	05:54		06:26	06:56			06:32		15:28 (3)	07:07
	20:36	43	20:11 (4)	20:15		19:30	18:39			16:52	55	16:23 (3)	16:29
4	05:29		19:28 (4)	05:55		06:27	06:57			06:33		15:29 (3)	07:08
	20:36	42	20:10 (4)	20:14		19:28	18:37			16:51	54	16:23 (3)	16:29
5	05:30		19:29 (4)	05:56		06:28	06:58		16:58 (3)	06:34		15:30 (3)	07:09
	20:36	41	20:10 (4)	20:12		19:27	18:35	8	17:06 (3)	16:50	52	16:22 (3)	16:29
6	05:31		19:28 (4)	05:57		06:29	07:00		16:52 (3)	06:35		15:30 (3)	07:10
	20:35	42	20:10 (4)	20:11		19:25	18:34	20	17:12 (3)	16:49	51	16:21 (3)	16:29
7	05:31		19:29 (4)	05:58		06:30	07:01		16:48 (3)	06:36		15:32 (3)	07:11
	20:35	41	20:10 (4)	20:10		19:23	18:32	27	17:15 (3)	16:48	49	16:21 (3)	16:29
8	05:32		19:30 (4)	05:59		06:31	07:02		16:45 (3)	06:38		15:32 (3)	07:12
	20:35	40	20:10 (4)	20:09		19:22	18:30	32	17:17 (3)	16:46	48	16:20 (3)	16:29
9	05:32		19:30 (4)	06:00		06:32	07:03		16:42 (3)	06:39		15:33 (3)	07:12
	20:34	39	20:09 (4)	20:07		19:20	18:29	36	17:18 (3)	16:45	46	16:19 (3)	16:28
10	05:33		19:31 (4)	06:01		06:33	07:04		16:40 (3)	06:40		15:35 (3)	07:13
	20:34	38	20:09 (4)	20:06		19:18	18:27	40	17:20 (3)	16:44	43	16:18 (3)	16:28
11	05:34		19:32 (4)	06:02		06:34	07:05		16:38 (3)	06:41		15:36 (3)	07:14
	20:34	37	20:09 (4)	20:05		19:16	18:25	43	17:21 (3)	16:43	41	16:17 (3)	16:29
12	05:35		19:31 (4)	06:03		06:35	07:06		16:37 (3)	06:42		15:37 (3)	07:15
	20:33	37	20:08 (4)	20:04		19:15	18:24	46	17:23 (3)	16:42	39	16:16 (3)	16:29
13	05:35		19:32 (4)	06:04		06:36	07:07		16:35 (3)	06:44		15:38 (3)	07:16
	20:33	35	20:07 (4)	20:02		19:13	18:22	49	17:24 (3)	16:41	36	16:14 (3)	16:29
14	05:36		19:33 (4)	06:05		06:37	07:08		16:34 (3)	06:45		15:41 (3)	07:17
	20:32	34	20:07 (4)	20:01		19:11	18:21	50	17:24 (3)	16:40	32	16:13 (3)	16:29
15	05:37		19:34 (4)	06:06		06:38	07:09		16:33 (3)	06:46		15:43 (3)	07:17
	20:32	33	20:07 (4)	19:59		19:10	18:19	52	17:25 (3)	16:39	28	16:11 (3)	16:29
16	05:38		19:34 (4)	06:07		06:39	07:11		16:31 (3)	06:47		15:45 (3)	07:18
	20:31	32	20:06 (4)	19:58		19:08	18:17	54	17:25 (3)	16:39	24	16:09 (3)	16:29
17	05:38		19:35 (4)	06:08		06:40	07:12		16:30 (3)	06:49		15:48 (3)	07:19
	20:30	30	20:05 (4)	19:57		19:06	18:16	55	17:25 (3)	16:38	19	16:07 (3)	16:30
18	05:39		19:37 (4)	06:09		06:41	07:13		16:30 (3)	06:50		15:52 (3)	07:19
	20:30	28	20:05 (4)	19:55		19:04	18:14	56	17:26 (3)	16:37	11	16:03 (3)	16:30
19	05:40		19:38 (4)	06:10		06:42	07:14		16:29 (3)	06:51			07:20
	20:29	26	20:04 (4)	19:54		19:03	18:13	57	17:26 (3)	16:36			16:30
20	05:41		19:39 (4)	06:11		06:43	07:15		16:28 (3)	06:52			07:21
	20:28	25	20:04 (4)	19:52		19:01	18:11	58	17:26 (3)	16:35			16:31
21	05:42		19:40 (4)	06:12		06:44	07:16		16:28 (3)	06:53			07:21
	20:27	22	20:02 (4)	19:51		18:59	18:10	58	17:26 (3)	16:35			16:31
22	05:43		19:42 (4)	06:13		06:45	07:17		16:27 (3)	06:54			07:22
	20:27	20	20:02 (4)	19:49		18:57	18:08	59	17:26 (3)	16:34			16:32
23	05:44		19:44 (4)	06:14		06:46	07:18		16:27 (3)	06:56			07:22
	20:26	17	20:01 (4)	19:48		18:56	18:07	60	17:27 (3)	16:33			16:32
24	05:45		19:47 (4)	06:15		06:47	07:20		16:27 (3)	06:57			07:23
	20:25	11	19:58 (4)	19:46		18:54	18:05	60	17:27 (3)	16:33			16:33
25	05:45			06:16		06:48	06:21		15:26 (3)	06:58			07:23
	20:24			19:44		18:52	17:04	61	16:27 (3)	16:32			16:33
26	05:46			06:17		06:49	06:22		15:26 (3)	06:59			07:23
	20:23			19:43		18:51	17:03	60	16:26 (3)	16:32			16:34
27	05:47			06:18		06:50	06:23		15:27 (3)	07:00			07:24
	20:22			19:41		18:49	17:01	60	16:27 (3)	16:31			16:35
28	05:48			06:19		06:51	06:24		15:26 (3)	07:01			07:24
	20:21			19:40		18:47	17:00	60	16:26 (3)	16:31			16:35
29	05:49			06:21		06:52	06:26		15:26 (3)	07:02			07:24
	20:20			19:38		18:45	16:59	60	16:26 (3)	16:30			16:36
30	05:50			06:22		06:53	06:27		15:26 (3)	07:03			07:25
	20:19			19:37		18:44	16:57	59	16:25 (3)	16:30			16:37
31	05:51			06:23			06:28		15:27 (3)				07:25
	20:18			19:35			16:56	58	16:25 (3)				16:38
Potential sun hours	461			429		375	345			297			286
Total, worst case		800						1338			742		

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)

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar

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	
1	07:25	07:11		06:35	16:23 (3)	06:43	05:57		05:27	19:12 (4)
	16:39	17:13		17:48	41 17:04 (3)	19:23	19:55		20:25	38 19:50 (4)
2	07:25	07:10		06:33	16:24 (3)	06:42	05:56		05:27	19:13 (4)
	16:39	17:15		17:49	38 17:02 (3)	19:24	19:56		20:26	37 19:50 (4)
3	07:25	07:09	16:41 (3)	06:32	16:26 (3)	06:40	05:54	19:28 (4)	05:27	19:12 (4)
	16:40	17:16	4 16:45 (3)	17:50	35 17:01 (3)	19:25	19:57	4 19:32 (4)	20:27	37 19:49 (4)
4	07:25	07:08	16:36 (3)	06:30	16:27 (3)	06:38	05:53	19:23 (4)	05:26	19:13 (4)
	16:41	17:17	15 16:51 (3)	17:52	32 16:59 (3)	19:26	19:59	13 19:36 (4)	20:28	36 19:49 (4)
5	07:25	07:07	16:33 (3)	06:28	16:28 (3)	06:37	05:52	19:20 (4)	05:26	19:14 (4)
	16:42	17:18	21 16:54 (3)	17:53	29 16:57 (3)	19:27	20:00	16 19:36 (4)	20:28	36 19:50 (4)
6	07:25	07:06	16:31 (3)	06:27	16:31 (3)	06:35	05:50	19:18 (4)	05:25	19:14 (4)
	16:43	17:20	25 16:56 (3)	17:54	24 16:55 (3)	19:28	20:01	19 19:37 (4)	20:29	35 19:49 (4)
7	07:25	07:05	16:29 (3)	06:25	16:33 (3)	06:33	05:49	19:16 (4)	05:25	19:14 (4)
	16:44	17:21	29 16:58 (3)	17:55	18 16:51 (3)	19:29	20:02	22 19:38 (4)	20:30	35 19:49 (4)
8	07:25	07:04	16:28 (3)	06:24	16:39 (3)	06:32	05:48	19:15 (4)	05:25	19:15 (4)
	16:45	17:22	31 16:59 (3)	17:56	8 16:47 (3)	19:30	20:03	24 19:39 (4)	20:30	34 19:49 (4)
9	07:25	07:03	16:26 (3)	06:22		06:30	05:47	19:14 (4)	05:25	19:15 (4)
	16:46	17:23	34 17:00 (3)	17:57		19:31	20:04	26 19:40 (4)	20:31	34 19:49 (4)
10	07:25	07:01	16:25 (3)	06:20		06:28	05:46	19:13 (4)	05:24	19:16 (4)
	16:47	17:25	36 17:01 (3)	17:58		19:33	20:05	28 19:41 (4)	20:31	34 19:50 (4)
11	07:25	07:00	16:25 (3)	06:19		06:27	05:45	19:13 (4)	05:24	19:17 (4)
	16:48	17:26	38 17:03 (3)	18:00		19:34	20:06	29 19:42 (4)	20:32	33 19:50 (4)
12	07:24	06:59	16:24 (3)	06:17		06:25	05:43	19:12 (4)	05:24	19:16 (4)
	16:49	17:27	41 17:05 (3)	18:01		19:35	20:07	31 19:43 (4)	20:32	33 19:49 (4)
13	07:24	06:58	16:23 (3)	06:15		06:24	05:42	19:11 (4)	05:24	19:16 (4)
	16:50	17:29	42 17:05 (3)	18:02		19:36	20:08	33 19:44 (4)	20:33	33 19:49 (4)
14	07:24	06:56	16:22 (3)	06:14		06:22	05:41	19:11 (4)	05:24	19:17 (4)
	16:51	17:30	44 17:06 (3)	18:03		19:37	20:09	34 19:45 (4)	20:33	32 19:49 (4)
15	07:23	06:55	16:22 (3)	06:12		06:20	05:40	19:11 (4)	05:24	19:17 (4)
	16:53	17:31	45 17:07 (3)	18:04		19:38	20:10	35 19:46 (4)	20:34	32 19:49 (4)
16	07:23	06:54	16:21 (3)	06:10		06:19	05:39	19:10 (4)	05:24	19:18 (4)
	16:54	17:32	46 17:07 (3)	18:05		19:39	20:11	37 19:47 (4)	20:34	31 19:49 (4)
17	07:22	06:52	16:21 (3)	06:09		06:17	05:38	19:10 (4)	05:24	19:18 (4)
	16:55	17:33	47 17:08 (3)	18:06		19:40	20:12	38 19:48 (4)	20:35	31 19:49 (4)
18	07:22	06:51	16:20 (3)	06:07		06:16	05:37	19:10 (4)	05:24	19:19 (4)
	16:56	17:35	48 17:08 (3)	18:07		19:41	20:13	39 19:49 (4)	20:35	31 19:50 (4)
19	07:21	06:50	16:20 (3)	06:05		06:14	05:37	19:09 (4)	05:24	19:19 (4)
	16:57	17:36	48 17:08 (3)	18:09		19:42	20:14	40 19:49 (4)	20:35	31 19:50 (4)
20	07:21	06:48	16:21 (3)	06:04		06:13	05:36	19:09 (4)	05:24	19:19 (4)
	16:58	17:37	48 17:09 (3)	18:10		19:43	20:15	40 19:49 (4)	20:35	31 19:50 (4)
21	07:20	06:47	16:20 (3)	06:02		06:11	05:35	19:10 (4)	05:24	19:19 (4)
	17:00	17:38	48 17:08 (3)	18:11		19:44	20:16	40 19:50 (4)	20:36	31 19:50 (4)
22	07:20	06:45	16:21 (3)	06:00		06:10	05:34	19:10 (4)	05:25	19:19 (4)
	17:01	17:40	47 17:08 (3)	18:12		19:46	20:17	40 19:50 (4)	20:36	31 19:50 (4)
23	07:19	06:44	16:20 (3)	05:59		06:08	05:33	19:09 (4)	05:25	19:20 (4)
	17:02	17:41	47 17:07 (3)	18:13		19:47	20:18	41 19:50 (4)	20:36	31 19:51 (4)
24	07:18	06:42	16:21 (3)	05:57		06:07	05:32	19:09 (4)	05:25	19:20 (4)
	17:03	17:42	47 17:08 (3)	18:14		19:48	20:19	40 19:49 (4)	20:36	31 19:51 (4)
25	07:17	06:41	16:21 (3)	05:55		06:05	05:32	19:10 (4)	05:25	19:20 (4)
	17:05	17:43	46 17:07 (3)	18:15		19:49	20:20	40 19:50 (4)	20:36	31 19:51 (4)
26	07:17	06:39	16:22 (3)	05:53		06:04	05:31	19:10 (4)	05:26	19:21 (4)
	17:06	17:44	45 17:07 (3)	18:16		19:50	20:20	40 19:50 (4)	20:36	31 19:52 (4)
27	07:16	06:38	16:22 (3)	05:52		06:02	05:30	19:11 (4)	05:26	19:20 (4)
	17:07	17:46	43 17:05 (3)	18:17		19:51	20:21	39 19:50 (4)	20:37	32 19:52 (4)
28	07:15	06:36	16:22 (3)	05:50		06:01	05:30	19:11 (4)	05:26	19:20 (4)
	17:08	17:47	42 17:04 (3)	18:18		19:52	20:22	39 19:50 (4)	20:37	32 19:52 (4)
29	07:14			06:48		06:00	05:29	19:10 (4)	05:27	19:21 (4)
	17:10			19:20		19:53	20:23	39 19:49 (4)	20:37	32 19:53 (4)
30	07:13			06:47		05:58	05:28	19:11 (4)	05:27	19:20 (4)
	17:11			19:21		19:54	20:24	39 19:50 (4)	20:36	33 19:53 (4)
31	07:12			06:45			05:28	19:12 (4)		
	17:12			19:22			20:25	38 19:50 (4)		
Potential sun hours	296	296		369		399	450		454	
Total, worst case			1007		225			943		989

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)

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06/03/2020 16:15/3.3.274

SHADOW - Calendar

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

	July			August			September	October			November			December
1	05:28		19:21 (4)	05:52		19:22 (4)	06:24	06:54			06:29		15:55 (3)	07:05
	20:36	33	19:54 (4)	20:17	31	19:53 (4)	19:33	18:42			16:55	36	16:31 (3)	16:30
2	05:28		19:20 (4)	05:53		19:23 (4)	06:25	06:55			06:30		15:56 (3)	07:06
	20:36	34	19:54 (4)	20:16	29	19:52 (4)	19:32	18:40			16:53	33	16:29 (3)	16:29
3	05:29		19:21 (4)	05:54		19:23 (4)	06:26	06:56			06:32		15:57 (3)	07:07
	20:36	33	19:54 (4)	20:15	28	19:51 (4)	19:30	18:39			16:52	31	16:28 (3)	16:29
4	05:29		19:20 (4)	05:55		19:24 (4)	06:27	06:57			06:33		15:59 (3)	07:08
	20:36	34	19:54 (4)	20:14	26	19:50 (4)	19:28	18:37			16:51	28	16:27 (3)	16:29
5	05:30		19:20 (4)	05:56		19:25 (4)	06:28	06:58			06:34		16:01 (3)	07:09
	20:36	35	19:55 (4)	20:12	24	19:49 (4)	19:27	18:35			16:50	25	16:26 (3)	16:29
6	05:31		19:20 (4)	05:57		19:27 (4)	06:29	07:00		17:12 (3)	06:35		16:03 (3)	07:10
	20:35	35	19:55 (4)	20:11	20	19:47 (4)	19:25	18:34	14	17:26 (3)	16:49	21	16:24 (3)	16:29
7	05:31		19:20 (4)	05:58		19:28 (4)	06:30	07:01		17:08 (3)	06:36		16:07 (3)	07:11
	20:35	36	19:56 (4)	20:10	18	19:46 (4)	19:23	18:32	21	17:29 (3)	16:47	15	16:22 (3)	16:29
8	05:32		19:20 (4)	05:59		19:30 (4)	06:31	07:02		17:05 (3)	06:38			07:12
	20:35	37	19:57 (4)	20:09	15	19:45 (4)	19:22	18:30	26	17:31 (3)	16:46			16:28
9	05:32		19:20 (4)	06:00		19:33 (4)	06:32	07:03		17:02 (3)	06:39			07:12
	20:34	36	19:56 (4)	20:07	11	19:44 (4)	19:20	18:29	31	17:33 (3)	16:45			16:28
10	05:33		19:20 (4)	06:01			06:33	07:04		17:00 (3)	06:40			07:13
	20:34	37	19:57 (4)	20:06			19:18	18:27	34	17:34 (3)	16:44			16:28
11	05:34		19:20 (4)	06:02			06:34	07:05		16:58 (3)	06:41			07:14
	20:34	38	19:58 (4)	20:05			19:16	18:25	37	17:35 (3)	16:43			16:29
12	05:35		19:19 (4)	06:03			06:35	07:06		16:58 (3)	06:42			07:15
	20:33	38	19:57 (4)	20:04			19:15	18:24	39	17:37 (3)	16:42			16:29
13	05:35		19:20 (4)	06:04			06:36	07:07		16:56 (3)	06:44			07:16
	20:33	38	19:58 (4)	20:02			19:13	18:22	41	17:37 (3)	16:41			16:29
14	05:36		19:20 (4)	06:05			06:37	07:08		16:55 (3)	06:45			07:17
	20:32	39	19:59 (4)	20:01			19:11	18:21	43	17:38 (3)	16:40			16:29
15	05:37		19:20 (4)	06:06			06:38	07:09		16:54 (3)	06:46			07:17
	20:31	39	19:59 (4)	19:59			19:10	18:19	44	17:38 (3)	16:39			16:29
16	05:38		19:19 (4)	06:07			06:39	07:10		16:53 (3)	06:47			07:18
	20:31	40	19:59 (4)	19:58			19:08	18:17	45	17:38 (3)	16:39			16:29
17	05:38		19:19 (4)	06:08			06:40	07:12		16:52 (3)	06:49			07:19
	20:30	40	19:59 (4)	19:57			19:06	18:16	46	17:38 (3)	16:38			16:30
18	05:39		19:19 (4)	06:09			06:41	07:13		16:52 (3)	06:50			07:19
	20:30	40	19:59 (4)	19:55			19:04	18:14	47	17:39 (3)	16:37			16:30
19	05:40		19:20 (4)	06:10			06:42	07:14		16:52 (3)	06:51			07:20
	20:29	40	20:00 (4)	19:54			19:03	18:13	47	17:39 (3)	16:36			16:30
20	05:41		19:20 (4)	06:11			06:43	07:15		16:51 (3)	06:52			07:21
	20:28	40	20:00 (4)	19:52			19:01	18:11	48	17:39 (3)	16:35			16:31
21	05:42		19:19 (4)	06:12			06:44	07:16		16:51 (3)	06:53			07:21
	20:27	40	19:59 (4)	19:51			18:59	18:10	48	17:39 (3)	16:35			16:31
22	05:43		19:19 (4)	06:13			06:45	07:17		16:50 (3)	06:54			07:22
	20:27	41	20:00 (4)	19:49			18:57	18:08	48	17:38 (3)	16:34			16:32
23	05:44		19:19 (4)	06:14			06:46	07:18		16:51 (3)	06:56			07:22
	20:26	41	20:00 (4)	19:48			18:56	18:07	48	17:39 (3)	16:33			16:32
24	05:45		19:20 (4)	06:15			06:47	07:20		16:51 (3)	06:57			07:23
	20:25	40	20:00 (4)	19:46			18:54	18:05	47	17:38 (3)	16:33			16:33
25	05:45		19:20 (4)	06:16			06:48	06:21		15:51 (3)	06:58			07:23
	20:24	40	20:00 (4)	19:44			18:52	17:04	46	16:37 (3)	16:32			16:33
26	05:46		19:20 (4)	06:17			06:49	06:22		15:51 (3)	06:59			07:23
	20:23	39	19:59 (4)	19:43			18:51	17:03	46	16:37 (3)	16:32			16:34
27	05:47		19:21 (4)	06:18			06:50	06:23		15:52 (3)	07:00			07:24
	20:22	37	19:58 (4)	19:41			18:49	17:01	45	16:37 (3)	16:31			16:35
28	05:48		19:21 (4)	06:19			06:51	06:24		15:52 (3)	07:01			07:24
	20:21	36	19:57 (4)	19:40			18:47	17:00	44	16:36 (3)	16:31			16:35
29	05:49		19:21 (4)	06:20			06:52	06:26		15:53 (3)	07:02			07:24
	20:20	35	19:56 (4)	19:38			18:45	16:59	42	16:35 (3)	16:30			16:36
30	05:50		19:22 (4)	06:22			06:53	06:27		15:53 (3)	07:03			07:25
	20:19	34	19:56 (4)	19:37			18:44	16:57	40	16:33 (3)	16:30			16:37
31	05:51		19:21 (4)	06:23				06:28		15:55 (3)				07:25
	20:18	33	19:54 (4)	19:35				16:56	38	16:33 (3)				16:38
Potential sun hours	461			429			375	345			297			286
Total, worst case		1158			202				1055			189		

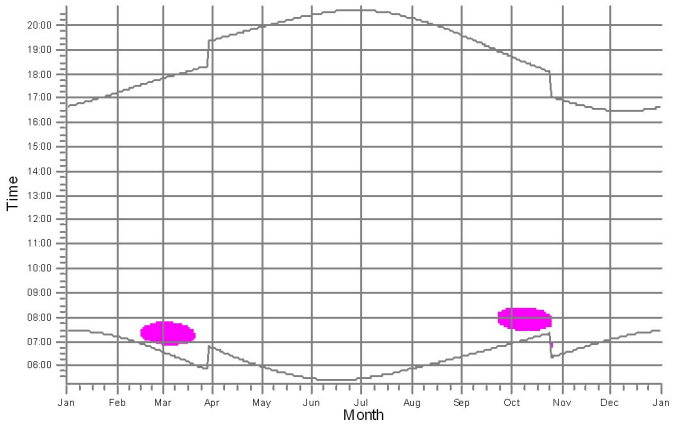
Table layout: For each day in each month the following matrix apply

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)

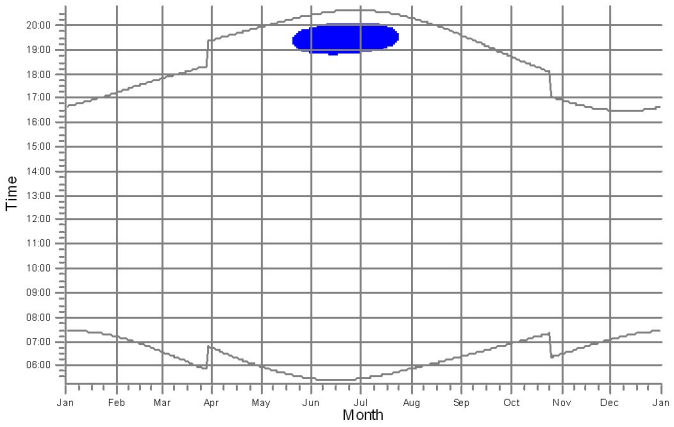
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SHADOW - Calendar, graphical

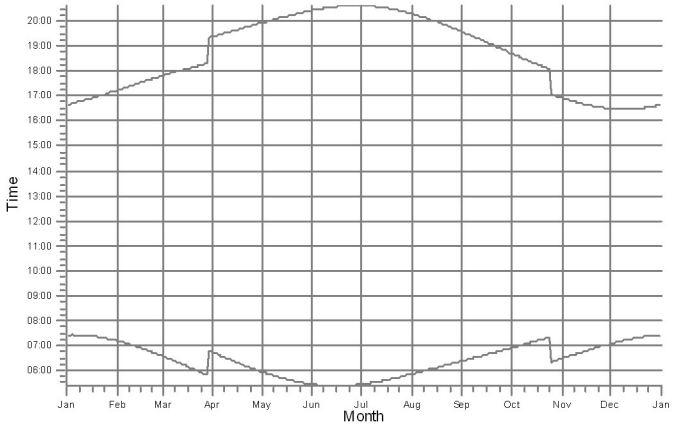
A: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)



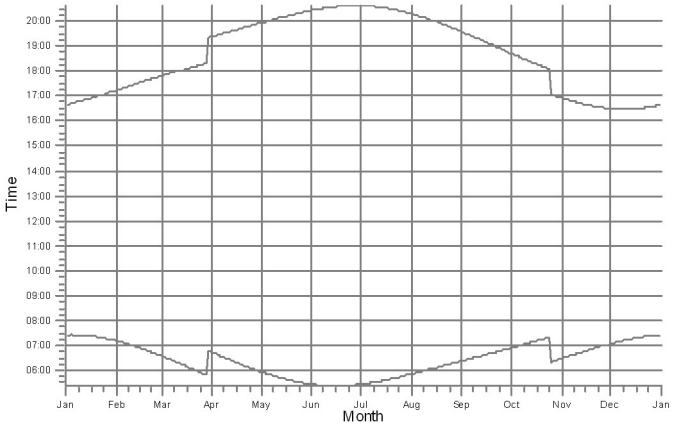
B: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (2)



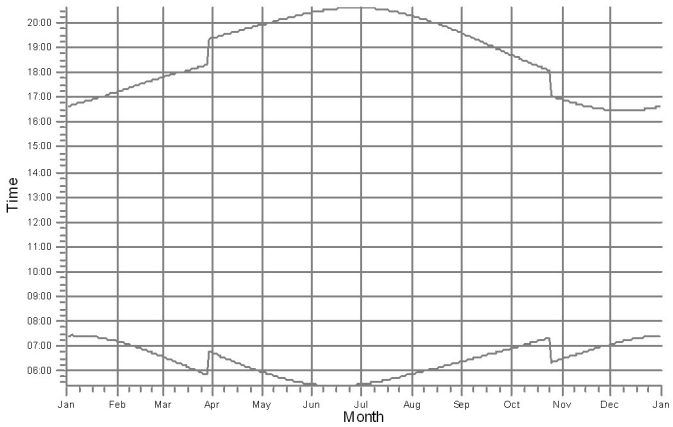
C: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (3)



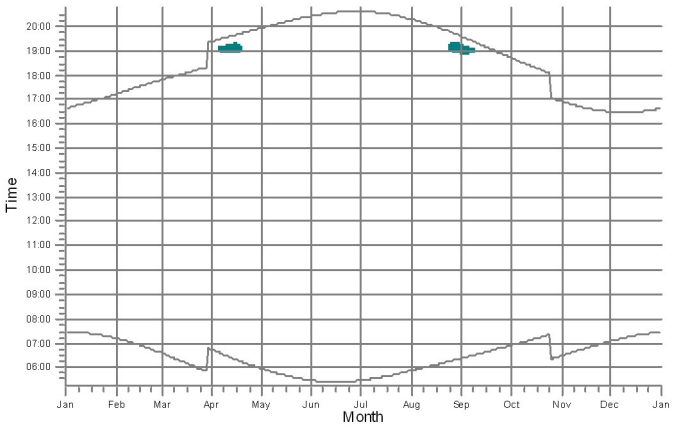
D: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (4)



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

3: Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (13)

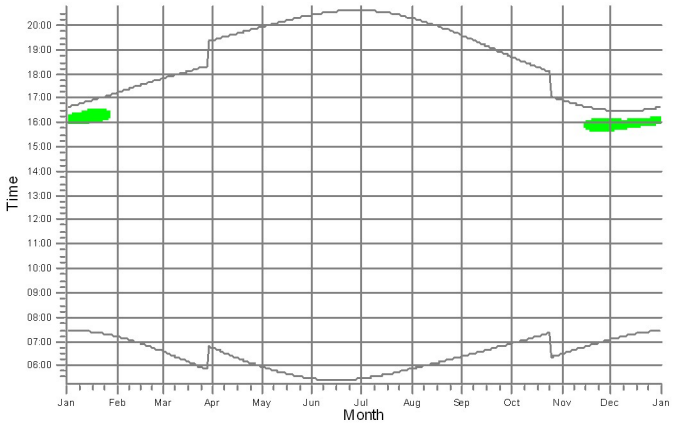
5: Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (15)

6: Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (16)

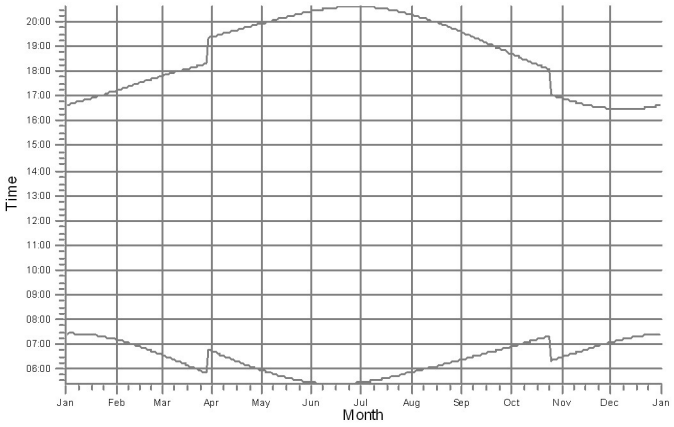
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Calculated:
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SHADOW - Calendar, graphical

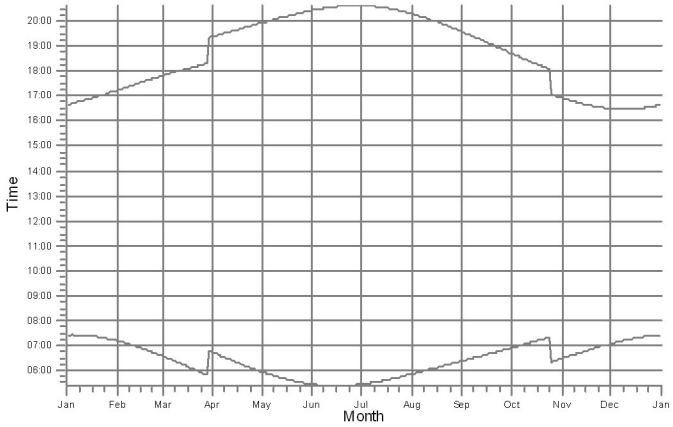
G: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (7)



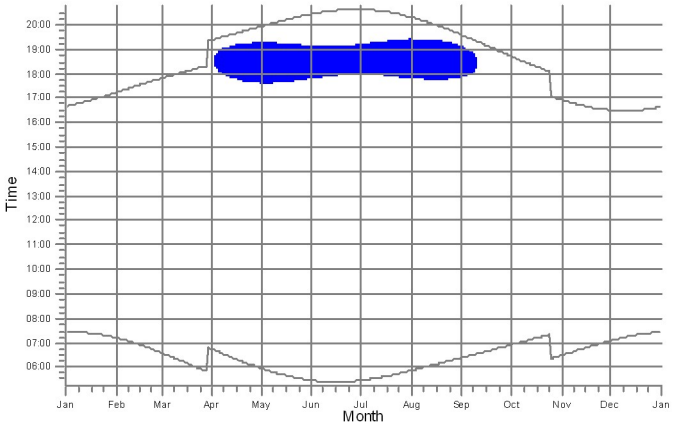
H: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (8)



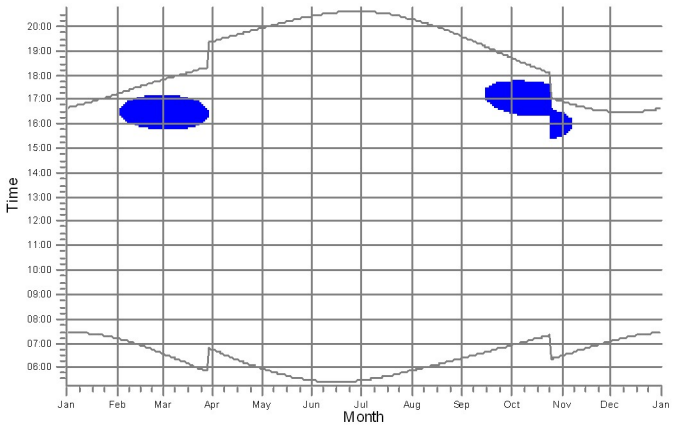
I: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (9)



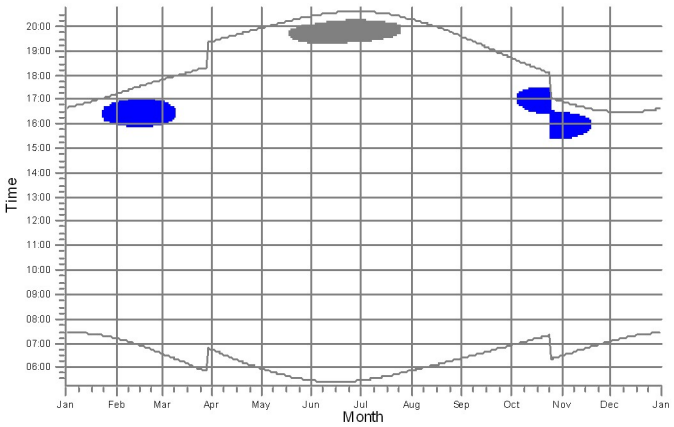
J: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (10)



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

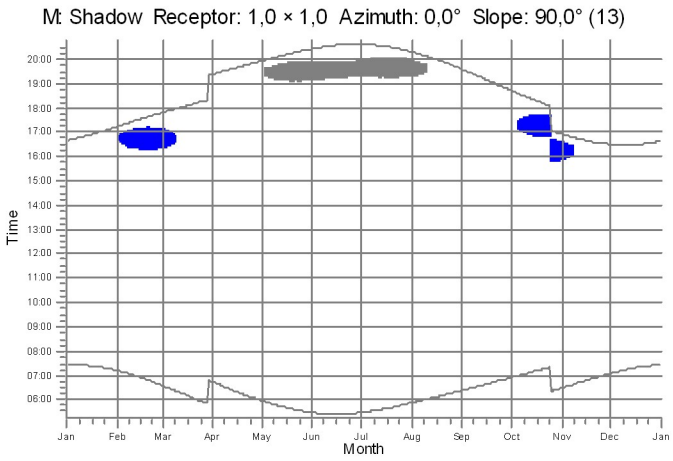
3: Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (13)

4: Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (14)

9: Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (19)

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SHADOW - Calendar, graphical



WTGs

3: Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (13)

4: Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (14)

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar per WTG

WTG: 1 - Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 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	07:25	07:11	06:35	06:43	05:57	05:28	05:28	05:52	06:24	06:54	06:29	07:05
	16:39	17:13	17:48	19:23	19:55	20:25	20:37	20:17	19:33	18:42	16:55	16:30
2	07:25	07:10	06:33	06:42	05:56	05:27	05:28	05:53	06:25	06:55	06:30	07:06
	16:40	17:15	17:49	19:24	19:57	20:26	20:36	20:16	19:32	18:40	16:54	16:30
3	07:25	07:09	06:32	06:40	05:54	05:27	05:29	05:54	06:26	06:56	06:32	07:07
	16:40	17:16	17:50	19:25	19:58	20:27	20:36	20:15	19:30	18:39	16:52	16:29
4	07:26	07:08	06:30	06:38	05:53	05:26	05:29	05:55	06:27	06:58	06:33	07:08
	16:41	17:17	17:52	19:26	19:59	20:28	20:36	20:14	19:28	18:37	16:51	16:29
5	07:26	07:07	06:29	06:37	05:52	05:26	05:30	05:56	06:28	06:59	06:34	07:09
	16:42	17:19	17:53	19:27	20:00	20:28	20:36	20:13	19:27	18:35	16:50	16:29
6	07:25	07:06	06:27	06:35	05:51	05:26	05:31	05:57	06:29	07:00	06:35	07:10
	16:43	17:20	17:54	19:28	20:01	20:29	20:36	20:11	19:25	18:34	16:49	16:29
7	07:25	07:05	06:25	06:33	05:49	05:25	05:31	05:58	06:30	07:01	06:37	07:11
	16:44	17:21	17:55	19:29	20:02	20:30	20:35	20:10	19:23	18:32	16:48	16:29
8	07:25	07:04	06:24	06:32	05:48	05:25	05:32	05:59	06:31	07:02	06:38	07:12
	16:45	17:22	17:56	19:31	20:03	20:30	20:35	20:09	19:22	18:30	16:47	16:29
9	07:25	07:03	06:22	06:30	05:47	05:25	05:33	06:00	06:32	07:03	06:39	07:13
	16:46	17:24	17:57	19:32	20:04	20:31	20:35	20:08	19:20	18:29	16:45	16:29
10	07:25	07:02	06:20	06:28	05:46	05:25	05:33	06:01	06:33	07:04	06:40	07:13
	16:47	17:25	17:59	19:33	20:05	20:32	20:34	20:06	19:18	18:27	16:44	16:29
11	07:25	07:00	06:19	06:27	05:45	05:24	05:34	06:02	06:34	07:05	06:41	07:14
	16:48	17:26	18:00	19:34	20:06	20:32	20:34	20:05	19:17	18:26	16:43	16:29
12	07:24	06:59	06:17	06:25	05:44	05:24	05:35	06:03	06:35	07:06	06:43	07:15
	16:49	17:27	18:01	19:35	20:07	20:33	20:33	20:04	19:15	18:24	16:42	16:29
13	07:24	06:58	06:16	06:24	05:43	05:24	05:35	06:04	06:36	07:07	06:44	07:16
	16:50	17:29	18:02	19:36	20:08	20:33	20:33	20:02	19:13	18:22	16:41	16:29
14	07:24	06:57	06:14	06:22	05:41	05:24	05:36	06:05	06:37	07:08	06:45	07:17
	16:52	17:30	18:03	19:37	20:09	20:34	20:32	20:01	19:11	18:21	16:40	16:29
15	07:23	06:55	06:12	06:20	05:40	05:24	05:37	06:06	06:38	07:10	06:46	07:17
	16:53	17:31	18:04	19:38	20:10	20:34	20:32	20:00	19:10	18:19	16:40	16:29
16	07:23	06:54	06:11	06:19	05:39	05:24	05:38	06:07	06:39	07:11	06:47	07:18
	16:54	17:32	18:05	19:39	20:11	20:34	20:31	19:58	19:08	18:18	16:39	16:30
17	07:23	06:53	06:09	06:17	05:38	05:24	05:39	06:08	06:40	07:12	06:49	07:19
	16:55	17:34	18:06	19:40	20:12	20:35	20:30	19:57	19:06	18:16	16:38	16:30
18	07:22	06:51	06:07	06:16	05:38	05:24	05:39	06:09	06:41	07:13	06:50	07:20
	16:56	17:35	18:08	19:41	20:13	20:35	20:30	19:55	19:05	18:14	16:37	16:30
19	07:21	06:50	06:05	06:14	05:37	05:24	05:40	06:10	06:42	07:14	06:51	07:20
	16:57	17:36	18:09	19:42	20:14	20:35	20:29	19:54	19:03	18:13	16:36	16:31
20	07:21	06:48	06:04	06:13	05:36	05:24	05:41	06:11	06:43	07:15	06:52	07:21
	16:59	17:37	18:10	19:44	20:15	20:36	20:28	19:52	19:01	18:11	16:36	16:31
21	07:20	06:47	06:02	06:11	05:35	05:25	05:42	06:12	06:44	07:16	06:53	07:21
	17:00	17:39	18:11	19:45	20:16	20:36	20:28	19:51	18:59	18:10	16:35	16:31
22	07:20	06:45	06:00	06:10	05:34	05:25	05:43	06:13	06:45	07:17	06:55	07:22
	17:01	17:40	18:12	19:46	20:17	20:36	20:27	19:49	18:58	18:08	16:34	16:32
23	07:19	06:44	05:59	06:08	05:33	05:25	05:44	06:14	06:46	07:19	06:56	07:22
	17:02	17:41	18:13	19:47	20:18	20:36	20:26	19:48	18:56	18:07	16:34	16:32
24	07:18	06:43	05:57	06:07	05:33	05:25	05:45	06:16	06:47	07:20	06:57	07:23
	17:03	17:42	18:14	19:48	20:19	20:36	20:25	19:46	18:54	18:06	16:33	16:33
25	07:18	06:41	05:55	06:05	05:32	05:26	05:46	06:17	06:48	06:21	06:58	07:23
	17:05	17:43	18:15	19:49	20:20	20:37	20:24	19:45	18:52	17:04	16:32	16:33
26	07:17	06:40	05:54	06:04	05:31	05:26	05:46	06:18	06:49	06:22	06:59	07:24
	17:06	17:45	18:16	19:50	20:21	20:37	20:23	19:43	18:51	17:03	16:32	16:34
27	07:16	06:38	05:52	06:02	05:30	05:26	05:47	06:19	06:50	06:23	07:00	07:24
	17:07	17:46	18:17	19:51	20:21	20:37	20:22	19:41	18:49	17:01	16:31	16:35
28	07:15	06:36	05:50	06:01	05:30	05:27	05:48	06:20	06:51	06:24	07:01	07:24
	17:08	17:47	18:19	19:52	20:22	20:37	20:21	19:40	18:47	17:00	16:31	16:35
29	07:14		06:48	06:00	05:29	05:27	05:49	06:21	06:52	06:26	07:03	07:25
	17:10		19:20	19:53	20:23	20:37	20:20	19:38	18:46	16:59	16:31	16:36
30	07:13		06:47	05:58	05:29	05:27	05:50	06:22	06:53	06:27	07:04	07:25
	17:11		19:21	19:54	20:24	20:37	20:19	19:37	18:44	16:57	16:30	16:37
31	07:12		06:45		05:28		05:51	06:23		06:28		07:25
	17:12		19:22		20:25		20:18	19:35		16:56		16:38
Potential sun hours	296	296	369	399	450	454	461	429	375	345	297	286
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

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar per WTG

WTG: 2 - Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 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	July	August	September	October	November	December
1	07:25	07:11	06:35	06:43	05:57	05:28	05:28	05:52	06:24	06:54	06:29	07:05
	16:39	17:13	17:48	19:23	19:55	20:25	20:37	20:17	19:33	18:42	16:55	16:30
2	07:25	07:10	06:33	06:42	05:56	05:27	05:28	05:53	06:25	06:55	06:30	07:06
	16:40	17:15	17:49	19:24	19:57	20:26	20:36	20:16	19:32	18:40	16:54	16:30
3	07:25	07:09	06:32	06:40	05:54	05:27	05:29	05:54	06:26	06:56	06:32	07:07
	16:40	17:16	17:50	19:25	19:58	20:27	20:36	20:15	19:30	18:39	16:52	16:29
4	07:25	07:08	06:30	06:38	05:53	05:26	05:29	05:55	06:27	06:58	06:33	07:08
	16:41	17:17	17:52	19:26	19:59	20:28	20:36	20:14	19:28	18:37	16:51	16:29
5	07:25	07:07	06:29	06:37	05:52	05:26	05:30	05:56	06:28	06:59	06:34	07:09
	16:42	17:19	17:53	19:27	20:00	20:28	20:36	20:13	19:27	18:35	16:50	16:29
6	07:25	07:06	06:27	06:35	05:51	05:26	05:31	05:57	06:29	07:00	06:35	07:10
	16:43	17:20	17:54	19:28	20:01	20:29	20:36	20:11	19:25	18:34	16:49	16:29
7	07:25	07:05	06:25	06:33	05:49	05:25	05:31	05:58	06:30	07:01	06:37	07:11
	16:44	17:21	17:55	19:29	20:02	20:30	20:35	20:10	19:23	18:32	16:48	16:29
8	07:25	07:04	06:24	06:32	05:48	05:25	05:32	05:59	06:31	07:02	06:38	07:12
	16:45	17:22	17:56	19:31	20:03	20:30	20:35	20:09	19:22	18:30	16:47	16:29
9	07:25	07:03	06:22	06:30	05:47	05:25	05:33	06:00	06:32	07:03	06:39	07:13
	16:46	17:24	17:57	19:32	20:04	20:31	20:35	20:08	19:20	18:29	16:45	16:29
10	07:25	07:02	06:20	06:28	05:46	05:25	05:33	06:01	06:33	07:04	06:40	07:13
	16:47	17:25	17:59	19:33	20:05	20:31	20:34	20:06	19:18	18:27	16:44	16:29
11	07:25	07:00	06:19	06:27	05:45	05:24	05:34	06:02	06:34	07:05	06:41	07:14
	16:48	17:26	18:00	19:34	20:06	20:32	20:34	20:05	19:17	18:25	16:43	16:29
12	07:24	06:59	06:17	06:25	05:44	05:24	05:35	06:03	06:35	07:06	06:43	07:15
	16:49	17:27	18:01	19:35	20:07	20:33	20:33	20:04	19:15	18:24	16:42	16:29
13	07:24	06:58	06:16	06:24	05:43	05:24	05:35	06:04	06:36	07:07	06:44	07:16
	16:50	17:29	18:02	19:36	20:08	20:33	20:33	20:02	19:13	18:22	16:41	16:29
14	07:24	06:57	06:14	06:22	05:41	05:24	05:36	06:05	06:37	07:08	06:45	07:17
	16:52	17:30	18:03	19:37	20:09	20:33	20:32	20:01	19:11	18:21	16:40	16:29
15	07:23	06:55	06:12	06:20	05:40	05:24	05:37	06:06	06:38	07:09	06:46	07:17
	16:53	17:31	18:04	19:38	20:10	20:34	20:32	19:59	19:10	18:19	16:40	16:29
16	07:23	06:54	06:10	06:19	05:39	05:24	05:38	06:07	06:39	07:11	06:47	07:18
	16:54	17:32	18:05	19:39	20:11	20:34	20:31	19:58	19:08	18:18	16:39	16:30
17	07:22	06:53	06:09	06:17	05:38	05:24	05:39	06:08	06:40	07:12	06:49	07:19
	16:55	17:34	18:06	19:40	20:12	20:35	20:30	19:57	19:06	18:16	16:38	16:30
18	07:22	06:51	06:07	06:16	05:38	05:24	05:39	06:09	06:41	07:13	06:50	07:20
	16:56	17:35	18:08	19:41	20:13	20:35	20:30	19:55	19:05	18:14	16:37	16:30
19	07:21	06:50	06:05	06:14	05:37	05:24	05:40	06:10	06:42	07:14	06:51	07:20
	16:57	17:36	18:09	19:42	20:14	20:35	20:29	19:54	19:03	18:13	16:36	16:31
20	07:21	06:48	06:04	06:13	05:36	05:24	05:41	06:11	06:43	07:15	06:52	07:21
	16:59	17:37	18:10	19:44	20:15	20:36	20:28	19:52	19:01	18:11	16:36	16:31
21	07:20	06:47	06:02	06:11	05:35	05:25	05:42	06:12	06:44	07:16	06:53	07:21
	17:00	17:39	18:11	19:45	20:16	20:36	20:27	19:51	18:59	18:10	16:35	16:31
22	07:20	06:45	06:00	06:10	05:34	05:25	05:43	06:13	06:45	07:17	06:55	07:22
	17:01	17:40	18:12	19:46	20:17	20:36	20:27	19:49	18:58	18:08	16:34	16:32
23	07:19	06:44	05:59	06:08	05:33	05:25	05:44	06:14	06:46	07:19	06:56	07:22
	17:02	17:41	18:13	19:47	20:18	20:36	20:26	19:48	18:56	18:07	16:34	16:32
24	07:18	06:43	05:57	06:07	05:33	05:25	05:45	06:16	06:47	07:20	06:57	07:23
	17:03	17:42	18:14	19:48	20:19	20:36	20:25	19:46	18:54	18:06	16:33	16:33
25	07:18	06:41	05:55	06:05	05:32	05:26	05:46	06:17	06:48	06:21	06:58	07:23
	17:05	17:43	18:15	19:49	20:20	20:37	20:24	19:45	18:52	17:04	16:32	16:33
26	07:17	06:40	05:54	06:04	05:31	05:26	05:46	06:18	06:49	06:22	06:59	07:24
	17:06	17:45	18:16	19:50	20:21	20:37	20:23	19:43	18:51	17:03	16:32	16:34
27	07:16	06:38	05:52	06:02	05:30	05:26	05:47	06:19	06:50	06:23	07:00	07:24
	17:07	17:46	18:17	19:51	20:21	20:37	20:22	19:41	18:49	17:01	16:31	16:35
28	07:15	06:36	05:50	06:01	05:30	05:27	05:48	06:20	06:51	06:24	07:01	07:24
	17:08	17:47	18:19	19:52	20:22	20:37	20:21	19:40	18:47	17:00	16:31	16:35
29	07:14		06:48	06:00	05:29	05:27	05:49	06:21	06:52	06:26	07:03	07:25
	17:10		19:20	19:53	20:23	20:37	20:20	19:38	18:46	16:59	16:31	16:36
30	07:13		06:47	05:58	05:29	05:27	05:50	06:22	06:53	06:27	07:04	07:25
	17:11		19:21	19:54	20:24	20:37	20:19	19:37	18:44	16:57	16:30	16:37
31	07:12		06:45		05:28		05:51	06:23		06:28		07:25
	17:12		19:22		20:25		20:18	19:35		16:56		16:38
Potential sun hours	296	296	369	399	450	454	461	429	375	345	297	286
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

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar per WTG

WTG: 3 - Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (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
1	07:25 16:39	07:11 16:04-16:48/44 17:13	06:35 15:50-17:07/77 17:48	06:43 19:23	05:57 17:41-19:10/89 19:55	05:27 17:52-19:49/117 20:25
2	07:25 16:40	07:10 16:03-16:49/46 17:15	06:33 15:49-17:07/78 17:49	06:42 19:24	05:56 17:41-19:10/89 19:56	05:27 17:53-19:50/117 20:26
3	07:25 16:40	07:09 16:01-16:49/48 17:16	06:32 15:49-17:07/78 17:50	06:40 18:23-18:41/18 19:25	05:54 17:41-19:10/89 19:57	05:27 17:53-19:51/118 20:27
4	07:25 16:41	07:08 16:01-16:51/50 17:17	06:30 15:49-17:07/78 17:52	06:38 18:17-18:46/29 19:26	05:53 17:42-19:10/88 19:59	05:26 17:54-19:52/118 20:28
5	07:25 16:42	07:07 16:00-16:54/54 17:18	06:29 15:49-17:06/77 17:53	06:37 18:12-18:49/37 19:27	05:52 17:41-19:09/88 20:00	05:26 17:55-19:53/118 20:28
6	07:25 16:43	07:06 16:00-16:56/56 17:20	06:27 15:49-17:06/77 17:54	06:35 18:09-18:53/44 19:28	05:50 17:41-19:10/89 20:01	05:25 17:55-19:53/118 20:29
7	07:25 16:44	07:05 15:59-16:58/59 17:21	06:25 15:49-17:06/77 17:55	06:33 18:06-18:55/49 19:29	05:49 17:41-19:10/89 20:02	05:25 17:56-19:54/118 20:30
8	07:25 16:45	07:04 15:59-16:59/60 17:22	06:24 15:50-17:06/76 17:56	06:32 18:03-18:56/53 19:30	05:48 17:42-19:10/88 20:03	05:25 17:56-19:55/119 20:30
9	07:25 16:46	07:03 15:58-17:00/62 17:24	06:22 15:50-17:05/75 17:57	06:30 18:02-18:58/56 19:32	05:47 17:42-19:10/88 20:04	05:25 17:57-19:56/119 20:31
10	07:25 16:47	07:01 15:58-17:01/63 17:25	06:20 15:50-17:04/74 17:58	06:28 17:59-18:59/60 19:33	05:46 17:42-19:09/87 20:05	05:24 17:58-19:56/118 20:31
11	07:25 16:48	07:00 15:57-17:03/66 17:26	06:19 15:51-17:04/73 18:00	06:27 17:57-19:00/63 19:34	05:45 17:43-19:09/86 20:06	05:24 17:58-19:57/119 20:32
12	07:24 16:49	06:59 15:58-17:05/67 17:27	06:17 15:51-17:03/72 18:01	06:25 17:56-19:02/66 19:35	05:44 17:43-19:09/86 20:07	05:24 17:58-19:56/118 20:32
13	07:24 16:50	06:58 15:57-17:05/68 17:29	06:15 15:51-17:02/71 18:02	06:24 17:54-19:03/69 19:36	05:42 17:43-19:09/86 20:08	05:24 17:58-19:57/119 20:33
14	07:24 16:52	06:56 15:57-17:06/69 17:30	06:14 15:52-17:01/69 18:03	06:22 17:53-19:04/71 19:37	05:41 17:43-19:09/86 20:09	05:24 17:59-19:57/118 20:33
15	07:23 16:53	06:55 15:57-17:07/70 17:31	06:12 15:53-17:00/67 18:04	06:20 17:51-19:05/74 19:38	05:40 17:44-19:08/84 20:10	05:24 17:59-19:58/119 20:34
16	07:23 16:54	06:54 15:56-17:07/71 17:32	06:10 15:53-16:59/66 18:05	06:19 17:51-19:06/75 19:39	05:39 17:44-19:08/84 20:11	05:24 17:59-19:58/119 20:34
17	07:22 16:55	06:52 15:57-17:08/71 17:34	06:09 15:54-16:57/63 18:06	06:17 17:49-19:06/77 19:40	05:38 17:44-19:08/84 20:12	05:24 18:01-19:59/118 20:35
18	07:22 16:56	06:51 15:55-17:08/73 17:35	06:07 15:56-16:56/60 18:07	06:16 17:48-19:07/79 19:41	05:37 17:45-19:07/82 20:13	05:24 18:01-20:00/119 20:35
19	07:21 16:57	06:50 15:55-17:08/73 17:36	06:05 15:56-16:55/59 18:09	06:14 17:47-19:07/80 19:42	05:37 17:45-19:07/82 20:14	05:24 18:01-20:00/119 20:35
20	07:21 16:58	06:48 15:54-17:09/75 17:37	06:04 15:57-16:53/56 18:10	06:13 17:47-19:08/81 19:43	05:36 17:45-19:06/81 20:15	05:24 18:01-20:00/119 20:36
21	07:20 17:00	06:47 15:53-17:08/75 17:38	06:02 15:59-16:52/53 18:11	06:11 17:45-19:08/83 19:45	05:35 17:47-19:07/80 20:16 19:15-19:28/13	05:24 18:01-20:00/119 20:36
22	07:20 17:01	06:45 15:53-17:08/75 17:40	06:00 16:01-16:50/49 18:12	06:10 17:45-19:09/84 19:46	05:34 17:47-19:06/79 20:17 19:10-19:33/23	05:25 18:01-20:00/119 20:36
23	07:19 17:02	06:44 15:52-17:07/75 17:41	05:59 16:02-16:47/45 18:13	06:08 17:44-19:09/85 19:47	05:33 17:47-19:06/79 20:18 19:07-19:35/28	05:25 18:02-20:01/119 20:36
24	07:18 16:18-16:29/11 17:03	06:42 15:52-17:08/76 17:42	05:57 16:05-16:46/41 18:14	06:07 17:44-19:09/85 19:48	05:32 17:47-19:37/110 20:19	05:25 18:02-20:01/119 20:36
25	07:17 16:14-16:33/19 17:05	06:41 15:51-17:07/76 17:43	05:55 16:07-16:43/36 18:15	06:05 17:43-19:09/86 19:49	05:32 17:48-19:40/112 20:20	05:25 18:02-20:01/119 20:36
26	07:17 16:12-16:36/24 17:06	06:39 15:51-17:07/76 17:44	05:53 16:09-16:39/30 18:16	06:04 17:43-19:10/87 19:50	05:31 17:49-19:41/112 20:20	05:26 18:03-20:01/118 20:37
27	07:16 16:10-16:38/28 17:07	06:38 15:50-17:07/77 17:46	05:52 16:13-16:35/22 18:17	06:02 17:43-19:10/87 19:51	05:30 17:50-19:44/114 20:21	05:26 18:02-20:01/119 20:37
28	07:15 16:08-16:40/32 17:08	06:36 15:49-17:07/78 17:47	05:50 16:21-16:28/7 18:18	06:01 17:42-19:10/88 19:52	05:30 17:50-19:45/115 20:22	05:27 18:02-20:01/119 20:37
29	07:14 16:07-16:43/36 17:10		06:48 19:20	06:00 17:42-19:10/88 19:53	05:29 17:51-19:46/115 20:23	05:27 18:03-20:01/118 20:37
30	07:13 16:06-16:45/39 17:11		06:47 19:21	05:58 17:42-19:10/88 19:54	05:29 17:51-19:47/116 20:24	05:27 18:02-20:01/119 20:36
31	07:12 16:05-16:46/41 17:12		06:45 19:22		05:28 17:52-19:49/117 20:25	
Potential sun hours	296	296	369	399	450	454
Sum of minutes with flicker	230	1853	1706	1942	2938	3555

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

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar per WTG

WTG: 3 - Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (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

	July	August	September	October	November	December
1	05:28 18:03-20:01/118 20:36	05:52 17:52-19:19/87 20:17	06:24 17:57-19:00/63 19:33	06:54 16:30-17:41/71 18:42	06:29 15:27-16:31/64 16:55	07:05 16:30
2	05:28 18:02-20:01/119 20:36	05:53 17:52-19:19/87 20:16	06:25 17:58-18:58/60 19:32	06:55 16:30-17:42/72 18:40	06:30 15:28-16:29/61 16:53	07:06 16:29
3	05:29 18:02-20:01/119 20:36	05:54 17:52-19:19/87 20:15	06:26 17:59-18:55/56 19:30	06:56 16:29-17:42/73 18:39	06:32 15:28-16:28/60 16:52	07:07 16:29
4	05:29 18:02-20:00/118 20:36	05:55 17:51-19:19/88 20:14	06:27 18:00-18:53/53 19:28	06:57 16:28-17:42/74 18:37	06:33 15:29-16:27/58 16:51	07:08 16:29
5	05:30 18:02-20:00/118 20:36	05:56 17:51-19:19/88 20:12	06:28 18:02-18:51/49 19:27	06:58 16:27-17:42/75 18:35	06:34 15:30-16:26/56 16:50	07:09 16:29
6	05:31 18:01-19:59/118 20:35	05:57 17:51-19:19/88 20:11	06:29 18:04-18:48/44 19:25	07:00 16:26-17:42/76 18:34	06:35 15:30-16:24/54 16:49	07:10 16:29
7	05:31 18:01-19:59/118 20:35	05:58 17:51-19:19/88 20:10	06:30 18:07-18:44/37 19:23	07:01 16:25-17:42/77 18:32	06:36 15:32-16:22/50 16:48	07:11 16:29
8	05:32 18:02-19:59/117 20:35	05:59 17:51-19:19/88 20:09	06:31 18:10-18:40/30 19:22	07:02 16:24-17:42/78 18:30	06:38 15:32-16:20/48 16:46	07:12 16:29
9	05:32 18:01-19:58/117 20:34	06:00 17:50-19:19/89 20:07	06:32 18:16-18:35/19 19:20	07:03 16:24-17:41/77 18:29	06:39 15:33-16:19/46 16:45	07:12 16:29
10	05:33 18:01-19:58/117 20:34	06:01 17:50-19:19/89 20:06	06:33 19:18	07:04 16:23-17:41/78 18:27	06:40 15:35-16:18/43 16:44	07:13 16:29
11	05:34 18:01-19:58/117 20:34	06:02 17:50-19:19/89 20:05	06:34 19:16	07:05 16:23-17:41/78 18:25	06:41 15:36-16:17/41 16:43	07:14 16:29
12	05:35 18:00-19:56/116 20:33	06:03 17:50-19:18/88 20:04	06:35 19:15	07:06 16:23-17:41/78 18:24	06:42 15:37-16:16/39 16:42	07:15 16:29
13	05:35 18:00-19:56/116 20:33	06:04 17:50-19:18/88 20:02	06:36 19:13	07:07 16:23-17:41/78 18:22	06:44 15:38-16:14/36 16:41	07:16 16:29
14	05:36 18:00-19:55/115 20:32	06:05 17:50-19:18/88 20:01	06:37 19:11	07:08 16:23-17:40/77 18:21	06:45 15:41-16:13/32 16:40	07:17 16:29
15	05:37 18:00-19:55/115 20:32	06:06 17:50-19:17/87 19:59	06:38 19:10	07:09 16:23-17:39/76 18:19	06:46 15:43-16:11/28 16:40	07:17 16:29
16	05:38 17:58-19:53/115 20:31	06:07 17:50-19:17/87 19:58	06:39 17:03-17:23/20 19:08	07:11 16:22-17:39/77 18:17	06:47 15:45-16:09/24 16:39	07:18 16:29
17	05:38 17:58-19:52/114 20:30	06:08 17:50-19:16/86 19:57	06:40 16:58-17:27/29 19:06	07:12 16:22-17:38/76 18:16	06:49 15:48-16:07/19 16:38	07:19 16:30
18	05:39 17:58-19:50/112 20:30	06:09 17:50-19:16/86 19:55	06:41 16:55-17:29/34 19:04	07:13 16:23-17:39/76 18:14	06:50 15:52-16:03/11 16:37	07:19 16:30
19	05:40 17:58-19:49/111 20:29	06:10 17:50-19:15/85 19:54	06:42 16:52-17:31/39 19:03	07:14 16:23-17:39/76 18:13	06:51 16:36	07:20 16:30
20	05:41 17:58-19:47/109 20:28	06:11 17:50-19:14/84 19:52	06:43 16:49-17:33/44 19:01	07:15 16:24-17:39/75 18:11	06:52 16:35	07:21 16:31
21	05:42 17:57-19:17/80 20:27 19:19-19:45/26	06:12 17:50-19:14/84 19:51	06:44 16:47-17:35/48 18:59	07:16 16:24-17:39/75 18:10	06:53 16:35	07:21 16:31
22	05:43 17:56-19:16/80 20:27 19:21-19:40/19	06:13 17:50-19:13/83 19:49	06:45 16:44-17:36/52 18:58	07:17 16:24-17:38/74 18:08	06:54 16:34	07:22 16:32
23	05:44 17:56-19:17/81 20:26 19:28-19:34/6	06:14 17:51-19:12/81 19:48	06:46 16:42-17:37/55 18:56	07:19 16:25-17:39/74 18:07	06:56 16:34	07:22 16:32
24	05:45 17:56-19:17/81 20:25	06:15 17:51-19:11/80 19:46	06:47 16:40-17:38/58 18:54	07:20 16:26-17:38/72 18:05	06:57 16:33	07:23 16:33
25	05:45 17:55-19:18/83 20:24	06:16 17:51-19:10/79 19:45	06:48 16:38-17:39/61 18:52	06:21 15:26-16:37/71 17:04	06:58 16:32	07:23 16:33
26	05:46 17:55-19:18/83 20:23	06:17 17:52-19:09/77 19:43	06:49 16:37-17:39/62 18:51	06:22 15:26-16:37/71 17:03	06:59 16:32	07:23 16:34
27	05:47 17:55-19:18/83 20:22	06:18 17:52-19:08/76 19:41	06:50 16:35-17:40/65 18:49	06:23 15:27-16:37/70 17:01	07:00 16:31	07:24 16:35
28	05:48 17:55-19:19/84 20:21	06:20 17:53-19:07/74 19:40	06:51 16:34-17:40/66 18:47	06:24 15:26-16:36/70 17:00	07:01 16:31	07:24 16:35
29	05:49 17:54-19:19/85 20:20	06:21 17:54-19:05/71 19:38	06:52 16:32-17:41/69 18:45	06:26 15:26-16:35/69 16:59	07:02 16:30	07:24 16:36
30	05:50 17:54-19:19/85 20:19	06:22 17:55-19:04/69 19:37	06:53 16:31-17:41/70 18:44	06:27 15:26-16:33/67 16:57	07:04 16:30	07:25 16:37
31	05:51 17:54-19:20/86 20:18	06:23 17:56-19:02/66 19:35		06:28 15:27-16:33/66 16:56		07:25 16:38
Potential sun hours	461	429	375	345	297	286
Sum of minutes with flicker	3281	2587	1183	2297	770	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

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar per WTG

WTG: 4 - Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (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	July	August	September	October	November	December
1	07:25	07:11	06:35	06:43	05:57	05:27 19:12-20:00/48	05:28 19:21-20:11/50	05:52 19:22-19:53/31	06:24	06:54	06:29	07:05
	16:39	17:13	17:48	19:23	19:55	20:25	20:36	20:17	19:33	18:42	16:55	16:30
2	07:25	07:10	06:33	06:42	05:56	05:27 19:13-20:01/48	05:28 19:20-20:10/50	05:53 19:23-19:52/29	06:25	06:55	06:30	07:06
	16:40	17:15	17:49	19:24	19:56	20:26	20:36	20:16	19:32	18:40	16:53	16:29
3	07:25	07:09	06:32	06:40	05:54 19:28-19:32/4	05:27 19:12-20:01/49	05:29 19:21-20:11/50	05:54 19:23-19:51/28	06:26	06:56	06:32	07:07
	16:40	17:16	17:50	19:25	19:58	20:27	20:36	20:15	19:30	18:39	16:52	16:29
4	07:25	07:08	06:30	06:38	05:53 19:23-19:36/13	05:26 19:13-20:02/49	05:29 19:20-20:10/50	05:55 19:24-19:50/26	06:27	06:57	06:33	07:08
	16:41	17:17	17:52	19:26	19:59	20:28	20:36	20:14	19:28	18:37	16:51	16:29
5	07:25	07:07	06:29	06:37	05:52 19:20-19:36/16	05:26 19:14-20:03/49	05:30 19:20-20:10/50	05:56 19:25-19:49/24	06:28	06:59	06:34	07:09
	16:42	17:18	17:53	19:27	20:00	20:28	20:36	20:12	19:27	18:35	16:50	16:29
6	07:25	07:06	06:27	06:35	05:50 19:18-19:37/19	05:25 19:14-20:03/49	05:31 19:20-20:10/50	05:57 19:27-19:47/20	06:29	07:00	06:35	07:10
	16:43	17:20	17:54	19:28	20:01	20:29	20:35	20:11	19:25	18:34	16:49	16:29
7	07:25	07:05	06:25	06:33	05:49 19:16-19:38/22	05:25 19:14-20:04/50	05:31 19:20-20:10/50	05:58 19:28-19:46/18	06:30	07:01	06:36	07:11
	16:44	17:21	17:55	19:29	20:02	20:30	20:35	20:10	19:23	18:32	16:48	16:29
8	07:25	07:04	06:24	06:32	05:48 19:15-19:39/24	05:25 19:15-20:05/50	05:32 19:20-20:10/50	05:59 19:30-19:45/15	06:31	07:02	06:38	07:12
	16:45	17:22	17:56	19:30	20:03	20:30	20:35	20:09	19:22	18:30	16:46	16:29
9	07:25	07:03	06:22	06:30	05:47 19:14-19:40/26	05:25 19:15-20:06/51	05:32 19:20-20:09/49	06:00 19:33-19:44/11	06:32	07:03	06:39	07:12
	16:46	17:24	17:57	19:32	20:04	20:31	20:34	20:08	19:20	18:29	16:45	16:29
10	07:25	07:01	06:20	06:28	05:46 19:13-19:41/28	05:24 19:16-20:06/50	05:33 19:20-20:09/49	06:01	06:33	07:04	06:40	07:13
	16:47	17:25	17:58	19:33	20:05	20:31	20:34	20:06	19:18	18:27	16:44	16:29
11	07:25	07:00	06:19	06:27	05:45 19:13-19:42/29	05:24 19:17-20:07/50	05:34 19:20-20:09/49	06:02	06:34	07:05	06:41	07:14
	16:48	17:26	18:00	19:34	20:06	20:32	20:34	20:05	19:16	18:25	16:43	16:29
12	07:24	06:59	06:17	06:25	05:44 19:12-19:43/31	05:24 19:16-20:06/50	05:35 19:19-20:08/49	06:03	06:35	07:06	06:43	07:15
	16:49	17:27	18:01	19:35	20:07	20:32	20:33	20:04	19:15	18:24	16:42	16:29
13	07:24	06:58	06:15	06:24	05:42 19:11-19:44/33	05:24 19:16-20:07/51	05:35 19:20-20:07/47	06:04	06:36	07:07	06:44	07:16
	16:50	17:29	18:02	19:36	20:08	20:33	20:33	20:02	19:13	18:22	16:41	16:29
14	07:24	06:56	06:14	06:22	05:41 19:11-19:45/34	05:24 19:17-20:07/50	05:36 19:20-20:07/47	06:05	06:37	07:08	06:45	07:17
	16:52	17:30	18:03	19:37	20:09	20:33	20:32	20:01	19:11	18:21	16:40	16:29
15	07:23	06:55	06:12	06:20	05:40 19:11-19:46/35	05:24 19:17-20:08/51	05:37 19:20-20:07/47	06:06	06:38	07:09	06:46	07:17
	16:53	17:31	18:04	19:38	20:10	20:34	20:32	19:59	19:10	18:19	16:40	16:29
16	07:23	06:54	06:10	06:19	05:39 19:10-19:47/37	05:24 19:18-20:08/50	05:38 19:19-20:06/47	06:07	06:39	07:11	06:47	07:18
	16:54	17:32	18:05	19:39	20:11	20:34	20:31	19:58	19:08	18:17	16:39	16:29
17	07:22	06:52	06:09	06:17	05:38 19:10-19:48/38	05:24 19:18-20:08/50	05:38 19:19-20:05/46	06:08	06:40	07:12	06:49	07:19
	16:55	17:34	18:06	19:40	20:12	20:35	20:30	19:57	19:06	18:16	16:38	16:30
18	07:22	06:51	06:07	06:16	05:37 19:10-19:49/39	05:24 19:19-20:10/51	05:39 19:19-20:05/46	06:09	06:41	07:13	06:50	07:19
	16:56	17:35	18:07	19:41	20:13	20:35	20:30	19:55	19:04	18:14	16:37	16:30
19	07:21	06:50	06:05	06:14	05:37 19:09-19:49/40	05:24 19:19-20:10/51	05:40 19:20-20:04/44	06:10	06:42	07:14	06:51	07:20
	16:57	17:36	18:09	19:42	20:14	20:35	20:29	19:54	19:03	18:13	16:36	16:30
20	07:21	06:48	06:04	06:13	05:36 19:09-19:49/40	05:24 19:19-20:10/51	05:41 19:20-20:04/44	06:11	06:43	07:15	06:52	07:21
	16:58	17:37	18:10	19:43	20:15	20:36	20:28	19:52	19:01	18:11	16:35	16:31
21	07:20	06:47	06:02	06:11	05:35 19:10-19:52/42	05:24 19:19-20:10/51	05:42 19:19-20:02/43	06:12	06:44	07:16	06:53	07:21
	17:00	17:38	18:11	19:45	20:16	20:36	20:27	19:51	18:59	18:10	16:35	16:31
22	07:20	06:45	06:00	06:10	05:34 19:10-19:52/42	05:25 19:19-20:10/51	05:43 19:19-20:02/43	06:13	06:45	07:17	06:54	07:22
	17:01	17:40	18:12	19:46	20:17	20:36	20:27	19:49	18:58	18:08	16:34	16:32
23	07:19	06:44	05:59	06:08	05:33 19:09-19:53/44	05:25 19:20-20:11/51	05:44 19:19-20:01/42	06:14	06:46	07:19	06:56	07:22
	17:02	17:41	18:13	19:47	20:18	20:36	20:26	19:48	18:56	18:07	16:33	16:32
24	07:18	06:42	05:57	06:07	05:32 19:09-19:53/44	05:25 19:20-20:11/51	05:45 19:20-20:00/40	06:15	06:47	07:20	06:57	07:23
	17:03	17:42	18:14	19:48	20:19	20:36	20:25	19:46	18:54	18:05	16:33	16:33
25	07:17	06:41	05:55	06:05	05:32 19:10-19:55/45	05:25 19:20-20:10/50	05:45 19:20-20:00/40	06:16	06:48	06:21	06:58	07:23
	17:05	17:43	18:15	19:49	20:20	20:36	20:24	19:45	18:52	17:04	16:32	16:33
26	07:17	06:39	05:53	06:04	05:31 19:10-19:55/45	05:26 19:21-20:11/50	05:46 19:20-19:59/39	06:17	06:49	06:22	06:59	07:24
	17:06	17:44	18:16	19:50	20:20	20:37	20:23	19:43	18:51	17:03	16:32	16:34
27	07:16	06:38	05:52	06:02	05:30 19:11-19:57/46	05:26 19:20-20:11/51	05:47 19:21-19:58/37	06:18	06:50	06:23	07:00	07:24
	17:07	17:46	18:17	19:51	20:21	20:37	20:22	19:41	18:49	17:01	16:31	16:35
28	07:15	06:36	05:50	06:01	05:30 19:11-19:57/46	05:27 19:20-20:11/51	05:48 19:21-19:57/36	06:20	06:51	06:24	07:01	07:24
	17:08	17:47	18:18	19:52	20:22	20:37	20:21	19:40	18:47	17:00	16:31	16:35
29	07:14		06:48	06:00	05:29 19:10-19:58/48	05:27 19:21-20:11/50	05:49 19:21-19:56/35	06:21	06:52	06:26	07:02	07:24
	17:10		19:20	19:53	20:23	20:37	20:20	19:38	18:45	16:59	16:30	16:36
30	07:13		06:47	05:58	05:29 19:11-19:59/48	05:27 19:20-20:11/51	05:50 19:22-19:56/34	06:22	06:53	06:27	07:04	07:25
	17:11		19:21	19:54	20:24	20:37	20:19	19:37	18:44	16:57	16:30	16:37
31	07:12		06:45		05:28 19:12-20:00/48		05:51 19:21-19:54/33	06:23		06:28		07:25
	17:12		19:22		20:25		20:18	19:35		16:56		16:38
Potential sun hours	296	296	369	399	450	454	461	429	375	345	297	286
Sum of minutes with flicker	0	0	0	0	1006	1505	1386	202	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

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar per WTG

WTG: 5 - Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (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	July	August	September	October	November	December
1	07:25	07:11	06:35 06:56-07:43/47	06:43	05:57	05:27	05:28	05:52	06:24	06:54 07:36-08:17/41	06:29	07:05
	16:39	17:13	17:48	19:23	19:55	20:25	20:36	20:17	19:33	18:42	16:55	16:30
2	07:25	07:10	06:33 06:55-07:43/48	06:42	05:56	05:27	05:28	05:53	06:25	06:55 07:34-08:18/44	06:30	07:06
	16:39	17:15	17:49	19:24	19:56	20:26	20:36	20:16	19:32	18:40	16:53	16:29
3	07:25	07:09	06:32 06:55-07:44/49	06:40	05:54	05:27	05:29	05:54	06:26	06:56 07:33-08:18/45	06:32	07:07
	16:40	17:16	17:50	19:25	19:58	20:27	20:36	20:15	19:30	18:39	16:52	16:29
4	07:25	07:08	06:30 06:55-07:43/48	06:38	05:53	05:26	05:29	05:55	06:27	06:57 07:32-08:19/47	06:33	07:08
	16:41	17:17	17:52	19:26	19:59	20:28	20:36	20:14	19:28	18:37	16:51	16:29
5	07:25	07:07	06:29 06:55-07:44/49	06:37	05:52	05:26	05:30	05:56	06:28	06:59 07:32-08:19/47	06:34	07:09
	16:42	17:18	17:53	19:27	20:00	20:28	20:36	20:12	19:27	18:35	16:50	16:29
6	07:25	07:06	06:27 06:55-07:43/48	06:35	05:50	05:25	05:31	05:57	06:29	07:00 07:31-08:19/48	06:35	07:10
	16:43	17:20	17:54	19:28	20:01	20:29	20:35	20:11	19:25	18:34	16:49	16:29
7	07:25	07:05	06:25 06:54-07:42/48	06:33	05:49	05:25	05:31	05:58	06:30	07:01 07:30-08:19/49	06:36	07:11
	16:44	17:21	17:55	19:29	20:02	20:30	20:35	20:10	19:23	18:32	16:48	16:29
8	07:25	07:04	06:24 06:55-07:42/47	06:32	05:48	05:25	05:32	05:59	06:31	07:02 07:30-08:18/48	06:38	07:12
	16:45	17:22	17:56	19:30	20:03	20:30	20:35	20:09	19:22	18:30	16:46	16:29
9	07:25	07:03	06:22 06:55-07:41/46	06:30	05:47	05:25	05:32	06:00	06:32	07:03 07:29-08:18/49	06:39	07:12
	16:46	17:23	17:57	19:32	20:04	20:31	20:34	20:08	19:20	18:29	16:45	16:28
10	07:25	07:01	06:20 06:55-07:40/45	06:28	05:46	05:24	05:33	06:01	06:33	07:04 07:29-08:18/49	06:40	07:13
	16:47	17:25	17:58	19:33	20:05	20:31	20:34	20:06	19:18	18:27	16:44	16:28
11	07:25	07:00	06:19 06:56-07:40/44	06:27	05:45	05:24	05:34	06:02	06:34	07:05 07:29-08:17/48	06:41	07:14
	16:48	17:26	18:00	19:34	20:06	20:32	20:34	20:05	19:16	18:25	16:43	16:29
12	07:24	06:59	06:17 06:56-07:38/42	06:25	05:43	05:24	05:35	06:03	06:35	07:06 07:30-08:17/47	06:43	07:15
	16:49	17:27	18:01	19:35	20:07	20:32	20:33	20:04	19:15	18:24	16:42	16:29
13	07:24	06:58	06:15 06:56-07:37/41	06:24	05:42	05:24	05:35	06:04	06:36	07:07 07:30-08:17/47	06:44	07:16
	16:50	17:29	18:02	19:36	20:08	20:33	20:33	20:02	19:13	18:22	16:41	16:29
14	07:24	06:56	06:14 06:58-07:36/38	06:22	05:41	05:24	05:36	06:05	06:37	07:08 07:30-08:16/46	06:45	07:17
	16:51	17:30	18:03	19:37	20:09	20:33	20:32	20:01	19:11	18:21	16:40	16:29
15	07:23	06:55	06:12 06:58-07:34/36	06:20	05:40	05:24	05:37	06:06	06:38	07:09 07:30-08:15/45	06:46	07:17
	16:53	17:31	18:04	19:38	20:10	20:34	20:32	19:59	19:10	18:19	16:39	16:29
16	07:23	06:54	06:10 06:59-07:32/33	06:19	05:39	05:24	05:38	06:07	06:39	07:11 07:31-08:14/43	06:47	07:18
	16:54	17:32	18:05	19:39	20:11	20:34	20:31	19:58	19:08	18:17	16:39	16:29
17	07:22	06:52 07:15-07:27/12	06:09 07:01-07:30/29	06:17	05:38	05:24	05:38	06:08	06:40	07:12 07:32-08:13/41	06:49	07:19
	16:55	17:34	18:06	19:40	20:12	20:35	20:30	19:57	19:06	18:16	16:38	16:30
18	07:22	06:51 07:12-07:32/20	06:07 07:03-07:27/24	06:16	05:37	05:24	05:39	06:09	06:41	07:13 07:34-08:12/38	06:50	07:19
	16:56	17:35	18:07	19:41	20:13	20:35	20:30	19:55	19:04	18:14	16:37	16:30
19	07:21	06:50 07:09-07:34/25	06:05 07:05-07:24/19	06:14	05:37	05:24	05:40	06:10	06:42	07:14 07:35-08:11/36	06:51	07:20
	16:57	17:36	18:09	19:42	20:14	20:35	20:29	19:54	19:03	18:13	16:36	16:30
20	07:21	06:48 07:08-07:36/28	06:04 07:10-07:18/8	06:13	05:36	05:24	05:41	06:11	06:43	07:15 07:36-08:09/33	06:52	07:21
	16:58	17:37	18:10	19:43	20:15	20:36	20:28	19:52	19:01	18:11	16:35	16:31
21	07:20	06:47 07:06-07:37/31	06:02	06:11	05:35	05:24	05:42	06:12	06:44	07:16 07:37-08:07/30	06:53	07:21
	17:00	17:38	18:11	19:45	20:16	20:36	20:27	19:51	18:59	18:10	16:35	16:31
22	07:20	06:45 07:05-07:39/34	06:00	06:10	05:34	05:25	05:43	06:13	06:45	07:17 07:38-08:05/27	06:55	07:22
	17:01	17:40	18:12	19:46	20:17	20:36	20:27	19:49	18:58	18:08	16:34	16:32
23	07:19	06:44 07:03-07:40/37	05:59	06:08	05:33	05:25	05:44	06:14	06:46	07:19 07:40-08:04/24	06:56	07:22
	17:02	17:41	18:13	19:47	20:18	20:36	20:26	19:48	18:56	18:07	16:33	16:32
24	07:18	06:42 07:02-07:41/39	05:57	06:07	05:32	05:25	05:45	06:15	06:47 07:50-08:06/16	07:20 07:42-08:00/18	06:57	07:23
	17:03	17:42	18:14	19:48	20:19	20:36	20:25	19:46	18:54	18:05	16:33	16:33
25	07:17	06:41 07:00-07:41/41	05:55	06:05	05:32	05:25	05:45	06:16	06:48 07:46-08:09/23	06:21 06:47-06:55/8	06:58	07:23
	17:05	17:43	18:15	19:49	20:20	20:36	20:24	19:45	18:52	17:04	16:32	16:33
26	07:17	06:39 06:59-07:43/44	05:53	06:04	05:31	05:26	05:46	06:17	06:49 07:44-08:11/27	06:22	06:59	07:24
	17:06	17:44	18:16	19:50	20:20	20:37	20:23	19:43	18:51	17:03	16:32	16:34
27	07:16	06:38 06:57-07:43/46	05:52	06:02	05:30	05:26	05:47	06:18	06:50 07:41-08:13/32	06:23	07:00	07:24
	17:07	17:46	18:17	19:51	20:21	20:37	20:22	19:41	18:49	17:01	16:31	16:35
28	07:15	06:36 06:57-07:44/47	05:50	06:01	05:30	05:26	05:48	06:19	06:51 07:39-08:14/35	06:24	07:01	07:24
	17:08	17:47	18:18	19:52	20:22	20:37	20:21	19:40	18:47	17:00	16:31	16:35
29	07:14		06:48	06:00	05:29	05:27	05:49	06:21	06:52 07:38-08:15/37	06:26	07:02	07:24
	17:10		19:20	19:53	20:23	20:37	20:20	19:38	18:45	16:59	16:30	16:36
30	07:13		06:47	05:58	05:28	05:27	05:50	06:22	06:53 07:36-08:16/40	06:27	07:04	07:25
	17:11		19:21	19:54	20:24	20:37	20:19	19:37	18:44	16:57	16:30	16:37
31	07:12		06:45		05:28		05:51	06:23		06:28		07:25
	17:12		19:22		20:25		20:18	19:35		16:56		16:38
Potential sun hours	296	296	369	399	450	454	461	429	375	345	297	286
Sum of minutes with flicker	0	404	789	0	0	0	0	0	210	998	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

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar per WTG

WTG: 6 - Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (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	July	August	September	October	November	December
1	07:25	07:11	06:35	06:43	05:57	05:27	05:28	05:52	06:23 18:55-19:10/15	06:54	06:29	07:05
	16:38	17:13	17:48	19:23	19:55	20:25	20:36	20:17	19:33	18:42	16:55	16:30
2	07:25	07:10	06:33	06:42	05:55	05:27	05:28	05:53	06:24 18:55-19:09/14	06:55	06:30	07:06
	16:39	17:14	17:49	19:24	19:56	20:26	20:36	20:16	19:32	18:40	16:53	16:29
3	07:25	07:09	06:32	06:40	05:54	05:26	05:29	05:54	06:25 18:55-19:07/12	06:56	06:32	07:07
	16:40	17:16	17:50	19:25	19:57	20:27	20:36	20:15	19:30	18:39	16:52	16:29
4	07:25	07:08	06:30	06:38	05:53	05:26	05:29	05:55	06:27 18:55-19:06/11	06:57	06:33	07:08
	16:41	17:17	17:51	19:26	19:59	20:28	20:36	20:14	19:28	18:37	16:51	16:29
5	07:25	07:07	06:28	06:37 19:03-19:05/2	05:52	05:26	05:30	05:56	06:28 18:56-19:04/8	06:58	06:34	07:09
	16:42	17:18	17:53	19:27	20:00	20:28	20:36	20:12	19:27	18:35	16:50	16:29
6	07:25	07:06	06:27	06:35 19:01-19:06/5	05:50	05:25	05:30	05:57	06:29 18:57-19:02/5	07:00	06:35	07:10
	16:43	17:20	17:54	19:28	20:01	20:29	20:36	20:11	19:25	18:34	16:48	16:28
7	07:25	07:05	06:25	06:33 19:00-19:08/8	05:49	05:25	05:31	05:58	06:30 18:58-19:01/3	07:01	06:36	07:11
	16:44	17:21	17:55	19:29	20:02	20:30	20:35	20:10	19:23	18:32	16:47	16:28
8	07:25	07:04	06:24	06:32 18:58-19:08/10	05:48	05:25	05:32	05:59	06:31	07:02	06:38	07:12
	16:45	17:22	17:56	19:30	20:03	20:30	20:35	20:09	19:22	18:30	16:46	16:28
9	07:25	07:03	06:22	06:30 18:57-19:09/12	05:47	05:24	05:32	06:00	06:32	07:03	06:39	07:12
	16:46	17:23	17:57	19:31	20:04	20:31	20:35	20:07	19:20	18:29	16:45	16:28
10	07:25	07:01	06:20	06:28 18:57-19:11/14	05:46	05:24	05:33	06:01	06:33	07:04	06:40	07:13
	16:47	17:25	17:58	19:33	20:05	20:31	20:34	20:06	19:18	18:27	16:44	16:28
11	07:25	07:00	06:19	06:27 18:56-19:11/15	05:44	05:24	05:34	06:02	06:34	07:05	06:41	07:14
	16:48	17:26	18:00	19:34	20:06	20:32	20:34	20:05	19:16	18:25	16:43	16:28
12	07:24	06:59	06:17	06:25 18:57-19:13/16	05:43	05:24	05:34	06:03	06:35	07:06	06:43	07:15
	16:49	17:27	18:01	19:35	20:07	20:33	20:33	20:04	19:15	18:24	16:42	16:28
13	07:24	06:58	06:15	06:23 18:56-19:14/18	05:42	05:24	05:35	06:04	06:36	07:07	06:44	07:16
	16:50	17:28	18:02	19:36	20:08	20:33	20:33	20:02	19:13	18:22	16:41	16:29
14	07:24	06:56	06:14	06:22 18:56-19:14/18	05:41	05:24	05:36	06:05	06:37	07:08	06:45	07:17
	16:51	17:30	18:03	19:37	20:09	20:33	20:32	20:01	19:11	18:20	16:40	16:29
15	07:23	06:55	06:12	06:20 18:57-19:15/18	05:40	05:24	05:37	06:06	06:38	07:09	06:46	07:17
	16:52	17:31	18:04	19:38	20:10	20:34	20:32	19:59	19:10	18:19	16:39	16:29
16	07:23	06:54	06:10	06:19 18:58-19:13/15	05:39	05:24	05:37	06:07	06:39	07:10	06:47	07:18
	16:54	17:32	18:05	19:39	20:11	20:34	20:31	19:58	19:08	18:17	16:38	16:29
17	07:22	06:52	06:09	06:17 19:00-19:12/12	05:38	05:24	05:38	06:08	06:40	07:12	06:49	07:19
	16:55	17:33	18:06	19:40	20:12	20:35	20:30	19:57	19:06	18:16	16:38	16:30
18	07:22	06:51	06:07	06:16 19:02-19:08/6	05:37	05:24	05:39	06:09	06:41	07:13	06:50	07:19
	16:56	17:35	18:07	19:41	20:13	20:35	20:30	19:55	19:04	18:14	16:37	16:30
19	07:21	06:50	06:05	06:14	05:36	05:24	05:40	06:10	06:42	07:14	06:51	07:20
	16:57	17:36	18:09	19:42	20:14	20:35	20:29	19:54	19:03	18:13	16:36	16:30
20	07:21	06:48	06:04	06:12	05:35	05:24	05:41	06:11	06:43	07:15	06:52	07:21
	16:58	17:37	18:10	19:43	20:15	20:36	20:28	19:52	19:01	18:11	16:35	16:31
21	07:20	06:47	06:02	06:11	05:35	05:24	05:42	06:12	06:44	07:16	06:53	07:21
	16:59	17:38	18:11	19:44	20:16	20:36	20:27	19:51	18:59	18:10	16:35	16:31
22	07:20	06:45	06:00	06:09	05:34	05:24	05:43	06:13	06:45	07:17	06:54	07:22
	17:01	17:40	18:12	19:46	20:17	20:36	20:27	19:49	18:57	18:08	16:34	16:32
23	07:19	06:44	05:58	06:08	05:33	05:25	05:43	06:14	06:46	07:18	06:56	07:22
	17:02	17:41	18:13	19:47	20:18	20:36	20:26	19:48	18:56	18:07	16:33	16:32
24	07:18	06:42	05:57	06:07	05:32	05:25	05:44	06:15	06:47	07:20	06:57	07:23
	17:03	17:42	18:14	19:48	20:19	20:36	20:25	19:46	18:54	18:05	16:33	16:33
25	07:17	06:41	05:55	06:05	05:31	05:25	05:45	06:16 19:05-19:12/7	06:48	06:21	06:58	07:23
	17:04	17:43	18:15	19:49	20:20	20:36	20:24	19:44	18:52	17:04	16:32	16:33
26	07:17	06:39	05:53	06:04	05:31	05:26	05:46	06:17 19:02-19:15/13	06:49	06:22	06:59	07:24
	17:06	17:44	18:16	19:50	20:20	20:37	20:23	19:43	18:51	17:03	16:32	16:34
27	07:16	06:38	05:52	06:02	05:30	05:26	05:47	06:18 19:00-19:15/15	06:50	06:23	07:00	07:24
	17:07	17:46	18:17	19:51	20:21	20:37	20:22	19:41	18:49	17:01	16:31	16:34
28	07:15	06:36	05:50	06:01	05:29	05:26	05:48	06:19 18:58-19:16/18	06:51	06:24	07:01	07:24
	17:08	17:47	18:18	19:52	20:22	20:37	20:21	19:40	18:47	17:00	16:31	16:35
29	07:14		06:48	05:59	05:29	05:27	05:49	06:20 18:57-19:15/18	06:52	06:26	07:02	07:24
	17:09		19:19	19:53	20:23	20:37	20:20	19:38	18:45	16:58	16:30	16:36
30	07:13		06:47	05:58	05:28	05:27	05:50	06:21 18:56-19:14/18	06:53	06:27	07:04	07:25
	17:11		19:21	19:54	20:24	20:37	20:19	19:37	18:44	16:57	16:30	16:37
31	07:12		06:45		05:28		05:51	06:22 18:56-19:12/16		06:28		07:25
	17:12		19:22		20:25		20:18	19:35		16:56		16:37
Potential sun hours	296	296	369	399	450	454	461	429	375	345	297	286
Sum of minutes with flicker	0	0	0	169	0	0	0	105	68	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

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar per WTG

WTG: 7 - Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (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	July	August	September	October	November	December
1	07:25	07:11	06:35	06:43	05:57	05:27	05:28	05:52	06:23	06:54	06:29	07:05
	16:38	17:13	17:48	19:23	19:55	20:25	20:36	20:17	19:33	18:42	16:54	16:30
2	07:25	07:10	06:33	06:41	05:55	05:27	05:28	05:53	06:24	06:55	06:30	07:06
	16:39	17:14	17:49	19:24	19:56	20:26	20:36	20:16	19:32	18:40	16:53	16:29
3	07:25	07:09	06:32	06:40	05:54	05:26	05:29	05:54	06:25	06:56	06:32	07:07
	16:40	17:16	17:50	19:25	19:57	20:27	20:36	20:15	19:30	18:38	16:52	16:29
4	07:25	07:08	06:30	06:38	05:53	05:26	05:29	05:55	06:26	06:57	06:33	07:08
	16:41	17:17	17:51	19:26	19:59	20:28	20:36	20:14	19:28	18:37	16:51	16:29
5	07:25	07:07	06:28	06:36	05:51	05:26	05:30	05:56	06:27	06:58	06:34	07:09
	16:42	17:18	17:53	19:27	20:00	20:28	20:36	20:12	19:27	18:35	16:50	16:29
6	07:25	07:06	06:27	06:35	05:50	05:25	05:30	05:57	06:28	06:59	06:35	07:10
	16:43	17:19	17:54	19:28	20:01	20:29	20:35	20:11	19:25	18:33	16:48	16:28
7	07:25	07:05	06:25	06:33	05:49	05:25	05:31	05:58	06:29	07:01	06:36	07:11
	16:44	17:21	17:55	19:29	20:02	20:30	20:35	20:10	19:23	18:32	16:47	16:28
8	07:25	07:04	06:24	06:31	05:48	05:25	05:32	05:59	06:31	07:02	06:38	07:12
	16:45	17:22	17:56	19:30	20:03	20:30	20:35	20:09	19:21	18:30	16:46	16:28
9	07:25	07:03	06:22	06:30	05:47	05:24	05:32	06:00	06:32	07:03	06:39	07:12
	16:46	17:23	17:57	19:31	20:04	20:31	20:34	20:07	19:20	18:28	16:45	16:28
10	07:25	07:01	06:20	06:28	05:45	05:24	05:33	06:01	06:33	07:04	06:40	07:13
	16:47	17:25	17:58	19:32	20:05	20:31	20:34	20:06	19:18	18:27	16:44	16:28
11	07:25	07:00	06:19	06:27	05:44	05:24	05:34	06:02	06:34	07:05	06:41	07:14
	16:48	17:26	17:59	19:34	20:06	20:32	20:34	20:05	19:16	18:25	16:43	16:28
12	07:24	06:59	06:17	06:25	05:43	05:24	05:34	06:03	06:35	07:06	06:42	07:15
	16:49	17:27	18:01	19:35	20:07	20:32	20:33	20:03	19:15	18:24	16:42	16:28
13	07:24	06:58	06:15	06:23	05:42	05:24	05:35	06:04	06:36	07:07	06:44	07:16
	16:50	17:28	18:02	19:36	20:08	20:33	20:33	20:02	19:13	18:22	16:41	16:29
14	07:24	06:56	06:14	06:22	05:41	05:24	05:36	06:05	06:37	07:08	06:45	07:17
	16:51	17:30	18:03	19:37	20:09	20:33	20:32	20:01	19:11	18:20	16:40	16:29
15	07:23	06:55	06:12	06:20	05:40	05:24	05:37	06:06	06:38	07:09	06:46	07:17
	16:52	17:31	18:04	19:38	20:10	20:34	20:32	19:59	19:09	18:19	16:39	16:29
16	07:23	06:54	06:10	06:19	05:39	05:24	05:37	06:07	06:39	07:10	06:47	07:18
	16:54	17:32	18:05	19:39	20:11	20:34	20:31	19:58	19:08	18:17	16:38	16:29
17	07:22	06:52	06:09	06:17	05:38	05:24	05:38	06:08	06:40	07:12	06:48	07:19
	16:55	17:33	18:06	19:40	20:12	20:35	20:30	19:56	19:06	18:16	16:38	16:29
18	07:22	06:51	06:07	06:15	05:37	05:24	05:39	06:09	06:41	07:13	06:50	07:19
	16:56	17:35	18:07	19:41	20:13	20:35	20:30	19:55	19:04	18:14	16:37	16:30
19	07:21	06:50	06:05	06:14	05:36	05:24	05:40	06:10	06:42	07:14	06:51	07:20
	16:57	17:36	18:08	19:42	20:14	20:35	20:29	19:54	19:03	18:13	16:36	16:30
20	07:21	06:48	06:04	06:12	05:35	05:24	05:41	06:11	06:43	07:15	06:52	07:21
	16:58	17:37	18:10	19:43	20:15	20:36	20:28	19:52	19:01	18:11	16:35	16:31
21	07:20	06:47	06:02	06:11	05:35	05:24	05:42	06:12	06:44	07:16	06:53	07:21
	16:59	17:38	18:11	19:44	20:16	20:36	20:27	19:51	18:59	18:10	16:35	16:31
22	07:20	06:45	06:00	06:09	05:34	05:24	05:42	06:13	06:45	07:17	06:54	07:22
	17:01	17:39	18:12	19:46	20:17	20:36	20:27	19:49	18:57	18:08	16:34	16:31
23	07:19	06:44	05:58	06:08	05:33	05:25	05:43	06:14	06:46	07:18	06:56	07:22
	17:02	17:41	18:13	19:47	20:18	20:36	20:26	19:48	18:56	18:07	16:33	16:32
24	07:18	06:42	05:57	06:06	05:32	05:25	05:44	06:15	06:47	07:20	06:57	07:23
	17:03	17:42	18:14	19:48	20:19	20:36	20:25	19:46	18:54	18:05	16:33	16:33
25	07:17	06:41	05:55	06:05	05:31	05:25	05:45	06:16	06:48	06:21	06:58	07:23
	17:04	17:43	18:15	19:49	20:20	20:36	20:24	19:44	18:52	17:04	16:32	16:33
26	07:17	06:39	05:53	06:04	05:31	05:25	05:46	06:17	06:49	06:22	06:59	07:23
	17:06	17:44	18:16	19:50	20:20	20:37	20:23	19:43	18:50	17:02	16:32	16:34
27	07:16	06:38	05:52	06:02	05:30	05:26	05:47	06:18	06:50	06:23	07:00	07:24
	17:07	17:45	18:17	19:51	20:21	20:37	20:22	19:41	18:49	17:01	16:31	16:34
28	07:15	06:36	05:50	06:01	05:29	05:26	05:48	06:19	06:51	06:24	07:01	07:24
	17:08	17:47	18:18	19:52	20:22	20:37	20:21	19:40	18:47	17:00	16:31	16:35
29	07:14		06:48	05:59	05:29	05:27	05:49	06:20	06:52	06:25	07:02	07:24
	17:09		19:19	19:53	20:23	20:37	20:20	19:38	18:45	16:58	16:30	16:36
30	07:13		06:47	05:58	05:28	05:27	05:50	06:21	06:53	06:27	07:03	07:25
	17:11		19:21	19:54	20:24	20:37	20:19	19:36	18:44	16:57	16:30	16:37
31	07:12		06:45		05:28		05:51	06:22		06:28		07:25
	17:12		19:22		20:25		20:18	19:35		16:56		16:37
Potential sun hours	296	296	369	399	450	454	461	429	375	345	297	286
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

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar per WTG

WTG: 8 - Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (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	July	August	September	October	November	December
1	07:25	07:11	06:35	06:43	05:57	05:27	05:28	05:52	06:23	06:54	06:29	07:04
	16:38	17:13	17:48	19:23	19:55	20:25	20:36	20:17	19:33	18:42	16:54	16:30
2	07:25	07:10	06:33	06:41	05:55	05:27	05:28	05:53	06:24	06:55	06:30	07:06
	16:39	17:14	17:49	19:24	19:56	20:26	20:36	20:16	19:32	18:40	16:53	16:29
3	07:25	07:09	06:32	06:40	05:54	05:26	05:29	05:54	06:25	06:56	06:31	07:07
	16:40	17:16	17:50	19:25	19:57	20:27	20:36	20:15	19:30	18:38	16:52	16:29
4	07:25	07:08	06:30	06:38	05:53	05:26	05:29	05:55	06:26	06:57	06:33	07:08
	16:41	17:17	17:51	19:26	19:58	20:28	20:36	20:14	19:28	18:37	16:51	16:29
5	07:25	07:07	06:28	06:36	05:51	05:26	05:30	05:56	06:27	06:58	06:34	07:09
	16:42	17:18	17:53	19:27	20:00	20:28	20:36	20:12	19:27	18:35	16:50	16:29
6	07:25	07:06	06:27	06:35	05:50	05:25	05:30	05:57	06:28	06:59	06:35	07:10
	16:43	17:19	17:54	19:28	20:01	20:29	20:35	20:11	19:25	18:33	16:48	16:28
7	07:25	07:05	06:25	06:33	05:49	05:25	05:31	05:58	06:29	07:00	06:36	07:11
	16:44	17:21	17:55	19:29	20:02	20:30	20:35	20:10	19:23	18:32	16:47	16:28
8	07:25	07:04	06:24	06:31	05:48	05:25	05:32	05:59	06:30	07:02	06:38	07:11
	16:45	17:22	17:56	19:30	20:03	20:30	20:35	20:09	19:21	18:30	16:46	16:28
9	07:25	07:03	06:22	06:30	05:47	05:24	05:32	06:00	06:32	07:03	06:39	07:12
	16:46	17:23	17:57	19:31	20:04	20:31	20:34	20:07	19:20	18:28	16:45	16:28
10	07:25	07:01	06:20	06:28	05:45	05:24	05:33	06:01	06:33	07:04	06:40	07:13
	16:47	17:25	17:58	19:32	20:05	20:31	20:34	20:06	19:18	18:27	16:44	16:28
11	07:25	07:00	06:19	06:27	05:44	05:24	05:34	06:02	06:34	07:05	06:41	07:14
	16:48	17:26	17:59	19:34	20:06	20:32	20:34	20:05	19:16	18:25	16:43	16:28
12	07:24	06:59	06:17	06:25	05:43	05:24	05:34	06:03	06:35	07:06	06:42	07:15
	16:49	17:27	18:01	19:35	20:07	20:32	20:33	20:03	19:15	18:24	16:42	16:28
13	07:24	06:58	06:15	06:23	05:42	05:24	05:35	06:04	06:36	07:07	06:44	07:16
	16:50	17:28	18:02	19:36	20:08	20:33	20:33	20:02	19:13	18:22	16:41	16:29
14	07:24	06:56	06:14	06:22	05:41	05:24	05:36	06:05	06:37	07:08	06:45	07:17
	16:51	17:30	18:03	19:37	20:09	20:33	20:32	20:01	19:11	18:20	16:40	16:29
15	07:23	06:55	06:12	06:20	05:40	05:24	05:37	06:06	06:38	07:09	06:46	07:17
	16:52	17:31	18:04	19:38	20:10	20:34	20:31	19:59	19:09	18:19	16:39	16:29
16	07:23	06:54	06:10	06:19	05:39	05:24	05:37	06:07	06:39	07:10	06:47	07:18
	16:54	17:32	18:05	19:39	20:11	20:34	20:31	19:58	19:08	18:17	16:38	16:29
17	07:22	06:52	06:09	06:17	05:38	05:24	05:38	06:08	06:40	07:12	06:48	07:19
	16:55	17:33	18:06	19:40	20:12	20:35	20:30	19:56	19:06	18:16	16:38	16:29
18	07:22	06:51	06:07	06:15	05:37	05:24	05:39	06:09	06:41	07:13	06:50	07:19
	16:56	17:35	18:07	19:41	20:13	20:35	20:30	19:55	19:04	18:14	16:37	16:30
19	07:21	06:50	06:05	06:14	05:36	05:24	05:40	06:10	06:42	07:14	06:51	07:20
	16:57	17:36	18:08	19:42	20:14	20:35	20:29	19:54	19:03	18:13	16:36	16:30
20	07:21	06:48	06:04	06:12	05:35	05:24	05:41	06:11	06:43	07:15	06:52	07:21
	16:58	17:37	18:10	19:43	20:15	20:35	20:28	19:52	19:01	18:11	16:35	16:31
21	07:20	06:47	06:02	06:11	05:35	05:24	05:42	06:12	06:44	07:16	06:53	07:21
	16:59	17:38	18:11	19:44	20:16	20:36	20:27	19:51	18:59	18:10	16:35	16:31
22	07:19	06:45	06:00	06:09	05:34	05:24	05:42	06:13	06:45	07:17	06:54	07:22
	17:01	17:39	18:12	19:45	20:17	20:36	20:27	19:49	18:57	18:08	16:34	16:32
23	07:19	06:44	05:58	06:08	05:33	05:25	05:43	06:14	06:46	07:18	06:56	07:22
	17:02	17:41	18:13	19:47	20:18	20:36	20:26	19:47	18:56	18:07	16:33	16:32
24	07:18	06:42	05:57	06:06	05:32	05:25	05:44	06:15	06:47	07:20	06:57	07:23
	17:03	17:42	18:14	19:48	20:19	20:36	20:25	19:46	18:54	18:05	16:33	16:33
25	07:17	06:41	05:55	06:05	05:31	05:25	05:45	06:16	06:48	06:21	06:58	07:23
	17:04	17:43	18:15	19:49	20:19	20:36	20:24	19:44	18:52	17:04	16:32	16:33
26	07:17	06:39	05:53	06:04	05:31	05:26	05:46	06:17	06:49	06:22	06:59	07:23
	17:06	17:44	18:16	19:50	20:20	20:36	20:23	19:43	18:50	17:02	16:32	16:34
27	07:16	06:38	05:52	06:02	05:30	05:26	05:47	06:18	06:50	06:23	07:00	07:24
	17:07	17:45	18:17	19:51	20:21	20:37	20:22	19:41	18:49	17:01	16:31	16:34
28	07:15	06:36	05:50	06:01	05:29	05:26	05:48	06:19	06:51	06:24	07:01	07:24
	17:08	17:47	18:18	19:52	20:22	20:37	20:21	19:40	18:47	17:00	16:31	16:35
29	07:14		06:48	05:59	05:29	05:27	05:49	06:20	06:52	06:25	07:02	07:24
	17:09		19:19	19:53	20:23	20:36	20:20	19:38	18:45	16:58	16:30	16:36
30	07:13		06:47	05:58	05:28	05:27	05:50	06:21	06:53	06:27	07:03	07:25
	17:11		19:20	19:54	20:24	20:36	20:19	19:36	18:44	16:57	16:30	16:37
31	07:12		06:45		05:28		05:51	06:22		06:28		07:25
	17:12		19:22		20:25		20:18	19:35		16:56		16:37
Potential sun hours	296	296	369	399	450	454	461	429	375	345	297	286
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

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar per WTG

WTG: 9 - Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (19)

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	07:25 15:59-16:12/13	07:11	06:35	06:43	05:57	05:27	05:27	05:52	06:23	06:54	06:29	07:04 15:43-16:04/21
	16:38	17:13	17:48	19:23	19:55	20:25	20:36	20:17	19:33	18:42	16:54	16:29
2	07:25 15:59-16:13/14	07:10	06:33	06:41	05:55	05:27	05:28	05:53	06:24	06:55	06:30	07:06 15:43-16:03/20
	16:39	17:14	17:49	19:24	19:56	20:26	20:36	20:16	19:31	18:40	16:53	16:29
3	07:25 15:59-16:14/15	07:09	06:32	06:40	05:54	05:26	05:29	05:54	06:25	06:56	06:31	07:07 15:44-16:03/19
	16:40	17:16	17:50	19:25	19:57	20:27	20:36	20:15	19:30	18:38	16:52	16:29
4	07:25 16:00-16:15/15	07:08	06:30	06:38	05:53	05:26	05:29	05:55	06:26	06:57	06:33	07:08 15:45-16:04/19
	16:41	17:17	17:51	19:26	19:58	20:28	20:36	20:14	19:28	18:37	16:51	16:29
5	07:25 16:00-16:16/16	07:07	06:28	06:36	05:51	05:25	05:30	05:56	06:27	06:58	06:34	07:09 15:46-16:03/17
	16:42	17:18	17:53	19:27	20:00	20:28	20:36	20:12	19:26	18:35	16:50	16:29
6	07:25 16:00-16:17/17	07:06	06:27	06:35	05:50	05:25	05:30	05:57	06:28	06:59	06:35	07:10 15:46-16:03/17
	16:43	17:19	17:54	19:28	20:01	20:29	20:35	20:11	19:25	18:33	16:48	16:28
7	07:25 16:00-16:17/17	07:05	06:25	06:33	05:49	05:25	05:31	05:58	06:29	07:00	06:36	07:11 15:46-16:02/16
	16:44	17:21	17:55	19:29	20:02	20:30	20:35	20:10	19:23	18:32	16:47	16:28
8	07:25 16:00-16:19/19	07:04	06:23	06:31	05:48	05:25	05:31	05:59	06:30	07:02	06:38	07:11 15:47-16:02/15
	16:45	17:22	17:56	19:30	20:03	20:30	20:35	20:09	19:21	18:30	16:46	16:28
9	07:25 16:01-16:20/19	07:03	06:22	06:30	05:47	05:24	05:32	06:00	06:31	07:03	06:39	07:12 15:47-16:02/15
	16:46	17:23	17:57	19:31	20:04	20:31	20:34	20:07	19:20	18:28	16:45	16:28
10	07:25 16:01-16:21/20	07:01	06:20	06:28	05:45	05:24	05:33	06:01	06:32	07:04	06:40	07:13 15:48-16:02/14
	16:47	17:25	17:58	19:32	20:05	20:31	20:34	20:06	19:18	18:27	16:44	16:28
11	07:25 16:01-16:22/21	07:00	06:19	06:27	05:44	05:24	05:34	06:02	06:34	07:05	06:41	07:14 15:49-16:02/13
	16:48	17:26	17:59	19:34	20:06	20:32	20:34	20:05	19:16	18:25	16:43	16:28
12	07:24 16:02-16:23/21	06:59	06:17	06:25	05:43	05:24	05:34	06:03	06:35	07:06	06:42	07:15 15:50-16:03/13
	16:49	17:27	18:01	19:35	20:07	20:32	20:33	20:03	19:15	18:24	16:42	16:28
13	07:24 16:02-16:25/23	06:58	06:15	06:23	05:42	05:24	05:35	06:04	06:36	07:07	06:44	07:16 15:51-16:03/12
	16:50	17:28	18:02	19:36	20:08	20:33	20:33	20:02	19:13	18:22	16:41	16:28
14	07:24 16:02-16:25/23	06:56	06:14	06:22	05:41	05:24	05:36	06:05	06:37	07:08	06:45	07:17 15:51-16:02/11
	16:51	17:30	18:03	19:37	20:09	20:33	20:32	20:01	19:11	18:20	16:40	16:29
15	07:23 16:03-16:27/24	06:55	06:12	06:20	05:40	05:24	05:37	06:06	06:38	07:09	06:46 15:49-15:55/6	07:17 15:52-16:03/11
	16:52	17:31	18:04	19:38	20:10	20:34	20:31	19:59	19:09	18:19	16:39	16:29
16	07:23 16:03-16:28/25	06:54	06:10	06:19	05:39	05:24	05:37	06:07	06:39	07:10	06:47 15:46-15:58/12	07:18 15:53-16:03/10
	16:53	17:32	18:05	19:39	20:11	20:34	20:31	19:58	19:08	18:17	16:38	16:29
17	07:22 16:04-16:29/25	06:52	06:09	06:17	05:38	05:24	05:38	06:08	06:40	07:11	06:48 15:45-16:00/15	07:19 15:52-16:03/11
	16:55	17:33	18:06	19:40	20:12	20:35	20:30	19:56	19:06	18:16	16:38	16:29
18	07:22 16:04-16:29/25	06:51	06:07	06:15	05:37	05:24	05:39	06:09	06:41	07:13	06:50 15:44-16:01/17	07:19 15:53-16:04/11
	16:56	17:35	18:07	19:41	20:13	20:35	20:30	19:55	19:04	18:14	16:37	16:30
19	07:21 16:04-16:28/24	06:50	06:05	06:14	05:36	05:24	05:40	06:10	06:42	07:14	06:51 15:43-16:02/19	07:20 15:54-16:04/10
	16:57	17:36	18:08	19:42	20:14	20:35	20:29	19:54	19:03	18:13	16:36	16:30
20	07:21 16:06-16:29/23	06:48	06:03	06:12	05:35	05:24	05:41	06:11	06:43	07:15	06:52 15:42-16:03/21	07:21 15:54-16:04/10
	16:58	17:37	18:10	19:43	20:15	20:35	20:28	19:52	19:01	18:11	16:35	16:31
21	07:20 16:06-16:29/23	06:47	06:02	06:11	05:35	05:24	05:42	06:12	06:44	07:16	06:53 15:42-16:05/23	07:21 15:55-16:05/10
	16:59	17:38	18:11	19:44	20:16	20:36	20:27	19:51	18:59	18:10	16:34	16:31
22	07:19 16:07-16:28/21	06:45	06:00	06:09	05:34	05:24	05:42	06:13	06:45	07:17	06:54 15:42-16:05/23	07:22 15:55-16:05/10
	17:01	17:39	18:12	19:45	20:17	20:36	20:27	19:49	18:57	18:08	16:34	16:31
23	07:19 16:09-16:28/19	06:44	05:58	06:08	05:33	05:25	05:43	06:14	06:46	07:18	06:56 15:41-16:05/24	07:22 15:56-16:06/10
	17:02	17:41	18:13	19:47	20:18	20:36	20:26	19:47	18:56	18:07	16:33	16:32
24	07:18 16:10-16:27/17	06:42	05:57	06:06	05:32	05:25	05:44	06:15	06:47	07:20	06:57 15:41-16:06/25	07:23 15:56-16:06/10
	17:03	17:42	18:14	19:48	20:19	20:36	20:25	19:46	18:54	18:05	16:33	16:33
25	07:17 16:11-16:26/15	06:41	05:55	06:05	05:31	05:25	05:45	06:16	06:48	06:21	06:58 15:41-16:06/25	07:23 15:56-16:06/10
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26	07:17 16:13-16:24/11	06:39	05:53	06:04	05:31	05:25	05:46	06:17	06:49	06:22	06:59 15:42-16:07/25	07:23 15:57-16:08/11
	17:05	17:44	18:16	19:50	20:20	20:36	20:23	19:43	18:50	17:02	16:32	16:34
27	07:16 16:16-16:22/6	06:38	05:52	06:02	05:30	05:26	05:47	06:18	06:50	06:23	07:00 15:42-16:06/24	07:24 15:57-16:08/11
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28	07:15	06:36	05:50	06:01	05:29	05:26	05:48	06:19	06:51	06:24	07:01 15:42-16:05/23	07:24 15:58-16:08/10
	17:08	17:47	18:18	19:52	20:22	20:37	20:21	19:40	18:47	17:00	16:31	16:35
29	07:14		06:48	05:59	05:29	05:27	05:49	06:20	06:52	06:25	07:02 15:42-16:05/23	07:24 15:58-16:09/11
	17:09		19:19	19:53	20:23	20:37	20:20	19:38	18:45	16:58	16:30	16:36
30	07:13		06:46	05:58	05:28	05:27	05:50	06:21	06:53	06:27	07:03 15:43-16:04/21	07:25 15:59-16:11/12
	17:11		19:20	19:54	20:24	20:36	20:19	19:36	18:44	16:57	16:30	16:37
31	07:12		06:45		05:28		05:51	06:22		06:28		07:25 15:59-16:11/12
	17:12		19:22		20:25		20:18	19:35		16:56		16:37
Potential sun hours	296	296	369	399	450	454	461	429	375	345	297	286
Sum of minutes with flicker	511	0	0	0	0	0	0	0	0	0	326	402

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

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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar per WTG

WTG: 10 - Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0 m) (20)

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	07:25	07:11	06:35	06:43	05:57	05:27	05:27	05:52	06:23	06:54	06:29	07:04
	16:38	17:13	17:48	19:23	19:55	20:25	20:36	20:17	19:33	18:42	16:54	16:29
2	07:25	07:10	06:33	06:41	05:55	05:27	05:28	05:53	06:24	06:55	06:30	07:06
	16:39	17:14	17:49	19:24	19:56	20:26	20:36	20:16	19:31	18:40	16:53	16:29
3	07:25	07:09	06:31	06:40	05:54	05:26	05:28	05:54	06:25	06:56	06:31	07:07
	16:40	17:16	17:50	19:25	19:57	20:27	20:36	20:15	19:30	18:38	16:52	16:29
4	07:25	07:08	06:30	06:38	05:53	05:26	05:29	05:55	06:26	06:57	06:33	07:08
	16:41	17:17	17:51	19:26	19:58	20:27	20:36	20:13	19:28	18:37	16:51	16:29
5	07:25	07:07	06:28	06:36	05:51	05:25	05:30	05:56	06:27	06:58	06:34	07:09
	16:42	17:18	17:52	19:27	19:59	20:28	20:36	20:12	19:26	18:35	16:49	16:28
6	07:25	07:06	06:27	06:35	05:50	05:25	05:30	05:57	06:28	06:59	06:35	07:10
	16:43	17:19	17:54	19:28	20:01	20:29	20:35	20:11	19:25	18:33	16:48	16:28
7	07:25	07:05	06:25	06:33	05:49	05:25	05:31	05:58	06:29	07:00	06:36	07:10
	16:44	17:21	17:55	19:29	20:02	20:29	20:35	20:10	19:23	18:32	16:47	16:28
8	07:25	07:04	06:23	06:31	05:48	05:25	05:31	05:59	06:30	07:02	06:37	07:11
	16:45	17:22	17:56	19:30	20:03	20:30	20:35	20:09	19:21	18:30	16:46	16:28
9	07:25	07:02	06:22	06:30	05:47	05:24	05:32	06:00	06:31	07:03	06:39	07:12
	16:46	17:23	17:57	19:31	20:04	20:31	20:34	20:07	19:20	18:28	16:45	16:28
10	07:25	07:01	06:20	06:28	05:45	05:24	05:33	06:01	06:32	07:04	06:40	07:13
	16:47	17:24	17:58	19:32	20:05	20:31	20:34	20:06	19:18	18:27	16:44	16:28
11	07:24	07:00	06:19	06:26	05:44	05:24	05:33	06:02	06:33	07:05	06:41	07:14
	16:48	17:26	17:59	19:33	20:06	20:32	20:34	20:05	19:16	18:25	16:43	16:28
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	16:49	17:27	18:01	19:35	20:07	20:32	20:33	20:03	19:15	18:24	16:42	16:28
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15	07:23	06:55	06:12	06:20	05:40	05:24	05:36	06:06	06:38	07:09	06:46	07:17
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	16:53	17:32	18:05	19:39	20:11	20:34	20:31	19:58	19:08	18:17	16:38	16:29
17	07:22	06:52	06:08	06:17	05:38	05:24	05:38	06:08	06:40	07:11	06:48	07:19
	16:55	17:33	18:06	19:40	20:12	20:34	20:30	19:56	19:06	18:16	16:37	16:29
18	07:22	06:51	06:07	06:15	05:37	05:24	05:39	06:09	06:41	07:13	06:50	07:19
	16:56	17:34	18:07	19:41	20:13	20:35	20:29	19:55	19:04	18:14	16:37	16:30
19	07:21	06:49	06:05	06:14	05:36	05:24	05:40	06:10	06:42	07:14	06:51	07:20
	16:57	17:36	18:08	19:42	20:14	20:35	20:29	19:53	19:02	18:13	16:36	16:30
20	07:21	06:48	06:03	06:12	05:35	05:24	05:41	06:11	06:43	07:15	06:52	07:21
	16:58	17:37	18:09	19:43	20:15	20:35	20:28	19:52	19:01	18:11	16:35	16:30
21	07:20	06:47	06:02	06:11	05:34	05:24	05:41	06:12	06:44	07:16	06:53	07:21
	16:59	17:38	18:11	19:44	20:16	20:36	20:27	19:50	18:59	18:10	16:34	16:31
22	07:19	06:45	06:00	06:09	05:34	05:24	05:42	06:13	06:45	07:17	06:54	07:22
	17:01	17:39	18:12	19:45	20:17	20:36	20:26	19:49	18:57	18:08	16:34	16:31
23	07:19	06:44	05:58	06:08	05:33	05:25	05:43	06:14	06:46	07:18	06:56	07:22
	17:02	17:41	18:13	19:47	20:18	20:36	20:26	19:47	18:56	18:07	16:33	16:32
24	07:18	06:42	05:57	06:06	05:32	05:25	05:44	06:15	06:47	07:19	06:57	07:23
	17:03	17:42	18:14	19:48	20:19	20:36	20:25	19:46	18:54	18:05	16:33	16:32
25	07:17	06:41	05:55	06:05	05:31	05:25	05:45	06:16	06:48	06:21	06:58	07:23
	17:04	17:43	18:15	19:49	20:19	20:36	20:24	19:44	18:52	17:04	16:32	16:33
26	07:17	06:39	05:53	06:03	05:31	05:25	05:46	06:17	06:49	06:22	06:59	07:23
	17:05	17:44	18:16	19:50	20:20	20:36	20:23	19:43	18:50	17:02	16:31	16:34
27	07:16	06:38	05:52	06:02	05:30	05:26	05:47	06:18	06:50	06:23	07:00	07:24
	17:07	17:45	18:17	19:51	20:21	20:36	20:22	19:41	18:49	17:01	16:31	16:34
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	17:08	17:47	18:18	19:52	20:22	20:36	20:21	19:40	18:47	17:00	16:31	16:35
29	07:14		06:48	05:59	05:29	05:27	05:49	06:20	06:52	06:25	07:02	07:24
	17:09		19:19	19:53	20:23	20:36	20:20	19:38	18:45	16:58	16:30	16:36
30	07:13		06:46	05:58	05:28	05:27	05:50	06:21	06:53	06:27	07:03	07:25
	17:10		19:20	19:54	20:24	20:36	20:19	19:36	18:43	16:57	16:30	16:36
31	07:12		06:45		05:28		05:51	06:22		06:28		07:25
	17:12		19:22		20:24		20:18	19:35		16:56		16:37
Potential sun hours	296	296	369	399	450	454	461	429	375	345	297	286
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

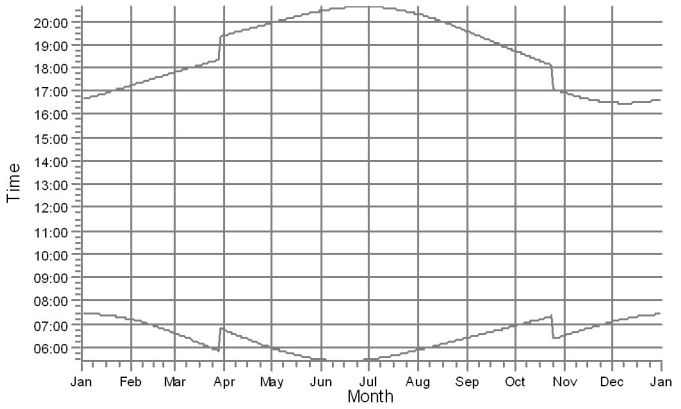
Table layout: For each day in each month the following matrix apply

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

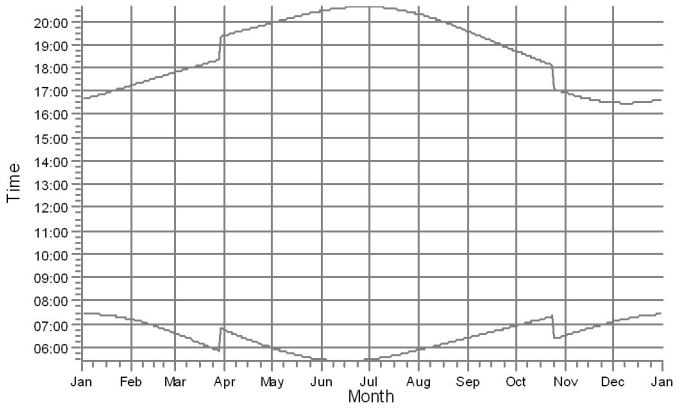
Licensed user:
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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar per WTG, graphical

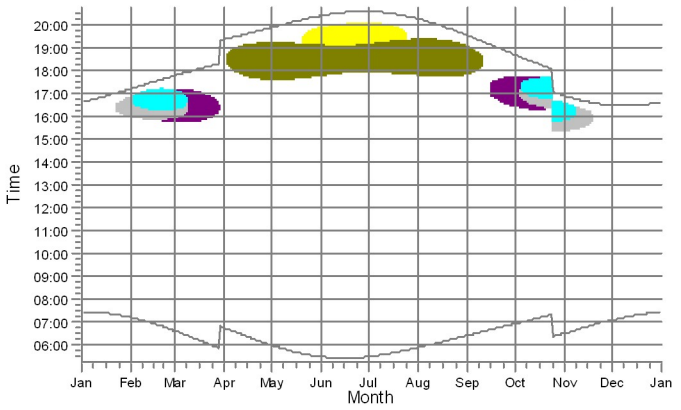
1: Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0



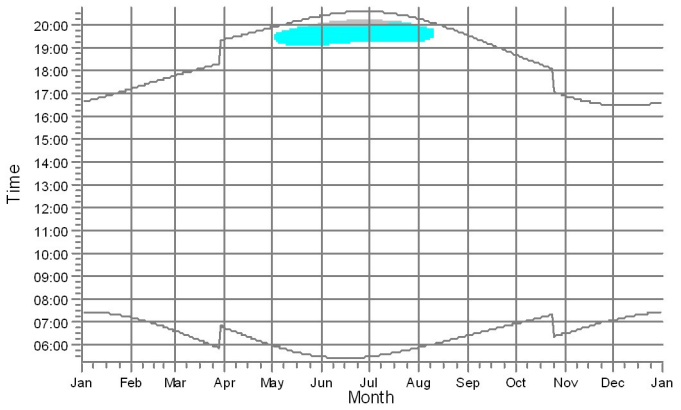
2: Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0



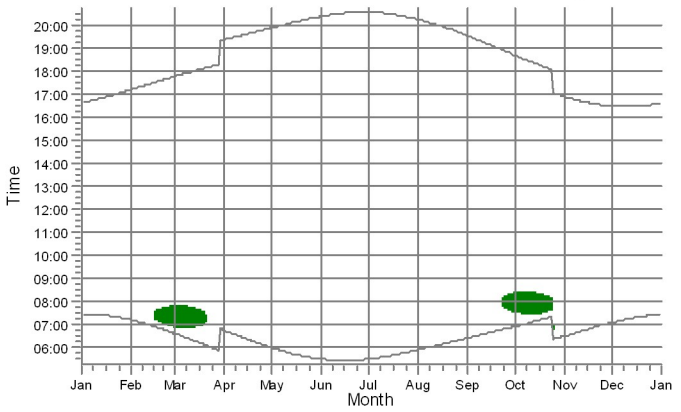
3: Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0



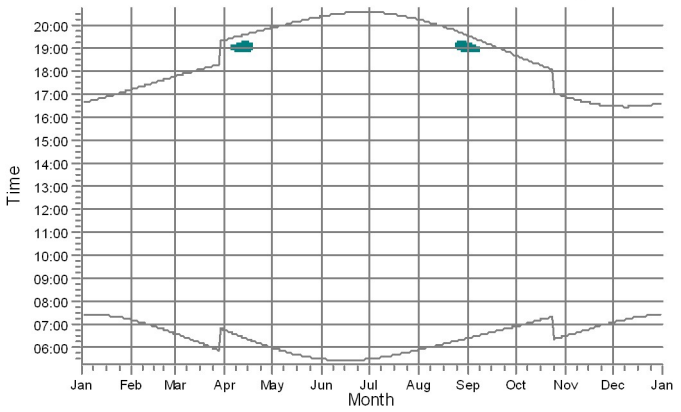
4: Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0



5: Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0



6: Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0



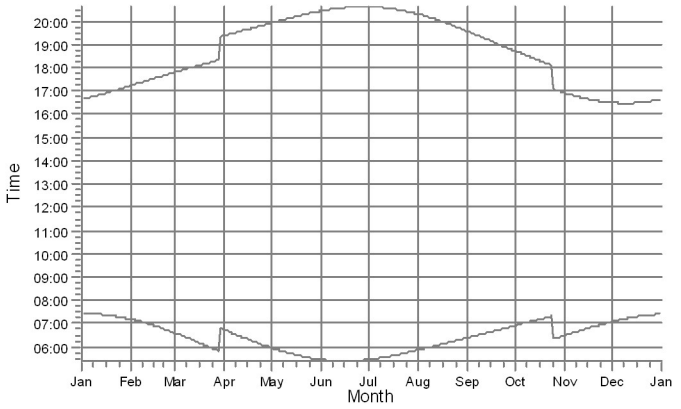
Shadow receptors

- 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)
- F: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (6)
- 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)
- M: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (13)

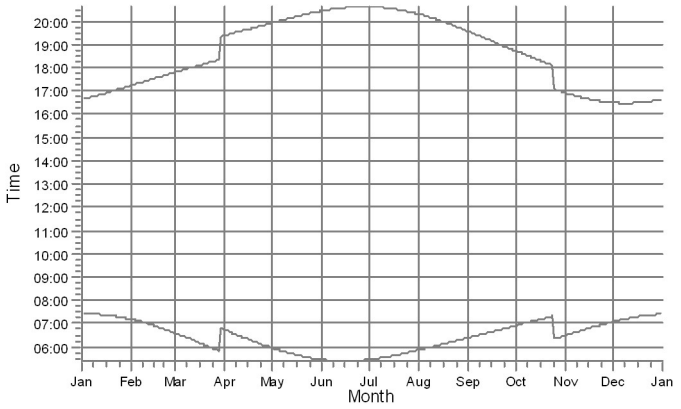
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Vega sas / info@studiovega.org
Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Calendar per WTG, graphical

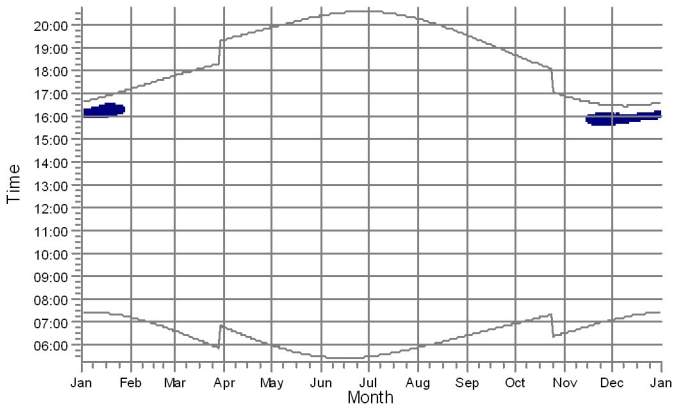
7: Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0



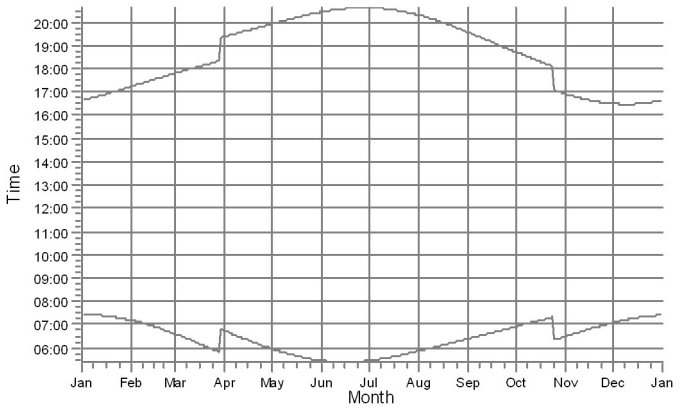
8: Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0



9: Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,0



10: Siemens Gamesa SG-145 4.5 4500 145.0 !O! hub: 107,5 m (TOT: 180,

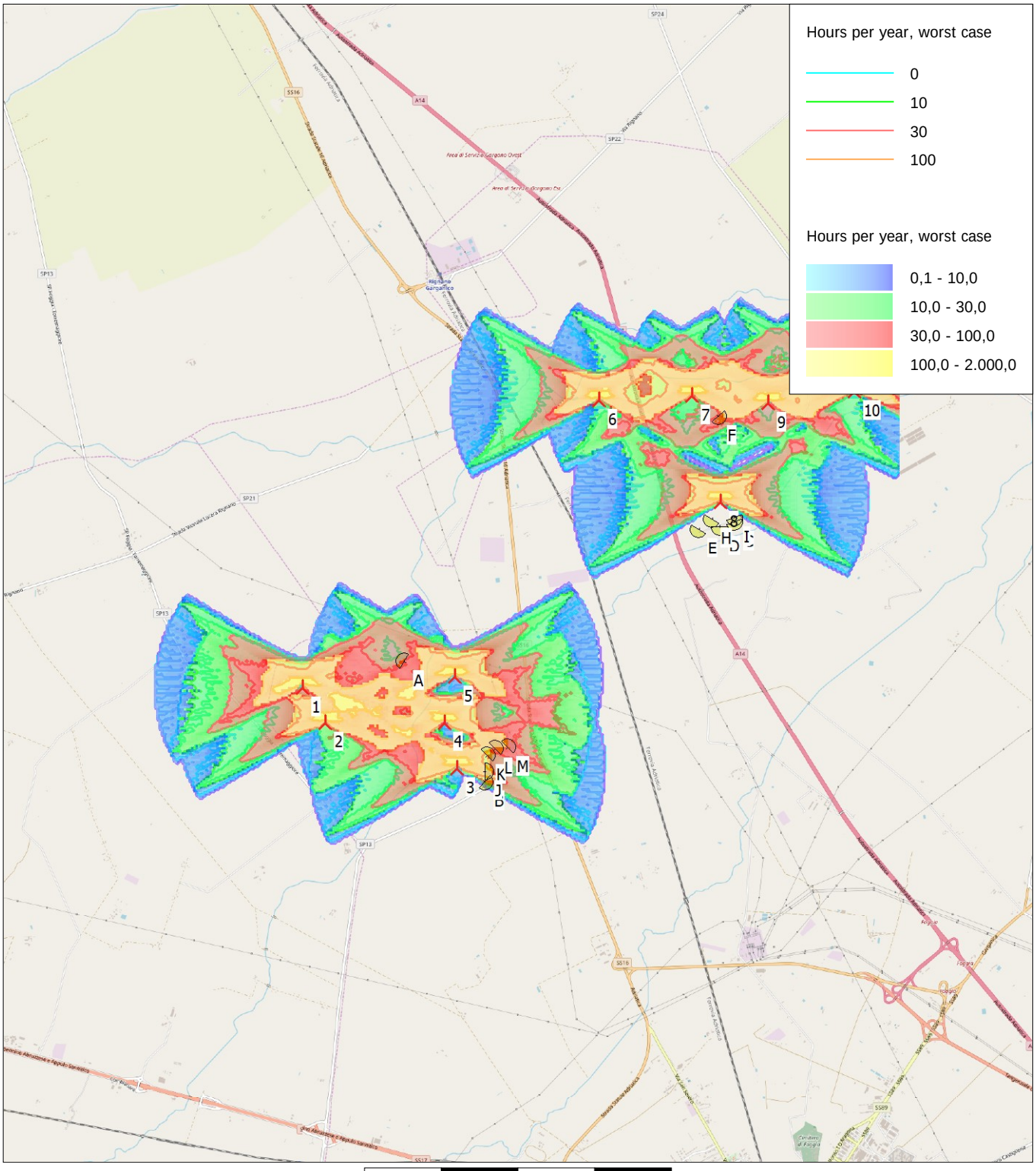


Shadow receptors

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

Licensed user:
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Calculated:
06/03/2020 16:15/3.3.274

SHADOW - Map



Map: EMD OpenStreetMap , Print scale 1:75.000, Map center UTM (north)-WGS84 Zone: 33 East: 541.860 North: 4.599.120

New WTG Shadow receptor

Flicker map level: Height Contours: CONTOURLINE_ONLINEDATA_0.wpo (1)