



COST EFFECTIVE SOLAR LIGHTING SOLUTIONS

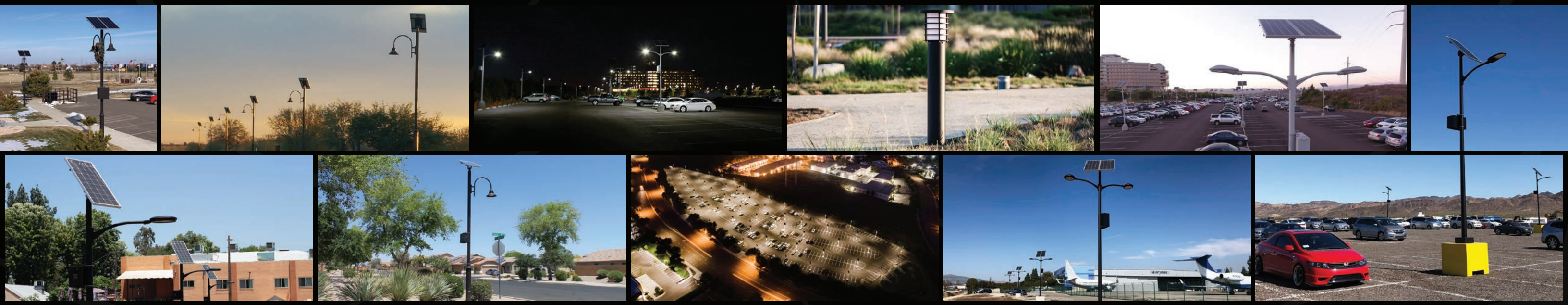


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Greenshine

OUTDOOR SOLAR LIGHTING SOLUTIONS



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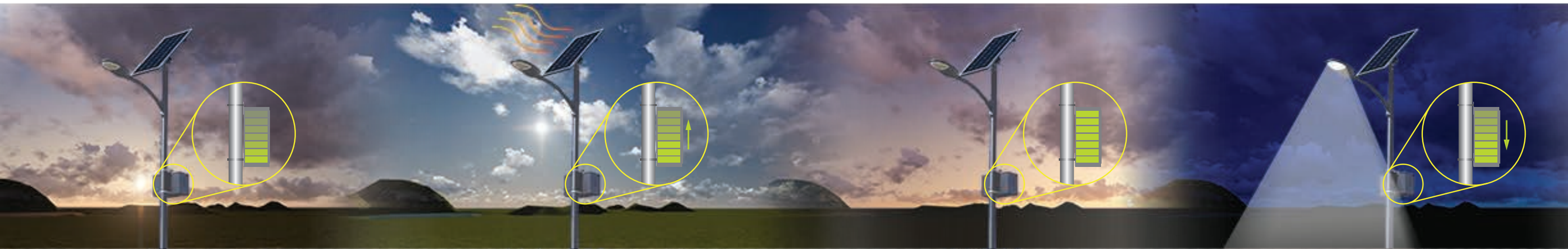
ABOUT GREENSHINE



Greenshine New Energy, LLC specializes in developing and manufacturing customized solar powered lighting systems for a wide range of lighting applications. At Greenshine we specialize in solar lights for streets, parking lots, pathways, trails, boat launchers, etc. Our lights can be installed anywhere and are best in areas where grid tied electricity is not available.

Our advanced engineering team develops, manufactures and integrates high quality LED light sources, solar charged controllers, poles, and other major components. Each component of our solar system is carefully selected, integrated and configured to ensure that you receive the most compact, reliable and efficient solar system.

How Does Solar Lighting Work?



Dawn:

The voltage from the solar panel increases as the sun rises. When a certain voltage threshold is reached, the controller will detect this and turn off the light. The battery will then begin to charge itself from the discharge that occurred when it was powering the light.

Day Time:

Throughout the day the solar panels convert the solar energy into electricity which charges the battery. The intelligent solar controller charges the battery throughout the day and controls the current to ensure that the battery is not overcharged.

Dusk:

As the sun sets the photocell that is built into the solar panel will sense the voltage drop as the panels are no longer taking a charge. The battery has been charged throughout the day and is now ready to discharge and provide electricity for the lamp. If there is inclement weather, there are several days backup to ensure the lights stay on.

Night Time:

The voltage from the solar panel drops below the pre-set value. After the controller recognizes this situation, the electricity is drawn from the charged battery and continuously powers the lamp fixture. The light will stay on all night until the sun rises and the cycle starts anew.

SUPERA

BRIGHTA



The Supera Series features a 60 to 80 watt LED fixture with 2 solar panels. Solar street lights from this series are designed to withstand extreme weather and harsh environments. Greenshine's engineers have designed the product to have 7 days of autonomy.

Options for light output and pole height are available in order to provide sufficient light for numerous applications. The Supera Series is perfect to light up medium to large size areas, such as roadways, highways, streets, parking lots, and entrances.

SPECIFICATIONS

LIGHTS FIXTURE WATTAGE	60W 80W
SOLAR PANELS (2 or 4 pcs)	180W
POLE	26' 30' Galvanized Steel Pole
BATTERIES	150Ah 200Ah GEL Battery
LIGHT DISTRIBUTION	Type: II, III
POWDER COATING	Gray
SYSTEM AUTONOMY	Up to 7 days



GS-LD-290D



GS-LD-NSBP



Solar street lights from our Brighta Series feature a simple design with one LED fixture and one - two solar panels. Available with various options (light power, pole dimension...), this solar outdoor lighting solution is designed to provide sufficient lighting for numerous applications. Greenshine's engineers have designed the product to have up to 7 days of autonomy.

The Brighta series is used for lighting small to medium sized areas, such as pathways, bicycle lanes, streets, parking lots, parks and corporate complexes.

SPECIFICATIONS

LIGHTS FIXTURE WATTAGE	20W 30W 40W
SOLAR PANELS (1 or 2 pcs)	110W 180W
POLE	17' 20' 23' Galvanized Steel Pole
BATTERIES	120Ah 150Ah GEL Battery
LIGHT DISTRIBUTION	Type: II, III, V
POWDER COATING	Black
SYSTEM AUTONOMY	Up to 7 days



GS-LD-260P



GS-LD-290D



GS-LD-NSBP



LUMINA

PORTA



Lumina series features a decorative design with a LED light ranging from 30W to 80W. The Lumina series is perfect for park lighting and residential areas where the design of the street lights needs to blend with the surrounding area.

This solar outdoor lighting solution is designed to provide sufficient lighting for numerous applications, such as pathways, bicycle lanes, streets, parking lots, parks, and corporate complexes. With Greenshine's exclusive power saving battery technology, this series can provide up to 7 days of autonomy.

SPECIFICATIONS

LIGHTS FIXTURE WATTAGE	30W 40W 60W 80W
SOLAR PANELS (1 or 2 pcs)	110W 180W
POLE	20' 26' Galvanized Steel Pole
BATTERIES	150Ah 200Ah GEL Battery
LIGHT DISTRIBUTION	Type: II, III, V
POWDER COATING	Dark Bronze
SYSTEM AUTONOMY	Up to 7 days



GS-LD-L30



Greenshine has developed the industry's first and only above ground Portable Solar Light! The "Porta" series is perfect for temporary (2-4yr) projects, where lighting is needed, however digging and pouring concrete foundations is not ideal. Greenshine's engineers have designed a proprietary above ground concrete pedestal base for both single and dual light poles, which can be moved with a forklift.

Applications include temporary parking lots, construction sites, outdoor/seasonal concert/fair venues, temporary roadways, leased property and anywhere digging/pouring an underground concrete foundation is not optimal. The Porta comes in 20W, 30W and 40W, 20' pole with both single and dual fixtures. Greenshine can provide a full turnkey solar lighting solution, including delivery of pre-fabbed bases for your project.

SPECIFICATIONS

LIGHTS FIXTURE WATTAGE	20W 30W 40W
SOLAR PANELS	110W 180W
POLE	20' Galvanized Pole
BATTERIES	80Ah 150Ah 200Ah GEL Battery
LIGHT DISTRIBUTION	Type: II, III, V
SYSTEM AUTONOMY	Up to 7 days



GS-LD-260P



GS-LD-290D



GS-LD-NSBP





The Lita Series features a 14 foot pole with an LED fixture. If you need to illuminate a small area such as a pathway, a park, or entry way, it is the perfect choice. Greenshine can offer a 10-20 watt LED fixture in order to meet your brightness requirements.

Like all our solar lights, Lita Series is designed to operate in locations with high temperature fluctuations as well as extreme weather conditions. As with all of our light systems, the solar panels are expected to have a 20-25 year lifespan.

SPECIFICATIONS

LIGHTS FIXTURE WATTAGE	10W 20W
SOLAR PANELS	110W 180W
POLE	14' Galvanized Steel Pole
BATTERIES	80Ah 120Ah 150Ah GEL Battery
LIGHT DISTRIBUTION	Type: II, III, V
SYSTEM AUTONOMY	Up to 7 days



GS-LD-LI

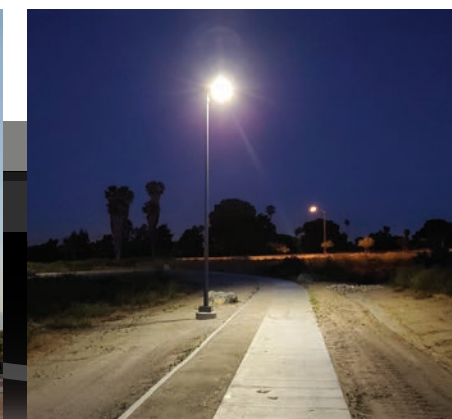
All-in-One solar lighting solution, good for new installations and retrofit situations where power has failed, or you are looking for a "Green" solution to light your project. Sturdy, aluminum construction, lithium Ion battery, built in motion sensor, fixture is adjustable to provide correct lighting coverage and programmable to fit your lighting needs. Fixture can remain off, or in a dimmed state until motion is detected, run time and brightness of light can be programmed according to customer needs.

SPECIFICATIONS

LIGHTS FIXTURE WATTAGE	23W
SOLAR PANELS	43W
POLE	20' Galvanized Steel Pole
BATTERIES	24Ah Lithium Battery
LIGHT DISTRIBUTION	Type: II, III
SYSTEM AUTONOMY	Up to 7 days

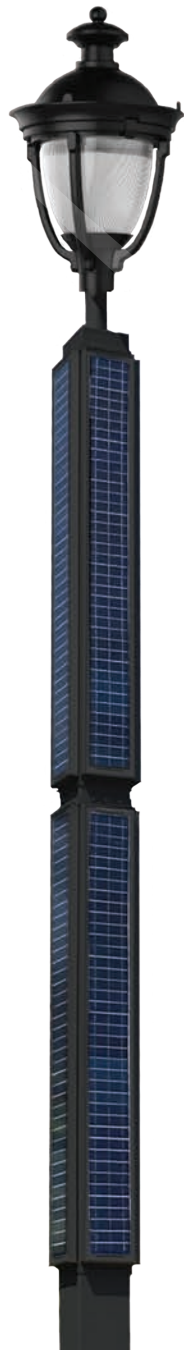


ALLTA



CLASSICA

BOLLARD



Greenshine New Energy introduces its new Classica Series. It features a perfect balance between a retro/classic appearance with a slick design and finish, fused with our latest solar energy technology to give you the best results possible.

The timeless design, along with its LED fixture and customizable pole height, makes it a versatile product that can be utilized in various settings from a simple park to trails and sidewalks.

SPECIFICATIONS

LIGHTS FIXTURE WATTAGE	30W
SOLAR PANELS	320W
POLE	20' Galvanized Steel Pole
BATTERIES	120Ah 150Ah GEL Battery
LIGHT DISTRIBUTION	Type: III, V
SYSTEM AUTONOMY	Up to 7 days



CLASSICA



Greenshine's solar bollards are ideal for residential and commercial pathway applications. This bright 3W solar powered bollard features an integrated solar panel on top and 360 degree downward light disbursement.

With a maximum of 10 hour run time, bollards provide safety and security to pathways. Solar bollards have a low install cost with minimal site impact, so no trenching or wiring is required!

SPECIFICATIONS

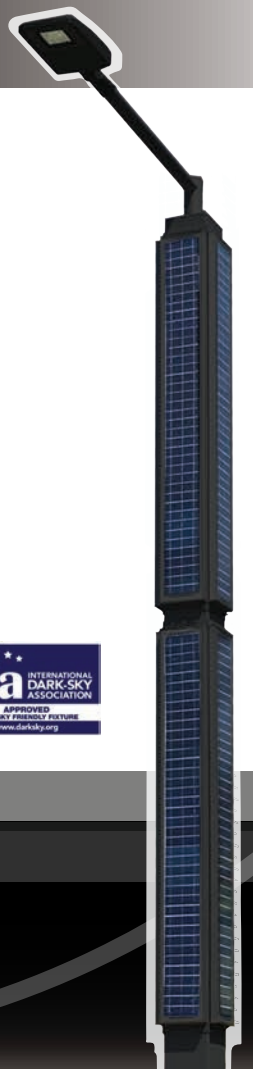
LIGHTS FIXTURE WATTAGE	3W
SOLAR PANELS	3.5W
BATTERIES	12V 2.6Ah Lithium battery
LIGHT DISTRIBUTION	Type: V

VOLTA

Greenshine introduces its new Volta solar wrapped pole. This 20ft square light pole has solar panels around. Unlike the traditional solar light with a flat solar panel, Volta is designed with solar panels attached to the pole shaft. All four sides are used to harness energy from the sun.

SPECIFICATIONS

LIGHTS FIXTURE WATTAGE	20W 30W 40W
SOLAR PANELS	320W
POLE	20' Galvanized Steel Pole
BATTERIES	120Ah 150Ah GEL Battery
LIGHT DISTRIBUTION	Type: III, III, V
SYSTEM AUTONOMY	Up to 7 days



GS-LD-260P



GS-LD-290D



GS-LD-NSBP



SPOT LIGHT

SIGN LIGHTING

Solar sign lights are equipped with 2 x 8W LED, provides efficient lighting that is perfect for lighting a city's entrance signs, and other small signs installed in isolated areas where trenching to connect to the Grid-electricity would be too costly.

SPPL SPECIFICATIONS

LIGHTS FIXTURE WATTAGE	2x8W LED (or 4x8W for the 300 version)
SOLAR PANELS	110W 180W
POLE	8' Galvanized Pole
BATTERIES	150Ah GEL Battery

CANOPY LIGHTING

Greenshine provides efficient LED lighting solutions for shelters and canopies. This solar-powered LED lights is the perfect fit for lighting existing bus stops, shelters, and other outdoor structures that might be installed far away from any grid-power connection.

Featuring a 20W or 30W LED light fixture, this low-bay LED lighting solution is easily installed and provides efficient and reliable lighting.

SPWWL SPECIFICATIONS

LIGHTS FIXTURE WATTAGE	20W 30W
SOLAR PANELS	110W 180W
POLE	8' Galvanized Pole
BATTERIES	80Ah GEL Battery



CANOPY LIGHT



FLOOD LIGHTING

Solar flood lights are equipped with 1 x 60W LED, providing efficient and effective illumination for flag poles, as wall mounted luminaires, or for general security lighting, and are perfect for situations where trenching or connecting to Grid-electricity is challenging or cost prohibitive.

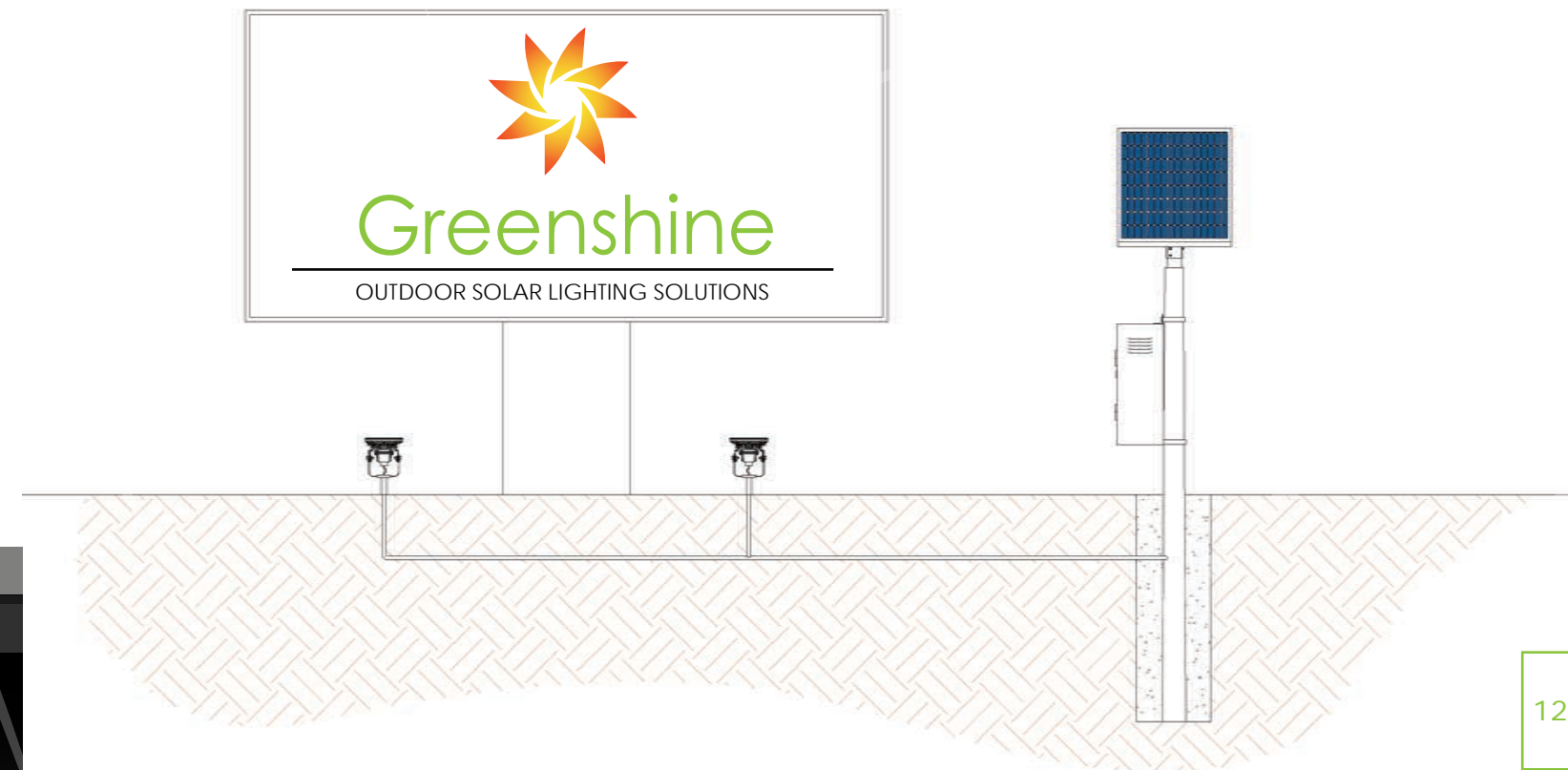
SPPL SPECIFICATIONS

LIGHTS FIXTURE WATTAGE	60W
SOLAR PANELS	110W 180W
POLE	8' Galvanized Pole
BATTERIES	150Ah GEL Battery



FLOOD LIGHT

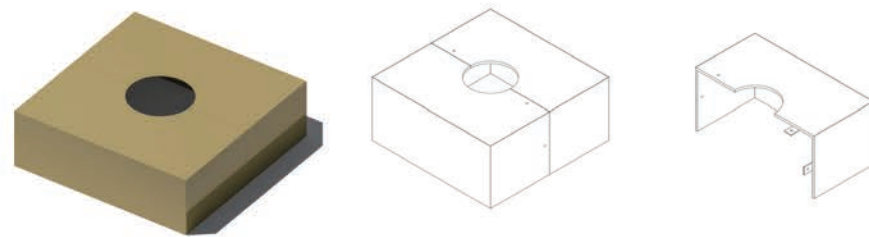
SPG CONNECTION DIAGRAM



ACCESSORIES

BASE COVER - FLANGE COVER

To conceal the nuts and bolts of your pole a square base cover is available. Base covers can be custom painted to match any custom painted pole.



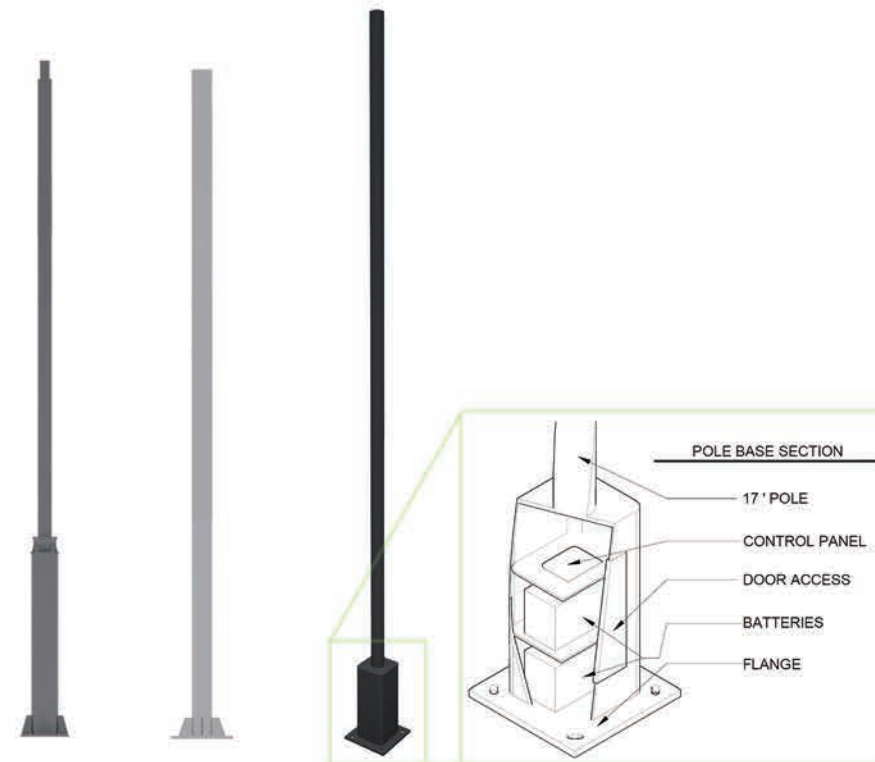
POLE OPTIONS

POLE BASE OPTIONS

Different pole base designs are available for some Greenshine models. If you have a specific pole design, please contact us and we will work with you on the possibilities.

CUSTOM PAINT

If you have a specific color scheme where the lights will be installed, Greenshine can match any color powder coat paint on the poles according to your custom color requirement.



100% OFF-GRID



NO TRENCHING COST



EASY INSTALLATION



MORE SECURE



ENVIRONMENTALLY FRIENDLY



TAX CREDIT



LOW MAINTENANCE



COMMUNITY BENEFITS

WHY GREENSHINE



THE MOST COMPETITIVE PRICE

We only use the highest quality components so that we minimize the total cost of ownership for our customers. We pay attention to every component and work diligently to ensure that every step of the energy conversion process is maximized and very little is wasted.



CUSTOMIZED SOLAR LIGHTS

Greenshine works with our customers to design the best lighting solution for your individual needs. We customize every solar light part by part to ensure it is the optimal choice for the environment, temperature, as well as sunlight duration in your local area.



CUSTOMER SERVICE

Our sales and service team in the United States will provide you with attentive service along with durable and dependable solar lights based on our staff's 30 years of solar lighting experience.



INDUSTRY EXPERTISE

Greenshine team has more than 30 years combined experience in developing solar lighting system. Our engineers will provide you with lighting calculations, mapping and wind resistance calculations, as well as helping to choose a design for your solar project.

PREVIOUS PROJECTS

PALOMAR

Between the two lots, they have 110 lights that saved them collectively over a half-million dollars by eliminating the need for trenching, wiring, electricity fees, and grid tie-ins. The most recent lot eliminated any digging by using the above-ground portable bases, so there was no disturbance or intrusion into underground fauna spaces (gophers, moles, etc.) With regard to sustainability, the PMC lots achieved the Climate Action Plan goals (100% renewable energy) that are part of the city's environmental policy.

Lighting Type: IDA Parking Lot
Lighting Series: 110 Units Brighta40
City: Escondido, CA



JUMUL

Jamul Casino had been recommended to use Greenshine's light by a previous client; the San Pasqual tribe in Valley Center. When they came to us, they made it very clear that having the least amount of impact on the environment is very important to them. Using solar/off-grid achieved that goal and also gave them total control over the collection, storage, and usage of the energy for the lights.

Lighting Type: IDA Parking Lot
Lighting Series: 3 Units Lumina30
City: Jamul, CA



LINDO LAKES — SWEETWATER

The Lindo Lakes project was primarily a vagrancy and security issue. The customer noted the unsafe atmosphere after dark in the park. Lighting provided the police and general community visibility to the night time parking lot activity. Residents have shared that they were uncomfortable visiting the park after sunset (pre-lighting). The installation of autonomous solar lights solved that problem. Although sustainability/renewable energy was not their primary goal, they could not be happier with the results! Installing our solar lights was the most affordable and expedient solution to their problem.

Lighting Type: IDA Parking Lot
Lighting Series: 6 Units Brighta30
City: Lakeside, CA

Sweetwater Regional Park was almost entirely a life and safety issue. People were illegally camping out along the road from the main street and up toward the park on Summit Meadow Road. The previous grid-tied lights had been vandalized by people who came and pulled out all the copper wiring between the lights. As a result, it was entirely dark and made for a situation where not even the rangers would feel safe walking along that stretch of road at night due to the vagrancy, drug use, etc. So, the park decided to put in solar as no wiring could be pulled. On the very first night of the solar lights' operation, the staff said that the illegal overnight parking/camping was completely eliminated because there was now illumination with the solar lights. The parks department knew the value of not trenching and the reliability/effectiveness of newer solar lights, so it was an easy decision.

Lighting Type: IDA Street Lighting
Lighting Series: 5 Units Supera60
City: Sweetwater, CA

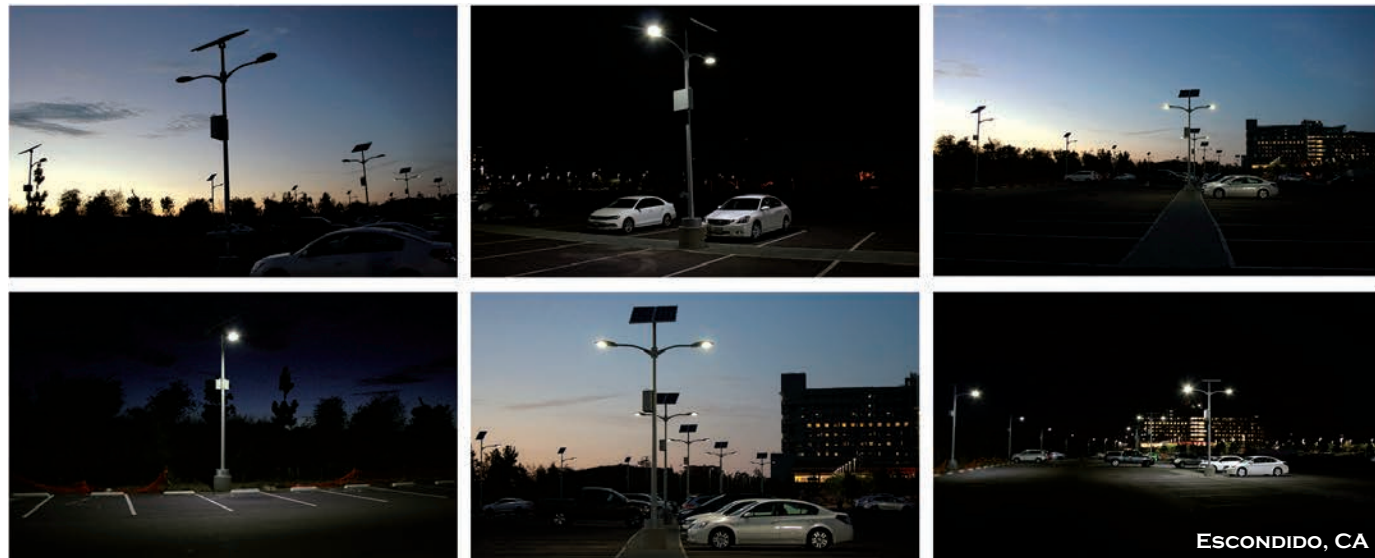


PROJECT MANAGEMENT

Lighting Design Capabilities:

Greenwhine New Energy designs lighting layouts according to the IESNA standard illumination recommendation and provides rendering, illuminance calculations, and 3D simulations.

If you provide us with the location of your project or plans (CAD files work best) for a future development we'll provide an optimized solution for a solar lighting system including placement, wattage, pole height, etc. If you have brightness requirements we'll incorporate them, otherwise we'll follow the IESNA recommendations. Other helpful information includes working time per night, dimming possibilities, and any other constraints that would limit the positioning of the systems (i.e. electric lines, sewage pipes, drainage, etc.).



The IESNA is an independent organization that works with all the parties involved in the lighting industry (for example; contractors, electricians, manufacturers, architects, etc) to provide guidance. The IESNA standards are used and followed worldwide.

Roadway Lighting Recommendations



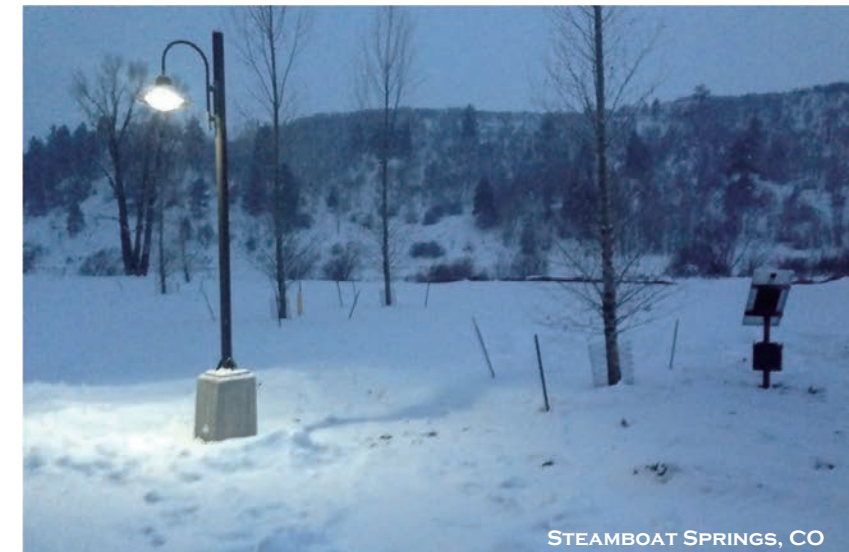
Road Way Type	Average Maintenance Illuminance (fc)	Uniformity (Avg/Min)
Freeway Class A (This designates roadways with greater visual complexity and high traffic volumes).	0.6-0.8	3/1
Freeway Class B (This designates all other divided roadways with full control of access where lighting is needed).	0.4-0.6	3/1
Expressway	0.6-1.3	3/1
Major Road	0.6-1.6	3/1
Collector Road	0.4-1.1	4/1
Local Road	0.3-0.8	6/1

CUSTOM LIGHT DESIGN

Greenwhine New Energy provides the most flexible solar lighting designs in the industry. We will customize most of our solar products to fit your specific requirements and take into account the project constraints. We have worked on numerous custom lighting systems, such as remote solar powered lighting, dimming controls with motion activation, sea-shore lighting solutions, to name a few. Here are some of our customizations available:

- Large choice of fixture designs
- Motion activation
- Different pole designs available
- Dimming capabilities
- Customized paint colors
- High-wind load ratings for the light pole (up to 180mph)

Remote Solar Powered Lighting



For the project in Steamboat Springs the solar lighting system engineered and provided by Greenshine New Energy consists of 2 separate systems: the solar light fixture, pole, and a Solar Powered Generator (SPG) which was installed away from the pole, per the customer's request.

The SPG Series provides a flexible Solar-Powered lighting solution that overcomes possible project challenges.

- **Existing lighting poles:** We can manufacture a SPG for existing lighting poles, considerably reducing the cost of installation. The SPG system can be installed away from target area where the best solar conditions can be achieved.
- **Aesthetics:** The SPG system can be installed far away from the poles, preventing the visibility of the solar panels on the light pole. This remote solar powered system can be a real asset where aesthetics is a priority.
- **Shaded Pathway:** When the area to be lit is surrounded with high trees or buildings, the SPG series is the perfect system to overcome the poor solar conditions of the area.

CUSTOM LIGHTING PROFILES

Greenshine New Energy offers 5 working modes for our solar lights, these 5 modes can be tailored to fit your project needs.

Different options of working time for the solar lighting systems are available. In order to decrease the cost of a system or in order to improve the efficiency of the lighting system, Greenshine New Energy recommends the use of energy saving modes. The 5 different modes available are listed below:

WORKING MODE TABLE

Working Mode Number	Name	Description	
1	Dusk to dawn, full brightness	The light is at full brightness from Dusk to Dawn.	
2	X hours full brightness after dusk	The light is working at full brightness for X hours after dusk. X can take values between 1 and 14, by increments of 1 hour.	
3	Split night	The light is working at full brightness for X hours after dusk, and X hours before dawn. X can take values between 1 and 14, by increments of 1 hour.	
4	Dusk to dawn with dimming	The light is working for X hours at full brightness after dusk, followed by dim brightness until dawn.	
5	Dusk to dawn with dimming, full brightness before dawn	The light is working for X hours at full brightness after dusk, followed by dim brightness until X hours before dawn, and full brightness until dawn.	

NOTES:

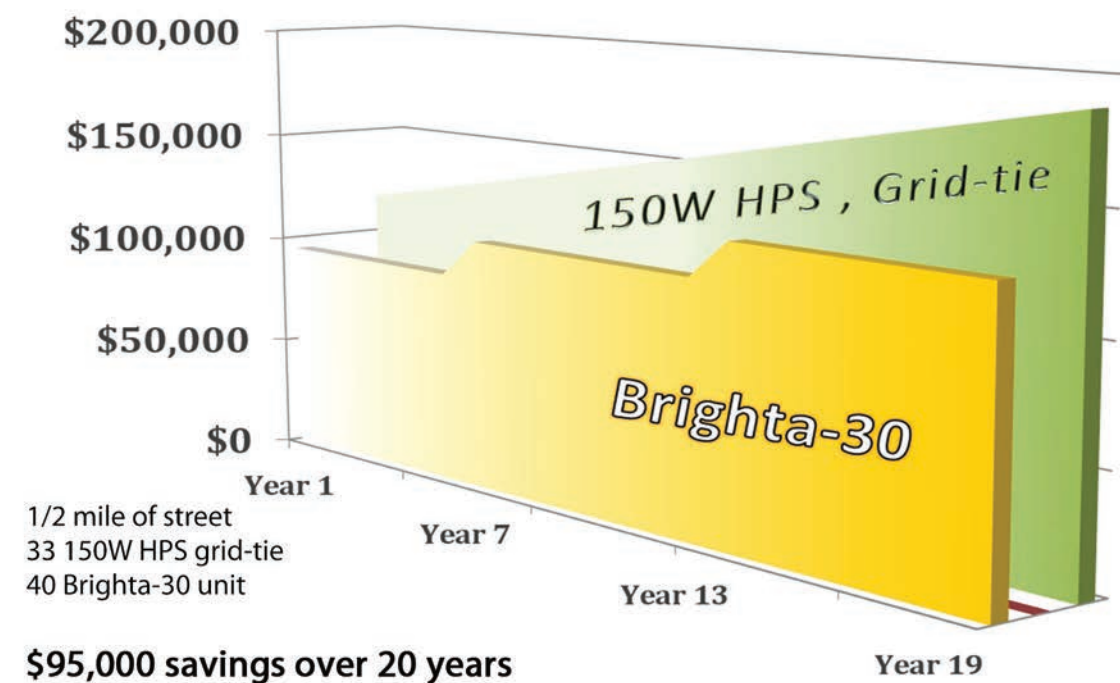
- Different dimming levels are available between 10% and 90% by increments of 10%.
- Optional motion detector can be integrated into the system, triggering full brightness when motion is detected.

Please contact us for more information.

ROI OF INSTALLING SOLAR LIGHTING

Installing solar lights instead of traditional HPS lights present numerous advantages. Upfront material costs can be higher than traditional lights, but the installation cost for the solar lights is far less than grid-tied lights as no trenching or wiring is required.

- No trenching / wiring cost
- No maintenance cost for the first 5 years
- Lower cost for initial installation, which means immediate return on investment for new installation
- Quick connections make the install simple and easy, no setup required, just "plug and play"
- Easy to install with quick connectors push and play capacity



Buy American Compliant Systems Available

Government projects sometimes require the systems to be Buy American Compliant. Greenshine New Energy has the capability of producing products that comply with "Buy American" guidelines.



If you have any specific requirements, please contact us and we will help you design a compliant system.