

APPLICATION DESIGN

Dominos Zebulon, NC



Project Number:

G6652

Date:

4/4/2023

Written by:

Michael ZERMANI

Version :

A



The global leader in solar lighting



Fonroche Lighting America began as SolarOne, a pioneer in solar lighting in the U.S. for more than a decade. Now we are proud to be part of [Fonroche Lighting](#), the global leader in off-grid solar street lighting. The deep resources and broader scope of an established market leader lets us take solar lighting even further, from the tribal lands of Oklahoma to the West African Republic of Senegal.

We can invest in innovation, pushing efficiency and reliability even higher. We can provide field-tested expertise and responsive service to our customers. And we can take on projects of any size, from local to national. That's why so many [municipalities](#), [military](#) and [federal facilities](#), [tribes](#), [commercial properties](#), and [developers](#) trust us to deliver the full promise of solar lighting.



The **3** key benefits for your project

- OFF-GRID

100% solar, not connected to the utility grid. No outages.

365 nights of light a year – guaranteed.

- POWERFUL

Powerful illumination, on a par with grid-connected systems.

- COST-EFFICIENT

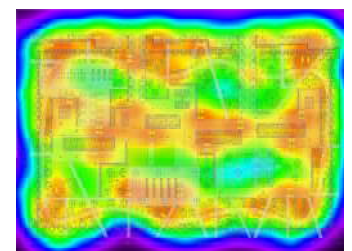
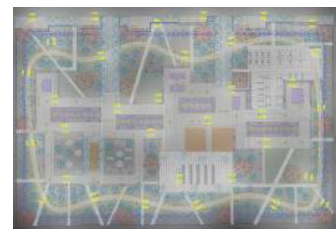
No maintenance for the first 10 years. Rapid installation. No operating costs.

Feasibility of your solar lighting project

To guarantee powerful, cost-effective off-grid lighting, SolarOne operates its own **design office**.

We assess the feasibility of each project in four stages:

- 1.** First, we define your **lighting requirements**.
- 2.** Next, we analyze the last 10 years of **local weather data** to determine how much energy our PV panels will generate.
- 3.** On this basis, we **calculate** what size and how many products we need to install.
- 4.** Finally, our sales team draws up a **cost estimate**.



1 Project = 1 Study



1



10-Year Analysis of local weather data

We use the **PVsyst** software suite and **Meteonorm** historical time series irradiation data to calculate the real-world operating conditions — orientation and tilt angle of the panel, shadow, etc. — and external parameters, such as direct and diffuse irradiation, temperature and the solar calendar.

2



Simulation of product(s) over a typical year

Our teams have developed a solar sizing software application, which we use to determine which products will best meet your needs. We then simulate how these products operate over a typical year, based on the average conditions for **the last decade**.

3



Sizing the project to your needs

We use a set of key criteria to optimally specify your project:

- Average battery charge level over the year
- Minimum charge level
- Comparative analysis of energy generated by the panel vs. energy used by the system
- Worst-case scenario (lowest irradiation, longest night)

4



Results

Based on our experience, we propose the **optimal solution** in terms of lighting performance and cost effectiveness.

Autonomy of
365
nights of lighting /year

SMARTLIGHT SYSTEM CONFIGURATION



Project-Specific System Specifications

PHOTOVOLTAIC MODULE



PV panel power rating	310 Wp
PV panel tilt angle	10°

POWER 365: SMART STORAGE AND MANAGEMENT



Battery capacity (Must be NiMH)	1248 Wh
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LED LIGHT UNIT



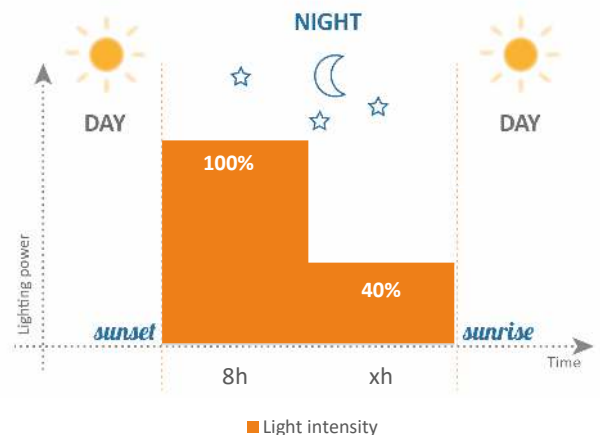
Lighting power	50 W nominal
LED light unit specification	4000K - 180 Lm/w

POLE & CROSSPIECE

Pole height	25'
Protective treatment	Powder Coated



Chosen lighting profile for your project



PHOTOMETRIC STUDY

**Note: these results are only valid if the Smartlight PV panel is at an azimuth angle of zero degrees and is completely free of shadow.*

***These results are subject to change due to technological or regulatory advances. This technical report is valid for 60 days from the date you receive it.*

Dominos



FONROCHE
lighting AMERICA

Lighting Plan Rev A

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Date:4/4/2023

10F Roessler Road
Woburn, MA 01801
Phone Number: (339) 225 4530
www.fonrochesolarlighting.com

Luminaire Schedule

Symbol	Qty	Label	Description	Lumens	LLF
—■	5	T4-CK16B-4000K	YTR215964	8100	0.900

Luminaire Location Summary

SeqNo	Label	X	Y	Z	Orient	Tilt
1	T4-CK16B-4000K	107.384	226.061	26.67	270	0
2	T4-CK16B-4000K	185.157	192.566	26.67	180	0
3	T4-CK16B-4000K	185.77	88.886	26.67	180	0
4	T4-CK16B-4000K	77.377	48.775	26.67	90	0
5	T4-CK16B-4000K	46.757	143.389	26.67	0	0

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Numeric Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Dominos	Illuminance	Fc	1.11	2.1	0.5	2.22	4.20

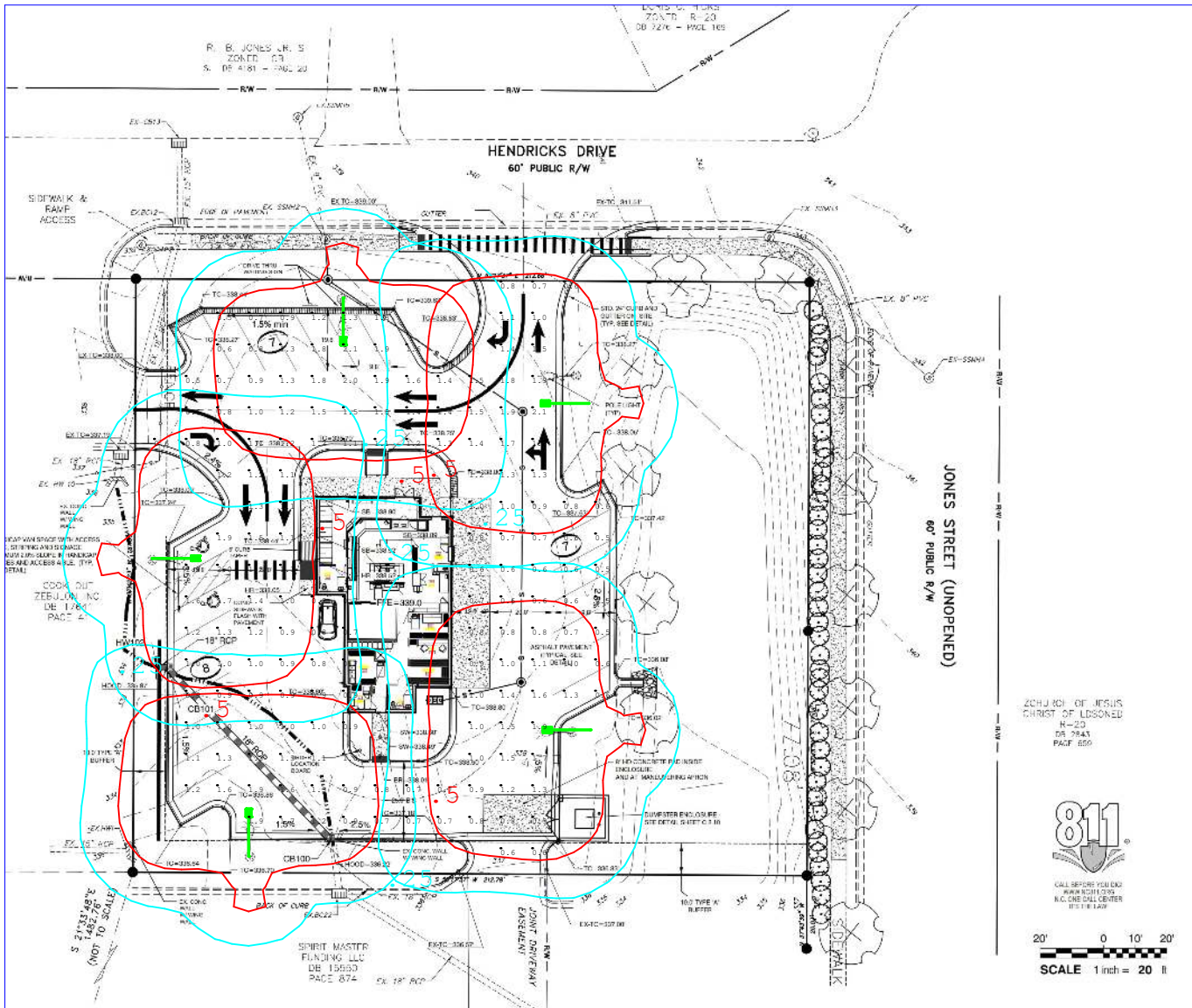
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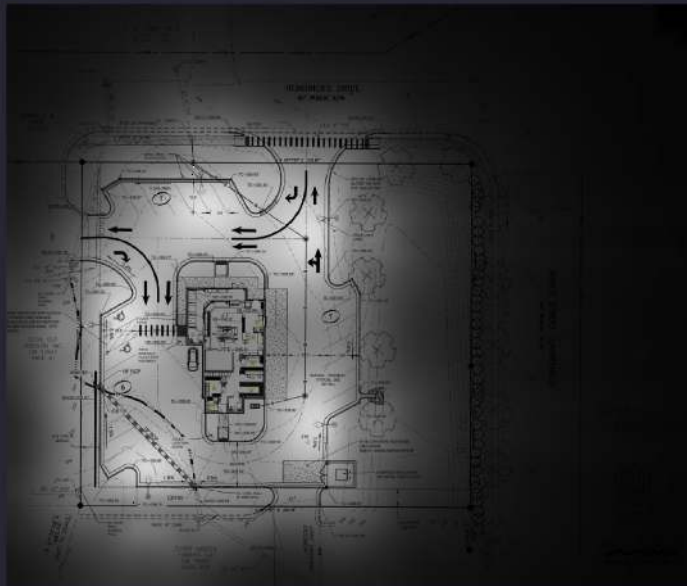
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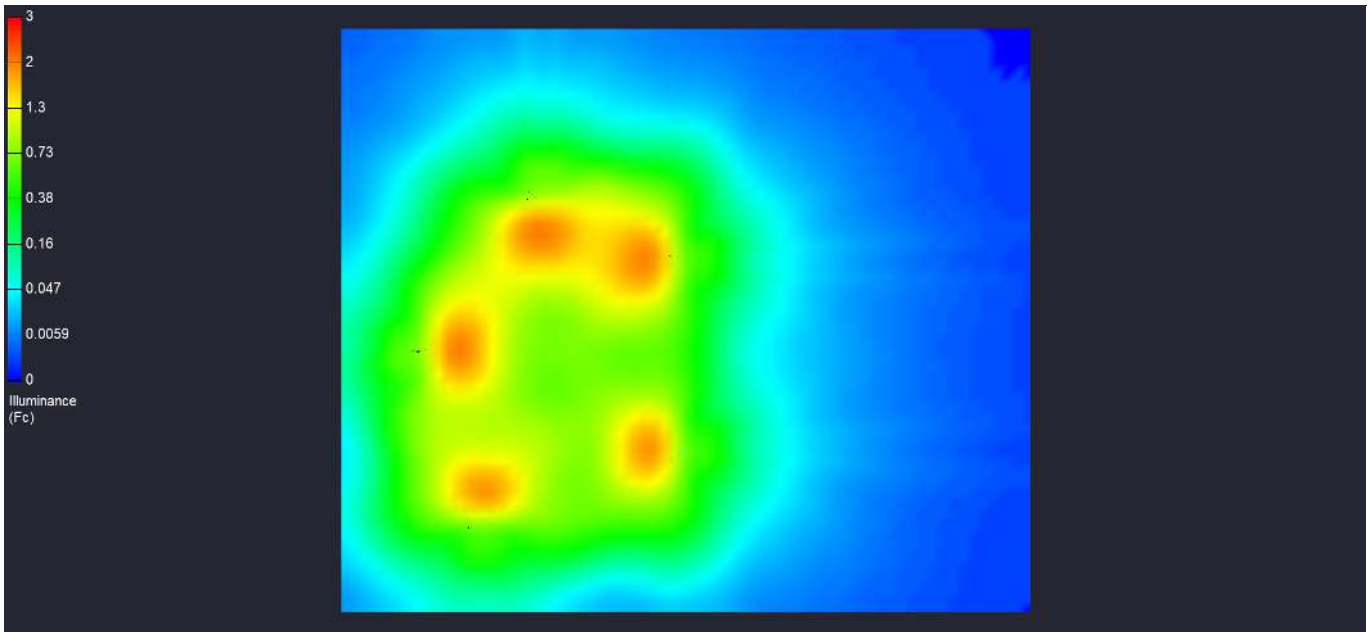
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A few examples





FONROCHE
lighting AMERICA

Solar lighting

Your commitment to sustainability

Contact us

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FIND OUT MORE AT

www.FonrocheSolarLighting.com

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