Shadow Flicker Report

Wild Meadows Wind Project

Town of Alexandria, Grafton County and

Town of Danbury, Merrimack County, New Hampshire

Prepared for:

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ATTACHMENTS

1.0 EXECUTIVE SUMMARY

Atlantic Wind, LLC (the Applicant) is proposing to develop a wind-powered electric generating facility in the Town of Alexandria in Grafton County, and the Town of Danbury in Merrimack County, New Hampshire. The Wild Meadows Wind Project (the Project) is anticipated to use the 23 Vestas V112 wind turbines (or equivalent), each with a rated capacity of 3.3 megawatts (MW). EDR Environmental Services, LLC (EDR) was retained by the Applicant to undertake an analysis of potential shadow flicker impacts on nearby residential receptors.

Shadow flicker refers to the moving shadows that an operating wind turbine casts over a receptor when the turbine is operating between the sun and the receptor. While health effects from shadow flicker have been alleged, no studies have confirmed these assertions. Therefore, the primary concern associated with this phenomenon is the annoyance it may cause for adjacent homeowners.

The analysis conducted by EDR used *WindPRO 2.8.579* software, and the associated Shadow module, to model shadow flicker impacts within a 10-rotor diameter (1,200 meter) radius of the proposed turbines. Input data for this analysis included the proposed turbine locations, turbine dimensions, topography, local wind direction frequency data, and historical sunshine data. The model assumes that the turbines are always operating (i.e., blades are moving) and does not take into consideration the presence or orientation of windows at receptor structures, or the screening provided by adjacent trees or structures. Modeling results thus represent an extremely conservative prediction of potential shadow flicker impacts. A total of 27 potential receptors within the 1,200 meter radius study area were identified and shadow flicker occurrence and duration was calculated at each location.

In general, quantified limits on shadow flicker duration are uncommon in the United States. However, 30 hours per year is a commonly applied threshold for significant impacts and was used in this analysis. Shadow flicker modeling for the Wild Meadows Wind Project indicates that only one receptor (D-34) is expected to receive greater than 30 hours per year of shadow flicker. This structure is a seasonally occupied residence that is owned by a Project participant. Three other receptors (D-49, G-19, and G-16) are predicted to receive over 10 hours of shadow flicker per year. Of these, only receptor G-16 is not a participating landowner. Viewshed analysis conducted by EDR that factors the screening of forest vegetation into the assessment of potential Project visibility indicates that receptor G-16 would not have views of the Project and therefore is not expected to receive shadow flicker. Field review of this structure confirmed the presence of abundant forest screening on all sides, which should block any shadow flicker created by the Project. Viewshed analysis indicates that, of the structures predicted to receive 10 or more hours of shadow flicker, only receptor G-19 could have an open view of the proposed turbines. Receptor G-19 is a non-residential structure owned by a Project participant. The remaining 23 structures within the study area (86%) are

predicted to receive no more than 10 hours of shadow flicker annually. Consequently, no significant adverse impacts from shadow flicker are expected as a result of the Project.

2.0 PROJECT OVERVIEW

Atlantic Wind, LLC (the Applicant) is proposing to develop a wind-powered electric generating facility in the Town of Alexandria in Grafton County, and the Town of Danbury in Merrimack County, New Hampshire (Figure 1). The Wild Meadows Wind Project (the Project) is anticipated to use the Vestas V112 wind turbine (or equivalent) with a rated capacity of 3.3 megawatts (MW). As presently envisioned, the Project will include 23 turbines (see Figure 2) with a total generating capacity of 75.9 MW. Each wind turbine consists of three major components: the tower, the nacelle, and the rotor. The height of the tower, or "hub height" (height from the base of the tower to the center of the rotor hub on top of the tower) will be approximately 94 meters. The nacelle sits atop the tower, and the rotor hub is mounted on a drive shaft that is connected to the gearbox and generator contained within the nacelle. The rotor has a diameter of approximately 112 meters, and the total turbine height (i.e., height at the highest blade tip position) will be approximately 150 meters. The Project is also anticipated to include a system of gravel-surfaced turbine access/service roads, buried/overhead electrical collection lines, a permanent meteorological tower, collection and interconnection substations, and a construction staging area and an operations and maintenance building.

The Project site is located on two parallel ridges located south of Washburn Road in the Town of Alexandria, east of Wild Meadows Road in the Town of Grafton, west of Cass Mill Road in the Town of Alexandria, and north of Bohonnon and Taylor Hill Roads in the Town of Danbury and State Route 104 in the Town of Alexandria (see Figure 2). The proposed Project is well removed from areas of concentrated population. It is located approximately 13.4 miles southwest of the village/downtown area of the Town of Plymouth, 4.5 miles west of the downtown area of the Town of Bristol, and 12 miles northwest of downtown area of the Town of Franklin. The Project is approximately 2 miles north of U.S. Route 4, 2 miles north of State Route 104, and 9 miles east of Interstate Route 93 (as measured to the nearest proposed turbine).

The Project site is located in an area characterized by mountainous topography with elevation ranging from approximately 600 to 2,300 feet above mean sea level (amsl). Vegetation on the site is characterized by a mix of northern hardwoods and white pine that are under active forest management (i.e., regular logging/harvesting). Land use adjacent to the Project site includes private forest land with widely-scattered single-family rural residences in all directions.

3.0 INTRODUCTION

Shadow flicker refers to the moving shadows that an operating wind turbine casts over an identified receptor at times of the day when the turbine rotor is between the sun and a receptor's position. Shadow flicker is most pronounced in northern latitudes during winter months because of the lower angle of the sun in the winter sky. However, it is

possible to encounter shadow flicker anywhere for brief periods before sunset and after sunrise (U.S. Department of the Interior, 2005). During intervals of sunshine, wind turbine generators will cast a shadow on surrounding areas as the rotor blades pass in front of the sun, causing a flickering effect while the rotor is in motion. Shadow flicker does not occur when fog or clouds obscure the sun, or when turbines are not operating.

The distance between a wind turbine and a potential shadow-flicker receptor affects the intensity of the shadows cast by the blades, and therefore the intensity of flickering. Shadows cast close to a turbine will be more intense, distinct, and focused. This is because a greater proportion of the sun's disc is intermittently blocked by the turbine (BERR, 2009). Obstacles such as terrain, vegetation, and/or buildings occurring between receptors and wind turbines may significantly reduce or eliminate shadow-flicker effects. At distances beyond roughly 10 rotor diameters, approximately 1120 meters based on the Vestas V112 turbine model used in this case, shadow-flicker effects are generally considered negligible (BERR, 2009; DECC, 2011).

Although shadow flicker has been alleged to cause or contribute to health effects, blade pass frequencies for modern commercial scale wind turbines are very low. According to the Epilepsy Society (2012), approximately five percent of individuals with epilepsy have sensitivity to light. Most people with photosensitive epilepsy are sensitive to flickering around 16-25 Hz (Hertz or Hz = 1 flash per second), although some people may be sensitive to rates as low as 3 Hz and as high as 60 Hz. Modern wind turbines (including the proposed Vestas V112) typically operate at a frequency of 1 Hz or less, and there is no evidence that wind turbines can trigger seizures (British Epilepsy Association, 2007; Ellenbogen et al., 2012; Parsons Brinckerhoff, 2011; NHMRC, 2010). The primary concern with shadow flicker is the annoyance it can cause for adjacent homeowners. Annoyance can trigger physiological reactions of the autonomic nervous and/or endocrine systems that increase the risk of cardiovascular disorders. However, it is important to note that annoyance is not a disease or physical illness in of itself; rather it is a variable and subjective response to stimuli that can include many other things besides shadow flicker.

The location and duration of shadow flicker can be predicted using computer modeling programs and input data regarding turbine characteristics and weather conditions. A "worst-case" shadow-flicker scenario could be predicted based on the assumptions that there are no clouds or fog, wind conditions allow continuous turbine operation, the turbine rotor is continuously perpendicular to the sun, and the turbine rotor is positioned between the receptor and the sun. However, this "worst–case" scenario is not what would actually occur because turbines do not operate continuously, are not always aligned perpendicular to the sun, and are not always positioned between the receptor and the sun. In addition, sunlight intensity and duration vary daily and seasonally, and obstacles that block shadows (terrain, vegetation, and buildings) exist in the landscape.

The shadow-flicker analysis conducted for the Wild Meadows Wind Project was based on the conservative assumption that turbines are in continuous operation during daylight hours, and that shadow flicker can be perceived at a receptor structure regardless of the presence or orientation of windows. The effects of surrounding buildings, forest vegetation, and yard/street trees are also not taken into account. Altering these assumptions and considering these factors can result in the actual shadow flicker effect being substantially reduced, if not completely eliminated. Local sunshine and wind direction frequency data are used to more accurately predict rotor alignment and the percent of daylight hours when shadows are likely to be cast (see Attachment A).

4.0 METHODS

The Wild Meadows shadow flicker analysis evaluated the potential impact of 23 Vestas V112 turbines, each with a rotor diameter of 112 meters and a hub height of 94 meters. Prior to conducting the shadow-flicker analysis, the Applicant identified potential receptors in the vicinity of the Project. Only receptors within a conservative 1,200-meter maximum distance of potential effect around proposed turbine sites were used for this analysis. A study area of roughly 10 rotor diameters is typical for analysis of shadow-flicker effects. In the case of the Vestas V112 turbine used in this analysis, 10 rotor diameters equals 1120 meters (3,675 feet). A conservative maximum distance of potential effect of 1,200 meters was used for this analysis to ensure that all potentially impacted structures were assessed.

The shadow flicker analysis for the proposed Project used *WindPRO 2.8.579* software and associated Shadow module. This software has been used in the analysis of other New Hampshire wind projects (e.g., the Granite Reliable Energy, Groton, and Antrim Wind projects), and is a widely accepted modeling software package developed specifically for the design and evaluation of wind power projects. Input variables and assumptions used for shadow flicker modeling calculations for the proposed Project include:

- Latitude and longitude coordinates of 23 proposed wind turbine sites (provided by the Applicant).
- Latitude and longitude coordinates for 27 potential receptors (two non-residential structures, 15 permanent residences, five seasonal residences, and five structures of unknown status) located within approximately 1,200 meters of a proposed turbine (provided by the Applicant).
- USGS 1:24,000 topographic mapping and USGS 10-meter resolution digital elevation model (DEM) data.
- The rotor diameter (112 meters) and hub height (94 meters) for the Vestas V112 turbine.
- Annual wind rose data (provided by the Applicant), which is depicted in Table A1 of Attachment A (to determine the approximate directional frequency of rotor orientation throughout the year).

- To account for the occurrence of cloudy conditions, the average monthly percent of available sunshine for the nearest NOAA weather station in Concord, NH was used. Data was obtained from NOAA's "Comparative Climatic Data for the United States through 2012" (see Table A2 of Attachment A) (http://www.ncdc.noaa.gov).
- No allowance was made for wind being below or above generation speeds. Blades are assumed to be moving during all daylight hours when the sun's elevation is more than 3 degrees above the horizon. Shadow flicker is generally considered imperceptible when the sun is less than 3 degrees above the horizon (due to the scattering effect of the atmosphere on low angle sunlight) (States Committee for Pollution Control, 2002).
- The possible screening effect of trees and buildings adjacent to the receptors was not taken into consideration in the modeling. In addition, the number and/or orientation of windows in residential structures were not taken into consideration in the analysis.

Shadow-flicker effects on receptors are expressed in terms of predicted frequency (hours per year). Shadow isolines (i.e., contours indicating total number of hours of shadowing per average year) were calculated based on the data and assumptions outlined above. These isolines define the theoretical number of hours per year that shadow flicker would occur at any given location within a conservative 1,200-meter radius of all proposed turbines (see Figures 3).

The model calculations include the cumulative sum of shadow hours for all Project turbines. This omni-directional approach reports total shadow flicker results at a receptor regardless of the presence or orientation of windows at that particular residence (i.e., it assumes shadows from all directions can be perceived at a residence, which may or may not be true). A receptor in this "greenhouse" model is defined as a one square meter area located one meter above ground; actual house dimensions are not taken into consideration. Therefore, the analysis presented herein is expected to be a conservative projection of the shadow-flicker effects at ground level.

5.0 RESULTS

Output from the model includes the following information:

- Calculated shadow-flicker time (days per year, maximum hours per day, and total hours per year when shadow flicker is expected) at each of the 27 receptors located within 1,200 meters of a proposed turbine.
- Tabulated and plotted time of day that structures are predicted to receive shadow flicker.

- Shadow isolines, which are used to create maps showing turbine locations, receptors, and projected shadow-flicker duration (hours per year) without taking into consideration the effect of screening provided by vegetation and structures (see Figure 3).

These data are presented in the tables and calendars included in Attachment C.

A summary of the projected shadow flicker at each of the 27 receptors located within 1,200 meters of a proposed turbine site is presented below:

- 8 (30%) of the receptors are not expected to experience any shadow flicker,
- 0 (0%) of the receptors may be affected 0-1 hour/year,
- 15 (56%) of the receptors may be affected 1-10 hours/year,
- 2 (7%) of the receptors may be affected 10-20 hours/year,
- 1 (4%) of the receptors may be affected 20-30 hours/year,
- 1 (4%) of the receptors may be affected for more than 30 hours/year.

As these results indicate, 86% of the receptors within the study area are predicted to receive less than 10 hours of shadow flicker per year. At most receptor locations shadow flicker will occur in the winter primarily in the early morning or late afternoon and will generally last no more than 30 minutes. The maximum daily duration of shadow flicker predicted at any receptor within the study area is 43 minutes (at receptor D-34).

Attachment B provides a summary of the predicted shadow flicker at each structure. The times of day and duration of shadow flicker experienced by each structure will vary throughout the calendar year based on the position of the sun in the sky and the direction of prevailing winds. See Attachment C for a table indicating the amount of shadow flicker expected at each receptor and for detailed calendars that illustrate the specific times of year and day that shadow flicker may occur.

6.0 DISCUSSION

No consistent national, state, county, or local standards exist for allowable frequency or duration of shadow flicker from wind turbines at the proposed Project site. In general, quantified limits on shadow flicker are uncommon in the United States because studies have not shown it to be a significant issue (USDOE, 2008, 2012; NRC, 2007). However, standards developed by some states and countries provide guidance in this regard. The New Hampshire Office of Energy and Planning (2008) issued a model ordinance for small wind energy systems (<100kW) that

defines significant shadow flicker impacts as more than 30 hours per year on abutting occupied buildings. A model wind ordinance prepared by the North Carolina Wind Working Group in 2008 suggests a limit of 30 hours per year (generally less than 1% of annual daylight hours) at any occupied building on a non-participating landowner's property (NCWWG, 2008). The Wisconsin Administrative Code (WAC) specifies a limit of 30 hours per year at any non-participating residence or occupied community building (Wisconsin Public Service Commission, 2012). The WAC also requires mitigation for non-participating residences or occupied community buildings experiencing 20 hours or more per year of shadow flicker. The Ohio Power Siting Board uses 30 annual hours of shadow flicker as a threshold of acceptability in reviewing commercial wind power projects (OPSB, 2011a, 2011b, 2012). Additionally, international guidelines from Europe and Australia have suggested 30 hours of shadow flicker per year as the threshold of significant impact, or the point at which shadow flicker is commonly perceived as an annoyance (NRC, 2007; DECC, 2011; DPCD, 2012). Accordingly, a threshold of 30 shadow flicker hours per year was applied to the analysis of the proposed Project to identify any potentially significant impacts on area residences.

The model results indicate that one receptor (D-34) is predicted to exceed the 30-hour threshold. This structure is a summer cabin owned by a Project participant. The details regarding anticipated shadow flicker at this structure are summarized below in Table 1. Only three other receptors (D-49, G-19, and G-16) are predicted to receive over 10 hours of shadow flicker per year.

Table 1. Structure Exceeding 30 Hours of Shadow Flicker per Year.

Receptor ID	Structure Type	Predicted Shadow Flicker (hh:mm/year)	Turbines Contributing Shadow Flicker	Approximate Times of Day Receptor Potentially Affected by Flicker
D-34	Seasonal Residence	39:17	C-4, C-5, C-6, C-7	6:45 AM – 9:45 AM

Although shadow flicker at receptor D-34 exceeds the 30-hour per year threshold, these calculations do not take into account the actual location and orientation of windows, or the screening effects associated with existing, site-specific conditions and obstacles such as vegetation and/or buildings. Further, this analysis assumes turbine rotors are continuously in motion. Given these assumptions, the predicted shadow-flicker frequency represents a conservative scenario, and almost certainly overstates the actual frequency of shadow flicker that would be experienced at any given receptor location. In addition, many of the modeled shadow flicker hours are expected to be low intensity because they would occur during the early morning or late afternoon hours when the sun is low in the sky. As the

sun sinks below the horizon, more of its light is scattered by the atmosphere, which has the effect of dampening its brightness and therefore reducing its ability to cast dark shadows.

To provide a more realistic prediction of where shadow flicker will actually be perceived, model results were compared to the results of the viewshed analysis conducted for the Project. The vegetation viewshed analysis takes into consideration the screening effect of mapped forest vegetation with an assumed average height of 40 feet (EDR, 2013). This analysis indicates that no turbines should be visible from receptor D-34 and shadow flicker would, therefore, be effectively screened. Field observations indicate that receptor D-34 faces west and is heavily wooded to the east (see Attachment D). These conditions confirm that shadow flicker is unlikely to be perceptible at this location. Of the receptors modeled to receive over 10 hours of shadow flicker, only receptor G-16 is not a participating landowner. The vegetation viewshed analysis conducted by EDR indicates that receptor G-16 should not have views of the Project and, therefore, is not expected to receive shadow flicker. Field review of this structure confirmed the presence of abundant forest screening on all sides, which should block any shadow flicker created by the Project (see Attachment D). Viewshed analysis indicates that, of the structures predicted to receive 10 or more hours of shadow flicker, only receptor G-19 could have an open view of the proposed turbines. Receptor G-19 is a non-residential structure owned by a Project participant (see Attachment D). The remaining 23 structures within the study area (86%) are predicted to receive no more than 10 hours of shadow flicker annually. Consequently, no significant adverse impacts from shadow flicker are expected as a result of the Project.

As stated previously, during the times of year when shadow flicker is possible, model results indicate the effect is likely to occur for brief periods in the early morning and/or late afternoon/evening. Where these incidents of shadow flicker are predicted to occur, they can likely be readily mitigated by planting trees to screen the affected windows from the sun, or by the installation of blinds or curtains at the windows concerned. By closing these blinds or curtains during relatively brief periods of shadow flicker, the effect can be effectively mitigated.

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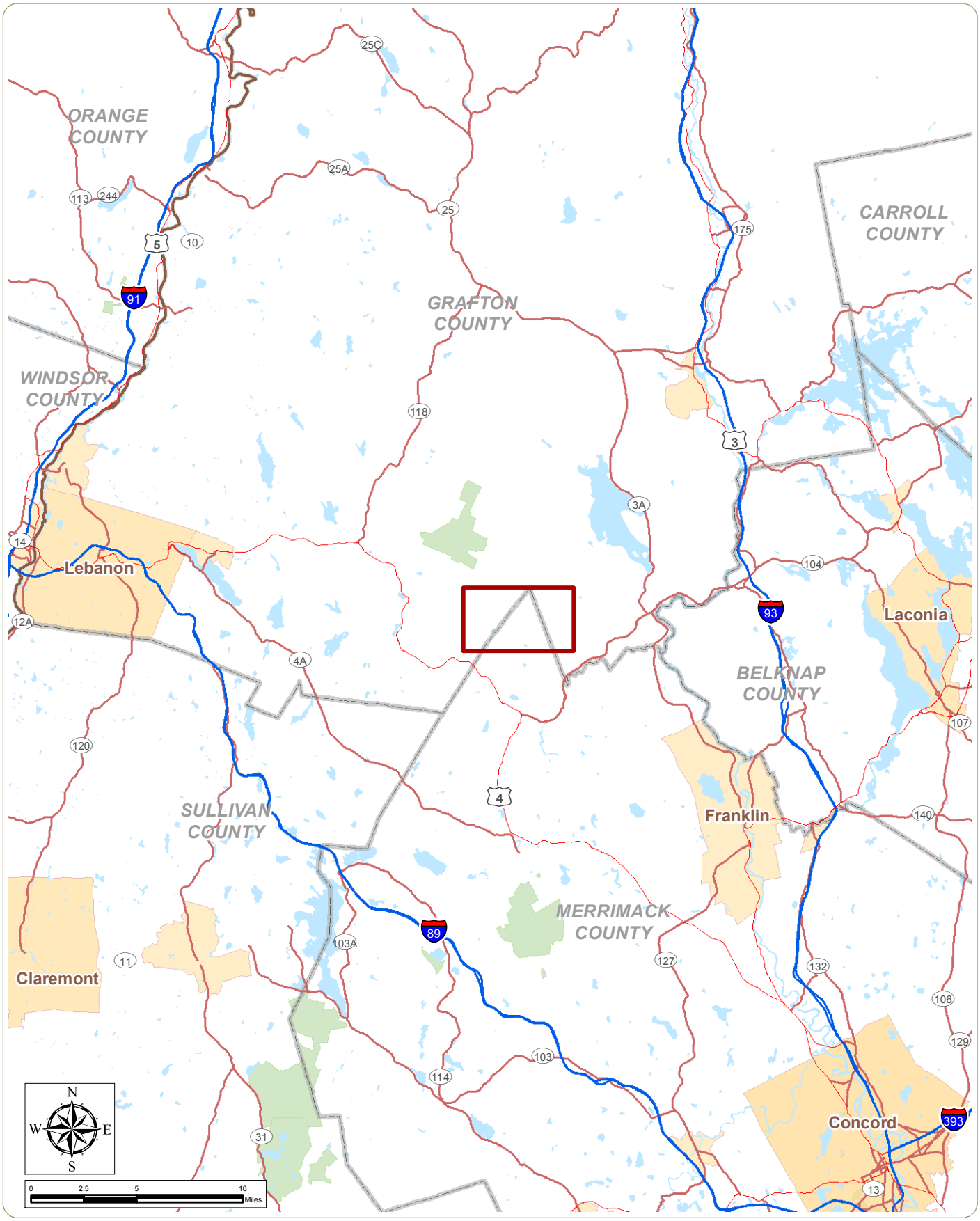
Figures



Wild Meadows Wind Project
Town of Alexandria, Grafton County and
Town of Danbury, Merrimack County, New Hampshire

Figure1: Regional Project Location
November 2013

Notes: Basemap: ESRI StreetMap North America, 2008.

Project Location

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Wild Meadows Wind Project

Town of Alexandria,
Grafton County
and Town of Danbury,
Merrimack County
New Hampshire

Figure 2: Proposed Turbine Layout

November 2013

- Structure
- Wind Turbine
- 1200-Meter Radius of Analysis
- Leased Parcels

Notes:
Basemap: USGS Grafton and Danbury 7.5 minute quadrangles

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Wild Meadows Wind Project

Town of Alexandria,
Grafton County
and Town of Danbury,
Merrimack County
New Hampshire

Figure 3: Projected Shadow Flicker

November 2013

- Structures
- Wind Turbine

Shadow Flicker Isolines

Hours per year, real case

- 0
- 10
- 20
- 30
- 100

Shadow Flicker (hours/year)

- 0 Hours
- 1 - 9 Hours
- 10 - 19 Hours
- 20 - 29 Hours
- 30 - 99 Hours
- 100 + Hours

Notes:
Basemap: ESRI StreetMap North America, 2008.

0 250 500 1,000 Meters

N W E S

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Wild Meadows Wind Project

Town of Alexandria,
Grafton County
and Town of Danbury,
Merrimack County
New Hampshire

Figure 4: Projected Shadow Flicker Based on Viewshed Analysis

November 2013

- Structures
- Wind Turbine

Shadow Flicker (hours/year)

- 0 Hours
- 1 - 9 Hours
- 10 - 19 Hours
- 20 - 29 Hours
- 30 - 99 Hours
- 100 + Hours

Notes:

1. Basemap: ESRI StreetMap North America, 2008.

2. Potential turbine visibility accounts for topography and potential screening by mapped forest vegetation (with an assumed height of 40 ft).

3. Viewshed analysis based on a maximum blade tip height of 150 meters.

0 250 500 1,000 Meters

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Attachment A

Wind Rose and Sunshine Data

Table A1. Wind Rose Data

SECTOR	N	NNE	ENE	E	ESE	SSE
Frequency	5.88	2.9	3.9	3.9	2.9	4.9
Hours of Operation	515	258	344	344	258	429

SECTOR	S	SSW	WSW	W	WNW	NNW
Frequency	6.9	8.8	9.8	15.7	21.6	12.7
Hours of Operation	601	773	859	1,374	1,889	1,116

Source: Wind rose data provided by Atlantic Wind, LLC.

Table A2. Sunshine Probability Data[1]

Month	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
Sunshine Probability[2]	0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

[1]Source: NOAA Comparative Climatic Data for the United States through 2012 – Concord, NH Weather Station.
[2]Defined by NOAA as the total time that sunshine reaches the surface of the earth, expressed as the percentage of the maximum amount possible from sunrise to sunset with clear sky conditions.

Attachment B

Summary of Shadow Flicker

Wild Meadows Wind Farm						
Shadow Flicker Summary						
Receptor ID	**Project Status**	**Structure Type**	**Shadow Days per Year**	**Max Minutes/Day**	**Predicted Hours/Year**	**Screened According to Viewshed Analysis?**
D-34	Participant	Seasonal Residence	228	0:43	39:17	Yes
D-49	Participant	Unknown	202	0:41	25:05	Yes
G-19	Participant	Non-Residential	126	0:29	15:46	No
G-16	Non-Participant	Permanent Residence	94	0:24	10:46	Yes
G-18	Participant	Non-Residential	95	0:26	9:57	No
D-31	Non-Participant	Permanent Residence	73	0:24	9:52	Yes
G-14	Non-Participant	Unknown	88	0:25	9:38	Yes
A-96	Non-Participant	Permanent Residence	72	0:22	9:01	Yes
D-48	Non-Participant	Permanent Residence	68	0:24	7:58	Yes
A-61	Non-Participant	Permanent Residence	60	0:25	6:06	Yes
D-30	Non-Participant	Permanent Residence	45	0:23	5:30	Yes
G-45	Non-Participant	Permanent Residence	50	0:23	4:42	Yes
D-33	Non-Participant	Permanent Residence	36	0:24	4:23	Yes
A-57	Non-Participant	Unknown	53	0:22	4:19	Yes
A-345	Participant	Seasonal Residence	40	0:24	3:40	Yes
A-3	Non-Participant	Unknown	36	0:23	3:37	Yes
G-6	Non-Participant	Unknown	27	0:22	3:01	Yes
A-289	Non-Participant	Permanent Residence	26	0:21	2:45	Yes
A-285	Non-Participant	Permanent Residence	26	0:21	2:34	Yes
A-336	Non-Participant	Seasonal Residence	0	0:00	0:00	Yes
A-91	Non-Participant	Permanent Residence	0	0:00	0:00	Yes
A-94	Non-Participant	Permanent Residence	0	0:00	0:00	Yes
A-95	Non-Participant	Permanent Residence	0	0:00	0:00	No
D-24	Non-Participant	Seasonal Residence	0	0:00	0:00	Yes
D-28	Non-Participant	Permanent Residence	0	0:00	0:00	Yes
D-44	Non-Participant	Seasonal Residence	0	0:00	0:00	Yes
D-45	Non-Participant	Permanent Residence	0	0:00	0:00	Yes

Attachment C

WindPRO Overview Reports and Calendars

Project:
2013-09-11_Wild Meadows V112@94m

Printed/Page
9/11/2013 11:02 AM / 1
Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Main Result

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m

Assumptions for shadow calculations

Maximum distance for influence	1,200	m
Minimum sun height over horizon for influence	3	°
Day step for calculation	1	days
Time step for calculation	1	minutes

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

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: 10m_contours.wpo (1)
Obstacles not used in calculation
Eye height: 1.5 m
Grid resolution: 10.0 m

WTGs

	UTM (north)-NAD83 (US+CA) Zone: 19				WTG type						
	East	North	Z	Row data/Description	Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	RPM
			[m]					[kW]	[m]	[m]	[RPM]
C-1	269,068	4,830,900	657.9	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT:...	Yes	VESTAS	V112-3,075	3,075	112.0	94.0	17.7
C-2	269,059	4,830,564	685.8	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT:...	Yes	VESTAS	V112-3,075	3,075	112.0	94.0	17.7
C-3	268,901	4,830,267	687.5	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT:...	Yes	VESTAS	V112-3,075	3,075	112.0	94.0	17.7
C-4	268,692	4,830,003	652.8	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT:...	Yes	VESTAS	V112-3,075	3,075	112.0	94.0	17.7
C-5	268,571	4,829,689	624.9	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT:...	Yes	VESTAS	V112-3,075	3,075	112.0	94.0	17.7
C-6	268,323	4,829,462	580.0	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT:...	Yes	VESTAS	V112-3,075	3,075	112.0	94.0	17.7
C-7	268,067	4,829,245	510.0	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT:...	Yes	VESTAS	V112-3,075	3,075	112.0	94.0	17.7
C-8	267,849	4,829,135	482.6	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT:...	Yes	VESTAS	V112-3,075	3,075	112.0	94.0	17.7
C-9	267,739	4,828,814	439.2	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT:...	Yes	VESTAS	V112-3,075	3,075	112.0	94.0	17.7
E-1	271,251	4,828,823	608.9	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT:...	Yes	VESTAS	V112-3,075	3,075	112.0	94.0	17.7
E-2	271,235	4,829,171	660.0	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT:...	Yes	VESTAS	V112-3,075	3,075	112.0	94.0	17.7
E-3	271,241	4,829,510	648.7	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT:...	Yes	VESTAS	V112-3,075	3,075	112.0	94.0	17.7
E-4	271,394	4,829,810	646.4	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT:...	Yes	VESTAS	V112-3,075	3,075	112.0	94.0	17.7
E-5	271,601	4,829,974	626.1	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT:...	Yes	VESTAS	V112-3,075	3,075	112.0	94.0	17.7
E-6	271,883	4,830,166	574.8	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT:...	Yes	VESTAS	V112-3,075	3,075	112.0	94.0	17.7
E-7	272,197	4,830,298	544.9	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT:...	Yes	VESTAS	V112-3,075	3,075	112.0	94.0	17.7
E-8	272,203	4,830,549	504.4	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT:...	Yes	VESTAS	V112-3,075	3,075	112.0	94.0	17.7
G-1	269,788	4,830,041	647.4	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT:...	Yes	VESTAS	V112-3,075	3,075	112.0	94.0	17.7
G-2	269,748	4,829,804	637.9	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT:...	Yes	VESTAS	V112-3,075	3,075	112.0	94.0	17.7
N-1	269,054	4,831,236	641.3	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT:...	Yes	VESTAS	V112-3,075	3,075	112.0	94.0	17.7
N-2	269,340	4,831,417	620.0	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT:...	Yes	VESTAS	V112-3,075	3,075	112.0	94.0	17.7
N-3	269,611	4,831,620	597.2	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT:...	Yes	VESTAS	V112-3,075	3,075	112.0	94.0	17.7
N-4	269,889	4,831,810	570.0	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT:...	Yes	VESTAS	V112-3,075	3,075	112.0	94.0	17.7

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2013-09-11_Wild Meadows V112@94m

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SHADOW - Main Result

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m

Shadow receptor-Input

UTM (north)-NAD83 (US+CA) Zone: 19

No.	East	North	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
			[m]	[m]	[m]	[m]	[°]	[°]	
A-285	273,346	4,830,880	258.3	1.0	1.0	1.0	0.0	90.0	"Green house mode"
A-289	273,385	4,830,697	257.5	1.0	1.0	1.0	0.0	90.0	"Green house mode"
A-3	271,220	4,831,201	421.5	1.0	1.0	1.0	0.0	90.0	"Green house mode"
A-336	270,033	4,832,793	412.8	1.0	1.0	1.0	0.0	90.0	"Green house mode"
A-345	270,712	4,832,518	360.0	1.0	1.0	1.0	0.0	90.0	"Green house mode"
A-57	270,743	4,832,637	373.6	1.0	1.0	1.0	0.0	90.0	"Green house mode"
A-61	270,621	4,832,671	386.7	1.0	1.0	1.0	0.0	90.0	"Green house mode"
A-91	270,131	4,832,826	411.4	1.0	1.0	1.0	0.0	90.0	"Green house mode"
A-94	273,116	4,829,566	313.6	1.0	1.0	1.0	0.0	90.0	"Green house mode"
A-95	273,245	4,829,884	250.0	1.0	1.0	1.0	0.0	90.0	"Green house mode"
A-96	273,347	4,829,984	254.7	1.0	1.0	1.0	0.0	90.0	"Green house mode"
D-24	266,862	4,828,065	320.0	1.0	1.0	1.0	0.0	90.0	"Green house mode"
D-28	266,688	4,828,296	320.0	1.0	1.0	1.0	0.0	90.0	"Green house mode"
D-30	266,689	4,828,386	324.6	1.0	1.0	1.0	0.0	90.0	"Green house mode"
D-31	266,646	4,828,442	330.0	1.0	1.0	1.0	0.0	90.0	"Green house mode"
D-33	266,638	4,828,669	341.0	1.0	1.0	1.0	0.0	90.0	"Green house mode"
D-34	267,697	4,829,752	440.0	1.0	1.0	1.0	0.0	90.0	"Green house mode"
D-44	266,827	4,828,193	320.0	1.0	1.0	1.0	0.0	90.0	"Green house mode"
D-45	267,071	4,828,356	339.7	1.0	1.0	1.0	0.0	90.0	"Green house mode"
D-48	266,650	4,828,486	330.8	1.0	1.0	1.0	0.0	90.0	"Green house mode"
D-49	270,189	4,830,513	510.3	1.0	1.0	1.0	0.0	90.0	"Green house mode"
G-14	266,862	4,829,473	409.9	1.0	1.0	1.0	0.0	90.0	"Green house mode"
G-16	266,851	4,829,591	407.7	1.0	1.0	1.0	0.0	90.0	"Green house mode"
G-18	267,313	4,829,953	410.0	1.0	1.0	1.0	0.0	90.0	"Green house mode"
G-19	267,443	4,829,959	416.9	1.0	1.0	1.0	0.0	90.0	"Green house mode"
G-45	266,928	4,829,870	410.0	1.0	1.0	1.0	0.0	90.0	"Green house mode"
G-6	266,566	4,828,950	353.7	1.0	1.0	1.0	0.0	90.0	"Green house mode"

Calculation Results

Shadow receptor

No.	Shadow, worst case: Shadow hours per year [h/year]	Shadow, worst case: Shadow days per year [days/year]	Shadow, worst case: Max shadow hours per day [h/day]	Shadow, expected values: Shadow hours per year [h/year]
A-285	7:02	26	0:21	2:34
A-289	7:15	26	0:21	2:45
A-3	10:41	36	0:23	3:37
A-336	0:00	0	0:00	0:00
A-345	12:25	40	0:24	3:40
A-57	15:12	53	0:22	4:19
A-61	21:20	60	0:25	6:06
A-91	0:00	0	0:00	0:00
A-94	0:00	0	0:00	0:00
A-95	0:00	0	0:00	0:00
A-96	21:52	72	0:22	9:01
D-24	0:00	0	0:00	0:00
D-28	0:00	0	0:00	0:00
D-30	13:55	45	0:23	5:30
D-31	24:52	73	0:24	9:52
D-33	11:04	36	0:24	4:23
D-34	110:59	228	0:43	39:17
D-44	0:00	0	0:00	0:00
D-45	0:00	0	0:00	0:00

To be continued on next page...

Project:
2013-09-11_Wild Meadows V112@94m

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9/11/2013 11:02 AM / 3

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SHADOW - Main Result

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m

...continued from previous page

No.	Shadow, worst case: Shadow hours per year [h/year]	Shadow, worst case: Shadow days per year [days/year]	Shadow, worst case: Max shadow hours per day [h/day]	Shadow, expected values: Shadow hours per year [h/year]
D-48	20:06	68	0:24	7:58
D-49	77:08	202	0:41	25:05
G-14	28:07	88	0:25	9:38
G-16	31:40	94	0:24	10:46
G-18	29:51	95	0:26	9:57
G-19	46:28	126	0:29	15:46
G-45	14:38	50	0:23	4:42
G-6	7:47	27	0:22	3:01

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

No.	Name	Worst case [h/year]	Expected [h/year]
C-1	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (55)	17:02	7:03
C-2	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (43)	9:00	3:35
C-3	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (38)	0:00	0:00
C-4	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (39)	24:36	9:49
C-5	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (40)	22:16	8:47
C-6	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (47)	34:45	13:10
C-7	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (41)	90:24	28:15
C-8	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (54)	34:34	12:13
C-9	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (48)	93:15	34:14
E-1	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (58)	0:00	0:00
E-2	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (46)	0:00	0:00
E-3	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (45)	0:00	0:00
E-4	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (44)	0:00	0:00
E-5	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (51)	0:00	0:00
E-6	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (49)	0:00	0:00
E-7	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (50)	21:52	9:01
E-8	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (52)	24:58	8:58
G-1	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (59)	37:03	10:39
G-2	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (60)	14:02	3:57
N-1	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (56)	0:00	0:00
N-2	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (57)	0:00	0:00
N-3	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (42)	0:00	0:00
N-4	VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (53)	46:16	13:20

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2013-09-11_Wild Meadows V112@94m

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SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** C-1 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (55)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:42	05:10 18:50-19:07/17	05:10	05:36 19:00-19:13/13	06:11	06:45	06:23	07:01
	16:21	16:58	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30	16:40	16:13
2	07:21	07:04	06:24	06:29	05:40	05:09 18:50-19:06/16	05:11	05:37 19:02-19:11/9	06:12	06:46	06:24	07:02
	16:22	17:00	17:37	19:15	19:51	20:22	20:33	20:12	19:23	18:29	16:39	16:12
3	07:22	07:03	06:22	06:27	05:39	05:09 18:52-19:06/14	05:11	05:38	06:13	06:47	06:25	07:03
	16:23	17:01	17:38	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37	16:12
4	07:22	07:02	06:21	06:26	05:37	05:08 18:52-19:04/12	05:12 19:04-19:05/1	05:40	06:14	06:48	06:27	07:04
	16:24	17:02	17:40	19:17	19:53	20:23	20:33	20:09	19:19	18:25	16:36	16:12
5	07:21	07:01	06:19	06:24	05:36	05:08 18:53-19:04/11	05:12 19:02-19:08/6	05:41	06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:19	19:54	20:24	20:33	20:08	19:18	18:23	16:35	16:12
6	07:21	07:00	06:17	06:22	05:35	05:08 18:55-19:04/9	05:13 19:01-19:10/9	05:42	06:16	06:50	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25	20:32	20:07	19:16	18:21	16:33	16:11
7	07:21	06:58	06:16	06:20	05:33	05:07 18:55-19:02/7	05:14 19:00-19:10/10	05:43	06:17	06:52	06:31	07:07
	16:27	17:07	17:43	19:21	19:56	20:26	20:32	20:05	19:14	18:20	16:32	16:11
8	07:21	06:57	07:14	06:19	05:32	05:07 18:57-19:01/4	05:14 18:59-19:11/12	05:44	06:19	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:58	20:26	20:32	20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31	05:07	05:15 18:59-19:12/13	05:45	06:20	06:54	06:33	07:09
	16:29	17:09	18:46	19:23	19:59	20:27	20:31	20:03	19:10	18:16	16:30	16:11
10	07:21	06:54	07:10	06:15	05:30 18:54-18:59/5	05:07	05:16 18:58-19:13/15	05:46	06:21	06:55	06:34	07:10
	16:30	17:11	18:47	19:25	20:00	20:28	20:31	20:01	19:09	18:14	16:29	16:11
11	07:20	06:53	07:09	06:13	05:28 18:51-19:02/11	05:06	05:16 18:58-19:14/16	05:47	06:22	06:56	06:36	07:11
	16:32	17:12	18:48	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28	16:11
12	07:20	06:52	07:07	06:12	05:27 18:49-19:03/14	05:06	05:17 18:58-19:14/16	05:48	06:23	06:58	06:37	07:11
	16:33	17:13	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:27	16:11
13	07:20	06:50	07:05	06:10	05:26 18:48-19:04/16	05:06	05:18 18:57-19:15/18	05:49	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02	20:29	20:29	19:56	19:03	18:09	16:26	16:11
14	07:19	06:49	07:03	06:08	05:25 18:47-19:05/18	05:06	05:19 18:56-19:15/19	05:51	06:25	07:00	06:40	07:13
	16:35	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:08	16:25	16:12
15	07:19	06:48	07:02	06:07	05:24 18:46-19:06/20	05:06	05:20 18:56-19:16/20	05:52	06:26	07:01	06:41	07:14
	16:36	17:17	18:53	19:31	20:04	20:30	20:28	19:53	19:00	18:06	16:24	16:12
16	07:18	06:46	07:00	06:05	05:23 18:46-19:06/20	05:06	05:21 18:56-19:16/20	05:53	06:28	07:02	06:42	07:15
	16:37	17:19	18:55	19:32	20:05	20:31	20:28	19:51	18:58	18:04	16:23	16:12
17	07:18	06:45	06:58	06:03	05:22 18:45-19:07/22	05:06	05:21 18:56-19:17/21	05:54	06:29	07:04	06:44	07:15
	16:39	17:20	18:56	19:33	20:06	20:31	20:27	19:50	18:56	18:03	16:22	16:12
18	07:17	06:43	06:56	06:02	05:21 18:45-19:07/22	05:06	05:22 18:56-19:17/21	05:55	06:30	07:05	06:45	07:16
	16:40	17:21	18:57	19:34	20:08	20:32	20:26	19:48	18:54	18:01	16:21	16:13
19	07:16	06:42	06:54	06:00	05:20 18:46-19:08/22	05:06	05:23 18:56-19:18/22	05:56	06:31	07:06	06:46	07:17
	16:41	17:23	18:58	19:35	20:09	20:32	20:25	19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:53	05:58	05:19 18:46-19:08/22	05:06	05:24 18:56-19:18/22	05:57	06:32	07:07	06:47	07:17
	16:42	17:24	18:59	19:36	20:10	20:32	20:25	19:45	18:50	17:58	16:19	16:13
21	07:15	06:39	06:51	05:57	05:18 18:46-19:08/22	05:06	05:25 18:56-19:18/22	05:58	06:33	07:09	06:49	07:18
	16:44	17:25	19:01	19:38	20:11	20:32	20:24	19:43	18:49	17:56	16:18	16:14
22	07:14	06:37	06:49	05:55	05:17 18:45-19:08/23	05:07	05:26 18:55-19:18/23	06:00	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:12	20:33	20:23	19:42	18:47	17:55	16:18	16:14
23	07:14	06:36	06:47	05:54	05:16 18:45-19:08/23	05:07	05:27 18:55-19:18/23	06:01	06:35	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:45	05:52	05:15 18:45-19:08/23	05:07	05:28 18:55-19:18/23	06:02	06:37	07:12	06:52	07:19
	16:48	17:29	19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:51	16:16	16:15
25	07:12	06:32	06:44	05:51	05:15 18:46-19:08/22	05:07	05:29 18:55-19:18/23	06:03	06:38	07:14	06:54	07:20
	16:49	17:31	19:05	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14 18:46-19:08/22	05:08	05:30 18:56-19:17/21	06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:44	20:16	20:33	20:19	19:35	18:39	17:48	16:15	16:17
27	07:10	06:29	06:40	05:47	05:13 18:46-19:07/21	05:08	05:31 18:56-19:17/21	06:05	06:40	07:16	06:56	07:20
	16:52	17:33	19:08	19:45	20:17	20:33	20:18	19:33	18:38	17:47	16:15	16:17
28	07:09	06:27	06:38	05:46	05:12 18:48-19:08/20	05:09	05:32 18:57-19:17/20	06:06	06:41	07:18	06:57	07:21
	16:53	17:35	19:09	19:46	20:18	20:33	20:17	19:32	18:36	17:46	16:14	16:18
29	07:08		06:36	05:44	05:12 18:48-19:07/19	05:09	05:33 18:57-19:16/19	06:07	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:14	16:19
30	07:07		06:35	05:43	05:11 18:49-19:07/18	05:10	05:34 18:58-19:15/17	06:09	06:43	07:20	06:59	07:21
	16:56		19:11	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	16:20
31	07:06		06:33		05:10 18:49-19:06/17		05:35 18:59-19:14/15	06:10		07:21		07:21
	16:57		19:13		20:20		20:14	19:26		17:41		16:20
Potential sun hours	290	294	369	402	455	461	467	433	376	342	291	279
Sum of minutes with flicker	0	0	0	0	422	90	488	22	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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
9/11/2013 11:43 AM / 2

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** C-2 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (43)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:42	05:10	05:10	05:36	06:11 18:00-18:20/20	06:45	06:23	07:01
	16:21	16:58	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30	16:40	16:13
2	07:21	07:04	06:24	06:29	05:40	05:09	05:11	05:37	06:12 18:00-18:18/18	06:46	06:24	07:02
	16:22	17:00	17:37	19:15	19:51	20:22	20:33	20:12	19:23	18:29	16:39	16:12
3	07:22	07:03	06:22	06:27	05:39	05:09	05:11	05:38	06:13 18:01-18:16/15	06:47	06:25	07:03
	16:23	17:01	17:38	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37	16:12
4	07:22	07:02	06:21	06:26	05:37	05:08	05:12	05:40	06:14 18:03-18:14/11	06:48	06:27	07:04
	16:24	17:02	17:40	19:17	19:53	20:23	20:33	20:09	19:19	18:25	16:36	16:12
5	07:21	07:01	06:19	06:24	05:36	05:08	05:12	05:41	06:15 18:08-18:10/2	06:49	06:28	07:05
	16:25	17:04	17:41	19:19	19:54	20:24	20:33	20:08	19:18	18:23	16:35	16:12
6	07:21	07:00	06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:50	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25	20:32	20:07	19:16	18:21	16:33	16:11
7	07:21	06:58	06:16	06:20	05:33	05:07	05:14	05:43	06:17	06:52	06:31	07:07
	16:27	17:07	17:43	19:21	19:56	20:26	20:32	20:05	19:14	18:20	16:32	16:11
8	07:21	06:57	07:14	06:19 18:06-18:17/11	05:32	05:07	05:14	05:44	06:19	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:58	20:26	20:32	20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17 18:04-18:19/15	05:31	05:07	05:15	05:45	06:20	06:54	06:33	07:09
	16:29	17:09	18:46	19:23	19:59	20:27	20:31	20:03	19:10	18:16	16:30	16:11
10	07:21	06:54	07:10	06:15 18:02-18:20/18	05:30	05:07	05:16	05:46	06:21	06:55	06:34	07:10
	16:30	17:11	18:47	19:25	20:00	20:28	20:31	20:01	19:09	18:14	16:29	16:11
11	07:20	06:53	07:09	06:13 18:01-18:21/20	05:28	05:06	05:16	05:47	06:22	06:56	06:36	07:11
	16:32	17:12	18:48	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28	16:11
12	07:20	06:52	07:07	06:12 18:00-18:21/21	05:27	05:06	05:17	05:48	06:23	06:58	06:37	07:11
	16:33	17:13	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:27	16:11
13	07:20	06:50	07:05	06:10 18:00-18:22/22	05:26	05:06	05:18	05:49	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02	20:29	20:29	19:56	19:03	18:09	16:26	16:11
14	07:19	06:49	07:03	06:08 17:59-18:21/22	05:25	05:06	05:19	05:51	06:25	07:00	06:40	07:13
	16:35	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:08	16:25	16:12
15	07:19	06:48	07:02	06:07 17:58-18:21/23	05:24	05:06	05:20	05:52	06:26	07:01	06:41	07:14
	16:36	17:17	18:53	19:31	20:04	20:30	20:28	19:53	19:00	18:06	16:24	16:12
16	07:18	06:46	07:00	06:05 17:59-18:21/22	05:23	05:06	05:21	05:53	06:28	07:02	06:42	07:15
	16:37	17:19	18:55	19:32	20:05	20:31	20:27	19:51	18:58	18:04	16:23	16:12
17	07:18	06:45	06:58	06:03 17:59-18:20/21	05:22	05:06	05:21	05:54	06:29	07:04	06:44	07:15
	16:39	17:20	18:56	19:33	20:06	20:31	20:27	19:50	18:56	18:03	16:22	16:12
18	07:17	06:43	06:56	06:02 18:00-18:20/20	05:21	05:06	05:22	05:55	06:30	07:05	06:45	07:16
	16:40	17:21	18:57	19:34	20:08	20:32	20:26	19:48	18:54	18:01	16:21	16:13
19	07:16	06:42	06:54	06:00 18:00-18:18/18	05:20	05:06	05:23	05:56	06:31	07:06	06:46	07:17
	16:41	17:23	18:58	19:35	20:09	20:32	20:25	19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:53	05:58 18:01-18:17/16	05:19	05:06	05:24	05:57	06:32	07:07	06:47	07:17
	16:42	17:24	18:59	19:36	20:10	20:32	20:25	19:45	18:50	17:58	16:19	16:13
21	07:15	06:39	06:51	05:57 18:03-18:15/12	05:18	05:06	05:25	05:58 18:09-18:17/8	06:33	07:09	06:49	07:18
	16:44	17:25	19:01	19:38	20:11	20:32	20:24	19:43	18:49	17:56	16:18	16:14
22	07:14	06:37	06:49	05:55 18:05-18:12/7	05:17	05:07	05:26	06:00 18:07-18:20/13	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:12	20:33	20:23	19:42	18:47	17:55	16:18	16:14
23	07:14	06:36	06:47	05:54	05:16	05:07	05:27	06:01 18:05-18:22/17	06:35	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:45	05:52	05:15	05:07	05:28	06:02 18:04-18:22/18	06:37	07:12	06:52	07:19
	16:48	17:29	19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:52	16:16	16:15
25	07:12	06:32	06:44	05:51	05:15	05:07	05:29	06:03 18:03-18:23/20	06:38	07:14	06:54	07:20
	16:49	17:31	19:05	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14	05:08	05:30	06:04 18:02-18:23/21	06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:44	20:16	20:33	20:19	19:35	18:39	17:48	16:15	16:17
27	07:10	06:29	06:40	05:47	05:13	05:08	05:31	06:05 18:01-18:23/22	06:40	07:16	06:56	07:20
	16:52	17:33	19:08	19:45	20:17	20:33	20:18	19:33	18:38	17:47	16:15	16:17
28	07:09	06:27	06:38	05:46	05:12	05:09	05:32	06:06 18:00-18:23/23	06:41	07:18	06:57	07:21
	16:53	17:35	19:09	19:46	20:18	20:33	20:17	19:32	18:36	17:46	16:14	16:18
29	07:08		06:36	05:44	05:12	05:09	05:33	06:07 18:00-18:22/22	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:14	16:19
30	07:07		06:35	05:43	05:11	05:10	05:34	06:09 18:00-18:21/21	06:43	07:20	06:59	07:21
	16:56		19:11	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	16:20
31	07:06		06:33		05:10		05:35	06:10 18:00-18:21/21		07:21		07:21
	16:57		19:13		20:20		20:14	19:26		17:41		16:20
Potential sun hours	290	294	369	402	455	461	467	433	376	342	291	279
Sum of minutes with flicker	0	0	0	268	0	0	0	206	66	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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
9/11/2013 11:43 AM / 3

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** C-3 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (38)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:42	05:10	05:10	05:36	06:11	06:45	06:23	07:01
	16:22	16:58	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30	16:40	16:13
2	07:21	07:04	06:24	06:29	05:40	05:09	05:11	05:37	06:12	06:46	06:24	07:02
	16:22	17:00	17:37	19:15	19:51	20:22	20:33	20:12	19:23	18:29	16:39	16:12
3	07:22	07:03	06:22	06:27	05:39	05:09	05:11	05:38	06:13	06:47	06:25	07:03
	16:23	17:01	17:38	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37	16:12
4	07:22	07:02	06:21	06:26	05:37	05:08	05:12	05:40	06:14	06:48	06:27	07:04
	16:24	17:02	17:40	19:17	19:53	20:23	20:33	20:09	19:19	18:25	16:36	16:12
5	07:21	07:01	06:19	06:24	05:36	05:08	05:12	05:41	06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:19	19:54	20:24	20:33	20:08	19:18	18:23	16:35	16:12
6	07:21	07:00	06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:50	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25	20:32	20:07	19:16	18:21	16:33	16:12
7	07:21	06:58	06:16	06:20	05:33	05:07	05:14	05:43	06:17	06:52	06:31	07:07
	16:27	17:07	17:43	19:21	19:56	20:26	20:32	20:05	19:14	18:20	16:32	16:11
8	07:21	06:57	07:14	06:19	05:32	05:07	05:14	05:44	06:19	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:58	20:26	20:32	20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31	05:07	05:15	05:45	06:20	06:54	06:33	07:09
	16:29	17:09	18:46	19:23	19:59	20:27	20:31	20:03	19:10	18:16	16:30	16:11
10	07:21	06:54	07:10	06:15	05:30	05:07	05:16	05:46	06:21	06:55	06:34	07:10
	16:30	17:11	18:47	19:25	20:00	20:28	20:31	20:01	19:09	18:14	16:29	16:11
11	07:20	06:53	07:09	06:13	05:28	05:06	05:17	05:47	06:22	06:56	06:36	07:11
	16:32	17:12	18:48	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28	16:11
12	07:20	06:52	07:07	06:12	05:27	05:06	05:17	05:48	06:23	06:58	06:37	07:11
	16:33	17:13	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:27	16:11
13	07:20	06:50	07:05	06:10	05:26	05:06	05:18	05:50	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02	20:29	20:29	19:56	19:03	18:09	16:26	16:11
14	07:19	06:49	07:03	06:08	05:25	05:06	05:19	05:51	06:25	07:00	06:40	07:13
	16:35	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:08	16:25	16:12
15	07:19	06:48	07:02	06:07	05:24	05:06	05:20	05:52	06:26	07:01	06:41	07:14
	16:36	17:17	18:53	19:31	20:04	20:30	20:28	19:53	19:00	18:06	16:24	16:12
16	07:18	06:46	07:00	06:05	05:23	05:06	05:21	05:53	06:28	07:02	06:42	07:15
	16:37	17:19	18:55	19:32	20:05	20:31	20:27	19:51	18:58	18:04	16:23	16:12
17	07:18	06:45	06:58	06:03	05:22	05:06	05:21	05:54	06:29	07:04	06:44	07:15
	16:39	17:20	18:56	19:33	20:06	20:31	20:27	19:50	18:56	18:03	16:22	16:12
18	07:17	06:43	06:56	06:02	05:21	05:06	05:22	05:55	06:30	07:05	06:45	07:16
	16:40	17:21	18:57	19:34	20:08	20:32	20:26	19:48	18:54	18:01	16:21	16:13
19	07:16	06:42	06:54	06:00	05:20	05:06	05:23	05:56	06:31	07:06	06:46	07:17
	16:41	17:23	18:58	19:35	20:09	20:32	20:25	19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:53	05:58	05:19	05:06	05:24	05:57	06:32	07:07	06:47	07:17
	16:42	17:24	18:59	19:36	20:10	20:32	20:25	19:45	18:50	17:58	16:19	16:13
21	07:15	06:39	06:51	05:57	05:18	05:06	05:25	05:58	06:33	07:09	06:49	07:18
	16:44	17:25	19:01	19:38	20:11	20:32	20:24	19:43	18:49	17:56	16:18	16:14
22	07:14	06:37	06:49	05:55	05:17	05:07	05:26	06:00	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:12	20:33	20:23	19:42	18:47	17:55	16:18	16:14
23	07:14	06:36	06:47	05:54	05:16	05:07	05:27	06:01	06:35	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:45	05:52	05:15	05:07	05:28	06:02	06:37	07:12	06:52	07:19
	16:48	17:29	19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:52	16:16	16:15
25	07:12	06:32	06:44	05:51	05:15	05:08	05:29	06:03	06:38	07:14	06:54	07:20
	16:49	17:31	19:06	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14	05:08	05:30	06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:44	20:16	20:33	20:19	19:35	18:39	17:49	16:15	16:17
27	07:10	06:29	06:40	05:47	05:13	05:08	05:31	06:05	06:40	07:16	06:56	07:20
	16:52	17:33	19:08	19:45	20:17	20:33	20:18	19:33	18:38	17:47	16:15	16:17
28	07:09	06:27	06:38	05:46	05:12	05:09	05:32	06:06	06:41	07:18	06:57	07:21
	16:53	17:35	19:09	19:46	20:18	20:33	20:17	19:32	18:36	17:46	16:14	16:18
29	07:08		06:36	05:45	05:12	05:09	05:33	06:07	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:14	16:19
30	07:07		06:35	05:43	05:11	05:10	05:34	06:09	06:43	07:20	06:59	07:21
	16:56		19:11	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	16:20
31	07:06		06:33		05:10		05:35	06:10		07:21		07:21
	16:57		19:13		20:20		20:14	19:26		17:41		16:20
Potential sun hours	290	294	369	402	455	461	467	433	376	342	291	279
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

Project:
2013-09-11_Wild Meadows V112@94m

Printed/Page
9/11/2013 11:43 AM / 4

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** C-4 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (39)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:42	05:10 06:38-07:03/25	05:10 06:43-07:09/26	05:36	06:11	06:45	06:23	07:01
	16:22	16:58	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30	16:40	16:13
2	07:21	07:04	06:24	06:29	05:40	05:09 06:37-07:02/25	05:11 06:43-07:09/26	05:37	06:12	06:46	06:24	07:02
	16:22	17:00	17:37	19:15	19:51	20:22	20:33	20:12	19:23	18:29	16:39	16:12
3	07:22	07:03	06:22	06:27	05:39	05:09 06:38-07:03/25	05:11 06:43-07:09/26	05:39	06:13	06:47	06:25	07:03
	16:23	17:01	17:38	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37	16:12
4	07:22	07:02	06:21	06:26	05:37	05:09 06:38-07:04/26	05:12 06:44-07:10/26	05:40	06:14	06:48	06:27	07:04
	16:24	17:02	17:40	19:17	19:53	20:23	20:33	20:09	19:19	18:25	16:36	16:12
5	07:21	07:01	06:19	06:24	05:36	05:08 06:38-07:03/25	05:12 06:44-07:09/25	05:41	06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:19	19:54	20:24	20:33	20:08	19:18	18:23	16:35	16:12
6	07:21	07:00	06:17	06:22	05:35	05:08 06:38-07:04/26	05:13 06:44-07:10/26	05:42	06:16	06:50	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25	20:32	20:07	19:16	18:21	16:33	16:12
7	07:21	06:58	06:16	06:20	05:33	05:07 06:39-07:04/25	05:14 06:44-07:09/25	05:43	06:18	06:52	06:31	07:07
	16:27	17:07	17:43	19:21	19:56	20:26	20:32	20:05	19:14	18:20	16:32	16:11
8	07:21	06:57	07:14	06:19	05:32	05:07 06:38-07:04/26	05:14 06:44-07:10/26	05:44	06:19	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:58	20:26	20:32	20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31	05:07 06:38-07:04/26	05:15 06:45-07:10/25	05:45	06:20	06:54	06:33	07:09
	16:29	17:09	18:46	19:23	19:59	20:27	20:31	20:03	19:10	18:16	16:30	16:11
10	07:21	06:54	07:10	06:15	05:30	05:07 06:39-07:04/25	05:16 06:46-07:11/25	05:46	06:21	06:55	06:34	07:10
	16:30	17:11	18:47	19:25	20:00	20:28	20:31	20:01	19:09	18:14	16:29	16:11
11	07:20	06:53	07:09	06:13	05:28	05:06 06:39-07:05/26	05:17 06:45-07:10/25	05:47	06:22	06:56	06:36	07:11
	16:32	17:12	18:48	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28	16:11
12	07:20	06:52	07:07	06:12	05:27	05:06 06:39-07:05/26	05:17 06:46-07:10/24	05:48	06:23	06:58	06:37	07:11
	16:33	17:13	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:27	16:11
13	07:20	06:50	07:05	06:10	05:26	05:06 06:40-07:05/25	05:18 06:46-07:10/24	05:50	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02	20:29	20:29	19:56	19:03	18:09	16:26	16:11
14	07:19	06:49	07:03	06:08	05:25	05:06 06:40-07:05/25	05:19 06:47-07:10/23	05:51	06:25	07:00	06:40	07:13
	16:35	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:08	16:25	16:12
15	07:19	06:48	07:02	06:07	05:24	05:06 06:40-07:06/26	05:20 06:47-07:09/22	05:52	06:26	07:01	06:41	07:14
	16:36	17:17	18:53	19:31	20:04	20:30	20:28	19:53	19:00	18:06	16:24	16:12
16	07:18	06:46	07:00	06:05	05:23	05:06 06:40-07:06/26	05:21 06:47-07:09/22	05:53	06:28	07:02	06:42	07:15
	16:37	17:19	18:55	19:32	20:05	20:31	20:27	19:51	18:58	18:04	16:23	16:12
17	07:18	06:45	06:58	06:03	05:22	05:06 06:40-07:06/26	05:22 06:48-07:09/21	05:54	06:29	07:04	06:44	07:15
	16:39	17:20	18:56	19:33	20:06	20:31	20:27	19:50	18:56	18:03	16:22	16:12
18	07:17	06:43	06:56	06:02	05:21	05:06 06:41-07:06/25	05:22 06:49-07:09/20	05:55	06:30	07:05	06:45	07:16
	16:40	17:21	18:57	19:34	20:08	20:32	20:26	19:48	18:54	18:01	16:21	16:13
19	07:16	06:42	06:54	06:00	05:20	05:06 06:41-07:06/25	05:23 06:50-07:08/18	05:56	06:31	07:06	06:46	07:17
	16:41	17:23	18:58	19:35	20:09	20:32	20:25	19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:53	05:58	05:19	05:06 06:41-07:06/25	05:24 06:51-07:08/17	05:57	06:32	07:07	06:47	07:17
	16:42	17:24	18:59	19:36	20:10	20:32	20:25	19:45	18:50	17:58	16:19	16:13
21	07:15	06:39	06:51	05:57	05:18 06:45-06:54/9	05:07 06:41-07:06/25	05:25 06:52-07:07/15	05:58	06:33	07:09	06:49	07:18
	16:44	17:25	19:01	19:38	20:11	20:32	20:24	19:43	18:49	17:56	16:18	16:14
22	07:14	06:37	06:49	05:55	05:17 06:43-06:55/12	05:07 06:42-07:07/25	05:26 06:54-07:05/11	06:00	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:12	20:33	20:23	19:42	18:47	17:55	16:18	16:14
23	07:14	06:36	06:47	05:54	05:16 06:41-06:57/16	05:07 06:42-07:07/25	05:27 06:56-07:03/7	06:01	06:35	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:45	05:52	05:15 06:41-06:58/17	05:07 06:42-07:07/25	05:28	06:02	06:37	07:12	06:52	07:19
	16:48	17:29	19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:52	16:16	16:15
25	07:12	06:32	06:44	05:51	05:15 06:40-06:59/19	05:08 06:41-07:07/26	05:29	06:03	06:38	07:14	06:54	07:20
	16:49	17:31	19:06	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14 06:39-06:59/20	05:08 06:42-07:08/26	05:30	06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:44	20:16	20:33	20:19	19:35	18:39	17:49	16:15	16:17
27	07:10	06:29	06:40	05:47	05:13 06:39-07:01/22	05:08 06:42-07:08/26	05:31	06:05	06:40	07:16	06:56	07:20
	16:52	17:33	19:08	19:45	20:17	20:33	20:18	19:33	18:38	17:47	16:15	16:17
28	07:09	06:27	06:38	05:46	05:12 06:39-07:01/22	05:09 06:43-07:08/25	05:32	06:06	06:41	07:18	06:57	07:21
	16:53	17:35	19:09	19:46	20:18	20:33	20:17	19:32	18:36	17:46	16:14	16:18
29	07:08		06:36	05:45	05:12 06:38-07:01/23	05:09 06:43-07:08/25	05:33	06:07	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:14	16:19
30	07:07		06:35	05:43	05:11 06:38-07:02/24	05:10 06:42-07:08/26	05:34	06:09	06:43	07:20	06:59	07:21
	16:56		19:11	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	16:20
31	07:06		06:33		05:11 06:38-07:02/24		05:35	06:10		07:21		07:21
	16:57		19:13		20:20		20:14	19:26		17:41		16:20
Potential sun hours	290	294	369	402	455	461	467	433	376	342	291	279
Sum of minutes with flicker	0	0	0	0	208	763	505	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

Project:
2013-09-11_Wild Meadows V112@94m

Printed/Page
9/11/2013 11:43 AM / 5

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** C-5 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (40)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21 16:22	07:05 16:58	06:26 17:36	06:31 08:03-08:06/3 19:14	05:42 19:49	05:10 20:21	05:10 20:33	05:36 20:13	06:11 07:34-07:55/21 19:25	06:45 18:30	06:23 16:40	07:01 16:13
2	07:21 16:22	07:04 17:00	06:24 17:37	06:29 19:15	05:40 19:51	05:09 20:22	05:11 20:33	05:37 20:12	06:12 07:35-07:54/19 19:23	06:46 18:29	06:24 16:39	07:02 16:12
3	07:22 16:23	07:03 17:01	06:22 17:38	06:28 19:16	05:39 19:52	05:09 20:23	05:11 20:33	05:39 20:10	06:13 07:37-07:52/15 19:21	06:47 18:27	06:25 16:37	07:03 16:12
4	07:22 16:24	07:02 17:02	06:21 17:40	06:26 19:17	05:37 19:53	05:09 20:23	05:12 20:33	05:40 20:09	06:14 07:40-07:49/9 19:19	06:48 18:25	06:27 16:36	07:04 16:12
5	07:21 16:25	07:01 17:04	06:19 17:41	06:24 19:19	05:36 19:54	05:08 20:24	05:12 20:33	05:41 20:08	06:15 19:18	06:49 18:23	06:28 16:35	07:05 16:12
6	07:21 16:26	07:00 17:05	06:17 17:42	06:22 19:20	05:35 19:55	05:08 20:25	05:13 20:32	05:42 20:07	06:16 19:16	06:50 18:21	06:29 16:34	07:06 16:12
7	07:21 16:27	06:58 17:07	06:16 17:44	06:20 19:21	05:33 19:56	05:07 20:26	05:14 20:32	05:43 20:05	06:18 19:14	06:52 18:20	06:31 16:32	07:07 16:11
8	07:21 16:28	06:57 17:08	07:14 18:45	06:19 07:42-07:50/8 19:22	05:32 19:58	05:07 20:26	05:14 20:32	05:44 20:04	06:19 19:12	06:53 18:18	06:32 16:31	07:08 16:11
9	07:21 16:29	06:56 17:09	07:12 18:46	06:17 07:39-07:54/15 19:23	05:31 19:59	05:07 20:27	05:15 20:31	05:45 20:03	06:20 19:11	06:54 18:16	06:33 16:30	07:09 16:11
10	07:21 16:30	06:54 17:11	07:10 18:47	06:15 07:37-07:56/19 19:25	05:30 20:00	05:07 20:28	05:16 20:31	05:46 20:01	06:21 19:09	06:55 18:14	06:34 16:29	07:10 16:11
11	07:20 16:32	06:53 17:12	07:09 18:48	06:13 07:35-07:56/21 19:26	05:28 20:00	05:06 20:28	05:17 20:30	05:47 20:00	06:22 19:07	06:56 18:13	06:36 16:28	07:11 16:11
12	07:20 16:33	06:52 17:13	07:07 18:50	06:12 07:34-07:58/24 19:27	05:27 20:01	05:06 20:29	05:17 20:30	05:48 19:57	06:23 07:51-08:02/11 19:05	06:58 18:11	06:37 16:27	07:11 16:11
13	07:20 16:34	06:50 17:15	07:05 18:51	06:10 07:33-07:58/25 19:28	05:26 20:02	05:06 20:29	05:18 20:29	05:50 19:56	06:24 07:49-08:03/14 19:03	06:59 18:09	06:38 16:26	07:12 16:11
14	07:19 16:35	06:49 17:16	07:03 18:52	06:08 07:31-07:58/27 19:29	05:25 20:03	05:06 20:30	05:19 20:29	05:51 19:54	06:25 07:47-08:04/17 19:01	07:00 18:08	06:40 16:25	07:13 16:12
15	07:19 16:36	06:48 17:17	07:02 18:53	06:07 07:31-07:59/28 19:31	05:24 20:04	05:06 20:30	05:20 20:28	05:52 19:53	06:26 07:46-08:05/19 19:00	07:01 18:06	06:41 16:24	07:14 16:12
16	07:18 16:37	06:46 17:19	07:00 18:55	06:05 07:30-07:58/28 19:32	05:23 20:05	05:06 20:31	05:21 20:27	05:53 07:43-07:53/10 19:51	06:28 07:46-08:06/20 18:58	07:02 18:04	06:42 16:23	07:15 16:12
17	07:18 16:39	06:45 17:20	06:58 18:56	06:03 07:30-07:58/28 19:33	05:22 20:06	05:06 20:31	05:22 20:27	05:54 07:40-07:55/15 19:50	06:29 07:45-08:06/21 18:56	07:04 18:03	06:44 16:22	07:15 16:12
18	07:17 16:40	06:43 17:21	06:56 18:57	06:02 07:30-07:58/28 19:34	05:21 20:08	05:06 20:32	05:22 20:26	05:55 07:38-07:56/18 19:48	06:30 07:44-08:06/22 18:54	07:05 18:01	06:45 16:21	07:16 16:13
19	07:16 16:41	06:42 17:23	06:54 08:05-08:13/8 18:58	06:00 07:29-07:57/28 19:35	05:20 20:09	05:06 20:32	05:23 20:25	05:56 07:37-07:58/21 19:46	06:31 07:44-08:05/21 18:52	07:06 17:59	06:46 16:20	07:17 16:13
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21	07:15 16:44	06:39 17:25	06:51 08:00-08:17/17 19:01	05:57 07:30-07:56/26 19:38	05:18 20:11	05:07 20:32	05:25 20:24	05:58 07:35-08:00/25 19:43	06:33 07:44-08:03/19 18:49	07:09 17:56	06:49 16:18	07:18 16:14
22	07:14 16:45	06:37 17:27	06:49 07:59-08:18/19 19:02	05:55 07:30-07:54/24 19:39	05:17 20:12	05:07 20:33	05:26 20:23	06:00 07:35-08:00/25 19:42	06:34 07:45-08:02/17 18:47	07:10 17:55	06:50 16:18	07:18 16:14
23	07:14 16:46	06:36 17:28	06:47 07:58-08:18/20 19:03	05:54 07:31-07:53/22 19:40	05:16 20:13	05:07 20:33	05:27 20:22	06:01 07:34-08:01/27 19:40	06:35 07:46-08:00/14 18:45	07:11 17:53	06:51 16:17	07:19 16:15
24	07:13 16:48	06:34 17:29	06:45 07:57-08:18/21 19:04	05:52 07:31-07:52/21 19:41	05:15 20:14	05:07 20:33	05:28 20:21	06:02 07:33-08:01/28 19:38	06:37 07:47-07:57/10 18:43	07:12 17:52	06:52 16:16	07:19 16:15
25	07:12 16:49	06:32 17:31	06:44 07:56-08:17/21 19:06	05:51 07:33-07:50/17 19:42	05:15 20:15	05:08 20:33	05:29 20:20	06:03 07:33-08:01/28 19:37	06:38 18:41	07:14 17:50	06:54 16:16	07:20 16:16
26	07:11 16:50	06:31 17:32	06:42 07:56-08:18/22 19:07	05:49 07:34-07:48/14 19:44	05:14 20:16	05:08 20:33	05:30 20:19	06:04 07:32-08:00/28 19:35	06:39 18:39	07:15 17:49	06:55 16:15	07:20 16:17
27	07:10 16:52	06:29 17:33	06:40 07:56-08:17/21 19:08	05:48 07:37-07:45/8 19:45	05:13 20:17	05:08 20:33	05:31 20:18	06:05 07:32-08:00/28 19:33	06:40 18:38	07:16 17:47	06:56 16:15	07:20 16:17
28	07:09 16:53	06:27 17:35	06:38 07:56-08:16/20 19:09	05:46 19:46	05:12 20:18	05:09 20:33	05:32 20:17	06:06 07:32-08:00/28 19:32	06:41 18:36	07:18 17:46	06:57 16:14	07:21 16:18
29	07:08 16:54		06:36 07:56-08:14/18 19:10	05:45 19:47	05:12 20:18	05:09 20:33	05:33 20:16	06:07 07:32-07:59/27 19:30	06:42 18:34	07:19 17:44	06:58 16:14	07:21 16:19
30	07:07 16:56		06:35 07:57-08:12/15 19:11	05:43 19:48	05:11 20:19	05:10 20:33	05:34 20:15	06:09 07:33-07:58/25 19:28	06:43 18:32	07:20 17:43	06:59 16:13	07:21 16:20
31	07:06 16:57		06:33 07:59-08:11/12 19:13		05:11 20:20		05:35 20:14	06:10 07:33-07:57/24 19:26		07:21 17:41		07:21 16:20
Potential sun hours	290	294	369	402	455	461	467	433	376	342	291	279
Sum of minutes with flicker	0	0	227	441	0	0	0	379	289	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

Project:

2013-09-11_Wild Meadows V112@94m

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9/11/2013 11:43 AM / 6

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** C-6 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (47)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0 m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26 07:33-08:09/36	06:31	05:42	05:10	05:10	05:36	06:11	06:45 08:15-08:50/35	06:23	07:01
	16:22	16:58	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30	16:40	16:13
2	07:21	07:04	06:24 07:33-08:07/34	06:29	05:40	05:09	05:11	05:37	06:12	06:46 08:16-08:50/34	06:24	07:02
	16:22	17:00	17:37	19:15	19:51	20:22	20:33	20:12	19:23	18:29	16:39	16:13
3	07:22	07:03	06:22 07:33-08:06/33	06:28	05:39	05:09	05:11	05:39	06:13	06:47 08:16-08:49/33	06:25	07:03
	16:23	17:01	17:38	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37	16:12
4	07:22	07:02	06:21 07:33-08:05/32	06:26	05:37	05:09	05:12	05:40	06:14	06:48 08:16-08:48/32	06:27	07:04
	16:24	17:03	17:40	19:17	19:53	20:23	20:33	20:09	19:19	18:25	16:36	16:12
5	07:21	07:01	06:19 07:34-08:02/28	06:24	05:36	05:08	05:12	05:41	06:15	06:49 08:16-08:23/7	06:28	07:05
	16:25	17:04	17:41 08:02-08:06/4	19:19	19:54	20:24	20:33	20:08	19:18	18:23 08:23-08:47/24	16:35	16:12
6	07:21	07:00	06:17 07:34-07:52/18	06:22	05:35	05:08	05:13	05:42	06:16	06:50 08:13-08:26/13	06:29	07:06
	16:26	17:05	17:42 07:52-08:08/16	19:20	19:55	20:25	20:32	20:07	19:16	18:21 08:26-08:46/20	16:34	16:12
7	07:21	06:58	06:16 07:36-07:51/15	06:20	05:33	05:07	05:14	05:43	06:18	06:52 08:11-08:27/16	06:31	07:07
	16:27	17:07	17:44 07:51-08:09/18	19:21	19:56	20:26	20:32	20:05	19:14	18:20 08:27-08:44/17	16:32	16:11
8	07:21	06:57	07:14 08:38-08:48/10	06:19	05:32	05:07	05:14	05:44	06:19	06:53 08:10-08:28/18 08:34-08:43/9	06:32	07:08
	16:28	17:08	18:45 08:48-09:10/22	19:22	19:58	20:26	20:32	20:04	19:12	18:18 08:19-08:34/15	16:31	16:11
9	07:21	06:56	07:12 08:38-09:10/32	06:17	05:31	05:07	05:15	05:45	06:20	06:54 08:09-08:39/30	06:33	07:09
	16:29	17:09	18:46	19:23	19:59	20:27	20:31	20:03	19:11	18:16 08:39-08:41/2	16:30	16:11
10	07:21	06:54	07:10 08:37-09:10/33	06:15	05:30	05:07	05:16	05:46	06:21	06:55 08:07-08:39/32	06:34	07:10
	16:31	17:11	18:47	19:25	20:00	20:28	20:31	20:01	19:09	18:14	16:29	16:11
11	07:20	06:53	07:09 08:37-09:11/34	06:14	05:29	05:06	05:17	05:47	06:22	06:56 08:07-08:40/33	06:36	07:11
	16:32	17:12	18:49	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28	16:11
12	07:20	06:52	07:07 08:36-09:11/35	06:12	05:27	05:06	05:17	05:48	06:23	06:58 08:07-08:42/35	06:37	07:11
	16:33	17:13	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:27	16:11
13	07:20	06:50	07:05 08:36-09:11/35	06:10	05:26	05:06	05:18	05:50	06:24	06:59 08:07-08:42/35	06:38	07:12
	16:34	17:15	18:51	19:28	20:02	20:29	20:29	19:56	19:03	18:09	16:26	16:11
14	07:19	06:49	07:03 08:35-09:10/35	06:08	05:25	05:06	05:19	05:51	06:25	07:00 08:06-08:42/36	06:40	07:13
	16:35	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:08	16:25	16:12
15	07:19	06:48	07:02 08:35-09:09/34	06:07	05:24	05:06	05:20	05:52	06:26	07:01 08:07-08:42/35	06:41	07:14
	16:36	17:17	18:53	19:31	20:04	20:30	20:28	19:53	19:00	18:06	16:24	16:12
16	07:18	06:46	07:00 08:35-09:09/34	06:05	05:23	05:06	05:21	05:53	06:28	07:02 08:08-08:43/35	06:42	07:15
	16:38	17:19	18:55	19:32	20:05	20:31	20:27	19:51	18:58	18:04	16:23	16:12
17	07:18	06:45	06:58 08:35-09:08/33	06:03	05:22	05:06	05:22	05:54	06:29	07:04 08:08-08:43/35	06:44	07:15
	16:39	17:20	18:56	19:33	20:06	20:31	20:27	19:50	18:56	18:03	16:22	16:12
18	07:17	06:43 07:54-08:05/11	06:56 08:35-09:07/32	06:02	05:21	05:06	05:22	05:55	06:30	07:05 08:10-08:42/32	06:45	07:16
	16:40	17:21	18:57	19:34	20:08	20:32	20:26	19:48	18:54	18:01	16:21	16:13
19	07:16	06:42 07:51-08:07/16	06:54 08:36-09:06/30	06:00	05:20	05:06	05:23	05:56	06:31 08:31-08:41/10	07:06 08:13-08:42/29	06:46	07:17
	16:41	17:23	18:58	19:35	20:09	20:32	20:25	19:46	18:52	17:59	16:20	16:13
20	07:16	06:40 07:50-08:09/19	06:53 08:36-09:04/28	05:58	05:19	05:06	05:24	05:57	06:32 08:27-08:44/17	07:07 08:19-08:41/22	06:47	07:17
	16:42	17:24	19:00	19:36	20:10	20:32	20:25	19:45	18:50	17:58	16:19	16:13
21	07:15	06:39 07:48-08:09/21	06:51 08:38-09:03/25	05:57	05:18	05:07	05:25	05:58	06:33 08:25-08:46/21	07:09 08:19-08:40/21	06:49	07:18
	16:44	17:25	19:01	19:38	20:11	20:32	20:24	19:43	18:49	17:56	16:18	16:14
22	07:14	06:37 07:48-08:11/23	06:49 08:39-09:01/22	05:55	05:17	05:07	05:26	06:00	06:34 08:22-08:47/25	07:10 08:20-08:38/18	06:50	07:18
	16:45	17:27	19:02	19:39	20:12	20:33	20:23	19:42	18:47	17:55	16:18	16:14
23	07:14	06:36 07:40-08:11/31	06:47 08:40-08:58/18	05:54	05:16	05:07	05:27	06:01	06:35 08:21-08:48/27	07:11 08:22-08:37/15	06:51	07:19
	16:46	17:28	19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	16:15
24	07:13	06:34 07:37-08:10/33	06:45 08:43-08:54/11	05:52	05:15	05:07	05:28	06:02	06:37 08:19-08:49/30	07:12 08:24-08:34/10	06:52	07:19
	16:48	17:29	19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:52	16:16	16:15
25	07:12	06:32 07:37-08:11/34	06:44	05:51	05:15	05:08	05:29	06:03	06:38 08:18-08:49/31	07:14	06:54	07:20
	16:49	17:31	19:06	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	16:16
26	07:11	06:31 07:35-08:11/36	06:42	05:49	05:14	05:08	05:30	06:04	06:39 08:18-08:51/33	07:15	06:55	07:20
	16:50	17:32	19:07	19:44	20:16	20:33	20:19	19:35	18:39	17:49	16:15	16:17
27	07:10	06:29 07:34-08:10/36	06:40	05:48	05:13	05:08	05:31	06:05	06:40 08:17-08:51/34	07:16	06:56	07:20
	16:52	17:33	19:08	19:45	20:17	20:33	20:18	19:33	18:38	17:47	16:15	16:17
28	07:09	06:27 07:34-08:10/36	06:38	05:46	05:12	05:09	05:32	06:06	06:41 08:16-08:51/35	07:18	06:57	07:21
	16:53	17:35	19:09	19:46	20:18	20:33	20:17	19:32	18:36	17:46	16:14	16:18
29	07:08		06:36	05:45	05:12	05:09	05:33	06:07	06:42 08:16-08:51/35	07:19	06:58	07:21
	16:54		19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:14	16:19
30	07:07		06:35	05:43	05:11	05:10	05:34	06:09	06:43 08:15-08:50/35	07:20	06:59	07:21
	16:56		19:11	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	16:20
31	07:06		06:33		05:11		05:35	06:10		07:21		07:21
	16:57		19:13		20:20		20:14	19:26		17:41		16:20
Potential sun hours	290	294	369	402	455	461	467	433	376	342	291	279
Sum of minutes with flicker	0	296	737	0	0	0	0	0	333	719	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

Project:
2013-09-11_Wild Meadows V112@94m

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9/11/2013 11:43 AM / 7
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EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** C-7 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (41)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June
1	07:21 08:18-08:25/7 08:58-09:30/32 16:22 08:28-08:58/30	07:05 08:29-08:35/6 16:58	06:26 17:36	06:31 19:14	05:42 19:49	05:10 20:21
2	07:21 08:18-08:27/9 08:59-09:30/31 16:22 08:29-08:59/30	07:04 17:00	06:24 17:37	06:29 19:15	05:40 19:51	05:09 20:22
3	07:22 08:17-08:28/11 08:59-09:31/32 16:23 08:29-08:59/30	07:03 17:01	06:22 17:38	06:28 19:16	05:39 19:52	05:09 20:23
4	07:22 08:17-09:00/43 16:24 09:00-09:32/32	07:02 17:03	06:21 17:40	06:26 19:17	05:37 19:53	05:09 20:23
5	07:21 08:17-09:00/43 16:25 09:00-09:32/32	07:01 17:04	06:19 17:41	06:24 19:19	05:36 19:54	05:08 20:24
6	07:21 08:17-09:01/44 16:26 09:01-09:33/32	07:00 17:05	06:17 17:42	06:22 19:20	05:35 19:55	05:08 20:25
7	07:21 08:17-09:02/45 16:27 09:02-09:33/31	06:58 17:07	06:16 17:44	06:20 19:21	05:34 19:56	05:07 20:26
8	07:21 08:16-09:01/45 16:28 09:01-09:33/32	06:57 17:08	07:14 18:45	06:19 19:22	05:32 19:58	05:07 20:26
9	07:21 08:16-09:02/46 16:29 09:02-09:34/32	06:56 17:09	07:12 18:46	06:17 19:23	05:31 19:59	05:07 20:27
10	07:21 08:16-09:02/46 16:31 09:02-09:34/32	06:54 17:11	07:10 18:47	06:15 19:25	05:30 20:00	05:07 20:28
11	07:20 08:15-09:02/47 16:32 09:02-09:34/32	06:53 17:12	07:09 18:49	06:14 19:26	05:29 20:00	05:06 20:28
12	07:20 08:16-09:02/46 16:33 09:02-09:35/33	06:52 17:13	07:07 18:50	06:12 19:27	05:27 20:01	05:06 20:29
13	07:20 08:15-09:02/47 16:34 09:02-09:35/33	06:50 17:15	07:05 18:51	06:10 19:28	05:26 20:02	05:06 20:29
14	07:19 08:16-09:02/46 16:35 09:02-09:35/33	06:49 17:16	07:03 18:52	06:08 19:29	05:25 20:03	05:06 20:30
15	07:19 08:15-09:02/47 16:36 09:02-09:35/33	06:48 17:17	07:02 18:53	06:07 19:31	05:24 20:04	05:06 20:30
16	07:18 08:16-09:02/46 16:38 09:02-09:36/34	06:46 17:19	07:00 18:55	06:05 19:32	05:23 20:05	05:06 20:31
17	07:18 08:16-09:02/46 16:39 09:02-09:35/33	06:45 17:20	06:58 18:56	06:03 19:33	05:22 20:06	05:06 20:31
18	07:17 08:16-09:02/46 16:40 09:02-09:36/34	06:43 17:22	06:56 18:57	06:02 19:34	05:21 20:08	05:06 20:32
19	07:16 08:16-09:01/45 16:41 09:01-09:35/34	06:42 17:23	06:54 18:58	06:00 19:35	05:20 20:09	05:06 20:32
20	07:16 08:16-09:00/44 16:43 09:00-09:35/35	06:40 17:24	06:53 19:00	05:58 19:36	05:19 20:10	05:06 20:32
21	07:15 08:16-08:42/26 08:59-09:34/35 16:44 08:43-08:59/16	06:39 17:25	06:51 19:01	05:57 19:38	05:18 20:11	05:07 20:32
22	07:14 08:18-08:43/25 08:59-09:35/36 16:45 08:46-08:57/11	06:37 17:27	06:49 19:02	05:55 19:39	05:17 20:12	05:07 20:33
23	07:14 08:18-08:43/25 09:00-09:34/34 16:46 08:50-08:53/3	06:36 17:28	06:47 19:03	05:54 19:40	05:16 20:13	05:07 20:33
24	07:13 08:18-08:43/25 16:48 09:01-09:34/33	06:34 17:29	06:45 19:04	05:52 19:41	05:15 20:14	05:07 20:33
25	07:12 08:19-08:43/24 16:49 09:02-09:33/31	06:32 17:31	06:44 19:06	05:51 19:42	05:15 20:15	05:08 20:33
26	07:11 08:19-08:43/24 16:50 09:03-09:32/29	06:31 17:32	06:42 19:07	05:49 19:44	05:14 20:16	05:08 20:33
27	07:10 08:20-08:42/22 16:52 09:04-09:30/26	06:29 17:33	06:40 19:08	05:48 19:45	05:13 20:17	05:08 20:33
28	07:09 08:21-08:42/21 16:53 09:06-09:29/23	06:27 17:35	06:38 19:09	05:46 19:46	05:12 20:18	05:09 20:33
29	07:08 08:22-08:41/19 16:54 09:08-09:27/19		06:36 19:10	05:45 19:47	05:12 20:18	05:09 20:33
30	07:07 08:24-08:40/16 16:56 09:11-09:24/13		06:35 19:12	05:43 19:48	05:11 20:19	05:10 20:33
31	07:06 08:26-08:38/12 16:57		06:33 19:13		05:11 20:20	
Potential sun hours	290	294	369	402	455	461
Sum of minutes with flicker	2089	6	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

Project:
2013-09-11_Wild Meadows V112@94m

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9/11/2013 11:43 AM / 8

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EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** C-7 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (41)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	July	August	September	October	November	December
1	05:10	05:36	06:11	06:45	06:23	07:01 07:57-08:44/47
	20:33	20:13	19:25	18:30	16:40	16:13 08:44-09:16/32
2	05:11	05:37	06:12	06:46	06:24	07:02 07:59-08:45/46
	20:33	20:12	19:23	18:29	16:39	16:13 08:45-09:16/31
3	05:11	05:39	06:13	06:47	06:25	07:03 08:00-08:46/46
	20:33	20:10	19:21	18:27	16:37	16:12 08:46-09:18/32
4	05:12	05:40	06:14	06:48	06:27	07:04 08:01-08:46/45
	20:33	20:09	19:19	18:25	16:36	16:12 08:46-09:18/32
5	05:12	05:41	06:15	06:49	06:28	07:05 08:02-08:47/45
	20:33	20:08	19:18	18:23	16:35	16:12 08:47-09:18/31
6	05:13	05:42	06:16	06:50	06:29	07:06 08:03-08:47/44
	20:32	20:07	19:16	18:21	16:34	16:12 08:47-09:19/32
7	05:14	05:43	06:18	06:52	06:31	07:07 08:04-08:47/43
	20:32	20:05	19:14	18:20	16:32	16:11 08:47-09:19/32
8	05:14	05:44	06:19	06:53	06:32	07:08 08:05-08:48/43
	20:32	20:04	19:12	18:18	16:31	16:11 08:48-09:20/32
9	05:15	05:45	06:20	06:54	06:33	07:09 08:06-08:48/42
	20:31	20:03	19:11	18:16	16:30	16:11 08:48-09:20/32
10	05:16	05:46	06:21	06:55	06:34 08:00-08:07/7	07:10 08:08-08:17/9 08:49-09:21/32
	20:31	20:01	19:09	18:14	16:29	16:11 08:19-08:49/30
11	05:17	05:47	06:22	06:56	06:36 07:57-08:09/12	07:11 08:09-08:17/8 08:49-09:21/32
	20:30	20:00	19:07	18:13	16:28	16:11 08:19-08:49/30
12	05:17	05:48	06:23	06:58	06:37 07:56-08:12/16	07:11 08:10-08:15/5 08:49-09:21/32
	20:30	19:57	19:05	18:11	16:27 08:42-08:56/14	16:11 08:19-08:49/30
13	05:18	05:50	06:24	06:59	06:38 07:54-08:13/19	07:12 08:20-08:50/30
	20:29	19:56	19:03	18:09	16:26 08:40-08:59/19	16:12 08:50-09:21/31
14	05:19	05:51	06:25	07:00	06:40 07:53-08:14/21	07:13 08:20-08:50/30
	20:29	19:54	19:01	18:08	16:25 08:38-09:01/23	16:12 08:50-09:22/32
15	05:20	05:52	06:26	07:01	06:41 07:53-08:15/22	07:14 08:21-08:51/30
	20:28	19:53	19:00	18:06	16:24 08:37-09:03/26	16:12 08:51-09:22/31
16	05:21	05:53	06:28	07:02	06:42 07:52-08:16/24	07:15 08:22-08:52/30
	20:27	19:51	18:58	18:04	16:23 08:36-09:05/29	16:12 08:52-09:22/30
17	05:22	05:54	06:29	07:04	06:44 07:52-08:16/24	07:15 08:22-08:51/29
	20:27	19:50	18:56	18:03	16:22 08:35-09:06/31	16:12 08:51-09:23/32
18	05:22	05:55	06:30	07:05	06:45 07:52-08:17/25	07:16 08:23-08:52/29
	20:26	19:48	18:54	18:01	16:21 08:35-09:07/32	16:13 08:52-09:24/32
19	05:23	05:56	06:31	07:06	06:46 07:52-08:17/25 08:34-09:08/34	07:17 08:22-08:52/30
	20:25	19:46	18:52	17:59	16:20 08:24-08:27/3	16:13 08:52-09:24/32
20	05:24	05:57	06:32	07:07	06:47 07:53-08:18/25 08:33-09:09/36	07:17 08:23-08:53/30
	20:25	19:45	18:50	17:58	16:19 08:21-08:32/11	16:13 08:53-09:24/31
21	05:25	05:59	06:33	07:09	06:49 07:52-08:18/26 08:35-09:10/35	07:18 08:23-08:53/30
	20:24	19:43	18:49	17:56	16:18 08:19-08:35/16	16:14 08:53-09:24/31
22	05:26	06:00	06:34	07:10	06:50 07:52-08:36/44	07:18 08:24-08:54/30
	20:23	19:42	18:47	17:55	16:18 08:36-09:11/35	16:14 08:54-09:25/31
23	05:27	06:01	06:35	07:11	06:51 07:52-08:37/45	07:19 08:24-08:54/30
	20:22	19:40	18:45	17:53	16:17 08:37-09:11/34	16:15 08:54-09:25/31
24	05:28	06:02	06:37	07:12	06:52 07:53-08:39/46	07:19 08:25-08:55/30
	20:21	19:38	18:43	17:52	16:16 08:39-09:13/34	16:16 08:55-09:26/31
25	05:29	06:03	06:38	07:14	06:54 07:54-08:40/46	07:20 08:26-08:55/29
	20:20	19:37	18:41	17:50	16:16 08:40-09:13/33	16:16 08:55-09:27/32
26	05:30	06:04	06:39	07:15	06:55 07:54-08:40/46	07:20 08:26-08:55/29
	20:19	19:35	18:39	17:49	16:15 08:40-09:14/34	16:17 08:55-09:27/32
27	05:31	06:05	06:40	07:16	06:56 07:55-08:42/47	07:20 08:27-08:56/29
	20:18	19:33	18:38	17:47	16:15 08:42-09:15/33	16:17 08:56-09:28/32
28	05:32	06:06	06:41	07:18	06:57 07:56-08:43/47	07:21 08:27-08:57/30
	20:17	19:32	18:36	17:46	16:14 08:43-09:15/32	16:18 08:57-09:28/31
29	05:33	06:07	06:42	07:19	06:58 07:56-08:43/47	07:21 08:27-08:57/30
	20:16	19:30	18:34	17:44	16:14 08:43-09:16/33	16:19 08:57-09:29/32
30	05:34	06:09	06:43	07:20	06:59 07:57-08:43/46	07:21 08:28-08:57/29
	20:15	19:28	18:32	17:43	16:13 08:43-09:16/33	16:20 08:57-09:29/32
31	05:35	06:10		07:21		07:21 08:20-08:23/3 08:58-09:29/31
	20:14	19:26		17:41		16:20 08:28-08:58/30
Potential sun hours	467	433	376	342	291	279
Sum of minutes with flicker	0	0	0	0	1270	2059

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

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

Project:
2013-09-11_Wild Meadows V112@94m

Printed/Page
9/11/2013 11:43 AM / 9
Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** C-8 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (54)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June
1	07:21 16:22	07:05 08:05-08:17/12 16:58	06:26 07:03-07:35/32 17:36	06:31 19:14	05:42 19:49	05:10 20:21
2	07:21 16:22	07:04 08:07-08:14/7 17:00	06:24 07:02-07:33/31 17:37	06:29 19:15	05:40 19:51	05:10 20:22
3	07:22 16:23	07:03 17:01	06:23 07:01-07:24/23 17:38	06:28 19:16	05:39 19:52	05:09 20:23
4	07:22 16:24	07:02 17:03	06:21 07:00-07:24/24 17:40	06:26 19:17	05:38 19:53	05:09 20:23
5	07:21 16:25	07:01 17:04	06:19 07:00-07:24/24 17:41	06:24 19:19	05:36 19:54	05:08 20:24
6	07:21 16:26	07:00 17:05	06:17 06:59-07:24/25 17:42	06:22 19:20	05:35 19:55	05:08 20:25
7	07:21 16:27	06:58 17:07	06:16 07:00-07:24/24 17:44	06:20 19:21	05:34 19:56	05:07 20:26
8	07:21 16:28	06:57 17:08	07:14 08:00-08:23/23 18:45	06:19 19:22	05:32 19:58	05:07 20:26
9	07:21 08:02-08:05/3 16:29	06:56 17:09	07:12 08:00-08:22/22 18:46	06:17 19:23	05:31 19:59	05:07 20:27
10	07:21 08:00-08:08/8 16:31	06:55 17:11	07:10 08:00-08:21/21 18:47	06:15 19:25	05:30 20:00	05:07 20:28
11	07:20 07:59-08:09/10 16:32	06:53 17:12	07:09 08:02-08:20/18 18:49	06:14 19:26	05:29 20:00	05:06 20:28
12	07:20 07:58-08:11/13 16:33	06:52 17:13	07:07 08:03-08:18/15 18:50	06:12 19:27	05:27 20:01	05:06 20:29
13	07:20 07:57-08:12/15 16:34	06:50 17:15	07:05 08:05-08:14/9 18:51	06:10 19:28	05:26 20:02	05:06 20:29
14	07:19 07:57-08:14/17 16:35	06:49 17:16	07:03 18:52	06:08 19:29	05:25 20:03	05:06 20:30
15	07:19 07:57-08:14/17 16:36	06:48 07:27-07:32/5 17:17	07:02 18:53	06:07 19:31	05:24 20:04	05:06 20:30
16	07:18 07:57-08:16/19 16:38	06:46 07:24-07:36/12 17:19	07:00 18:55	06:05 19:32	05:23 20:05	05:06 20:31
17	07:18 07:56-08:16/20 16:39	06:45 07:21-07:37/16 17:20	06:58 18:56	06:03 19:33	05:22 20:06	05:06 20:31
18	07:17 07:57-08:18/21 16:40	06:43 07:21-07:39/18 17:22	06:56 18:57	06:02 19:34	05:21 20:08	05:06 20:32
19	07:16 07:57-08:18/21 16:41	06:42 07:19-07:40/21 17:23	06:54 18:58	06:00 19:35	05:20 20:09	05:06 20:32
20	07:16 07:56-08:19/23 16:43	06:40 07:19-07:41/22 17:24	06:53 19:00	05:58 19:36	05:19 20:10	05:06 20:32
21	07:15 07:56-08:19/23 16:44	06:39 07:18-07:41/23 17:25	06:51 19:01	05:57 19:38	05:18 20:11	05:07 20:32
22	07:14 07:57-08:20/23 16:45	06:37 07:18-07:42/24 17:27	06:49 19:02	05:55 19:39	05:17 20:12	05:07 20:33
23	07:14 07:57-08:20/23 16:46	06:36 07:17-07:41/24 17:28	06:47 19:03	05:54 19:40	05:16 20:13	05:07 20:33
24	07:13 07:57-08:20/23 16:48	06:34 07:17-07:40/23 17:29	06:45 19:04	05:52 19:41	05:15 20:14	05:07 20:33
25	07:12 07:58-08:20/22 16:49	06:32 07:18-07:41/23 17:31	06:44 19:06	05:51 19:42	05:15 20:15	05:08 20:33
26	07:11 07:58-08:20/22 16:50	06:31 07:10-07:17/7 17:32 07:18-07:40/22	06:42 19:07	05:49 19:44	05:14 20:16	05:08 20:33
27	07:10 07:59-08:20/21 16:52	06:29 07:06-07:38/32 17:33	06:40 19:08	05:48 19:45	05:13 20:17	05:08 20:33
28	07:09 07:59-08:20/21 16:53	06:28 07:05-07:38/33 17:35	06:38 19:09	05:46 19:46	05:12 20:18	05:09 20:33
29	07:08 08:00-08:19/19 16:54		06:36 19:10	05:45 19:47	05:12 20:18	05:09 20:33
30	07:07 08:01-08:19/18 16:56		06:35 19:12	05:43 19:48	05:11 20:19	05:10 20:33
31	07:06 08:03-08:18/15 16:57		06:33 19:13		05:11 20:20	
Potential sun hours	290	294	369	402	455	461
Sum of minutes with flicker	417	324	291	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

Project:

2013-09-11_Wild Meadows V112@94m

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9/11/2013 11:43 AM / 10

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EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** C-8 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (54)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	July	August	September	October	November	December
1	05:10	05:36	06:11	06:45 07:43-07:55/12	06:23	07:01 07:41-07:52/11
	20:33	20:13	19:25	18:30	16:40	16:13
2	05:11	05:37	06:12	06:46 07:41-07:58/17	06:24	07:02 07:43-07:51/8
	20:33	20:12	19:23	18:29	16:39	16:13
3	05:11	05:39	06:13	06:47 07:39-07:59/20	06:25	07:03 07:46-07:49/3
	20:33	20:10	19:21	18:27	16:37	16:12
4	05:12	05:40	06:14	06:48 07:38-07:59/21	06:27	07:04
	20:33	20:09	19:19	18:25	16:36	16:12
5	05:12	05:41	06:15	06:49 07:37-08:00/23	06:28	07:05
	20:33	20:08	19:18	18:23	16:35	16:12
6	05:13	05:42	06:16	06:50 07:36-08:00/24	06:29	07:06
	20:32	20:07	19:16	18:21	16:34	16:12
7	05:14	05:43	06:18	06:52 07:35-07:59/24	06:31	07:07
	20:32	20:05	19:14	18:20	16:32	16:11
8	05:14	05:44	06:19	06:53 07:35-08:00/25	06:32	07:08
	20:32	20:04	19:12	18:18	16:31	16:11
9	05:15	05:45	06:20	06:54 07:35-07:59/24	06:33 07:37-07:45/8	07:09
	20:31	20:03	19:11	18:16	16:30	16:11
10	05:16	05:46	06:21	06:55 07:35-07:59/24	06:34 07:35-07:48/13	07:10
	20:31	20:01	19:09	18:15	16:29	16:11
11	05:17	05:47	06:22	06:56 07:35-07:58/23	06:36 07:34-07:49/15	07:11
	20:30	20:00	19:07	18:13 07:59-08:04/5	16:28	16:11
12	05:17	05:48	06:23	06:58 07:36-08:08/32	06:37 07:33-07:51/18	07:11
	20:30	19:57	19:05	18:11	16:27	16:11
13	05:18	05:50	06:24	06:59 07:37-08:10/33	06:38 07:32-07:51/19	07:12
	20:29	19:56	19:03	18:09	16:26	16:12
14	05:19	05:51	06:25	07:00 07:38-08:10/32	06:40 07:31-07:52/21	07:13
	20:29	19:54	19:01	18:08	16:25	16:12
15	05:20	05:52	06:26	07:01 07:40-08:11/31	06:41 07:32-07:53/21	07:14
	20:28	19:53	19:00	18:06	16:24	16:12
16	05:21	05:53	06:28	07:02 07:50-08:12/22	06:42 07:31-07:53/22	07:15
	20:28	19:51	18:58	18:04	16:23	16:12
17	05:22	05:54	06:29	07:04 07:49-08:12/23	06:44 07:31-07:53/22	07:15
	20:27	19:50	18:56	18:03	16:22	16:12
18	05:22	05:55	06:30	07:05 07:48-08:12/24	06:45 07:31-07:54/23	07:16
	20:26	19:48	18:54	18:01	16:21	16:13
19	05:23	05:56	06:31	07:06 07:49-08:13/24	06:46 07:31-07:54/23	07:17
	20:25	19:46	18:52	17:59	16:20	16:13
20	05:24	05:57	06:32	07:07 07:49-08:12/23	06:47 07:32-07:55/23	07:17
	20:25	19:45	18:50	17:58	16:19	16:14
21	05:25	05:59	06:33	07:09 07:48-08:11/23	06:49 07:32-07:55/23	07:18
	20:24	19:43	18:49	17:56	16:19	16:14
22	05:26	06:00	06:34	07:10 07:50-08:11/21	06:50 07:32-07:55/23	07:18
	20:23	19:42	18:47	17:55	16:18	16:14
23	05:27	06:01	06:35	07:11 07:50-08:10/20	06:51 07:34-07:55/21	07:19
	20:22	19:40	18:45	17:53	16:17	16:15
24	05:28	06:02	06:37	07:12 07:50-08:08/18	06:52 07:34-07:55/21	07:19
	20:21	19:38	18:43	17:52	16:16	16:16
25	05:29	06:03	06:38	07:14 07:52-08:08/16	06:54 07:34-07:55/21	07:20
	20:20	19:37	18:41	17:50	16:16	16:16
26	05:30	06:04	06:39	07:15 07:54-08:05/11	06:55 07:35-07:54/19	07:20
	20:19	19:35	18:39	17:49	16:15	16:17
27	05:31	06:05	06:40	07:16	06:56 07:37-07:55/18	07:20
	20:18	19:33	18:38	17:47	16:15	16:17
28	05:32	06:06	06:41	07:18	06:57 07:37-07:54/17	07:21
	20:17	19:32	18:36	17:46	16:14	16:18
29	05:33	06:07	06:42	07:19	06:58 07:38-07:53/15	07:21
	20:16	19:30	18:34	17:44	16:14	16:19
30	05:34	06:09	06:43 07:47-07:52/5	07:20	06:59 07:39-07:53/14	07:21
	20:15	19:28	18:32	17:43	16:13	16:20
31	05:35	06:10		07:21		07:21
	20:14	19:26		17:41		16:20
Potential sun hours	467	433	376	342	291	279
Sum of minutes with flicker	0	0	5	595	420	22

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

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

Project:
2013-09-11_Wild Meadows V112@94m

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217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** C-9 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (48)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June
1	07:21 07:52-08:15/23 16:22	07:05 07:55-08:07/12 16:58	06:26 17:36	06:31 07:22-07:36/14 19:14	05:42 06:36-06:56/20 19:49	05:10 06:02-06:32/30 20:21
2	07:21 07:52-08:16/24 16:22	07:04 07:58-08:04/6 17:00	06:24 17:37	06:29 07:23-07:34/11 19:15	05:40 06:37-06:55/18 19:51	05:10 06:01-06:31/30 20:22
3	07:22 07:53-08:16/23 16:23	07:03 17:01	06:23 17:38	06:28 19:16	05:39 06:39-06:54/15 19:52	05:09 06:00-06:31/31 20:23
4	07:22 07:53-08:17/24 16:24	07:02 17:03	06:21 17:40	06:26 19:17	05:38 06:40-06:52/12 19:53	05:09 06:00-06:31/31 20:23
5	07:21 07:54-08:17/23 16:25	07:01 17:04	06:19 17:41	06:24 19:19	05:36 06:42-06:50/8 19:54	05:08 05:59-06:30/31 20:24
6	07:21 07:50-08:18/28 16:26	07:00 17:05	06:17 17:42	06:22 19:20	05:35 19:55	05:08 05:59-06:30/31 20:25
7	07:21 07:49-08:18/29 16:27	06:58 17:07	06:16 17:44	06:20 19:21	05:34 19:56	05:07 05:59-06:30/31 20:26
8	07:21 07:47-08:18/31 16:28	06:57 17:08	07:14 18:45	06:19 19:22	05:32 19:58	05:07 05:58-06:28/30 20:26
9	07:21 07:47-08:19/32 16:29	06:56 17:09	07:12 18:46	06:17 19:23	05:31 19:59	05:07 05:58-06:28/30 20:27
10	07:21 07:47-08:19/32 16:31	06:55 17:11	07:10 18:47	06:15 19:25	05:30 20:00	05:07 05:59-06:28/29 20:28
11	07:20 07:46-08:19/33 16:32	06:53 17:12	07:09 18:49	06:14 19:26	05:29 06:16-06:26/10 20:00	05:06 05:59-06:28/29 20:28
12	07:20 07:46-08:19/33 16:33	06:52 17:13	07:07 18:50	06:12 19:27	05:27 06:14-06:28/14 20:01	05:06 05:59-06:28/29 20:29
13	07:20 07:45-08:19/34 16:34	06:50 17:15	07:05 18:51	06:10 19:28	05:26 06:13-06:29/16 20:02	05:06 05:59-06:26/27 20:29 06:26-06:28/2
14	07:19 07:45-08:20/35 16:35	06:49 17:16	07:03 18:52	06:08 19:29	05:25 06:12-06:30/18 20:03	05:06 05:59-06:28/29 20:30
15	07:19 07:45-08:19/34 16:36	06:48 17:18	07:02 18:53	06:07 19:31	05:24 06:11-06:31/20 20:04	05:06 05:59-06:28/29 20:30
16	07:18 07:45-08:19/34 16:38	06:46 17:19	07:00 18:55	06:05 19:32	05:23 06:11-06:31/20 20:05	05:06 05:59-06:28/29 20:31
17	07:18 07:45-08:19/34 16:39	06:45 17:20	06:58 18:56	06:03 19:33	05:22 06:10-06:32/22 20:06	05:06 05:59-06:29/30 20:31
18	07:17 07:46-08:19/33 16:40	06:43 17:22	06:56 18:57	06:02 06:46-06:53/7 19:34	05:21 06:08-06:32/24 20:08	05:06 05:59-06:29/30 20:32
19	07:16 07:45-08:18/33 16:41	06:42 17:23	06:54 18:58	06:00 06:42-06:55/13 19:35	05:20 06:07-06:32/25 20:09	05:06 05:59-06:29/30 20:32
20	07:16 07:45-08:16/31 16:43	06:40 17:24	06:53 19:00	05:58 06:41-06:57/16 19:36	05:19 06:06-06:33/27 20:10	05:06 05:59-06:29/30 20:32
21	07:15 07:45-08:14/29 16:44	06:39 17:26	06:51 07:27-07:38/11 19:01	05:57 06:39-06:58/19 19:38	05:18 06:05-06:33/28 20:11	05:07 05:59-06:29/30 20:32
22	07:14 07:46-08:11/25 16:45	06:37 17:27	06:49 07:25-07:40/15 19:02	05:55 06:37-06:58/21 19:39	05:17 06:04-06:32/28 20:12	05:07 06:00-06:30/30 20:33
23	07:14 07:46-08:11/25 16:46	06:36 17:28	06:47 07:23-07:41/18 19:03	05:54 06:37-06:59/22 19:40	05:16 06:04-06:32/28 20:13	05:07 06:00-06:30/30 20:33
24	07:13 07:47-08:11/24 16:48	06:34 17:29	06:45 07:22-07:41/19 19:04	05:52 06:36-06:59/23 19:41	05:15 06:04-06:33/29 20:14	05:07 06:00-06:30/30 20:33
25	07:12 07:47-08:11/24 16:49	06:32 17:31	06:44 07:20-07:41/21 19:06	05:51 06:36-06:59/23 19:42	05:15 06:04-06:33/29 20:15	05:08 06:00-06:30/30 20:33
26	07:11 07:48-08:11/23 16:50	06:31 17:32	06:42 07:21-07:42/21 19:07	05:49 06:35-06:59/24 19:44	05:14 06:03-06:32/29 20:16	05:08 06:01-06:30/29 20:33
27	07:10 07:48-08:11/23 16:52	06:29 17:33	06:40 07:20-07:42/22 19:08	05:48 06:36-06:59/23 19:45	05:13 06:04-06:33/29 20:17	05:08 06:01-06:30/29 20:33
28	07:09 07:49-08:10/21 16:53	06:28 17:35	06:38 07:20-07:41/21 19:09	05:46 06:35-06:58/23 19:46	05:12 06:03-06:32/29 20:18	05:09 06:02-06:31/29 20:33
29	07:08 07:50-08:10/20 16:54		06:36 07:19-07:40/21 19:10	05:45 06:36-06:58/22 19:47	05:12 06:03-06:32/29 20:18	05:09 06:02-06:31/29 20:33
30	07:07 07:51-08:09/18 16:56		06:35 07:20-07:39/19 19:12	05:43 06:36-06:58/22 19:48	05:11 06:04-06:32/28 20:19	05:10 06:03-06:31/28 20:33 06:31-06:32/1
31	07:06 07:53-08:08/15 16:57		06:33 07:21-07:38/17 19:13		05:11 06:03-06:31/28 20:20	
Potential sun hours	290	294	369	402	455	461
Sum of minutes with flicker	850	18	205	283	583	893

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

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

Project:
2013-09-11_Wild Meadows V112@94m

Printed/Page
9/11/2013 11:43 AM / 12

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** C-9 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (48)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	July	August	September	October	November	December
1	05:10 06:03-06:32/29 20:33	05:36 06:26-06:38/12 20:13	06:11 19:25	06:45 18:30	06:23 16:40	07:01 07:28-08:01/33 16:13
2	05:11 06:04-06:33/29 20:33	05:38 06:28-06:35/7 20:12	06:12 19:23	06:46 18:29	06:24 16:39	07:02 07:30-08:02/32 16:13
3	05:11 06:03-06:33/30 20:33	05:39 20:10	06:13 19:21	06:47 18:27	06:25 16:37	07:03 07:31-08:03/32 16:12
4	05:12 06:04-06:34/30 20:33	05:40 20:09	06:14 19:19	06:48 18:25	06:27 16:36	07:04 07:32-08:03/31 16:12
5	05:12 06:04-06:35/31 20:33	05:41 20:08	06:15 19:18	06:49 18:23	06:28 16:35	07:05 07:34-08:04/30 16:12
6	05:13 06:05-06:36/31 20:32	05:42 20:07	06:16 19:16	06:50 18:22	06:29 16:34	07:06 07:35-08:04/29 16:12
7	05:14 06:06-06:37/31 20:32	05:43 20:05	06:18 19:14	06:52 18:20	06:31 16:32	07:07 07:41-08:04/23 16:11
8	05:14 06:06-06:37/31 20:32	05:44 06:51-07:00/9 20:04	06:19 19:12	06:53 18:18	06:32 16:31	07:08 07:41-08:05/24 16:11
9	05:15 06:07-06:38/31 20:31	05:45 06:49-07:02/13 20:03	06:20 19:11	06:54 18:16	06:33 07:27-07:34/7 16:30	07:09 07:42-08:05/23 16:11
10	05:16 06:08-06:39/31 20:31	05:46 06:47-07:03/16 20:01	06:21 07:17-07:27/10 19:09	06:55 18:15	06:34 07:25-07:38/13 16:29	07:10 07:42-08:06/24 16:11
11	05:17 06:09-06:39/30 20:30	05:47 06:46-07:04/18 20:00	06:22 07:14-07:28/14 19:07	06:56 18:13	06:36 07:23-07:39/16 16:28	07:11 07:43-08:06/23 16:11
12	05:17 06:10-06:39/29 20:30	05:48 06:45-07:05/20 19:57	06:23 07:12-07:29/17 19:05	06:58 18:11	06:37 07:23-07:41/18 16:27	07:11 07:42-08:06/24 16:11
13	05:18 06:12-06:40/28 20:29	05:50 06:44-07:05/21 19:56	06:24 07:11-07:30/19 19:03	06:59 18:09	06:38 07:22-07:42/20 16:26	07:12 07:43-08:06/23 16:12
14	05:19 06:12-06:41/29 20:29	05:51 06:43-07:06/23 19:54	06:25 07:10-07:30/20 19:01	07:00 18:08	06:40 07:21-07:42/21 16:25	07:13 07:44-08:07/23 16:12
15	05:20 06:13-06:42/29 20:28	05:52 06:43-07:06/23 19:53	06:26 07:09-07:30/21 19:00	07:01 18:06	06:41 07:21-07:44/23 16:24	07:14 07:45-08:07/22 16:12
16	05:21 06:12-06:41/29 20:28	05:53 06:42-07:06/24 19:51	06:28 07:09-07:31/22 18:58	07:02 18:04	06:42 07:20-07:44/24 16:23	07:15 07:45-08:08/23 16:12
17	05:22 06:13-06:42/29 20:27	05:54 06:42-07:05/23 19:50	06:29 07:09-07:30/21 18:56	07:04 18:03	06:44 07:20-07:44/24 16:22	07:15 07:45-08:08/23 16:12
18	05:22 06:13-06:42/29 20:26	05:55 06:42-07:05/23 19:48	06:30 07:09-07:30/21 18:54	07:05 18:01	06:45 07:21-07:45/24 16:21	07:16 07:46-08:09/23 16:13
19	05:23 06:13-06:42/29 20:25	05:56 06:43-07:06/23 19:46	06:31 07:09-07:29/20 18:52	07:06 17:59	06:46 07:20-07:45/25 16:20	07:17 07:46-08:08/22 16:13
20	05:24 06:14-06:43/29 20:25	05:57 06:43-07:05/22 19:45	06:32 07:09-07:27/18 18:50	07:07 17:58	06:47 07:21-07:46/25 16:19	07:17 07:47-08:09/22 16:14
21	05:25 06:15-06:43/28 20:24	05:59 06:43-07:04/21 19:43	06:33 07:10-07:26/16 18:49	07:09 17:56	06:49 07:21-07:50/29 16:19	07:18 07:47-08:09/22 16:14
22	05:26 06:15-06:43/28 20:23	06:00 06:44-07:03/19 19:42	06:34 07:11-07:23/12 18:47	07:10 17:55	06:50 07:21-07:52/31 16:18	07:18 07:48-08:10/22 16:14
23	05:27 06:16-06:43/27 20:22	06:01 06:45-07:01/16 19:40	06:35 07:14-07:20/6 18:45	07:11 17:53	06:51 07:21-07:54/33 16:17	07:19 07:48-08:10/22 16:15
24	05:28 06:17-06:43/26 20:21	06:02 06:46-06:59/13 19:38	06:37 18:43	07:12 17:52	06:52 07:23-07:56/33 16:16	07:19 07:49-08:11/22 16:16
25	05:29 06:18-06:43/25 20:20	06:03 06:49-06:55/6 19:37	06:38 18:41	07:14 17:50	06:54 07:23-07:57/34 16:16	07:20 07:49-08:12/23 16:16
26	05:30 06:19-06:43/24 20:19	06:04 19:35	06:39 18:39	07:15 17:49	06:55 07:23-07:57/34 16:15	07:20 07:49-08:12/23 16:17
27	05:31 06:20-06:41/21 20:18	06:05 19:33	06:40 18:38	07:16 17:47	06:56 07:25-07:59/34 16:15	07:20 07:50-08:13/23 16:17
28	05:32 06:20-06:41/21 20:17	06:06 19:32	06:41 18:36	07:18 17:46	06:57 07:25-08:00/35 16:14	07:21 07:50-08:13/23 16:18
29	05:33 06:21-06:40/19 20:16	06:08 19:30	06:42 18:34	07:19 17:44	06:58 07:26-08:00/34 16:14	07:21 07:51-08:14/23 16:19
30	05:34 06:22-06:39/17 20:15	06:09 19:28	06:43 18:32	07:20 17:43	06:59 07:27-08:01/34 16:13	07:21 07:51-08:14/23 16:20
31	05:35 06:24-06:39/15 20:14	06:10 19:26		07:21 17:41		07:21 07:51-08:14/23 16:20
Potential sun hours	467	433	376	342	291	279
Sum of minutes with flicker	845	352	237	0	571	758

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
9/11/2013 11:43 AM / 13

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** E-1 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (58)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:42	05:10	05:10	05:36	06:11	06:44	06:23	07:00
	16:21	16:58	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30	16:40	16:13
2	07:21	07:04	06:24	06:29	05:40	05:09	05:10	05:37	06:12	06:46	06:24	07:02
	16:22	17:00	17:37	19:15	19:50	20:22	20:33	20:11	19:23	18:28	16:39	16:12
3	07:21	07:03	06:22	06:27	05:39	05:09	05:11	05:38	06:13	06:47	06:25	07:03
	16:23	17:01	17:38	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37	16:12
4	07:21	07:02	06:21	06:26	05:37	05:08	05:12	05:39	06:14	06:48	06:26	07:04
	16:24	17:02	17:40	19:17	19:53	20:23	20:33	20:09	19:19	18:25	16:36	16:12
5	07:21	07:01	06:19	06:24	05:36	05:08	05:12	05:41	06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:18	19:54	20:24	20:32	20:08	19:18	18:23	16:35	16:12
6	07:21	06:59	06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:50	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25	20:32	20:06	19:16	18:21	16:33	16:11
7	07:21	06:58	06:16	06:20	05:33	05:07	05:14	05:43	06:17	06:51	06:30	07:07
	16:27	17:06	17:43	19:21	19:56	20:26	20:32	20:05	19:14	18:20	16:32	16:11
8	07:21	06:57	07:14	06:19	05:32	05:07	05:14	05:44	06:19	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:57	20:26	20:31	20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31	05:07	05:15	05:45	06:20	06:54	06:33	07:09
	16:29	17:09	18:46	19:23	19:59	20:27	20:31	20:03	19:10	18:16	16:30	16:11
10	07:20	06:54	07:10	06:15	05:30	05:07	05:16	05:46	06:21	06:55	06:34	07:10
	16:30	17:11	18:47	19:24	20:00	20:27	20:31	20:01	19:09	18:14	16:29	16:11
11	07:20	06:53	07:09	06:13	05:28	05:06	05:16	05:47	06:22	06:56	06:36	07:10
	16:31	17:12	18:48	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28	16:11
12	07:20	06:52	07:07	06:12	05:27	05:06	05:17	05:48	06:23	06:57	06:37	07:11
	16:33	17:13	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:27	16:11
13	07:19	06:50	07:05	06:10	05:26	05:06	05:18	05:49	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02	20:29	20:29	19:55	19:03	18:09	16:25	16:11
14	07:19	06:49	07:03	06:08	05:25	05:06	05:19	05:51	06:25	07:00	06:40	07:13
	16:35	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:08	16:24	16:12
15	07:19	06:47	07:01	06:07	05:24	05:06	05:20	05:52	06:26	07:01	06:41	07:14
	16:36	17:17	18:53	19:30	20:04	20:30	20:28	19:52	18:59	18:06	16:23	16:12
16	07:18	06:46	07:00	06:05	05:23	05:06	05:21	05:53	06:27	07:02	06:42	07:14
	16:37	17:19	18:55	19:32	20:05	20:31	20:27	19:51	18:58	18:04	16:23	16:12
17	07:18	06:45	06:58	06:03	05:22	05:06	05:21	05:54	06:29	07:04	06:43	07:15
	16:39	17:20	18:56	19:33	20:06	20:31	20:27	19:49	18:56	18:03	16:22	16:12
18	07:17	06:43	06:56	06:02	05:21	05:06	05:22	05:55	06:30	07:05	06:45	07:16
	16:40	17:21	18:57	19:34	20:07	20:31	20:26	19:48	18:54	18:01	16:21	16:13
19	07:16	06:42	06:54	06:00	05:20	05:06	05:23	05:56	06:31	07:06	06:46	07:16
	16:41	17:23	18:58	19:35	20:08	20:32	20:25	19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:53	05:58	05:19	05:06	05:24	05:57	06:32	07:07	06:47	07:17
	16:42	17:24	18:59	19:36	20:09	20:32	20:24	19:45	18:50	17:58	16:19	16:13
21	07:15	06:39	06:51	05:57	05:18	05:06	05:25	05:58	06:33	07:08	06:48	07:18
	16:44	17:25	19:01	19:37	20:11	20:32	20:24	19:43	18:48	17:56	16:18	16:14
22	07:14	06:37	06:49	05:55	05:17	05:07	05:26	05:59	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:12	20:33	20:23	19:41	18:47	17:55	16:18	16:14
23	07:13	06:35	06:47	05:54	05:16	05:07	05:27	06:01	06:35	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:45	05:52	05:15	05:07	05:28	06:02	06:36	07:12	06:52	07:19
	16:48	17:29	19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:51	16:16	16:15
25	07:12	06:32	06:44	05:50	05:14	05:07	05:29	06:03	06:38	07:14	06:53	07:19
	16:49	17:31	19:05	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14	05:08	05:30	06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:43	20:15	20:33	20:19	19:35	18:39	17:48	16:15	16:17
27	07:10	06:29	06:40	05:47	05:13	05:08	05:31	06:05	06:40	07:16	06:56	07:20
	16:52	17:33	19:08	19:45	20:16	20:33	20:18	19:33	18:37	17:47	16:15	16:17
28	07:09	06:27	06:38	05:46	05:12	05:09	05:32	06:06	06:41	07:17	06:57	07:20
	16:53	17:34	19:09	19:46	20:17	20:33	20:17	19:31	18:36	17:45	16:14	16:18
29	07:08		06:36	05:44	05:12	05:09	05:33	06:07	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:14	16:19
30	07:07		06:35	05:43	05:11	05:09	05:34	06:08	06:43	07:20	06:59	07:21
	16:56		19:11	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	16:20
31	07:06		06:33		05:10		05:35	06:10		07:21		07:21
	16:57		19:13		20:20		20:14	19:26		17:41		16:20
Potential sun hours	290	294	369	402	455	461	467	433	376	342	291	279
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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
9/11/2013 11:43 AM / 14

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** E-2 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (46)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:42	05:10	05:10	05:36	06:11	06:44	06:23	07:00
	16:21	16:58	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30	16:40	16:13
2	07:21	07:04	06:24	06:29	05:40	05:09	05:10	05:37	06:12	06:46	06:24	07:02
	16:22	17:00	17:37	19:15	19:50	20:22	20:33	20:11	19:23	18:28	16:39	16:12
3	07:21	07:03	06:22	06:27	05:39	05:09	05:11	05:38	06:13	06:47	06:25	07:03
	16:23	17:01	17:38	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37	16:12
4	07:21	07:02	06:21	06:26	05:37	05:08	05:12	05:39	06:14	06:48	06:26	07:04
	16:24	17:02	17:40	19:17	19:53	20:23	20:33	20:09	19:19	18:25	16:36	16:12
5	07:21	07:01	06:19	06:24	05:36	05:08	05:12	05:41	06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:18	19:54	20:24	20:32	20:08	19:18	18:23	16:35	16:12
6	07:21	06:59	06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:50	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25	20:32	20:06	19:16	18:21	16:33	16:11
7	07:21	06:58	06:16	06:20	05:33	05:07	05:14	05:43	06:17	06:51	06:30	07:07
	16:27	17:06	17:43	19:21	19:56	20:26	20:32	20:05	19:14	18:20	16:32	16:11
8	07:21	06:57	07:14	06:19	05:32	05:07	05:14	05:44	06:19	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:57	20:26	20:31	20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31	05:07	05:15	05:45	06:20	06:54	06:33	07:09
	16:29	17:09	18:46	19:23	19:59	20:27	20:31	20:03	19:10	18:16	16:30	16:11
10	07:20	06:54	07:10	06:15	05:30	05:06	05:16	05:46	06:21	06:55	06:34	07:10
	16:30	17:11	18:47	19:24	20:00	20:27	20:31	20:01	19:09	18:14	16:29	16:11
11	07:20	06:53	07:09	06:13	05:28	05:06	05:16	05:47	06:22	06:56	06:36	07:10
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12	07:20	06:52	07:07	06:12	05:27	05:06	05:17	05:48	06:23	06:57	06:37	07:11
	16:33	17:13	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:27	16:11
13	07:19	06:50	07:05	06:10	05:26	05:06	05:18	05:49	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02	20:29	20:29	19:55	19:03	18:09	16:25	16:11
14	07:19	06:49	07:03	06:08	05:25	05:06	05:19	05:51	06:25	07:00	06:40	07:13
	16:35	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:08	16:24	16:12
15	07:19	06:47	07:01	06:07	05:24	05:06	05:20	05:52	06:26	07:01	06:41	07:14
	16:36	17:17	18:53	19:30	20:04	20:30	20:28	19:52	18:59	18:06	16:23	16:12
16	07:18	06:46	07:00	06:05	05:23	05:06	05:21	05:53	06:27	07:02	06:42	07:14
	16:37	17:19	18:55	19:32	20:05	20:31	20:27	19:51	18:58	18:04	16:23	16:12
17	07:18	06:45	06:58	06:03	05:22	05:06	05:21	05:54	06:29	07:04	06:43	07:15
	16:39	17:20	18:56	19:33	20:06	20:31	20:27	19:49	18:56	18:03	16:22	16:12
18	07:17	06:43	06:56	06:02	05:21	05:06	05:22	05:55	06:30	07:05	06:45	07:16
	16:40	17:21	18:57	19:34	20:07	20:31	20:26	19:48	18:54	18:01	16:21	16:13
19	07:16	06:42	06:54	06:00	05:20	05:06	05:23	05:56	06:31	07:06	06:46	07:16
	16:41	17:23	18:58	19:35	20:08	20:32	20:25	19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:53	05:58	05:19	05:06	05:24	05:57	06:32	07:07	06:47	07:17
	16:42	17:24	18:59	19:36	20:10	20:32	20:24	19:45	18:50	17:58	16:19	16:13
21	07:15	06:39	06:51	05:57	05:18	05:06	05:25	05:58	06:33	07:08	06:48	07:18
	16:44	17:25	19:01	19:37	20:11	20:32	20:24	19:43	18:48	17:56	16:18	16:14
22	07:14	06:37	06:49	05:55	05:17	05:07	05:26	05:59	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:12	20:33	20:23	19:41	18:47	17:54	16:18	16:14
23	07:14	06:35	06:47	05:54	05:16	05:07	05:27	06:01	06:35	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:45	05:52	05:15	05:07	05:28	06:02	06:36	07:12	06:52	07:19
	16:48	17:29	19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:51	16:16	16:15
25	07:12	06:32	06:44	05:50	05:14	05:07	05:29	06:03	06:38	07:14	06:53	07:19
	16:49	17:31	19:05	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14	05:08	05:30	06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:43	20:16	20:33	20:19	19:35	18:39	17:48	16:15	16:17
27	07:10	06:29	06:40	05:47	05:13	05:08	05:31	06:05	06:40	07:16	06:56	07:20
	16:52	17:33	19:08	19:45	20:16	20:33	20:18	19:33	18:37	17:47	16:14	16:17
28	07:09	06:27	06:38	05:46	05:12	05:09	05:32	06:06	06:41	07:17	06:57	07:20
	16:53	17:34	19:09	19:46	20:17	20:33	20:17	19:31	18:36	17:45	16:14	16:18
29	07:08		06:36	05:44	05:12	05:09	05:33	06:07	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:14	16:19
30	07:07		06:35	05:43	05:11	05:09	05:34	06:08	06:43	07:20	06:59	07:21
	16:56		19:11	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	16:20
31	07:06		06:33		05:10		05:35	06:10		07:21		07:21
	16:57		19:13		20:20		20:14	19:26		17:41		16:20
Potential sun hours	290	294	369	402	455	461	467	433	376	342	291	279
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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
9/11/2013 11:43 AM / 15

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** E-3 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (45)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:42	05:10	05:10	05:36	06:11	06:44	06:23	07:00
	16:21	16:58	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30	16:40	16:13
2	07:21	07:04	06:24	06:29	05:40	05:09	05:10	05:37	06:12	06:46	06:24	07:02
	16:22	17:00	17:37	19:15	19:50	20:22	20:33	20:11	19:23	18:28	16:39	16:12
3	07:21	07:03	06:22	06:27	05:39	05:09	05:11	05:38	06:13	06:47	06:25	07:03
	16:23	17:01	17:38	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37	16:12
4	07:21	07:02	06:21	06:26	05:37	05:08	05:12	05:39	06:14	06:48	06:26	07:04
	16:24	17:02	17:40	19:17	19:53	20:23	20:33	20:09	19:19	18:25	16:36	16:12
5	07:21	07:01	06:19	06:24	05:36	05:08	05:12	05:41	06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:19	19:54	20:24	20:32	20:08	19:18	18:23	16:35	16:12
6	07:21	06:59	06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:50	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25	20:32	20:07	19:16	18:21	16:33	16:11
7	07:21	06:58	06:16	06:20	05:33	05:07	05:14	05:43	06:17	06:51	06:30	07:07
	16:27	17:06	17:43	19:21	19:56	20:26	20:32	20:05	19:14	18:20	16:32	16:11
8	07:21	06:57	07:14	06:19	05:32	05:07	05:14	05:44	06:18	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:57	20:26	20:31	20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31	05:07	05:15	05:45	06:20	06:54	06:33	07:09
	16:29	17:09	18:46	19:23	19:59	20:27	20:31	20:03	19:10	18:16	16:30	16:11
10	07:20	06:54	07:10	06:15	05:30	05:06	05:16	05:46	06:21	06:55	06:34	07:10
	16:30	17:11	18:47	19:24	20:00	20:27	20:31	20:01	19:09	18:14	16:29	16:11
11	07:20	06:53	07:09	06:13	05:28	05:06	05:16	05:47	06:22	06:56	06:36	07:10
	16:31	17:12	18:48	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28	16:11
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13	07:19	06:50	07:05	06:10	05:26	05:06	05:18	05:49	06:24	06:59	06:38	07:12
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16	07:18	06:46	07:00	06:05	05:23	05:06	05:21	05:53	06:27	07:02	06:42	07:14
	16:37	17:19	18:55	19:32	20:05	20:31	20:27	19:51	18:58	18:04	16:23	16:12
17	07:18	06:45	06:58	06:03	05:22	05:06	05:21	05:54	06:29	07:04	06:43	07:15
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18	07:17	06:43	06:56	06:02	05:21	05:06	05:22	05:55	06:30	07:05	06:45	07:16
	16:40	17:21	18:57	19:34	20:07	20:31	20:26	19:48	18:54	18:01	16:21	16:13
19	07:16	06:42	06:54	06:00	05:20	05:06	05:23	05:56	06:31	07:06	06:46	07:16
	16:41	17:23	18:58	19:35	20:08	20:32	20:25	19:46	18:52	17:59	16:20	16:13
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	16:42	17:24	18:59	19:36	20:10	20:32	20:24	19:45	18:50	17:58	16:19	16:13
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31	07:06		06:33		05:10		05:35	06:10		07:21		07:21
	16:57		19:13		20:20		20:14	19:26		17:41		16:20
Potential sun hours	290	294	369	402	455	461	467	433	376	342	291	279
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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
9/11/2013 11:43 AM / 16

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** E-4 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (44)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:42	05:10	05:10	05:36	06:11	06:44	06:23	07:00
	16:21	16:58	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30	16:40	16:13
2	07:21	07:04	06:24	06:29	05:40	05:09	05:10	05:37	06:12	06:46	06:24	07:02
	16:22	17:00	17:37	19:15	19:50	20:22	20:33	20:11	19:23	18:28	16:38	16:12
3	07:21	07:03	06:22	06:27	05:39	05:09	05:11	05:38	06:13	06:47	06:25	07:03
	16:23	17:01	17:38	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37	16:12
4	07:21	07:02	06:21	06:26	05:37	05:08	05:12	05:39	06:14	06:48	06:26	07:04
	16:24	17:02	17:40	19:17	19:53	20:23	20:33	20:09	19:19	18:25	16:36	16:12
5	07:21	07:01	06:19	06:24	05:36	05:08	05:12	05:41	06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:18	19:54	20:24	20:32	20:08	19:18	18:23	16:35	16:12
6	07:21	06:59	06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:50	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25	20:32	20:07	19:16	18:21	16:33	16:11
7	07:21	06:58	06:16	06:20	05:33	05:07	05:14	05:43	06:17	06:51	06:30	07:07
	16:27	17:06	17:43	19:21	19:56	20:26	20:32	20:05	19:14	18:20	16:32	16:11
8	07:21	06:57	07:14	06:19	05:32	05:07	05:14	05:44	06:18	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:57	20:26	20:31	20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31	05:07	05:15	05:45	06:20	06:54	06:33	07:09
	16:29	17:09	18:46	19:23	19:59	20:27	20:31	20:03	19:10	18:16	16:30	16:11
10	07:20	06:54	07:10	06:15	05:30	05:06	05:16	05:46	06:21	06:55	06:34	07:10
	16:30	17:11	18:47	19:24	20:00	20:27	20:31	20:01	19:09	18:14	16:29	16:11
11	07:20	06:53	07:09	06:13	05:28	05:06	05:16	05:47	06:22	06:56	06:36	07:10
	16:31	17:12	18:48	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28	16:11
12	07:20	06:52	07:07	06:12	05:27	05:06	05:17	05:48	06:23	06:57	06:37	07:11
	16:33	17:13	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:26	16:11
13	07:19	06:50	07:05	06:10	05:26	05:06	05:18	05:49	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02	20:29	20:29	19:55	19:03	18:09	16:25	16:11
14	07:19	06:49	07:03	06:08	05:25	05:06	05:19	05:51	06:25	07:00	06:40	07:13
	16:35	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:07	16:24	16:11
15	07:19	06:47	07:01	06:07	05:24	05:06	05:20	05:52	06:26	07:01	06:41	07:14
	16:36	17:17	18:53	19:30	20:04	20:30	20:28	19:52	18:59	18:06	16:23	16:12
16	07:18	06:46	07:00	06:05	05:23	05:06	05:21	05:53	06:27	07:02	06:42	07:14
	16:37	17:19	18:55	19:32	20:05	20:31	20:27	19:51	18:58	18:04	16:23	16:12
17	07:18	06:45	06:58	06:03	05:22	05:06	05:21	05:54	06:29	07:04	06:43	07:15
	16:39	17:20	18:56	19:33	20:06	20:31	20:27	19:49	18:56	18:03	16:22	16:12
18	07:17	06:43	06:56	06:02	05:21	05:06	05:22	05:55	06:30	07:05	06:45	07:16
	16:40	17:21	18:57	19:34	20:07	20:31	20:26	19:48	18:54	18:01	16:21	16:13
19	07:16	06:42	06:54	06:00	05:20	05:06	05:23	05:56	06:31	07:06	06:46	07:16
	16:41	17:23	18:58	19:35	20:08	20:32	20:25	19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:53	05:58	05:19	05:06	05:24	05:57	06:32	07:07	06:47	07:17
	16:42	17:24	18:59	19:36	20:10	20:32	20:24	19:45	18:50	17:58	16:19	16:13
21	07:15	06:39	06:51	05:57	05:18	05:06	05:25	05:58	06:33	07:08	06:48	07:18
	16:44	17:25	19:01	19:38	20:11	20:32	20:24	19:43	18:48	17:56	16:18	16:14
22	07:14	06:37	06:49	05:55	05:17	05:07	05:26	05:59	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:12	20:33	20:23	19:41	18:47	17:54	16:18	16:14
23	07:14	06:35	06:47	05:54	05:16	05:07	05:27	06:01	06:35	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:45	05:52	05:15	05:07	05:28	06:02	06:36	07:12	06:52	07:19
	16:48	17:29	19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:51	16:16	16:15
25	07:12	06:32	06:43	05:50	05:14	05:07	05:29	06:03	06:38	07:14	06:53	07:19
	16:49	17:31	19:05	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14	05:08	05:30	06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:43	20:16	20:33	20:19	19:35	18:39	17:48	16:15	16:17
27	07:10	06:29	06:40	05:47	05:13	05:08	05:31	06:05	06:40	07:16	06:56	07:20
	16:51	17:33	19:08	19:45	20:16	20:33	20:18	19:33	18:37	17:47	16:14	16:17
28	07:09	06:27	06:38	05:46	05:12	05:09	05:32	06:06	06:41	07:17	06:57	07:20
	16:53	17:34	19:09	19:46	20:17	20:33	20:17	19:31	18:36	17:45	16:14	16:18
29	07:08		06:36	05:44	05:12	05:09	05:33	06:07	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:14	16:19
30	07:07		06:35	05:43	05:11	05:09	05:34	06:08	06:43	07:20	06:59	07:21
	16:56		19:11	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	16:19
31	07:06		06:33		05:10		05:35	06:10		07:21		07:21
	16:57		19:13		20:20		20:14	19:26		17:41		16:20
Potential sun hours	290	294	369	402	455	461	467	433	376	342	291	279
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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
9/11/2013 11:43 AM / 17

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** E-5 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (51)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:41	05:10	05:10	05:36	06:11	06:44	06:23	07:00
	16:21	16:58	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30	16:40	16:13
2	07:21	07:04	06:24	06:29	05:40	05:09	05:10	05:37	06:12	06:46	06:24	07:02
	16:22	17:00	17:37	19:15	19:50	20:22	20:33	20:11	19:23	18:28	16:38	16:12
3	07:21	07:03	06:22	06:27	05:39	05:09	05:11	05:38	06:13	06:47	06:25	07:03
	16:23	17:01	17:38	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37	16:12
4	07:21	07:02	06:21	06:26	05:37	05:08	05:12	05:39	06:14	06:48	06:26	07:04
	16:24	17:02	17:40	19:17	19:53	20:23	20:33	20:09	19:19	18:25	16:36	16:12
5	07:21	07:01	06:19	06:24	05:36	05:08	05:12	05:41	06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:18	19:54	20:24	20:32	20:08	19:18	18:23	16:35	16:12
6	07:21	06:59	06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:50	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25	20:32	20:06	19:16	18:21	16:33	16:11
7	07:21	06:58	06:16	06:20	05:33	05:07	05:13	05:43	06:17	06:51	06:30	07:07
	16:27	17:06	17:43	19:21	19:56	20:26	20:32	20:05	19:14	18:20	16:32	16:11
8	07:21	06:57	07:14	06:19	05:32	05:07	05:14	05:44	06:18	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:57	20:26	20:31	20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31	05:07	05:15	05:45	06:20	06:54	06:33	07:09
	16:29	17:09	18:46	19:23	19:59	20:27	20:31	20:03	19:10	18:16	16:30	16:11
10	07:20	06:54	07:10	06:15	05:30	05:06	05:16	05:46	06:21	06:55	06:34	07:10
	16:30	17:11	18:47	19:24	20:00	20:27	20:31	20:01	19:09	18:14	16:29	16:11
11	07:20	06:53	07:09	06:13	05:28	05:06	05:16	05:47	06:22	06:56	06:36	07:10
	16:31	17:12	18:48	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28	16:11
12	07:20	06:52	07:07	06:12	05:27	05:06	05:17	05:48	06:23	06:57	06:37	07:11
	16:33	17:13	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:26	16:11
13	07:19	06:50	07:05	06:10	05:26	05:06	05:18	05:49	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02	20:29	20:29	19:55	19:03	18:09	16:25	16:11
14	07:19	06:49	07:03	06:08	05:25	05:06	05:19	05:50	06:25	07:00	06:40	07:13
	16:35	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:07	16:24	16:11
15	07:19	06:47	07:01	06:07	05:24	05:06	05:20	05:52	06:26	07:01	06:41	07:14
	16:36	17:17	18:53	19:30	20:04	20:30	20:28	19:52	18:59	18:06	16:23	16:12
16	07:18	06:46	07:00	06:05	05:23	05:06	05:20	05:53	06:27	07:02	06:42	07:14
	16:37	17:19	18:54	19:32	20:05	20:31	20:27	19:51	18:58	18:04	16:23	16:12
17	07:18	06:45	06:58	06:03	05:22	05:06	05:21	05:54	06:29	07:04	06:43	07:15
	16:39	17:20	18:56	19:33	20:06	20:31	20:27	19:49	18:56	18:02	16:22	16:12
18	07:17	06:43	06:56	06:02	05:21	05:06	05:22	05:55	06:30	07:05	06:45	07:16
	16:40	17:21	18:57	19:34	20:07	20:31	20:26	19:48	18:54	18:01	16:21	16:13
19	07:16	06:42	06:54	06:00	05:20	05:06	05:23	05:56	06:31	07:06	06:46	07:16
	16:41	17:23	18:58	19:35	20:08	20:32	20:25	19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:52	05:58	05:19	05:06	05:24	05:57	06:32	07:07	06:47	07:17
	16:42	17:24	18:59	19:36	20:10	20:32	20:24	19:45	18:50	17:58	16:19	16:13
21	07:15	06:39	06:51	05:57	05:18	05:06	05:25	05:58	06:33	07:08	06:48	07:18
	16:44	17:25	19:01	19:37	20:11	20:32	20:24	19:43	18:48	17:56	16:18	16:14
22	07:14	06:37	06:49	05:55	05:17	05:07	05:26	05:59	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:12	20:33	20:23	19:41	18:47	17:54	16:18	16:14
23	07:14	06:35	06:47	05:54	05:16	05:07	05:27	06:01	06:35	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:45	05:52	05:15	05:07	05:28	06:02	06:36	07:12	06:52	07:19
	16:47	17:29	19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:51	16:16	16:15
25	07:12	06:32	06:43	05:50	05:14	05:07	05:29	06:03	06:38	07:14	06:53	07:19
	16:49	17:31	19:05	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14	05:08	05:30	06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:43	20:16	20:33	20:19	19:35	18:39	17:48	16:15	16:17
27	07:10	06:29	06:40	05:47	05:13	05:08	05:31	06:05	06:40	07:16	06:56	07:20
	16:51	17:33	19:08	19:45	20:16	20:33	20:18	19:33	18:37	17:47	16:14	16:17
28	07:09	06:27	06:38	05:46	05:12	05:09	05:32	06:06	06:41	07:17	06:57	07:20
	16:53	17:34	19:09	19:46	20:17	20:33	20:17	19:31	18:36	17:45	16:14	16:18
29	07:08		06:36	05:44	05:12	05:09	05:33	06:07	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:13	16:19
30	07:07		06:34	05:43	05:11	05:09	05:34	06:08	06:43	07:20	06:59	07:21
	16:56		19:11	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	16:19
31	07:06		06:33		05:10		05:35	06:10		07:21		07:21
	16:57		19:13		20:20		20:14	19:26		17:41		16:20
Potential sun hours	290	294	369	402	455	461	467	433	376	342	291	279
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

Project:
2013-09-11_Wild Meadows V112@94m

Printed/Page
9/11/2013 11:43 AM / 18

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** E-6 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (49)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:41	05:10	05:10	05:36	06:11	06:44	06:23	07:00
	16:21	16:58	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30	16:40	16:13
2	07:21	07:04	06:24	06:29	05:40	05:09	05:10	05:37	06:12	06:46	06:24	07:02
	16:22	17:00	17:37	19:15	19:50	20:22	20:33	20:11	19:23	18:28	16:38	16:12
3	07:21	07:03	06:22	06:27	05:39	05:09	05:11	05:38	06:13	06:47	06:25	07:03
	16:23	17:01	17:38	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37	16:12
4	07:21	07:02	06:21	06:26	05:37	05:08	05:12	05:39	06:14	06:48	06:26	07:04
	16:24	17:02	17:40	19:17	19:53	20:23	20:33	20:09	19:19	18:25	16:36	16:12
5	07:21	07:01	06:19	06:24	05:36	05:08	05:12	05:41	06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:18	19:54	20:24	20:32	20:08	19:18	18:23	16:35	16:12
6	07:21	06:59	06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:50	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25	20:32	20:06	19:16	18:21	16:33	16:11
7	07:21	06:58	06:15	06:20	05:33	05:07	05:13	05:43	06:17	06:51	06:30	07:07
	16:27	17:06	17:43	19:21	19:56	20:26	20:32	20:05	19:14	18:20	16:32	16:11
8	07:21	06:57	07:14	06:19	05:32	05:07	05:14	05:44	06:18	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:57	20:26	20:31	20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31	05:07	05:15	05:45	06:20	06:54	06:33	07:09
	16:29	17:09	18:46	19:23	19:59	20:27	20:31	20:03	19:10	18:16	16:30	16:11
10	07:20	06:54	07:10	06:15	05:30	05:06	05:16	05:46	06:21	06:55	06:34	07:10
	16:30	17:11	18:47	19:24	20:00	20:27	20:31	20:01	19:09	18:14	16:29	16:11
11	07:20	06:53	07:09	06:13	05:28	05:06	05:16	05:47	06:22	06:56	06:36	07:10
	16:31	17:12	18:48	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28	16:11
12	07:20	06:52	07:07	06:12	05:27	05:06	05:17	05:48	06:23	06:57	06:37	07:11
	16:33	17:13	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:26	16:11
13	07:19	06:50	07:05	06:10	05:26	05:06	05:18	05:49	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02	20:29	20:29	19:55	19:03	18:09	16:25	16:11
14	07:19	06:49	07:03	06:08	05:25	05:06	05:19	05:50	06:25	07:00	06:40	07:13
	16:35	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:07	16:24	16:11
15	07:19	06:47	07:01	06:07	05:24	05:06	05:20	05:52	06:26	07:01	06:41	07:14
	16:36	17:17	18:53	19:30	20:04	20:30	20:28	19:52	18:59	18:06	16:23	16:12
16	07:18	06:46	07:00	06:05	05:23	05:06	05:20	05:53	06:27	07:02	06:42	07:14
	16:37	17:19	18:54	19:32	20:05	20:31	20:27	19:51	18:58	18:04	16:22	16:12
17	07:18	06:45	06:58	06:03	05:22	05:06	05:21	05:54	06:29	07:03	06:43	07:15
	16:39	17:20	18:56	19:33	20:06	20:31	20:27	19:49	18:56	18:02	16:22	16:12
18	07:17	06:43	06:56	06:02	05:21	05:06	05:22	05:55	06:30	07:05	06:45	07:16
	16:40	17:21	18:57	19:34	20:07	20:31	20:26	19:48	18:54	18:01	16:21	16:12
19	07:16	06:42	06:54	06:00	05:20	05:06	05:23	05:56	06:31	07:06	06:46	07:16
	16:41	17:23	18:58	19:35	20:08	20:32	20:25	19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:52	05:58	05:19	05:06	05:24	05:57	06:32	07:07	06:47	07:17
	16:42	17:24	18:59	19:36	20:09	20:32	20:24	19:45	18:50	17:58	16:19	16:13
21	07:15	06:39	06:51	05:57	05:18	05:06	05:25	05:58	06:33	07:08	06:48	07:18
	16:44	17:25	19:01	19:37	20:11	20:32	20:24	19:43	18:48	17:56	16:18	16:14
22	07:14	06:37	06:49	05:55	05:17	05:07	05:26	05:59	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:12	20:33	20:23	19:41	18:47	17:54	16:18	16:14
23	07:13	06:35	06:47	05:53	05:16	05:07	05:27	06:01	06:35	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:45	05:52	05:15	05:07	05:28	06:02	06:36	07:12	06:52	07:19
	16:47	17:29	19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:51	16:16	16:15
25	07:12	06:32	06:43	05:50	05:14	05:07	05:29	06:03	06:38	07:14	06:53	07:19
	16:49	17:31	19:05	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14	05:08	05:30	06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:43	20:16	20:33	20:19	19:35	18:39	17:48	16:15	16:17
27	07:10	06:29	06:40	05:47	05:13	05:08	05:31	06:05	06:40	07:16	06:56	07:20
	16:51	17:33	19:08	19:45	20:16	20:33	20:18	19:33	18:37	17:47	16:14	16:17
28	07:09	06:27	06:38	05:46	05:12	05:08	05:32	06:06	06:41	07:17	06:57	07:20
	16:53	17:34	19:09	19:46	20:17	20:33	20:17	19:31	18:36	17:45	16:14	16:18
29	07:08		06:36	05:44	05:12	05:09	05:33	06:07	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:13	16:19
30	07:07		06:34	05:43	05:11	05:09	05:34	06:08	06:43	07:20	06:59	07:21
	16:56		19:11	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	16:19
31	07:06		06:33		05:10		05:35	06:10		07:21		07:21
	16:57		19:13		20:20		20:14	19:26		17:41		16:20
Potential sun hours	290	294	369	402	455	461	467	433	376	342	291	279
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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
9/11/2013 11:43 AM / 19
Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** E-7 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (50)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May		June		July		August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:41		05:10	18:16-18:37/21	05:10	18:25-18:43/18	05:36	06:11	06:44	06:23	07:00
	16:21	16:58	17:36	19:14	19:49		20:21		20:33		20:13	19:25	18:30	16:40	16:13
2	07:21	07:04	06:24	06:29	05:40		05:09	18:17-18:38/21	05:10	18:24-18:43/19	05:37	06:12	06:46	06:24	07:01
	16:22	17:00	17:37	19:15	19:50		20:22		20:33		20:11	19:23	18:28	16:38	16:12
3	07:21	07:03	06:22	06:27	05:39		05:09	18:17-18:38/21	05:11	18:25-18:43/18	05:38	06:13	06:47	06:25	07:03
	16:23	17:01	17:38	19:16	19:52		20:23		20:33		20:10	19:21	18:27	16:37	16:12
4	07:21	07:02	06:21	06:26	05:37		05:08	18:17-18:38/21	05:12	18:24-18:43/19	05:39	06:14	06:48	06:26	07:04
	16:24	17:02	17:40	19:17	19:53		20:23		20:33		20:09	19:19	18:25	16:36	16:12
5	07:21	07:01	06:19	06:24	05:36		05:08	18:18-18:38/20	05:12	18:24-18:44/20	05:41	06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:18	19:54		20:24		20:32		20:08	19:18	18:23	16:35	16:12
6	07:21	06:59	06:17	06:22	05:35		05:08	18:18-18:39/21	05:13	18:25-18:45/20	05:42	06:16	06:50	06:29	07:06
	16:26	17:05	17:42	19:20	19:55		20:25		20:32		20:06	19:16	18:21	16:33	16:11
7	07:21	06:58	06:15	06:20	05:33		05:07	18:18-18:38/20	05:13	18:24-18:44/20	05:43	06:17	06:51	06:30	07:07
	16:27	17:06	17:43	19:21	19:56		20:26		20:32		20:05	19:14	18:20	16:32	16:11
8	07:21	06:57	07:14	06:19	05:32		05:07	18:19-18:38/19	05:14	18:24-18:45/21	05:44	06:18	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:57		20:26		20:31		20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31		05:07	18:19-18:38/19	05:15	18:25-18:46/21	05:45	06:20	06:54	06:33	07:09
	16:29	17:09	18:46	19:23	19:59		20:27		20:31		20:02	19:10	18:16	16:30	16:11
10	07:20	06:54	07:10	06:15	05:30		05:06	18:20-18:39/19	05:16	18:24-18:45/21	05:46	06:21	06:55	06:34	07:10
	16:30	17:10	18:47	19:24	20:00		20:27		20:31		20:01	19:09	18:14	16:29	16:11
11	07:20	06:53	07:09	06:13	05:28		05:06	18:21-18:39/18	05:16	18:24-18:46/22	05:47	06:22	06:56	06:36	07:10
	16:31	17:12	18:48	19:26	20:00		20:28		20:30		20:00	19:07	18:13	16:28	16:11
12	07:20	06:52	07:07	06:12	05:27		05:06	18:20-18:38/18	05:17	18:25-18:46/21	05:48	06:23	06:57	06:37	07:11
	16:33	17:13	18:50	19:27	20:01		20:29		20:30		19:57	19:05	18:11	16:26	16:11
13	07:19	06:50	07:05	06:10	05:26		05:06	18:21-18:38/17	05:18	18:25-18:46/21	05:49	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02		20:29		20:29		19:55	19:03	18:09	16:25	16:11
14	07:19	06:49	07:03	06:08	05:25		05:06	18:21-18:38/17	05:19	18:24-18:46/22	05:50	06:25	07:00	06:40	07:13
	16:35	17:16	18:52	19:29	20:03		20:30		20:29		19:54	19:01	18:07	16:24	16:11
15	07:19	06:47	07:01	06:07	05:24		05:06	18:21-18:38/17	05:20	18:24-18:46/22	05:52	06:26	07:01	06:41	07:14
	16:36	17:17	18:53	19:30	20:04		20:30		20:28		19:52	18:59	18:06	16:23	16:12
16	07:18	06:46	07:00	06:05	05:23		05:06	18:22-18:38/16	05:20	18:25-18:46/21	05:53	06:27	07:02	06:42	07:14
	16:37	17:19	18:54	19:32	20:05		20:31		20:27		19:51	18:58	18:04	16:22	16:12
17	07:18	06:45	06:58	06:03	05:22	18:22-18:29/7	05:06	18:22-18:38/16	05:21	18:25-18:46/21	05:54	06:28	07:03	06:43	07:15
	16:39	17:20	18:56	19:33	20:06		20:31		20:27		19:49	18:56	18:02	16:22	16:12
18	07:17	06:43	06:56	06:02	05:21	18:20-18:31/11	05:06	18:22-18:38/16	05:22	18:25-18:46/21	05:55	06:30	07:05	06:45	07:16
	16:40	17:21	18:57	19:34	20:07		20:31		20:26		19:48	18:54	18:01	16:21	16:12
19	07:16	06:42	06:54	06:00	05:20	18:18-18:32/14	05:06	18:23-18:39/16	05:23	18:26-18:46/20	05:56	06:31	07:06	06:46	07:16
	16:41	17:23	18:58	19:35	20:08		20:32		20:25		19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:52	05:58	05:19	18:17-18:33/16	05:06	18:23-18:39/16	05:24	18:26-18:46/20	05:57	06:32	07:07	06:47	07:17
	16:42	17:24	18:59	19:36	20:09		20:32		20:24		19:45	18:50	17:58	16:19	16:13
21	07:15	06:38	06:51	05:57	05:18	18:17-18:35/18	05:06	18:23-18:39/16	05:25	18:26-18:45/19	05:58	06:33	07:08	06:48	07:18
	16:44	17:25	19:01	19:37	20:11		20:32		20:24		19:43	18:48	17:56	16:18	16:14
22	07:14	06:37	06:49	05:55	05:17	18:17-18:35/18	05:07	18:23-18:39/16	05:26	18:26-18:44/18	05:59	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:12		20:33		20:23		19:41	18:47	17:54	16:18	16:14
23	07:13	06:35	06:47	05:53	05:16	18:16-18:35/19	05:07	18:23-18:39/16	05:27	18:27-18:44/17	06:01	06:35	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	20:13		20:33		20:22		19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:45	05:52	05:15	18:16-18:36/20	05:07	18:24-18:40/16	05:28	18:28-18:43/15	06:02	06:36	07:12	06:52	07:19
	16:47	17:29	19:04	19:41	20:14		20:33		20:21		19:38	18:43	17:51	16:16	16:15
25	07:12	06:32	06:43	05:50	05:14	18:16-18:37/21	05:07	18:24-18:40/16	05:29	18:29-18:42/13	06:03	06:38	07:14	06:53	07:19
	16:49	17:31	19:05	19:42	20:15		20:33		20:20		19:37	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14	18:16-18:37/21	05:08	18:24-18:40/16	05:30	18:31-18:41/10	06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:43	20:15		20:33		20:19		19:35	18:39	17:48	16:15	16:17
27	07:10	06:29	06:40	05:47	05:13	18:15-18:37/22	05:08	18:24-18:41/17	05:31	18:34-18:38/4	06:05	06:40	07:16	06:56	07:20
	16:51	17:33	19:08	19:45	20:16		20:33		20:18		19:33	18:37	17:47	16:14	16:17
28	07:09	06:27	06:38	05:46	05:12	18:16-18:38/22	05:08	18:24-18:41/17	05:32		06:06	06:41	07:17	06:57	07:20
	16:53	17:34	19:09	19:46	20:17		20:33		20:17		19:31	18:36	17:45	16:14	16:18
29	07:08		06:36	05:44	05:12	18:16-18:37/21	05:09	18:25-18:42/17	05:33		06:07	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18		20:33		20:16		19:30	18:34	17:44	16:13	16:19
30	07:07		06:34	05:43	05:11	18:15-18:37/22	05:09	18:24-18:42/18	05:34		06:08	06:43	07:20	06:59	07:21
	16:55		19:11	19:48	20:19		20:33		20:15		19:28	18:32	17:43	16:13	16:19
31	07:06		06:33		05:10	18:16-18:38/22			05:35		06:10		07:21		07:21
	16:57		19:13		20:20				20:14		19:26		17:41		16:20
Potential sun hours	290	294	369	402	455		461		467		433	376	342	291	279
Sum of minutes with flicker	0	0	0	0	274		534		504		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

Project:
2013-09-11_Wild Meadows V112@94m

Printed/Page
9/11/2013 11:43 AM / 20

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** E-8 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (52)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June
1	07:21 16:21	07:05 07:46-08:06/20 16:58	06:26 17:36	06:31 17:30-17:50/20 19:14	05:41 19:49	05:10 20:21
2	07:21 16:22	07:04 07:44-08:06/22 17:00	06:24 17:37	06:29 17:30-17:51/21 19:15	05:40 19:50	05:09 20:22
3	07:21 16:23	07:03 07:44-08:06/22 17:01	06:22 17:38	06:27 17:30-17:50/20 19:16	05:39 19:52	05:09 20:23
4	07:21 16:24	07:02 07:45-08:07/22 17:02	06:21 17:40	06:26 17:30-17:49/19 19:17	05:37 19:53	05:08 20:23
5	07:21 16:25	07:01 07:45-08:07/22 17:04	06:19 17:41	06:24 17:31-17:47/16 19:18	05:36 19:54	05:08 20:24
6	07:21 16:26	06:59 07:45-08:08/23 17:05	06:17 17:42	06:22 17:33-17:47/14 19:20	05:35 19:55	05:08 20:25
7	07:21 16:27	06:58 07:45-08:07/22 17:06	06:15 17:43	06:20 17:34-17:44/10 19:21	05:33 19:56	05:07 20:26
8	07:21 16:28	06:57 07:46-08:07/21 17:08	07:14 18:45	06:19 19:22	05:32 19:57	05:07 20:26
9	07:21 16:29	06:56 07:46-08:07/21 17:09	07:12 18:46	06:17 19:23	05:31 19:59	05:07 20:27
10	07:20 16:30	06:54 07:47-08:05/18 17:10	07:10 17:21-17:23/2 18:47	06:15 19:24	05:30 20:00	05:06 20:27
11	07:20 16:31	06:53 07:48-08:04/16 17:12	07:09 17:16-17:27/11 18:48	06:13 19:26	05:28 20:00	05:06 20:28
12	07:20 16:33	06:52 07:49-08:02/13 17:13	07:07 17:15-17:30/15 18:50	06:12 19:27	05:27 20:01	05:06 20:29
13	07:19 16:34	06:50 07:52-08:00/8 17:15	07:05 17:13-17:30/17 18:51	06:10 19:28	05:26 20:02	05:06 20:29
14	07:19 16:35	06:49 17:16	07:03 17:12-17:31/19 18:52	06:08 19:29	05:25 20:03	05:06 20:30
15	07:19 16:36	06:47 17:17	07:01 17:11-17:31/20 18:53	06:06 19:30	05:24 20:04	05:06 20:30
16	07:18 16:37	06:46 17:19	07:00 17:10-17:31/21 18:54	06:05 19:32	05:23 20:05	05:06 20:31
17	07:18 16:39	06:45 17:20	06:58 17:11-17:31/20 18:56	06:03 19:33	05:22 20:06	05:06 20:31
18	07:17 16:40	06:43 17:21	06:56 17:11-17:31/20 18:57	06:02 19:34	05:21 20:07	05:06 20:31
19	07:16 16:41	06:42 17:23	06:54 17:11-17:30/19 18:58	06:00 19:35	05:20 20:08	05:06 20:32
20	07:16 16:42	06:40 17:24	06:52 17:11-17:28/17 18:59	05:58 19:36	05:19 20:09	05:06 20:32
21	07:15 16:44	06:39 17:25	06:51 17:12-17:27/15 19:01	05:57 19:37	05:18 20:11	05:06 20:32
22	07:14 16:45	06:37 17:27	06:49 17:15-17:25/10 19:02	05:55 19:39	05:17 20:12	05:07 20:33
23	07:13 16:46	06:35 17:28	06:47 19:03	05:53 19:40	05:16 20:13	05:07 20:33
24	07:13 16:47	06:34 17:29	06:45 19:04	05:52 19:41	05:15 20:14	05:07 20:33
25	07:12 16:49	06:32 17:31	06:43 19:05	05:50 19:42	05:14 20:15	05:07 20:33
26	07:11 16:50	06:31 17:32	06:42 17:38-17:46/8 19:07	05:49 19:43	05:14 20:15	05:08 20:33
27	07:10 07:51-07:58/7 16:51	06:29 17:33	06:40 17:35-17:48/13 19:08	05:47 19:45	05:13 20:16	05:08 20:33
28	07:09 07:49-08:01/12 16:53	06:27 17:34	06:38 17:34-17:50/16 19:09	05:46 19:46	05:12 20:17	05:08 20:33
29	07:08 07:48-08:02/14 16:54		06:36 17:32-17:51/19 19:10	05:44 19:47	05:12 20:18	05:09 20:33
30	07:07 07:47-08:04/17 16:55		06:34 17:31-17:51/20 19:11	05:43 19:48	05:11 20:19	05:09 20:33
31	07:06 07:46-08:05/19 16:57		06:33 17:30-17:51/21 19:13		05:10 20:20	
Potential sun hours	290	294	369	402	455	461
Sum of minutes with flicker	69	250	303	120	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

Project:
2013-09-11_Wild Meadows V112@94m

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9/11/2013 11:43 AM / 21

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** E-8 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (52)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	July	August	September	October	November	December
1	05:10 20:33	05:36 20:13	06:11 19:25	06:44 16:53-17:09/16 18:30	06:23 07:16-07:35/19 16:40	07:00 16:13
2	05:10 20:33	05:37 20:11	06:12 19:23	06:46 16:54-17:07/13 18:28	06:24 07:15-07:35/20 16:38	07:02 16:12
3	05:11 20:33	05:38 20:10	06:13 19:21	06:47 16:56-17:04/8 18:27	06:25 07:15-07:37/22 16:37	07:03 16:12
4	05:12 20:33	05:39 20:09	06:14 19:19	06:48 18:25	06:26 07:15-07:37/22 16:36	07:04 16:12
5	05:12 20:32	05:40 20:08	06:15 17:31-17:40/9 19:18	06:49 18:23	06:28 07:15-07:37/22 16:35	07:05 16:12
6	05:13 20:32	05:42 20:06	06:16 17:28-17:42/14 19:16	06:50 18:21	06:29 07:15-07:37/22 16:33	07:06 16:11
7	05:13 20:32	05:43 20:05	06:17 17:27-17:43/16 19:14	06:51 18:20	06:30 07:14-07:37/23 16:32	07:07 16:11
8	05:14 20:31	05:44 20:04	06:18 17:26-17:44/18 19:12	06:53 18:18	06:32 07:15-07:37/22 16:31	07:08 16:11
9	05:15 20:31	05:45 20:02	06:20 17:24-17:44/20 19:10	06:54 18:16	06:33 07:15-07:37/22 16:30	07:09 16:11
10	05:16 20:31	05:46 20:01	06:21 17:24-17:44/20 19:09	06:55 18:14	06:34 07:17-07:37/20 16:29	07:10 16:11
11	05:16 20:30	05:47 20:00	06:22 17:23-17:43/20 19:07	06:56 18:13	06:36 07:17-07:36/19 16:28	07:10 16:11
12	05:17 20:30	05:48 19:57	06:23 17:22-17:43/21 19:05	06:57 18:11	06:37 07:18-07:35/17 16:26	07:11 16:11
13	05:18 20:29	05:49 19:55	06:24 17:22-17:42/20 19:03	06:59 18:09	06:38 07:20-07:34/14 16:25	07:12 16:11
14	05:19 20:29	05:50 19:54	06:25 17:22-17:41/19 19:01	07:00 18:07	06:40 07:21-07:32/11 16:24	07:13 16:11
15	05:20 20:28	05:52 19:52	06:26 17:23-17:40/17 18:59	07:01 18:06	06:41 07:24-07:31/7 16:23	07:14 16:12
16	05:20 20:27	05:53 19:51	06:27 17:24-17:38/14 18:58	07:02 18:04	06:42 16:22	07:14 16:12
17	05:21 20:27	05:54 19:49	06:28 17:25-17:35/10 18:56	07:03 18:02	06:43 16:22	07:15 16:12
18	05:22 20:26	05:55 19:48	06:30 18:54	07:05 18:01	06:45 16:21	07:16 16:12
19	05:23 20:25	05:56 19:46	06:31 18:52	07:06 17:59	06:46 16:20	07:16 16:13
20	05:24 20:24	05:57 19:45	06:32 18:50	07:07 17:58	06:47 16:19	07:17 16:13
21	05:25 20:24	05:58 19:43	06:33 17:01-17:10/9 18:48	07:08 17:56	06:48 16:18	07:18 16:14
22	05:26 20:23	05:59 19:41	06:34 16:58-17:12/14 18:47	07:10 17:54	06:50 16:18	07:18 16:14
23	05:27 20:22	06:01 19:40	06:35 16:56-17:13/17 18:45	07:11 17:53	06:51 16:17	07:19 16:15
24	05:28 20:21	06:02 19:38	06:36 16:54-17:13/19 18:43	07:12 17:51	06:52 16:16	07:19 16:15
25	05:29 20:20	06:03 19:37	06:38 16:53-17:13/20 18:41	07:14 17:50	06:53 16:16	07:19 16:16
26	05:30 20:19	06:04 19:35	06:39 16:52-17:13/21 18:39	07:15 17:48	06:55 16:15	07:20 16:17
27	05:31 20:18	06:05 19:33	06:40 16:52-17:12/20 18:37	07:16 17:47	06:56 16:14	07:20 16:17
28	05:32 20:17	06:06 19:31	06:41 16:52-17:13/21 18:36	07:17 17:45	06:57 16:14	07:20 16:18
29	05:33 20:16	06:07 19:30	06:42 16:52-17:12/20 18:34	07:19 08:21-08:31/10 17:44	06:58 16:13	07:21 16:19
30	05:34 20:15	06:08 19:28	06:43 16:52-17:10/18 18:32	07:20 08:18-08:32/14 17:43	06:59 16:13	07:21 16:19
31	05:35 20:14	06:10 19:26		07:21 08:18-08:34/16 17:41		07:21 16:20
Potential sun hours	467	433	376	342	291	279
Sum of minutes with flicker	0	0	397	77	282	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

Project:

2013-09-11_Wild Meadows V112@94m

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9/11/2013 11:43 AM / 22

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** G-1 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (59)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21 16:21	07:05 14:10-14:51/41 16:58	06:26 17:36	06:31 19:14	05:42 19:49	05:10 20:21	05:10 20:33	05:36 20:13	06:11 19:25	06:45 18:30	06:23 13:45-14:18/33 16:40	07:01 16:13
2	07:21 16:22	07:04 14:10-14:50/40 17:00	06:24 17:37	06:29 19:15	05:40 19:51	05:09 20:22	05:11 20:33	05:37 20:12	06:12 19:23	06:46 18:29	06:24 13:43-14:18/35 16:39	07:02 16:12
3	07:21 16:23	07:03 14:10-14:51/41 17:01	06:22 17:38	06:27 19:16	05:39 19:52	05:09 20:23	05:11 20:33	05:38 20:10	06:13 19:21	06:47 18:27	06:25 13:43-14:20/37 16:37	07:03 16:12
4	07:21 16:24	07:02 14:11-14:51/40 17:02	06:21 17:40	06:26 19:17	05:37 19:53	05:08 20:23	05:12 20:33	05:40 20:09	06:14 19:19	06:48 18:25	06:27 13:42-14:20/38 16:36	07:04 16:12
5	07:21 16:25	07:01 14:12-14:51/39 17:04	06:19 17:41	06:24 19:19	05:36 19:54	05:08 20:24	05:12 20:32	05:41 20:08	06:15 19:18	06:49 18:23	06:28 13:42-14:21/39 16:35	07:05 16:12
6	07:21 16:26	06:59 14:12-14:51/39 17:05	06:17 17:42	06:22 19:20	05:35 19:55	05:08 20:25	05:13 20:32	05:42 20:07	06:16 19:16	06:50 18:21	06:29 13:41-14:21/40 16:33	07:06 16:11
7	07:21 16:27	06:58 14:12-14:50/38 17:07	06:16 17:43	06:20 19:21	05:33 19:56	05:07 20:26	05:14 20:32	05:43 20:05	06:17 19:14	06:52 18:20	06:30 13:41-14:21/40 16:32	07:07 16:11
8	07:21 16:28	06:57 14:14-14:50/36 17:08	07:14 18:45	06:19 19:22	05:32 19:58	05:07 20:26	05:14 20:32	05:44 20:04	06:19 19:12	06:53 18:18	06:32 13:41-14:21/40 16:31	07:08 16:11
9	07:21 16:29	06:56 14:15-14:49/34 17:09	07:12 18:46	06:17 19:23	05:31 19:59	05:07 20:27	05:15 20:31	05:45 20:03	06:20 19:10	06:54 18:16	06:33 13:41-14:21/40 16:30	07:09 16:11
10	07:21 16:30	06:54 14:15-14:48/33 17:11	07:10 18:47	06:15 19:25	05:30 20:00	05:07 20:28	05:16 20:31	05:46 20:01	06:21 19:09	06:55 18:14	06:34 13:41-14:22/41 16:29	07:10 16:11
11	07:20 16:32	06:53 14:17-14:48/31 17:12	07:09 18:48	06:13 19:26	05:28 20:00	05:06 20:28	05:16 20:30	05:47 20:00	06:22 19:07	06:56 18:13	06:36 13:41-14:21/40 16:28	07:11 16:11
12	07:20 14:20-14:29/9 16:33	06:52 14:19-14:47/28 17:13	07:07 18:50	06:12 19:27	05:27 20:01	05:06 20:29	05:17 20:30	05:48 19:57	06:23 19:05	06:58 18:11	06:37 13:41-14:21/40 16:27	07:11 16:11
13	07:20 14:17-14:31/14 16:34	06:50 14:20-14:45/25 17:15	07:05 18:51	06:10 19:28	05:26 20:02	05:06 20:29	05:18 20:29	05:49 19:56	06:24 19:03	06:59 18:09	06:38 13:42-14:22/40 16:26	07:12 16:11
14	07:19 14:16-14:34/18 16:35	06:49 14:23-14:43/20 17:16	07:03 18:52	06:08 19:29	05:25 20:03	05:06 20:30	05:19 20:29	05:51 19:54	06:25 19:01	07:00 18:08	06:40 13:42-14:21/39 16:25	07:13 16:12
15	07:19 14:15-14:35/20 16:36	06:48 14:26-14:40/14 17:17	07:02 18:53	06:07 19:30	05:24 20:04	05:06 20:30	05:20 20:28	05:52 19:53	06:26 19:00	07:01 18:06	06:41 13:43-14:21/38 16:24	07:14 16:12
16	07:18 14:14-14:37/23 16:37	06:46 17:19	07:00 18:55	06:05 19:32	05:23 20:05	05:06 20:31	05:21 20:27	05:53 19:51	06:27 18:58	07:02 18:04	06:42 13:43-14:21/38 16:23	07:15 16:12
17	07:18 14:13-14:38/25 16:39	06:45 17:20	06:58 18:56	06:03 19:33	05:22 20:06	05:06 20:31	05:21 20:27	05:54 19:49	06:29 18:56	07:04 18:03	06:43 13:43-14:20/37 16:22	07:15 16:12
18	07:17 14:12-14:39/27 16:40	06:43 17:21	06:56 18:57	06:02 19:34	05:21 20:07	05:06 20:31	05:22 20:26	05:55 19:48	06:30 18:54	07:05 18:01	06:45 13:44-14:21/37 16:21	07:16 16:13
19	07:16 14:12-14:41/29 16:41	06:42 17:23	06:54 18:58	06:00 19:35	05:20 20:09	05:06 20:32	05:23 20:25	05:56 19:46	06:31 18:52	07:06 17:59	06:46 13:45-14:20/35 16:20	07:17 16:13
20	07:16 14:11-14:42/31 16:42	06:40 17:24	06:53 18:59	05:58 19:36	05:19 20:10	05:06 20:32	05:24 20:25	05:57 19:45	06:32 18:50	07:07 17:58	06:47 13:45-14:19/34 16:19	07:17 16:13
21	07:15 14:11-14:43/32 16:44	06:39 17:25	06:51 19:01	05:57 19:38	05:18 20:11	05:06 20:32	05:25 20:24	05:58 19:43	06:33 18:49	07:09 17:56	06:49 13:47-14:19/32 16:18	07:18 16:14
22	07:14 14:10-14:44/34 16:45	06:37 17:27	06:49 19:02	05:55 19:39	05:17 20:12	05:07 20:33	05:26 20:23	06:00 19:42	06:34 18:47	07:10 17:55	06:50 13:47-14:18/31 16:18	07:18 16:14
23	07:14 14:11-14:46/35 16:46	06:35 17:28	06:47 19:03	05:54 19:40	05:16 20:13	05:07 20:33	05:27 20:22	06:01 19:40	06:35 18:45	07:11 17:53	06:51 13:48-14:18/30 16:17	07:19 16:15
24	07:13 14:10-14:47/37 16:48	06:34 17:29	06:45 19:04	05:52 19:41	05:15 20:14	05:07 20:33	05:28 20:21	06:02 19:38	06:36 18:43	07:12 17:51	06:52 13:50-14:18/28 16:16	07:19 16:15
25	07:12 14:10-14:47/37 16:49	06:32 17:31	06:44 19:05	05:50 19:42	05:15 20:15	05:07 20:33	05:29 20:20	06:03 19:37	06:38 18:41	07:14 17:50	06:54 13:51-14:17/26 16:16	07:20 16:16
26	07:11 14:10-14:48/38 16:50	06:31 17:32	06:42 19:07	05:49 19:44	05:14 20:16	05:08 20:33	05:30 20:19	06:04 19:35	06:39 18:39	07:15 15:01-15:05/4 17:48	06:55 13:52-14:15/23 16:15	07:20 16:17
27	07:10 14:10-14:49/39 16:52	06:29 17:33	06:40 19:08	05:47 19:45	05:13 20:17	05:08 20:33	05:31 20:18	06:05 19:33	06:40 18:38	07:16 14:55-15:10/15 17:47	06:56 13:54-14:14/20 16:15	07:20 16:17
28	07:09 14:10-14:49/39 16:53	06:27 17:35	06:38 19:09	05:46 19:46	05:12 20:17	05:09 20:33	05:32 20:17	06:06 19:32	06:41 18:36	07:17 14:51-15:12/21 17:46	06:57 13:56-14:14/18 16:14	07:21 16:18
29	07:08 14:10-14:50/40 16:54		06:36 19:10	05:44 19:47	05:12 20:18	05:09 20:33	05:33 20:16	06:07 19:30	06:42 18:34	07:19 14:50-15:15/25 17:44	06:58 13:58-14:12/14 16:14	07:21 16:19
30	07:07 14:10-14:50/40 16:56		06:35 19:11	05:43 19:48	05:11 20:19	05:09 20:33	05:34 20:15	06:09 19:28	06:43 18:32	07:20 14:47-15:16/29 17:43	06:59 14:01-14:10/9 16:13	07:21 16:20
31	07:06 14:10-14:51/41 16:57		06:33 19:13		05:10 20:20		05:35 20:14	06:10 19:26		07:21 14:47-15:17/30 17:41		07:21 16:20
Potential sun hours	290	294	369	402	455	461	467	433	376	342	291	279
Sum of minutes with flicker	608	499	0	0	0	0	0	0	0	124	992	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

Project:

2013-09-11_Wild Meadows V112@94m

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9/11/2013 11:43 AM / 23

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EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** G-2 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (60)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January		February	March	April	May	June	July	August	September	October	November	December	
1	07:21	13:48-14:11/23	07:05	06:26	06:31	05:42	05:10	05:10	05:36	06:11	06:45	06:23	07:00	
	16:21		16:58	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30	16:40	16:13	
2	07:21	13:49-14:11/22	07:04	06:24	06:29	05:40	05:09	05:11	05:37	06:12	06:46	06:24	07:02	13:44-13:48/4
	16:22		17:00	17:37	19:15	19:51	20:22	20:33	20:12	19:23	18:29	16:39	16:12	
3	07:21	13:50-14:11/21	07:03	06:22	06:27	05:39	05:09	05:11	05:38	06:13	06:47	06:25	07:03	13:43-13:52/9
	16:23		17:01	17:38	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37	16:12	
4	07:21	13:51-14:11/20	07:02	06:21	06:26	05:37	05:08	05:12	05:40	06:14	06:48	06:27	07:04	13:41-13:54/13
	16:24		17:02	17:40	19:17	19:53	20:23	20:33	20:09	19:19	18:25	16:36	16:12	
5	07:21	13:52-14:11/19	07:01	06:19	06:24	05:36	05:08	05:12	05:41	06:15	06:49	06:28	07:05	13:40-13:56/16
	16:25		17:04	17:41	19:19	19:54	20:24	20:32	20:08	19:18	18:23	16:35	16:12	
6	07:21	13:53-14:11/18	06:59	06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:50	06:29	07:06	13:39-13:57/18
	16:26		17:05	17:42	19:20	19:55	20:25	20:32	20:07	19:16	18:21	16:33	16:11	
7	07:21	13:55-14:11/16	06:58	06:16	06:20	05:33	05:07	05:14	05:43	06:17	06:52	06:30	07:07	13:39-13:58/19
	16:27		17:07	17:43	19:21	19:56	20:26	20:32	20:05	19:14	18:20	16:32	16:11	
8	07:21	13:56-14:09/13	06:57	07:14	06:19	05:32	05:07	05:14	05:44	06:19	06:53	06:32	07:08	13:39-13:59/20
	16:28		17:08	18:45	19:22	19:58	20:26	20:32	20:04	19:12	18:18	16:31	16:11	
9	07:21	13:58-14:08/10	06:56	07:12	06:17	05:31	05:07	05:15	05:45	06:20	06:54	06:33	07:09	13:39-14:00/21
	16:29		17:09	18:46	19:23	19:59	20:27	20:31	20:03	19:10	18:16	16:30	16:11	
10	07:21	14:02-14:06/4	06:54	07:10	06:15	05:30	05:07	05:16	05:46	06:21	06:55	06:34	07:10	13:39-14:01/22
	16:30		17:11	18:47	19:25	20:00	20:28	20:31	20:01	19:09	18:14	16:29	16:11	
11	07:20		06:53	07:09	06:13	05:28	05:06	05:16	05:47	06:22	06:56	06:36	07:11	13:38-14:01/23
	16:32		17:12	18:48	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28	16:11	
12	07:20		06:52	07:07	06:12	05:27	05:06	05:17	05:48	06:23	06:58	06:37	07:11	13:38-14:02/24
	16:33		17:13	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:27	16:11	
13	07:20		06:50	07:05	06:10	05:26	05:06	05:18	05:49	06:24	06:59	06:38	07:12	13:38-14:03/25
	16:34		17:15	18:51	19:28	20:02	20:29	20:29	19:56	19:03	18:09	16:26	16:11	
14	07:19		06:49	07:03	06:08	05:25	05:06	05:19	05:51	06:25	07:00	06:40	07:13	13:39-14:04/25
	16:35		17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:08	16:25	16:12	
15	07:19		06:48	07:02	06:07	05:24	05:06	05:20	05:52	06:26	07:01	06:41	07:14	13:39-14:05/26
	16:36		17:17	18:53	19:30	20:04	20:30	20:28	19:53	19:00	18:06	16:24	16:12	
16	07:18		06:46	07:00	06:05	05:23	05:06	05:21	05:53	06:27	07:02	06:42	07:14	13:39-14:04/25
	16:37		17:19	18:55	19:32	20:05	20:31	20:27	19:51	18:58	18:04	16:23	16:12	
17	07:18		06:45	06:58	06:03	05:22	05:06	05:21	05:54	06:29	07:04	06:43	07:15	13:39-14:05/26
	16:39		17:20	18:56	19:33	20:06	20:31	20:27	19:49	18:56	18:03	16:22	16:12	
18	07:17		06:43	06:56	06:02	05:21	05:06	05:22	05:55	06:30	07:05	06:45	07:16	13:40-14:06/26
	16:40		17:21	18:57	19:34	20:07	20:31	20:26	19:48	18:54	18:01	16:21	16:13	
19	07:16		06:42	06:54	06:00	05:20	05:06	05:23	05:56	06:31	07:06	06:46	07:16	13:40-14:06/26
	16:41		17:23	18:58	19:35	20:09	20:32	20:25	19:46	18:52	17:59	16:20	16:13	
20	07:16		06:40	06:53	05:58	05:19	05:06	05:24	05:57	06:32	07:07	06:47	07:17	13:41-14:07/26
	16:42		17:24	18:59	19:36	20:10	20:32	20:25	19:45	18:50	17:58	16:19	16:13	
21	07:15		06:39	06:51	05:57	05:18	05:06	05:25	05:58	06:33	07:09	06:49	07:18	13:41-14:07/26
	16:44		17:25	19:01	19:38	20:11	20:32	20:24	19:43	18:49	17:56	16:18	16:14	
22	07:14		06:37	06:49	05:55	05:17	05:07	05:26	06:00	06:34	07:10	06:50	07:18	13:42-14:08/26
	16:45		17:27	19:02	19:39	20:12	20:33	20:23	19:42	18:47	17:55	16:18	16:14	
23	07:14		06:35	06:47	05:54	05:16	05:07	05:27	06:01	06:35	07:11	06:51	07:19	13:42-14:08/26
	16:46		17:28	19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	16:15	
24	07:13		06:34	06:45	05:52	05:15	05:07	05:28	06:02	06:36	07:12	06:52	07:19	13:43-14:09/26
	16:48		17:29	19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:51	16:16	16:15	
25	07:12		06:32	06:44	05:50	05:15	05:07	05:29	06:03	06:38	07:14	06:53	07:20	13:43-14:09/26
	16:49		17:31	19:05	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	16:16	
26	07:11		06:31	06:42	05:49	05:14	05:08	05:30	06:04	06:39	07:15	06:55	07:20	13:43-14:09/26
	16:50		17:32	19:07	19:43	20:16	20:33	20:19	19:35	18:39	17:48	16:15	16:17	
27	07:10		06:29	06:40	05:47	05:13	05:08	05:31	06:05	06:40	07:16	06:56	07:20	13:45-14:10/25
	16:52		17:33	19:08	19:45	20:17	20:33	20:18	19:33	18:38	17:47	16:15	16:17	
28	07:09		06:27	06:38	05:46	05:12	05:09	05:32	06:06	06:41	07:17	06:57	07:21	13:45-14:11/26
	16:53		17:35	19:09	19:46	20:17	20:33	20:17	19:32	18:36	17:46	16:14	16:18	
29	07:08			06:36	05:44	05:12	05:09	05:33	06:07	06:42	07:19	06:58	07:21	13:45-14:11/26
	16:54			19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:14	16:19	
30	07:07			06:35	05:43	05:11	05:10	05:34	06:09	06:43	07:20	06:59	07:21	13:46-14:11/25
	16:56			19:11	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	16:20	
31	07:06			06:33		05:10		05:35	06:10		07:21		07:21	13:47-14:11/24
	16:57			19:13		20:20		20:14	19:26		17:41		16:20	
Potential sun hours	290		294	369	402	455	461	467	433	376	342	291	279	
Sum of minutes with flicker	166		0	0	0	0	0	0	0	0	0	0	676	

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
9/11/2013 11:43 AM / 24

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** N-1 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (56)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:42	05:10	05:10	05:36	06:11	06:45	06:23	07:01
	16:21	16:58	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30	16:40	16:13
2	07:22	07:04	06:24	06:29	05:40	05:09	05:11	05:37	06:12	06:46	06:24	07:02
	16:22	17:00	17:37	19:15	19:51	20:22	20:33	20:12	19:23	18:29	16:39	16:12
3	07:22	07:03	06:22	06:27	05:39	05:09	05:11	05:38	06:13	06:47	06:25	07:03
	16:23	17:01	17:38	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37	16:12
4	07:22	07:02	06:21	06:26	05:37	05:08	05:12	05:40	06:14	06:48	06:27	07:04
	16:24	17:02	17:40	19:17	19:53	20:23	20:33	20:09	19:19	18:25	16:36	16:12
5	07:21	07:01	06:19	06:24	05:36	05:08	05:12	05:41	06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:19	19:54	20:24	20:33	20:08	19:18	18:23	16:35	16:12
6	07:21	07:00	06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:50	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25	20:32	20:07	19:16	18:21	16:33	16:11
7	07:21	06:58	06:16	06:20	05:33	05:07	05:14	05:43	06:17	06:52	06:31	07:07
	16:27	17:07	17:43	19:21	19:56	20:26	20:32	20:05	19:14	18:20	16:32	16:11
8	07:21	06:57	07:14	06:19	05:32	05:07	05:14	05:44	06:19	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:58	20:26	20:32	20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31	05:07	05:15	05:45	06:20	06:54	06:33	07:09
	16:29	17:09	18:46	19:23	19:59	20:27	20:31	20:03	19:10	18:16	16:30	16:11
10	07:21	06:54	07:10	06:15	05:30	05:07	05:16	05:46	06:21	06:55	06:34	07:10
	16:30	17:11	18:47	19:25	20:00	20:28	20:31	20:01	19:09	18:14	16:29	16:11
11	07:20	06:53	07:09	06:13	05:28	05:06	05:16	05:47	06:22	06:56	06:36	07:11
	16:32	17:12	18:48	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28	16:11
12	07:20	06:52	07:07	06:12	05:27	05:06	05:17	05:48	06:23	06:58	06:37	07:11
	16:33	17:13	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:27	16:11
13	07:20	06:50	07:05	06:10	05:26	05:06	05:18	05:49	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02	20:29	20:29	19:56	19:03	18:09	16:26	16:11
14	07:19	06:49	07:03	06:08	05:25	05:06	05:19	05:51	06:25	07:00	06:40	07:13
	16:35	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:08	16:25	16:12
15	07:19	06:48	07:02	06:07	05:24	05:06	05:20	05:52	06:26	07:01	06:41	07:14
	16:36	17:17	18:53	19:31	20:04	20:30	20:28	19:53	19:00	18:06	16:24	16:12
16	07:18	06:46	07:00	06:05	05:23	05:06	05:21	05:53	06:28	07:02	06:42	07:15
	16:37	17:19	18:55	19:32	20:05	20:31	20:28	19:51	18:58	18:04	16:23	16:12
17	07:18	06:45	06:58	06:03	05:22	05:06	05:21	05:54	06:29	07:04	06:44	07:15
	16:39	17:20	18:56	19:33	20:06	20:31	20:27	19:50	18:56	18:03	16:22	16:12
18	07:17	06:43	06:56	06:02	05:21	05:06	05:22	05:55	06:30	07:05	06:45	07:16
	16:40	17:21	18:57	19:34	20:08	20:32	20:26	19:48	18:54	18:01	16:21	16:13
19	07:16	06:42	06:54	06:00	05:20	05:06	05:23	05:56	06:31	07:06	06:46	07:17
	16:41	17:23	18:58	19:35	20:09	20:32	20:25	19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:53	05:58	05:19	05:06	05:24	05:57	06:32	07:07	06:47	07:17
	16:42	17:24	18:59	19:36	20:10	20:32	20:25	19:45	18:50	17:58	16:19	16:13
21	07:15	06:39	06:51	05:57	05:18	05:06	05:25	05:58	06:33	07:09	06:49	07:18
	16:44	17:25	19:01	19:38	20:11	20:33	20:24	19:43	18:49	17:56	16:18	16:14
22	07:14	06:37	06:49	05:55	05:17	05:07	05:26	06:00	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:12	20:33	20:23	19:42	18:47	17:55	16:18	16:14
23	07:14	06:36	06:47	05:54	05:16	05:07	05:27	06:01	06:35	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:45	05:52	05:15	05:07	05:28	06:02	06:37	07:12	06:52	07:19
	16:48	17:29	19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:51	16:16	16:15
25	07:12	06:32	06:44	05:50	05:15	05:07	05:29	06:03	06:38	07:14	06:54	07:20
	16:49	17:31	19:05	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14	05:08	05:30	06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:44	20:16	20:33	20:19	19:35	18:39	17:48	16:15	16:17
27	07:10	06:29	06:40	05:47	05:13	05:08	05:31	06:05	06:40	07:16	06:56	07:20
	16:52	17:33	19:08	19:45	20:17	20:33	20:18	19:33	18:38	17:47	16:15	16:17
28	07:09	06:27	06:38	05:46	05:12	05:09	05:32	06:06	06:41	07:18	06:57	07:21
	16:53	17:35	19:09	19:46	20:18	20:33	20:17	19:32	18:36	17:46	16:14	16:18
29	07:08		06:36	05:44	05:12	05:09	05:33	06:07	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:14	16:19
30	07:07		06:35	05:43	05:11	05:09	05:34	06:09	06:43	07:20	06:59	07:21
	16:56		19:11	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	16:20
31	07:06		06:33		05:10		05:35	06:10		07:21		07:21
	16:57		19:13		20:20		20:14	19:26		17:41		16:20
Potential sun hours	290	294	369	402	455	461	467	433	376	342	291	279
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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
9/11/2013 11:43 AM / 25

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** N-2 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (57)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:42	05:10	05:10	05:36	06:11	06:45	06:23	07:01
	16:21	16:58	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30	16:40	16:13
2	07:21	07:04	06:24	06:29	05:40	05:09	05:11	05:37	06:12	06:46	06:24	07:02
	16:22	17:00	17:37	19:15	19:51	20:22	20:33	20:12	19:23	18:29	16:39	16:12
3	07:22	07:03	06:22	06:27	05:39	05:09	05:11	05:38	06:13	06:47	06:25	07:03
	16:23	17:01	17:38	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37	16:12
4	07:22	07:02	06:21	06:26	05:37	05:08	05:12	05:40	06:14	06:48	06:27	07:04
	16:24	17:02	17:40	19:17	19:53	20:23	20:33	20:09	19:19	18:25	16:36	16:12
5	07:21	07:01	06:19	06:24	05:36	05:08	05:12	05:41	06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:19	19:54	20:24	20:33	20:08	19:18	18:23	16:35	16:12
6	07:21	07:00	06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:50	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25	20:32	20:07	19:16	18:21	16:33	16:11
7	07:21	06:58	06:16	06:20	05:33	05:07	05:14	05:43	06:17	06:52	06:31	07:07
	16:27	17:07	17:43	19:21	19:56	20:26	20:32	20:05	19:14	18:20	16:32	16:11
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	16:28	17:08	18:45	19:22	19:58	20:26	20:32	20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31	05:07	05:15	05:45	06:20	06:54	06:33	07:09
	16:29	17:09	18:46	19:23	19:59	20:27	20:31	20:03	19:10	18:16	16:30	16:11
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11	07:20	06:53	07:09	06:13	05:28	05:06	05:16	05:47	06:22	06:56	06:36	07:11
	16:32	17:12	18:48	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28	16:11
12	07:20	06:52	07:07	06:12	05:27	05:06	05:17	05:48	06:23	06:58	06:37	07:11
	16:33	17:13	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:27	16:11
13	07:20	06:50	07:05	06:10	05:26	05:06	05:18	05:49	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02	20:29	20:29	19:56	19:03	18:09	16:26	16:11
14	07:19	06:49	07:03	06:08	05:25	05:06	05:19	05:51	06:25	07:00	06:40	07:13
	16:35	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:08	16:25	16:12
15	07:19	06:48	07:02	06:07	05:24	05:06	05:20	05:52	06:26	07:01	06:41	07:14
	16:36	17:17	18:53	19:31	20:04	20:30	20:28	19:53	19:00	18:06	16:24	16:12
16	07:18	06:46	07:00	06:05	05:23	05:06	05:21	05:53	06:28	07:02	06:42	07:15
	16:37	17:19	18:55	19:32	20:05	20:31	20:28	19:51	18:58	18:04	16:23	16:12
17	07:18	06:45	06:58	06:03	05:22	05:06	05:21	05:54	06:29	07:04	06:44	07:15
	16:39	17:20	18:56	19:33	20:06	20:31	20:27	19:50	18:56	18:03	16:22	16:12
18	07:17	06:43	06:56	06:02	05:21	05:06	05:22	05:55	06:30	07:05	06:45	07:16
	16:40	17:21	18:57	19:34	20:08	20:32	20:26	19:48	18:54	18:01	16:21	16:13
19	07:16	06:42	06:54	06:00	05:20	05:06	05:23	05:56	06:31	07:06	06:46	07:17
	16:41	17:23	18:58	19:35	20:09	20:32	20:25	19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:53	05:58	05:19	05:06	05:24	05:57	06:32	07:07	06:47	07:17
	16:42	17:24	18:59	19:36	20:10	20:32	20:25	19:45	18:50	17:58	16:19	16:13
21	07:15	06:39	06:51	05:57	05:18	05:06	05:25	05:58	06:33	07:09	06:49	07:18
	16:44	17:25	19:01	19:38	20:11	20:32	20:24	19:43	18:49	17:56	16:18	16:14
22	07:14	06:37	06:49	05:55	05:17	05:07	05:26	06:00	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:12	20:33	20:23	19:42	18:47	17:55	16:18	16:14
23	07:14	06:36	06:47	05:54	05:16	05:07	05:27	06:01	06:35	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:45	05:52	05:15	05:07	05:28	06:02	06:37	07:12	06:52	07:19
	16:48	17:29	19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:51	16:16	16:15
25	07:12	06:32	06:44	05:50	05:14	05:07	05:29	06:03	06:38	07:14	06:54	07:20
	16:49	17:31	19:05	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14	05:08	05:30	06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:44	20:16	20:33	20:19	19:35	18:39	17:48	16:15	16:17
27	07:10	06:29	06:40	05:47	05:13	05:08	05:31	06:05	06:40	07:16	06:56	07:20
	16:52	17:33	19:08	19:45	20:17	20:33	20:18	19:33	18:38	17:47	16:15	16:17
28	07:09	06:27	06:38	05:46	05:12	05:09	05:32	06:06	06:41	07:18	06:57	07:21
	16:53	17:35	19:09	19:46	20:18	20:33	20:17	19:32	18:36	17:46	16:14	16:18
29	07:08		06:36	05:44	05:12	05:09	05:33	06:07	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:14	16:19
30	07:07		06:35	05:43	05:11	05:09	05:34	06:09	06:43	07:20	06:59	07:21
	16:56		19:11	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	16:20
31	07:06		06:33		05:10		05:35	06:10		07:21		07:21
	16:57		19:13		20:20		20:14	19:26		17:41		16:20
Potential sun hours	290	294	369	402	455	461	467	433	376	342	291	279
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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
9/11/2013 11:43 AM / 26

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** N-3 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (42)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:42	05:10	05:10	05:36	06:11	06:45	06:23	07:01
	16:21	16:58	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30	16:40	16:13
2	07:21	07:04	06:24	06:29	05:40	05:09	05:10	05:37	06:12	06:46	06:24	07:02
	16:22	17:00	17:37	19:15	19:51	20:22	20:33	20:12	19:23	18:29	16:39	16:12
3	07:22	07:03	06:22	06:27	05:39	05:09	05:11	05:38	06:13	06:47	06:25	07:03
	16:23	17:01	17:38	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37	16:12
4	07:22	07:02	06:21	06:26	05:37	05:08	05:12	05:40	06:14	06:48	06:27	07:04
	16:24	17:02	17:40	19:17	19:53	20:23	20:33	20:09	19:19	18:25	16:36	16:12
5	07:21	07:01	06:19	06:24	05:36	05:08	05:12	05:41	06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:19	19:54	20:24	20:33	20:08	19:18	18:23	16:35	16:12
6	07:21	07:00	06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:50	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25	20:32	20:07	19:16	18:21	16:33	16:11
7	07:21	06:58	06:16	06:20	05:33	05:07	05:14	05:43	06:17	06:52	06:31	07:07
	16:27	17:07	17:43	19:21	19:56	20:26	20:32	20:05	19:14	18:20	16:32	16:11
8	07:21	06:57	07:14	06:19	05:32	05:07	05:14	05:44	06:19	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:58	20:26	20:32	20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31	05:07	05:15	05:45	06:20	06:54	06:33	07:09
	16:29	17:09	18:46	19:23	19:59	20:27	20:31	20:03	19:10	18:16	16:30	16:11
10	07:21	06:54	07:10	06:15	05:30	05:07	05:16	05:46	06:21	06:55	06:34	07:10
	16:30	17:11	18:47	19:25	20:00	20:28	20:31	20:01	19:09	18:14	16:29	16:11
11	07:20	06:53	07:09	06:13	05:28	05:06	05:16	05:47	06:22	06:56	06:36	07:11
	16:32	17:12	18:48	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28	16:11
12	07:20	06:52	07:07	06:12	05:27	05:06	05:17	05:48	06:23	06:58	06:37	07:11
	16:33	17:13	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:27	16:11
13	07:20	06:50	07:05	06:10	05:26	05:06	05:18	05:49	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02	20:29	20:29	19:56	19:03	18:09	16:25	16:11
14	07:19	06:49	07:03	06:08	05:25	05:06	05:19	05:51	06:25	07:00	06:40	07:13
	16:35	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:08	16:24	16:12
15	07:19	06:48	07:02	06:07	05:24	05:06	05:20	05:52	06:26	07:01	06:41	07:14
	16:36	17:17	18:53	19:30	20:04	20:30	20:28	19:53	19:00	18:06	16:24	16:12
16	07:18	06:46	07:00	06:05	05:23	05:06	05:21	05:53	06:27	07:02	06:42	07:15
	16:37	17:19	18:55	19:32	20:05	20:31	20:27	19:51	18:58	18:04	16:23	16:12
17	07:18	06:45	06:58	06:03	05:22	05:06	05:21	05:54	06:29	07:04	06:44	07:15
	16:39	17:20	18:56	19:33	20:06	20:31	20:27	19:50	18:56	18:03	16:22	16:12
18	07:17	06:43	06:56	06:02	05:21	05:06	05:22	05:55	06:30	07:05	06:45	07:16
	16:40	17:21	18:57	19:34	20:08	20:32	20:26	19:48	18:54	18:01	16:21	16:13
19	07:16	06:42	06:54	06:00	05:20	05:06	05:23	05:56	06:31	07:06	06:46	07:17
	16:41	17:23	18:58	19:35	20:09	20:32	20:25	19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:53	05:58	05:19	05:06	05:24	05:57	06:32	07:07	06:47	07:17
	16:42	17:24	18:59	19:36	20:10	20:32	20:25	19:45	18:50	17:58	16:19	16:13
21	07:15	06:39	06:51	05:57	05:18	05:06	05:25	05:58	06:33	07:09	06:49	07:18
	16:44	17:25	19:01	19:38	20:11	20:32	20:24	19:43	18:49	17:56	16:18	16:14
22	07:14	06:37	06:49	05:55	05:17	05:07	05:26	06:00	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:12	20:33	20:23	19:42	18:47	17:55	16:18	16:14
23	07:14	06:36	06:47	05:54	05:16	05:07	05:27	06:01	06:35	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:45	05:52	05:15	05:07	05:28	06:02	06:37	07:12	06:52	07:19
	16:48	17:29	19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:51	16:16	16:15
25	07:12	06:32	06:44	05:50	05:14	05:07	05:29	06:03	06:38	07:14	06:54	07:20
	16:49	17:31	19:05	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14	05:08	05:30	06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:44	20:16	20:33	20:19	19:35	18:39	17:48	16:15	16:17
27	07:10	06:29	06:40	05:47	05:13	05:08	05:31	06:05	06:40	07:16	06:56	07:20
	16:52	17:33	19:08	19:45	20:17	20:33	20:18	19:33	18:38	17:47	16:15	16:17
28	07:09	06:27	06:38	05:46	05:12	05:09	05:32	06:06	06:41	07:17	06:57	07:21
	16:53	17:35	19:09	19:46	20:18	20:33	20:17	19:32	18:36	17:46	16:14	16:18
29	07:08		06:36	05:44	05:12	05:09	05:33	06:07	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:14	16:19
30	07:07		06:35	05:43	05:11	05:09	05:34	06:09	06:43	07:20	06:59	07:21
	16:56		19:11	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	16:20
31	07:06		06:33		05:10		05:35	06:10		07:21		07:21
	16:57		19:13		20:20		20:14	19:26		17:41		16:20
Potential sun hours	290	294	369	402	455	461	467	433	376	342	291	279
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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
9/11/2013 11:43 AM / 27

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar per WTG

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **WTG:** N-4 - VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (53)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21 14:21-14:45/24 16:21	07:05 14:59-15:23/24 16:58	06:26 17:36	06:31 19:14	05:42 19:49	05:10 20:21	05:10 20:33	05:36 20:13	06:11 19:25	06:45 18:30	06:23 14:35-14:48/13 16:40	07:01 14:08-14:32/24 16:13 14:32-14:48/16
2	07:21 14:21-14:45/24 16:22	07:04 14:59-15:22/23 17:00	06:24 17:37	06:29 19:15	05:40 19:51	05:09 20:22	05:10 20:33	05:37 20:12	06:12 19:23	06:46 18:29	06:24 14:33-14:50/17 16:39	07:02 14:08-14:32/24 16:12 14:32-14:47/15
3	07:22 14:22-14:46/24 16:23	07:03 14:59-15:23/24 17:01	06:22 17:38	06:27 19:16	05:39 19:52	05:09 20:23	05:11 20:33	05:38 20:10	06:13 19:21	06:47 18:27	06:25 14:32-14:51/19 16:37	07:03 14:09-14:32/23 16:12 14:33-14:48/15
4	07:22 14:22-14:47/25 16:24	07:02 15:00-15:23/23 17:02	06:21 17:40	06:26 19:17	05:37 19:53	05:08 20:23	05:12 20:33	05:39 20:09	06:14 19:19	06:48 18:25	06:27 14:31-14:52/21 16:36	07:04 14:09-14:33/24 16:12 14:34-14:47/13
5	07:21 14:23-14:47/24 16:25 14:52-14:58/6	07:01 15:00-15:23/23 17:04	06:19 17:41	06:24 19:19	05:36 19:54	05:08 20:24	05:12 20:33	05:41 20:08	06:15 19:18	06:49 18:23	06:28 14:31-14:53/22 16:35	07:05 14:10-14:33/23 16:12 14:36-14:47/11
6	07:21 14:24-14:48/24 16:26 14:51-15:00/9	07:00 15:01-15:23/22 17:05	06:17 17:42	06:22 19:20	05:35 19:55	05:08 20:25	05:13 20:32	05:42 20:07	06:16 19:16	06:50 18:21	06:29 14:30-14:53/23 16:33	07:06 14:10-14:34/24 16:11 14:37-14:46/9
7	07:21 14:24-14:48/24 16:27 14:51-15:02/11	06:58 15:01-15:22/21 17:06	06:16 17:43	06:20 19:21	05:33 19:56	05:07 20:26	05:14 20:32	05:43 20:05	06:17 19:14	06:52 18:20	06:31 14:29-14:53/24 16:32	07:07 14:10-14:34/24 16:11 14:39-14:45/6
8	07:21 14:24-14:48/24 16:28 14:49-15:02/13	06:57 15:03-15:21/18 17:08	07:14 18:45	06:19 19:22	05:32 19:58	05:07 20:26	05:14 20:32	05:44 20:04	06:19 19:12	06:53 18:18	06:32 14:30-14:54/24 16:31	07:08 14:11-14:35/24 16:11 14:42-14:43/1
9	07:21 14:25-14:48/23 16:29 14:49-15:04/15	06:56 15:04-15:21/17 17:09	07:12 18:46	06:17 19:23	05:31 19:59	05:07 20:27	05:15 20:31	05:45 20:03	06:20 19:10	06:54 18:16	06:33 14:29-14:53/24 16:30	07:09 14:11-14:35/24 16:11
10	07:21 14:26-14:50/24 16:30 14:50-15:05/15	06:54 15:06-15:18/12 17:11	07:10 18:47	06:15 19:25	05:30 20:00	05:06 20:28	05:16 20:31	05:46 20:01	06:21 19:09	06:55 18:14	06:34 14:30-14:54/24 16:29	07:10 14:11-14:36/25 16:11
11	07:20 14:26-14:48/22 16:31 14:49-15:06/17	06:53 15:09-15:16/7 17:12	07:09 18:48	06:13 19:26	05:28 20:00	05:06 20:28	05:16 20:30	05:47 20:00	06:22 19:07	06:56 18:13	06:36 14:30-14:53/23 16:28	07:11 14:12-14:36/24 16:11
12	07:20 14:27-14:50/23 16:33 14:50-15:07/17	06:52 17:13	07:07 18:50	06:12 19:27	05:27 20:01	05:06 20:29	05:17 20:30	05:48 19:57	06:23 19:05	06:58 18:11	06:37 14:30-14:40/10 16:27 14:40-14:53/13	07:11 14:12-14:36/24 16:11
13	07:20 14:28-14:49/21 16:34 14:49-15:07/18	06:50 17:15	07:05 18:51	06:10 19:28	05:26 20:02	05:06 20:29	05:18 20:29	05:49 19:56	06:24 19:03	06:59 18:09	06:38 14:29-14:43/14 16:25 14:43-14:53/10	07:12 14:12-14:36/24 16:11
14	07:19 14:29-14:50/21 16:35 14:50-15:09/19	06:49 17:16	07:03 18:52	06:08 19:29	05:25 20:03	05:06 20:30	05:19 20:29	05:51 19:54	06:25 19:01	07:00 18:08	06:40 14:28-14:44/16 16:24 14:44-14:52/8	07:13 14:13-14:37/24 16:11
15	07:19 14:30-14:49/19 16:36 14:49-15:09/20	06:48 17:17	07:02 18:53	06:07 19:30	05:24 20:04	05:06 20:30	05:20 20:28	05:52 19:53	06:26 19:00	07:01 18:06	06:41 14:27-14:46/19 16:23 14:46-14:52/6	07:14 14:14-14:37/23 16:12
16	07:18 14:31-14:50/19 16:37 14:50-15:10/20	06:46 17:19	07:00 18:55	06:05 19:32	05:23 20:05	05:06 20:31	05:21 20:27	05:53 19:51	06:27 18:58	07:02 18:04	06:42 14:26-14:46/20 16:23 14:46-14:51/5	07:15 14:13-14:37/24 16:12
17	07:18 14:32-14:48/16 16:39 14:49-15:11/22	06:45 17:20	06:58 18:56	06:03 19:33	05:22 20:06	05:06 20:31	05:21 20:27	05:54 19:50	06:29 18:56	07:04 18:03	06:44 14:25-14:47/22 16:22 14:47-14:49/2	07:15 14:14-14:38/24 16:12
18	07:17 14:33-14:47/14 16:40 14:49-15:11/22	06:43 17:21	06:56 18:57	06:02 19:34	05:21 20:08	05:06 20:32	05:22 20:26	05:55 19:48	06:30 18:54	07:05 18:01	06:45 14:26-14:48/22 16:21 14:48-14:49/1	07:16 14:15-14:39/24 16:13
19	07:16 14:36-14:46/10 16:41 14:50-15:12/22	06:42 17:23	06:54 18:58	06:00 19:35	05:20 20:09	05:06 20:32	05:23 20:25	05:56 19:46	06:31 18:52	07:06 17:59	06:46 14:25-14:47/22 16:20	07:17 14:15-14:39/24 16:13
20	07:16 14:39-14:43/4 16:42 14:50-15:12/22	06:40 17:24	06:53 18:59	05:58 19:36	05:19 20:10	05:06 20:32	05:24 20:25	05:57 19:45	06:32 18:50	07:07 17:58	06:47 14:25-14:47/22 16:19	07:17 14:16-14:39/23 16:13
21	07:15 14:50-15:12/22 16:44	06:39 17:25	06:51 19:01	05:57 19:38	05:18 20:11	05:06 20:32	05:25 20:24	05:58 19:43	06:33 18:49	07:09 17:56	06:49 14:26-14:48/22 16:18	07:18 14:16-14:39/23 16:14
22	07:14 14:50-15:12/22 16:45	06:37 17:27	06:49 19:02	05:55 19:39	05:17 20:12	05:07 20:33	05:26 20:23	06:00 19:42	06:34 18:47	07:10 17:55	06:50 14:15-14:19/4 16:18 14:26-14:48/22	07:18 14:17-14:40/23 16:14
23	07:14 14:51-15:13/22 16:46	06:36 17:28	06:47 19:03	05:54 19:40	05:16 20:13	05:07 20:33	05:27 20:22	06:01 19:40	06:35 18:45	07:11 17:53	06:51 14:12-14:22/10 16:17 14:26-14:48/22	07:19 14:17-14:40/23 16:15
24	07:13 14:52-15:14/22 16:48 15:14-15:15/1	06:34 17:29	06:45 19:04	05:52 19:41	05:15 20:14	05:07 20:33	05:28 20:21	06:02 19:38	06:36 18:43	07:12 17:51	06:52 14:11-14:25/14 16:16 14:27-14:49/22	07:19 14:18-14:42/24 16:15
25	07:12 14:52-15:14/22 16:49 15:14-15:16/2	06:32 17:31	06:44 19:05	05:50 19:42	05:14 20:15	05:07 20:33	05:29 20:20	06:03 19:37	06:38 18:41	07:14 17:50	06:54 14:10-14:26/16 16:16 14:27-14:49/22	07:20 14:18-14:42/24 16:16
26	07:11 14:53-15:13/20 16:50 15:13-15:18/5	06:31 17:32	06:42 19:07	05:49 19:44	05:14 20:16	05:08 20:33	05:30 20:19	06:04 19:35	06:39 18:39	07:15 17:48	06:55 14:09-14:28/19 16:15 14:28-14:48/20	07:20 14:18-14:42/24 16:17
27	07:10 14:54-15:13/19 16:52 15:13-15:19/6	06:29 17:33	06:40 19:08	05:47 19:45	05:13 20:17	05:08 20:33	05:31 20:18	06:05 19:33	06:40 18:38	07:16 17:47	06:56 14:10-14:29/19 16:14 14:29-14:49/20	07:20 14:19-14:43/24 16:17
28	07:09 14:56-15:12/16 16:53 15:12-15:20/8	06:27 17:35	06:38 19:09	05:46 19:46	05:12 20:18	05:09 20:33	05:32 20:17	06:06 19:32	06:41 18:36	07:17 17:45	06:57 14:09-14:30/21 16:14 14:30-14:49/19	07:21 14:20-14:43/23 16:18
29	07:08 14:58-15:11/13 16:54 15:11-15:21/10		06:36 19:10	05:44 19:47	05:12 20:18	05:09 20:33	05:33 20:16	06:07 19:30	06:42 18:34	07:19 17:44	06:58 14:09-14:30/21 16:14 14:30-14:49/19	07:21 14:20-14:44/24 16:19
30	07:07 14:59-15:09/10 16:56 15:09-15:22/13		06:35 19:11	05:43 19:48	05:11 20:19	05:09 20:33	05:34 20:15	06:08 19:28	06:43 18:32	07:20 17:43	06:59 14:08-14:31/23 16:13 14:31-14:48/17	07:21 14:20-14:44/24 16:19
31	07:06 14:59-15:22/23 16:57		06:33 19:13		05:10 20:20		05:35 20:14	06:10 19:26		07:21 15:38-15:46/8 17:41		07:21 14:20-14:44/24 16:20
Potential sun hours	290	294	369	402	455	461	468	433	376	342	291	279
Sum of minutes with flicker	933	214	0	0	0	0	0	0	0	8	798	823

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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2013-09-11_Wild Meadows V112@94m

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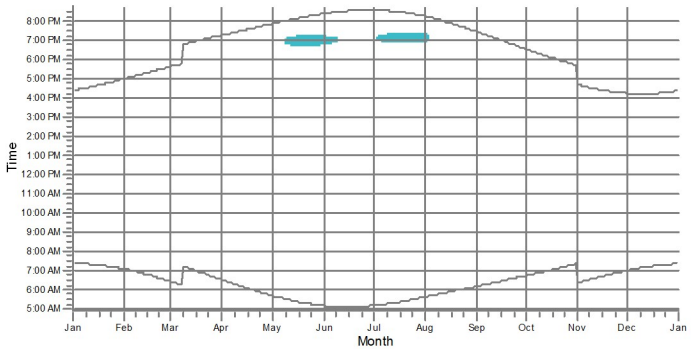
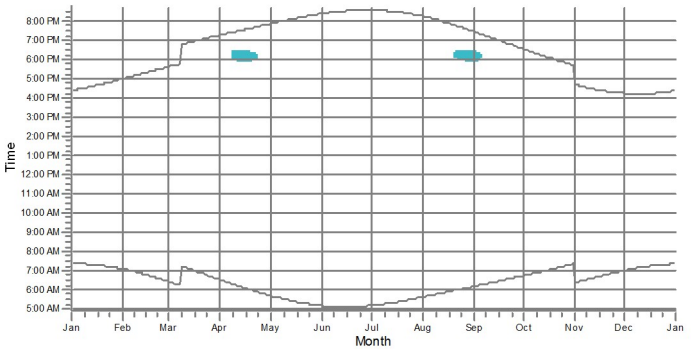
SHADOW - Calendar per WTG, graphical

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m

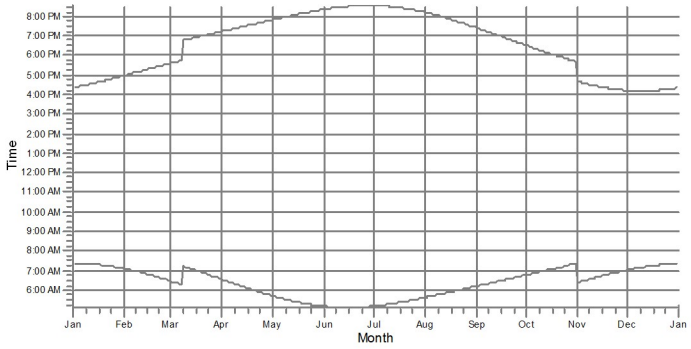
C-1: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (55)



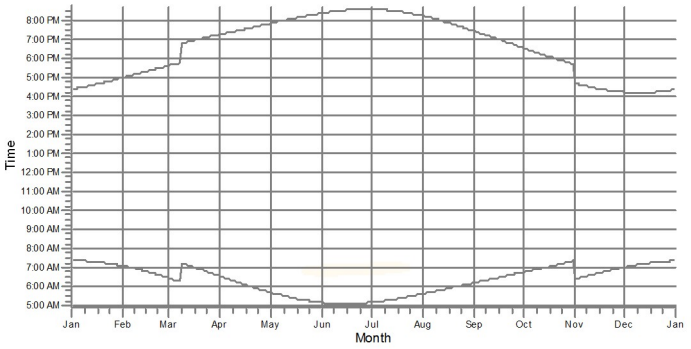
C-2: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (43)



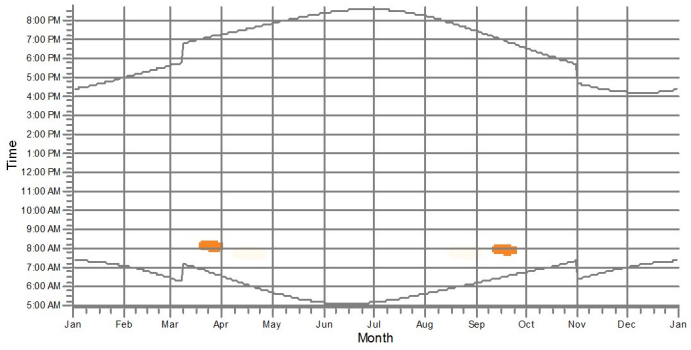
C-3: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (38)



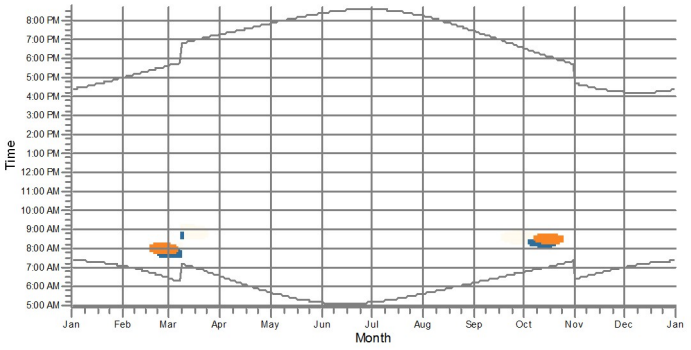
C-4: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (39)



C-5: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (40)



C-6: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (47)



Shadow receptors

D-34: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (89)
D-49: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (99)
G-18: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (90)
G-19: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (91)

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2013-09-11_Wild Meadows V112@94m

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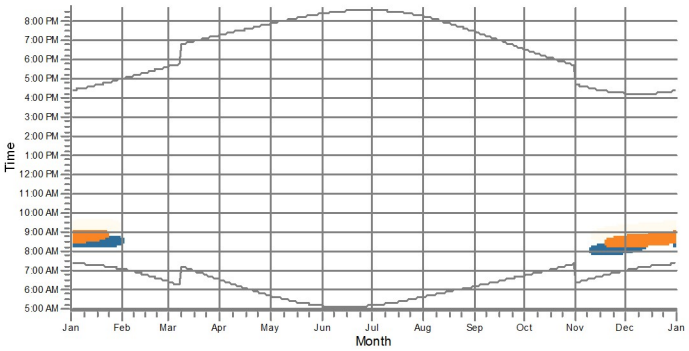
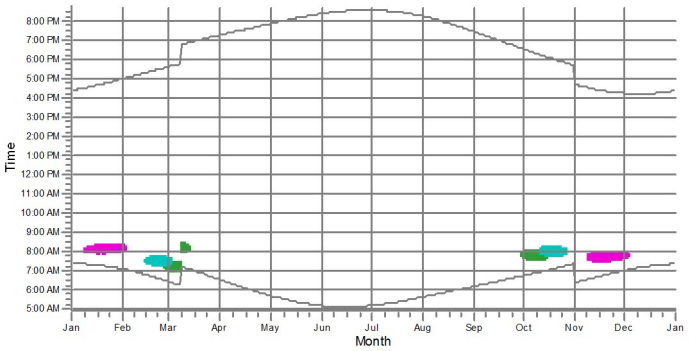
SHADOW - Calendar per WTG, graphical

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m

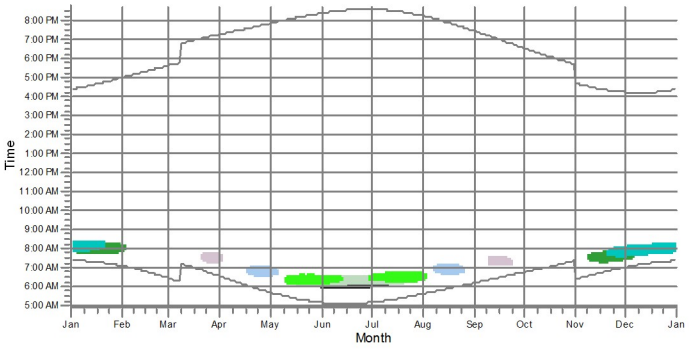
C-7: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (41)



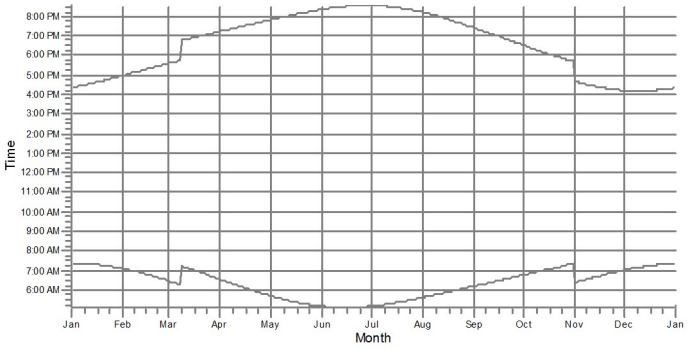
C-8: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (54)



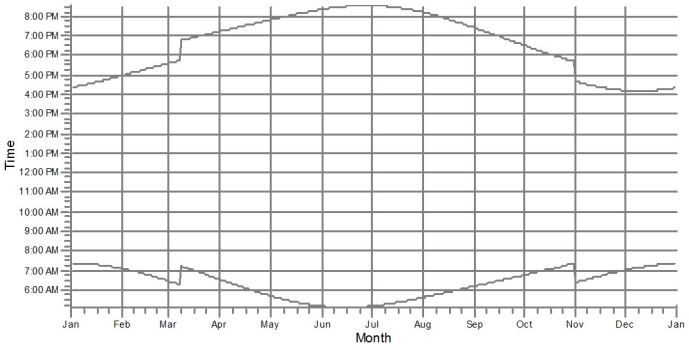
C-9: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (48)



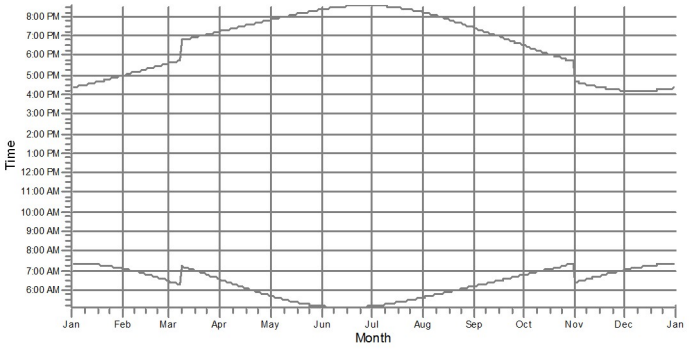
E-1: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (58)



E-2: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (46)



E-3: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (45)



Shadow receptors

- D-30: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (83)
- D-31: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (84)
- D-33: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (85)
- D-34: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (89)
- D-48: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (98)
- G-14: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (87)
- G-16: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (88)
- G-18: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (90)
- G-19: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (91)
- G-45: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (95)
- G-6: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (86)

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2013-09-11_Wild Meadows V112@94m

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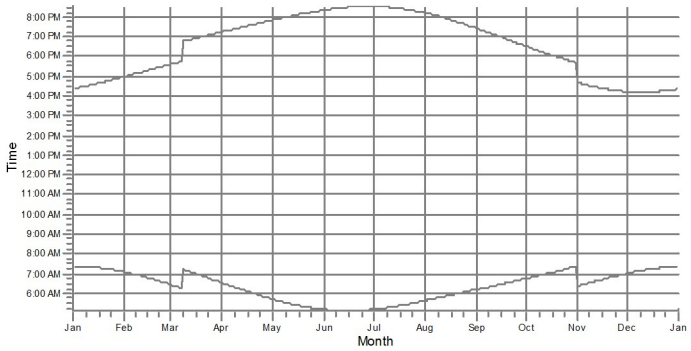
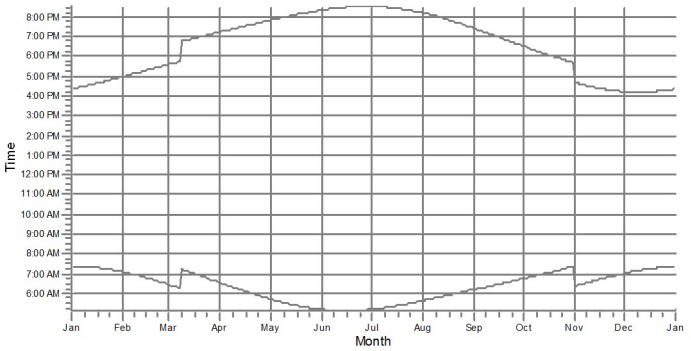
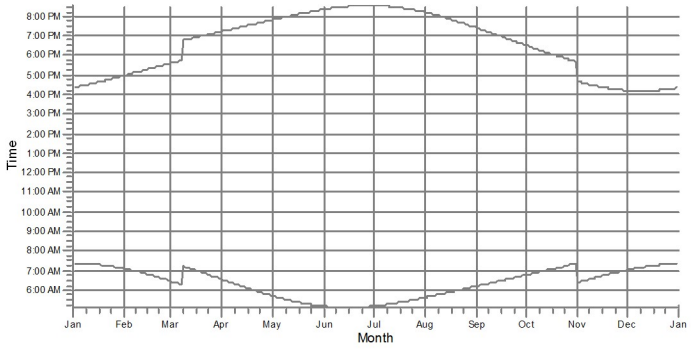
E-4: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (44)



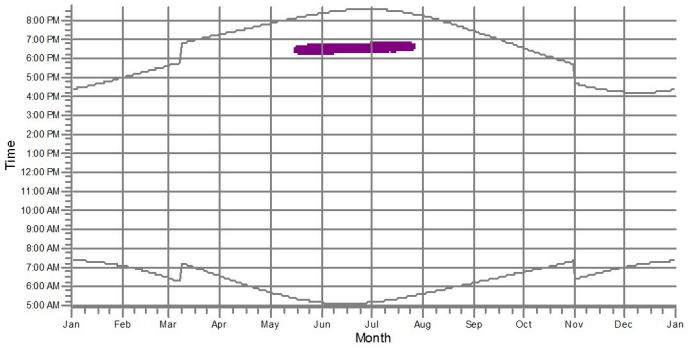
E-5: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (51)



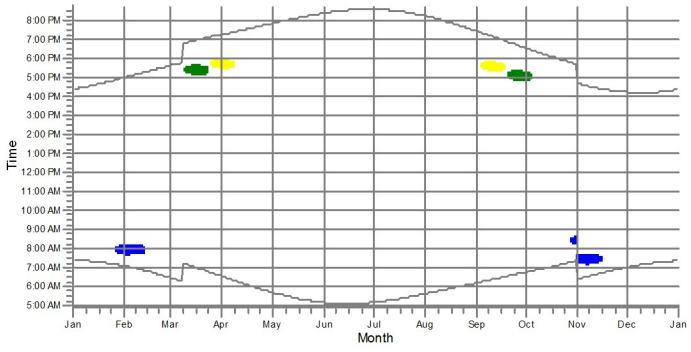
E-6: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (49)



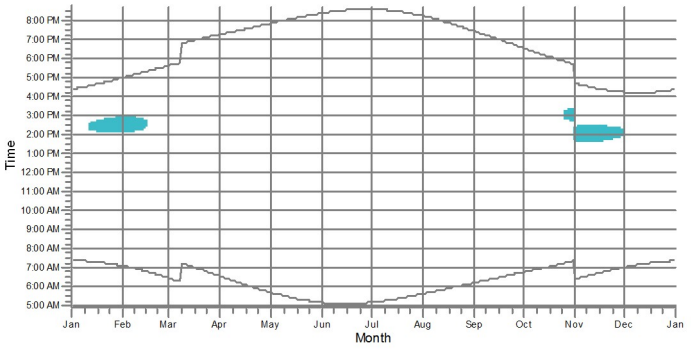
E-7: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (50)



E-8: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (52)



G-1: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (59)



Shadow receptors

A-285: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (104)
A-289: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (105)
A-3: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (92)
A-96: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (103)
D-49: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (99)

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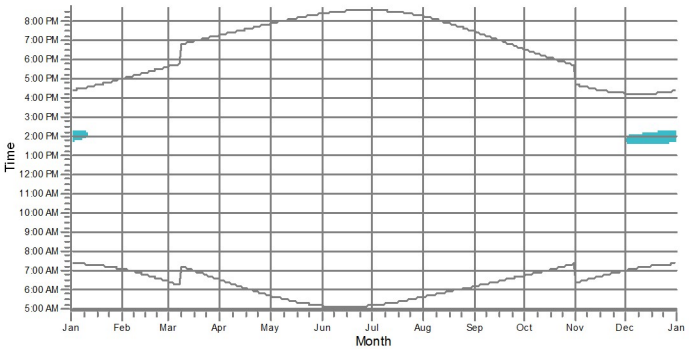
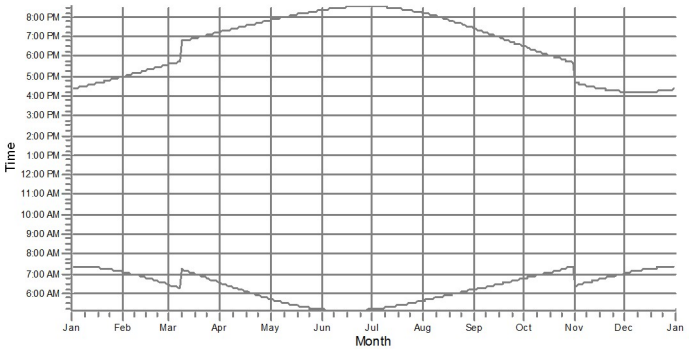
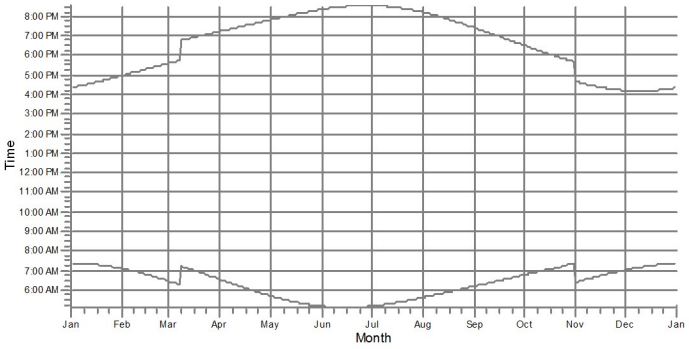
G-2: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (60)



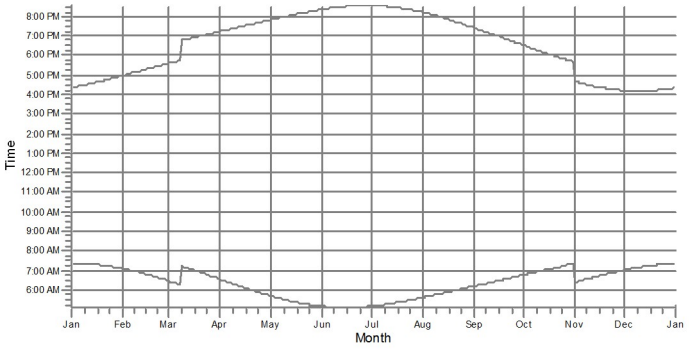
N-1: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (56)



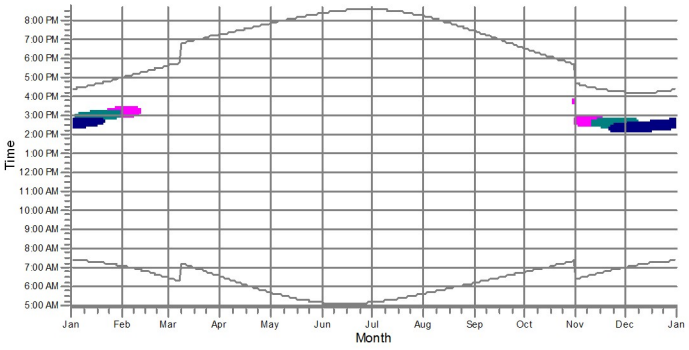
N-2: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (57)



N-3: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (42)



N-4: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (53)



Shadow receptors

A-345: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (107)
A-57: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (93)
A-61: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (94)
D-49: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (99)

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 1

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m**Shadow receptor:** A-285 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (104)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed0.0m/s

	January	February	March		April	May	June	July	August	September		October		November	December
1	07:21	07:05	06:26		06:31	05:41	05:10	05:10	05:36	06:11		06:44	16:53 (E-8)	06:22	07:00
	16:21	16:58	17:36		19:14	19:49	20:21	20:33	20:13	19:25		18:30	17:09 (E-8)	16:40	16:13
2	07:21	07:04	06:24		06:29	05:40	05:09	05:10	05:37	06:12		06:46	16:54 (E-8)	06:24	07:01
	16:22	16:59	17:37		19:15	19:50	20:22	20:33	20:11	19:23		18:28	17:07 (E-8)	16:38	16:12
3	07:21	07:03	06:22		06:27	05:39	05:09	05:11	05:38	06:13		06:47	16:56 (E-8)	06:25	07:03
	16:23	17:01	17:38		19:16	19:52	20:22	20:33	20:10	19:21		18:27	17:04 (E-8)	16:37	16:12
4	07:21	07:02	06:21		06:25	05:37	05:08	05:11	05:39	06:14		06:48		06:26	07:04
	16:24	17:02	17:39		19:17	19:53	20:23	20:33	20:09	19:19		18:25		16:36	16:12
5	07:21	07:01	06:19		06:24	05:36	05:08	05:12	05:40	06:15		06:49		06:28	07:05
	16:25	17:04	17:41		19:18	19:54	20:24	20:32	20:08	19:17		18:23		16:34	16:11
6	07:21	06:59	06:17		06:22	05:35	05:07	05:13	05:42	06:16		06:50		06:29	07:06
	16:26	17:05	17:42		19:20	19:55	20:25	20:32	20:06	19:16		18:21		16:33	16:11
7	07:21	06:58	06:15		06:20	05:33	05:07	05:13	05:43	06:17		06:51		06:30	07:07
	16:27	17:06	17:43		19:21	19:56	20:25	20:32	20:05	19:14		18:19		16:32	16:11
8	07:21	06:57	07:14		06:18	05:32	05:07	05:14	05:44	06:18		06:53		06:32	07:08
	16:28	17:08	18:45		19:22	19:57	20:26	20:31	20:04	19:12		18:18		16:31	16:11
9	07:21	06:56	07:12		06:17	05:31	05:07	05:15	05:45	06:20		06:54		06:33	07:09
	16:29	17:09	18:46		19:23	19:59	20:27	20:31	20:02	19:10		18:16		16:30	16:11
10	07:20	06:54	07:10		17:21 (E-8)	06:15	05:29	05:06	05:16	05:46	06:21		06:55		06:34	07:09
	16:30	17:10	18:47	2	17:23 (E-8)	19:24	20:00	20:27	20:31	20:01	19:08		18:14		16:29	16:11
11	07:20	06:53	07:08		17:16 (E-8)	06:13	05:28	05:06	05:16	05:47	06:22		06:56		06:36	07:10
	16:31	17:12	18:48	11	17:27 (E-8)	19:26	20:00	20:28	20:30	20:00	19:07		18:12		16:27	16:11
12	07:20	06:52	07:07		17:15 (E-8)	06:12	05:27	05:06	05:17	05:48	06:23		06:57		06:37	07:11
	16:32	17:13	18:49	15	17:30 (E-8)	19:27	20:01	20:29	20:30	19:57	19:05		18:11		16:26	16:11
13	07:19	06:50	07:05		17:13 (E-8)	06:10	05:26	05:06	05:18	05:49	06:24		06:59		06:38	07:12
	16:34	17:14	18:51	17	17:30 (E-8)	19:28	20:02	20:29	20:29	19:55	19:03		18:09		16:25	16:11
14	07:19	06:49	07:03		17:12 (E-8)	06:08	05:25	05:06	05:19	05:50	06:25		07:00		06:39	07:13
	16:35	17:16	18:52	19	17:31 (E-8)	19:29	20:03	20:30	20:29	19:54	19:01		18:07		16:24	16:11
15	07:19	06:47	07:01		17:11 (E-8)	06:06	05:24	05:06	05:20	05:52	06:26		07:01		06:41	07:14
	16:36	17:17	18:53	20	17:31 (E-8)	19:30	20:04	20:30	20:28	19:52	18:59		18:06		16:23	16:12
16	07:18	06:46	07:00		17:10 (E-8)	06:05	05:23	05:06	05:20	05:53	06:27		07:02		06:42	07:14
	16:37	17:19	18:54	21	17:31 (E-8)	19:31	20:05	20:31	20:27	19:51	18:58		18:04		16:22	16:12
17	07:17	06:44	06:58		17:11 (E-8)	06:03	05:22	05:06	05:21	05:54	06:28		07:03		06:43	07:15
	16:38	17:20	18:56	20	17:31 (E-8)	19:33	20:06	20:31	20:27	19:49	18:56		18:02		16:21	16:12
18	07:17	06:43	06:56		17:11 (E-8)	06:01	05:21	05:06	05:22	05:55	06:30		07:05		06:45	07:16
	16:40	17:21	18:57	20	17:31 (E-8)	19:34	20:07	20:31	20:26	19:48	18:54		18:01		16:21	16:12
19	07:16	06:42	06:54		17:11 (E-8)	06:00	05:20	05:06	05:23	05:56	06:31		07:06		06:46	07:16
	16:41	17:23	18:58	19	17:30 (E-8)	19:35	20:08	20:32	20:25	19:46	18:52		17:59		16:20	16:13
20	07:16	06:40	06:52		17:11 (E-8)	05:58	05:19	05:06	05:24	05:57	06:32		07:07		06:47	07:17
	16:42	17:24	18:59	17	17:28 (E-8)	19:36	20:09	20:32	20:24	19:45	18:50		17:58		16:19	16:13
21	07:15	06:38	06:51		17:12 (E-8)	05:57	05:18	05:06	05:25	05:58	06:33	17:01 (E-8)	07:08		06:48	07:18
	16:43	17:25	19:00	15	17:27 (E-8)	19:37	20:10	20:32	20:24	19:43	18:48	9	17:10 (E-8)	17:56	16:18	16:14
22	07:14	06:37	06:49		17:15 (E-8)	05:55	05:17	05:06	05:26	05:59	06:34		16:58 (E-8)	07:10	06:50	07:18
	16:45	17:27	19:02	10	17:25 (E-8)	19:39	20:12	20:33	20:23	19:41	18:47	14	17:12 (E-8)	17:54	16:17	16:14
23	07:13	06:35	06:47			05:53	05:16	05:07	05:27	06:00	06:35		16:56 (E-8)	07:11	06:51	07:19
	16:46	17:28	19:03			19:40	20:13	20:33	20:22	19:40	18:45	17	17:13 (E-8)	17:53	16:17	16:15
24	07:13	06:34	06:45			05:52	05:15	05:07	05:28	06:02	06:36		16:54 (E-8)	07:12	06:52	07:19
	16:47	17:29	19:04			19:41	20:14	20:33	20:21	19:38	18:43	19	17:13 (E-8)	17:51	16:16	16:15
25	07:12	06:32	06:43			05:50	05:14	05:07	05:29	06:03	06:37		16:53 (E-8)	07:13	06:53	07:19
	16:49	17:30	19:05			19:42	20:14	20:33	20:20	19:36	18:41	20	17:13 (E-8)	17:50	16:15	16:16
26	07:11	06:31	06:42			05:49	05:14	05:08	05:30	06:04	06:39		16:52 (E-8)	07:15	06:55	07:20
	16:50	17:32	19:06			19:43	20:15	20:33	20:19	19:35	18:39	21	17:13 (E-8)	17:48	16:15	16:16
27	07:10	06:29	06:40			05:47	05:13	05:08	05:31	06:05	06:40		16:52 (E-8)	07:16	06:56	07:20
	16:51	17:33	19:08			19:45	20:16	20:33	20:18	19:33	18:37	20	17:12 (E-8)	17:47	16:14	16:17
28	07:09	06:27	06:38			05:46	05:12	05:08	05:32	06:06	06:41		16:52 (E-8)	07:17	06:57	07:20
	16:53	17:34	19:09			19:46	20:17	20:33	20:17	19:31	18:36	21	17:13 (E-8)	17:45	16:14	16:18
29	07:08		06:36			05:44	05:11	05:09	05:33	06:07	06:42		16:52 (E-8)	07:19	06:58	07:21
	16:54		19:10			19:47	20:18	20:33	20:16	19:30	18:34	20	17:12 (E-8)	17:44	16:13	16:19
30	07:07		06:34			05:43	05:11	05:09	05:34	06:08	06:43		16:52 (E-8)	07:20	06:59	07:21
	16:55		19:11			19:48	20:19	20:33	20:15	19:28	18:32	18	17:10 (E-8)	17:42	16:13	16:19
31	07:06		06:33				05:10		05:35	06:09				07:21		07:21
	16:57		19:12				20:20		20:14	19:26				17:41		16:20
Potential sun hours	290	294	369		402	455	461	467	433	376		342		291	279
Total, worst case				206							179		37		
Sun reduction				0.53							0.56		0.53		
Oper. time red.				1.00							1.00		1.00		
Wind dir. red.				0.67							0.67		0.67		
Total reduction				0.36							0.38		0.36		
Total, real				74							68		13		

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 2
Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m**Shadow receptor:** A-289 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (105)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed0.0m/s

	January	February	March			April			May	June	July	August	September			October	November	December
1	07:21	07:05	06:26			06:31		17:30 (E-8)	05:41	05:10	05:10	05:36	06:11			06:44	06:22	07:00
	16:21	16:58	17:36			19:14	20	17:50 (E-8)	19:49	20:21	20:33	20:13	19:24			18:30	16:40	16:13
2	07:21	07:04	06:24			06:29		17:30 (E-8)	05:40	05:09	05:10	05:37	06:12			06:46	06:24	07:01
	16:22	16:59	17:37			19:15	21	17:51 (E-8)	19:50	20:22	20:33	20:11	19:23			18:28	16:38	16:12
3	07:21	07:03	06:22			06:27		17:30 (E-8)	05:39	05:09	05:11	05:38	06:13			06:47	06:25	07:03
	16:23	17:01	17:38			19:16	20	17:50 (E-8)	19:52	20:22	20:33	20:10	19:21			18:27	16:37	16:12
4	07:21	07:02	06:21			06:25		17:30 (E-8)	05:37	05:08	05:11	05:39	06:14			06:48	06:26	07:04
	16:24	17:02	17:39			19:17	19	17:49 (E-8)	19:53	20:23	20:33	20:09	19:19			18:25	16:36	16:12
5	07:21	07:01	06:19			06:24		17:31 (E-8)	05:36	05:08	05:12	05:40	06:15		17:31 (E-8)	06:49	06:28	07:05
	16:25	17:04	17:41			19:18	16	17:47 (E-8)	19:54	20:24	20:32	20:08	19:17	9	17:40 (E-8)	18:23	16:34	16:11
6	07:21	06:59	06:17			06:22		17:33 (E-8)	05:35	05:07	05:13	05:42	06:16		17:28 (E-8)	06:50	06:29	07:06
	16:26	17:05	17:42			19:20	14	17:47 (E-8)	19:55	20:25	20:32	20:06	19:16	14	17:42 (E-8)	18:21	16:33	16:11
7	07:21	06:58	06:15			06:20		17:34 (E-8)	05:33	05:07	05:13	05:43	06:17		17:27 (E-8)	06:51	06:30	07:07
	16:27	17:06	17:43			19:21	10	17:44 (E-8)	19:56	20:25	20:32	20:05	19:14	16	17:43 (E-8)	18:19	16:32	16:11
8	07:21	06:57	07:14			06:18			05:32	05:07	05:14	05:44	06:18		17:26 (E-8)	06:53	06:32	07:08
	16:28	17:08	18:45			19:22			19:57	20:26	20:31	20:04	19:12	18	17:44 (E-8)	18:18	16:31	16:11
9	07:21	06:56	07:12			06:17			05:31	05:07	05:15	05:45	06:20		17:24 (E-8)	06:54	06:33	07:09
	16:29	17:09	18:46			19:23			19:58	20:27	20:31	20:02	19:10	20	17:44 (E-8)	18:16	16:30	16:11
10	07:20	06:54	07:10			06:15			05:29	05:06	05:16	05:46	06:21		17:24 (E-8)	06:55	06:34	07:09
	16:30	17:10	18:47			19:24			20:00	20:27	20:31	20:01	19:08	20	17:44 (E-8)	18:14	16:29	16:11
11	07:20	06:53	07:08			06:13			05:28	05:06	05:16	05:47	06:22		17:23 (E-8)	06:56	06:36	07:10
	16:31	17:12	18:48			19:26			20:00	20:28	20:30	20:00	19:07	20	17:43 (E-8)	18:12	16:27	16:11
12	07:20	06:52	07:07			06:12			05:27	05:06	05:17	05:48	06:23		17:22 (E-8)	06:57	06:37	07:11
	16:32	17:13	18:49			19:27			20:01	20:29	20:30	19:57	19:05	21	17:43 (E-8)	18:11	16:26	16:11
13	07:19	06:50	07:05			06:10			05:26	05:06	05:18	05:49	06:24		17:22 (E-8)	06:59	06:38	07:12
	16:34	17:14	18:51			19:28			20:02	20:29	20:29	19:55	19:03	20	17:42 (E-8)	18:09	16:25	16:11
14	07:19	06:49	07:03			06:08			05:25	05:06	05:19	05:50	06:25		17:22 (E-8)	07:00	06:39	07:13
	16:35	17:16	18:52			19:29			20:03	20:30	20:29	19:54	19:01	19	17:41 (E-8)	18:07	16:24	16:11
15	07:18	06:47	07:01			06:06			05:24	05:06	05:20	05:52	06:26		17:23 (E-8)	07:01	06:41	07:14
	16:36	17:17	18:53			19:30			20:04	20:30	20:28	19:52	18:59	17	17:40 (E-8)	18:06	16:23	16:12
16	07:18	06:46	07:00			06:05			05:23	05:06	05:20	05:53	06:27		17:24 (E-8)	07:02	06:42	07:14
	16:37	17:19	18:54			19:31			20:05	20:31	20:27	19:51	18:58	14	17:38 (E-8)	18:04	16:22	16:12
17	07:17	06:44	06:58			06:03			05:22	05:06	05:21	05:54	06:28		17:25 (E-8)	07:03	06:43	07:15
	16:38	17:20	18:56			19:33			20:06	20:31	20:27	19:49	18:56	10	17:35 (E-8)	18:02	16:21	16:12
18	07:17	06:43	06:56			06:01			05:21	05:06	05:22	05:55	06:30			07:05	06:45	07:16
	16:40	17:21	18:57			19:34			20:07	20:31	20:26	19:48	18:54			18:01	16:21	16:12
19	07:16	06:42	06:54			06:00			05:20	05:06	05:23	05:56	06:31			07:06	06:46	07:16
	16:41	17:23	18:58			19:35			20:08	20:32	20:25	19:46	18:52			17:59	16:20	16:13
20	07:16	06:40	06:52			05:58			05:19	05:06	05:24	05:57	06:32			07:07	06:47	07:17
	16:42	17:24	18:59			19:36			20:09	20:32	20:24	19:45	18:50			17:58	16:19	16:13
21	07:15	06:38	06:51			05:57			05:18	05:06	05:25	05:58	06:33			07:08	06:48	07:18
	16:43	17:25	19:00			19:37			20:10	20:32	20:24	19:43	18:48			17:56	16:18	16:14
22	07:14	06:37	06:49			05:55			05:17	05:06	05:26	05:59	06:34			07:10	06:50	07:18
	16:45	17:27	19:02			19:39			20:11	20:33	20:23	19:41	18:47			17:54	16:17	16:14
23	07:13	06:35	06:47			05:53			05:16	05:07	05:27	06:00	06:35			07:11	06:51	07:19
	16:46	17:28	19:03			19:40			20:13	20:33	20:22	19:40	18:45			17:53	16:17	16:15
24	07:13	06:34	06:45			05:52			05:15	05:07	05:28	06:02	06:36			07:12	06:52	07:19
	16:47	17:29	19:04			19:41			20:14	20:33	20:21	19:38	18:43			17:51	16:16	16:15
25	07:12	06:32	06:43			05:50			05:14	05:07	05:29	06:03	06:37			07:13	06:53	07:19
	16:49	17:30	19:05			19:42			20:14	20:33	20:20	19:36	18:41			17:50	16:15	16:16
26	07:11	06:31	06:42		17:38 (E-8)	05:49			05:14	05:08	05:30	06:04	06:39			07:15	06:55	07:20
	16:50	17:32	19:06	8	17:46 (E-8)	19:43			20:15	20:33	20:19	19:35	18:39			17:48	16:15	16:16
27	07:10	06:29	06:40		17:35 (E-8)	05:47			05:13	05:08	05:31	06:05	06:40			07:16	06:56	07:20
	16:51	17:33	19:08	13	17:48 (E-8)	19:45			20:16	20:33	20:18	19:33	18:37			17:47	16:14	16:17
28	07:09	06:27	06:38		17:34 (E-8)	05:46			05:12	05:08	05:32	06:06	06:41			07:17	06:57	07:20
	16:53	17:34	19:09	16	17:50 (E-8)	19:46			20:17	20:33	20:17	19:31	18:36			17:45	16:14	16:18
29	07:08		06:36		17:32 (E-8)	05:44			05:11	05:09	05:33	06:07	06:42			07:19	06:58	07:21
	16:54		19:10	19	17:51 (E-8)	19:47			20:18	20:33	20:16	19:30	18:34			17:44	16:13	16:19
30	07:07		06:34		17:31 (E-8)	05:43			05:11	05:09	05:34	06:08	06:43			07:20	06:59	07:21
	16:55		19:11	20	17:51 (E-8)	19:48			20:19	20:33	20:15	19:28	18:32			17:42	16:13	16:19
31	07:06		06:33		17:30 (E-8)				05:10		05:35	06:09				07:21		07:21
	16:57		19:12	21	17:51 (E-8)				20:20		20:14	19:26				17:41		16:20
Potential sun hours	290	294	369			402			455	461	467	433	376			342	291	279
Total, worst case				97			120							218				
Sun reduction				0.53			0.53							0.56				
Oper. time red.				1.00			1.00							1.00				
Wind dir. red.				0.70			0.70							0.70				
Total reduction				0.37			0.37							0.39				
Total, real				36			45							85				

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 3

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** A-3 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (92)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05 07:46 (E-8)	06:26	06:31	05:41	05:10	05:10	05:36	06:11	06:44	06:23 07:16 (E-8)	07:00
	16:21	16:58 20 08:06 (E-8)	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30	16:40 19 07:35 (E-8)	16:13
2	07:21	07:04 07:44 (E-8)	06:24	06:29	05:40	05:09	05:10	05:37	06:12	06:46	06:24 07:15 (E-8)	07:02
	16:22	17:00 22 08:06 (E-8)	17:37	19:15	19:51	20:22	20:33	20:12	19:23	18:28	16:38 20 07:35 (E-8)	16:12
3	07:21	07:03 07:44 (E-8)	06:22	06:27	05:39	05:09	05:11	05:38	06:13	06:47	06:25 07:15 (E-8)	07:03
	16:23	17:01 22 08:06 (E-8)	17:38	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37 22 07:37 (E-8)	16:12
4	07:21	07:02 07:45 (E-8)	06:21	06:26	05:37	05:08	05:12	05:39	06:14	06:48	06:27 07:15 (E-8)	07:04
	16:24	17:02 22 08:07 (E-8)	17:40	19:17	19:53	20:23	20:33	20:09	19:19	18:25	16:36 22 07:37 (E-8)	16:12
5	07:21	07:01 07:45 (E-8)	06:19	06:24	05:36	05:08	05:12	05:41	06:15	06:49	06:28 07:15 (E-8)	07:05
	16:25	17:04 22 08:07 (E-8)	17:41	19:19	19:54	20:24	20:32	20:08	19:18	18:23	16:35 22 07:37 (E-8)	16:12
6	07:21	06:59 07:45 (E-8)	06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:50	06:29 07:15 (E-8)	07:06
	16:26	17:05 23 08:08 (E-8)	17:42	19:20	19:55	20:25	20:32	20:07	19:16	18:21	16:33 22 07:37 (E-8)	16:11
7	07:21	06:58 07:45 (E-8)	06:16	06:20	05:33	05:07	05:13	05:43	06:17	06:51	06:30 07:14 (E-8)	07:07
	16:27	17:06 22 08:07 (E-8)	17:43	19:21	19:56	20:26	20:32	20:05	19:14	18:20	16:32 23 07:37 (E-8)	16:11
8	07:21	06:57 07:46 (E-8)	07:14	06:19	05:32	05:07	05:14	05:44	06:18	06:53	06:32 07:15 (E-8)	07:08
	16:28	17:08 21 08:07 (E-8)	18:45	19:22	19:57	20:26	20:32	20:04	19:12	18:18	16:31 22 07:37 (E-8)	16:11
9	07:21	06:56 07:46 (E-8)	07:12	06:17	05:31	05:07	05:15	05:45	06:20	06:54	06:33 07:15 (E-8)	07:09
	16:29	17:09 21 08:07 (E-8)	18:46	19:23	19:59	20:27	20:31	20:03	19:10	18:16	16:30 22 07:37 (E-8)	16:11
10	07:21	06:54 07:47 (E-8)	07:10	06:15	05:30	05:06	05:16	05:46	06:21	06:55	06:34 07:17 (E-8)	07:10
	16:30	17:11 18 08:05 (E-8)	18:47	19:24	20:00	20:28	20:31	20:01	19:09	18:14	16:29 20 07:37 (E-8)	16:11
11	07:20	06:53 07:48 (E-8)	07:09	06:13	05:28	05:06	05:16	05:47	06:22	06:56	06:36 07:17 (E-8)	07:10
	16:31	17:12 16 08:04 (E-8)	18:48	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28 19 07:36 (E-8)	16:11
12	07:20	06:52 07:49 (E-8)	07:07	06:12	05:27	05:06	05:17	05:48	06:23	06:57	06:37 07:18 (E-8)	07:11
	16:33	17:13 13 08:02 (E-8)	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:26 17 07:35 (E-8)	16:11
13	07:19	06:50 07:52 (E-8)	07:05	06:10	05:26	05:06	05:18	05:49	06:24	06:59	06:38 07:20 (E-8)	07:12
	16:34	17:15 8 08:00 (E-8)	18:51	19:28	20:02	20:29	20:29	19:55	19:03	18:09	16:25 14 07:34 (E-8)	16:11
14	07:19	06:49	07:03	06:08	05:25	05:06	05:19	05:50	06:25	07:00	06:40 07:21 (E-8)	07:13
	16:35	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:07	16:24 11 07:32 (E-8)	16:11
15	07:19	06:48	07:01	06:07	05:24	05:06	05:20	05:52	06:26	07:01	06:41 07:24 (E-8)	07:14
	16:36	17:17	18:53	19:30	20:04	20:30	20:28	19:52	18:59	18:06	16:23 7 07:31 (E-8)	16:12
16	07:18	06:46	07:00	06:05	05:23	05:06	05:20	05:53	06:27	07:02	06:42	07:14
	16:37	17:19	18:55	19:32	20:05	20:31	20:27	19:51	18:58	18:04	16:22	16:12
17	07:18	06:45	06:58	06:03	05:22	05:06	05:21	05:54	06:29	07:04	06:43	07:15
	16:39	17:20	18:56	19:33	20:06	20:31	20:27	19:49	18:56	18:02	16:22	16:12
18	07:17	06:43	06:56	06:02	05:21	05:06	05:22	05:55	06:30	07:05	06:45	07:16
	16:40	17:21	18:57	19:34	20:07	20:31	20:26	19:48	18:54	18:01	16:21	16:12
19	07:16	06:42	06:54	06:00	05:20	05:06	05:23	05:56	06:31	07:06	06:46	07:16
	16:41	17:23	18:58	19:35	20:09	20:32	20:25	19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:53	05:58	05:19	05:06	05:24	05:57	06:32	07:07	06:47	07:17
	16:42	17:24	18:59	19:36	20:10	20:32	20:24	19:45	18:50	17:58	16:19	16:13
21	07:15	06:39	06:51	05:57	05:18	05:06	05:25	05:58	06:33	07:09	06:49	07:18
	16:44	17:25	19:01	19:38	20:11	20:32	20:24	19:43	18:48	17:56	16:18	16:14
22	07:14	06:37	06:49	05:55	05:17	05:07	05:26	05:59	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:12	20:33	20:23	19:42	18:47	17:54	16:18	16:14
23	07:14	06:35	06:47	05:54	05:16	05:07	05:27	06:01	06:35	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:45	05:52	05:15	05:07	05:28	06:02	06:36	07:12	06:52	07:19
	16:47	17:29	19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:51	16:16	16:15
25	07:12	06:32	06:44	05:50	05:14	05:07	05:29	06:03	06:38	07:14	06:53	07:19
	16:49	17:31	19:05	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14	05:08	05:30	06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:43	20:16	20:33	20:19	19:35	18:39	17:48	16:15	16:17
27	07:10 07:51 (E-8)	06:29	06:40	05:47	05:13	05:08	05:31	06:05	06:40	07:16	06:56	07:20
	16:51 7 07:58 (E-8)	17:33	19:08	19:45	20:17	20:33	20:18	19:33	18:37	17:47	16:14	16:17
28	07:09 07:49 (E-8)	06:27	06:38	05:46	05:12	05:08	05:32	06:06	06:41	07:17	06:57	07:20
	16:53 12 08:01 (E-8)	17:34	19:09	19:46	20:17	20:33	20:17	19:32	18:36	17:45	16:14	16:18
29	07:08 07:48 (E-8)		06:36	05:44	05:12	05:09	05:33	06:07	06:42	07:19 08:21 (E-8)	06:58	07:21
	16:54 14 08:02 (E-8)		19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44 10 08:31 (E-8)	16:13	16:19
30	07:07 07:47 (E-8)		06:35	05:43	05:11	05:09	05:34	06:08	06:43	07:20 08:18 (E-8)	06:59	07:21
	16:56 17 08:04 (E-8)		19:11	19:48	20:19	20:33	20:15	19:28	18:32	17:43 14 08:32 (E-8)	16:13	16:19
31	07:06 07:46 (E-8)		06:33		05:10		05:35	06:10		07:21 08:18 (E-8)		07:21
	16:57 19 08:05 (E-8)		19:13		20:20		20:14	19:26		17:41 16 08:34 (E-8)		16:20
Potential sun hours	290	294	369	402	455	461	467	433	376	342	291	279
Total, worst case	69	250								40	282	
Sun reduction	0.52	0.55								0.53	0.42	
Oper. time red.	1.00	1.00								1.00	1.00	
Wind dir. red.	0.70	0.70								0.70	0.70	
Total reduction	0.36	0.38								0.37	0.29	
Total, real	25	96								15	82	

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m**Shadow receptor:** A-336 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (106)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:42	05:10	05:10	05:36	06:11	06:45	06:23	07:01
	16:21	16:58	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30	16:40	16:13
2	07:22	07:04	06:24	06:29	05:40	05:09	05:10	05:37	06:12	06:46	06:24	07:02
	16:22	17:00	17:37	19:15	19:51	20:22	20:33	20:12	19:23	18:29	16:39	16:12
3	07:22	07:03	06:22	06:27	05:39	05:09	05:11	05:38	06:13	06:47	06:25	07:03
	16:23	17:01	17:38	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37	16:12
4	07:22	07:02	06:21	06:26	05:37	05:08	05:12	05:39	06:14	06:48	06:27	07:04
	16:24	17:02	17:40	19:17	19:53	20:23	20:33	20:09	19:19	18:25	16:36	16:12
5	07:21	07:01	06:19	06:24	05:36	05:08	05:12	05:41	06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:19	19:54	20:24	20:33	20:08	19:18	18:23	16:35	16:12
6	07:21	07:00	06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:50	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25	20:32	20:07	19:16	18:21	16:33	16:11
7	07:21	06:58	06:16	06:20	05:33	05:07	05:13	05:43	06:17	06:52	06:31	07:07
	16:27	17:06	17:43	19:21	19:56	20:26	20:32	20:05	19:14	18:20	16:32	16:11
8	07:21	06:57	07:14	06:19	05:32	05:07	05:14	05:44	06:19	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:58	20:26	20:32	20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31	05:07	05:15	05:45	06:20	06:54	06:33	07:09
	16:29	17:09	18:46	19:23	19:59	20:27	20:31	20:03	19:10	18:16	16:30	16:11
10	07:21	06:54	07:10	06:15	05:30	05:06	05:16	05:46	06:21	06:55	06:34	07:10
	16:30	17:11	18:47	19:25	20:00	20:28	20:31	20:01	19:09	18:14	16:29	16:11
11	07:20	06:53	07:09	06:13	05:28	05:06	05:16	05:47	06:22	06:56	06:36	07:11
	16:31	17:12	18:48	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28	16:11
12	07:20	06:52	07:07	06:12	05:27	05:06	05:17	05:48	06:23	06:58	06:37	07:11
	16:33	17:13	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:26	16:11
13	07:20	06:50	07:05	06:10	05:26	05:06	05:18	05:49	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02	20:29	20:29	19:56	19:03	18:09	16:25	16:11
14	07:19	06:49	07:03	06:08	05:25	05:06	05:19	05:51	06:25	07:00	06:40	07:13
	16:35	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:08	16:24	16:11
15	07:19	06:48	07:02	06:07	05:24	05:06	05:20	05:52	06:26	07:01	06:41	07:14
	16:36	17:17	18:53	19:30	20:04	20:30	20:28	19:53	19:00	18:06	16:23	16:12
16	07:18	06:46	07:00	06:05	05:23	05:06	05:20	05:53	06:27	07:02	06:42	07:15
	16:37	17:19	18:55	19:32	20:05	20:31	20:28	19:51	18:58	18:04	16:23	16:12
17	07:18	06:45	06:58	06:03	05:22	05:06	05:21	05:54	06:29	07:04	06:44	07:15
	16:39	17:20	18:56	19:33	20:06	20:31	20:27	19:50	18:56	18:03	16:22	16:12
18	07:17	06:43	06:56	06:02	05:21	05:06	05:22	05:55	06:30	07:05	06:45	07:16
	16:40	17:21	18:57	19:34	20:08	20:32	20:26	19:48	18:54	18:01	16:21	16:13
19	07:16	06:42	06:54	06:00	05:20	05:06	05:23	05:56	06:31	07:06	06:46	07:17
	16:41	17:23	18:58	19:35	20:09	20:32	20:25	19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:53	05:58	05:19	05:06	05:24	05:57	06:32	07:07	06:47	07:17
	16:42	17:24	18:59	19:36	20:10	20:32	20:25	19:45	18:50	17:58	16:19	16:13
21	07:15	06:39	06:51	05:57	05:18	05:06	05:25	05:58	06:33	07:09	06:49	07:18
	16:44	17:25	19:01	19:38	20:11	20:33	20:24	19:43	18:49	17:56	16:18	16:14
22	07:14	06:37	06:49	05:55	05:17	05:07	05:26	05:59	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:12	20:33	20:23	19:42	18:47	17:55	16:18	16:14
23	07:14	06:36	06:47	05:54	05:16	05:07	05:27	06:01	06:35	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:45	05:52	05:15	05:07	05:28	06:02	06:36	07:12	06:52	07:19
	16:48	17:29	19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:51	16:16	16:15
25	07:12	06:32	06:44	05:50	05:14	05:07	05:29	06:03	06:38	07:14	06:54	07:20
	16:49	17:31	19:05	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14	05:08	05:30	06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:44	20:16	20:33	20:19	19:35	18:39	17:48	16:15	16:17
27	07:10	06:29	06:40	05:47	05:13	05:08	05:31	06:05	06:40	07:16	06:56	07:20
	16:51	17:33	19:08	19:45	20:17	20:33	20:18	19:33	18:38	17:47	16:14	16:17
28	07:09	06:27	06:38	05:46	05:12	05:08	05:32	06:06	06:41	07:17	06:57	07:21
	16:53	17:34	19:09	19:46	20:18	20:33	20:17	19:32	18:36	17:45	16:14	16:18
29	07:08		06:36	05:44	05:12	05:09	05:33	06:07	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:13	16:19
30	07:07		06:35	05:43	05:11	05:09	05:34	06:08	06:43	07:20	06:59	07:21
	16:56		19:11	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	16:19
31	07:06		06:33		05:10		05:35	06:10		07:21		07:21
	16:57		19:13		20:20		20:14	19:26		17:41		16:20
Potential sun hours	290	294	369	402	455	461	468	433	376	342	291	279
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 5

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m**Shadow receptor:** A-345 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (107)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed0.0m/s

	January			February			March	April	May	June	July	August	September	October			November			December
1	07:21			07:05		14:59 (N-4)	06:26	06:31	05:41	05:10	05:10	05:36	06:11	06:44			06:23		14:35 (N-4)	07:01
	16:21			16:58	24	15:23 (N-4)	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30			16:40	13	14:48 (N-4)	16:13
2	07:21			07:04		14:59 (N-4)	06:24	06:29	05:40	05:09	05:10	05:37	06:12	06:46			06:24		14:33 (N-4)	07:02
	16:22			17:00	23	15:22 (N-4)	17:37	19:15	19:51	20:22	20:33	20:12	19:23	18:28			16:38	17	14:50 (N-4)	16:12
3	07:21			07:03		14:59 (N-4)	06:22	06:27	05:39	05:09	05:11	05:38	06:13	06:47			06:25		14:32 (N-4)	07:03
	16:23			17:01	24	15:23 (N-4)	17:38	19:16	19:52	20:23	20:33	20:10	19:21	18:27			16:37	19	14:51 (N-4)	16:12
4	07:21			07:02		15:00 (N-4)	06:21	06:26	05:37	05:08	05:12	05:39	06:14	06:48			06:27		14:31 (N-4)	07:04
	16:24			17:02	23	15:23 (N-4)	17:40	19:17	19:53	20:23	20:33	20:09	19:19	18:25			16:36	21	14:52 (N-4)	16:12
5	07:21			07:01		15:00 (N-4)	06:19	06:24	05:36	05:08	05:12	05:41	06:15	06:49			06:28		14:31 (N-4)	07:05
	16:25			17:04	23	15:23 (N-4)	17:41	19:19	19:54	20:24	20:33	20:08	19:18	18:23			16:35	22	14:53 (N-4)	16:12
6	07:21			07:00		15:01 (N-4)	06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:50			06:29		14:30 (N-4)	07:06
	16:26			17:05	22	15:23 (N-4)	17:42	19:20	19:55	20:25	20:32	20:07	19:16	18:21			16:33	23	14:53 (N-4)	16:11
7	07:21			06:58		15:01 (N-4)	06:16	06:20	05:33	05:07	05:13	05:43	06:17	06:52			06:30		14:29 (N-4)	07:07
	16:27			17:06	21	15:22 (N-4)	17:43	19:21	19:56	20:26	20:32	20:05	19:14	18:20			16:32	24	14:53 (N-4)	16:11
8	07:21			06:57		15:03 (N-4)	07:14	06:19	05:32	05:07	05:14	05:44	06:19	06:53			06:32		14:30 (N-4)	07:08
	16:28			17:08	18	15:21 (N-4)	18:45	19:22	19:58	20:26	20:32	20:04	19:12	18:18			16:31	24	14:54 (N-4)	16:11
9	07:21			06:56		15:04 (N-4)	07:12	06:17	05:31	05:07	05:15	05:45	06:20	06:54			06:33		14:29 (N-4)	07:09
	16:29			17:09	17	15:21 (N-4)	18:46	19:23	19:59	20:27	20:31	20:03	19:10	18:16			16:30	24	14:53 (N-4)	16:11
10	07:21			06:54		15:06 (N-4)	07:10	06:15	05:30	05:06	05:16	05:46	06:21	06:55			06:34		14:30 (N-4)	07:10
	16:30			17:11	12	15:18 (N-4)	18:47	19:25	20:00	20:28	20:31	20:01	19:09	18:14			16:29	24	14:54 (N-4)	16:11
11	07:20			06:53		15:09 (N-4)	07:09	06:13	05:28	05:06	05:16	05:47	06:22	06:56			06:36		14:30 (N-4)	07:11
	16:31			17:12	7	15:16 (N-4)	18:48	19:26	20:00	20:28	20:30	20:00	19:07	18:13			16:28	23	14:53 (N-4)	16:11
12	07:20			06:52			07:07	06:12	05:27	05:06	05:17	05:48	06:23	06:57			06:37		14:30 (N-4)	07:11
	16:33			17:13			18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11			16:26	23	14:53 (N-4)	16:11
13	07:20			06:50			07:05	06:10	05:26	05:06	05:18	05:49	06:24	06:59			06:38		14:31 (N-4)	07:12
	16:34			17:15			18:51	19:28	20:02	20:29	20:29	19:56	19:03	18:09			16:25	22	14:53 (N-4)	16:11
14	07:19			06:49			07:03	06:08	05:25	05:06	05:19	05:50	06:25	07:00			06:40		14:32 (N-4)	07:13
	16:35			17:16			18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:08			16:24	20	14:52 (N-4)	16:11
15	07:19			06:48			07:02	06:07	05:24	05:06	05:20	05:52	06:26	07:01			06:41		14:33 (N-4)	07:14
	16:36			17:17			18:53	19:30	20:04	20:30	20:28	19:53	19:00	18:06			16:23	19	14:52 (N-4)	16:12
16	07:18			06:46			07:00	06:05	05:23	05:06	05:20	05:53	06:27	07:02			06:42		14:34 (N-4)	07:15
	16:37			17:19			18:55	19:32	20:05	20:31	20:27	19:51	18:58	18:04			16:22	17	14:51 (N-4)	16:12
17	07:18			06:45			06:58	06:03	05:22	05:06	05:21	05:54	06:29	07:04			06:44		14:35 (N-4)	07:15
	16:39			17:20			18:56	19:33	20:06	20:31	20:27	19:49	18:56	18:03			16:22	14	14:49 (N-4)	16:12
18	07:17			06:43			06:56	06:02	05:21	05:06	05:22	05:55	06:30	07:05			06:45		14:37 (N-4)	07:16
	16:40			17:21			18:57	19:34	20:08	20:32	20:26	19:48	18:54	18:01			16:21	12	14:49 (N-4)	16:12
19	07:16			06:42			06:54	06:00	05:20	05:06	05:23	05:56	06:31	07:06			06:46		14:40 (N-4)	07:17
	16:41			17:23			18:58	19:35	20:09	20:32	20:25	19:46	18:52	17:59			16:20	6	14:46 (N-4)	16:13
20	07:16			06:40			06:53	05:58	05:19	05:06	05:24	05:57	06:32	07:07			06:47			07:17
	16:42			17:24			18:59	19:36	20:10	20:32	20:25	19:45	18:50	17:58			16:19			16:13
21	07:15			06:39			06:51	05:57	05:18	05:06	05:25	05:58	06:33	07:09			06:49			07:18
	16:44			17:25			19:01	19:38	20:11	20:32	20:24	19:43	18:48	17:56			16:18			16:14
22	07:14			06:37			06:49	05:55	05:17	05:07	05:26	05:59	06:34	07:10			06:50			07:18
	16:45			17:27			19:02	19:39	20:12	20:33	20:23	19:42	18:47	17:54			16:18			16:14
23	07:14		15:06 (N-4)	06:35			06:47	05:54	05:16	05:07	05:27	06:01	06:35	07:11			06:51			07:19
	16:46	6	15:12 (N-4)	17:28			19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53			16:17			16:15
24	07:13		15:03 (N-4)	06:34			06:45	05:52	05:15	05:07	05:28	06:02	06:36	07:12			06:52			07:19
	16:47	12	15:15 (N-4)	17:29			19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:51			16:16			16:15
25	07:12		15:02 (N-4)	06:32			06:44	05:50	05:14	05:07	05:29	06:03	06:38	07:14			06:54			07:20
	16:49	14	15:16 (N-4)	17:31			19:05	19:42	20:15	20:33	20:20	19:37	18:41	17:50			16:16			16:16
26	07:11		15:01 (N-4)	06:31			06:42	05:49	05:14	05:08	05:30	06:04	06:39	07:15			06:55			07:20
	16:50	17	15:18 (N-4)	17:32			19:07	19:44	20:16	20:33	20:19	19:35	18:39	17:48			16:15			16:17
27	07:10		15:00 (N-4)	06:29			06:40	05:47	05:13	05:08	05:31	06:05	06:40	07:16			06:56			07:20
	16:51	19	15:19 (N-4)	17:33			19:08	19:45	20:17	20:33	20:18	19:33	18:38	17:47			16:14			16:17
28	07:09		15:00 (N-4)	06:27			06:38	05:46	05:12	05:08	05:32	06:06	06:41	07:17			06:57			07:21
	16:53	20	15:20 (N-4)	17:34			19:09	19:46	20:18	20:33	20:17	19:32	18:36	17:45			16:14			16:18
29	07:08		14:59 (N-4)				06:36	05:44	05:12	05:09	05:33	06:07	06:42	07:19			06:58			07:21
	16:54	22	15:21 (N-4)				19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44			16:13			16:19
30	07:07		14:59 (N-4)				06:35	05:43	05:11	05:09	05:34	06:08	06:43	07:20			06:59			07:21
	16:56	23	15:22 (N-4)				19:11	19:48	20:19	20:33	20:15	19:28	18:32	17:43			16:13			16:19
31	07:06		14:59 (N-4)				06:33		05:10		05:35	06:10		07:21		15:38 (N-4)				07:21
	16:57	23	15:22 (N-4)				19:13		20:20		20:14	19:26		17:41	8	15:46 (N-4)				16:20
Potential sun hours	290			294			369	402	455	461	468	433	376	342			291			279
Total, worst case		156			214										8			367		
Sun reduction		0.52			0.55										0.53			0.42		
Oper. time red.		1.00			1.00										1.00			1.00		
Wind dir. red.		0.62			0.62										0.62			0.62		
Total reduction		0.32			0.34										0.33			0.26		
Total, real		50			73										3			95		

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 6

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** A-57 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (93)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January			February	March	April	May	June	July	August	September	October	November			December		
1	07:21			07:05	06:26	06:31	05:41	05:10	05:10	05:36	06:11	06:44	06:23			07:01		14:31 (N-4)
	16:21			16:58	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30	16:40			16:13	17	14:48 (N-4)
2	07:21			07:04	06:24	06:29	05:40	05:09	05:10	05:37	06:12	06:46	06:24			07:02		14:31 (N-4)
	16:22			17:00	17:37	19:15	19:51	20:22	20:33	20:12	19:23	18:28	16:38			16:12	16	14:47 (N-4)
3	07:22			07:03	06:22	06:27	05:39	05:09	05:11	05:38	06:13	06:47	06:25			07:03		14:33 (N-4)
	16:23			17:01	17:38	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37			16:12	15	14:48 (N-4)
4	07:21			07:02	06:21	06:26	05:37	05:08	05:12	05:39	06:14	06:48	06:27			07:04		14:34 (N-4)
	16:24			17:02	17:40	19:17	19:53	20:23	20:33	20:09	19:19	18:25	16:36			16:12	13	14:47 (N-4)
5	07:21		14:52 (N-4)	07:01	06:19	06:24	05:36	05:08	05:12	05:41	06:15	06:49	06:28			07:05		14:36 (N-4)
	16:25	6	14:58 (N-4)	17:04	17:41	19:19	19:54	20:24	20:33	20:08	19:18	18:23	16:35			16:12	11	14:47 (N-4)
6	07:21		14:51 (N-4)	07:00	06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:50	06:29			07:06		14:37 (N-4)
	16:26	9	15:00 (N-4)	17:05	17:42	19:20	19:55	20:25	20:32	20:07	19:16	18:21	16:33			16:11	9	14:46 (N-4)
7	07:21		14:51 (N-4)	06:58	06:16	06:20	05:33	05:07	05:13	05:43	06:17	06:52	06:30			07:07		14:39 (N-4)
	16:27	11	15:02 (N-4)	17:06	17:43	19:21	19:56	20:26	20:32	20:05	19:14	18:20	16:32			16:11	6	14:45 (N-4)
8	07:21		14:49 (N-4)	06:57	07:14	06:19	05:32	05:07	05:14	05:44	06:19	06:53	06:32			07:08		14:42 (N-4)
	16:28	13	15:02 (N-4)	17:08	18:45	19:22	19:58	20:26	20:32	20:04	19:12	18:18	16:31			16:11	2	14:43 (N-4)
9	07:21		14:49 (N-4)	06:56	07:12	06:17	05:31	05:07	05:15	05:45	06:20	06:54	06:33			07:09		
	16:29	15	15:04 (N-4)	17:09	18:46	19:23	19:59	20:27	20:31	20:03	19:10	18:16	16:30			16:11		
10	07:21		14:49 (N-4)	06:54	07:10	06:15	05:30	05:06	05:16	05:46	06:21	06:55	06:34			07:10		
	16:30	16	15:05 (N-4)	17:11	18:47	19:25	20:00	20:28	20:31	20:01	19:09	18:14	16:29			16:11		
11	07:20		14:49 (N-4)	06:53	07:09	06:13	05:28	05:06	05:16	05:47	06:22	06:56	06:36			07:11		
	16:31	17	15:06 (N-4)	17:12	18:48	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28			16:11		
12	07:20		14:49 (N-4)	06:52	07:07	06:12	05:27	05:06	05:17	05:48	06:23	06:57	06:37		14:31 (N-4)	07:11		
	16:33	18	15:07 (N-4)	17:13	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:26	8	14:39 (N-4)	16:11		
13	07:20		14:48 (N-4)	06:50	07:05	06:10	05:26	05:06	05:18	05:49	06:24	06:59	06:38		14:29 (N-4)	07:12		
	16:34	19	15:07 (N-4)	17:15	18:51	19:28	20:02	20:29	20:29	19:56	19:03	18:09	16:25	13	14:42 (N-4)	16:11		
14	07:19		14:49 (N-4)	06:49	07:03	06:08	05:25	05:06	05:19	05:50	06:25	07:00	06:40		14:28 (N-4)	07:13		
	16:35	20	15:09 (N-4)	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:08	16:24	15	14:43 (N-4)	16:11		
15	07:19		14:48 (N-4)	06:48	07:02	06:07	05:24	05:06	05:20	05:52	06:26	07:01	06:41		14:27 (N-4)	07:14		
	16:36	21	15:09 (N-4)	17:17	18:53	19:30	20:04	20:30	20:28	19:53	19:00	18:06	16:23	18	14:45 (N-4)	16:12		
16	07:18		14:49 (N-4)	06:46	07:00	06:05	05:23	05:06	05:20	05:53	06:27	07:02	06:42		14:26 (N-4)	07:15		
	16:37	21	15:10 (N-4)	17:19	18:55	19:32	20:05	20:31	20:27	19:51	18:58	18:04	16:22	19	14:45 (N-4)	16:12		
17	07:18		14:49 (N-4)	06:45	06:58	06:03	05:22	05:06	05:21	05:54	06:29	07:04	06:44		14:25 (N-4)	07:15		
	16:39	22	15:11 (N-4)	17:20	18:56	19:33	20:06	20:31	20:27	19:49	18:56	18:03	16:22	21	14:46 (N-4)	16:12		
18	07:17		14:49 (N-4)	06:43	06:56	06:02	05:21	05:06	05:22	05:55	06:30	07:05	06:45		14:26 (N-4)	07:16		
	16:40	22	15:11 (N-4)	17:21	18:57	19:34	20:08	20:32	20:26	19:48	18:54	18:01	16:21	21	14:47 (N-4)	16:12		
19	07:16		14:50 (N-4)	06:42	06:54	06:00	05:20	05:06	05:23	05:56	06:31	07:06	06:46		14:25 (N-4)	07:17		
	16:41	22	15:12 (N-4)	17:23	18:58	19:35	20:09	20:32	20:25	19:46	18:52	17:59	16:20	22	14:47 (N-4)	16:13		
20	07:16		14:50 (N-4)	06:40	06:53	05:58	05:19	05:06	05:24	05:57	06:32	07:07	06:47		14:25 (N-4)	07:17		
	16:42	22	15:12 (N-4)	17:24	18:59	19:36	20:10	20:32	20:25	19:45	18:50	17:58	16:19	22	14:47 (N-4)	16:13		
21	07:15		14:50 (N-4)	06:39	06:51	05:57	05:18	05:06	05:25	05:58	06:33	07:09	06:49		14:26 (N-4)	07:18		
	16:44	22	15:12 (N-4)	17:25	19:01	19:38	20:11	20:32	20:24	19:43	18:48	17:56	16:18	22	14:48 (N-4)	16:14		
22	07:14		14:50 (N-4)	06:37	06:49	05:55	05:17	05:07	05:26	05:59	06:34	07:10	06:50		14:26 (N-4)	07:18		
	16:45	22	15:12 (N-4)	17:27	19:02	19:39	20:12	20:33	20:23	19:42	18:47	17:54	16:18	22	14:48 (N-4)	16:14		
23	07:14		14:51 (N-4)	06:35	06:47	05:54	05:16	05:07	05:27	06:01	06:35	07:11	06:51		14:26 (N-4)	07:19		
	16:46	22	15:13 (N-4)	17:28	19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	22	14:48 (N-4)	16:15		
24	07:13		14:52 (N-4)	06:34	06:45	05:52	05:15	05:07	05:28	06:02	06:36	07:12	06:52		14:27 (N-4)	07:19		
	16:47	21	15:13 (N-4)	17:29	19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:51	16:16	22	14:49 (N-4)	16:15		
25	07:12		14:52 (N-4)	06:32	06:44	05:50	05:14	05:07	05:29	06:03	06:38	07:14	06:54		14:27 (N-4)	07:20		
	16:49	21	15:13 (N-4)	17:31	19:05	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	22	14:49 (N-4)	16:16		
26	07:11		14:53 (N-4)	06:31	06:42	05:49	05:14	05:08	05:30	06:04	06:39	07:15	06:55		14:27 (N-4)	07:20		
	16:50	19	15:12 (N-4)	17:32	19:07	19:44	20:16	20:33	20:19	19:35	18:39	17:48	16:15	21	14:48 (N-4)	16:17		
27	07:10		14:54 (N-4)	06:29	06:40	05:47	05:13	05:08	05:31	06:05	06:40	07:16	06:56		14:28 (N-4)	07:20		
	16:51	18	15:12 (N-4)	17:33	19:08	19:45	20:17	20:33	20:18	19:33	18:38	17:47	16:14	21	14:49 (N-4)	16:17		
28	07:09		14:56 (N-4)	06:27	06:38	05:46	05:12	05:08	05:32	06:06	06:41	07:17	06:57		14:29 (N-4)	07:21		
	16:53	15	15:11 (N-4)	17:34	19:09	19:46	20:18	20:33	20:17	19:32	18:36	17:45	16:14	20	14:49 (N-4)	16:18		
29	07:08		14:58 (N-4)		06:36	05:44	05:12	05:09	05:33	06:07	06:42	07:19	06:58		14:29 (N-4)	07:21		
	16:54	12	15:10 (N-4)		19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:13	20	14:49 (N-4)	16:19		
30	07:07		15:00 (N-4)		06:35	05:43	05:11	05:09	05:34	06:08	06:43	07:20	06:59		14:30 (N-4)	07:21		
	16:56	8	15:08 (N-4)		19:11	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	18	14:48 (N-4)	16:19		
31	07:06				06:33		05:10		05:35	06:10		07:21				07:21		
	16:57				19:13		20:20		20:14	19:26		17:41				16:20		
Potential sun hours	290			294	369	402	455	461	468	433	376	342	291			279		
Total, worst case		454												369			89	
Sun reduction		0.52												0.42			0.47	
Oper. time red.		1.00												1.00			1.00	
Wind dir. red.		0.60												0.60			0.60	
Total reduction		0.31												0.25			0.28	
Total, real		142												93			25	

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 7

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** A-61 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (94)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January			February	March	April	May	June	July	August	September	October	November			December		
1	07:21		14:21 (N-4)	07:05	06:26	06:31	05:41	05:10	05:10	05:36	06:11	06:44	06:23			07:01		14:08 (N-4)
	16:21	24	14:45 (N-4)	16:58	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30	16:40			16:13	23	14:31 (N-4)
2	07:21		14:21 (N-4)	07:04	06:24	06:29	05:40	05:09	05:10	05:37	06:12	06:46	06:24			07:02		14:08 (N-4)
	16:22	24	14:45 (N-4)	17:00	17:37	19:15	19:51	20:22	20:33	20:12	19:23	18:28	16:38			16:12	23	14:31 (N-4)
3	07:22		14:22 (N-4)	07:03	06:22	06:27	05:39	05:09	05:11	05:38	06:13	06:47	06:25			07:03		14:09 (N-4)
	16:23	24	14:46 (N-4)	17:01	17:38	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37			16:12	23	14:32 (N-4)
4	07:22		14:22 (N-4)	07:02	06:21	06:26	05:37	05:08	05:12	05:39	06:14	06:48	06:27			07:04		14:09 (N-4)
	16:24	25	14:47 (N-4)	17:02	17:40	19:17	19:53	20:23	20:33	20:09	19:19	18:25	16:36			16:12	24	14:33 (N-4)
5	07:21		14:23 (N-4)	07:01	06:19	06:24	05:36	05:08	05:12	05:41	06:15	06:49	06:28			07:05		14:10 (N-4)
	16:25	24	14:47 (N-4)	17:04	17:41	19:19	19:54	20:24	20:33	20:08	19:18	18:23	16:35			16:12	23	14:33 (N-4)
6	07:21		14:24 (N-4)	07:00	06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:50	06:29			07:06		14:10 (N-4)
	16:26	24	14:48 (N-4)	17:05	17:42	19:20	19:55	20:25	20:32	20:07	19:16	18:21	16:33			16:11	24	14:34 (N-4)
7	07:21		14:24 (N-4)	06:58	06:16	06:20	05:33	05:07	05:13	05:43	06:17	06:52	06:30			07:07		14:10 (N-4)
	16:27	24	14:48 (N-4)	17:06	17:43	19:21	19:56	20:26	20:32	20:05	19:14	18:20	16:32			16:11	24	14:34 (N-4)
8	07:21		14:24 (N-4)	06:57	07:14	06:19	05:32	05:07	05:14	05:44	06:19	06:53	06:32			07:08		14:11 (N-4)
	16:28	24	14:48 (N-4)	17:08	18:45	19:22	19:58	20:26	20:32	20:04	19:12	18:18	16:31			16:11	24	14:35 (N-4)
9	07:21		14:25 (N-4)	06:56	07:12	06:17	05:31	05:07	05:15	05:45	06:20	06:54	06:33			07:09		14:11 (N-4)
	16:29	23	14:48 (N-4)	17:09	18:46	19:23	19:59	20:27	20:31	20:03	19:10	18:16	16:30			16:11	24	14:35 (N-4)
10	07:21		14:26 (N-4)	06:54	07:10	06:15	05:30	05:06	05:16	05:46	06:21	06:55	06:34			07:10		14:11 (N-4)
	16:30	23	14:49 (N-4)	17:11	18:47	19:25	20:00	20:28	20:31	20:01	19:09	18:14	16:29			16:11	25	14:36 (N-4)
11	07:20		14:26 (N-4)	06:53	07:09	06:13	05:28	05:06	05:16	05:47	06:22	06:56	06:36			07:11		14:12 (N-4)
	16:31	22	14:48 (N-4)	17:12	18:48	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28			16:11	24	14:36 (N-4)
12	07:20		14:27 (N-4)	06:52	07:07	06:12	05:27	05:06	05:17	05:48	06:23	06:57	06:37			07:11		14:12 (N-4)
	16:33	22	14:49 (N-4)	17:13	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:26			16:11	24	14:36 (N-4)
13	07:20		14:28 (N-4)	06:50	07:05	06:10	05:26	05:06	05:18	05:49	06:24	06:59	06:38			07:12		14:12 (N-4)
	16:34	20	14:48 (N-4)	17:15	18:51	19:28	20:02	20:29	20:29	19:56	19:03	18:09	16:25			16:11	24	14:36 (N-4)
14	07:19		14:29 (N-4)	06:49	07:03	06:08	05:25	05:06	05:19	05:50	06:25	07:00	06:40			07:13		14:13 (N-4)
	16:35	20	14:49 (N-4)	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:08	16:24			16:11	24	14:37 (N-4)
15	07:19		14:30 (N-4)	06:48	07:02	06:07	05:24	05:06	05:20	05:52	06:26	07:01	06:41			07:14		14:14 (N-4)
	16:36	18	14:48 (N-4)	17:17	18:53	19:30	20:04	20:30	20:28	19:53	19:00	18:06	16:23			16:12	23	14:37 (N-4)
16	07:18		14:31 (N-4)	06:46	07:00	06:05	05:23	05:06	05:20	05:53	06:27	07:02	06:42			07:15		14:13 (N-4)
	16:37	18	14:49 (N-4)	17:19	18:55	19:32	20:05	20:31	20:27	19:51	18:58	18:04	16:22			16:12	24	14:37 (N-4)
17	07:18		14:32 (N-4)	06:45	06:58	06:03	05:22	05:06	05:21	05:54	06:29	07:04	06:44			07:15		14:14 (N-4)
	16:39	16	14:48 (N-4)	17:20	18:56	19:33	20:06	20:31	20:27	19:49	18:56	18:03	16:22			16:12	24	14:38 (N-4)
18	07:17		14:33 (N-4)	06:43	06:56	06:02	05:21	05:06	05:22	05:55	06:30	07:05	06:45			07:16		14:15 (N-4)
	16:40	14	14:47 (N-4)	17:21	18:57	19:34	20:08	20:32	20:26	19:48	18:54	18:01	16:21			16:12	24	14:39 (N-4)
19	07:16		14:36 (N-4)	06:42	06:54	06:00	05:20	05:06	05:23	05:56	06:31	07:06	06:46			07:17		14:15 (N-4)
	16:41	10	14:46 (N-4)	17:23	18:58	19:35	20:09	20:32	20:25	19:46	18:52	17:59	16:20			16:13	24	14:39 (N-4)
20	07:16		14:39 (N-4)	06:40	06:53	05:58	05:19	05:06	05:24	05:57	06:32	07:07	06:47			07:17		14:16 (N-4)
	16:42	4	14:43 (N-4)	17:24	18:59	19:36	20:10	20:32	20:25	19:45	18:50	17:58	16:19			16:13	23	14:39 (N-4)
21	07:15			06:39	06:51	05:57	05:18	05:06	05:25	05:58	06:33	07:09	06:49			07:18		14:16 (N-4)
	16:44			17:25	19:01	19:38	20:11	20:32	20:24	19:43	18:49	17:56	16:18			16:14	23	14:39 (N-4)
22	07:14			06:37	06:49	05:55	05:17	05:07	05:26	05:59	06:34	07:10	06:50		14:15 (N-4)	07:18		14:17 (N-4)
	16:45			17:27	19:02	19:39	20:12	20:33	20:23	19:42	18:47	17:54	16:18	4	14:19 (N-4)	16:14	23	14:40 (N-4)
23	07:14			06:35	06:47	05:54	05:16	05:07	05:27	06:01	06:35	07:11	06:51		14:12 (N-4)	07:19		14:17 (N-4)
	16:46			17:28	19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	10	14:22 (N-4)	16:15	23	14:40 (N-4)
24	07:13			06:34	06:45	05:52	05:15	05:07	05:28	06:02	06:36	07:12	06:52		14:11 (N-4)	07:19		14:18 (N-4)
	16:47			17:29	19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:51	16:16	14	14:25 (N-4)	16:15	24	14:42 (N-4)
25	07:12			06:32	06:44	05:50	05:14	05:07	05:29	06:03	06:38	07:14	06:54		14:10 (N-4)	07:20		14:18 (N-4)
	16:49			17:31	19:05	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	16	14:26 (N-4)	16:16	24	14:42 (N-4)
26	07:11			06:31	06:42	05:49	05:14	05:08	05:30	06:04	06:39	07:15	06:55		14:09 (N-4)	07:20		14:18 (N-4)
	16:50			17:32	19:07	19:44	20:16	20:33	20:19	19:35	18:39	17:48	16:15	18	14:27 (N-4)	16:17	24	14:42 (N-4)
27	07:10			06:29	06:40	05:47	05:13	05:08	05:31	06:05	06:40	07:16	06:56		14:10 (N-4)	07:20		14:19 (N-4)
	16:51			17:33	19:08	19:45	20:17	20:33	20:18	19:33	18:38	17:47	16:14	18	14:28 (N-4)	16:17	24	14:43 (N-4)
28	07:09			06:27	06:38	05:46	05:12	05:08	05:32	06:06	06:41	07:17	06:57		14:09 (N-4)	07:21		14:20 (N-4)
	16:53			17:34	19:09	19:46	20:18	20:33	20:17	19:32	18:36	17:45	16:14	20	14:29 (N-4)	16:18	23	14:43 (N-4)
29	07:08				06:36	05:44	05:12	05:09	05:33	06:07	06:42	07:19	06:58		14:09 (N-4)	07:21		14:20 (N-4)
	16:54				19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:13	20	14:29 (N-4)	16:19	24	14:44 (N-4)
30	07:07				06:35	05:43	05:11	05:09	05:34	06:08	06:43	07:20	06:59		14:08 (N-4)	07:21		14:20 (N-4)
	16:56				19:11	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	22	14:30 (N-4)	16:19	24	14:44 (N-4)
31	07:06				06:33		05:10		05:35	06:10		07:21				07:21		14:20 (N-4)
	16:57				19:13		20:20		20:14	19:26		17:41				16:20	24	14:44 (N-4)
Potential sun hours	290			294	369	402	455	461	468	433	376	342	291			279		
Total, worst case		403												142			735	
Sun reduction		0.52												0.42			0.47	
Oper. time red.		1.00												1.00			1.00	
Wind dir. red.		0.60												0.60			0.60	
Total reduction		0.31												0.25			0.28	
Total, real		125												36			206	

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 8
Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** A-91 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (100)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:42	05:10	05:10	05:36	06:11	06:45	06:23	07:01
	16:21	16:58	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30	16:40	16:13
2	07:22	07:04	06:24	06:29	05:40	05:09	05:10	05:37	06:12	06:46	06:24	07:02
	16:22	17:00	17:37	19:15	19:51	20:22	20:33	20:12	19:23	18:29	16:39	16:12
3	07:22	07:03	06:22	06:27	05:39	05:09	05:11	05:38	06:13	06:47	06:25	07:03
	16:23	17:01	17:38	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37	16:12
4	07:22	07:02	06:21	06:26	05:37	05:08	05:12	05:39	06:14	06:48	06:27	07:04
	16:24	17:02	17:40	19:17	19:53	20:23	20:33	20:09	19:19	18:25	16:36	16:12
5	07:21	07:01	06:19	06:24	05:36	05:08	05:12	05:41	06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:19	19:54	20:24	20:33	20:08	19:18	18:23	16:35	16:12
6	07:21	07:00	06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:50	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25	20:32	20:07	19:16	18:21	16:33	16:11
7	07:21	06:58	06:16	06:20	05:33	05:07	05:13	05:43	06:17	06:52	06:31	07:07
	16:27	17:06	17:43	19:21	19:56	20:26	20:32	20:05	19:14	18:20	16:32	16:11
8	07:21	06:57	07:14	06:19	05:32	05:07	05:14	05:44	06:19	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:58	20:26	20:32	20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31	05:07	05:15	05:45	06:20	06:54	06:33	07:09
	16:29	17:09	18:46	19:23	19:59	20:27	20:31	20:03	19:10	18:16	16:30	16:11
10	07:21	06:54	07:10	06:15	05:30	05:06	05:16	05:46	06:21	06:55	06:34	07:10
	16:30	17:11	18:47	19:25	20:00	20:28	20:31	20:01	19:09	18:14	16:29	16:11
11	07:20	06:53	07:09	06:13	05:28	05:06	05:16	05:47	06:22	06:56	06:36	07:11
	16:31	17:12	18:48	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28	16:11
12	07:20	06:52	07:07	06:12	05:27	05:06	05:17	05:48	06:23	06:58	06:37	07:11
	16:33	17:13	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:26	16:11
13	07:20	06:50	07:05	06:10	05:26	05:06	05:18	05:49	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02	20:29	20:29	19:56	19:03	18:09	16:25	16:11
14	07:19	06:49	07:03	06:08	05:25	05:06	05:19	05:51	06:25	07:00	06:40	07:13
	16:35	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:08	16:24	16:11
15	07:19	06:48	07:02	06:07	05:24	05:06	05:20	05:52	06:26	07:01	06:41	07:14
	16:36	17:17	18:53	19:30	20:04	20:30	20:28	19:53	19:00	18:06	16:23	16:12
16	07:18	06:46	07:00	06:05	05:23	05:06	05:20	05:53	06:27	07:02	06:42	07:15
	16:37	17:19	18:55	19:32	20:05	20:31	20:28	19:51	18:58	18:04	16:23	16:12
17	07:18	06:45	06:58	06:03	05:22	05:06	05:21	05:54	06:29	07:04	06:44	07:15
	16:39	17:20	18:56	19:33	20:06	20:31	20:27	19:50	18:56	18:03	16:22	16:12
18	07:17	06:43	06:56	06:02	05:21	05:06	05:22	05:55	06:30	07:05	06:45	07:16
	16:40	17:21	18:57	19:34	20:08	20:32	20:26	19:48	18:54	18:01	16:21	16:13
19	07:16	06:42	06:54	06:00	05:20	05:06	05:23	05:56	06:31	07:06	06:46	07:17
	16:41	17:23	18:58	19:35	20:09	20:32	20:25	19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:53	05:58	05:19	05:06	05:24	05:57	06:32	07:07	06:47	07:17
	16:42	17:24	18:59	19:36	20:10	20:32	20:25	19:45	18:50	17:58	16:19	16:13
21	07:15	06:39	06:51	05:57	05:18	05:06	05:25	05:58	06:33	07:09	06:49	07:18
	16:44	17:25	19:01	19:38	20:11	20:33	20:24	19:43	18:49	17:56	16:18	16:14
22	07:14	06:37	06:49	05:55	05:17	05:07	05:26	05:59	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:12	20:33	20:23	19:42	18:47	17:55	16:18	16:14
23	07:14	06:36	06:47	05:54	05:16	05:07	05:27	06:01	06:35	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:45	05:52	05:15	05:07	05:28	06:02	06:36	07:12	06:52	07:19
	16:48	17:29	19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:51	16:16	16:15
25	07:12	06:32	06:44	05:50	05:14	05:07	05:29	06:03	06:38	07:14	06:54	07:20
	16:49	17:31	19:05	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14	05:08	05:30	06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:44	20:16	20:33	20:19	19:35	18:39	17:48	16:15	16:17
27	07:10	06:29	06:40	05:47	05:13	05:08	05:31	06:05	06:40	07:16	06:56	07:20
	16:51	17:33	19:08	19:45	20:17	20:33	20:18	19:33	18:38	17:47	16:14	16:17
28	07:09	06:27	06:38	05:46	05:12	05:08	05:32	06:06	06:41	07:17	06:57	07:21
	16:53	17:34	19:09	19:46	20:18	20:33	20:17	19:32	18:36	17:45	16:14	16:18
29	07:08		06:36	05:44	05:12	05:09	05:33	06:07	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:13	16:19
30	07:07		06:35	05:43	05:11	05:09	05:34	06:08	06:43	07:20	06:59	07:21
	16:56		19:11	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	16:19
31	07:06		06:33		05:10		05:35	06:10		07:21		07:21
	16:57		19:13		20:20		20:14	19:26		17:41		16:20
Potential sun hours	290	294	369	402	455	461	468	433	376	342	291	279
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 9
Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** A-94 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (101)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:41	05:10	05:10	05:36	06:11	06:44	06:22	07:00
	16:21	16:58	17:36	19:14	19:49	20:21	20:33	20:13	19:24	18:30	16:40	16:13
2	07:21	07:04	06:24	06:29	05:40	05:09	05:10	05:37	06:12	06:46	06:24	07:01
	16:22	17:00	17:37	19:15	19:50	20:22	20:33	20:11	19:23	18:28	16:38	16:12
3	07:21	07:03	06:22	06:27	05:39	05:09	05:11	05:38	06:13	06:47	06:25	07:03
	16:23	17:01	17:38	19:16	19:52	20:22	20:33	20:10	19:21	18:27	16:37	16:12
4	07:21	07:02	06:21	06:26	05:37	05:08	05:12	05:39	06:14	06:48	06:26	07:04
	16:24	17:02	17:39	19:17	19:53	20:23	20:33	20:09	19:19	18:25	16:36	16:12
5	07:21	07:01	06:19	06:24	05:36	05:08	05:12	05:40	06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:18	19:54	20:24	20:32	20:08	19:17	18:23	16:35	16:11
6	07:21	06:59	06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:50	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25	20:32	20:06	19:16	18:21	16:33	16:11
7	07:21	06:58	06:15	06:20	05:33	05:07	05:13	05:43	06:17	06:51	06:30	07:07
	16:27	17:06	17:43	19:21	19:56	20:25	20:32	20:05	19:14	18:19	16:32	16:11
8	07:21	06:57	07:14	06:18	05:32	05:07	05:14	05:44	06:18	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:57	20:26	20:31	20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31	05:07	05:15	05:45	06:20	06:54	06:33	07:09
	16:29	17:09	18:46	19:23	19:58	20:27	20:31	20:02	19:10	18:16	16:30	16:11
10	07:20	06:54	07:10	06:15	05:29	05:06	05:16	05:46	06:21	06:55	06:34	07:09
	16:30	17:10	18:47	19:24	20:00	20:27	20:31	20:01	19:08	18:14	16:29	16:11
11	07:20	06:53	07:08	06:13	05:28	05:06	05:16	05:47	06:22	06:56	06:36	07:10
	16:31	17:12	18:48	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:27	16:11
12	07:20	06:52	07:07	06:12	05:27	05:06	05:17	05:48	06:23	06:57	06:37	07:11
	16:33	17:13	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:26	16:11
13	07:19	06:50	07:05	06:10	05:26	05:06	05:18	05:49	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02	20:29	20:29	19:55	19:03	18:09	16:25	16:11
14	07:19	06:49	07:03	06:08	05:25	05:06	05:19	05:50	06:25	07:00	06:39	07:13
	16:35	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:07	16:24	16:11
15	07:18	06:47	07:01	06:06	05:24	05:06	05:20	05:52	06:26	07:01	06:41	07:14
	16:36	17:17	18:53	19:30	20:04	20:30	20:28	19:52	18:59	18:06	16:23	16:12
16	07:18	06:46	07:00	06:05	05:23	05:06	05:20	05:53	06:27	07:02	06:42	07:14
	16:37	17:19	18:54	19:31	20:05	20:31	20:27	19:51	18:58	18:04	16:22	16:12
17	07:17	06:44	06:58	06:03	05:22	05:06	05:21	05:54	06:28	07:03	06:43	07:15
	16:38	17:20	18:56	19:33	20:06	20:31	20:27	19:49	18:56	18:02	16:22	16:12
18	07:17	06:43	06:56	06:01	05:21	05:06	05:22	05:55	06:30	07:05	06:45	07:16
	16:40	17:21	18:57	19:34	20:07	20:31	20:26	19:48	18:54	18:01	16:21	16:12
19	07:16	06:41	06:54	06:00	05:20	05:06	05:23	05:56	06:31	07:06	06:46	07:16
	16:41	17:23	18:58	19:35	20:08	20:32	20:25	19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:52	05:58	05:19	05:06	05:24	05:57	06:32	07:07	06:47	07:17
	16:42	17:24	18:59	19:36	20:09	20:32	20:24	19:45	18:50	17:58	16:19	16:13
21	07:15	06:38	06:51	05:57	05:18	05:06	05:25	05:58	06:33	07:08	06:48	07:17
	16:44	17:25	19:00	19:37	20:10	20:32	20:24	19:43	18:48	17:56	16:18	16:14
22	07:14	06:37	06:49	05:55	05:17	05:06	05:26	05:59	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:11	20:32	20:23	19:41	18:47	17:54	16:17	16:14
23	07:13	06:35	06:47	05:53	05:16	05:07	05:27	06:00	06:35	07:11	06:51	07:18
	16:46	17:28	19:03	19:40	20:12	20:33	20:22	19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:45	05:52	05:15	05:07	05:28	06:02	06:36	07:12	06:52	07:19
	16:47	17:29	19:04	19:41	20:13	20:33	20:21	19:38	18:43	17:51	16:16	16:15
25	07:12	06:32	06:43	05:50	05:14	05:07	05:29	06:03	06:37	07:13	06:53	07:19
	16:49	17:30	19:05	19:42	20:14	20:33	20:20	19:36	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14	05:08	05:30	06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:06	19:43	20:15	20:33	20:19	19:35	18:39	17:48	16:15	16:16
27	07:10	06:29	06:40	05:47	05:13	05:08	05:31	06:05	06:40	07:16	06:56	07:20
	16:51	17:33	19:08	19:45	20:16	20:33	20:18	19:33	18:37	17:47	16:14	16:17
28	07:09	06:27	06:38	05:46	05:12	05:08	05:32	06:06	06:41	07:17	06:57	07:20
	16:53	17:34	19:09	19:46	20:17	20:33	20:17	19:31	18:36	17:45	16:14	16:18
29	07:08		06:36	05:44	05:12	05:09	05:33	06:07	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:13	16:19
30	07:07		06:34	05:43	05:11	05:09	05:34	06:08	06:43	07:20	06:59	07:21
	16:55		19:11	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	16:19
31	07:06		06:33		05:10		05:35	06:09		07:21		07:21
	16:57		19:12		20:20		20:14	19:26		17:41		16:20
Potential sun hours	290	294	369	402	455	461	467	433	376	342	291	279
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 10
Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** A-95 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (102)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:41	05:10	05:10	05:36	06:11	06:44	06:22	07:00
	16:21	16:58	17:36	19:14	19:49	20:21	20:33	20:13	19:24	18:30	16:40	16:13
2	07:21	07:04	06:24	06:29	05:40	05:09	05:10	05:37	06:12	06:46	06:24	07:01
	16:22	17:00	17:37	19:15	19:50	20:22	20:33	20:11	19:23	18:28	16:38	16:12
3	07:21	07:03	06:22	06:27	05:39	05:09	05:11	05:38	06:13	06:47	06:25	07:03
	16:23	17:01	17:38	19:16	19:52	20:22	20:33	20:10	19:21	18:27	16:37	16:12
4	07:21	07:02	06:21	06:25	05:37	05:08	05:11	05:39	06:14	06:48	06:26	07:04
	16:24	17:02	17:39	19:17	19:53	20:23	20:33	20:09	19:19	18:25	16:36	16:12
5	07:21	07:01	06:19	06:24	05:36	05:08	05:12	05:40	06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:18	19:54	20:24	20:32	20:08	19:17	18:23	16:35	16:11
6	07:21	06:59	06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:50	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25	20:32	20:06	19:16	18:21	16:33	16:11
7	07:21	06:58	06:15	06:20	05:33	05:07	05:13	05:43	06:17	06:51	06:30	07:07
	16:27	17:06	17:43	19:21	19:56	20:25	20:32	20:05	19:14	18:19	16:32	16:11
8	07:21	06:57	07:14	06:18	05:32	05:07	05:14	05:44	06:18	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:57	20:26	20:31	20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31	05:07	05:15	05:45	06:20	06:54	06:33	07:09
	16:29	17:09	18:46	19:23	19:58	20:27	20:31	20:02	19:10	18:16	16:30	16:11
10	07:20	06:54	07:10	06:15	05:29	05:06	05:16	05:46	06:21	06:55	06:34	07:09
	16:30	17:10	18:47	19:24	20:00	20:27	20:31	20:01	19:08	18:14	16:29	16:11
11	07:20	06:53	07:08	06:13	05:28	05:06	05:16	05:47	06:22	06:56	06:36	07:10
	16:31	17:12	18:48	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:27	16:11
12	07:20	06:52	07:07	06:12	05:27	05:06	05:17	05:48	06:23	06:57	06:37	07:11
	16:33	17:13	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:26	16:11
13	07:19	06:50	07:05	06:10	05:26	05:06	05:18	05:49	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02	20:29	20:29	19:55	19:03	18:09	16:25	16:11
14	07:19	06:49	07:03	06:08	05:25	05:06	05:19	05:50	06:25	07:00	06:39	07:13
	16:35	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:07	16:24	16:11
15	07:18	06:47	07:01	06:06	05:24	05:06	05:20	05:52	06:26	07:01	06:41	07:14
	16:36	17:17	18:53	19:30	20:04	20:30	20:28	19:52	18:59	18:06	16:23	16:12
16	07:18	06:46	07:00	06:05	05:23	05:06	05:20	05:53	06:27	07:02	06:42	07:14
	16:37	17:19	18:54	19:31	20:05	20:31	20:27	19:51	18:58	18:04	16:22	16:12
17	07:17	06:44	06:58	06:03	05:22	05:06	05:21	05:54	06:28	07:03	06:43	07:15
	16:38	17:20	18:56	19:33	20:06	20:31	20:27	19:49	18:56	18:02	16:22	16:12
18	07:17	06:43	06:56	06:01	05:21	05:06	05:22	05:55	06:30	07:05	06:45	07:16
	16:40	17:21	18:57	19:34	20:07	20:31	20:26	19:48	18:54	18:01	16:21	16:12
19	07:16	06:41	06:54	06:00	05:20	05:06	05:23	05:56	06:31	07:06	06:46	07:16
	16:41	17:23	18:58	19:35	20:08	20:32	20:25	19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:52	05:58	05:19	05:06	05:24	05:57	06:32	07:07	06:47	07:17
	16:42	17:24	18:59	19:36	20:09	20:32	20:24	19:45	18:50	17:58	16:19	16:13
21	07:15	06:38	06:51	05:57	05:18	05:06	05:25	05:58	06:33	07:08	06:48	07:17
	16:44	17:25	19:00	19:37	20:10	20:32	20:24	19:43	18:48	17:56	16:18	16:14
22	07:14	06:37	06:49	05:55	05:17	05:06	05:26	05:59	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:11	20:32	20:23	19:41	18:47	17:54	16:17	16:14
23	07:13	06:35	06:47	05:53	05:16	05:07	05:27	06:00	06:35	07:11	06:51	07:18
	16:46	17:28	19:03	19:40	20:12	20:33	20:22	19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:45	05:52	05:15	05:07	05:28	06:02	06:36	07:12	06:52	07:19
	16:47	17:29	19:04	19:41	20:13	20:33	20:21	19:38	18:43	17:51	16:16	16:15
25	07:12	06:32	06:43	05:50	05:14	05:07	05:29	06:03	06:37	07:13	06:53	07:19
	16:49	17:30	19:05	19:42	20:14	20:33	20:20	19:36	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14	05:08	05:30	06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:06	19:43	20:15	20:33	20:19	19:35	18:39	17:48	16:15	16:16
27	07:10	06:29	06:40	05:47	05:13	05:08	05:31	06:05	06:40	07:16	06:56	07:20
	16:51	17:33	19:08	19:45	20:16	20:33	20:18	19:33	18:37	17:47	16:14	16:17
28	07:09	06:27	06:38	05:46	05:12	05:08	05:32	06:06	06:41	07:17	06:57	07:20
	16:53	17:34	19:09	19:46	20:17	20:33	20:17	19:31	18:36	17:45	16:14	16:18
29	07:08		06:36	05:44	05:11	05:09	05:33	06:07	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:13	16:19
30	07:07		06:34	05:43	05:11	05:09	05:34	06:08	06:43	07:20	06:59	07:21
	16:55		19:11	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	16:19
31	07:06		06:33		05:10		05:35	06:09		07:21		07:21
	16:57		19:12		20:20		20:14	19:26		17:41		16:20
Potential sun hours	290	294	369	402	455	461	467	433	376	342	291	279
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 11
Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** A-96 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (103)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:41	05:10	18:16 (E-7) / 05:10	18:25 (E-7) / 05:36	06:11	06:44	06:22	07:00
	16:21	16:58	17:36	19:14	19:49	20:21 21	18:37 (E-7) / 20:33 18	18:43 (E-7) / 20:13	19:24	18:30	16:40	16:13
2	07:21	07:04	06:24	06:29	05:40	05:09	18:17 (E-7) / 05:10	18:24 (E-7) / 05:37	06:12	06:46	06:24	07:01
	16:22	17:00	17:37	19:15	19:50	20:22 21	18:38 (E-7) / 20:33 19	18:43 (E-7) / 20:11	19:23	18:28	16:38	16:12
3	07:21	07:03	06:22	06:27	05:39	05:09	18:17 (E-7) / 05:11	18:25 (E-7) / 05:38	06:13	06:47	06:25	07:03
	16:23	17:01	17:38	19:16	19:52	20:22 21	18:38 (E-7) / 20:33 18	18:43 (E-7) / 20:10	19:21	18:27	16:37	16:12
4	07:21	07:02	06:21	06:25	05:37	05:08	18:17 (E-7) / 05:11	18:24 (E-7) / 05:39	06:14	06:48	06:26	07:04
	16:24	17:02	17:39	19:17	19:53	20:23 21	18:38 (E-7) / 20:33 19	18:43 (E-7) / 20:09	19:19	18:25	16:36	16:12
5	07:21	07:01	06:19	06:24	05:36	05:08	18:18 (E-7) / 05:12	18:24 (E-7) / 05:40	06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:18	19:54	20:24 20	18:38 (E-7) / 20:32 20	18:44 (E-7) / 20:08	19:17	18:23	16:35	16:11
6	07:21	06:59	06:17	06:22	05:35	05:07	18:18 (E-7) / 05:13	18:25 (E-7) / 05:42	06:16	06:50	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25 21	18:39 (E-7) / 20:32 20	18:45 (E-7) / 20:06	19:16	18:21	16:33	16:11
7	07:21	06:58	06:15	06:20	05:33	05:07	18:18 (E-7) / 05:13	18:24 (E-7) / 05:43	06:17	06:51	06:30	07:07
	16:27	17:06	17:43	19:21	19:56	20:25 20	18:38 (E-7) / 20:32 20	18:44 (E-7) / 20:05	19:14	18:19	16:32	16:11
8	07:21	06:57	07:14	06:18	05:32	05:07	18:19 (E-7) / 05:14	18:24 (E-7) / 05:44	06:18	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:57	20:26 19	18:38 (E-7) / 20:31 21	18:45 (E-7) / 20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31	05:07	18:19 (E-7) / 05:15	18:25 (E-7) / 05:45	06:20	06:54	06:33	07:09
	16:29	17:09	18:46	19:23	19:58	20:27 19	18:38 (E-7) / 20:31 21	18:46 (E-7) / 20:02	19:10	18:16	16:30	16:11
10	07:20	06:54	07:10	06:15	05:29	05:06	18:20 (E-7) / 05:16	18:24 (E-7) / 05:46	06:21	06:55	06:34	07:09
	16:30	17:10	18:47	19:24	20:00	20:27 19	18:39 (E-7) / 20:31 21	18:45 (E-7) / 20:01	19:08	18:14	16:29	16:11
11	07:20	06:53	07:08	06:13	05:28	05:06	18:21 (E-7) / 05:16	18:24 (E-7) / 05:47	06:22	06:56	06:36	07:10
	16:31	17:12	18:48	19:26	20:00	20:28 18	18:39 (E-7) / 20:30 22	18:46 (E-7) / 20:00	19:07	18:13	16:27	16:11
12	07:20	06:52	07:07	06:12	05:27	05:06	18:20 (E-7) / 05:17	18:25 (E-7) / 05:48	06:23	06:57	06:37	07:11
	16:32	17:13	18:49	19:27	20:01	20:29 18	18:38 (E-7) / 20:30 21	18:46 (E-7) / 19:57	19:05	18:11	16:26	16:11
13	07:19	06:50	07:05	06:10	05:26	05:06	18:21 (E-7) / 05:18	18:25 (E-7) / 05:49	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02	20:29 17	18:38 (E-7) / 20:29 21	18:46 (E-7) / 19:55	19:03	18:09	16:25	16:11
14	07:19	06:49	07:03	06:08	05:25	05:06	18:21 (E-7) / 05:19	18:24 (E-7) / 05:50	06:25	07:00	06:39	07:13
	16:35	17:16	18:52	19:29	20:03	20:30 17	18:38 (E-7) / 20:29 22	18:46 (E-7) / 19:54	19:01	18:07	16:24	16:11
15	07:18	06:47	07:01	06:06	05:24	05:06	18:21 (E-7) / 05:20	18:24 (E-7) / 05:52	06:26	07:01	06:41	07:14
	16:36	17:17	18:53	19:30	20:04	20:30 17	18:38 (E-7) / 20:28 22	18:46 (E-7) / 19:52	18:59	18:06	16:23	16:12
16	07:18	06:46	07:00	06:05	05:23	05:06	18:22 (E-7) / 05:20	18:25 (E-7) / 05:53	06:27	07:02	06:42	07:14
	16:37	17:19	18:54	19:31	20:05	20:31 16	18:38 (E-7) / 20:27 21	18:46 (E-7) / 19:51	18:58	18:04	16:22	16:12
17	07:17	06:44	06:58	06:03	05:22	18:22 (E-7) / 05:06	18:22 (E-7) / 05:21	18:25 (E-7) / 05:54	06:28	07:03	06:43	07:15
	16:38	17:20	18:56	19:33	20:06 7	18:29 (E-7) / 20:31 16	18:38 (E-7) / 20:27 21	18:46 (E-7) / 19:49	18:56	18:02	16:22	16:12
18	07:17	06:43	06:56	06:01	05:21	18:20 (E-7) / 05:06	18:22 (E-7) / 05:22	18:25 (E-7) / 05:55	06:30	07:05	06:45	07:16
	16:40	17:21	18:57	19:34	20:07 11	18:31 (E-7) / 20:31 16	18:38 (E-7) / 20:26 21	18:46 (E-7) / 19:48	18:54	18:01	16:21	16:12
19	07:16	06:41	06:54	06:00	05:20	18:18 (E-7) / 05:06	18:23 (E-7) / 05:23	18:26 (E-7) / 05:56	06:31	07:06	06:46	07:16
	16:41	17:23	18:58	19:35	20:08 14	18:32 (E-7) / 20:32 16	18:39 (E-7) / 20:25 20	18:46 (E-7) / 19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:52	05:58	05:19	18:17 (E-7) / 05:06	18:23 (E-7) / 05:24	18:26 (E-7) / 05:57	06:32	07:07	06:47	07:17
	16:42	17:24	18:59	19:36	20:09 16	18:33 (E-7) / 20:32 16	18:39 (E-7) / 20:24 20	18:46 (E-7) / 19:45	18:50	17:58	16:19	16:13
21	07:15	06:38	06:51	05:57	05:18	18:17 (E-7) / 05:06	18:23 (E-7) / 05:25	18:26 (E-7) / 05:58	06:33	07:08	06:48	07:17
	16:44	17:25	19:00	19:37	20:10 18	18:35 (E-7) / 20:32 16	18:39 (E-7) / 20:24 19	18:45 (E-7) / 19:43	18:48	17:56	16:18	16:14
22	07:14	06:37	06:49	05:55	05:17	18:17 (E-7) / 05:06	18:23 (E-7) / 05:26	18:26 (E-7) / 05:59	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:11 18	18:35 (E-7) / 20:32 16	18:39 (E-7) / 20:23 18	18:44 (E-7) / 19:41	18:47	17:54	16:17	16:14
23	07:13	06:35	06:47	05:53	05:16	18:16 (E-7) / 05:07	18:23 (E-7) / 05:27	18:27 (E-7) / 06:00	06:35	07:11	06:51	07:18
	16:46	17:28	19:03	19:40	20:12 19	18:35 (E-7) / 20:33 16	18:39 (E-7) / 20:22 17	18:44 (E-7) / 19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:45	05:52	05:15	18:16 (E-7) / 05:07	18:24 (E-7) / 05:28	18:28 (E-7) / 06:02	06:36	07:12	06:52	07:19
	16:47	17:29	19:04	19:41	20:13 20	18:36 (E-7) / 20:33 16	18:40 (E-7) / 20:21 15	18:43 (E-7) / 19:38	18:43	17:51	16:16	16:15
25	07:12	06:32	06:43	05:50	05:14	18:16 (E-7) / 05:07	18:24 (E-7) / 05:29	18:29 (E-7) / 06:03	06:37	07:13	06:53	07:19
	16:49	17:30	19:05	19:42	20:14 21	18:37 (E-7) / 20:33 16	18:40 (E-7) / 20:20 13	18:42 (E-7) / 19:36	18:41	17:50	16:15	16:16
26	07:11	06:31	06:42	05:49	05:14	18:16 (E-7) / 05:08	18:24 (E-7) / 05:30	18:31 (E-7) / 06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:06	19:43	20:15 21	18:37 (E-7) / 20:33 16	18:40 (E-7) / 20:19 10	18:41 (E-7) / 19:35	18:39	17:48	16:15	16:16
27	07:10	06:29	06:40	05:47	05:13	18:15 (E-7) / 05:08	18:24 (E-7) / 05:31	18:34 (E-7) / 06:05	06:40	07:16	06:56	07:20
	16:51	17:33	19:08	19:45	20:16 22	18:37 (E-7) / 20:33 17	18:41 (E-7) / 20:18 4	18:38 (E-7) / 19:33	18:37	17:47	16:14	16:17
28	07:09	06:27	06:38	05:46	05:12	18:16 (E-7) / 05:08	18:24 (E-7) / 05:32	06:06	06:41	07:17	06:57	07:20
	16:53	17:34	19:09	19:46	20:17 22	18:38 (E-7) / 20:33 17	18:41 (E-7) / 20:17	19:31	18:36	17:45	16:14	16:18
29	07:08		06:36	05:44	05:11	18:16 (E-7) / 05:09	18:25 (E-7) / 05:33	06:07	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18 21	18:37 (E-7) / 20:33 17	18:42 (E-7) / 20:16	19:30	18:34	17:44	16:13	16:19
30	07:07		06:34	05:43	05:11	18:15 (E-7) / 05:09	18:24 (E-7) / 05:34	06:08	06:43	07:20	06:59	07:21
	16:55		19:11	19:48	20:19 22	18:37 (E-7) / 20:33 18	18:42 (E-7) / 20:15	19:28	18:32	17:43	16:13	16:19
31	07:06		06:33		05:10	18:16 (E-7)	05:35	06:09		07:21		07:21
	16:57		19:12		20:20 22	18:38 (E-7)	20:14	19:26		17:41		16:20
Potential sun hours	290	294	369	402	455	461	467	433	376	342	291	279
Total, worst case					274	534	504					
Sun reduction					0.55	0.58	0.62					
Oper. time red.					1.00	1.00	1.00					
Wind dir. red.					0.70	0.70	0.70					
Total reduction					0.39	0.41	0.43					
Total, real					106	217	219					

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 12

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** D-24 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (81)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:42	05:10	05:10	05:37	06:11	06:45	06:23	07:01
	16:22	16:59	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30	16:40	16:13
2	07:22	07:04	06:24	06:29	05:40	05:10	05:11	05:38	06:12	06:46	06:24	07:02
	16:23	17:00	17:37	19:15	19:51	20:22	20:33	20:12	19:23	18:29	16:39	16:13
3	07:22	07:03	06:23	06:28	05:39	05:09	05:11	05:39	06:13	06:47	06:25	07:03
	16:23	17:01	17:39	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37	16:12
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	16:24	17:03	17:40	19:18	19:53	20:23	20:33	20:09	19:20	18:25	16:36	16:12
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	16:25	17:04	17:41	19:19	19:54	20:24	20:33	20:08	19:18	18:23	16:35	16:12
6	07:21	07:00	06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:50	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25	20:32	20:07	19:16	18:22	16:34	16:12
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	16:27	17:07	17:44	19:21	19:56	20:26	20:32	20:05	19:14	18:20	16:32	16:12
8	07:21	06:57	07:14	06:19	05:32	05:07	05:14	05:44	06:19	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:58	20:26	20:32	20:04	19:12	18:18	16:31	16:11
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	16:30	17:09	18:46	19:23	19:59	20:27	20:31	20:03	19:11	18:16	16:30	16:11
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	16:32	17:12	18:49	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28	16:11
12	07:20	06:52	07:07	06:12	05:27	05:06	05:17	05:49	06:23	06:58	06:37	07:11
	16:33	17:14	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:27	16:11
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	16:35	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:08	16:25	16:12
15	07:19	06:48	07:02	06:07	05:24	05:06	05:20	05:52	06:27	07:01	06:41	07:14
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16	07:18	06:46	07:00	06:05	05:23	05:06	05:21	05:53	06:28	07:02	06:42	07:15
	16:38	17:19	18:55	19:32	20:05	20:31	20:28	19:51	18:58	18:04	16:23	16:12
17	07:18	06:45	06:58	06:03	05:22	05:06	05:22	05:54	06:29	07:04	06:44	07:15
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18	07:17	06:43	06:56	06:02	05:21	05:06	05:23	05:55	06:30	07:05	06:45	07:16
	16:40	17:22	18:57	19:34	20:08	20:32	20:26	19:48	18:54	18:01	16:21	16:13
19	07:17	06:42	06:55	06:00	05:20	05:06	05:23	05:56	06:31	07:06	06:46	07:17
	16:41	17:23	18:58	19:35	20:09	20:32	20:25	19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:53	05:59	05:19	05:06	05:24	05:57	06:32	07:07	06:47	07:17
	16:43	17:24	19:00	19:37	20:10	20:32	20:25	19:45	18:51	17:58	16:19	16:14
21	07:15	06:39	06:51	05:57	05:18	05:07	05:25	05:59	06:33	07:09	06:49	07:18
	16:44	17:26	19:01	19:38	20:11	20:32	20:24	19:43	18:49	17:56	16:19	16:14
22	07:14	06:37	06:49	05:55	05:17	05:07	05:26	06:00	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:12	20:33	20:23	19:42	18:47	17:55	16:18	16:15
23	07:14	06:36	06:47	05:54	05:16	05:07	05:27	06:01	06:36	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:46	05:52	05:15	05:07	05:28	06:02	06:37	07:12	06:52	07:19
	16:48	17:29	19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:52	16:16	16:16
25	07:12	06:32	06:44	05:51	05:15	05:08	05:29	06:03	06:38	07:14	06:54	07:20
	16:49	17:31	19:06	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14	05:08	05:30	06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:44	20:16	20:33	20:19	19:35	18:40	17:49	16:15	16:17
27	07:10	06:29	06:40	05:48	05:13	05:08	05:31	06:05	06:40	07:16	06:56	07:20
	16:52	17:33	19:08	19:45	20:17	20:33	20:18	19:33	18:38	17:47	16:15	16:18
28	07:09	06:28	06:38	05:46	05:13	05:09	05:32	06:06	06:41	07:18	06:57	07:21
	16:53	17:35	19:09	19:46	20:18	20:33	20:17	19:32	18:36	17:46	16:14	16:18
29	07:08		06:37	05:45	05:12	05:09	05:33	06:08	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:14	16:19
30	07:07		06:35	05:43	05:11	05:10	05:34	06:09	06:44	07:20	06:59	07:21
	16:56		19:12	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	16:20
31	07:06		06:33		05:11		05:35	06:10		07:21		07:21
	16:57		19:13		20:20		20:14	19:27		17:41		16:21
Potential sun hours	290	294	369	402	455	461	467	433	376	342	292	279
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 13
Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** D-28 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (82)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:42	05:10	05:10	05:37	06:11	06:45	06:23	07:01
	16:22	16:59	17:36	19:14	19:50	20:21	20:33	20:13	19:25	18:30	16:40	16:13
2	07:22	07:04	06:24	06:29	05:40	05:10	05:11	05:38	06:12	06:46	06:24	07:02
	16:23	17:00	17:37	19:15	19:51	20:22	20:33	20:12	19:23	18:29	16:39	16:13
3	07:22	07:03	06:23	06:28	05:39	05:09	05:11	05:39	06:13	06:47	06:25	07:03
	16:23	17:01	17:39	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37	16:12
4	07:22	07:02	06:21	06:26	05:38	05:09	05:12	05:40	06:14	06:48	06:27	07:04
	16:24	17:03	17:40	19:18	19:53	20:24	20:33	20:09	19:20	18:25	16:36	16:12
5	07:22	07:01	06:19	06:24	05:36	05:08	05:12	05:41	06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:19	19:54	20:24	20:33	20:08	19:18	18:23	16:35	16:12
6	07:21	07:00	06:17	06:22	05:35	05:08	05:13	05:42	06:17	06:51	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25	20:32	20:07	19:16	18:22	16:34	16:12
7	07:21	06:58	06:16	06:21	05:34	05:08	05:14	05:43	06:18	06:52	06:31	07:07
	16:27	17:07	17:44	19:21	19:56	20:26	20:32	20:05	19:14	18:20	16:32	16:12
8	07:21	06:57	07:14	06:19	05:32	05:07	05:14	05:44	06:19	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:58	20:26	20:32	20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31	05:07	05:15	05:45	06:20	06:54	06:33	07:09
	16:30	17:09	18:46	19:23	19:59	20:27	20:31	20:03	19:11	18:16	16:30	16:11
10	07:21	06:55	07:11	06:15	05:30	05:07	05:16	05:46	06:21	06:55	06:35	07:10
	16:31	17:11	18:47	19:25	20:00	20:28	20:31	20:01	19:09	18:15	16:29	16:11
11	07:20	06:53	07:09	06:14	05:29	05:07	05:17	05:47	06:22	06:56	06:36	07:11
	16:32	17:12	18:49	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28	16:11
12	07:20	06:52	07:07	06:12	05:27	05:06	05:17	05:49	06:23	06:58	06:37	07:11
	16:33	17:14	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:27	16:11
13	07:20	06:50	07:05	06:10	05:26	05:06	05:18	05:50	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02	20:29	20:29	19:56	19:03	18:09	16:26	16:12
14	07:19	06:49	07:03	06:08	05:25	05:06	05:19	05:51	06:25	07:00	06:40	07:13
	16:35	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:02	18:08	16:25	16:12
15	07:19	06:48	07:02	06:07	05:24	05:06	05:20	05:52	06:27	07:01	06:41	07:14
	16:36	17:18	18:54	19:31	20:04	20:30	20:28	19:53	19:00	18:06	16:24	16:12
16	07:18	06:46	07:00	06:05	05:23	05:06	05:21	05:53	06:28	07:02	06:42	07:15
	16:38	17:19	18:55	19:32	20:05	20:31	20:28	19:51	18:58	18:04	16:23	16:12
17	07:18	06:45	06:58	06:03	05:22	05:06	05:22	05:54	06:29	07:04	06:44	07:15
	16:39	17:20	18:56	19:33	20:07	20:31	20:27	19:50	18:56	18:03	16:22	16:12
18	07:17	06:43	06:56	06:02	05:21	05:06	05:23	05:55	06:30	07:05	06:45	07:16
	16:40	17:22	18:57	19:34	20:08	20:32	20:26	19:48	18:54	18:01	16:21	16:13
19	07:17	06:42	06:55	06:00	05:20	05:06	05:23	05:56	06:31	07:06	06:46	07:17
	16:41	17:23	18:58	19:35	20:09	20:32	20:25	19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:53	05:59	05:19	05:06	05:24	05:57	06:32	07:07	06:47	07:17
	16:43	17:24	19:00	19:37	20:10	20:32	20:25	19:45	18:51	17:58	16:19	16:14
21	07:15	06:39	06:51	05:57	05:18	05:07	05:25	05:59	06:33	07:09	06:49	07:18
	16:44	17:26	19:01	19:38	20:11	20:33	20:24	19:43	18:49	17:56	16:19	16:14
22	07:14	06:37	06:49	05:55	05:17	05:07	05:26	06:00	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:12	20:33	20:23	19:42	18:47	17:55	16:18	16:15
23	07:14	06:36	06:47	05:54	05:16	05:07	05:27	06:01	06:36	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:46	05:52	05:15	05:07	05:28	06:02	06:37	07:12	06:52	07:19
	16:48	17:30	19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:52	16:16	16:16
25	07:12	06:32	06:44	05:51	05:15	05:08	05:29	06:03	06:38	07:14	06:54	07:20
	16:49	17:31	19:06	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14	05:08	05:30	06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:44	20:16	20:33	20:19	19:35	18:40	17:49	16:15	16:17
27	07:10	06:29	06:40	05:48	05:13	05:08	05:31	06:05	06:40	07:16	06:56	07:20
	16:52	17:33	19:08	19:45	20:17	20:33	20:18	19:33	18:38	17:47	16:15	16:18
28	07:09	06:28	06:38	05:46	05:13	05:09	05:32	06:06	06:41	07:18	06:57	07:21
	16:53	17:35	19:09	19:46	20:18	20:33	20:17	19:32	18:36	17:46	16:14	16:18
29	07:08		06:37	05:45	05:12	05:09	05:33	06:08	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:14	16:19
30	07:07		06:35	05:43	05:11	05:10	05:34	06:09	06:44	07:20	06:59	07:21
	16:56		19:12	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	16:20
31	07:06		06:33		05:11		05:35	06:10		07:21		07:21
	16:57		19:13		20:20		20:14	19:27		17:41		16:21
Potential sun hours	290	294	369	402	455	461	467	433	376	342	292	279
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 14

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** D-30 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (83)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:42	05:10	06:02 (C-9)	05:10	06:03 (C-9)	05:37	06:11	06:45	06:23	07:01
	16:22	16:59	17:36	19:14	19:50	20:21 11	06:13 (C-9)	20:33 21	06:24 (C-9)	20:13	19:25	18:30	16:40	16:13
2	07:22	07:04	06:24	06:29	05:40	05:10	06:01 (C-9)	05:11	06:04 (C-9)	05:38	06:12	06:46	06:24	07:02
	16:23	17:00	17:37	19:15	19:51	20:22 13	06:14 (C-9)	20:33 20	06:24 (C-9)	20:12	19:23	18:29	16:39	16:13
3	07:22	07:03	06:23	06:28	05:39	05:09	06:00 (C-9)	05:11	06:03 (C-9)	05:39	06:13	06:47	06:25	07:03
	16:23	17:01	17:39	19:16	19:52	20:23 15	06:15 (C-9)	20:33 21	06:24 (C-9)	20:10	19:21	18:27	16:37	16:12
4	07:22	07:02	06:21	06:26	05:38	05:09	06:00 (C-9)	05:12	06:04 (C-9)	05:40	06:14	06:48	06:27	07:04
	16:24	17:03	17:40	19:18	19:53	20:24 16	06:16 (C-9)	20:33 20	06:24 (C-9)	20:09	19:20	18:25	16:36	16:12
5	07:22	07:01	06:19	06:24	05:36	05:08	05:59 (C-9)	05:12	06:04 (C-9)	05:41	06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:19	19:54	20:24 17	06:16 (C-9)	20:33 19	06:23 (C-9)	20:08	19:18	18:23	16:35	16:12
6	07:21	07:00	06:17	06:22	05:35	05:08	05:59 (C-9)	05:13	06:05 (C-9)	05:42	06:17	06:51	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25 18	06:17 (C-9)	20:32 18	06:23 (C-9)	20:07	19:16	18:22	16:34	16:12
7	07:21	06:58	06:16	06:21	05:34	05:08	05:59 (C-9)	05:14	06:06 (C-9)	05:43	06:18	06:52	06:31	07:07
	16:27	17:07	17:44	19:21	19:56	20:26 19	06:18 (C-9)	20:32 18	06:24 (C-9)	20:05	19:14	18:20	16:32	16:12
8	07:21	06:57	07:14	06:19	05:32	05:07	05:58 (C-9)	05:14	06:06 (C-9)	05:44	06:19	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:58	20:26 20	06:18 (C-9)	20:32 17	06:23 (C-9)	20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31	05:07	05:58 (C-9)	05:15	06:07 (C-9)	05:45	06:20	06:54	06:33	07:09
	16:30	17:09	18:46	19:23	19:59	20:27 20	06:18 (C-9)	20:31 15	06:22 (C-9)	20:03	19:11	18:16	16:30	16:11
10	07:21	06:55	07:11	06:15	05:30	05:07	05:59 (C-9)	05:16	06:08 (C-9)	05:46	06:21	06:55	06:35	07:10
	16:31	17:11	18:47	19:25	20:00	20:28 20	06:19 (C-9)	20:31 14	06:22 (C-9)	20:01	19:09	18:15	16:29	16:11
11	07:20	06:53	07:09	06:14	05:29	05:07	05:59 (C-9)	05:17	06:09 (C-9)	05:47	06:22	06:56	06:36	07:11
	16:32	17:12	18:49	19:26	20:00	20:28 21	06:20 (C-9)	20:30 12	06:21 (C-9)	20:00	19:07	18:13	16:28	16:11
12	07:20	06:52	07:07	06:12	05:27	05:06	05:59 (C-9)	05:17	06:10 (C-9)	05:49	06:23	06:58	06:37	07:11
	16:33	17:14	18:50	19:27	20:01	20:29 21	06:20 (C-9)	20:30 10	06:20 (C-9)	19:57	19:05	18:11	16:27	16:11
13	07:20	06:50	07:05	06:10	05:26	05:06	05:59 (C-9)	05:18	06:12 (C-9)	05:50	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02	20:29 21	06:20 (C-9)	20:29 6	06:18 (C-9)	19:56	19:03	18:09	16:26	16:12
14	07:19	06:49	07:03	06:08	05:25	05:06	05:59 (C-9)	05:19		05:51	06:25	07:00	06:40	07:13
	16:35	17:16	18:52	19:29	20:03	20:30 22	06:21 (C-9)	20:29		19:54	19:02	18:08	16:25	16:12
15	07:19	06:48	07:02	06:07	05:24	05:06	05:59 (C-9)	05:20		05:52	06:27	07:01	06:41	07:14
	16:36	17:18	18:54	19:31	20:04	20:30 22	06:21 (C-9)	20:28		19:53	19:00	18:06	16:24	16:12
16	07:18	06:46	07:00	06:05	05:23	05:06	05:59 (C-9)	05:21		05:53	06:28	07:02	06:42	07:15
	16:38	17:19	18:55	19:32	20:05	20:31 22	06:21 (C-9)	20:28		19:51	18:58	18:04	16:23	16:12
17	07:18	06:45	06:58	06:03	05:22	05:06	05:59 (C-9)	05:22		05:54	06:29	07:04	06:44	07:15
	16:39	17:20	18:56	19:33	20:07	20:31 23	06:22 (C-9)	20:27		19:50	18:56	18:03	16:22	16:12
18	07:17	06:43	06:56	06:02	05:21	05:06	05:59 (C-9)	05:23		05:55	06:30	07:05	06:45	07:16
	16:40	17:22	18:57	19:34	20:08	20:32 23	06:22 (C-9)	20:26		19:48	18:54	18:01	16:21	16:13
19	07:17	06:42	06:55	06:00	05:20	05:06	05:59 (C-9)	05:23		05:56	06:31	07:06	06:46	07:17
	16:41	17:23	18:58	19:35	20:09	20:32 23	06:22 (C-9)	20:25		19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:53	05:59	05:19	05:06	05:59 (C-9)	05:24		05:57	06:32	07:07	06:47	07:17
	16:43	17:24	19:00	19:37	20:10	20:32 23	06:22 (C-9)	20:25		19:45	18:51	17:58	16:19	16:14
21	07:15	06:39	06:51	05:57	05:18	05:07	05:59 (C-9)	05:25		05:59	06:33	07:09	06:49	07:18
	16:44	17:26	19:01	19:38	20:11	20:33 23	06:22 (C-9)	20:24		19:43	18:49	17:56	16:19	16:14
22	07:14	06:37	06:49	05:55	05:17	05:07	06:00 (C-9)	05:26		06:00	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:12	20:33 23	06:23 (C-9)	20:23		19:42	18:47	17:55	16:18	16:15
23	07:14	06:36	06:47	05:54	05:16	05:07	06:00 (C-9)	05:27		06:01	06:36	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	20:13	20:33 23	06:23 (C-9)	20:22		19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:46	05:52	05:15	05:07	06:00 (C-9)	05:28		06:02	06:37	07:12	06:52	07:19
	16:48	17:29	19:04	19:41	20:14	20:33 23	06:23 (C-9)	20:21		19:38	18:43	17:52	16:16	16:16
25	07:12	06:32	06:44	05:51	05:15	05:08	06:00 (C-9)	05:29		06:03	06:38	07:14	06:54	07:20
	16:49	17:31	19:06	19:42	20:15	20:33 23	06:23 (C-9)	20:20		19:37	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14	05:08	06:01 (C-9)	05:30		06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:44	20:16	20:33 22	06:23 (C-9)	20:19		19:35	18:40	17:49	16:15	16:17
27	07:10	06:29	06:40	05:48	05:13	05:08	06:01 (C-9)	05:31		06:05	06:40	07:16	06:56	07:20
	16:52	17:33	19:08	19:45	20:17	20:33 22	06:23 (C-9)	20:18		19:33	18:38	17:47	16:15	16:18
28	07:09	06:28	06:38	05:46	05:13	05:09	06:02 (C-9)	05:32		06:06	06:41	07:18	06:57	07:21
	16:53	17:35	19:09	19:46	20:18	20:33 22	06:24 (C-9)	20:17		19:32	18:36	17:46	16:14	16:18
29	07:08		06:37	05:45	05:12	05:09	06:02 (C-9)	05:33		06:08	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18	20:33 22	06:24 (C-9)	20:16		19:30	18:34	17:44	16:14	16:19
30	07:07		06:35	05:43	05:11 06:06 (C-9)	05:10	06:03 (C-9)	05:34		06:09	06:44	07:20	06:59	07:21
	16:56		19:12	19:48	20:19 2 06:08 (C-9)	20:33 21	06:24 (C-9)	20:15		19:28	18:32	17:43	16:13	16:20
31	07:06		06:33		05:11 06:03 (C-9)			05:35		06:10		07:21		07:21
	16:57		19:13		20:20 8 06:11 (C-9)			20:14		19:27		17:41		16:21
Potential sun hours	290	294	369	402	455	461		467		433	376	342	292	279
Total, worst case					10	614		211						
Sun reduction					0.55	0.58		0.62						
Oper. time red.					1.00	1.00		1.00						
Wind dir. red.					0.67	0.67		0.67						
Total reduction					0.37	0.39		0.42						
Total, real					4	239		88						

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 15

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** D-31 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (84)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:42	05:10	06:04 (C-9) 05:10	06:11 (C-9) 05:37	06:11	06:45	06:23	07:01
	16:22	16:59	17:36	19:14	19:50	20:21 24	06:28 (C-9) 20:33 21	06:32 (C-9) 20:13	19:25	18:30	16:40	16:13
2	07:22	07:04	06:24	06:29	05:40	05:10	06:04 (C-9) 05:11	06:12 (C-9) 05:38	06:12	06:46	06:24	07:02
	16:23	17:00	17:37	19:15	19:51	20:22 23	06:27 (C-9) 20:33 21	06:33 (C-9) 20:12	19:23	18:29	16:39	16:13
3	07:22	07:03	06:23	06:28	05:39	05:09	06:04 (C-9) 05:11	06:11 (C-9) 05:39	06:13	06:47	06:25	07:03
	16:23	17:01	17:39	19:16	19:52	20:23 24	06:28 (C-9) 20:33 22	06:33 (C-9) 20:10	19:21	18:27	16:37	16:12
4	07:22	07:02	06:21	06:26	05:38	05:09	06:05 (C-9) 05:12	06:12 (C-9) 05:40	06:14	06:48	06:27	07:04
	16:24	17:03	17:40	19:18	19:53	20:24 23	06:28 (C-9) 20:33 21	06:33 (C-9) 20:09	19:20	18:25	16:36	16:12
5	07:22	07:01	06:19	06:24	05:36	05:08	06:05 (C-9) 05:12	06:11 (C-9) 05:41	06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:19	19:54	20:24 22	06:27 (C-9) 20:33 22	06:33 (C-9) 20:08	19:18	18:23	16:35	16:12
6	07:21	07:00	06:17	06:22	05:35	05:08	06:05 (C-9) 05:13	06:11 (C-9) 05:42	06:17	06:51	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25 23	06:28 (C-9) 20:32 23	06:34 (C-9) 20:07	19:16	18:22	16:34	16:12
7	07:21	06:58	06:16	06:21	05:34	05:08	06:06 (C-9) 05:14	06:12 (C-9) 05:43	06:18	06:52	06:31	07:07
	16:27	17:07	17:44	19:21	19:56	20:26 22	06:28 (C-9) 20:32 23	06:35 (C-9) 20:05	19:14	18:20	16:32	16:12
8	07:21	06:57	07:14	06:19	05:32	05:07	06:05 (C-9) 05:14	06:11 (C-9) 05:44	06:19	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:58	20:26 22	06:27 (C-9) 20:32 23	06:34 (C-9) 20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31	05:07	06:06 (C-9) 05:15	06:12 (C-9) 05:45	06:20	06:54	06:33	07:09
	16:30	17:09	18:46	19:23	19:59	20:27 22	06:28 (C-9) 20:31 23	06:35 (C-9) 20:03	19:11	18:16	16:30	16:11
10	07:21	06:55	07:11	06:15	05:30	05:07	06:06 (C-9) 05:16	06:12 (C-9) 05:46	06:21	06:55	06:35	07:10
	16:31	17:11	18:47	19:25	20:00	20:28 22	06:28 (C-9) 20:31 23	06:35 (C-9) 20:01	19:09	18:15	16:29	16:11
11	07:20	06:53	07:09	06:14	05:29	05:07	06:07 (C-9) 05:17	06:11 (C-9) 05:47	06:22	06:56	06:36	07:11
	16:32	17:12	18:49	19:26	20:00	20:28 21	06:28 (C-9) 20:30 24	06:35 (C-9) 20:00	19:07	18:13	16:28	16:11
12	07:20	06:52	07:07	06:12	05:27	05:06	06:07 (C-9) 05:17	06:12 (C-9) 05:49	06:23	06:58	06:37	07:11
	16:33	17:14	18:50	19:27	20:01	20:29 21	06:28 (C-9) 20:30 23	06:35 (C-9) 19:57	19:05	18:11	16:27	16:11
13	07:20	06:50	07:05	06:10	05:26	05:06	06:08 (C-9) 05:18	06:12 (C-9) 05:50	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02	20:29 20	06:28 (C-9) 20:29 24	06:36 (C-9) 19:56	19:03	18:09	16:26	16:12
14	07:19	06:49	07:03	06:08	05:25	05:06	06:08 (C-9) 05:19	06:12 (C-9) 05:51	06:25	07:00	06:40	07:13
	16:35	17:16	18:52	19:29	20:03	20:30 20	06:28 (C-9) 20:29 24	06:36 (C-9) 19:54	19:02	18:08	16:25	16:12
15	07:19	06:48	07:02	06:07	05:24	05:06	06:08 (C-9) 05:20	06:13 (C-9) 05:52	06:27	07:01	06:41	07:14
	16:36	17:18	18:54	19:31	20:04	20:30 20	06:28 (C-9) 20:28 23	06:36 (C-9) 19:53	19:00	18:06	16:24	16:12
16	07:18	06:46	07:00	06:05	05:23	06:13 (C-9) 05:06	06:09 (C-9) 05:21	06:12 (C-9) 05:53	06:28	07:03	06:42	07:15
	16:38	17:19	18:55	19:32	20:05 3	06:16 (C-9) 20:31 19	06:28 (C-9) 20:28 23	06:35 (C-9) 19:51	18:58	18:04	16:23	16:12
17	07:18	06:45	06:58	06:03	05:22	06:10 (C-9) 05:06	06:09 (C-9) 05:22	06:13 (C-9) 05:54	06:29	07:04	06:44	07:15
	16:39	17:20	18:56	19:33	20:07 10	06:20 (C-9) 20:31 20	06:29 (C-9) 20:27 23	06:36 (C-9) 19:50	18:56	18:03	16:22	16:12
18	07:17	06:43	06:56	06:02	05:21	06:08 (C-9) 05:06	06:09 (C-9) 05:23	06:13 (C-9) 05:55	06:30	07:05	06:45	07:16
	16:40	17:22	18:57	19:34	20:08 13	06:21 (C-9) 20:32 20	06:29 (C-9) 20:26 23	06:36 (C-9) 19:48	18:54	18:01	16:21	16:13
19	07:17	06:42	06:55	06:00	05:20	06:07 (C-9) 05:06	06:09 (C-9) 05:23	06:13 (C-9) 05:56	06:31	07:06	06:46	07:17
	16:41	17:23	18:58	19:35	20:09 16	06:23 (C-9) 20:32 20	06:29 (C-9) 20:25 23	06:36 (C-9) 19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:53	05:59	05:19	06:06 (C-9) 05:06	06:09 (C-9) 05:24	06:14 (C-9) 05:57	06:32	07:07	06:47	07:17
	16:43	17:24	19:00	19:37	20:10 17	06:23 (C-9) 20:32 20	06:29 (C-9) 20:25 21	06:35 (C-9) 19:45	18:51	17:58	16:19	16:14
21	07:15	06:39	06:51	05:57	05:18	06:05 (C-9) 05:07	06:09 (C-9) 05:25	06:15 (C-9) 05:59	06:33	07:09	06:49	07:18
	16:44	17:26	19:01	19:38	20:11 19	06:24 (C-9) 20:33 20	06:29 (C-9) 20:24 20	06:35 (C-9) 19:43	18:49	17:56	16:19	16:14
22	07:14	06:37	06:49	05:55	05:17	06:04 (C-9) 05:07	06:10 (C-9) 05:26	06:15 (C-9) 06:00	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:12 20	06:24 (C-9) 20:33 20	06:30 (C-9) 20:23 20	06:35 (C-9) 19:42	18:47	17:55	16:18	16:15
23	07:14	06:36	06:47	05:54	05:16	06:04 (C-9) 05:07	06:10 (C-9) 05:27	06:16 (C-9) 06:01	06:36	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	20:13 21	06:25 (C-9) 20:33 20	06:30 (C-9) 20:22 18	06:34 (C-9) 19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:46	05:52	05:15	06:04 (C-9) 05:07	06:10 (C-9) 05:28	06:17 (C-9) 06:02	06:37	07:12	06:52	07:19
	16:48	17:30	19:04	19:41	20:14 22	06:26 (C-9) 20:33 20	06:30 (C-9) 20:21 17	06:34 (C-9) 19:38	18:43	17:52	16:16	16:16
25	07:12	06:32	06:44	05:51	05:15	06:04 (C-9) 05:08	06:10 (C-9) 05:29	06:18 (C-9) 06:03	06:38	07:14	06:54	07:20
	16:49	17:31	19:06	19:42	20:15 22	06:26 (C-9) 20:33 20	06:30 (C-9) 20:20 15	06:33 (C-9) 19:37	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14	06:03 (C-9) 05:08	06:11 (C-9) 05:30	06:19 (C-9) 06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:44	20:16 23	06:26 (C-9) 20:33 19	06:30 (C-9) 20:19 12	06:31 (C-9) 19:35	18:40	17:49	16:15	16:17
27	07:10	06:29	06:40	05:48	05:13	06:04 (C-9) 05:08	06:11 (C-9) 05:31	06:21 (C-9) 06:05	06:40	07:16	06:56	07:20
	16:52	17:33	19:08	19:45	20:17 23	06:27 (C-9) 20:33 19	06:30 (C-9) 20:18 7	06:28 (C-9) 19:33	18:38	17:47	16:15	16:18
28	07:09	06:28	06:38	05:46	05:13	06:03 (C-9) 05:09	06:11 (C-9) 05:32	06:06	06:41	07:18	06:57	07:21
	16:53	17:35	19:09	19:46	20:18 24	06:27 (C-9) 20:33 20	06:31 (C-9) 20:17	19:32	18:36	17:46	16:14	16:18
29	07:08		06:37	05:45	05:12	06:03 (C-9) 05:09	06:11 (C-9) 05:33	06:08	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18 24	06:27 (C-9) 20:33 20	06:31 (C-9) 20:16	19:30	18:34	17:44	16:14	16:19
30	07:07		06:35	05:43	05:11	06:04 (C-9) 05:10	06:12 (C-9) 05:34	06:09	06:44	07:20	06:59	07:21
	16:56		19:12	19:48	20:19 23	06:27 (C-9) 20:33 20	06:32 (C-9) 20:15	19:28	18:32	17:43	16:13	16:20
31	07:06		06:33		05:11	06:03 (C-9)	05:35	06:10		07:21		07:21
	16:57		19:13		20:20 24	06:27 (C-9)	20:14	19:27		17:41		16:21
Potential sun hours	290	294	369	402	455	461	467	433	376	342	292	279
Total, worst case					304	626	562					
Sun reduction					0.55	0.58	0.62					
Oper. time red.					1.00	1.00	1.00					
Wind dir. red.					0.67	0.67	0.67					
Total reduction					0.37	0.39	0.42					
Total, real					113	245	235					

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 16

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** D-33 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (85)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April		May		June	July	August		September	October	November	December
1	07:21	07:05	06:26	06:31		05:42	06:36 (C-9)	05:10	05:10	05:37		06:11	06:45	06:23	07:01
	16:22	16:59	17:36	19:14		19:50	20 06:56 (C-9)	20:21	20:33	20:13		19:25	18:30	16:40	16:13
2	07:22	07:04	06:24	06:29		05:40	06:37 (C-9)	05:10	05:11	05:38		06:12	06:46	06:24	07:02
	16:23	17:00	17:37	19:15		19:51	18 06:55 (C-9)	20:22	20:33	20:12		19:23	18:29	16:39	16:13
3	07:22	07:03	06:23	06:28		05:39	06:39 (C-9)	05:09	05:11	05:39		06:13	06:47	06:25	07:03
	16:23	17:01	17:39	19:16		19:52	15 06:54 (C-9)	20:23	20:33	20:10		19:21	18:27	16:37	16:12
4	07:22	07:02	06:21	06:26		05:38	06:40 (C-9)	05:09	05:12	05:40		06:14	06:48	06:27	07:04
	16:24	17:03	17:40	19:18		19:53	12 06:52 (C-9)	20:24	20:33	20:09		19:20	18:25	16:36	16:12
5	07:22	07:01	06:19	06:24		05:36	06:42 (C-9)	05:08	05:12	05:41		06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:19		19:54	8 06:50 (C-9)	20:24	20:33	20:08		19:18	18:23	16:35	16:12
6	07:21	07:00	06:17	06:22		05:35		05:08	05:13	05:42		06:17	06:51	06:29	07:06
	16:26	17:05	17:42	19:20		19:55		20:25	20:32	20:07		19:16	18:22	16:34	16:12
7	07:21	06:58	06:16	06:21		05:34		05:08	05:14	05:43		06:18	06:52	06:31	07:07
	16:27	17:07	17:44	19:21		19:56		20:26	20:32	20:05		19:14	18:20	16:32	16:12
8	07:21	06:57	07:14	06:19		05:32		05:07	05:14	05:44	06:51 (C-9)	06:19	06:53	06:32	07:08
	16:28	17:08	18:45	19:22		19:58		20:26	20:32	20:04	9 07:00 (C-9)	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17		05:31		05:07	05:15	05:45	06:49 (C-9)	06:20	06:54	06:33	07:09
	16:30	17:09	18:46	19:23		19:59		20:27	20:31	20:03	13 07:02 (C-9)	19:11	18:16	16:30	16:11
10	07:21	06:55	07:11	06:15		05:30		05:07	05:16	05:46	06:47 (C-9)	06:21	06:55	06:35	07:10
	16:31	17:11	18:47	19:25		20:00		20:28	20:31	20:01	16 07:03 (C-9)	19:09	18:15	16:29	16:11
11	07:20	06:53	07:09	06:14		05:29		05:07	05:17	05:47	06:46 (C-9)	06:22	06:56	06:36	07:11
	16:32	17:12	18:49	19:26		20:00		20:28	20:30	20:00	18 07:04 (C-9)	19:07	18:13	16:28	16:11
12	07:20	06:52	07:07	06:12		05:27		05:06	05:17	05:49	06:45 (C-9)	06:23	06:58	06:37	07:11
	16:33	17:14	18:50	19:27		20:01		20:29	20:30	19:57	20 07:05 (C-9)	19:05	18:11	16:27	16:11
13	07:20	06:51	07:05	06:10		05:26		05:06	05:18	05:50	06:44 (C-9)	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28		20:02		20:29	20:29	19:56	21 07:05 (C-9)	19:03	18:09	16:26	16:12
14	07:19	06:49	07:03	06:08		05:25		05:06	05:19	05:51	06:43 (C-9)	06:25	07:00	06:40	07:13
	16:35	17:16	18:52	19:29		20:03		20:30	20:29	19:54	23 07:06 (C-9)	19:02	18:08	16:25	16:12
15	07:19	06:48	07:02	06:07		05:24		05:06	05:20	05:52	06:43 (C-9)	06:27	07:01	06:41	07:14
	16:36	17:18	18:54	19:31		20:04		20:30	20:28	19:53	23 07:06 (C-9)	19:00	18:06	16:24	16:12
16	07:18	06:46	07:00	06:05		05:23		05:06	05:21	05:53	06:42 (C-9)	06:28	07:03	06:42	07:15
	16:38	17:19	18:55	19:32		20:05		20:31	20:28	19:51	24 07:06 (C-9)	18:58	18:04	16:23	16:12
17	07:18	06:45	06:58	06:03		05:22		05:06	05:22	05:54	06:42 (C-9)	06:29	07:04	06:44	07:15
	16:39	17:20	18:56	19:33		20:07		20:31	20:27	19:50	23 07:05 (C-9)	18:56	18:03	16:22	16:12
18	07:17	06:43	06:56	06:02	06:46 (C-9)	05:21		05:06	05:23	05:55	06:42 (C-9)	06:30	07:05	06:45	07:16
	16:40	17:22	18:57	19:34	7 06:53 (C-9)	20:08		20:32	20:26	19:48	23 07:05 (C-9)	18:54	18:01	16:21	16:13
19	07:17	06:42	06:55	06:00	06:42 (C-9)	05:20		05:06	05:23	05:56	06:43 (C-9)	06:31	07:06	06:46	07:17
	16:41	17:23	18:58	19:35	13 06:55 (C-9)	20:09		20:32	20:25	19:46	23 07:06 (C-9)	18:52	17:59	16:20	16:13
20	07:16	06:40	06:53	05:59	06:41 (C-9)	05:19		05:06	05:24	05:57	06:43 (C-9)	06:32	07:07	06:47	07:17
	16:43	17:24	19:00	19:37	16 06:57 (C-9)	20:10		20:32	20:25	19:45	22 07:05 (C-9)	18:51	17:58	16:19	16:14
21	07:15	06:39	06:51	05:57	06:39 (C-9)	05:18		05:07	05:25	05:59	06:43 (C-9)	06:33	07:09	06:49	07:18
	16:44	17:26	19:01	19:38	19 06:58 (C-9)	20:11		20:33	20:24	19:43	21 07:04 (C-9)	18:49	17:56	16:19	16:14
22	07:14	06:37	06:49	05:55	06:37 (C-9)	05:17		05:07	05:26	06:00	06:44 (C-9)	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	21 06:58 (C-9)	20:12		20:33	20:23	19:42	19 07:03 (C-9)	18:47	17:55	16:18	16:15
23	07:14	06:36	06:47	05:54	06:37 (C-9)	05:16		05:07	05:27	06:01	06:45 (C-9)	06:36	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	22 06:59 (C-9)	20:13		20:33	20:22	19:40	16 07:01 (C-9)	18:45	17:53	16:17	16:15
24	07:13	06:34	06:46	05:52	06:36 (C-9)	05:15		05:07	05:28	06:02	06:46 (C-9)	06:37	07:12	06:52	07:19
	16:48	17:29	19:04	19:41	23 06:59 (C-9)	20:14		20:33	20:21	19:38	13 06:59 (C-9)	18:43	17:52	16:16	16:16
25	07:12	06:32	06:44	05:51	06:36 (C-9)	05:15		05:08	05:29	06:03	06:49 (C-9)	06:38	07:14	06:54	07:20
	16:49	17:31	19:06	19:42	23 06:59 (C-9)	20:15		20:33	20:20	19:37	6 06:55 (C-9)	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	06:35 (C-9)	05:14		05:08	05:30	06:04		06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:44	24 06:59 (C-9)	20:16		20:33	20:19	19:35		18:40	17:49	16:15	16:17
27	07:10	06:29	06:40	05:48	06:36 (C-9)	05:13		05:08	05:31	06:05		06:40	07:16	06:56	07:20
	16:52	17:33	19:08	19:45	23 06:59 (C-9)	20:17		20:33	20:18	19:33		18:38	17:47	16:15	16:18
28	07:09	06:28	06:38	05:46	06:35 (C-9)	05:13		05:09	05:32	06:06		06:41	07:18	06:57	07:21
	16:53	17:35	19:09	19:46	23 06:58 (C-9)	20:18		20:33	20:17	19:32		18:36	17:46	16:14	16:18
29	07:08		06:37	05:45	06:36 (C-9)	05:12		05:09	05:33	06:08		06:42	07:19	06:58	07:21
	16:54		19:10	19:47	22 06:58 (C-9)	20:18		20:33	20:16	19:30		18:34	17:44	16:14	16:19
30	07:07		06:35	05:43	06:36 (C-9)	05:11		05:10	05:34	06:09		06:44	07:20	06:59	07:21
	16:56		19:12	19:48	22 06:58 (C-9)	20:19		20:33	20:15	19:28		18:32	17:43	16:13	16:20
31	07:06		06:33			05:11			05:35	06:10			07:21		07:21
	16:57		19:13			20:20			20:14	19:27			17:41		16:21
Potential sun hours	290	294	369	402		455		461	467	433		376	342	292	279
Total, worst case				258		73				333					
Sun reduction				0.53		0.55				0.60					
Oper. time red.				1.00		1.00				1.00					
Wind dir. red.				0.70		0.70				0.70					
Total reduction				0.37		0.38				0.42					
Total, real				96		28				140					

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

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

Project:
2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 17

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** D-34 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (89)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January			February			March			April			May			June		
1	07:21		08:47 (C-7)	07:05			06:26			06:31			05:42			05:10		06:38 (C-4)
	16:22	43	09:30 (C-7)	16:58			17:36			19:14			19:49			20:21	25	07:03 (C-4)
2	07:22		08:48 (C-7)	07:04			06:24			06:29			05:40			05:09		06:37 (C-4)
	16:22	42	09:30 (C-7)	17:00			17:37			19:15			19:51			20:22	25	07:02 (C-4)
3	07:22		08:48 (C-7)	07:03			06:23		07:52 (C-6)	06:28			05:39			05:09		06:38 (C-4)
	16:23	43	09:31 (C-7)	17:01			17:38	9	08:01 (C-6)	19:16			19:52			20:23	25	07:03 (C-4)
4	07:22		08:49 (C-7)	07:02			06:21		07:47 (C-6)	06:26			05:38			05:09		06:38 (C-4)
	16:24	43	09:32 (C-7)	17:03			17:40	18	08:05 (C-6)	19:17			19:53			20:24	26	07:04 (C-4)
5	07:22		08:49 (C-7)	07:01			06:19		07:45 (C-6)	06:24			05:36			05:08		06:38 (C-4)
	16:25	43	09:32 (C-7)	17:04			17:41	21	08:06 (C-6)	19:19			19:54			20:24	25	07:03 (C-4)
6	07:21		08:50 (C-7)	07:00			06:17		07:42 (C-6)	06:22			05:35			05:08		06:38 (C-4)
	16:26	43	09:33 (C-7)	17:05			17:42	26	08:08 (C-6)	19:20			19:55			20:25	26	07:04 (C-4)
7	07:21		08:50 (C-7)	06:58			06:16		07:41 (C-6)	06:20			05:34			05:07		06:39 (C-4)
	16:27	43	09:33 (C-7)	17:07			17:44	28	08:09 (C-6)	19:21			19:56			20:26	25	07:04 (C-4)
8	07:21		08:50 (C-7)	06:57			07:14		08:40 (C-6)	06:19		07:42 (C-5)	05:32			05:07		06:38 (C-4)
	16:28	43	09:33 (C-7)	17:08			18:45	30	09:10 (C-6)	19:22	8	07:50 (C-5)	19:58			20:26	26	07:04 (C-4)
9	07:21		08:51 (C-7)	06:56			07:12		08:38 (C-6)	06:17		07:39 (C-5)	05:31			05:07		06:38 (C-4)
	16:29	43	09:34 (C-7)	17:09			18:46	32	09:10 (C-6)	19:23	15	07:54 (C-5)	19:59			20:27	26	07:04 (C-4)
10	07:21		08:52 (C-7)	06:55			07:10		08:37 (C-6)	06:15		07:37 (C-5)	05:30			05:07		06:39 (C-4)
	16:31	42	09:34 (C-7)	17:11			18:47	33	09:10 (C-6)	19:25	19	07:56 (C-5)	20:00			20:28	25	07:04 (C-4)
11	07:20		08:51 (C-7)	06:53			07:09		08:37 (C-6)	06:14		07:35 (C-5)	05:29			05:06		06:39 (C-4)
	16:32	43	09:34 (C-7)	17:12			18:49	34	09:11 (C-6)	19:26	21	07:56 (C-5)	20:00			20:28	26	07:05 (C-4)
12	07:20		08:52 (C-7)	06:52			07:07		08:36 (C-6)	06:12		07:34 (C-5)	05:27			05:06		06:39 (C-4)
	16:33	43	09:35 (C-7)	17:13			18:50	35	09:11 (C-6)	19:27	24	07:58 (C-5)	20:01			20:29	26	07:05 (C-4)
13	07:20		08:52 (C-7)	06:50			07:05		08:36 (C-6)	06:10		07:33 (C-5)	05:26			05:06		06:40 (C-4)
	16:34	43	09:35 (C-7)	17:15			18:51	35	09:11 (C-6)	19:28	25	07:58 (C-5)	20:02			20:29	25	07:05 (C-4)
14	07:19		08:53 (C-7)	06:49			07:03		08:35 (C-6)	06:08		07:31 (C-5)	05:25			05:06		06:40 (C-4)
	16:35	42	09:35 (C-7)	17:16			18:52	35	09:10 (C-6)	19:29	27	07:58 (C-5)	20:03			20:30	25	07:05 (C-4)
15	07:19		08:53 (C-7)	06:48			07:02		08:35 (C-6)	06:07		07:31 (C-5)	05:24			05:06		06:40 (C-4)
	16:36	42	09:35 (C-7)	17:17			18:53	34	09:09 (C-6)	19:31	28	07:59 (C-5)	20:04			20:30	26	07:06 (C-4)
16	07:18		08:54 (C-7)	06:46			07:00		08:35 (C-6)	06:05		07:30 (C-5)	05:23			05:06		06:40 (C-4)
	16:38	42	09:36 (C-7)	17:19			18:55	34	09:09 (C-6)	19:32	28	07:58 (C-5)	20:05			20:31	26	07:06 (C-4)
17	07:18		08:55 (C-7)	06:45			06:58		08:35 (C-6)	06:03		07:30 (C-5)	05:22			05:06		06:40 (C-4)
	16:39	40	09:35 (C-7)	17:20			18:56	33	09:08 (C-6)	19:33	28	07:58 (C-5)	20:07			20:31	26	07:06 (C-4)
18	07:17		08:56 (C-7)	06:43			06:56		08:35 (C-6)	06:02		07:30 (C-5)	05:21			05:06		06:41 (C-4)
	16:40	40	09:36 (C-7)	17:22			18:57	32	09:07 (C-6)	19:34	28	07:58 (C-5)	20:08			20:32	25	07:06 (C-4)
19	07:17		08:56 (C-7)	06:42			06:54		08:36 (C-6)	06:00		07:29 (C-5)	05:20			05:06		06:41 (C-4)
	16:41	39	09:35 (C-7)	17:23			18:58	30	09:06 (C-6)	19:35	28	07:57 (C-5)	20:09			20:32	25	07:06 (C-4)
20	07:16		08:57 (C-7)	06:40			06:53		08:36 (C-6)	05:58		07:29 (C-5)	05:19			05:06		06:41 (C-4)
	16:43	38	09:35 (C-7)	17:24			19:00	28	09:04 (C-6)	19:36	27	07:56 (C-5)	20:10			20:32	25	07:06 (C-4)
21	07:15		08:57 (C-7)	06:39			06:51		08:38 (C-6)	05:57		07:30 (C-5)	05:18		06:45 (C-4)	05:07		06:41 (C-4)
	16:44	37	09:34 (C-7)	17:25			19:01	25	09:03 (C-6)	19:38	26	07:56 (C-5)	20:11	9	06:54 (C-4)	20:33	25	07:06 (C-4)
22	07:14		08:59 (C-7)	06:37			06:49		08:39 (C-6)	05:55		07:30 (C-5)	05:17		06:43 (C-4)	05:07		06:42 (C-4)
	16:45	36	09:35 (C-7)	17:27			19:02	22	09:01 (C-6)	19:39	24	07:54 (C-5)	20:12	12	06:55 (C-4)	20:33	25	07:07 (C-4)
23	07:14		09:00 (C-7)	06:36			06:47		08:40 (C-6)	05:54		07:31 (C-5)	05:16		06:41 (C-4)	05:07		06:42 (C-4)
	16:46	34	09:34 (C-7)	17:28			19:03	18	08:58 (C-6)	19:40	22	07:53 (C-5)	20:13	16	06:57 (C-4)	20:33	25	07:07 (C-4)
24	07:13		09:01 (C-7)	06:34			06:45		08:43 (C-6)	05:52		07:31 (C-5)	05:15		06:41 (C-4)	05:07		06:42 (C-4)
	16:48	33	09:34 (C-7)	17:29			19:04	11	08:54 (C-6)	19:41	21	07:52 (C-5)	20:14	17	06:58 (C-4)	20:33	25	07:07 (C-4)
25	07:12		09:02 (C-7)	06:32			06:44			05:51		07:33 (C-5)	05:15		06:40 (C-4)	05:08		06:41 (C-4)
	16:49	31	09:33 (C-7)	17:31			19:06			19:42	17	07:50 (C-5)	20:15	19	06:59 (C-4)	20:33	26	07:07 (C-4)
26	07:11		09:03 (C-7)	06:31			06:42			05:49		07:34 (C-5)	05:14		06:39 (C-4)	05:08		06:42 (C-4)
	16:50	29	09:32 (C-7)	17:32			19:07			19:44	14	07:48 (C-5)	20:16	20	06:59 (C-4)	20:33	26	07:08 (C-4)
27	07:10		09:04 (C-7)	06:29			06:40			05:48		07:37 (C-5)	05:13		06:39 (C-4)	05:08		06:42 (C-4)
	16:52	26	09:30 (C-7)	17:33			19:08			19:45	8	07:45 (C-5)	20:17	22	07:01 (C-4)	20:33	26	07:08 (C-4)
28	07:09		09:06 (C-7)	06:28			06:38			05:46			05:12		06:39 (C-4)	05:09		06:43 (C-4)
	16:53	23	09:29 (C-7)	17:35			19:09			19:46			20:18	22	07:01 (C-4)	20:33	25	07:08 (C-4)
29	07:08		09:08 (C-7)				06:36			05:45			05:12		06:38 (C-4)	05:09		06:43 (C-4)
	16:54	19	09:27 (C-7)				19:10			19:47			20:18	23	07:01 (C-4)	20:33	25	07:08 (C-4)
30	07:07		09:11 (C-7)				06:35			05:43			05:11		06:38 (C-4)	05:10		06:42 (C-4)
	16:56	13	09:24 (C-7)				19:12			19:48			20:19	24	07:02 (C-4)	20:33	26	07:08 (C-4)
31	07:06						06:33						05:11		06:38 (C-4)			
	16:57						19:13						20:20	24	07:02 (C-4)			
Potential sun hours	290			294			369			402			455			461		
Total, worst case		1121						603			438			208			763	
Sun reduction		0.52						0.53			0.53			0.55			0.58	
Oper. time red.		1.00						1.00			1.00			1.00			1.00	
Wind dir. red.		0.65						0.71			0.71			0.68			0.68	
Total reduction		0.34						0.37			0.38			0.37			0.39	
Total, real		378						225			165			77			299	

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 18

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** D-34 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (89)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	July			August			September			October			November			December		
1	05:10		06:43 (C-4)	05:36			06:11		07:34 (C-5)	06:45		08:15 (C-6)	06:23			07:01		08:33 (C-7)
	20:33	26	07:09 (C-4)	20:13			19:25	21	07:55 (C-5)	18:30	35	08:50 (C-6)	16:40			16:13	43	09:16 (C-7)
2	05:11		06:43 (C-4)	05:37			06:12		07:35 (C-5)	06:46		08:16 (C-6)	06:24			07:02		08:34 (C-7)
	20:33	26	07:09 (C-4)	20:12			19:23	19	07:54 (C-5)	18:29	34	08:50 (C-6)	16:39			16:13	42	09:16 (C-7)
3	05:11		06:43 (C-4)	05:39			06:13		07:37 (C-5)	06:47		08:16 (C-6)	06:25			07:03		08:35 (C-7)
	20:33	26	07:09 (C-4)	20:10			19:21	15	07:52 (C-5)	18:27	33	08:49 (C-6)	16:37			16:12	43	09:18 (C-7)
4	05:12		06:44 (C-4)	05:40			06:14		07:40 (C-5)	06:48		08:16 (C-6)	06:27			07:04		08:35 (C-7)
	20:33	26	07:10 (C-4)	20:09			19:19	9	07:49 (C-5)	18:25	32	08:48 (C-6)	16:36			16:12	43	09:18 (C-7)
5	05:12		06:44 (C-4)	05:41			06:15			06:49		08:16 (C-6)	06:28			07:05		08:35 (C-7)
	20:33	25	07:09 (C-4)	20:08			19:18			18:23	31	08:47 (C-6)	16:35			16:12	43	09:18 (C-7)
6	05:13		06:44 (C-4)	05:42			06:16			06:50		08:17 (C-6)	06:29			07:06		08:36 (C-7)
	20:32	26	07:10 (C-4)	20:07			19:16			18:22	29	08:46 (C-6)	16:34			16:12	43	09:19 (C-7)
7	05:14		06:44 (C-4)	05:43			06:18			06:52		08:17 (C-6)	06:31			07:07		08:36 (C-7)
	20:32	25	07:09 (C-4)	20:05			19:14			18:20	27	08:44 (C-6)	16:32			16:11	43	09:19 (C-7)
8	05:14		06:44 (C-4)	05:44			06:19			06:53		08:19 (C-6)	06:32			07:08		08:37 (C-7)
	20:32	26	07:10 (C-4)	20:04			19:12			18:18	24	08:43 (C-6)	16:31			16:11	43	09:20 (C-7)
9	05:15		06:45 (C-4)	05:45			06:20			06:54		08:21 (C-6)	06:33			07:09		08:37 (C-7)
	20:31	25	07:10 (C-4)	20:03			19:11			18:16	20	08:41 (C-6)	16:30			16:11	43	09:20 (C-7)
10	05:16		06:46 (C-4)	05:46			06:21			06:55		08:23 (C-6)	06:34			07:10		08:38 (C-7)
	20:31	25	07:11 (C-4)	20:01			19:09			18:15	14	08:37 (C-6)	16:29			16:11	43	09:21 (C-7)
11	05:17		06:45 (C-4)	05:47			06:22			06:56			06:36			07:11		08:38 (C-7)
	20:30	25	07:10 (C-4)	20:00			19:07			18:13			16:28			16:11	43	09:21 (C-7)
12	05:17		06:46 (C-4)	05:48			06:23			06:58			06:37		08:42 (C-7)	07:11		08:38 (C-7)
	20:30	24	07:10 (C-4)	19:57			19:05			18:11			16:27	14	08:56 (C-7)	16:11	43	09:21 (C-7)
13	05:18		06:46 (C-4)	05:50			06:24			06:59			06:38		08:40 (C-7)	07:12		08:39 (C-7)
	20:29	24	07:10 (C-4)	19:56			19:03			18:09			16:26	19	08:59 (C-7)	16:12	42	09:21 (C-7)
14	05:19		06:47 (C-4)	05:51			06:25			07:00			06:40		08:38 (C-7)	07:13		08:39 (C-7)
	20:29	23	07:10 (C-4)	19:54			19:01			18:08			16:25	23	09:01 (C-7)	16:12	43	09:22 (C-7)
15	05:20		06:47 (C-4)	05:52			06:26			07:01			06:41		08:37 (C-7)	07:14		08:40 (C-7)
	20:28	22	07:09 (C-4)	19:53			19:00			18:06			16:24	26	09:03 (C-7)	16:12	42	09:22 (C-7)
16	05:21		06:47 (C-4)	05:53		07:43 (C-5)	06:28			07:02			06:42		08:36 (C-7)	07:15		08:40 (C-7)
	20:28	22	07:09 (C-4)	19:51	10	07:53 (C-5)	18:58			18:04			16:23	29	09:05 (C-7)	16:12	42	09:22 (C-7)
17	05:22		06:48 (C-4)	05:54		07:40 (C-5)	06:29			07:04			06:44		08:35 (C-7)	07:15		08:41 (C-7)
	20:27	21	07:09 (C-4)	19:50	15	07:55 (C-5)	18:56			18:03			16:22	31	09:06 (C-7)	16:12	42	09:23 (C-7)
18	05:22		06:49 (C-4)	05:55		07:38 (C-5)	06:30			07:05			06:45		08:35 (C-7)	07:16		08:42 (C-7)
	20:26	20	07:09 (C-4)	19:48	18	07:56 (C-5)	18:54			18:01			16:21	32	09:07 (C-7)	16:13	42	09:24 (C-7)
19	05:23		06:50 (C-4)	05:56		07:37 (C-5)	06:31		08:31 (C-6)	07:06			06:46		08:34 (C-7)	07:17		08:41 (C-7)
	20:25	18	07:08 (C-4)	19:46	21	07:58 (C-5)	18:52	10	08:41 (C-6)	17:59			16:20	34	09:08 (C-7)	16:13	43	09:24 (C-7)
20	05:24		06:51 (C-4)	05:57		07:37 (C-5)	06:32		08:27 (C-6)	07:07			06:47		08:33 (C-7)	07:17		08:42 (C-7)
	20:25	17	07:08 (C-4)	19:45	22	07:59 (C-5)	18:50	17	08:44 (C-6)	17:58			16:19	36	09:09 (C-7)	16:13	42	09:24 (C-7)
21	05:25		06:52 (C-4)	05:59		07:35 (C-5)	06:33		08:25 (C-6)	07:09			06:49		08:33 (C-7)	07:18		08:42 (C-7)
	20:24	15	07:07 (C-4)	19:43	25	08:00 (C-5)	18:49	21	08:46 (C-6)	17:56			16:18	37	09:10 (C-7)	16:14	42	09:24 (C-7)
22	05:26		06:54 (C-4)	06:00		07:35 (C-5)	06:34		08:22 (C-6)	07:10			06:50		08:33 (C-7)	07:18		08:43 (C-7)
	20:23	11	07:05 (C-4)	19:42	25	08:00 (C-5)	18:47	25	08:47 (C-6)	17:55			16:18	38	09:11 (C-7)	16:14	42	09:25 (C-7)
23	05:27		06:56 (C-4)	06:01		07:34 (C-5)	06:35		08:21 (C-6)	07:11			06:51		08:32 (C-7)	07:19		08:43 (C-7)
	20:22	7	07:03 (C-4)	19:40	27	08:01 (C-5)	18:45	27	08:48 (C-6)	17:53			16:17	39	09:11 (C-7)	16:15	42	09:25 (C-7)
24	05:28			06:02		07:33 (C-5)	06:37		08:19 (C-6)	07:12			06:52		08:33 (C-7)	07:19		08:44 (C-7)
	20:21			19:38	28	08:01 (C-5)	18:43	30	08:49 (C-6)	17:52			16:16	40	09:13 (C-7)	16:16	42	09:26 (C-7)
25	05:29			06:03		07:33 (C-5)	06:38		08:18 (C-6)	07:14			06:54		08:33 (C-7)	07:20		08:45 (C-7)
	20:20			19:37	28	08:01 (C-5)	18:41	31	08:49 (C-6)	17:50			16:16	40	09:13 (C-7)	16:16	42	09:27 (C-7)
26	05:30			06:04		07:32 (C-5)	06:39		08:18 (C-6)	07:15			06:55		08:32 (C-7)	07:20		08:45 (C-7)
	20:19			19:35	28	08:00 (C-5)	18:39	33	08:51 (C-6)	17:49			16:15	42	09:14 (C-7)	16:17	42	09:27 (C-7)
27	05:31			06:05		07:32 (C-5)	06:40		08:17 (C-6)	07:16			06:56		08:33 (C-7)	07:20		08:46 (C-7)
	20:18			19:33	28	08:00 (C-5)	18:38	34	08:51 (C-6)	17:47			16:15	42	09:15 (C-7)	16:17	42	09:28 (C-7)
28	05:32			06:06		07:32 (C-5)	06:41		08:16 (C-6)	07:18			06:57		08:33 (C-7)	07:21		08:46 (C-7)
	20:17			19:32	28	08:00 (C-5)	18:36	35	08:51 (C-6)	17:46			16:14	42	09:15 (C-7)	16:18	42	09:28 (C-7)
29	05:33			06:07		07:32 (C-5)	06:42		08:16 (C-6)	07:19			06:58		08:33 (C-7)	07:21		08:46 (C-7)
	20:16			19:30	27	07:59 (C-5)	18:34	35	08:51 (C-6)	17:44			16:14	43	09:16 (C-7)	16:19	43	09:29 (C-7)
30	05:34			06:09		07:33 (C-5)	06:43		08:15 (C-6)	07:20			06:59		08:33 (C-7)	07:21		08:47 (C-7)
	20:15			19:28	25	07:58 (C-5)	18:32	35	08:50 (C-6)	17:43			16:13	43	09:16 (C-7)	16:20	42	09:29 (C-7)
31	05:35			06:10		07:33 (C-5)				07:21						07:21		08:47 (C-7)
	20:14			19:27	24	07:57 (C-5)				17:41						16:20	42	09:29 (C-7)
Potential sun hours	467			433			376			342			291			279		
Total, worst case		505			379			397			279			650			1316	
Sun reduction		0.62			0.60			0.56			0.53			0.42			0.47	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.68			0.71			0.71			0.71			0.65			0.65	
Total reduction		0.42			0.43			0.40			0.37			0.27			0.30	
Total, real		212			162			157			104			177			401	

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 19

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** D-44 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (96)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:42	05:10	05:10	05:37	06:11	06:45	06:23	07:01
	16:22	16:59	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30	16:40	16:13
2	07:22	07:04	06:24	06:29	05:40	05:10	05:11	05:38	06:12	06:46	06:24	07:02
	16:23	17:00	17:37	19:15	19:51	20:22	20:33	20:12	19:23	18:29	16:39	16:13
3	07:22	07:03	06:23	06:28	05:39	05:09	05:11	05:39	06:13	06:47	06:25	07:03
	16:23	17:01	17:39	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37	16:12
4	07:22	07:02	06:21	06:26	05:38	05:09	05:12	05:40	06:14	06:48	06:27	07:04
	16:24	17:03	17:40	19:18	19:53	20:23	20:33	20:09	19:20	18:25	16:36	16:12
5	07:21	07:01	06:19	06:24	05:36	05:08	05:12	05:41	06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:19	19:54	20:24	20:33	20:08	19:18	18:23	16:35	16:12
6	07:21	07:00	06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:50	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25	20:32	20:07	19:16	18:22	16:34	16:12
7	07:21	06:58	06:16	06:21	05:34	05:08	05:14	05:43	06:18	06:52	06:31	07:07
	16:27	17:07	17:44	19:21	19:56	20:26	20:32	20:05	19:14	18:20	16:32	16:12
8	07:21	06:57	07:14	06:19	05:32	05:07	05:14	05:44	06:19	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:58	20:26	20:32	20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31	05:07	05:15	05:45	06:20	06:54	06:33	07:09
	16:30	17:09	18:46	19:23	19:59	20:27	20:31	20:03	19:11	18:16	16:30	16:11
10	07:21	06:55	07:11	06:15	05:30	05:07	05:16	05:46	06:21	06:55	06:35	07:10
	16:31	17:11	18:47	19:25	20:00	20:28	20:31	20:01	19:09	18:15	16:29	16:11
11	07:20	06:53	07:09	06:14	05:29	05:07	05:17	05:47	06:22	06:56	06:36	07:11
	16:32	17:12	18:49	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28	16:11
12	07:20	06:52	07:07	06:12	05:27	05:06	05:17	05:49	06:23	06:58	06:37	07:11
	16:33	17:14	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:27	16:11
13	07:20	06:50	07:05	06:10	05:26	05:06	05:18	05:50	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02	20:29	20:29	19:56	19:03	18:09	16:26	16:12
14	07:19	06:49	07:03	06:08	05:25	05:06	05:19	05:51	06:25	07:00	06:40	07:13
	16:35	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:08	16:25	16:12
15	07:19	06:48	07:02	06:07	05:24	05:06	05:20	05:52	06:27	07:01	06:41	07:14
	16:36	17:18	18:54	19:31	20:04	20:30	20:28	19:53	19:00	18:06	16:24	16:12
16	07:18	06:46	07:00	06:05	05:23	05:06	05:21	05:53	06:28	07:02	06:42	07:15
	16:38	17:19	18:55	19:32	20:05	20:31	20:28	19:51	18:58	18:04	16:23	16:12
17	07:18	06:45	06:58	06:03	05:22	05:06	05:22	05:54	06:29	07:04	06:44	07:15
	16:39	17:20	18:56	19:33	20:07	20:31	20:27	19:50	18:56	18:03	16:22	16:12
18	07:17	06:43	06:56	06:02	05:21	05:06	05:23	05:55	06:30	07:05	06:45	07:16
	16:40	17:22	18:57	19:34	20:08	20:32	20:26	19:48	18:54	18:01	16:21	16:13
19	07:17	06:42	06:55	06:00	05:20	05:06	05:23	05:56	06:31	07:06	06:46	07:17
	16:41	17:23	18:58	19:35	20:09	20:32	20:25	19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:53	05:59	05:19	05:06	05:24	05:57	06:32	07:07	06:47	07:17
	16:43	17:24	19:00	19:37	20:10	20:32	20:25	19:45	18:51	17:58	16:19	16:14
21	07:15	06:39	06:51	05:57	05:18	05:07	05:25	05:59	06:33	07:09	06:49	07:18
	16:44	17:26	19:01	19:38	20:11	20:33	20:24	19:43	18:49	17:56	16:19	16:14
22	07:14	06:37	06:49	05:55	05:17	05:07	05:26	06:00	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:12	20:33	20:23	19:42	18:47	17:55	16:18	16:15
23	07:14	06:36	06:47	05:54	05:16	05:07	05:27	06:01	06:36	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:46	05:52	05:15	05:07	05:28	06:02	06:37	07:12	06:52	07:19
	16:48	17:29	19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:52	16:16	16:16
25	07:12	06:32	06:44	05:51	05:15	05:08	05:29	06:03	06:38	07:14	06:54	07:20
	16:49	17:31	19:06	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14	05:08	05:30	06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:44	20:16	20:33	20:19	19:35	18:40	17:49	16:15	16:17
27	07:10	06:29	06:40	05:48	05:13	05:08	05:31	06:05	06:40	07:16	06:56	07:20
	16:52	17:33	19:08	19:45	20:17	20:33	20:18	19:33	18:38	17:47	16:15	16:18
28	07:09	06:28	06:38	05:46	05:13	05:09	05:32	06:06	06:41	07:18	06:57	07:21
	16:53	17:35	19:09	19:46	20:18	20:33	20:17	19:32	18:36	17:46	16:14	16:18
29	07:08		06:37	05:45	05:12	05:09	05:33	06:08	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:14	16:19
30	07:07		06:35	05:43	05:11	05:10	05:34	06:09	06:44	07:20	06:59	07:21
	16:56		19:12	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	16:20
31	07:06		06:33		05:11		05:35	06:10		07:21		07:21
	16:57		19:13		20:20		20:14	19:27		17:41		16:21
Potential sun hours	290	294	369	402	455	461	467	433	376	342	292	279
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 20

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** D-45 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (97)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:42	05:10	05:10	05:36	06:11	06:45	06:23	07:01
	16:22	16:58	17:36	19:14	19:49	20:21	20:33	20:13	19:25	18:30	16:40	16:13
2	07:22	07:04	06:24	06:29	05:40	05:10	05:11	05:38	06:12	06:46	06:24	07:02
	16:23	17:00	17:37	19:15	19:51	20:22	20:33	20:12	19:23	18:29	16:39	16:13
3	07:22	07:03	06:23	06:28	05:39	05:09	05:11	05:39	06:13	06:47	06:25	07:03
	16:23	17:01	17:39	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37	16:12
4	07:22	07:02	06:21	06:26	05:38	05:09	05:12	05:40	06:14	06:48	06:27	07:04
	16:24	17:03	17:40	19:18	19:53	20:23	20:33	20:09	19:20	18:25	16:36	16:12
5	07:21	07:01	06:19	06:24	05:36	05:08	05:12	05:41	06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:19	19:54	20:24	20:33	20:08	19:18	18:23	16:35	16:12
6	07:21	07:00	06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:50	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25	20:32	20:07	19:16	18:22	16:34	16:12
7	07:21	06:58	06:16	06:21	05:34	05:08	05:14	05:43	06:18	06:52	06:31	07:07
	16:27	17:07	17:44	19:21	19:56	20:26	20:32	20:05	19:14	18:20	16:32	16:12
8	07:21	06:57	07:14	06:19	05:32	05:07	05:14	05:44	06:19	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:58	20:26	20:32	20:04	19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31	05:07	05:15	05:45	06:20	06:54	06:33	07:09
	16:30	17:09	18:46	19:23	19:59	20:27	20:31	20:03	19:11	18:16	16:30	16:11
10	07:21	06:55	07:11	06:15	05:30	05:07	05:16	05:46	06:21	06:55	06:34	07:10
	16:31	17:11	18:47	19:25	20:00	20:28	20:31	20:01	19:09	18:15	16:29	16:11
11	07:20	06:53	07:09	06:14	05:29	05:07	05:17	05:47	06:22	06:56	06:36	07:11
	16:32	17:12	18:49	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28	16:11
12	07:20	06:52	07:07	06:12	05:27	05:06	05:17	05:49	06:23	06:58	06:37	07:11
	16:33	17:13	18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:27	16:11
13	07:20	06:50	07:05	06:10	05:26	05:06	05:18	05:50	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02	20:29	20:29	19:56	19:03	18:09	16:26	16:12
14	07:19	06:49	07:03	06:08	05:25	05:06	05:19	05:51	06:25	07:00	06:40	07:13
	16:35	17:16	18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:08	16:25	16:12
15	07:19	06:48	07:02	06:07	05:24	05:06	05:20	05:52	06:27	07:01	06:41	07:14
	16:36	17:18	18:54	19:31	20:04	20:30	20:28	19:53	19:00	18:06	16:24	16:12
16	07:18	06:46	07:00	06:05	05:23	05:06	05:21	05:53	06:28	07:02	06:42	07:15
	16:38	17:19	18:55	19:32	20:05	20:31	20:28	19:51	18:58	18:04	16:23	16:12
17	07:18	06:45	06:58	06:03	05:22	05:06	05:22	05:54	06:29	07:04	06:44	07:15
	16:39	17:20	18:56	19:33	20:07	20:31	20:27	19:50	18:56	18:03	16:22	16:12
18	07:17	06:43	06:56	06:02	05:21	05:06	05:23	05:55	06:30	07:05	06:45	07:16
	16:40	17:22	18:57	19:34	20:08	20:32	20:26	19:48	18:54	18:01	16:21	16:13
19	07:17	06:42	06:55	06:00	05:20	05:06	05:23	05:56	06:31	07:06	06:46	07:17
	16:41	17:23	18:58	19:35	20:09	20:32	20:25	19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:53	05:59	05:19	05:06	05:24	05:57	06:32	07:07	06:47	07:17
	16:43	17:24	19:00	19:37	20:10	20:32	20:25	19:45	18:50	17:58	16:19	16:14
21	07:15	06:39	06:51	05:57	05:18	05:07	05:25	05:59	06:33	07:09	06:49	07:18
	16:44	17:26	19:01	19:38	20:11	20:32	20:24	19:43	18:49	17:56	16:19	16:14
22	07:14	06:37	06:49	05:55	05:17	05:07	05:26	06:00	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:12	20:33	20:23	19:42	18:47	17:55	16:18	16:15
23	07:14	06:36	06:47	05:54	05:16	05:07	05:27	06:01	06:35	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:46	05:52	05:15	05:07	05:28	06:02	06:37	07:12	06:52	07:19
	16:48	17:29	19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:52	16:16	16:16
25	07:12	06:32	06:44	05:51	05:15	05:08	05:29	06:03	06:38	07:14	06:54	07:20
	16:49	17:31	19:06	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14	05:08	05:30	06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:44	20:16	20:33	20:19	19:35	18:40	17:49	16:15	16:17
27	07:10	06:29	06:40	05:48	05:13	05:08	05:31	06:05	06:40	07:16	06:56	07:20
	16:52	17:33	19:08	19:45	20:17	20:33	20:18	19:33	18:38	17:47	16:15	16:18
28	07:09	06:28	06:38	05:46	05:13	05:09	05:32	06:06	06:41	07:18	06:57	07:21
	16:53	17:35	19:09	19:46	20:18	20:33	20:17	19:32	18:36	17:46	16:14	16:18
29	07:08		06:37	05:45	05:12	05:09	05:33	06:08	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18	20:33	20:16	19:30	18:34	17:44	16:14	16:19
30	07:07		06:35	05:43	05:11	05:10	05:34	06:09	06:43	07:20	06:59	07:21
	16:56		19:12	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	16:20
31	07:06		06:33		05:11		05:35	06:10		07:21		07:21
	16:57		19:13		20:20		20:14	19:27		17:41		16:21
Potential sun hours	290	294	369	402	455	461	467	433	376	342	292	279
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 21

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** D-48 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (98)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:21	07:05	06:26	06:31	05:42	05:10	06:12 (C-9)	05:10	06:24 (C-9)	05:37	06:26 (C-9)	06:11	06:45	06:23	07:01
	16:22	16:59	17:36	19:14	19:50	20:21 20	06:32 (C-9)	20:33 7	06:31 (C-9)	20:13 12	06:38 (C-9)	19:25	18:30	16:40	16:13
2	07:22	07:04	06:24	06:29	05:40	05:10	06:12 (C-9)	05:11	06:24 (C-9)	05:38	06:28 (C-9)	06:12	06:46	06:24	07:02
	16:23	17:00	17:37	19:15	19:51	20:22 19	06:31 (C-9)	20:33 9	06:33 (C-9)	20:12 7	06:35 (C-9)	19:23	18:29	16:39	16:13
3	07:22	07:03	06:23	06:28	05:39	05:09	06:13 (C-9)	05:11	06:23 (C-9)	05:39		06:13	06:47	06:25	07:03
	16:23	17:01	17:39	19:16	19:52	20:23 18	06:31 (C-9)	20:33 10	06:33 (C-9)	20:10		19:21	18:27	16:37	16:12
4	07:22	07:02	06:21	06:26	05:38	05:09	06:14 (C-9)	05:12	06:23 (C-9)	05:40		06:14	06:48	06:27	07:04
	16:24	17:03	17:40	19:18	19:53	20:24 17	06:31 (C-9)	20:33 11	06:34 (C-9)	20:09		19:20	18:25	16:36	16:12
5	07:22	07:01	06:19	06:24	05:36	05:08	06:14 (C-9)	05:12	06:22 (C-9)	05:41		06:15	06:49	06:28	07:05
	16:25	17:04	17:41	19:19	19:54	20:24 16	06:30 (C-9)	20:33 13	06:35 (C-9)	20:08		19:18	18:23	16:35	16:12
6	07:21	07:00	06:17	06:22	05:35	05:08	06:15 (C-9)	05:13	06:22 (C-9)	05:42		06:17	06:51	06:29	07:06
	16:26	17:05	17:42	19:20	19:55	20:25 15	06:30 (C-9)	20:32 14	06:36 (C-9)	20:07		19:16	18:22	16:34	16:12
7	07:21	06:58	06:16	06:21	05:34	05:08	06:16 (C-9)	05:14	06:22 (C-9)	05:43		06:18	06:52	06:31	07:07
	16:27	17:07	17:44	19:21	19:56	20:26 14	06:30 (C-9)	20:32 15	06:37 (C-9)	20:05		19:14	18:20	16:32	16:12
8	07:21	06:57	07:14	06:19	05:32	05:07	06:16 (C-9)	05:14	06:21 (C-9)	05:44		06:19	06:53	06:32	07:08
	16:28	17:08	18:45	19:22	19:58	20:26 12	06:28 (C-9)	20:32 16	06:37 (C-9)	20:04		19:12	18:18	16:31	16:11
9	07:21	06:56	07:12	06:17	05:31	05:07	06:18 (C-9)	05:15	06:21 (C-9)	05:45		06:20	06:54	06:33	07:09
	16:30	17:09	18:46	19:23	19:59	20:27 10	06:28 (C-9)	20:31 17	06:38 (C-9)	20:03		19:11	18:16	16:30	16:11
10	07:21	06:55	07:11	06:15	05:30	05:07	06:19 (C-9)	05:16	06:21 (C-9)	05:46		06:21	06:55	06:35	07:10
	16:31	17:11	18:47	19:25	20:00	20:28 9	06:28 (C-9)	20:31 18	06:39 (C-9)	20:01		19:09	18:15	16:29	16:11
11	07:20	06:53	07:09	06:14	05:29	06:16 (C-9)	05:07	06:20 (C-9)	05:17	06:20 (C-9)	05:47	06:22	06:56	06:36	07:11
	16:32	17:12	18:49	19:26	20:00 10	06:26 (C-9)	20:28 7	06:27 (C-9)	20:30 19	06:39 (C-9)	20:00	19:07	18:13	16:28	16:11
12	07:20	06:52	07:07	06:12	05:27	06:14 (C-9)	05:06	06:21 (C-9)	05:17	06:20 (C-9)	05:49	06:23	06:58	06:37	07:11
	16:33	17:14	18:50	19:27	20:01 14	06:28 (C-9)	20:29 6	06:27 (C-9)	20:30 19	06:39 (C-9)	19:57	19:05	18:11	16:27	16:11
13	07:20	06:50	07:05	06:10	05:26	06:13 (C-9)	05:06	06:23 (C-9)	05:18	06:20 (C-9)	05:50	06:24	06:59	06:38	07:12
	16:34	17:15	18:51	19:28	20:02 16	06:29 (C-9)	20:29 2	06:25 (C-9)	20:29 20	06:40 (C-9)	19:56	19:03	18:09	16:26	16:12
14	07:19	06:49	07:03	06:08	05:25	06:12 (C-9)	05:06		05:19	06:20 (C-9)	05:51	06:25	07:00	06:40	07:13
	16:35	17:16	18:52	19:29	20:03 18	06:30 (C-9)	20:30		20:29 21	06:41 (C-9)	19:54	19:02	18:08	16:25	16:12
15	07:19	06:48	07:02	06:07	05:24	06:11 (C-9)	05:06		05:20	06:20 (C-9)	05:52	06:27	07:01	06:41	07:14
	16:36	17:18	18:54	19:31	20:04 20	06:31 (C-9)	20:30		20:28 22	06:42 (C-9)	19:53	19:00	18:06	16:24	16:12
16	07:18	06:46	07:00	06:05	05:23	06:11 (C-9)	05:06		05:21	06:19 (C-9)	05:53	06:28	07:03	06:42	07:15
	16:38	17:19	18:55	19:32	20:05 20	06:31 (C-9)	20:31		20:28 22	06:41 (C-9)	19:51	18:58	18:04	16:23	16:12
17	07:18	06:45	06:58	06:03	05:22	06:10 (C-9)	05:06		05:22	06:19 (C-9)	05:54	06:29	07:04	06:44	07:15
	16:39	17:20	18:56	19:33	20:07 22	06:32 (C-9)	20:31		20:27 23	06:42 (C-9)	19:50	18:56	18:03	16:22	16:12
18	07:17	06:43	06:56	06:02	05:21	06:10 (C-9)	05:06		05:23	06:19 (C-9)	05:55	06:30	07:05	06:45	07:16
	16:40	17:22	18:57	19:34	20:08 22	06:32 (C-9)	20:32		20:26 23	06:42 (C-9)	19:48	18:54	18:01	16:21	16:13
19	07:17	06:42	06:55	06:00	05:20	06:09 (C-9)	05:06		05:23	06:19 (C-9)	05:56	06:31	07:06	06:46	07:17
	16:41	17:23	18:58	19:35	20:09 23	06:32 (C-9)	20:32		20:25 23	06:42 (C-9)	19:46	18:52	17:59	16:20	16:13
20	07:16	06:40	06:53	05:59	05:19	06:09 (C-9)	05:06		05:24	06:19 (C-9)	05:57	06:32	07:07	06:47	07:17
	16:43	17:24	19:00	19:37	20:10 24	06:33 (C-9)	20:32		20:25 24	06:43 (C-9)	19:45	18:51	17:58	16:19	16:14
21	07:15	06:39	06:51	05:57	05:18	06:09 (C-9)	05:07		05:25	06:19 (C-9)	05:59	06:33	07:09	06:49	07:18
	16:44	17:26	19:01	19:38	20:11 24	06:33 (C-9)	20:33		20:24 24	06:43 (C-9)	19:43	18:49	17:56	16:19	16:14
22	07:14	06:37	06:49	05:55	05:17	06:09 (C-9)	05:07		05:26	06:19 (C-9)	06:00	06:34	07:10	06:50	07:18
	16:45	17:27	19:02	19:39	20:12 23	06:32 (C-9)	20:33		20:23 24	06:43 (C-9)	19:42	18:47	17:55	16:18	16:15
23	07:14	06:36	06:47	05:54	05:16	06:09 (C-9)	05:07		05:27	06:19 (C-9)	06:01	06:36	07:11	06:51	07:19
	16:46	17:28	19:03	19:40	20:13 23	06:32 (C-9)	20:33		20:22 24	06:43 (C-9)	19:40	18:45	17:53	16:17	16:15
24	07:13	06:34	06:46	05:52	05:15	06:09 (C-9)	05:07		05:28	06:20 (C-9)	06:02	06:37	07:12	06:52	07:19
	16:48	17:30	19:04	19:41	20:14 24	06:33 (C-9)	20:33		20:21 23	06:43 (C-9)	19:38	18:43	17:52	16:16	16:16
25	07:12	06:32	06:44	05:51	05:15	06:09 (C-9)	05:08		05:29	06:20 (C-9)	06:03	06:38	07:14	06:54	07:20
	16:49	17:31	19:06	19:42	20:15 24	06:33 (C-9)	20:33		20:20 23	06:43 (C-9)	19:37	18:41	17:50	16:16	16:16
26	07:11	06:31	06:42	05:49	05:14	06:09 (C-9)	05:08		05:30	06:20 (C-9)	06:04	06:39	07:15	06:55	07:20
	16:50	17:32	19:07	19:44	20:16 23	06:32 (C-9)	20:33		20:19 23	06:43 (C-9)	19:35	18:40	17:49	16:15	16:17
27	07:10	06:29	06:40	05:48	05:13	06:10 (C-9)	05:08		05:31	06:20 (C-9)	06:05	06:40	07:16	06:56	07:20
	16:52	17:33	19:08	19:45	20:17 23	06:33 (C-9)	20:33		20:18 21	06:41 (C-9)	19:33	18:38	17:47	16:15	16:18
28	07:09	06:28	06:38	05:46	05:13	06:10 (C-9)	05:09		05:32	06:20 (C-9)	06:06	06:41	07:18	06:57	07:21
	16:53	17:35	19:09	19:46	20:18 22	06:32 (C-9)	20:33		20:17 21	06:41 (C-9)	19:32	18:36	17:46	16:14	16:18
29	07:08		06:37	05:45	05:12	06:10 (C-9)	05:09		05:33	06:21 (C-9)	06:08	06:42	07:19	06:58	07:21
	16:54		19:10	19:47	20:18 22	06:32 (C-9)	20:33		20:16 19	06:40 (C-9)	19:30	18:34	17:44	16:14	16:19
30	07:07		06:35	05:43	05:11	06:11 (C-9)	05:10	06:26 (C-9)	05:34	06:22 (C-9)	06:09	06:44	07:20	06:59	07:21
	16:56		19:12	19:48	20:19 21	06:32 (C-9)	20:33 4	06:30 (C-9)	20:15 17	06:39 (C-9)	19:28	18:32	17:43	16:13	16:20
31	07:06		06:33		05:11	06:11 (C-9)			05:35	06:24 (C-9)	06:10		07:21		07:21
	16:57		19:13		20:20 20	06:31 (C-9)			20:14 15	06:39 (C-9)	19:27		17:41		16:21
Potential sun hours	290	294	369	402	455	461	467	433	376	342	292	279
Total, worst case					438	169	580	19				
Sun reduction					0.55	0.58	0.62	0.60				
Oper. time red.					1.00	1.00	1.00	1.00				
Wind dir. red.					0.67	0.67	0.67	0.67				
Total reduction					0.37	0.39	0.42	0.40				
Total, real					163	66	243	8				

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 22
Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m**Shadow receptor:** D-49 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (99)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed0.0m/s

	January			February			March	April			May			June		
1	07:21		13:48 (G-2)	07:05		14:10 (G-1)	06:26	06:31			05:42			05:10		18:50 (C-1)
	16:21	23	14:11 (G-2)	16:58	41	14:51 (G-1)	17:36	19:14			19:49			20:21	17	19:07 (C-1)
2	07:21		13:49 (G-2)	07:04		14:10 (G-1)	06:24	06:29			05:40			05:09		18:50 (C-1)
	16:22	22	14:11 (G-2)	17:00	40	14:50 (G-1)	17:37	19:15			19:51			20:22	16	19:06 (C-1)
3	07:21		13:50 (G-2)	07:03		14:10 (G-1)	06:22	06:27			05:39			05:09		18:52 (C-1)
	16:23	21	14:11 (G-2)	17:01	41	14:51 (G-1)	17:38	19:16			19:52			20:23	14	19:06 (C-1)
4	07:21		13:51 (G-2)	07:02		14:11 (G-1)	06:21	06:26			05:37			05:08		18:52 (C-1)
	16:24	20	14:11 (G-2)	17:02	40	14:51 (G-1)	17:40	19:17			19:53			20:23	12	19:04 (C-1)
5	07:21		13:52 (G-2)	07:01		14:12 (G-1)	06:19	06:24			05:36			05:08		18:53 (C-1)
	16:25	19	14:11 (G-2)	17:04	39	14:51 (G-1)	17:41	19:19			19:54			20:24	11	19:04 (C-1)
6	07:21		13:53 (G-2)	06:59		14:12 (G-1)	06:17	06:22			05:35			05:08		18:55 (C-1)
	16:26	18	14:11 (G-2)	17:05	39	14:51 (G-1)	17:42	19:20			19:55			20:25	9	19:04 (C-1)
7	07:21		13:55 (G-2)	06:58		14:12 (G-1)	06:16	06:20			05:33			05:07		18:55 (C-1)
	16:27	16	14:11 (G-2)	17:06	38	14:50 (G-1)	17:43	19:21			19:56			20:26	7	19:02 (C-1)
8	07:21		13:56 (G-2)	06:57		14:14 (G-1)	07:14	06:19		18:06 (C-2)	05:32			05:07		18:57 (C-1)
	16:28	13	14:09 (G-2)	17:08	36	14:50 (G-1)	18:45	19:22	11	18:17 (C-2)	19:58			20:26	4	19:01 (C-1)
9	07:21		13:58 (G-2)	06:56		14:15 (G-1)	07:12	06:17		18:04 (C-2)	05:31			05:07		
	16:29	10	14:08 (G-2)	17:09	34	14:49 (G-1)	18:46	19:23	15	18:19 (C-2)	19:59			20:27		
10	07:21		14:02 (G-2)	06:54		14:15 (G-1)	07:10	06:15		18:02 (C-2)	05:30		18:54 (C-1)	05:07		
	16:30	4	14:06 (G-2)	17:11	33	14:48 (G-1)	18:47	19:25	18	18:20 (C-2)	20:00	5	18:59 (C-1)	20:28		
11	07:20			06:53		14:17 (G-1)	07:09	06:13		18:01 (C-2)	05:28		18:51 (C-1)	05:06		
	16:32			17:12	31	14:48 (G-1)	18:48	19:26	20	18:21 (C-2)	20:00	11	19:02 (C-1)	20:28		
12	07:20		14:20 (G-1)	06:52		14:19 (G-1)	07:07	06:12		18:00 (C-2)	05:27		18:49 (C-1)	05:06		
	16:33	9	14:29 (G-1)	17:13	28	14:47 (G-1)	18:50	19:27	21	18:21 (C-2)	20:01	14	19:03 (C-1)	20:29		
13	07:20		14:17 (G-1)	06:50		14:20 (G-1)	07:05	06:10		18:00 (C-2)	05:26		18:48 (C-1)	05:06		
	16:34	14	14:31 (G-1)	17:15	25	14:45 (G-1)	18:51	19:28	22	18:22 (C-2)	20:02	16	19:04 (C-1)	20:29		
14	07:19		14:16 (G-1)	06:49		14:23 (G-1)	07:03	06:08		17:59 (C-2)	05:25		18:47 (C-1)	05:06		
	16:35	18	14:34 (G-1)	17:16	20	14:43 (G-1)	18:52	19:29	22	18:21 (C-2)	20:03	18	19:05 (C-1)	20:30		
15	07:19		14:15 (G-1)	06:48		14:26 (G-1)	07:02	06:07		17:58 (C-2)	05:24		18:46 (C-1)	05:06		
	16:36	20	14:35 (G-1)	17:17	14	14:40 (G-1)	18:53	19:30	23	18:21 (C-2)	20:04	20	19:06 (C-1)	20:30		
16	07:18		14:14 (G-1)	06:46			07:00	06:05		17:59 (C-2)	05:23		18:46 (C-1)	05:06		
	16:37	23	14:37 (G-1)	17:19			18:55	19:32	22	18:21 (C-2)	20:05	20	19:06 (C-1)	20:31		
17	07:18		14:13 (G-1)	06:45			06:58	06:03		17:59 (C-2)	05:22		18:45 (C-1)	05:06		
	16:39	25	14:38 (G-1)	17:20			18:56	19:33	21	18:20 (C-2)	20:06	22	19:07 (C-1)	20:31		
18	07:17		14:12 (G-1)	06:43			06:56	06:02		18:00 (C-2)	05:21		18:45 (C-1)	05:06		
	16:40	27	14:39 (G-1)	17:21			18:57	19:34	20	18:20 (C-2)	20:07	22	19:07 (C-1)	20:31		
19	07:16		14:12 (G-1)	06:42			06:54	06:00		18:00 (C-2)	05:20		18:46 (C-1)	05:06		
	16:41	29	14:41 (G-1)	17:23			18:58	19:35	18	18:18 (C-2)	20:09	22	19:08 (C-1)	20:32		
20	07:16		14:11 (G-1)	06:40			06:53	05:58		18:01 (C-2)	05:19		18:46 (C-1)	05:06		
	16:42	31	14:42 (G-1)	17:24			18:59	19:36	16	18:17 (C-2)	20:10	22	19:08 (C-1)	20:32		
21	07:15		14:11 (G-1)	06:39			06:51	05:57		18:03 (C-2)	05:18		18:46 (C-1)	05:06		
	16:44	32	14:43 (G-1)	17:25			19:01	19:38	12	18:15 (C-2)	20:11	22	19:08 (C-1)	20:32		
22	07:14		14:10 (G-1)	06:37			06:49	05:55		18:05 (C-2)	05:17		18:45 (C-1)	05:07		
	16:45	34	14:44 (G-1)	17:27			19:02	19:39	7	18:12 (C-2)	20:12	23	19:08 (C-1)	20:33		
23	07:14		14:11 (G-1)	06:35			06:47	05:54			05:16		18:45 (C-1)	05:07		
	16:46	35	14:46 (G-1)	17:28			19:03	19:40			20:13	23	19:08 (C-1)	20:33		
24	07:13		14:10 (G-1)	06:34			06:45	05:52			05:15		18:45 (C-1)	05:07		
	16:48	37	14:47 (G-1)	17:29			19:04	19:41			20:14	23	19:08 (C-1)	20:33		
25	07:12		14:10 (G-1)	06:32			06:44	05:50			05:14		18:46 (C-1)	05:07		
	16:49	37	14:47 (G-1)	17:31			19:05	19:42			20:15	22	19:08 (C-1)	20:33		
26	07:11		14:10 (G-1)	06:31			06:42	05:49			05:14		18:46 (C-1)	05:08		
	16:50	38	14:48 (G-1)	17:32			19:07	19:43			20:16	22	19:08 (C-1)	20:33		
27	07:10		14:10 (G-1)	06:29			06:40	05:47			05:13		18:46 (C-1)	05:08		
	16:52	39	14:49 (G-1)	17:33			19:08	19:45			20:17	21	19:07 (C-1)	20:33		
28	07:09		14:10 (G-1)	06:27			06:38	05:46			05:12		18:48 (C-1)	05:09		
	16:53	39	14:49 (G-1)	17:34			19:09	19:46			20:17	20	19:08 (C-1)	20:33		
29	07:08		14:10 (G-1)				06:36	05:44			05:12		18:48 (C-1)	05:09		
	16:54	40	14:50 (G-1)				19:10	19:47			20:18	19	19:07 (C-1)	20:33		
30	07:07		14:10 (G-1)				06:35	05:43			05:11		18:49 (C-1)	05:09		
	16:56	40	14:50 (G-1)				19:11	19:48			20:19	18	19:07 (C-1)	20:33		
31	07:06		14:10 (G-1)				06:33				05:10		18:49 (C-1)			
	16:57	41	14:51 (G-1)				19:13				20:20	17	19:06 (C-1)			
Potential sun hours	290			294			369	402			455			461		
Total, worst case		774			499				268			422			90	
Sun reduction		0.52			0.55				0.53			0.55			0.58	
Oper. time red.		1.00			1.00				1.00			1.00			1.00	
Wind dir. red.		0.59			0.60				0.71			0.71			0.71	
Total reduction		0.31			0.33				0.38			0.39			0.41	
Total, real		237			162				101			162			37	

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 23

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** D-49 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (99)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	July			August			September			October			November			December		
1	05:10			05:36		19:00 (C-1)	06:11		18:00 (C-2)	06:45			06:23		13:45 (G-1)	07:00		
	20:33			20:13	13	19:13 (C-1)	19:25	20	18:20 (C-2)	18:30			16:40	33	14:18 (G-1)	16:13		
2	05:10			05:37		19:02 (C-1)	06:12		18:00 (C-2)	06:46			06:24		13:43 (G-1)	07:02		13:44 (G-2)
	20:33			20:12	9	19:11 (C-1)	19:23	18	18:18 (C-2)	18:29			16:39	35	14:18 (G-1)	16:12	4	13:48 (G-2)
3	05:11			05:38			06:13		18:01 (C-2)	06:47			06:25		13:43 (G-1)	07:03		13:43 (G-2)
	20:33			20:10			19:21	15	18:16 (C-2)	18:27			16:37	37	14:20 (G-1)	16:12	9	13:52 (G-2)
4	05:12		19:04 (C-1)	05:40			06:14		18:03 (C-2)	06:48			06:27		13:42 (G-1)	07:04		13:41 (G-2)
	20:33	2	19:05 (C-1)	20:09			19:19	11	18:14 (C-2)	18:25			16:36	38	14:20 (G-1)	16:12	13	13:54 (G-2)
5	05:12		19:02 (C-1)	05:41			06:15		18:08 (C-2)	06:49			06:28		13:42 (G-1)	07:05		13:40 (G-2)
	20:32	6	19:08 (C-1)	20:08			19:18	2	18:10 (C-2)	18:23			16:35	39	14:21 (G-1)	16:12	16	13:56 (G-2)
6	05:13		19:01 (C-1)	05:42			06:16			06:50			06:29		13:41 (G-1)	07:06		13:39 (G-2)
	20:32	9	19:10 (C-1)	20:07			19:16			18:21			16:33	40	14:21 (G-1)	16:11	18	13:57 (G-2)
7	05:14		19:00 (C-1)	05:43			06:17			06:52			06:30		13:41 (G-1)	07:07		13:39 (G-2)
	20:32	10	19:10 (C-1)	20:05			19:14			18:20			16:32	40	14:21 (G-1)	16:11	19	13:58 (G-2)
8	05:14		18:59 (C-1)	05:44			06:19			06:53			06:32		13:41 (G-1)	07:08		13:39 (G-2)
	20:32	12	19:11 (C-1)	20:04			19:12			18:18			16:31	40	14:21 (G-1)	16:11	20	13:59 (G-2)
9	05:15		18:59 (C-1)	05:45			06:20			06:54			06:33		13:41 (G-1)	07:09		13:39 (G-2)
	20:31	13	19:12 (C-1)	20:03			19:10			18:16			16:30	40	14:21 (G-1)	16:11	21	14:00 (G-2)
10	05:16		18:58 (C-1)	05:46			06:21			06:55			06:34		13:41 (G-1)	07:10		13:39 (G-2)
	20:31	15	19:13 (C-1)	20:01			19:09			18:14			16:29	41	14:22 (G-1)	16:11	22	14:01 (G-2)
11	05:16		18:58 (C-1)	05:47			06:22			06:56			06:36		13:41 (G-1)	07:11		13:38 (G-2)
	20:30	16	19:14 (C-1)	20:00			19:07			18:13			16:28	40	14:21 (G-1)	16:11	23	14:01 (G-2)
12	05:17		18:58 (C-1)	05:48			06:23			06:57			06:37		13:41 (G-1)	07:11		13:38 (G-2)
	20:30	16	19:14 (C-1)	19:57			19:05			18:11			16:27	40	14:21 (G-1)	16:11	24	14:02 (G-2)
13	05:18		18:57 (C-1)	05:49			06:24			06:59			06:38		13:42 (G-1)	07:12		13:38 (G-2)
	20:29	18	19:15 (C-1)	19:56			19:03			18:09			16:25	40	14:22 (G-1)	16:11	25	14:03 (G-2)
14	05:19		18:56 (C-1)	05:51			06:25			07:00			06:40		13:42 (G-1)	07:13		13:39 (G-2)
	20:29	19	19:15 (C-1)	19:54			19:01			18:08			16:24	39	14:21 (G-1)	16:12	25	14:04 (G-2)
15	05:20		18:56 (C-1)	05:52			06:26			07:01			06:41		13:43 (G-1)	07:14		13:39 (G-2)
	20:28	20	19:16 (C-1)	19:53			19:00			18:06			16:24	38	14:21 (G-1)	16:12	26	14:05 (G-2)
16	05:21		18:56 (C-1)	05:53			06:27			07:02			06:42		13:43 (G-1)	07:15		13:39 (G-2)
	20:27	20	19:16 (C-1)	19:51			18:58			18:04			16:23	38	14:21 (G-1)	16:12	25	14:04 (G-2)
17	05:21		18:56 (C-1)	05:54			06:29			07:04			06:43		13:43 (G-1)	07:15		13:39 (G-2)
	20:27	21	19:17 (C-1)	19:49			18:56			18:03			16:22	37	14:20 (G-1)	16:12	26	14:05 (G-2)
18	05:22		18:56 (C-1)	05:55			06:30			07:05			06:45		13:44 (G-1)	07:16		13:40 (G-2)
	20:26	21	19:17 (C-1)	19:48			18:54			18:01			16:21	37	14:21 (G-1)	16:13	26	14:06 (G-2)
19	05:23		18:56 (C-1)	05:56			06:31			07:06			06:46		13:45 (G-1)	07:16		13:40 (G-2)
	20:25	22	19:18 (C-1)	19:46			18:52			17:59			16:20	35	14:20 (G-1)	16:13	26	14:06 (G-2)
20	05:24		18:56 (C-1)	05:57			06:32			07:07			06:47		13:45 (G-1)	07:17		13:41 (G-2)
	20:25	22	19:18 (C-1)	19:45			18:50			17:58			16:19	34	14:19 (G-1)	16:13	26	14:07 (G-2)
21	05:25		18:56 (C-1)	05:58		18:09 (C-2)	06:33			07:09			06:49		13:47 (G-1)	07:18		13:41 (G-2)
	20:24	22	19:18 (C-1)	19:43	8	18:17 (C-2)	18:49			17:56			16:18	32	14:19 (G-1)	16:14	26	14:07 (G-2)
22	05:26		18:55 (C-1)	06:00		18:07 (C-2)	06:34			07:10			06:50		13:47 (G-1)	07:18		13:42 (G-2)
	20:23	23	19:18 (C-1)	19:42	13	18:20 (C-2)	18:47			17:55			16:18	31	14:18 (G-1)	16:14	26	14:08 (G-2)
23	05:27		18:55 (C-1)	06:01		18:05 (C-2)	06:35			07:11			06:51		13:48 (G-1)	07:19		13:42 (G-2)
	20:22	23	19:18 (C-1)	19:40	17	18:22 (C-2)	18:45			17:53			16:17	30	14:18 (G-1)	16:15	26	14:08 (G-2)
24	05:28		18:55 (C-1)	06:02		18:04 (C-2)	06:36			07:12			06:52		13:50 (G-1)	07:19		13:43 (G-2)
	20:21	23	19:18 (C-1)	19:38	18	18:22 (C-2)	18:43			17:51			16:16	28	14:18 (G-1)	16:15	26	14:09 (G-2)
25	05:29		18:55 (C-1)	06:03		18:03 (C-2)	06:38			07:14			06:53		13:51 (G-1)	07:20		13:43 (G-2)
	20:20	23	19:18 (C-1)	19:37	20	18:23 (C-2)	18:41			17:50			16:16	26	14:17 (G-1)	16:16	26	14:09 (G-2)
26	05:30		18:56 (C-1)	06:04		18:02 (C-2)	06:39			07:15		15:01 (G-1)	06:55		13:52 (G-1)	07:20		13:43 (G-2)
	20:19	21	19:17 (C-1)	19:35	21	18:23 (C-2)	18:39			17:48	4	15:05 (G-1)	16:15	23	14:15 (G-1)	16:17	26	14:09 (G-2)
27	05:31		18:56 (C-1)	06:05		18:01 (C-2)	06:40			07:16		14:55 (G-1)	06:56		13:54 (G-1)	07:20		13:45 (G-2)
	20:18	21	19:17 (C-1)	19:33	22	18:23 (C-2)	18:38			17:47	15	15:10 (G-1)	16:15	20	14:14 (G-1)	16:17	25	14:10 (G-2)
28	05:32		18:57 (C-1)	06:06		18:00 (C-2)	06:41			07:17		14:51 (G-1)	06:57		13:56 (G-1)	07:21		13:45 (G-2)
	20:17	20	19:17 (C-1)	19:32	23	18:23 (C-2)	18:36			17:46	21	15:12 (G-1)	16:14	18	14:14 (G-1)	16:18	26	14:11 (G-2)
29	05:33		18:57 (C-1)	06:07		18:00 (C-2)	06:42			07:19		14:50 (G-1)	06:58		13:58 (G-1)	07:21		13:45 (G-2)
	20:16	19	19:16 (C-1)	19:30	22	18:22 (C-2)	18:34			17:44	25	15:15 (G-1)	16:14	14	14:12 (G-1)	16:19	26	14:11 (G-2)
30	05:34		18:58 (C-1)	06:08		18:00 (C-2)	06:43			07:20		14:47 (G-1)	06:59		14:01 (G-1)	07:21		13:46 (G-2)
	20:15	17	19:15 (C-1)	19:28	21	18:21 (C-2)	18:32			17:43	29	15:16 (G-1)	16:13	9	14:10 (G-1)	16:20	25	14:11 (G-2)
31	05:35		18:59 (C-1)	06:10		18:00 (C-2)				07:21		14:47 (G-1)				07:21		13:47 (G-2)
	20:14	15	19:14 (C-1)	19:26	21	18:21 (C-2)				17:41	30	15:17 (G-1)				16:20	24	14:11 (G-2)
Potential sun hours	467			433			376			342			291			279		
Total, worst case		489			228			66			124			992			676	
Sun reduction		0.62			0.60			0.56			0.53			0.42			0.47	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.71			0.71			0.71			0.60			0.60			0.59	
Total reduction		0.43			0.42			0.40			0.31			0.25			0.27	
Total, real		212			97			26			39			247			185	

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 24
Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** G-14 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (87)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January			February			March			April	May	June
1	07:21			07:05		07:55 (C-9)	06:26		07:03 (C-8)	06:31	05:42	05:10
	16:22			16:58	12	08:07 (C-9)	17:36	20	07:23 (C-8)	19:14	19:50	20:21
2	07:22			07:04		07:58 (C-9)	06:24		07:02 (C-8)	06:29	05:40	05:10
	16:23			17:00	6	08:04 (C-9)	17:37	21	07:23 (C-8)	19:15	19:51	20:22
3	07:22			07:03			06:23		07:01 (C-8)	06:28	05:39	05:09
	16:23			17:01			17:39	23	07:24 (C-8)	19:16	19:52	20:23
4	07:22			07:02			06:21		07:00 (C-8)	06:26	05:38	05:09
	16:24			17:03			17:40	24	07:24 (C-8)	19:18	19:53	20:24
5	07:22			07:01			06:19		07:00 (C-8)	06:24	05:36	05:08
	16:25			17:04			17:41	24	07:24 (C-8)	19:19	19:54	20:24
6	07:21		07:50 (C-9)	07:00			06:17		06:59 (C-8)	06:22	05:35	05:08
	16:26	6	07:56 (C-9)	17:05			17:42	25	07:24 (C-8)	19:20	19:55	20:25
7	07:21		07:49 (C-9)	06:58			06:16		07:00 (C-8)	06:21	05:34	05:08
	16:27	9	07:58 (C-9)	17:07			17:44	24	07:24 (C-8)	19:21	19:56	20:26
8	07:21		07:47 (C-9)	06:57			07:14		08:00 (C-8)	06:19	05:32	05:07
	16:28	12	07:59 (C-9)	17:08			18:45	23	08:23 (C-8)	19:22	19:58	20:26
9	07:21		07:47 (C-9)	06:56			07:12		08:00 (C-8)	06:17	05:31	05:07
	16:29	14	08:01 (C-9)	17:09			18:46	22	08:22 (C-8)	19:23	19:59	20:27
10	07:21		07:47 (C-9)	06:55			07:11		08:00 (C-8)	06:15	05:30	05:07
	16:31	15	08:02 (C-9)	17:11			18:47	21	08:21 (C-8)	19:25	20:00	20:28
11	07:20		07:46 (C-9)	06:53			07:09		08:02 (C-8)	06:14	05:29	05:07
	16:32	17	08:03 (C-9)	17:12			18:49	18	08:20 (C-8)	19:26	20:00	20:28
12	07:20		07:46 (C-9)	06:52			07:07		08:03 (C-8)	06:12	05:27	05:06
	16:33	18	08:04 (C-9)	17:13			18:50	15	08:18 (C-8)	19:27	20:01	20:29
13	07:20		07:45 (C-9)	06:51			07:05		08:05 (C-8)	06:10	05:26	05:06
	16:34	20	08:05 (C-9)	17:15			18:51	9	08:14 (C-8)	19:28	20:02	20:29
14	07:19		07:45 (C-9)	06:49			07:03			06:08	05:25	05:06
	16:35	21	08:06 (C-9)	17:16			18:52			19:29	20:03	20:30
15	07:19		07:45 (C-9)	06:48			07:02			06:07	05:24	05:06
	16:36	21	08:06 (C-9)	17:18			18:54			19:31	20:04	20:30
16	07:18		07:45 (C-9)	06:46			07:00			06:05	05:23	05:06
	16:38	23	08:08 (C-9)	17:19			18:55			19:32	20:05	20:31
17	07:18		07:45 (C-9)	06:45			06:58			06:03	05:22	05:06
	16:39	23	08:08 (C-9)	17:20			18:56			19:33	20:07	20:31
18	07:17		07:46 (C-9)	06:43			06:56			06:02	05:21	05:06
	16:40	23	08:09 (C-9)	17:22			18:57			19:34	20:08	20:32
19	07:17		07:45 (C-9)	06:42			06:55			06:00	05:20	05:06
	16:41	25	08:10 (C-9)	17:23			18:58			19:35	20:09	20:32
20	07:16		07:45 (C-9)	06:40			06:53			05:59	05:19	05:06
	16:43	25	08:10 (C-9)	17:24			19:00			19:37	20:10	20:32
21	07:15		07:45 (C-9)	06:39			06:51			05:57	05:18	05:07
	16:44	25	08:10 (C-9)	17:26			19:01			19:38	20:11	20:33
22	07:14		07:46 (C-9)	06:37			06:49			05:55	05:17	05:07
	16:45	25	08:11 (C-9)	17:27			19:02			19:39	20:12	20:33
23	07:14		07:46 (C-9)	06:36			06:47			05:54	05:16	05:07
	16:46	25	08:11 (C-9)	17:28			19:03			19:40	20:13	20:33
24	07:13		07:47 (C-9)	06:34			06:46			05:52	05:15	05:07
	16:48	24	08:11 (C-9)	17:29			19:04			19:41	20:14	20:33
25	07:12		07:47 (C-9)	06:32			06:44			05:51	05:15	05:08
	16:49	24	08:11 (C-9)	17:31			19:06			19:42	20:15	20:33
26	07:11		07:48 (C-9)	06:31		07:10 (C-8)	06:42			05:49	05:14	05:08
	16:50	23	08:11 (C-9)	17:32	7	07:17 (C-8)	19:07			19:44	20:16	20:33
27	07:10		07:48 (C-9)	06:29		07:06 (C-8)	06:40			05:48	05:13	05:08
	16:52	23	08:11 (C-9)	17:33	14	07:20 (C-8)	19:08			19:45	20:17	20:33
28	07:09		07:49 (C-9)	06:28		07:05 (C-8)	06:38			05:46	05:12	05:09
	16:53	21	08:10 (C-9)	17:35	17	07:22 (C-8)	19:09			19:46	20:18	20:33
29	07:08		07:50 (C-9)				06:37			05:45	05:12	05:09
	16:54	20	08:10 (C-9)				19:10			19:47	20:19	20:33
30	07:07		07:51 (C-9)				06:35			05:43	05:11	05:10
	16:56	18	08:09 (C-9)				19:12			19:48	20:19	20:33
31	07:06		07:53 (C-9)				06:33				05:11	
	16:57	15	08:08 (C-9)				19:13				20:20	
Potential sun hours	290			294			369			402	455	461
Total, worst case		515			56			269				
Sun reduction		0.52			0.55			0.53				
Oper. time red.		1.00			1.00			1.00				
Wind dir. red.		0.69			0.70			0.71				
Total reduction		0.36			0.38			0.37				
Total, real		184			22			100				

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 25
Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** G-14 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (87)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	July	August	September	October	November	December
1	05:10 / 20:33	05:36 / 20:13	06:11 / 19:25	06:45 / 18:30 12 07:55 (C-8)	06:23 / 16:40	07:01 / 16:13 17 07:45 (C-9)
2	05:11 / 20:33	05:38 / 20:12	06:12 / 19:23	06:46 / 18:29 17 07:58 (C-8)	06:24 / 16:39	07:02 / 16:13 15 07:45 (C-9)
3	05:11 / 20:33	05:39 / 20:10	06:13 / 19:21	06:47 / 18:27 20 07:59 (C-8)	06:25 / 16:37	07:03 / 16:12 14 07:45 (C-9)
4	05:12 / 20:33	05:40 / 20:09	06:14 / 19:20	06:48 / 18:25 21 07:59 (C-8)	06:27 / 16:36	07:04 / 16:12 12 07:44 (C-9)
5	05:12 / 20:33	05:41 / 20:08	06:15 / 19:18	06:49 / 18:23 23 08:00 (C-8)	06:28 / 16:35	07:05 / 16:12 9 07:43 (C-9)
6	05:13 / 20:32	05:42 / 20:07	06:16 / 19:16	06:51 / 18:22 24 08:00 (C-8)	06:29 / 16:34	07:06 / 16:12 7 07:42 (C-9)
7	05:14 / 20:32	05:43 / 20:05	06:18 / 19:14	06:52 / 18:20 24 07:59 (C-8)	06:31 / 16:32	07:07 / 16:11
8	05:14 / 20:32	05:44 / 20:04	06:19 / 19:12	06:53 / 18:18 25 08:00 (C-8)	06:32 / 16:31	07:08 / 16:11
9	05:15 / 20:31	05:45 / 20:03	06:20 / 19:11	06:54 / 18:16 24 07:59 (C-8)	06:33 / 16:30 7 07:27 (C-9) / 07:34 (C-9)	07:09 / 16:11
10	05:16 / 20:31	05:46 / 20:01	06:21 / 19:09	06:55 / 18:15 24 07:59 (C-8)	06:35 / 16:29 13 07:25 (C-9) / 07:38 (C-9)	07:10 / 16:11
11	05:17 / 20:30	05:47 / 20:00	06:22 / 19:07	06:56 / 18:13 23 07:58 (C-8)	06:36 / 16:28 16 07:23 (C-9) / 07:39 (C-9)	07:11 / 16:11
12	05:17 / 20:30	05:49 / 19:57	06:23 / 19:05	06:58 / 18:11 21 07:57 (C-8)	06:37 / 16:27 18 07:23 (C-9) / 07:41 (C-9)	07:12 / 16:11
13	05:18 / 20:29	05:50 / 19:56	06:24 / 19:03	06:59 / 18:09 19 07:56 (C-8)	06:38 / 16:26 20 07:22 (C-9) / 07:42 (C-9)	07:12 / 16:12
14	05:19 / 20:29	05:51 / 19:54	06:25 / 19:02	07:00 / 18:08 16 07:54 (C-8)	06:40 / 16:25 21 07:21 (C-9) / 07:42 (C-9)	07:13 / 16:12
15	05:20 / 20:28	05:52 / 19:53	06:27 / 19:00	07:01 / 18:06 11 07:51 (C-8)	06:41 / 16:24 23 07:21 (C-9) / 07:44 (C-9)	07:14 / 16:12
16	05:21 / 20:28	05:53 / 19:51	06:28 / 18:58	07:03 / 18:04	06:42 / 16:23 24 07:20 (C-9) / 07:44 (C-9)	07:15 / 16:12
17	05:22 / 20:27	05:54 / 19:50	06:29 / 18:56	07:04 / 18:03	06:44 / 16:22 24 07:20 (C-9) / 07:44 (C-9)	07:15 / 16:12
18	05:23 / 20:26	05:55 / 19:48	06:30 / 18:54	07:05 / 18:01	06:45 / 16:21 24 07:21 (C-9) / 07:45 (C-9)	07:16 / 16:13
19	05:23 / 20:25	05:56 / 19:46	06:31 / 18:52	07:06 / 17:59	06:46 / 16:20 25 07:20 (C-9) / 07:45 (C-9)	07:17 / 16:13
20	05:24 / 20:25	05:57 / 19:45	06:32 / 18:51	07:07 / 17:58	06:47 / 16:19 25 07:21 (C-9) / 07:46 (C-9)	07:17 / 16:14
21	05:25 / 20:24	05:59 / 19:43	06:33 / 18:49	07:09 / 17:56	06:49 / 16:19 25 07:21 (C-9) / 07:46 (C-9)	07:18 / 16:14
22	05:26 / 20:23	06:00 / 19:42	06:34 / 18:47	07:10 / 17:55	06:50 / 16:18 25 07:21 (C-9) / 07:46 (C-9)	07:18 / 16:14
23	05:27 / 20:22	06:01 / 19:40	06:36 / 18:45	07:11 / 17:53	06:51 / 16:17 25 07:21 (C-9) / 07:46 (C-9)	07:19 / 16:15
24	05:28 / 20:21	06:02 / 19:38	06:37 / 18:43	07:12 / 17:52	06:52 / 16:16 23 07:23 (C-9) / 07:46 (C-9)	07:19 / 16:16
25	05:29 / 20:20	06:03 / 19:37	06:38 / 18:41	07:14 / 17:50	06:54 / 16:16 23 07:23 (C-9) / 07:46 (C-9)	07:20 / 16:16
26	05:30 / 20:19	06:04 / 19:35	06:39 / 18:40	07:15 / 17:49	06:55 / 16:15 23 07:23 (C-9) / 07:46 (C-9)	07:20 / 16:17
27	05:31 / 20:18	06:05 / 19:33	06:40 / 18:38	07:16 / 17:47	06:56 / 16:15 21 07:25 (C-9) / 07:46 (C-9)	07:20 / 16:17
28	05:32 / 20:17	06:06 / 19:32	06:41 / 18:36	07:18 / 17:46	06:57 / 16:14 21 07:25 (C-9) / 07:46 (C-9)	07:21 / 16:18
29	05:33 / 20:16	06:08 / 19:30	06:42 / 18:34	07:19 / 17:44	06:58 / 16:14 20 07:26 (C-9) / 07:46 (C-9)	07:21 / 16:19
30	05:34 / 20:15	06:09 / 19:28	06:44 / 18:32 5 07:47 (C-8) / 07:52 (C-8)	07:20 / 17:43	07:00 / 16:13 18 07:27 (C-9) / 07:45 (C-9)	07:21 / 16:20
31	05:35 / 20:14	06:10 / 19:27		07:21 / 17:41		07:21 / 16:21
Potential sun hours	467	433	376	342	291	279
Total, worst case			5	304	464	74
Sun reduction			0.56	0.53	0.42	0.47
Oper. time red.			1.00	1.00	1.00	1.00
Wind dir. red.			0.71	0.71	0.69	0.69
Total reduction			0.39	0.37	0.29	0.32
Total, real			2	114	134	24

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)

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 26
Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** G-16 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (88)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January			February			March			April	May	June
1	07:21		07:52 (C-9)	07:05			06:26		07:21 (C-8)	06:31	05:42	05:10
	16:22	23	08:15 (C-9)	16:58			17:36	14	07:35 (C-8)	19:14	19:50	20:21
2	07:22		07:52 (C-9)	07:04			06:24		07:23 (C-8)	06:29	05:40	05:10
	16:23	24	08:16 (C-9)	17:00			17:37	10	07:33 (C-8)	19:15	19:51	20:22
3	07:22		07:53 (C-9)	07:03			06:23			06:28	05:39	05:09
	16:23	23	08:16 (C-9)	17:01			17:39			19:16	19:52	20:23
4	07:22		07:53 (C-9)	07:02			06:21			06:26	05:38	05:09
	16:24	24	08:17 (C-9)	17:03			17:40			19:18	19:53	20:24
5	07:22		07:54 (C-9)	07:01			06:19			06:24	05:36	05:08
	16:25	23	08:17 (C-9)	17:04			17:41			19:19	19:54	20:24
6	07:21		07:54 (C-9)	07:00			06:17			06:22	05:35	05:08
	16:26	24	08:18 (C-9)	17:05			17:42			19:20	19:55	20:25
7	07:21		07:55 (C-9)	06:58			06:16			06:21	05:34	05:07
	16:27	23	08:18 (C-9)	17:07			17:44			19:21	19:57	20:26
8	07:21		07:55 (C-9)	06:57			07:14			06:19	05:32	05:07
	16:28	23	08:18 (C-9)	17:08			18:45			19:22	19:58	20:26
9	07:21		07:55 (C-9)	06:56			07:12			06:17	05:31	05:07
	16:29	24	08:19 (C-9)	17:09			18:46			19:23	19:59	20:27
10	07:21		07:56 (C-9)	06:55			07:11			06:15	05:30	05:07
	16:31	23	08:19 (C-9)	17:11			18:47			19:25	20:00	20:28
11	07:20		07:56 (C-9)	06:53			07:09			06:14	05:29	05:07
	16:32	23	08:19 (C-9)	17:12			18:49			19:26	20:00	20:28
12	07:20		07:57 (C-9)	06:52			07:07			06:12	05:27	05:06
	16:33	22	08:19 (C-9)	17:13			18:50			19:27	20:01	20:29
13	07:20		07:57 (C-9)	06:51			07:05			06:10	05:26	05:06
	16:34	22	08:19 (C-9)	17:15			18:51			19:28	20:02	20:29
14	07:19		07:59 (C-9)	06:49			07:03			06:08	05:25	05:06
	16:35	21	08:20 (C-9)	17:16			18:52			19:29	20:03	20:30
15	07:19		07:59 (C-9)	06:48		07:27 (C-8)	07:02			06:07	05:24	05:06
	16:36	20	08:19 (C-9)	17:18	5	07:32 (C-8)	18:54			19:31	20:04	20:30
16	07:18		08:00 (C-9)	06:46		07:24 (C-8)	07:00			06:05	05:23	05:06
	16:38	19	08:19 (C-9)	17:19	12	07:36 (C-8)	18:55			19:32	20:05	20:31
17	07:18		08:01 (C-9)	06:45		07:21 (C-8)	06:58			06:03	05:22	05:06
	16:39	18	08:19 (C-9)	17:20	16	07:37 (C-8)	18:56			19:33	20:07	20:31
18	07:17		08:03 (C-9)	06:43		07:21 (C-8)	06:56			06:02	05:21	05:06
	16:40	16	08:19 (C-9)	17:22	18	07:39 (C-8)	18:57			19:34	20:08	20:32
19	07:17		08:04 (C-9)	06:42		07:19 (C-8)	06:55			06:00	05:20	05:06
	16:41	14	08:18 (C-9)	17:23	21	07:40 (C-8)	18:58			19:35	20:09	20:32
20	07:16		08:05 (C-9)	06:40		07:19 (C-8)	06:53			05:59	05:19	05:06
	16:43	11	08:16 (C-9)	17:24	22	07:41 (C-8)	19:00			19:37	20:10	20:32
21	07:15		08:08 (C-9)	06:39		07:18 (C-8)	06:51			05:57	05:18	05:07
	16:44	6	08:14 (C-9)	17:26	23	07:41 (C-8)	19:01			19:38	20:11	20:33
22	07:14			06:37		07:18 (C-8)	06:49			05:55	05:17	05:07
	16:45			17:27	24	07:42 (C-8)	19:02			19:39	20:12	20:33
23	07:14			06:36		07:17 (C-8)	06:47			05:54	05:16	05:07
	16:46			17:28	24	07:41 (C-8)	19:03			19:40	20:13	20:33
24	07:13			06:34		07:17 (C-8)	06:46			05:52	05:15	05:07
	16:48			17:29	23	07:40 (C-8)	19:04			19:41	20:14	20:33
25	07:12			06:32		07:18 (C-8)	06:44			05:51	05:15	05:08
	16:49			17:31	23	07:41 (C-8)	19:06			19:42	20:15	20:33
26	07:11			06:31		07:18 (C-8)	06:42			05:49	05:14	05:08
	16:50			17:32	22	07:40 (C-8)	19:07			19:44	20:16	20:33
27	07:10			06:29		07:18 (C-8)	06:40			05:48	05:13	05:08
	16:52			17:33	20	07:38 (C-8)	19:08			19:45	20:17	20:33
28	07:09			06:28		07:20 (C-8)	06:38			05:46	05:12	05:09
	16:53			17:35	18	07:38 (C-8)	19:09			19:46	20:18	20:33
29	07:08						06:37			05:45	05:12	05:09
	16:54						19:10			19:47	20:19	20:33
30	07:07						06:35			05:43	05:11	05:10
	16:56						19:12			19:48	20:19	20:33
31	07:06						06:33				05:11	
	16:57						19:13				20:20	
Potential sun hours	290			294			369			402	455	461
Total, worst case		426			271			24				
Sun reduction		0.52			0.55			0.53				
Oper. time red.		1.00			1.00			1.00				
Wind dir. red.		0.67			0.71			0.71				
Total reduction		0.35			0.39			0.37				
Total, real		149			105			9				

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 27
Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** G-16 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (88)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	July		August		September		October			November			December		
1	05:10		05:36		06:11		06:45			06:23			07:01		07:38 (C-9)
	20:33		20:13		19:25		18:30			16:40			16:13	23	08:01 (C-9)
2	05:11		05:38		06:12		06:46			06:24			07:02		07:39 (C-9)
	20:33		20:12		19:23		18:29			16:39			16:13	23	08:02 (C-9)
3	05:11		05:39		06:13		06:47			06:25			07:03		07:39 (C-9)
	20:33		20:10		19:21		18:27			16:37			16:12	24	08:03 (C-9)
4	05:12		05:40		06:14		06:48			06:27			07:04		07:40 (C-9)
	20:33		20:09		19:20		18:25			16:36			16:12	23	08:03 (C-9)
5	05:12		05:41		06:15		06:49			06:28			07:05		07:40 (C-9)
	20:33		20:08		19:18		18:23			16:35			16:12	24	08:04 (C-9)
6	05:13		05:42		06:16		06:51			06:29			07:06		07:40 (C-9)
	20:32		20:07		19:16		18:22			16:34			16:12	24	08:04 (C-9)
7	05:14		05:43		06:18		06:52			06:31			07:07		07:41 (C-9)
	20:32		20:05		19:14		18:20			16:32			16:11	23	08:04 (C-9)
8	05:14		05:44		06:19		06:53			06:32			07:08		07:41 (C-9)
	20:32		20:04		19:12		18:18			16:31			16:11	24	08:05 (C-9)
9	05:15		05:45		06:20		06:54			06:33			07:09		07:42 (C-9)
	20:31		20:03		19:11		18:16			16:30			16:11	23	08:05 (C-9)
10	05:16		05:46		06:21		06:55			06:35			07:10		07:42 (C-9)
	20:31		20:01		19:09		18:15			16:29			16:11	24	08:06 (C-9)
11	05:17		05:47		06:22		06:56		07:59 (C-8)	06:36			07:11		07:43 (C-9)
	20:30		20:00		19:07		18:13	5	08:04 (C-8)	16:28			16:11	23	08:06 (C-9)
12	05:17		05:49		06:23		06:58		07:56 (C-8)	06:37			07:12		07:42 (C-9)
	20:30		19:57		19:05		18:11	12	08:08 (C-8)	16:27			16:11	24	08:06 (C-9)
13	05:18		05:50		06:24		06:59		07:53 (C-8)	06:38			07:12		07:43 (C-9)
	20:29		19:56		19:03		18:09	17	08:10 (C-8)	16:26			16:12	23	08:06 (C-9)
14	05:19		05:51		06:25		07:00		07:52 (C-8)	06:40			07:13		07:44 (C-9)
	20:29		19:54		19:02		18:08	18	08:10 (C-8)	16:25			16:12	23	08:07 (C-9)
15	05:20		05:52		06:27		07:01		07:50 (C-8)	06:41			07:14		07:45 (C-9)
	20:28		19:53		19:00		18:06	21	08:11 (C-8)	16:24			16:12	22	08:07 (C-9)
16	05:21		05:53		06:28		07:03		07:50 (C-8)	06:42			07:15		07:45 (C-9)
	20:28		19:51		18:58		18:04	22	08:12 (C-8)	16:23			16:12	23	08:08 (C-9)
17	05:22		05:54		06:29		07:04		07:49 (C-8)	06:44			07:15		07:45 (C-9)
	20:27		19:50		18:56		18:03	23	08:12 (C-8)	16:22			16:12	23	08:08 (C-9)
18	05:23		05:55		06:30		07:05		07:48 (C-8)	06:45			07:16		07:46 (C-9)
	20:26		19:48		18:54		18:01	24	08:12 (C-8)	16:21			16:13	23	08:09 (C-9)
19	05:23		05:56		06:31		07:06		07:49 (C-8)	06:46			07:17		07:46 (C-9)
	20:25		19:46		18:52		17:59	24	08:13 (C-8)	16:20			16:13	22	08:08 (C-9)
20	05:24		05:57		06:32		07:07		07:49 (C-8)	06:47			07:17		07:47 (C-9)
	20:25		19:45		18:51		17:58	23	08:12 (C-8)	16:19			16:14	22	08:09 (C-9)
21	05:25		05:59		06:33		07:09		07:48 (C-8)	06:49		07:44 (C-9)	07:18		07:47 (C-9)
	20:24		19:43		18:49		17:56	23	08:11 (C-8)	16:19	6	07:50 (C-9)	16:14	22	08:09 (C-9)
22	05:26		06:00		06:34		07:10		07:50 (C-8)	06:50		07:42 (C-9)	07:18		07:48 (C-9)
	20:23		19:42		18:47		17:55	21	08:11 (C-8)	16:18	10	07:52 (C-9)	16:14	22	08:10 (C-9)
23	05:27		06:01		06:36		07:11		07:50 (C-8)	06:51		07:40 (C-9)	07:19		07:48 (C-9)
	20:22		19:40		18:45		17:53	20	08:10 (C-8)	16:17	14	07:54 (C-9)	16:15	22	08:10 (C-9)
24	05:28		06:02		06:37		07:12		07:50 (C-8)	06:52		07:40 (C-9)	07:19		07:49 (C-9)
	20:21		19:38		18:43		17:52	18	08:08 (C-8)	16:16	16	07:56 (C-9)	16:16	22	08:11 (C-9)
25	05:29		06:03		06:38		07:14		07:52 (C-8)	06:54		07:39 (C-9)	07:20		07:49 (C-9)
	20:20		19:37		18:41		17:50	16	08:08 (C-8)	16:16	18	07:57 (C-9)	16:16	23	08:12 (C-9)
26	05:30		06:04		06:39		07:15		07:54 (C-8)	06:55		07:38 (C-9)	07:20		07:49 (C-9)
	20:19		19:35		18:40		17:49	11	08:05 (C-8)	16:15	19	07:57 (C-9)	16:17	23	08:12 (C-9)
27	05:31		06:05		06:40		07:16			06:56		07:39 (C-9)	07:20		07:50 (C-9)
	20:18		19:33		18:38		17:47			16:15	20	07:59 (C-9)	16:17	23	08:13 (C-9)
28	05:32		06:06		06:41		07:18			06:57		07:39 (C-9)	07:21		07:50 (C-9)
	20:17		19:32		18:36		17:46			16:14	21	08:00 (C-9)	16:18	23	08:13 (C-9)
29	05:33		06:08		06:42		07:19			06:58		07:38 (C-9)	07:21		07:51 (C-9)
	20:16		19:30		18:34		17:44			16:14	22	08:00 (C-9)	16:19	23	08:14 (C-9)
30	05:34		06:09		06:44		07:20			07:00		07:38 (C-9)	07:21		07:51 (C-9)
	20:15		19:28		18:32		17:43			16:13	23	08:01 (C-9)	16:20	23	08:14 (C-9)
31	05:35		06:10				07:21						07:21		07:51 (C-9)
	20:14		19:27				17:41						16:21	23	08:14 (C-9)
Potential sun hours	467		433		376		342			291			279		
Total, worst case							298			169			712		
Sun reduction							0.53			0.42			0.47		
Oper. time red.							1.00			1.00			1.00		
Wind dir. red.							0.71			0.67			0.67		
Total reduction							0.37			0.28			0.32		
Total, real							111			48			225		

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 28
Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** G-18 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (90)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January			February			March			April	May	June
1	07:21		08:18 (C-7)	07:05		08:29 (C-7)	06:26		07:33 (C-6)	06:31	05:42	05:10
	16:22	7	08:25 (C-7)	16:58	6	08:35 (C-7)	17:36	23	07:56 (C-6)	19:14	19:50	20:21
2	07:22		08:18 (C-7)	07:04			06:24		07:33 (C-6)	06:29	05:40	05:10
	16:22	9	08:27 (C-7)	17:00			17:37	22	07:55 (C-6)	19:15	19:51	20:22
3	07:22		08:17 (C-7)	07:03			06:23		07:33 (C-6)	06:28	05:39	05:09
	16:23	11	08:28 (C-7)	17:01			17:38	22	07:55 (C-6)	19:16	19:52	20:23
4	07:22		08:17 (C-7)	07:02			06:21		07:33 (C-6)	06:26	05:38	05:09
	16:24	13	08:30 (C-7)	17:03			17:40	21	07:54 (C-6)	19:18	19:53	20:24
5	07:22		08:17 (C-7)	07:01			06:19		07:34 (C-6)	06:24	05:36	05:08
	16:25	14	08:31 (C-7)	17:04			17:41	19	07:53 (C-6)	19:19	19:54	20:24
6	07:21		08:17 (C-7)	07:00			06:17		07:34 (C-6)	06:22	05:35	05:08
	16:26	15	08:32 (C-7)	17:05			17:42	17	07:51 (C-6)	19:20	19:55	20:25
7	07:21		08:17 (C-7)	06:58			06:16		07:36 (C-6)	06:21	05:34	05:07
	16:27	17	08:34 (C-7)	17:07			17:44	14	07:50 (C-6)	19:21	19:56	20:26
8	07:21		08:16 (C-7)	06:57			07:14		08:38 (C-6)	06:19	05:32	05:07
	16:28	18	08:34 (C-7)	17:08			18:45	9	08:47 (C-6)	19:22	19:58	20:26
9	07:21		08:16 (C-7)	06:56			07:12			06:17	05:31	05:07
	16:29	19	08:35 (C-7)	17:09			18:46			19:23	19:59	20:27
10	07:21		08:16 (C-7)	06:55			07:10			06:15	05:30	05:07
	16:31	21	08:37 (C-7)	17:11			18:47			19:25	20:00	20:28
11	07:20		08:15 (C-7)	06:53			07:09			06:14	05:29	05:06
	16:32	22	08:37 (C-7)	17:12			18:49			19:26	20:00	20:28
12	07:20		08:16 (C-7)	06:52			07:07			06:12	05:27	05:06
	16:33	22	08:38 (C-7)	17:13			18:50			19:27	20:01	20:29
13	07:20		08:15 (C-7)	06:50			07:05			06:10	05:26	05:06
	16:34	23	08:38 (C-7)	17:15			18:51			19:28	20:02	20:29
14	07:19		08:16 (C-7)	06:49			07:03			06:08	05:25	05:06
	16:35	23	08:39 (C-7)	17:16			18:52			19:29	20:03	20:30
15	07:19		08:15 (C-7)	06:48			07:02			06:07	05:24	05:06
	16:36	25	08:40 (C-7)	17:18			18:53			19:31	20:04	20:30
16	07:18		08:16 (C-7)	06:46			07:00			06:05	05:23	05:06
	16:38	25	08:41 (C-7)	17:19			18:55			19:32	20:05	20:31
17	07:18		08:16 (C-7)	06:45			06:58			06:03	05:22	05:06
	16:39	25	08:41 (C-7)	17:20			18:56			19:33	20:07	20:31
18	07:17		08:16 (C-7)	06:43			06:56			06:02	05:21	05:06
	16:40	26	08:42 (C-7)	17:22			18:57			19:34	20:08	20:32
19	07:17		08:16 (C-7)	06:42			06:55			06:00	05:20	05:06
	16:41	26	08:42 (C-7)	17:23			18:58			19:35	20:09	20:32
20	07:16		08:16 (C-7)	06:40			06:53			05:59	05:19	05:06
	16:43	26	08:42 (C-7)	17:24			19:00			19:37	20:10	20:32
21	07:15		08:16 (C-7)	06:39			06:51			05:57	05:18	05:07
	16:44	26	08:42 (C-7)	17:26			19:01			19:38	20:11	20:33
22	07:14		08:18 (C-7)	06:37			06:49			05:55	05:17	05:07
	16:45	25	08:43 (C-7)	17:27			19:02			19:39	20:12	20:33
23	07:14		08:18 (C-7)	06:36		07:40 (C-6)	06:47			05:54	05:16	05:07
	16:46	25	08:43 (C-7)	17:28	11	07:51 (C-6)	19:03			19:40	20:13	20:33
24	07:13		08:18 (C-7)	06:34		07:37 (C-6)	06:46			05:52	05:15	05:07
	16:48	25	08:43 (C-7)	17:29	16	07:53 (C-6)	19:04			19:41	20:14	20:33
25	07:12		08:19 (C-7)	06:32		07:37 (C-6)	06:44			05:51	05:15	05:08
	16:49	24	08:43 (C-7)	17:31	17	07:54 (C-6)	19:06			19:42	20:15	20:33
26	07:11		08:19 (C-7)	06:31		07:35 (C-6)	06:42			05:49	05:14	05:08
	16:50	24	08:43 (C-7)	17:32	20	07:55 (C-6)	19:07			19:44	20:16	20:33
27	07:10		08:20 (C-7)	06:29		07:34 (C-6)	06:40			05:48	05:13	05:08
	16:52	22	08:42 (C-7)	17:33	21	07:55 (C-6)	19:08			19:45	20:17	20:33
28	07:09		08:21 (C-7)	06:28		07:34 (C-6)	06:38			05:46	05:12	05:09
	16:53	21	08:42 (C-7)	17:35	22	07:56 (C-6)	19:09			19:46	20:18	20:33
29	07:08		08:22 (C-7)				06:36			05:45	05:12	05:09
	16:54	19	08:41 (C-7)				19:10			19:47	20:18	20:33
30	07:07		08:24 (C-7)				06:35			05:43	05:11	05:10
	16:56	16	08:40 (C-7)				19:12			19:48	20:19	20:33
31	07:06		08:26 (C-7)				06:33				05:11	
	16:57	12	08:38 (C-7)				19:13				20:20	
Potential sun hours	290			294			369			402	455	461
Total, worst case		626			113			147				
Sun reduction		0.52			0.55			0.53				
Oper. time red.		1.00			1.00			1.00				
Wind dir. red.		0.66			0.70			0.71				
Total reduction		0.34			0.39			0.37				
Total, real		216			44			55				

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 29
Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** G-18 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (90)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	July		August		September		October			November			December		
1	05:10		05:36		06:11		06:45			06:23			07:01		07:57 (C-7)
	20:33		20:13		19:25		18:30			16:40			16:13	22	08:19 (C-7)
2	05:11		05:38		06:12		06:46			06:24			07:02		07:59 (C-7)
	20:33		20:12		19:23		18:29			16:39			16:13	21	08:20 (C-7)
3	05:11		05:39		06:13		06:47			06:25			07:03		08:00 (C-7)
	20:33		20:10		19:21		18:27			16:37			16:12	19	08:19 (C-7)
4	05:12		05:40		06:14		06:48			06:27			07:04		08:01 (C-7)
	20:33		20:09		19:20		18:25			16:36			16:12	18	08:19 (C-7)
5	05:12		05:41		06:15		06:49		08:17 (C-6)	06:28			07:05		08:02 (C-7)
	20:33		20:08		19:18		18:23	5	08:22 (C-6)	16:35			16:12	17	08:19 (C-7)
6	05:13		05:42		06:16		06:50		08:13 (C-6)	06:29			07:06		08:03 (C-7)
	20:32		20:07		19:16		18:22	12	08:25 (C-6)	16:34			16:12	16	08:19 (C-7)
7	05:14		05:43		06:18		06:52		08:11 (C-6)	06:31			07:07		08:04 (C-7)
	20:32		20:05		19:14		18:20	15	08:26 (C-6)	16:32			16:11	14	08:18 (C-7)
8	05:14		05:44		06:19		06:53		08:10 (C-6)	06:32			07:08		08:05 (C-7)
	20:32		20:04		19:12		18:18	18	08:28 (C-6)	16:31			16:11	13	08:18 (C-7)
9	05:15		05:45		06:20		06:54		08:09 (C-6)	06:33			07:09		08:06 (C-7)
	20:31		20:03		19:11		18:16	20	08:29 (C-6)	16:30			16:11	12	08:18 (C-7)
10	05:16		05:46		06:21		06:55		08:07 (C-6)	06:35		08:00 (C-7)	07:10		08:08 (C-7)
	20:31		20:01		19:09		18:15	22	08:29 (C-6)	16:29	7	08:07 (C-7)	16:11	9	08:17 (C-7)
11	05:17		05:47		06:22		06:56		08:07 (C-6)	06:36		07:57 (C-7)	07:11		08:09 (C-7)
	20:30		20:00		19:07		18:13	22	08:29 (C-6)	16:28	12	08:09 (C-7)	16:11	8	08:17 (C-7)
12	05:17		05:48		06:23		06:58		08:07 (C-6)	06:37		07:56 (C-7)	07:11		08:10 (C-7)
	20:30		19:57		19:05		18:11	23	08:30 (C-6)	16:27	16	08:12 (C-7)	16:11	5	08:15 (C-7)
13	05:18		05:50		06:24		06:59		08:07 (C-6)	06:38		07:54 (C-7)	07:12		
	20:29		19:56		19:03		18:09	22	08:29 (C-6)	16:26	19	08:13 (C-7)	16:12		
14	05:19		05:51		06:25		07:00		08:06 (C-6)	06:40		07:53 (C-7)	07:13		
	20:29		19:54		19:01		18:08	22	08:28 (C-6)	16:25	21	08:14 (C-7)	16:12		
15	05:20		05:52		06:26		07:01		08:07 (C-6)	06:41		07:53 (C-7)	07:14		
	20:28		19:53		19:00		18:06	20	08:27 (C-6)	16:24	22	08:15 (C-7)	16:12		
16	05:21		05:53		06:28		07:02		08:08 (C-6)	06:42		07:52 (C-7)	07:15		
	20:28		19:51		18:58		18:04	19	08:27 (C-6)	16:23	24	08:16 (C-7)	16:12		
17	05:22		05:54		06:29		07:04		08:08 (C-6)	06:44		07:52 (C-7)	07:15		
	20:27		19:50		18:56		18:03	17	08:25 (C-6)	16:22	24	08:16 (C-7)	16:12		
18	05:22		05:55		06:30		07:05		08:10 (C-6)	06:45		07:52 (C-7)	07:16		
	20:26		19:48		18:54		18:01	14	08:24 (C-6)	16:21	25	08:17 (C-7)	16:13		
19	05:23		05:56		06:31		07:06		08:13 (C-6)	06:46		07:52 (C-7)	07:17		
	20:25		19:46		18:52		17:59	9	08:22 (C-6)	16:20	25	08:17 (C-7)	16:13		
20	05:24		05:57		06:32		07:07			06:47		07:53 (C-7)	07:17		
	20:25		19:45		18:50		17:58			16:19	25	08:18 (C-7)	16:14		
21	05:25		05:59		06:33		07:09			06:49		07:52 (C-7)	07:18		
	20:24		19:43		18:49		17:56			16:19	26	08:18 (C-7)	16:14		
22	05:26		06:00		06:34		07:10			06:50		07:52 (C-7)	07:18		
	20:23		19:42		18:47		17:55			16:18	26	08:18 (C-7)	16:14		
23	05:27		06:01		06:35		07:11			06:51		07:52 (C-7)	07:19		
	20:22		19:40		18:45		17:53			16:17	26	08:18 (C-7)	16:15		
24	05:28		06:02		06:37		07:12			06:52		07:53 (C-7)	07:19		
	20:21		19:38		18:43		17:52			16:16	26	08:19 (C-7)	16:16		
25	05:29		06:03		06:38		07:14			06:54		07:54 (C-7)	07:20		
	20:20		19:37		18:41		17:50			16:16	25	08:19 (C-7)	16:16		
26	05:30		06:04		06:39		07:15			06:55		07:54 (C-7)	07:20		
	20:19		19:35		18:40		17:49			16:15	25	08:19 (C-7)	16:17		
27	05:31		06:05		06:40		07:16			06:56		07:55 (C-7)	07:20		
	20:18		19:33		18:38		17:47			16:15	25	08:20 (C-7)	16:17		
28	05:32		06:06		06:41		07:18			06:57		07:56 (C-7)	07:21		
	20:17		19:32		18:36		17:46			16:14	24	08:20 (C-7)	16:18		
29	05:33		06:08		06:42		07:19			06:58		07:56 (C-7)	07:21		
	20:16		19:30		18:34		17:44			16:14	23	08:19 (C-7)	16:19		
30	05:34		06:09		06:43		07:20			06:59		07:57 (C-7)	07:21		
	20:15		19:28		18:32		17:43			16:13	22	08:19 (C-7)	16:20		
31	05:35		06:10				07:21						07:21		08:20 (C-7)
	20:14		19:27				17:41						16:20	3	08:23 (C-7)
Potential sun hours	467		433		376		342			291			279		
Total, worst case							260			468			177		
Sun reduction							0.53			0.42			0.47		
Oper. time red.							1.00			1.00			1.00		
Wind dir. red.							0.71			0.66			0.66		
Total reduction							0.37			0.28			0.31		
Total, real							97			130			55		

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

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

Project:

2013-09-11_Wild Meadows V112@94m

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Licensed user:
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US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** G-19 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (91)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January			February			March			April			May	June
1	07:21		08:28 (C-7)	07:05			06:26		07:46 (C-6)	06:31		08:03 (C-5)	05:42	05:10
	16:22	29	08:57 (C-7)	16:58			17:36	23	08:09 (C-6)	19:14	3	08:06 (C-5)	19:50	20:21
2	07:22		08:29 (C-7)	07:04			06:24		07:47 (C-6)	06:29			05:40	05:09
	16:22	29	08:58 (C-7)	17:00			17:37	20	08:07 (C-6)	19:15			19:51	20:22
3	07:22		08:29 (C-7)	07:03			06:23		07:48 (C-6)	06:28			05:39	05:09
	16:23	29	08:58 (C-7)	17:01			17:38	18	08:06 (C-6)	19:16			19:52	20:23
4	07:22		08:30 (C-7)	07:02			06:21		07:50 (C-6)	06:26			05:38	05:09
	16:24	29	08:59 (C-7)	17:03			17:40	14	08:04 (C-6)	19:18			19:53	20:24
5	07:22		08:30 (C-7)	07:01			06:19		07:52 (C-6)	06:24			05:36	05:08
	16:25	29	08:59 (C-7)	17:04			17:41	9	08:01 (C-6)	19:19			19:54	20:24
6	07:21		08:31 (C-7)	07:00			06:17			06:22			05:35	05:08
	16:26	29	09:00 (C-7)	17:05			17:42			19:20			19:55	20:25
7	07:21		08:32 (C-7)	06:58			06:16			06:20			05:34	05:07
	16:27	29	09:01 (C-7)	17:07			17:44			19:21			19:56	20:26
8	07:21		08:32 (C-7)	06:57			07:14			06:19			05:32	05:07
	16:28	28	09:00 (C-7)	17:08			18:45			19:22			19:58	20:26
9	07:21		08:32 (C-7)	06:56			07:12			06:17			05:31	05:07
	16:29	29	09:01 (C-7)	17:09			18:46			19:23			19:59	20:27
10	07:21		08:33 (C-7)	06:55			07:10			06:15			05:30	05:07
	16:31	28	09:01 (C-7)	17:11			18:47			19:25			20:00	20:28
11	07:20		08:33 (C-7)	06:53			07:09			06:14			05:29	05:06
	16:32	28	09:01 (C-7)	17:12			18:49			19:26			20:00	20:28
12	07:20		08:34 (C-7)	06:52			07:07			06:12			05:27	05:06
	16:33	27	09:01 (C-7)	17:13			18:50			19:27			20:01	20:29
13	07:20		08:34 (C-7)	06:50			07:05			06:10			05:26	05:06
	16:34	27	09:01 (C-7)	17:15			18:51			19:28			20:02	20:29
14	07:19		08:36 (C-7)	06:49			07:03			06:08			05:25	05:06
	16:35	25	09:01 (C-7)	17:16			18:52			19:29			20:03	20:30
15	07:19		08:36 (C-7)	06:48			07:02			06:07			05:24	05:06
	16:36	25	09:01 (C-7)	17:18			18:53			19:31			20:04	20:30
16	07:18		08:37 (C-7)	06:46			07:00			06:05			05:23	05:06
	16:38	24	09:01 (C-7)	17:19			18:55			19:32			20:05	20:31
17	07:18		08:38 (C-7)	06:45			06:58			06:03			05:22	05:06
	16:39	23	09:01 (C-7)	17:20			18:56			19:33			20:07	20:31
18	07:17		08:39 (C-7)	06:43		07:54 (C-6)	06:56			06:02			05:21	05:06
	16:40	22	09:01 (C-7)	17:22	11	08:05 (C-6)	18:57			19:34			20:08	20:32
19	07:17		08:40 (C-7)	06:42		07:51 (C-6)	06:55		08:05 (C-5)	06:00			05:20	05:06
	16:41	20	09:00 (C-7)	17:23	16	08:07 (C-6)	18:58	8	08:13 (C-5)	19:35			20:09	20:32
20	07:16		08:41 (C-7)	06:40		07:50 (C-6)	06:53		08:02 (C-5)	05:58			05:19	05:06
	16:43	18	08:59 (C-7)	17:24	19	08:09 (C-6)	19:00	13	08:15 (C-5)	19:37			20:10	20:32
21	07:15		08:43 (C-7)	06:39		07:48 (C-6)	06:51		08:00 (C-5)	05:57			05:18	05:07
	16:44	15	08:58 (C-7)	17:26	21	08:09 (C-6)	19:01	17	08:17 (C-5)	19:38			20:11	20:33
22	07:14		08:46 (C-7)	06:37		07:48 (C-6)	06:49		07:59 (C-5)	05:55			05:17	05:07
	16:45	11	08:57 (C-7)	17:27	23	08:11 (C-6)	19:02	19	08:18 (C-5)	19:39			20:12	20:33
23	07:14		08:50 (C-7)	06:36		07:47 (C-6)	06:47		07:58 (C-5)	05:54			05:16	05:07
	16:46	3	08:53 (C-7)	17:28	24	08:11 (C-6)	19:03	20	08:18 (C-5)	19:40			20:13	20:33
24	07:13			06:34		07:46 (C-6)	06:45		07:57 (C-5)	05:52			05:15	05:07
	16:48			17:29	24	08:10 (C-6)	19:04	21	08:18 (C-5)	19:41			20:14	20:33
25	07:12			06:32		07:46 (C-6)	06:44		07:56 (C-5)	05:51			05:15	05:08
	16:49			17:31	25	08:11 (C-6)	19:06	21	08:17 (C-5)	19:42			20:15	20:33
26	07:11			06:31		07:46 (C-6)	06:42		07:56 (C-5)	05:49			05:14	05:08
	16:50			17:32	25	08:11 (C-6)	19:07	22	08:18 (C-5)	19:44			20:16	20:33
27	07:10			06:29		07:45 (C-6)	06:40		07:56 (C-5)	05:48			05:13	05:08
	16:52			17:33	25	08:10 (C-6)	19:08	21	08:17 (C-5)	19:45			20:17	20:33
28	07:09			06:28		07:46 (C-6)	06:38		07:56 (C-5)	05:46			05:12	05:09
	16:53			17:35	24	08:10 (C-6)	19:09	20	08:16 (C-5)	19:46			20:18	20:33
29	07:08						06:36		07:56 (C-5)	05:45			05:12	05:09
	16:54						19:10	18	08:14 (C-5)	19:47			20:18	20:33
30	07:07						06:35		07:57 (C-5)	05:43			05:11	05:10
	16:56						19:12	15	08:12 (C-5)	19:48			20:19	20:33
31	07:06						06:33		07:59 (C-5)				05:11	
	16:57						19:13	12	08:11 (C-5)				20:20	
Potential sun hours	290			294			369			402			455	461
Total, worst case		556			237			311			3			
Sun reduction		0.52			0.55			0.53			0.53			
Oper. time red.		1.00			1.00			1.00			1.00			
Wind dir. red.		0.66			0.70			0.70			0.70			
Total reduction		0.34			0.39			0.37			0.37			
Total, real		189			91			116			1			

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 31

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** G-19 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (91)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	July	August	September	October	November	December
1	05:10 / 20:33	05:36 / 20:13	06:11 / 19:25	06:45 / 18:30	06:23 / 16:40	07:01 / 16:13 28 08:15 (C-7) / 08:43 (C-7)
2	05:11 / 20:33	05:38 / 20:12	06:12 / 19:23	06:46 / 18:29	06:24 / 16:39	07:02 / 16:13 28 08:16 (C-7) / 08:44 (C-7)
3	05:11 / 20:33	05:39 / 20:10	06:13 / 19:21	06:47 / 18:27	06:25 / 16:37	07:03 / 16:12 29 08:16 (C-7) / 08:45 (C-7)
4	05:12 / 20:33	05:40 / 20:09	06:14 / 19:20	06:48 / 18:25	06:27 / 16:36	07:04 / 16:12 28 08:17 (C-7) / 08:45 (C-7)
5	05:12 / 20:33	05:41 / 20:08	06:15 / 19:18	06:49 / 18:23	06:28 / 16:35	07:05 / 16:12 29 08:17 (C-7) / 08:46 (C-7)
6	05:13 / 20:32	05:42 / 20:07	06:16 / 19:16	06:50 / 18:22	06:29 / 16:34	07:06 / 16:12 29 08:17 (C-7) / 08:46 (C-7)
7	05:14 / 20:32	05:43 / 20:05	06:18 / 19:14	06:52 / 18:20	06:31 / 16:32	07:07 / 16:11 29 08:17 (C-7) / 08:46 (C-7)
8	05:14 / 20:32	05:44 / 20:04	06:19 / 19:12	06:53 / 18:18 2 08:31 (C-6) / 08:33 (C-6)	06:32 / 16:31	07:08 / 16:11 29 08:18 (C-7) / 08:47 (C-7)
9	05:15 / 20:31	05:45 / 20:03	06:20 / 19:11	06:54 / 18:16 12 08:26 (C-6) / 08:38 (C-6)	06:33 / 16:30	07:09 / 16:11 29 08:18 (C-7) / 08:47 (C-7)
10	05:16 / 20:31	05:46 / 20:01	06:21 / 19:09	06:55 / 18:15 16 08:23 (C-6) / 08:39 (C-6)	06:35 / 16:29	07:10 / 16:11 29 08:19 (C-7) / 08:48 (C-7)
11	05:17 / 20:30	05:47 / 20:00	06:22 / 19:07	06:56 / 18:13 19 08:21 (C-6) / 08:40 (C-6)	06:36 / 16:28	07:11 / 16:11 29 08:19 (C-7) / 08:48 (C-7)
12	05:17 / 20:30	05:48 / 19:57	06:23 / 19:05 11 07:51 (C-5) / 08:02 (C-5)	06:58 / 18:11 21 08:21 (C-6) / 08:42 (C-6)	06:37 / 16:27	07:11 / 16:11 29 08:19 (C-7) / 08:48 (C-7)
13	05:18 / 20:29	05:50 / 19:56	06:24 / 19:03 14 07:49 (C-5) / 08:03 (C-5)	06:59 / 18:09 23 08:19 (C-6) / 08:42 (C-6)	06:38 / 16:26	07:12 / 16:12 29 08:20 (C-7) / 08:49 (C-7)
14	05:19 / 20:29	05:51 / 19:54	06:25 / 19:01 17 07:47 (C-5) / 08:04 (C-5)	07:00 / 18:08 24 08:18 (C-6) / 08:42 (C-6)	06:40 / 16:25	07:13 / 16:12 29 08:20 (C-7) / 08:49 (C-7)
15	05:20 / 20:28	05:52 / 19:53	06:26 / 19:00 19 07:46 (C-5) / 08:05 (C-5)	07:01 / 18:06 24 08:18 (C-6) / 08:42 (C-6)	06:41 / 16:24	07:14 / 16:12 29 08:21 (C-7) / 08:50 (C-7)
16	05:21 / 20:28	05:53 / 19:51	06:28 / 18:58 20 07:46 (C-5) / 08:06 (C-5)	07:02 / 18:04 25 08:18 (C-6) / 08:43 (C-6)	06:42 / 16:23	07:15 / 16:12 29 08:22 (C-7) / 08:51 (C-7)
17	05:22 / 20:27	05:54 / 19:50	06:29 / 18:56 21 07:45 (C-5) / 08:06 (C-5)	07:04 / 18:03 25 08:18 (C-6) / 08:43 (C-6)	06:44 / 16:22	07:15 / 16:12 28 08:22 (C-7) / 08:50 (C-7)
18	05:22 / 20:26	05:55 / 19:48	06:30 / 18:54 22 07:44 (C-5) / 08:06 (C-5)	07:05 / 18:01 25 08:17 (C-6) / 08:42 (C-6)	06:45 / 16:21	07:16 / 16:13 28 08:23 (C-7) / 08:51 (C-7)
19	05:23 / 20:25	05:56 / 19:46	06:31 / 18:52 21 07:44 (C-5) / 08:05 (C-5)	07:06 / 17:59 24 08:18 (C-6) / 08:42 (C-6)	06:46 / 16:20 3 08:24 (C-7) / 08:27 (C-7)	07:17 / 16:13 29 08:22 (C-7) / 08:51 (C-7)
20	05:24 / 20:25	05:57 / 19:45	06:32 / 18:50 20 07:44 (C-5) / 08:04 (C-5)	07:07 / 17:58 22 08:19 (C-6) / 08:41 (C-6)	06:47 / 16:19 11 08:21 (C-7) / 08:32 (C-7)	07:17 / 16:14 29 08:23 (C-7) / 08:52 (C-7)
21	05:25 / 20:24	05:59 / 19:43	06:33 / 18:49 19 07:44 (C-5) / 08:03 (C-5)	07:09 / 17:56 21 08:19 (C-6) / 08:40 (C-6)	06:49 / 16:19 15 08:19 (C-7) / 08:34 (C-7)	07:18 / 16:14 29 08:23 (C-7) / 08:52 (C-7)
22	05:26 / 20:23	06:00 / 19:42	06:34 / 18:47 17 07:45 (C-5) / 08:02 (C-5)	07:10 / 17:55 18 08:20 (C-6) / 08:38 (C-6)	06:50 / 16:18 18 08:17 (C-7) / 08:35 (C-7)	07:18 / 16:14 29 08:24 (C-7) / 08:53 (C-7)
23	05:27 / 20:22	06:01 / 19:40	06:35 / 18:45 14 07:46 (C-5) / 08:00 (C-5)	07:11 / 17:53 15 08:22 (C-6) / 08:37 (C-6)	06:51 / 16:17 20 08:16 (C-7) / 08:36 (C-7)	07:19 / 16:15 29 08:24 (C-7) / 08:53 (C-7)
24	05:28 / 20:21	06:02 / 19:38	06:37 / 18:43 10 07:47 (C-5) / 07:57 (C-5)	07:12 / 17:52 10 08:24 (C-6) / 08:34 (C-6)	06:52 / 16:16 21 08:17 (C-7) / 08:38 (C-7)	07:19 / 16:16 29 08:25 (C-7) / 08:54 (C-7)
25	05:29 / 20:20	06:03 / 19:37	06:38 / 18:41	07:14 / 17:50	06:54 / 16:16 23 08:16 (C-7) / 08:39 (C-7)	07:20 / 16:16 28 08:26 (C-7) / 08:54 (C-7)
26	05:30 / 20:19	06:04 / 19:35	06:39 / 18:40	07:15 / 17:49	06:55 / 16:15 24 08:15 (C-7) / 08:39 (C-7)	07:20 / 16:17 28 08:26 (C-7) / 08:54 (C-7)
27	05:31 / 20:18	06:05 / 19:33	06:40 / 18:38	07:16 / 17:47	06:56 / 16:15 25 08:16 (C-7) / 08:41 (C-7)	07:20 / 16:17 28 08:27 (C-7) / 08:55 (C-7)
28	05:32 / 20:17	06:06 / 19:32	06:41 / 18:36	07:18 / 17:46	06:57 / 16:14 26 08:16 (C-7) / 08:42 (C-7)	07:21 / 16:18 29 08:27 (C-7) / 08:56 (C-7)
29	05:33 / 20:16	06:08 / 19:30	06:42 / 18:34	07:19 / 17:44	06:58 / 16:14 27 08:15 (C-7) / 08:42 (C-7)	07:21 / 16:19 29 08:27 (C-7) / 08:56 (C-7)
30	05:34 / 20:15	06:09 / 19:28	06:43 / 18:32	07:20 / 17:43	06:59 / 16:13 27 08:15 (C-7) / 08:42 (C-7)	07:21 / 16:20 28 08:28 (C-7) / 08:56 (C-7)
31	05:35 / 20:14	06:10 / 19:27		07:21 / 17:41		07:21 / 16:20 29 08:28 (C-7) / 08:57 (C-7)
Potential sun hours	467	433	376	342	291	279
Total, worst case			225	326	240	890
Sun reduction			0.56	0.53	0.42	0.47
Oper. time red.			1.00	1.00	1.00	1.00
Wind dir. red.			0.70	0.70	0.66	0.66
Total reduction			0.39	0.37	0.27	0.31
Total, real			88	121	66	273

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 32

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m **Shadow receptor:** G-45 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (95)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed 0.0m/s

	January			February			March	April	May	June	July	August	September	October	November			December		
1	07:21			07:05		08:05 (C-8)	06:26	06:31	05:42	05:10	05:10	05:36	06:11	06:45	06:23			07:01		07:41 (C-8)
	16:22			16:58	12	08:17 (C-8)	17:36	19:14	19:50	20:21	20:33	20:13	19:25	18:30	16:40			16:13	11	07:52 (C-8)
2	07:22			07:04		08:07 (C-8)	06:24	06:29	05:40	05:10	05:11	05:38	06:12	06:46	06:24			07:02		07:43 (C-8)
	16:23			17:00	7	08:14 (C-8)	17:37	19:15	19:51	20:22	20:33	20:12	19:23	18:29	16:39			16:13	8	07:51 (C-8)
3	07:22			07:03			06:23	06:28	05:39	05:09	05:11	05:39	06:13	06:47	06:25			07:03		07:46 (C-8)
	16:23			17:01			17:39	19:16	19:52	20:23	20:33	20:10	19:21	18:27	16:37			16:12	3	07:49 (C-8)
4	07:22			07:02			06:21	06:26	05:38	05:09	05:12	05:40	06:14	06:48	06:27			07:04		
	16:24			17:03			17:40	19:18	19:53	20:24	20:33	20:09	19:20	18:25	16:36			16:12		
5	07:22			07:01			06:19	06:24	05:36	05:08	05:12	05:41	06:15	06:49	06:28			07:05		
	16:25			17:04			17:41	19:19	19:54	20:24	20:33	20:08	19:18	18:23	16:35			16:12		
6	07:21			07:00			06:17	06:22	05:35	05:08	05:13	05:42	06:16	06:51	06:29			07:06		
	16:26			17:05			17:42	19:20	19:55	20:25	20:32	20:07	19:16	18:22	16:34			16:12		
7	07:21			06:58			06:16	06:21	05:34	05:07	05:14	05:43	06:18	06:52	06:31			07:07		
	16:27			17:07			17:44	19:21	19:57	20:26	20:32	20:05	19:14	18:20	16:32			16:11		
8	07:21			06:57			07:14	06:19	05:32	05:07	05:14	05:44	06:19	06:53	06:32			07:08		
	16:28			17:08			18:45	19:22	19:58	20:26	20:32	20:04	19:12	18:18	16:31			16:11		
9	07:21		08:02 (C-8)	06:56			07:12	06:17	05:31	05:07	05:15	05:45	06:20	06:54	06:33		07:37 (C-8)	07:09		
	16:29	3	08:05 (C-8)	17:09			18:46	19:23	19:59	20:27	20:31	20:03	19:11	18:16	16:30	8	07:45 (C-8)	16:11		
10	07:21		08:00 (C-8)	06:55			07:11	06:15	05:30	05:07	05:16	05:46	06:21	06:55	06:35		07:35 (C-8)	07:10		
	16:31	8	08:08 (C-8)	17:11			18:47	19:25	20:00	20:28	20:31	20:01	19:09	18:15	16:29	13	07:48 (C-8)	16:11		
11	07:20		07:59 (C-8)	06:53			07:09	06:14	05:29	05:07	05:17	05:47	06:22	06:56	06:36		07:34 (C-8)	07:11		
	16:32	10	08:09 (C-8)	17:12			18:49	19:26	20:00	20:28	20:30	20:00	19:07	18:13	16:28	15	07:49 (C-8)	16:11		
12	07:20		07:58 (C-8)	06:52			07:07	06:12	05:27	05:06	05:17	05:49	06:23	06:58	06:37		07:33 (C-8)	07:12		
	16:33	13	08:11 (C-8)	17:13			18:50	19:27	20:01	20:29	20:30	19:57	19:05	18:11	16:27	18	07:51 (C-8)	16:11		
13	07:20		07:57 (C-8)	06:51			07:05	06:10	05:26	05:06	05:18	05:50	06:24	06:59	06:38		07:32 (C-8)	07:12		
	16:34	15	08:12 (C-8)	17:15			18:51	19:28	20:02	20:29	20:29	19:56	19:03	18:09	16:26	19	07:51 (C-8)	16:12		
14	07:19		07:57 (C-8)	06:49			07:03	06:08	05:25	05:06	05:19	05:51	06:25	07:00	06:40		07:31 (C-8)	07:13		
	16:35	17	08:14 (C-8)	17:16			18:52	19:29	20:03	20:30	20:29	19:54	19:01	18:08	16:25	21	07:52 (C-8)	16:12		
15	07:19		07:57 (C-8)	06:48			07:02	06:07	05:24	05:06	05:20	05:52	06:27	07:01	06:41		07:32 (C-8)	07:14		
	16:36	17	08:14 (C-8)	17:18			18:54	19:31	20:04	20:30	20:28	19:53	19:00	18:06	16:24	21	07:53 (C-8)	16:12		
16	07:18		07:57 (C-8)	06:46			07:00	06:05	05:23	05:06	05:21	05:53	06:28	07:03	06:42		07:31 (C-8)	07:15		
	16:38	19	08:16 (C-8)	17:19			18:55	19:32	20:05	20:31	20:28	19:51	18:58	18:04	16:23	22	07:53 (C-8)	16:12		
17	07:18		07:56 (C-8)	06:45			06:58	06:03	05:22	05:06	05:22	05:54	06:29	07:04	06:44		07:31 (C-8)	07:15		
	16:39	20	08:16 (C-8)	17:20			18:56	19:33	20:07	20:31	20:27	19:50	18:56	18:03	16:22	22	07:53 (C-8)	16:12		
18	07:17		07:57 (C-8)	06:43			06:56	06:02	05:21	05:06	05:23	05:55	06:30	07:05	06:45		07:31 (C-8)	07:16		
	16:40	21	08:18 (C-8)	17:22			18:57	19:34	20:08	20:32	20:26	19:48	18:54	18:01	16:21	23	07:54 (C-8)	16:13		
19	07:17		07:57 (C-8)	06:42			06:55	06:00	05:20	05:06	05:23	05:56	06:31	07:06	06:46		07:31 (C-8)	07:17		
	16:41	21	08:18 (C-8)	17:23			18:58	19:35	20:09	20:32	20:25	19:46	18:52	17:59	16:20	23	07:54 (C-8)	16:13		
20	07:16		07:56 (C-8)	06:40			06:53	05:59	05:19	05:06	05:24	05:57	06:32	07:07	06:47		07:32 (C-8)	07:17		
	16:43	23	08:19 (C-8)	17:24			19:00	19:37	20:10	20:32	20:25	19:45	18:51	17:58	16:19	23	07:55 (C-8)	16:14		
21	07:15		07:56 (C-8)	06:39			06:51	05:57	05:18	05:07	05:25	05:59	06:33	07:09	06:49		07:32 (C-8)	07:18		
	16:44	23	08:19 (C-8)	17:26			19:01	19:38	20:11	20:33	20:24	19:43	18:49	17:56	16:19	23	07:55 (C-8)	16:14		
22	07:14		07:57 (C-8)	06:37			06:49	05:55	05:17	05:07	05:26	06:00	06:34	07:10	06:50		07:32 (C-8)	07:18		
	16:45	23	08:20 (C-8)	17:27			19:02	19:39	20:12	20:33	20:23	19:42	18:47	17:55	16:18	23	07:55 (C-8)	16:14		
23	07:14		07:57 (C-8)	06:36			06:47	05:54	05:16	05:07	05:27	06:01	06:36	07:11	06:51		07:34 (C-8)	07:19		
	16:46	23	08:20 (C-8)	17:28			19:03	19:40	20:13	20:33	20:22	19:40	18:45	17:53	16:17	21	07:55 (C-8)	16:15		
24	07:13		07:57 (C-8)	06:34			06:46	05:52	05:15	05:07	05:28	06:02	06:37	07:12	06:52		07:34 (C-8)	07:19		
	16:48	23	08:20 (C-8)	17:29			19:04	19:41	20:14	20:33	20:21	19:38	18:43	17:52	16:16	21	07:55 (C-8)	16:16		
25	07:12		07:58 (C-8)	06:32			06:44	05:51	05:15	05:08	05:29	06:03	06:38	07:14	06:54		07:34 (C-8)	07:20		
	16:49	22	08:20 (C-8)	17:31			19:06	19:42	20:15	20:33	20:20	19:37	18:41	17:50	16:16	21	07:55 (C-8)	16:16		
26	07:11		07:58 (C-8)	06:31			06:42	05:49	05:14	05:08	05:30	06:04	06:39	07:15	06:55		07:35 (C-8)	07:20		
	16:50	22	08:20 (C-8)	17:32			19:07	19:44	20:16	20:33	20:19	19:35	18:40	17:49	16:15	19	07:54 (C-8)	16:17		
27	07:10		07:59 (C-8)	06:29			06:40	05:48	05:13	05:08	05:31	06:05	06:40	07:16	06:56		07:37 (C-8)	07:20		
	16:52	21	08:20 (C-8)	17:33			19:08	19:45	20:17	20:33	20:18	19:33	18:38	17:47	16:15	18	07:55 (C-8)	16:17		
28	07:09		07:59 (C-8)	06:28			06:38	05:46	05:12	05:09	05:32	06:06	06:41	07:18	06:57		07:37 (C-8)	07:21		
	16:53	21	08:20 (C-8)	17:35			19:09	19:46	20:18	20:33	20:17	19:32	18:36	17:46	16:14	17	07:54 (C-8)	16:18		
29	07:08		08:00 (C-8)				06:37	05:45	05:12	05:09	05:33	06:08	06:42	07:19	06:58		07:38 (C-8)	07:21		
	16:54	19	08:19 (C-8)				19:10	19:47	20:19	20:33	20:16	19:30	18:34	17:44	16:14	15	07:53 (C-8)	16:19		
30	07:07		08:01 (C-8)				06:35	05:43	05:11	05:10	05:34	06:09	06:44	07:20	07:00		07:39 (C-8)	07:21		
	16:56	18	08:19 (C-8)				19:12	19:48	20:19	20:33	20:15	19:28	18:32	17:43	16:13	14	07:53 (C-8)	16:20		
31	07:06		08:03 (C-8)				06:33		05:11		05:35	06:10		07:21				07:21		
	16:57	15	08:18 (C-8)				19:13		20:20		20:14	19:27		17:41				16:21		
Potential sun hours	290			294			369	402	455	461	467	433	376	342	291			279		
Total, worst case		417			19											420			22	
Sun reduction		0.52			0.55											0.42			0.47	
Oper. time red.		1.00			1.00											1.00			1.00	
Wind dir. red.		0.68			0.68											0.68			0.68	
Total reduction		0.35			0.37											0.29			0.32	
Total, real		148			7											120			7	

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

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

Project:

2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 33

Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

SHADOW - Calendar

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m**Shadow receptor:** G-6 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (86)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.52	0.55	0.53	0.53	0.55	0.58	0.62	0.60	0.56	0.53	0.42	0.47

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
515	258	344	344	258	429	601	773	859	1,374	1,889	1,116	8,760

Idle start wind speed0.0m/s

	January	February	March		April		May	June	July	August	September		October	November	December
1	07:21	07:05	06:26		06:31	07:22 (C-9)	05:42	05:10	05:10	05:36	06:11		06:45	06:23	07:01
	16:22	16:59	17:36		19:14	14 07:36 (C-9)	19:50	20:21	20:33	20:13	19:25		18:30	16:40	16:13
2	07:22	07:04	06:24		06:29	07:23 (C-9)	05:40	05:10	05:11	05:38	06:12		06:46	06:24	07:02
	16:23	17:00	17:37		19:15	11 07:34 (C-9)	19:51	20:22	20:33	20:12	19:23		18:29	16:39	16:13
3	07:22	07:03	06:23		06:28		05:39	05:09	05:11	05:39	06:13		06:47	06:25	07:03
	16:23	17:01	17:39		19:16		19:52	20:23	20:33	20:10	19:21		18:27	16:37	16:12
4	07:22	07:02	06:21		06:26		05:38	05:09	05:12	05:40	06:14		06:48	06:27	07:04
	16:24	17:03	17:40		19:18		19:53	20:24	20:33	20:09	19:20		18:25	16:36	16:12
5	07:22	07:01	06:19		06:24		05:36	05:08	05:12	05:41	06:15		06:49	06:28	07:05
	16:25	17:04	17:41		19:19		19:54	20:24	20:33	20:08	19:18		18:23	16:35	16:12
6	07:21	07:00	06:17		06:22		05:35	05:08	05:13	05:42	06:17		06:51	06:29	07:06
	16:26	17:05	17:42		19:20		19:55	20:25	20:32	20:07	19:16		18:22	16:34	16:12
7	07:21	06:58	06:16		06:21		05:34	05:08	05:14	05:43	06:18		06:52	06:31	07:07
	16:27	17:07	17:44		19:21		19:57	20:26	20:32	20:05	19:14		18:20	16:32	16:12
8	07:21	06:57	07:14		06:19		05:32	05:07	05:14	05:44	06:19		06:53	06:32	07:08
	16:28	17:08	18:45		19:22		19:58	20:26	20:32	20:04	19:12		18:18	16:31	16:11
9	07:21	06:56	07:12		06:17		05:31	05:07	05:15	05:45	06:20		06:54	06:33	07:09
	16:30	17:09	18:46		19:23		19:59	20:27	20:31	20:03	19:11		18:16	16:30	16:11
10	07:21	06:55	07:11		06:15		05:30	05:07	05:16	05:46	06:21	07:17 (C-9)	06:55	06:35	07:10
	16:31	17:11	18:47		19:25		20:00	20:28	20:31	20:01	19:09	10 07:27 (C-9)	18:15	16:29	16:11
11	07:20	06:53	07:09		06:14		05:29	05:07	05:17	05:47	06:22	07:14 (C-9)	06:56	06:36	07:11
	16:32	17:12	18:49		19:26		20:00	20:28	20:30	20:00	19:07	14 07:28 (C-9)	18:13	16:28	16:11
12	07:20	06:52	07:07		06:12		05:27	05:06	05:17	05:49	06:23	07:12 (C-9)	06:58	06:37	07:12
	16:33	17:14	18:50		19:27		20:01	20:29	20:30	19:57	19:05	17 07:29 (C-9)	18:11	16:27	16:11
13	07:20	06:51	07:05		06:10		05:26	05:06	05:18	05:50	06:24	07:11 (C-9)	06:59	06:38	07:12
	16:34	17:15	18:51		19:28		20:02	20:29	20:29	19:56	19:03	19 07:30 (C-9)	18:09	16:26	16:12
14	07:19	06:49	07:03		06:08		05:25	05:06	05:19	05:51	06:25	07:10 (C-9)	07:00	06:40	07:13
	16:35	17:16	18:52		19:29		20:03	20:30	20:29	19:54	19:02	20 07:30 (C-9)	18:08	16:25	16:12
15	07:19	06:48	07:02		06:07		05:24	05:06	05:20	05:52	06:27	07:09 (C-9)	07:01	06:41	07:14
	16:36	17:18	18:54		19:31		20:04	20:30	20:28	19:53	19:00	21 07:30 (C-9)	18:06	16:24	16:12
16	07:18	06:46	07:00		06:05		05:23	05:06	05:21	05:53	06:28	07:09 (C-9)	07:03	06:42	07:15
	16:38	17:19	18:55		19:32		20:05	20:31	20:28	19:51	18:58	22 07:31 (C-9)	18:04	16:23	16:12
17	07:18	06:45	06:58		06:03		05:22	05:06	05:22	05:54	06:29	07:09 (C-9)	07:04	06:44	07:15
	16:39	17:20	18:56		19:33		20:07	20:31	20:27	19:50	18:56	21 07:30 (C-9)	18:03	16:22	16:12
18	07:17	06:43	06:56		06:02		05:21	05:06	05:23	05:55	06:30	07:09 (C-9)	07:05	06:45	07:16
	16:40	17:22	18:57		19:34		20:08	20:32	20:26	19:48	18:54	21 07:30 (C-9)	18:01	16:21	16:13
19	07:17	06:42	06:55		06:00		05:20	05:06	05:23	05:56	06:31	07:09 (C-9)	07:06	06:46	07:17
	16:41	17:23	18:58		19:35		20:09	20:32	20:25	19:47	18:52	20 07:29 (C-9)	17:59	16:20	16:13
20	07:16	06:40	06:53		05:59		05:19	05:06	05:24	05:57	06:32	07:09 (C-9)	07:07	06:47	07:17
	16:43	17:24	19:00		19:37		20:10	20:32	20:25	19:45	18:51	18 07:27 (C-9)	17:58	16:19	16:14
21	07:15	06:39	06:51	07:27 (C-9)	05:57		05:18	05:07	05:25	05:59	06:33	07:10 (C-9)	07:09	06:49	07:18
	16:44	17:26	19:01	11 07:38 (C-9)	19:38		20:11	20:33	20:24	19:43	18:49	16 07:26 (C-9)	17:56	16:19	16:14
22	07:14	06:37	06:49	07:25 (C-9)	05:55		05:17	05:07	05:26	06:00	06:34	07:11 (C-9)	07:10	06:50	07:18
	16:45	17:27	19:02	15 07:40 (C-9)	19:39		20:12	20:33	20:23	19:42	18:47	12 07:23 (C-9)	17:55	16:18	16:15
23	07:14	06:36	06:47	07:23 (C-9)	05:54		05:16	05:07	05:27	06:01	06:36	07:14 (C-9)	07:11	06:51	07:19
	16:46	17:28	19:03	18 07:41 (C-9)	19:40		20:13	20:33	20:22	19:40	18:45	6 07:20 (C-9)	17:53	16:17	16:15
24	07:13	06:34	06:46	07:22 (C-9)	05:52		05:15	05:07	05:28	06:02	06:37		07:12	06:52	07:19
	16:48	17:30	19:04	19 07:41 (C-9)	19:41		20:14	20:33	20:21	19:38	18:43		17:52	16:16	16:16
25	07:12	06:32	06:44	07:20 (C-9)	05:51		05:15	05:08	05:29	06:03	06:38		07:14	06:54	07:20
	16:49	17:31	19:06	21 07:41 (C-9)	19:42		20:15	20:33	20:20	19:37	18:41		17:50	16:16	16:16
26	07:11	06:31	06:42	07:21 (C-9)	05:49		05:14	05:08	05:30	06:04	06:39		07:15	06:55	07:20
	16:50	17:32	19:07	21 07:42 (C-9)	19:44		20:16	20:33	20:19	19:35	18:40		17:49	16:15	16:17
27	07:10	06:29	06:40	07:20 (C-9)	05:48		05:13	05:08	05:31	06:05	06:40		07:16	06:56	07:20
	16:52	17:33	19:08	22 07:42 (C-9)	19:45		20:17	20:33	20:18	19:33	18:38		17:47	16:15	16:18
28	07:09	06:28	06:38	07:20 (C-9)	05:46		05:13	05:09	05:32	06:06	06:41		07:18	06:57	07:21
	16:53	17:35	19:09	21 07:41 (C-9)	19:46		20:18	20:33	20:17	19:32	18:36		17:46	16:14	16:18
29	07:08		06:37	07:19 (C-9)	05:45		05:12	05:09	05:33	06:08	06:42		07:19	06:58	07:21
	16:54		19:10	21 07:40 (C-9)	19:47		20:19	20:33	20:16	19:30	18:34		17:44	16:14	16:19
30	07:07		06:35	07:20 (C-9)	05:43		05:11	05:10	05:34	06:09	06:44		07:20	07:00	07:21
	16:56		19:12	19 07:39 (C-9)	19:48		20:19	20:33	20:15	19:28	18:32		17:43	16:13	16:20
31	07:06		06:33	07:21 (C-9)			05:11		05:35	06:10			07:21		07:21
	16:57		19:13	17 07:38 (C-9)			20:20		20:14	19:27			17:41		16:21
Potential sun hours	290	294	369		402		455	461	467	433	376		342	291	279
Total, worst case			205		25						237				
Sun reduction			0.53		0.53						0.56				
Oper. time red.			1.00		1.00						1.00				
Wind dir. red.			0.71		0.71						0.71				
Total reduction			0.38		0.38						0.40				
Total, real			77		9						95				

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

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

Project:
2013-09-11_Wild Meadows V112@94m

Printed/Page
11/5/2013 5:00 PM / 1

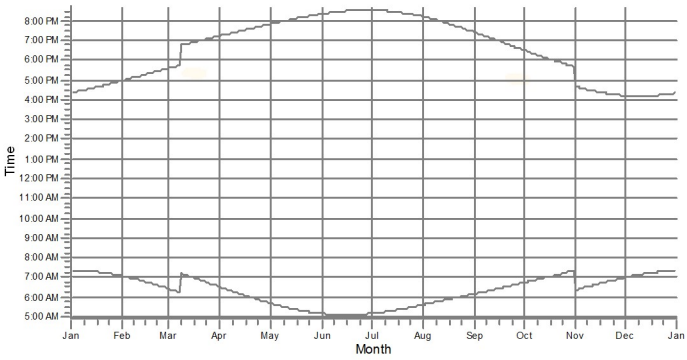
Licensed user:
EDR
217 Montgomery St.
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/11/2013 10:47 AM/2.8.579

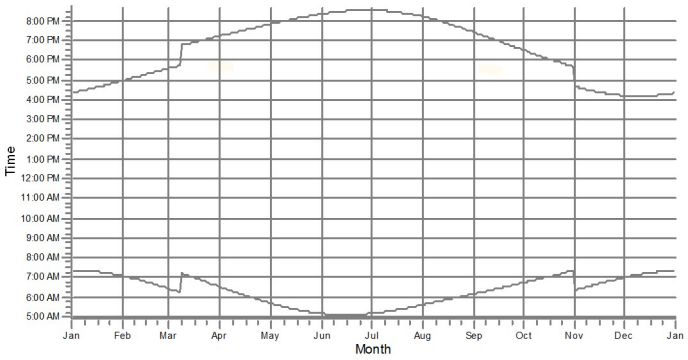
SHADOW - Calendar, graphical

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m

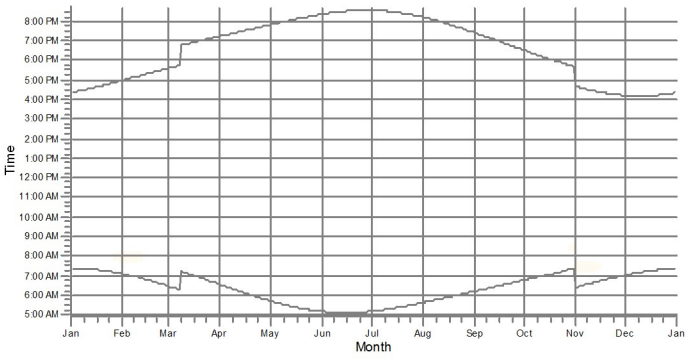
A-285: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (104)



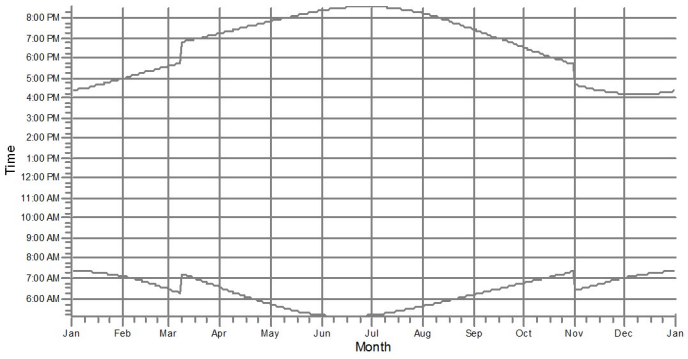
A-289: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (105)



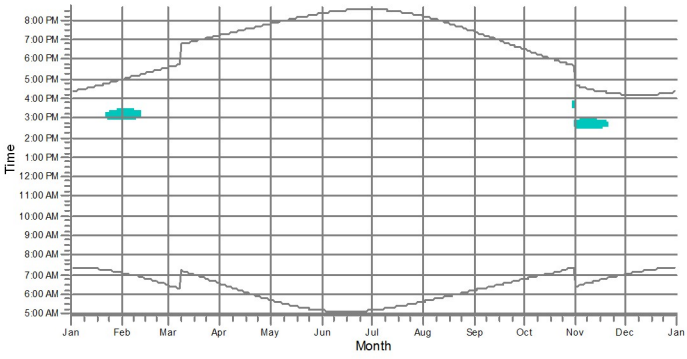
A-3: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (92)



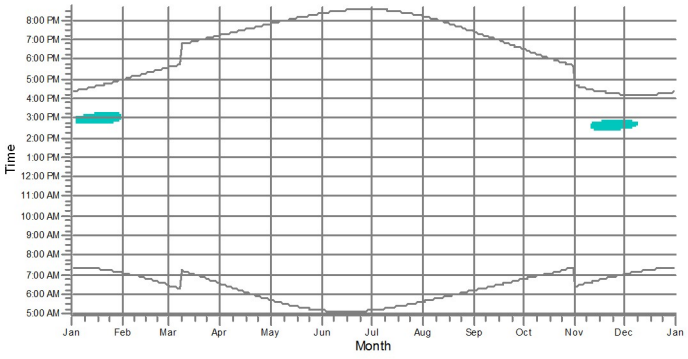
A-336: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (106)



A-345: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (107)



A-57: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (93)



WTGs

E-8: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (52)

N-4: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (53)

Project:
2013-09-11_Wild Meadows V112@94m

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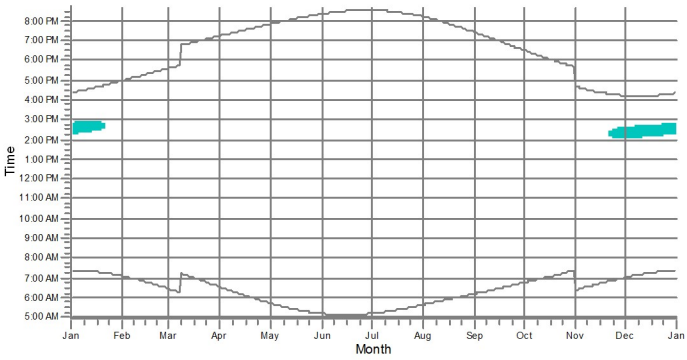
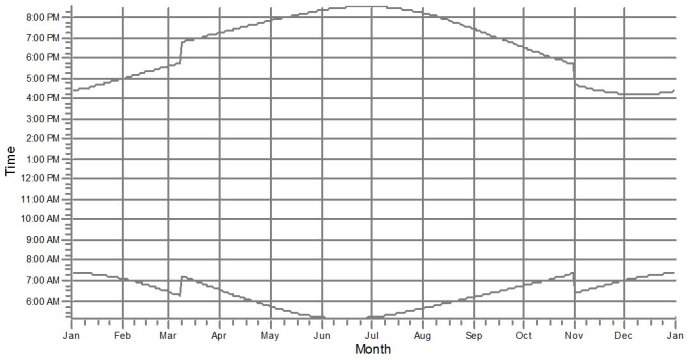
SHADOW - Calendar, graphical

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m

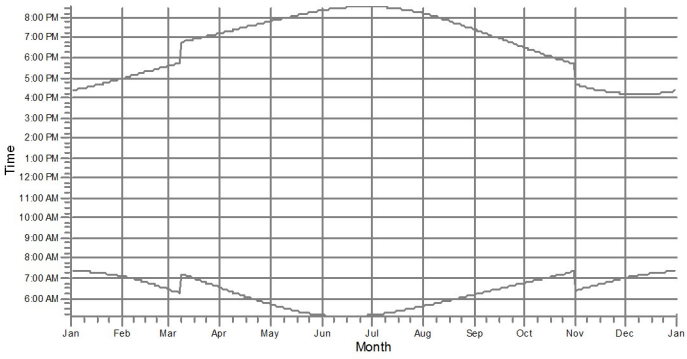
A-61: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (94)



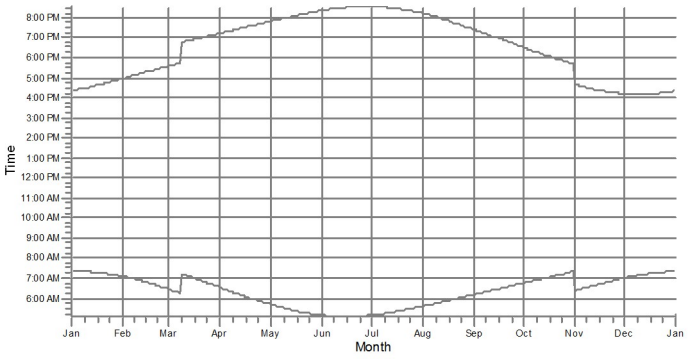
A-91: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (100)



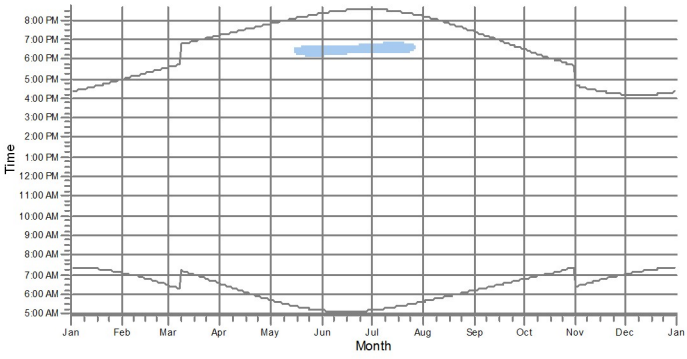
A-94: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (101)



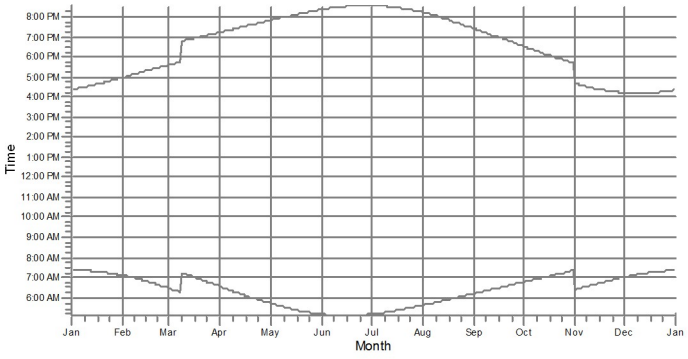
A-95: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (102)



A-96: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (103)



D-24: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (81)



WTGs

E-7: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (50)

N-4: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (53)

Project:
2013-09-11_Wild Meadows V112@94m

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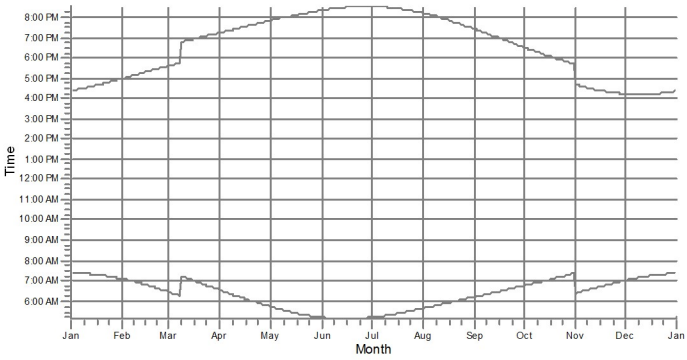
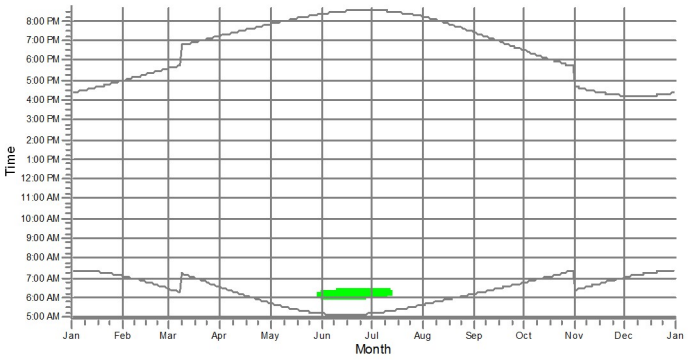
SHADOW - Calendar, graphical

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m

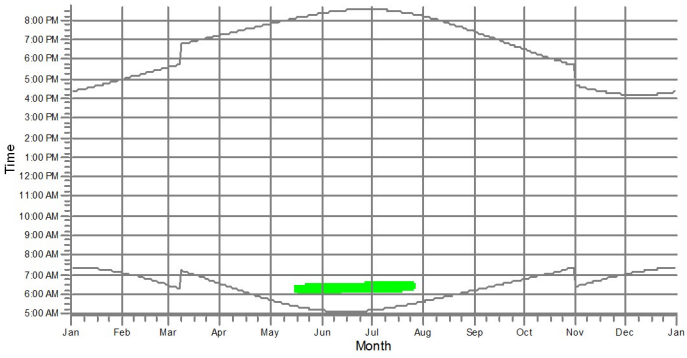
D-28: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (82)



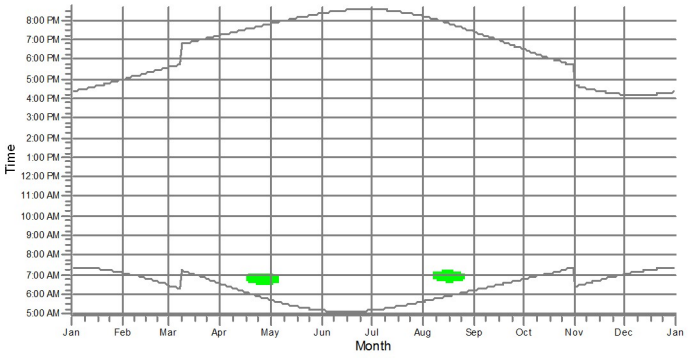
D-30: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (83)



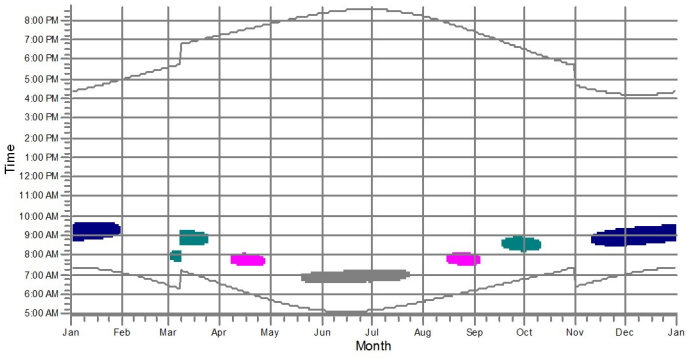
D-31: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (84)



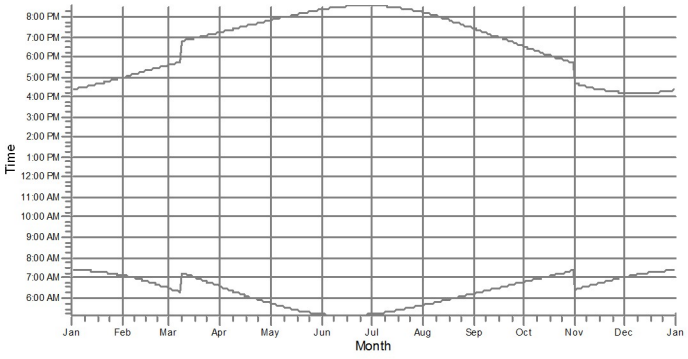
D-33: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (85)



D-34: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (89)



D-44: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (96)



WTGs

C-4: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (39)
C-5: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (40)
C-6: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (47)
C-7: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (41)
C-9: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (48)

Project:
2013-09-11_Wild Meadows V112@94m

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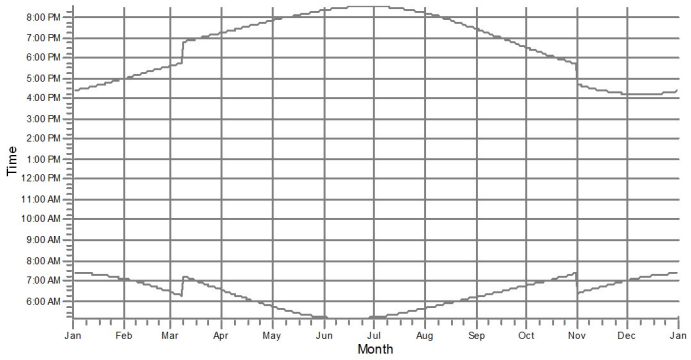
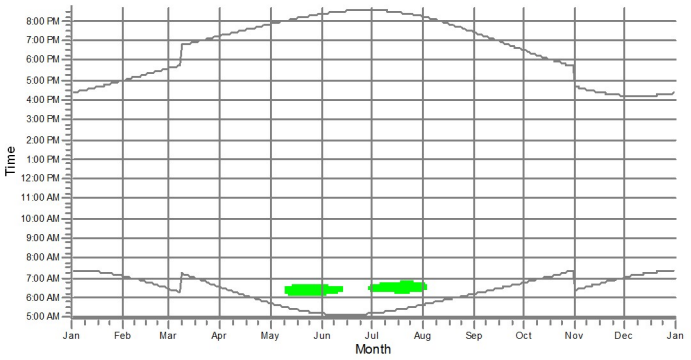
SHADOW - Calendar, graphical

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m

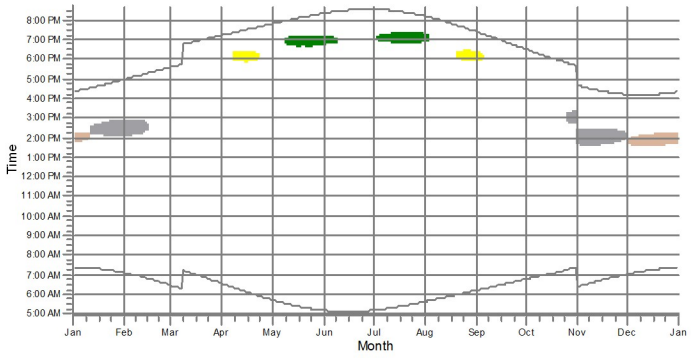
D-45: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (97)



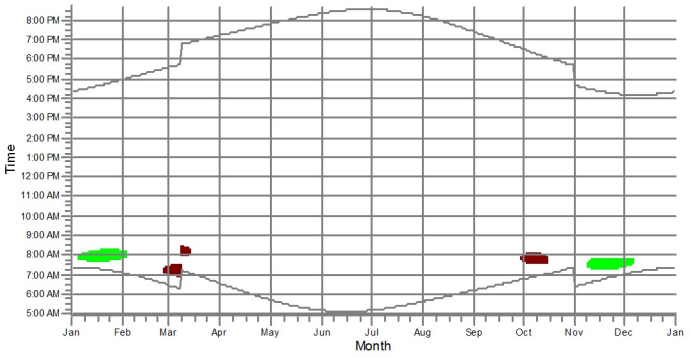
D-48: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (98)



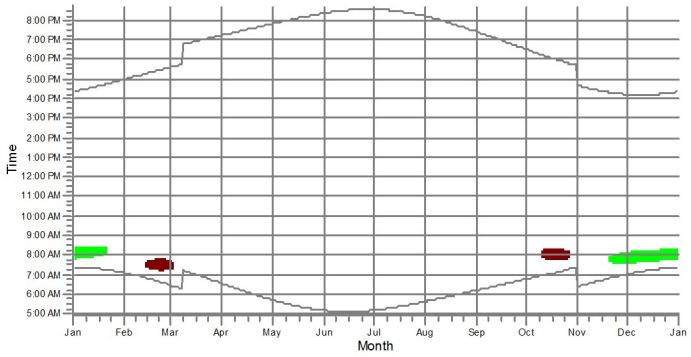
D-49: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (99)



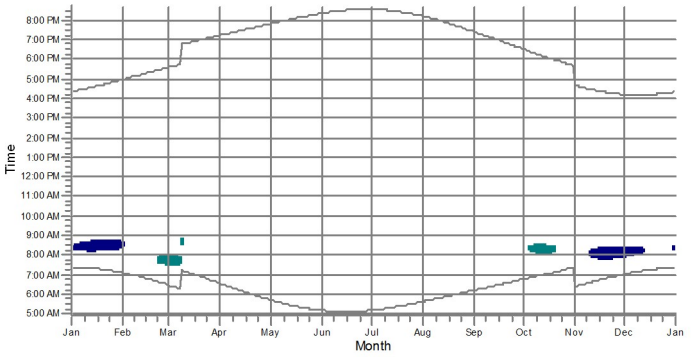
G-14: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (87)



G-16: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (88)



G-18: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (90)



WTGs

C-1: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (55)
C-2: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (43)
C-6: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (47)
C-7: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (41)
C-8: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (54)
C-9: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (48)
G-1: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (59)
G-2: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (60)

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2013-09-11_Wild Meadows V112@94m

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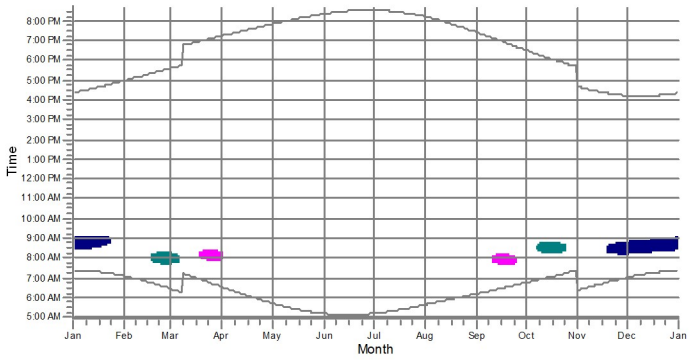
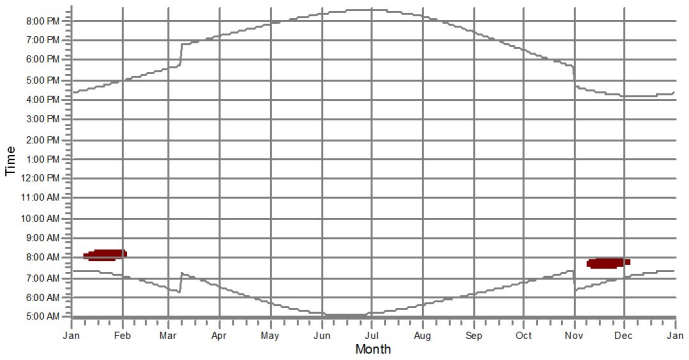
SHADOW - Calendar, graphical

Calculation: 2013-09-11 Wild Meadows SFA - V112 @ 94m

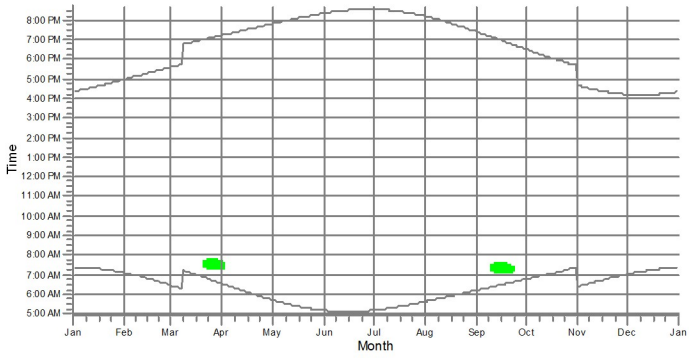
G-19: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (91)



G-45: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (95)



G-6: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (86)



WTGs

C-5: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (40)
C-6: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (47)
C-7: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (41)
C-8: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (54)
C-9: VESTAS V112 3075 112.0 !O! hub: 94.0 m (TOT: 150.0 m) (48)

Attachment D

Photo Documentation of Receptors

Photo 1
Receptor D-34 - Seasonal Residence, Project Participant, Screened According to Viewshed Analysis

Photo 2
Receptor G-16 - Permanent Residence, Non-Participant, Screened According to Viewshed Analysis

Photo 3
Receptor G-19 - Non-Residential Structure, Project Participant, Not Screened According to Viewshed Analysis

Property could not be accessed.

Photo 4
Receptor D-49 - Unknown Status, Project Participant, Screened According to Viewshed Analysis