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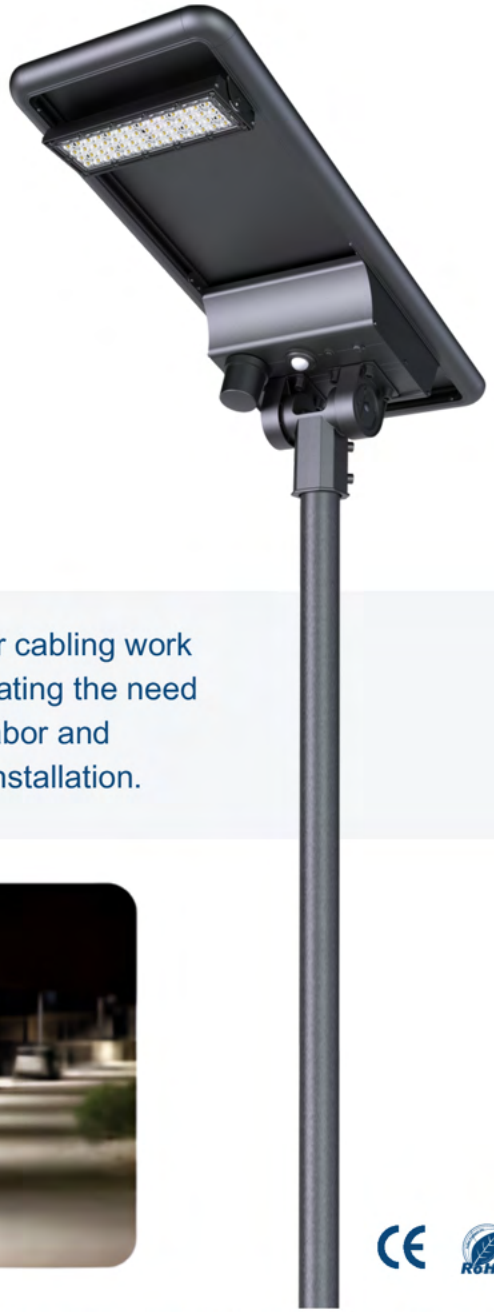
High-Performance Lighting Solutions

L70 25°C 270,000 Hours

SUNA 20-90

LED AREA LIGHTS



- High luminous efficiency of 185~220lm/w to maximize battery performance.
- Environment friendly-100% powered by the sun, solar panels reduce fossil fuel consumption, eliminating pollution.
- No trenching or cabling work needed, eliminating the need for extensive labor and infrastructure installation.

THE FUSION OF SIMPLICITY, ELEGANCE, AND DURABILITY

The SUNA luminaire represents an advanced solution for providing carbon-neutral lighting in urban environments. Its design integrates solar panels and a large capacity battery, guaranteeing prolonged periods of high-intensity illumination without external power sources. This innovative construction ensures reliable and sustainable lighting for streets, pathways, and public areas.

CE RoHS

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APPLICATIONS

- Street Lighting
- Roadway Lighting
- Pathway Lighting
- Ramp Lighting
- Sidewalk Lighting
- Private Road Lighting
- Farm Lighting
- Wildlife Area Lighting
- Perimeter Security
- Lighting · Park Lighting
- Railway Yard Lighting
- Jogging Path Lighting
- Fence Lighting
- Campus Lighting
- Ship Dock Lighting
- Remote Area Lighting
- Military Base Lighting
- Gate Lighting

FEATURES

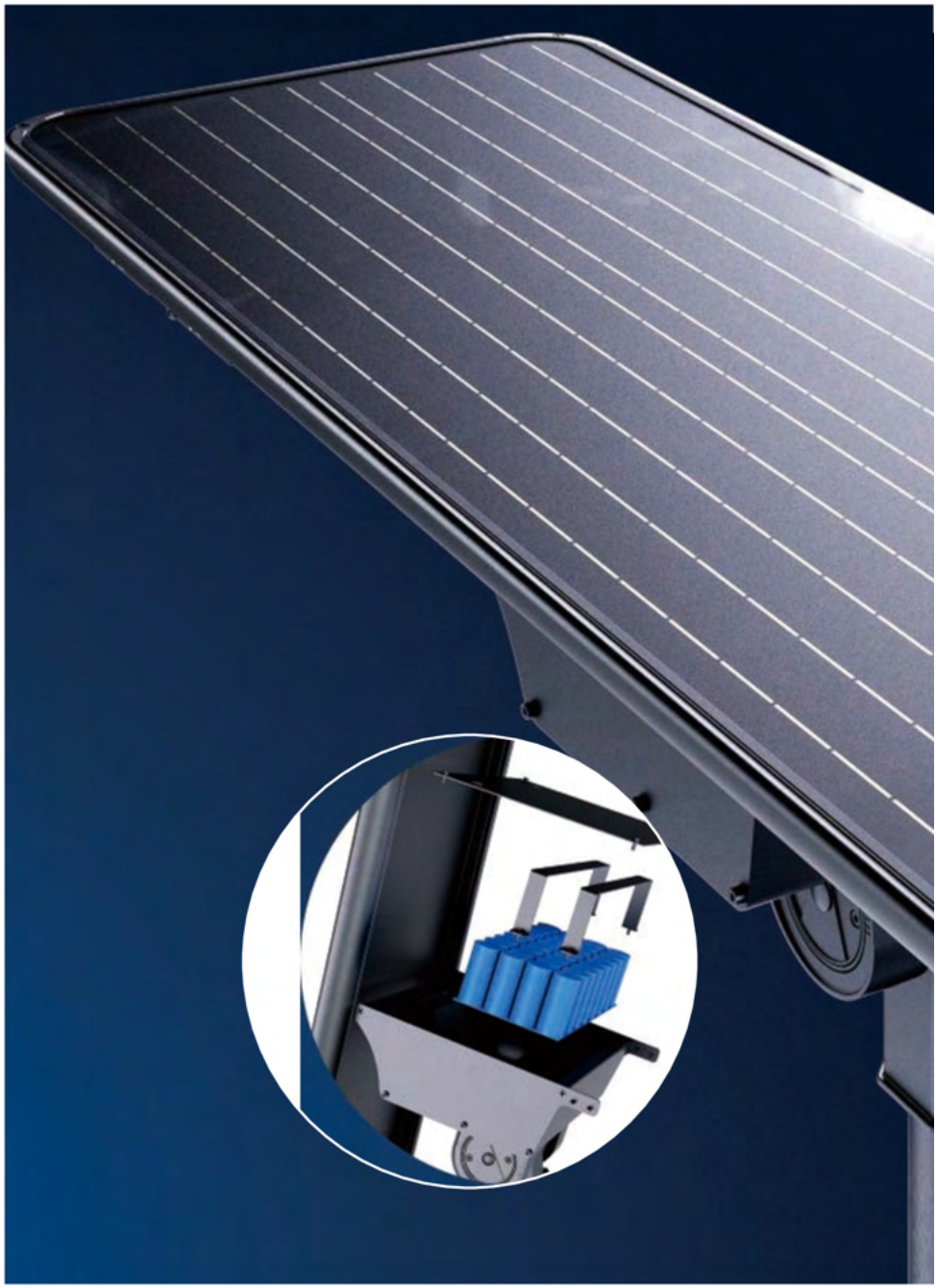
Only top quality mono - crystalline silicon solar panels with high efficiency and long lifetime are used.

Quality lithium batteries are used to store the energy, provide energy for immediate requirements, and enable a back-up for days when there is little or no sun.

High Lumen LED for maximum efficacy. Dedicated designed low-voltage solar controller technology with dimming capabilities for power-save management.
Lifetime > 50,000 hrs and CRI nominal 70.

Microprocessor managed algorithms autonomously determine sunrise and sunset.

Easy to install without buying cables and rectifiers, directly on pole with an adjustable spigot 0°~90°.



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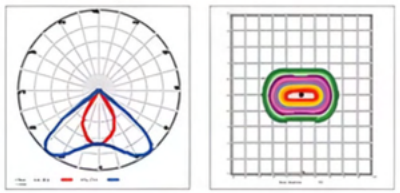
- Off-grid roadway lighting made electric bill free.
- IP66 Luminaire ensures long lasting and consistent high performance.
- Self-contained solution - Light on/off controlled by automatic daylight sensing.

THE DC CHARGE PORT

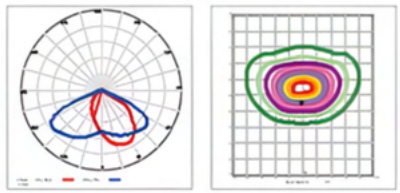
A DC charge port is offered as an option to be integrated into the SUNA, ensuring the battery remains charged even during extended periods in the warehouse. No more worrying about flat batteries when you need them the most.

PHOTOMETRICS

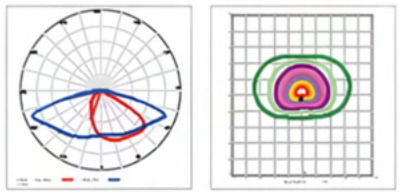
60×100° (TYPE Ⅰ-VS)



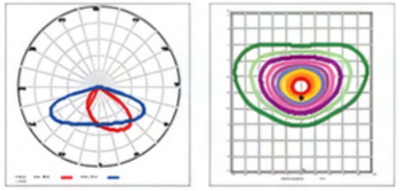
70×135° (TYPE Ⅱ-S)



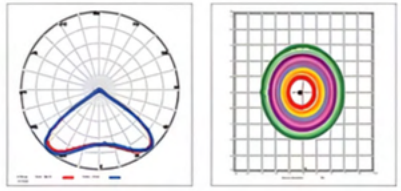
75×150° (TYPE Ⅲ-M)



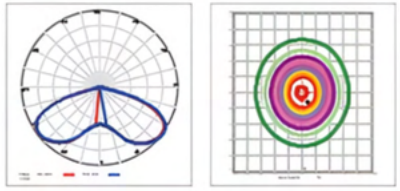
80×150° (TYPE Ⅲ-S)



110° (TYPE Ⅴ-VS)



150° (TYPE Ⅴ-VS)



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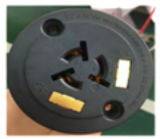
PERFORMANCE DATA

	20w~80w
	185~220lm/w
LEDS	Philips Lumileds
DIM	PIR & Microwave & Timer Dimming
Control	PWM Controller
CCT	2200~6000K
IES	60×100° / 70×135° / 75×150° / 80×150° / 110° / 150°
	IP66
IK	IK08
	Monocrystalline silicon photovoltaic panels
	LiFeP04 battery
	Slip fitter
	Operating Temperature: -20°C to + 60°C /-4° F to 140°F, (Charge: 0°C to 60°C / 32°F to 140°F, Discharge: -20°C to 60°C / -4°F to 140°F) and Storing Temperature:-20°C to +60°C/-4°F to 140°F

ACCESSORIES



+

NEMA Socket(7pins) + Shorting Cap for IOT Smart System)

DC Charger

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SPECIFICATIONS

Part#	Power	Modules	LED Efficacy		Solar Panel	Battery		Product Dimensions
			High Brightness Version	Standard Version		Standard	Premium	
AF44XEL-TASTI-20	20W	1	220 lm/w	200 lm/W	40W/18V	12.8V/12AH	12.8V/18AH	27.09" × 14.53" × 13.39"
AF44XEL-TASTI-30	30W	1	217 lm/w	200 lm/W	45W/18V	12.8V/18AH	12.8V/24AH	30.24" × 14.53" × 13.39"
AF44XEL-TASTI-40	40W	1	213 lm/w	195 lm/W	45W/18V	12.8V/18AH	12.8V/24AH	30.24" × 14.53" × 13.39"
AF44XEL-TASTI-50	50W	1	210 lm/w	190 lm/W	53W/18V	12.8V/24AH	12.8V/30AH	34.17" × 14.53" × 13.39"
AF44XEL-TASTI-60	60W	1	207 lm/w	185 lm/W	65W/18V	12.8V/24AH	12.8V/30AH	42.01" × 14.53" × 13.39"
AF44XEL-TASTI-80	80W	2	213 lm/w	195 lm/W	85W/36V	25.6V/18AH	25.6V/24AH	49.96" × 16.46" × 13.39"
AF44XEL-TASTI-90	90W	2	210 lm/w	195 lm/W	95W/36V	25.6V/18AH	25.6V/24AH	53.86" × 16.46" × 13.39"

The solar panel and battery configuration is based on 6 hours charging time.

B.U.G Rating - Back-Light / Up-Light / Glare

SUNA B.U.G RATING

WATTS (W)	Type I-VS (60X100D)	Type II-S (70X135D)	Type II- M (65X155D)	Type III-S (80X150D)	Type III-M (75X150D)	Type VS-110D	Type VS-150D
30w	B:3 U:0 G:1	B:2 U:0 G:1	B:1 U:0 G:1	B:1 U:0 G:1	B:2 U:0 G:1	B:2 U:0 G:0	B:2 U:0 G:1
40w	B:3 U:0 G:1	B:2 U:0 G:1	B:2 U:0 G:1	B:2 U:0 G:1	B:2 U:0 G:2	B:3 U:0 G:0	B:3 U:0 G:1
50w	B:3 U:0 G:1	B:2 U:0 G:1	B:2 U:0 G:2	B:2 U:0 G:2	B:2 U:0 G:2	B:3 U:0 G:0	B:3 U:0 G:1
60w	B:3 U:0 G:1	B:2 U:0 G:1	B:2 U:0 G:2	B:2 U:0 G:2	B:2 U:0 G:2	B:3 U:0 G:1	B:3 U:0 G:1
80w	B:4 U:0 G:1	B:3 U:0 G:2	B:3 U:0 G:3	B:3 U:0 G:2	B:3 U:0 G:3	B:4 U:0 G:1	B:3 U:0 G:2
90w	B:4 U:0 G:1	B:3 U:0 G:2	B:3 U:0 G:3	B:3 U:0 G:2	B:3 U:0 G:3	B:4 U:0 G:1	B:3 U:0 G:2

SUNA EPA

Model	Size	Horizontal Angle (°)	Single Fixture EPA (ft2)
20W	27.17" x 14.57" x 11.30"	0	0.44
		15	0.71
		30	1.38
		45	1.95
30-40W	37.17" x 14.57" x 11.30"	0	0.44
		15	0.99
		30	1.91
		45	2.71
50W	42.12" x 14.57" x 11.30"	0	0.44
		15	1.11
		30	2.14
		45	3.02
60W	50" x 14.57" x 11.30"	0	0.44
		15	1.31
		30	2.54
		45	3.59
80-90W	46.06" x 21.65" x 11.30"	0	0.65
		15	1.8
		30	3.47
		45	4.91

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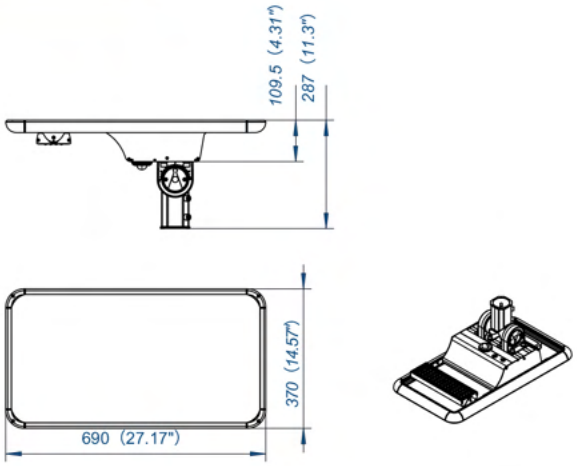
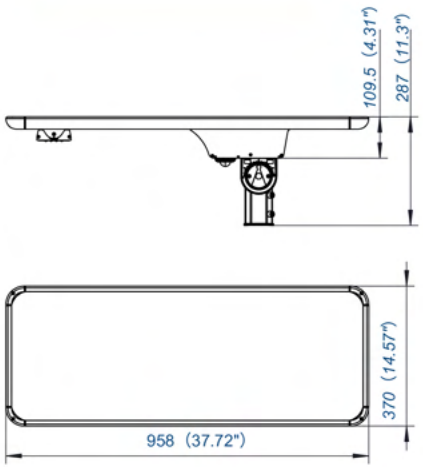
DIMENSIONS

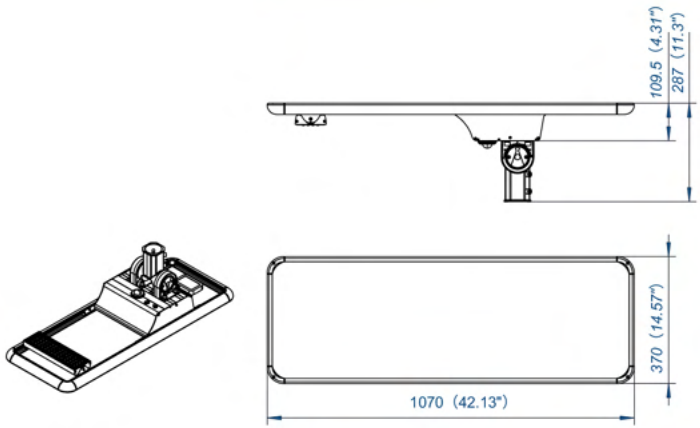
SUNA - 20w



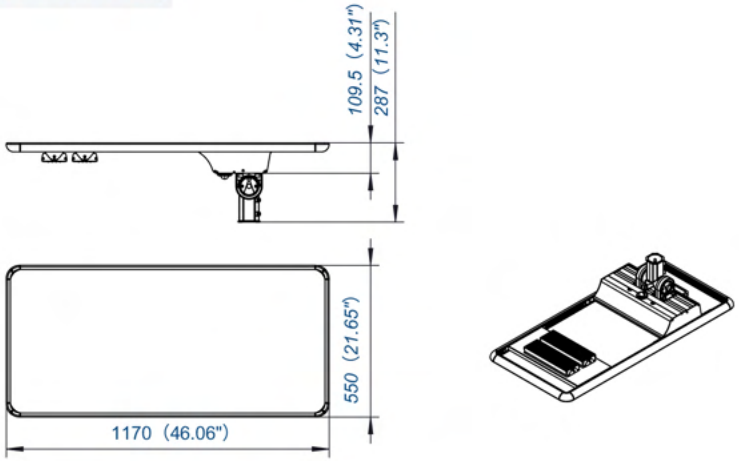
SUNA - 30w and 40w



SUNA - 50w



SUNA - 80w and 90w



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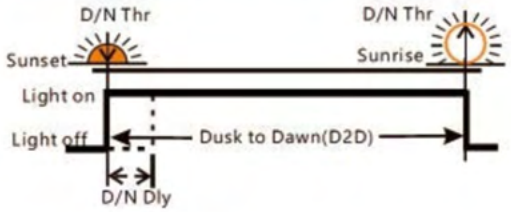
SUNA 20w-40w PWM Controller (Pulse Width Modulation)

A PWM (Pulse Width Modulation) controller is an electronic switch that manages the flow of energy between solar panels and a battery. It works like a light switch, turning on and off very quickly. When charging, it's on during bulk charge mode, then flicks on and off to maintain the battery voltage. Once the battery is fully charged, it switches off during absorption and flicks on and off again to keep the battery at a float voltage. In simple terms, it's like adjusting a light's brightness with a switch that controls how often the light flickers on and off.

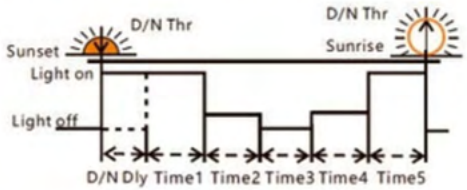
Dusk to Dawn (D2D)

When fixture is set to D2D, it works in dusk to dawn mode. The fixture will turn on while the sun is down, as determined by the solar panel voltage.



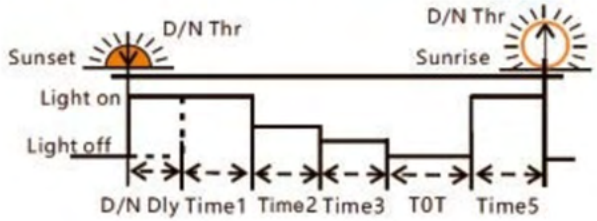
Five-stage Night Mode

The lighting system is divided into five stages, with customizable time and dimming settings for each stage based on specific requirements. By utilizing dimming settings, energy consumption is minimized while ensuring optimal performance and operation duration for the lamps.



TOT Mode

The load activation time can be preset before dawn. When the fixture is configured to T0T, it calculates Time4 using Time5 and historical sunrise data.



INSTALLING YOUR SUNA FIXTURE

1. Due to variations in longitude and latitude at the installation site, the angle at which the sun's rays illuminate differs. During installation, it is crucial for the solar panel to be oriented towards the sun precisely at 12:00 noon. However, often due to factors like road direction and light poles, achieving this alignment becomes challenging. The solar panel must still maintain a horizontal position even if it can't be ideally oriented towards the sun at noon due to road lighting requirements.

Several conditions can lead to sub optimal functioning of standard lamps. Prior to making a purchase, it's important to communicate these factors to the sales person and consider increasing the solar panel's power capacity:

a. Any deviation below the horizontal plane of the solar panel, relative to the solar irradiation angle, will result in a significant decline in the solar panel's power generation efficiency.

b. When installing solar lamps and lanterns, it's essential to avoid any obstacles that might block sunlight, such as trees or buildings.

c. Natural elements like rain, ice, snow, dust, clouds, and bird droppings can reduce the solar panel's power generation efficiency.

Ensuring that the solar panel remain sun obstructed by barriers like trees and buildings, and accounting for factors such as the solar panel's angle and external elements, are vital for optimal performance.

2. Install lamps at a considerable distance from areas prone to strong electromagnetic interference, such as high-voltage cables and high-power wireless transmission towers. These sources could potentially disrupt the lamp control system, leading to malfunctions and improper operation.

3. When the temperature drops below 0°C, the efficiency of lithium iron phosphate batteries for charge and discharge decreases. To prevent damage and the battery protection triggered by over-discharge, it's advisable to explain this to the sales staff and consider increasing battery capacity before making a purchase.

4. Any environmental impact can result in a decline in the efficiency of solar panel power generation. Repeated discharge of the lithium iron phosphate battery might easily activate the protection mechanism, causing the lamps to stop functioning normally. Most lithium batteries can be restored to operation by disconnecting and reconnecting the battery-light source connection and the solar panel connection.

5. Once the battery protection has been deactivated and reactivated, our focus should be on identifying and resolving any natural environmental factors that compromise the efficiency of solar panel power generation, as well as minimizing the power consumption of the light source.

6. Install the lamps on days abundant with sunshine. The lamps are initially set to 30% power upon leaving the factory. Prior to installation and usage, ensure that the lamps can receive effective sunlight charging for at least 4 hours after activation. Failure to do so may trigger battery startup stress protection due to excessive discharge, leading to abnormal lamp operation.

7. The self-discharge and stress protection features of the lithium iron phosphate battery necessitate that if the lamp remains unused and uninstalled for a period of 60 to 90 days from the factory departure, it must undergo a 4-hour effective sun charging upon activation. Instances where lamp functionality is compromised due to the aforementioned circumstances are not included in the warranty coverage. However, we are committed to assisting customers in identifying and analyzing the underlying causes, and devising plans for enhancements. It's important to note that lamps unable to activate after battery protection will not be covered by the warranty.

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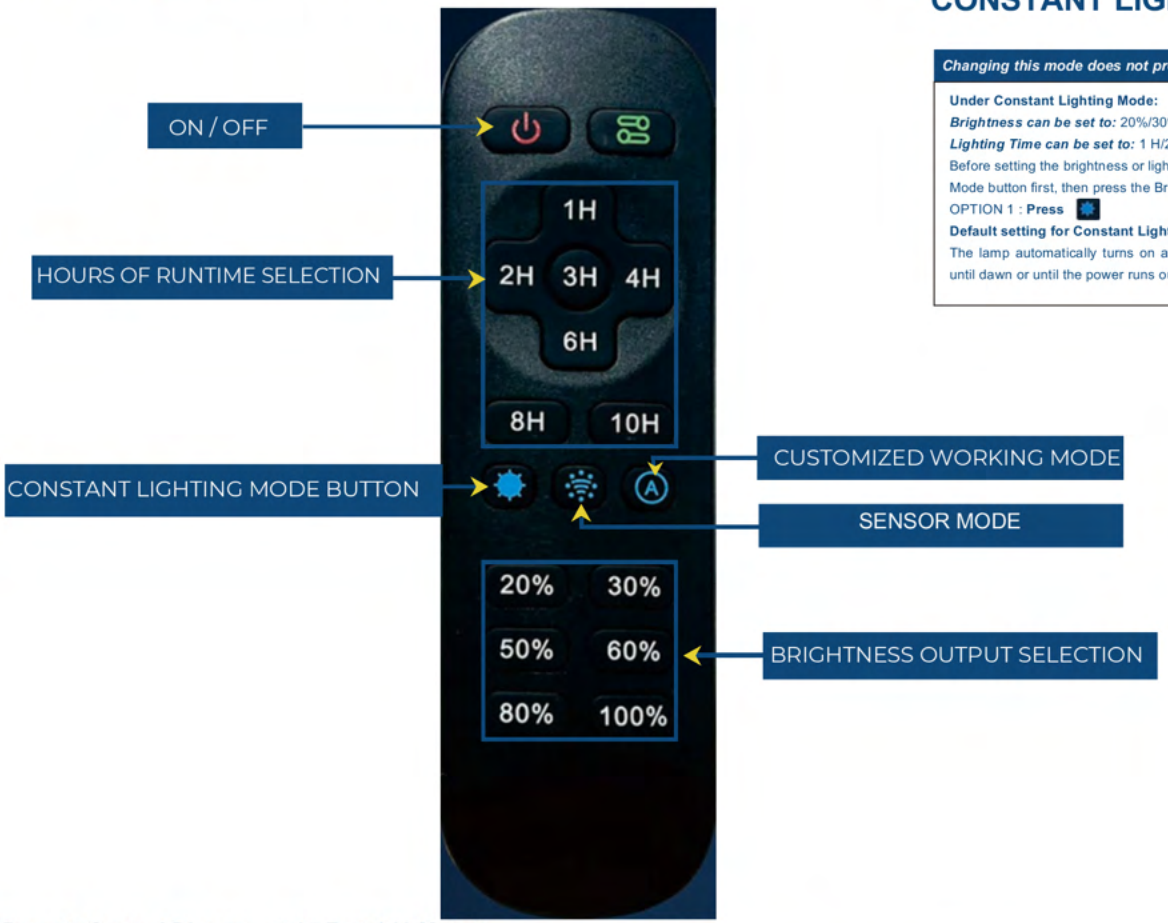
INFRARED REMOTE CONTROL



Remote Control Distance: ≤ 35 Feet / 12 Meters

Power Button:
Turning off the light with the remote control.
This allows the unit to continue charging without turning on at night.

ON/OFF Button on the Remote Control	During Daylight Hours	At Night Time
Press to turn 'ON'	Lamp flashes one time, then turns off	Lamp turns on
Press to turn 'OFF'	Lamp flashes three times, then turns off	Lamp flashes three times, then turns off

TURNING THE LIGHT ON:
Press and hold the **Power Button** The fixture will light up for 3 seconds then turn off; which indicates that the light and the remote control have been successfully activated.

TURNING THE LIGHT OFF:
Press the **Power Button** to completely turn off the light and deactivate the remote control.

SENSOR MODE:
Time and Brightness are NOT Adjustable.
For the sensor mode, press the sensor mode button, the light will operate as follows: Automatically operates at 30% brightness. When motion is detected, light increases to 100% until no motion is detected, then returns to 30% brightness. Detects motion up to 50 feet.

CONSTANT LIGHTING MODE

Changing this mode does not provide dusk to dawn lighting.

Under Constant Lighting Mode:
Brightness can be set to: 20%/30%/50%/60%/80%/100%
Lighting Time can be set to: 1 H/2H/3H/4H/6H/8H/10H
Before setting the brightness or lighting time, press the **Constant Lighting** Mode button first, then press the Brightness or Lighting Time option desired.
OPTION 1 : **Press**
Default setting for Constant Lighting Mode:
The lamp automatically turns on at dusk and will maintain 50% brightness until dawn or until the power runs out.

Changing this mode does not provide dusk to dawn lighting.

OPTION 2: Press + Select a Brightness Button For example:

Press + Press 60%

Lamp automatically turns on at dusk and maintains 60% brightness until the power runs out.
Note: Under constant lighting mode, when you change the brightness but not the lighting time; it will keep lighting at the chosen brightness until power runs out.

INDICATOR FUNCTIONS

There are 4 colors (green, red, blue, yellow) in the indicator light section. Each color indicates the working status of different parts of the lamp so you can easily troubleshoot your light.

Indicator Color	Indicator Status	Functions
Green Charging Indicator	Slow Flash (Flashes once every 2 seconds and keeps repeating)	MPPT charging correctly
	Fast Flash (Fast flash 3 times, then off for 2 seconds, keeps repeating)	The output voltage of the solar panel is lower than the charging voltage of the battery. (Usually because it's early morning or the solar panel is covered.)
	Off	Solar panel wiring does have a good connection.
		It's nighttime.
		Battery is fully charged.
		Battery wiring does have a good connection.
		Battery can't be charged / Faulty or old battery.
Red Battery Indicator	Off	Battery works normally.
	Slow Flash (Flash 1 time every 2 seconds, keep repeating)	Battery over discharge (Low Power).
	Constant Lighting On (Green light OFF at the same time.)	Battery is fully charged.
Blue LED Indicator	Off	LEDs work normally.
	Fast Flash (Fast flash 3 times then off for 2 seconds, keeps repeating)	LED output over-voltage.
		LEDs have short circuited.
		LEDs are disconnected.
Yellow PIR Sensor Indicator	Constant Lighting On	PIR sensor works normally motion is detected at night.
	Off	It's daytime.

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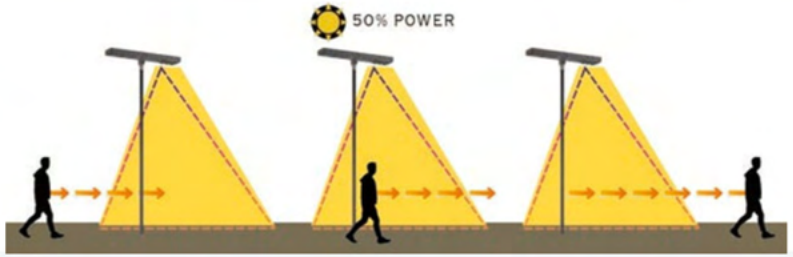
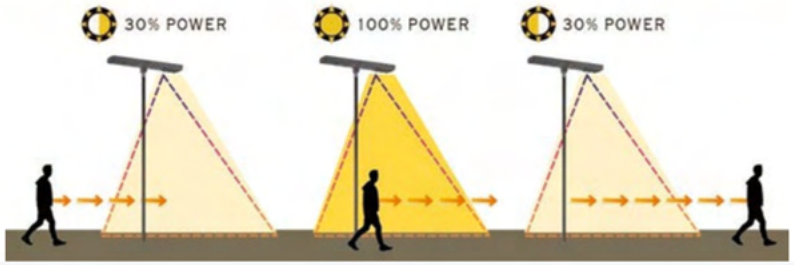
REMOTE CONTROL BUTTON INDICATORS

Power Button

Constant Lighting Mode
Automatically operates at 50% brightness from dusk to dawn or until power is off.



Sensor Mode
Automatically operates at 30% bright ness. When motion is detected, light increases to 100% until no motion is detected for 30 seconds, then returns to 30% brightness. Detection up to 50 feet.



Customized Working Mode
Automatically turns on at dusk and remains at up to 100% brightness for 4 hours, then it automatically turns to 30% brightness until dawn.

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TECHNICAL PARAMETERS

Items	Values		
Model	40W	80W	120W
Controller type	infrared remote control		
System voltage	12V		24V
Load current	0.82A	1.7A	2.6A
Load voltage	30～60V		
Maximum load power	40W/12V	80W/12V	120W/24V
Load conversion efficiency	95%		
Load current accuracy	≤3%±30mA		
Maximum solar input power	60W/12V	80W/12V	120W/24V
Maximum charge current	5A		
Maximum solar input voltage	≤20V		≤45V
MPPT Tracking efficiency	99%		
Operating temperature	-35℃ ～ +60℃		
IP rating	IP67		
PIR sensor	Detection distance:8m		
Protections	Battery reverse polarity protection, solar panel reverse polarity protection,solar panel over-voltage protection, lithium battery overcharge and overdischargeprotection, lithium battery BMS overcharge detection protection, load open circuit and short circuit protection		
Weight	1000g		
Controller dimensions (mm)	170×100×37		

SPECIFICATIONS

Model	Dimension	N.W
EL-CNTLR	170x100x37mm	1kg