



## [Specification]

### ——120W All In One Solar Street Light

[All In One Solar Street Light is green and energy saving product. It transfers Solar radiation into electricity and reserves it into the lithium battery in daytime. LED lighting is powered by the reserved electricity in night. It is widely used in street, square, housing estate and scenic spot, where on grid project is difficult to work.]

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## Technical Specification

### Table of Contents:

1. Product Introduction	
1.1Product Details.....	01
1.2Product Description.....	03
1.3Product Parameter.....	04
1.4Internet Control.....	05
1.5Product Dimension.....	05
1.6Light Distribution.....	06
1.7 Installing Effect Diagram.....	07
1.8Light Pole Sketch.....	08
1.9Illumination Simulation.....	09
2. Package	
2.1Package Sketch.....	10
2.2Packing List.....	10
2.3 Pallet Sketch.....	11
3. Working Environment.....	11
4. Notes.....	11
5. Trouble Shooting.....	12
6. Warranty .....	13

# 1 Product Introduction

## 1.1 Product Details

Imported highly efficient LED Chip with luminous efficiency 170-180lm/w works with long life. LED Module angle is adjustable  $-15^{\circ}\sim+15^{\circ}$  with low dazzle, IP67. The adjustable angle guarantees best illumination effect.



Highly efficient monocrystalline silicon solar panel with imported silicon wafer is adopted, 18% exchange rate and over 20 years working life.



The charging and discharging efficiency of controller with built-in replaceable constant current module is up to 98%. Light on-off is automatic by light control, time control and internet control is also available. Protection Level is IP67.



Battery module is replaceable, built-in automobile power lithium ion battery module is connected in series and multiple circuit by several consistent Grade A lithium battery cells. Over charging and discharging is protected by circuit board, plus protection box with IP65 level, the working life of battery is over 8 years.



Static free spraying is adopted on surface treatment, which is better on adhesive force, corrosion resistance and aging resistant than painting. The spraying technology guarantees surface of products stable more than 10 years.

Installing base angle is adjustable from 0 to 90 degrees. It uses Japanese ADC12 aluminum, also known as No.12 Aluminum, Al-Si-Cu series aluminum alloy, which is a kind of pressure die casting aluminum alloy, oxidative resistant even exposed to air long term, good performance of corrosion and impact resistance, it is the ideal load bearing part for luminaries.

**1.2 Production Description**

1.2.1 It is a creative product of green, energy saving and environmentally friendly solar street light wider than our Z86 series with increased power.

1.2.2 With new structure and easy installation, it could be installed by untrained workers within 5 minutes.

1.2.3 With several times longer working life than separate solar street light and lead acid battery luminaries, it is the forerunner of solar street light.

1.2.4 With modular design, the product is independently sealed and water proof, free of maintenance.

1.2.5 It adopts 5050 light source with maximum brightness, and glue filling technique inside lens, the luminous efficiency reaches 200lm/W, 30% higher than existing luminous efficiency. This makes it the brightest LED Module in the market. Protection grade is IP68, even could be used directly under water. Also benefiting from the good protection and heat radiation, lumens depreciation is almost 0 after 6000 hours, and lumen maintenance is over 80% after 50,000 hours.

1.2.6  $\pm 15^\circ$  adjustable lighting angle enables the module meet different road environment to reach best illumination effects.

1.2.7 Imported aging resistant plastic particle is adopted for secondary light distribution, glare threshold lower than 10%, even degree over 0.7. No light spot or yellow circle on road.

1.2.8 Highly efficient imported monocrystalline silicon guarantees working life over 25 years, with exchange rate over 18%, and power depreciation not over 1% annually.

1.2.9 Constant current charging and discharging management module uses high quality components from international brand like ST and IR, makes sure working life over 50,000 hours. Lithium battery is equipped with automatic activation and low temperature protection function. With advanced MPPT technology, tracking efficiency is not less than 99.8%, DC-DC exchange rate is 98%. 4 periods time control mode can meet different demands from customers. Off line 2.4G programmable remote control, communication distance is 50m. Parameters, operating mode and electric quantity could be managed by mobile APP or computer software. Protection grade is IP67.

1.2.10 Built-in grade A powerful lithium ion battery, the battery cell is strictly sorted. Deviation between cells is lower than  $4m\Omega+5mV$ . Strict grouping promises consistency of internal resistance, charging and discharging rate reaches 99%. Good heat radiation aluminum is used for external protection battery box; protection grade is IP67, guarantees working life over 8 years.

1.2.11 Customized aviation level water proof plug, 3C certificates for sheathed cable, Flame resistant PA66 is used on joint, and certified with CQC. User friendly fool proof design for plug in unit prevents electronic components from burning out by reversed connection. Automatic welded internal joint prevents insufficient soldering. Safety performance complies with GB70000.1-2015 standard, resistant from 120 degree ball pressure; heat resistant, flame resistant, and tracking test resistant, working life is over 10 years.

1.2.12 Installing base angle is adjustable from 0 to 60 degrees. It uses Japanese ADC12 aluminum, also known as No.12 Aluminum, Al-Si-Cu series aluminum alloy, which is a kind of pressure die casting aluminum alloy, oxidative resistant even exposed to air long term, good performance of corrosion and impact resistance, it is the ideal load bearing part for luminaries.

1.2.13 Static free spraying is adopted on surface treatment, which is better on adhesive force, corrosion resistance and aging resistant than painting. The spraying technology guarantees surface of products stable more than 10 years.

### 1.3 Technical Parameters

Model	XT1750SELD120-D5
LED Quantity	40 PCS 5050
Module Quantity (pcs)	2
Power	120W
Solar Panel	Monocrystalline Silicon of 36V/140W
Battery	Grade A Lithium Ion Battery of model 32650 35Ah/24V
Adjustable Angle of Module ( $\pm 15^\circ$ )	Yes
Control Mode	Light Control+Time Control
Working time under full power	12h
Working time under smart power control	84h
Charging time (1,000W/m <sup>2</sup> )	7h
On-off threshold level	on $\leq$ 8LUX, OFF $\geq$ 10LUX
Material for secondary lighting distribution	PC
Beam Angle	C0~180 150° / T90~270 80°
Protection Grade	IP65
<b>Photoelectric Parameter</b>	
Color Temperature (K)	3,000-6,500K
CRI (Ra)	70
Lumens (lm)	14,400-16,800lm
Intelligent Mode	Yes
Working under rainy days	7 to 10 days
<b>Package</b>	
Net Weight	32kg $\pm$ 5%
Gross Weight	66kg $\pm$ 5%(2pcs/box)
Product Dimension	1,750*525*86mm $\pm$ 5%
Package Dimension	1,770*252*600mm $\pm$ 5%
Quantity in 20/40 Feet Container (including accessories)	144PCS/364 PCS (Pallet)
Quantity in 20/40 Feet Container (including accessories)	180PCS/432 PCS (No Pallet)
<b>Environmental Temperature</b>	
Discharging Temperature	-20~60
Charging Temperature	-20~60
Storage Temperature	0~45
<b>Installation</b>	
Diameter of Pole	$\varnothing$ 89mm
Screw Fixation	YES
Wind resistance level(km/h)	209

Installation Height (m)	10-12
Installation Distance(m)	30-36
Irradiation Area(m <sup>2</sup> )	432

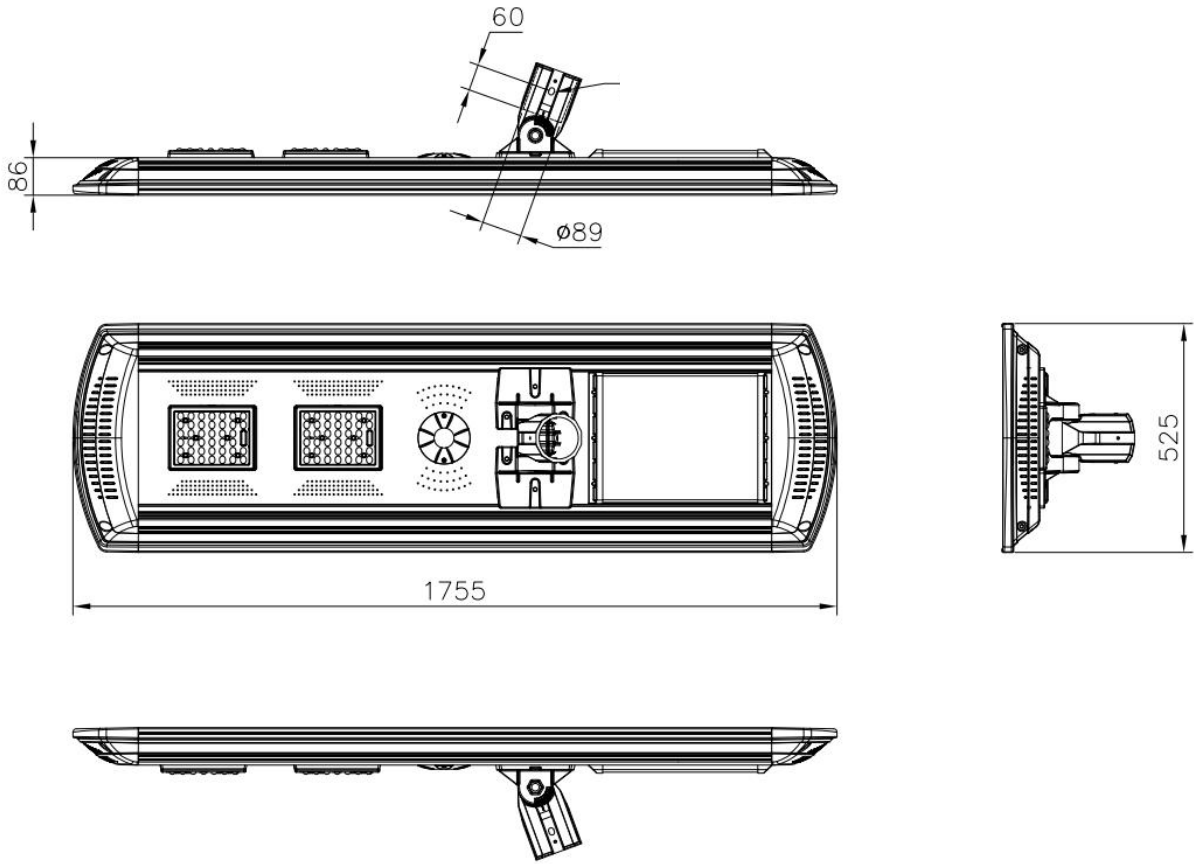
#### 1.4 Internet Control (optional)



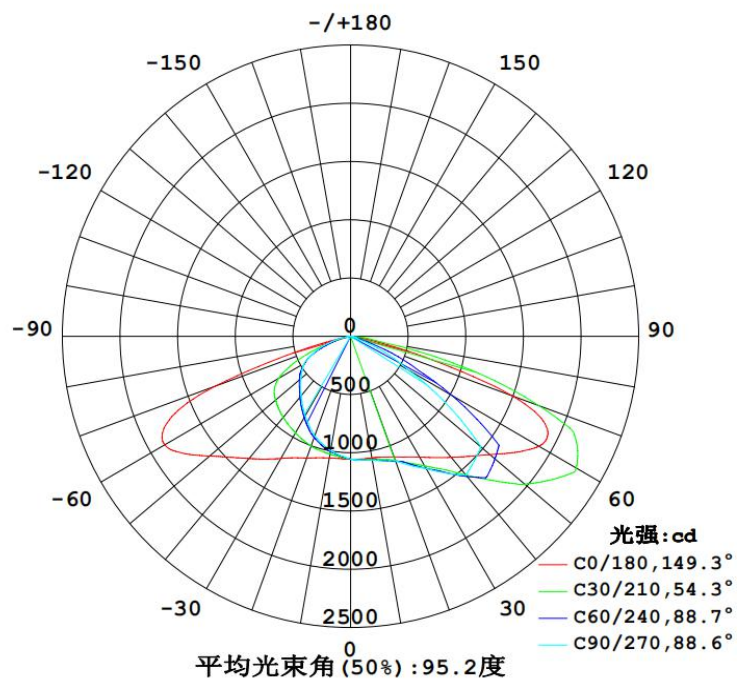
This product is available for internet control and mobile APP remote control, one card one light with 360°direction far and fast communication, one to one control, one to many control and group control are all available.

1. Remote Monitor: All lights could be monitored real time on the screen. Malfunction would be alarmed; position, time, fault type and operation record would be reported by screen.
2. Remote control: Remote control strategy, including on-off time, time control mode, light control mode, could be done by computer in monitoring center. All lights, lights of one street or lights of one district are available to control separately.
3. Single Light Control: Each light's on-off and dimming could be controlled. And current, voltage, power, charging rate, discharging rate, internal temperature, signal intensity are all available to control.
4. Fault Monitoring: The fault type could be monitored includes: Solar panel fault, LED Source fault, Battery fault and Controller fault. Alarm could be reported to administrator by email or other ways.
5. Safety Monitoring: To monitor and analyze abnormal database, to judge if database were stolen maliciously.
6. Illumination Set: Light control, time control and smart control are available. Light control could be set in 6 periods; illumination degree in different periods could be set up by time control.
7. Data Statistics: Energy consumption calculation, light on rate statistics, fault statistics, light on time statistics and historical data of each lamp could be checked. It provides strong data support for scientific decision.
8. Mobile APP Control: Solar street light management, including light on-off and dimming control, real time data checking and historical data are available to check by mobile APP.

1.5 Product Dimension (mm)



1.6 Distribution Diagram



1.7 Installing Effect Diagram

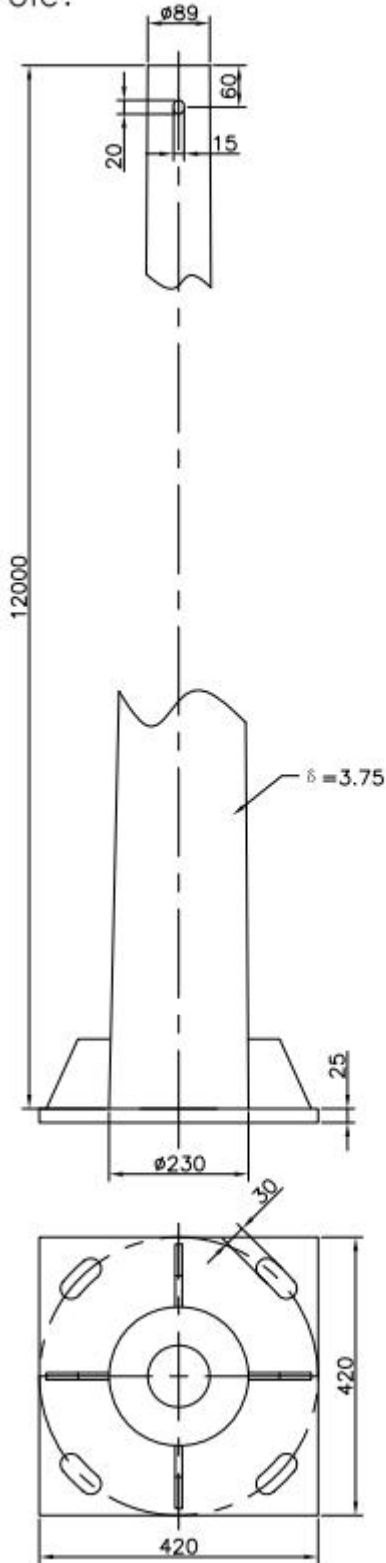




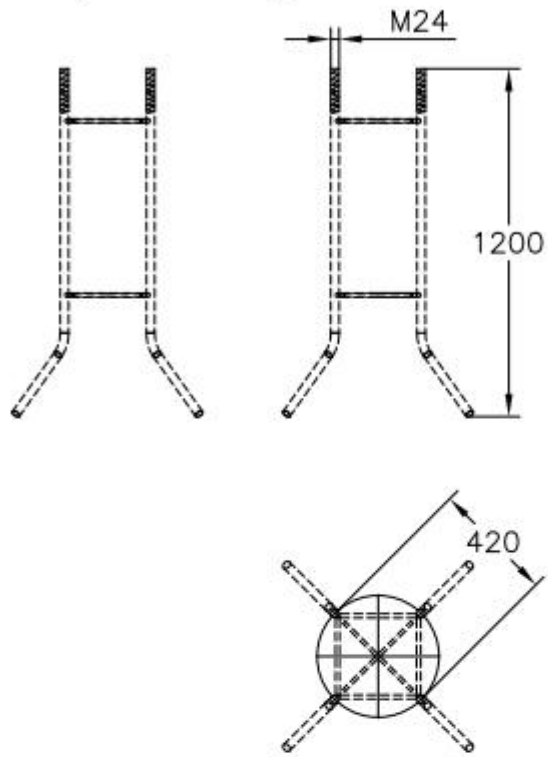


1.8 Light Pole Sketch

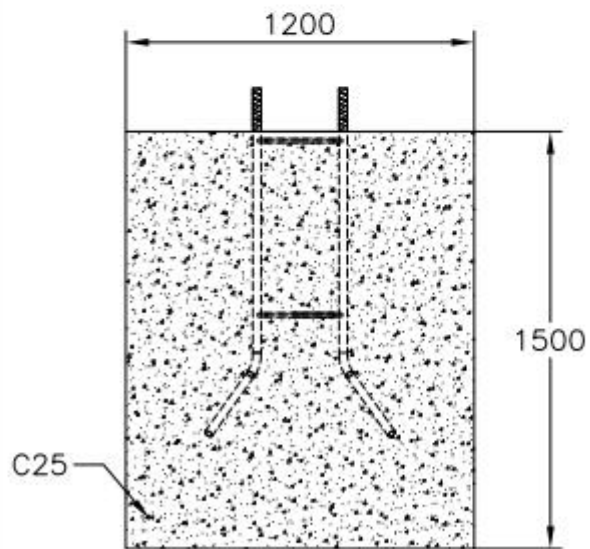
Pole:



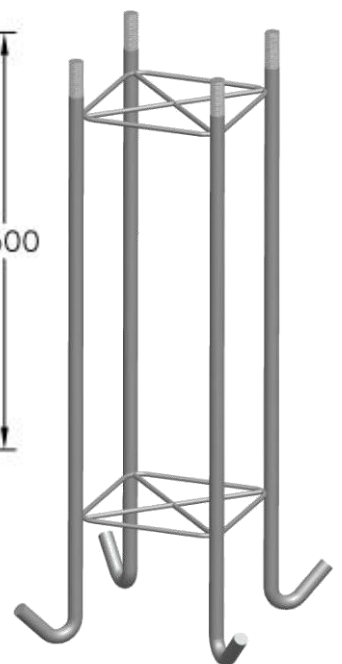
Underground Cage:



Foundation:



12M Unit:mm



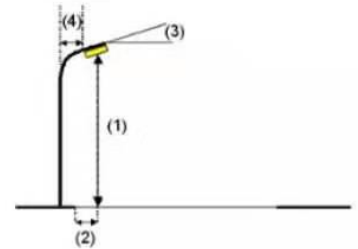
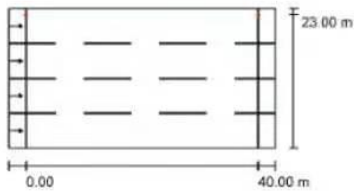
### 1.9 120W Illumination Simulation-12m

**Street Profile**

120W (Width: 24.000 m, Number of lanes: 4, tarmac: R3, q0: 0.070)

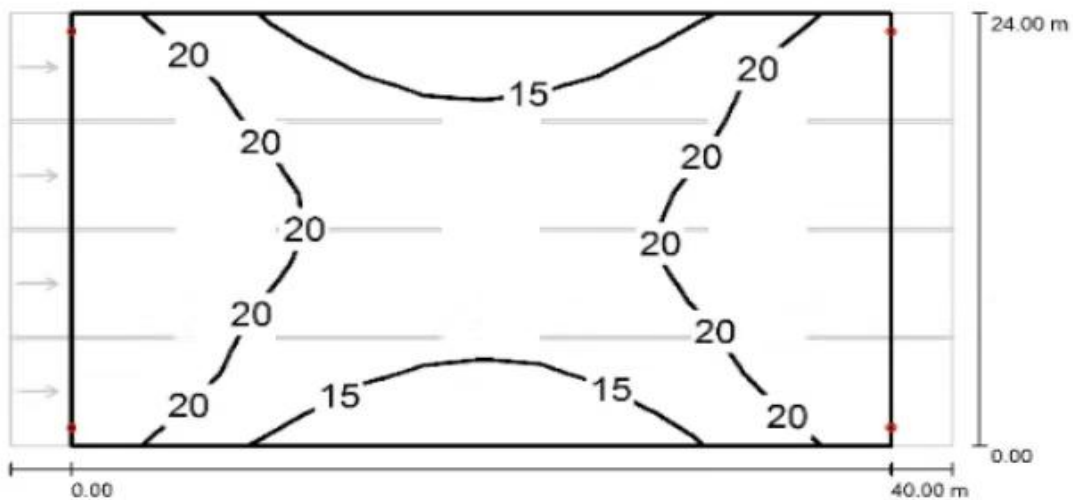
Maintenance factor: 0.80

**Luminaire Arrangements**



Luminaire:  
 Luminous flux (Luminaire): 16714 lm  
 Luminous flux (Lamps): 16800 lm  
 Luminaire Wattage: 120.0 W  
 Arrangement: Single row, top  
 Pole Distance: 40.000 m  
 Mounting Height (1): 12.000 m  
 Height: 12.000 m  
 Overhang (2): 1.000 m  
 Boom Angle (3): 0.0 °  
 Boom Length (4): 0.000 m

Maximum luminous intensities  
 at 70°: 502 cd/kdm  
 at 80°: 222 cd/kdm  
 at 90°: 11 cd/kdm  
 Any direction forming the specified angle from the downward vertical, with the luminaire installed for use.  
 Arrangement complies with glare index class D.6.



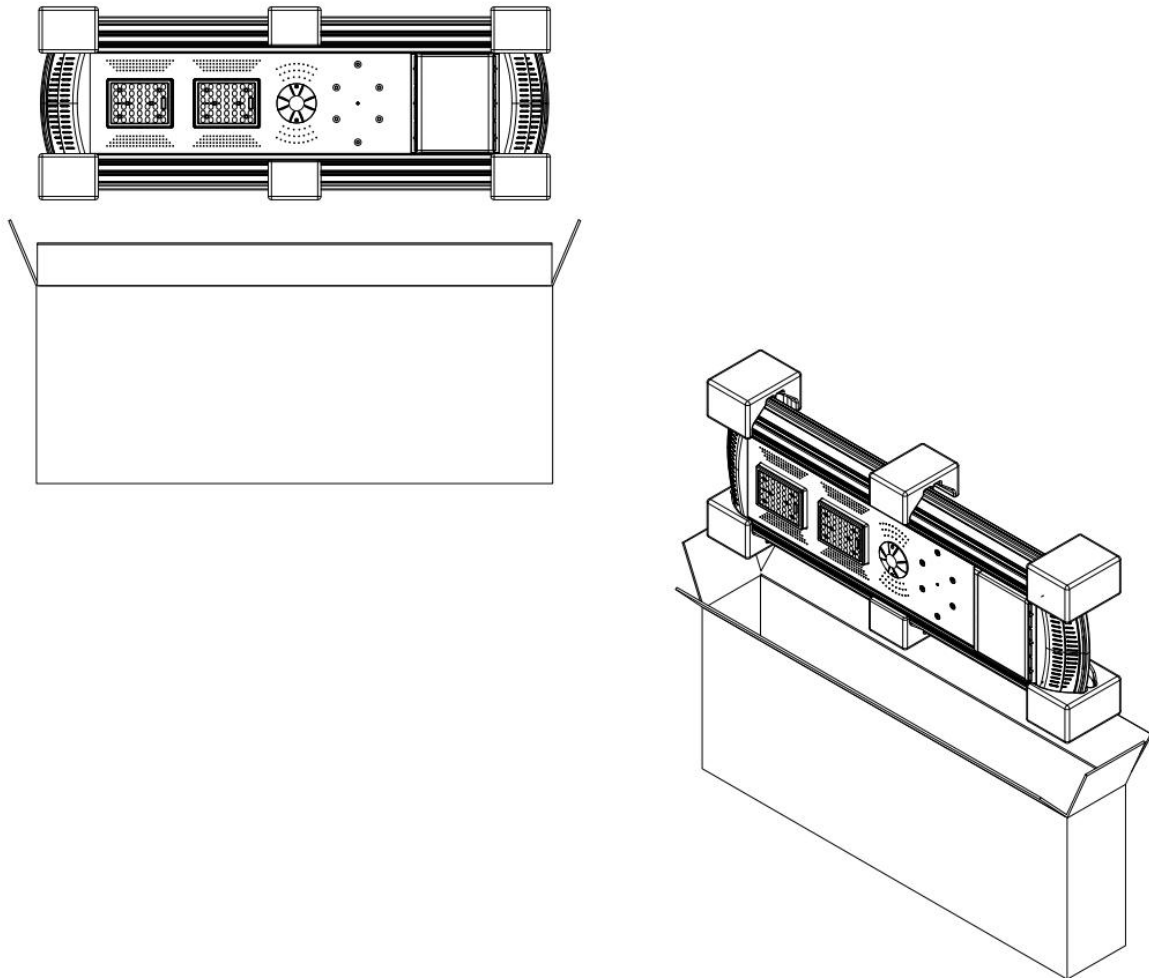
Grid: 14 x 12 Points

$E_{av}$  [lx]  
19

$E_{min}$  [lx]  
12

## 2 Package

### 2.1 Package Sketch



### 2.2 Package List

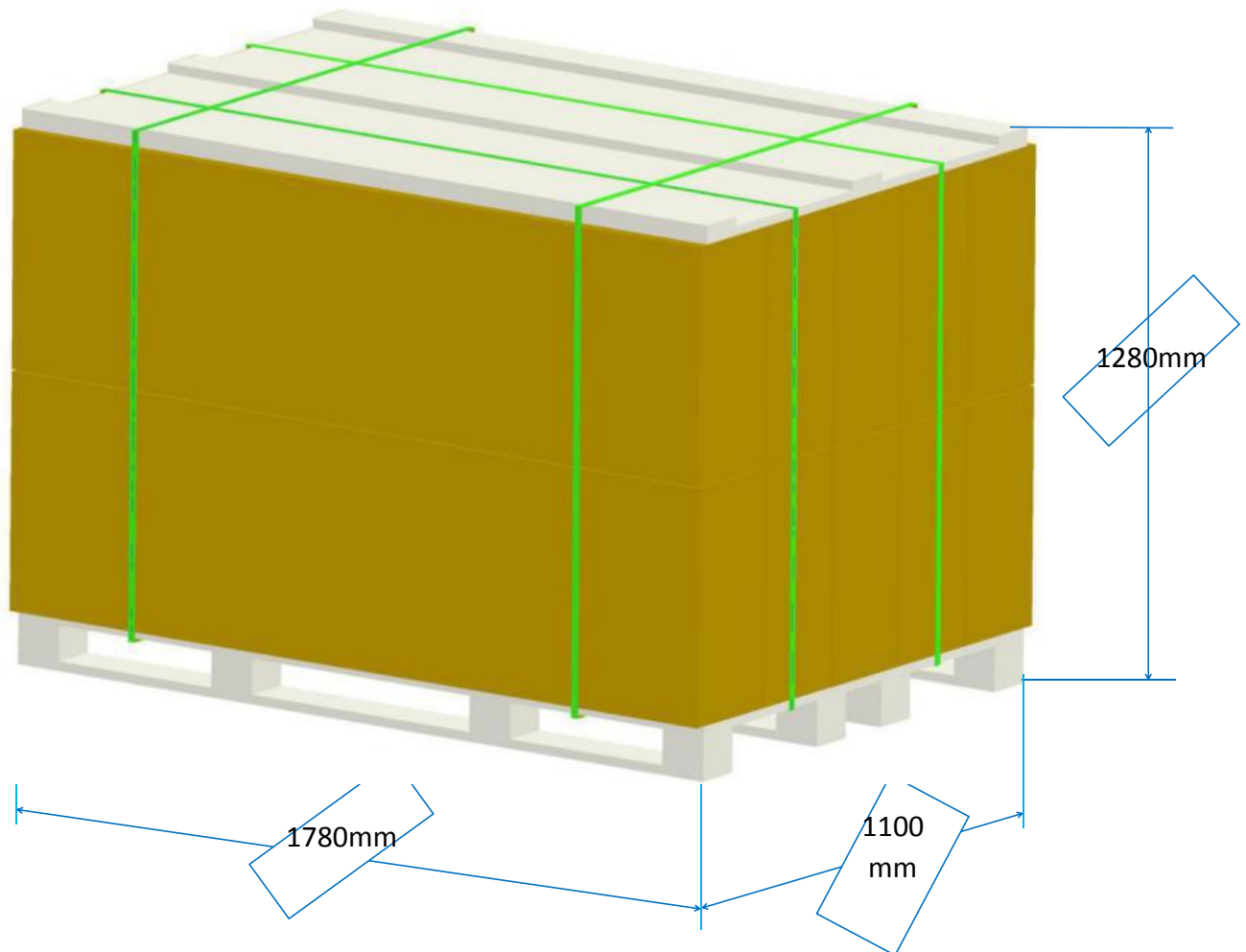
Item	Products	Unit	Quantity	Note
1	120W Solar Street Light	PCS	2	
2	6mm Allen Wrench	PCS	1	2%
3	14mm Allen Wrench	PCS	1	2%
4	Installation Instruction	PCS	1	
5	Certificate of Approval	Sheet	1	
6	Test Report	PCS	1	

### 2.3 Pallet Sketch

Pallet Size: 1,780×1,100×115mm

Goods with Pallet Size: 1,780×1,100×1,280mm

Quantity: 8 Boxes×2pcs/Box=16 Pcs



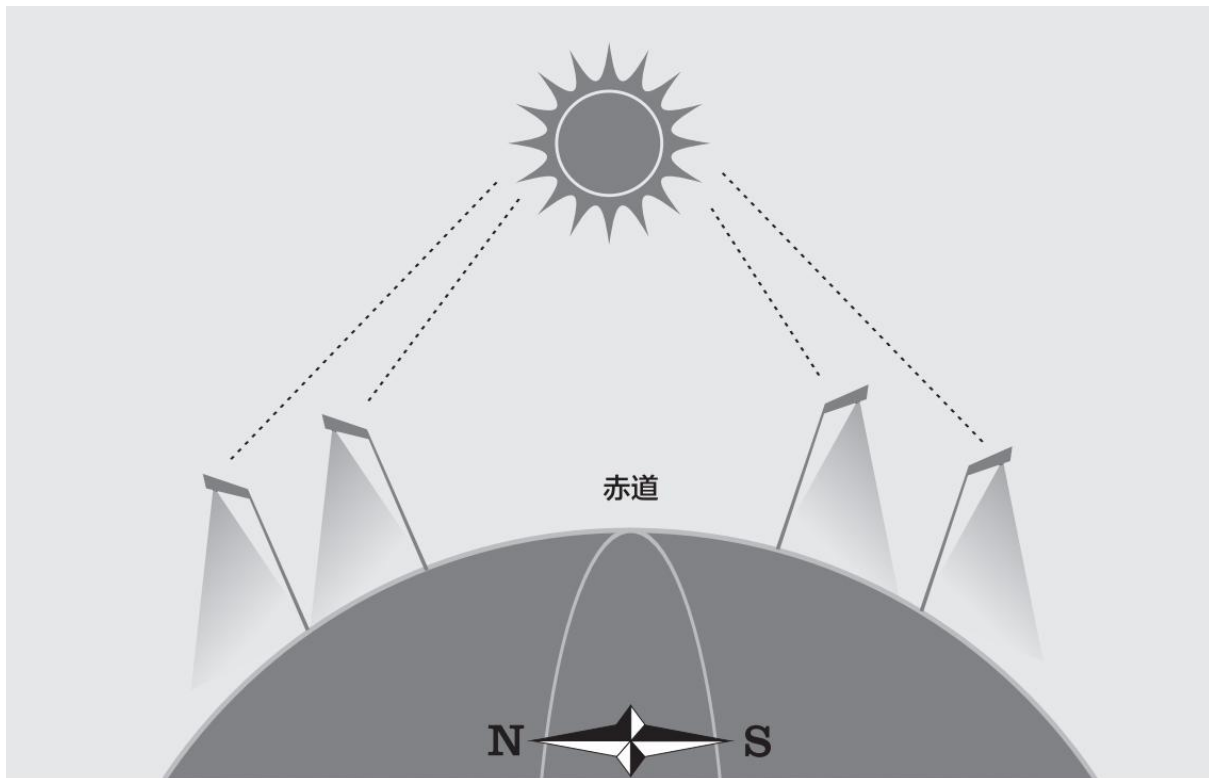
### 3 Working Environment

- Protection Grade is IP65. Please do not use under environment over the standard.
- Working Temperature is -20°C~60°C.
- Classification of wind resistance is Grade 12 Typhoon. Higher grade typhoon could damage the products.

### 4 Note

- If product installed in north earth, solar panel should be installed oriented to south. If

product installed in south earth, solar panel should be installed oriented to north.



- Please avoid product shielded by construction or tree, which would affect charging efficiency of solar panel, and shorten product working time.
- Please avoid products illuminated by advertising board or other lanterns, under which condition the SSL would judge it was day time and not work with night mode.
- Please peel off the protective film on solar panel, put it under outdoor natural light, the product would be activated and come to charging state automatically.
- Product should be charged every 6 month if it were stored long term. Put it outdoor with solar panel oriented to sunlight for 6 to 7 hours charging.
- Please operate strictly following product instruction.
- Please do not take product apart by layman, which could cause product damaged.
- Please do not cover the lighting side by paper or fabric. Keep product away from inflammable.
- External electric signal is prohibited to introduced to internal luminary, which could be permanently damaged by external signal.

## 5 Trouble Shooting

- Luminary does not work after installation?

- a Confirm if the luminary is turned on.
- b If there were no switch, confirm if the protective film on solar panel had been peeled off.
- c Make sure luminary were installed in daylight so that the solar panel is activated by sunlight, then it can work in night.
- d Please keep away from other light illuminating if there were advertising board or other lanterns above or beside the luminary. The luminary would not work under other lighting illumination.

- Part of luminaries don't work?

Luminary installed near to night, so the solar panel is not activated by sunlight. It would recover working next day.

- The brightness of luminary is low?

Rated battery capacity is only 40% to 50% for long distance delivery. Brightness would recover after 2 or 3 days sunlight.

## **6 Warranty**

If faulted product were used following instruction, we will provide product replacement service according to the warranty item.

Circumstances below are not in warranty range:

6.1 Product fall down or damaged during transportation, malfunction caused by incorrect operation method of customer.

6.2 Malfunction caused by fire, earthquake, flood, typhoon or other natural disaster.

6.3 Operation violate to the setting condition, method of application and notes recorded in instruction.

6.4 Suntisolar has the proprietary right of replaced product.

6.5 Maintenance beyond warranty period is charged.

Note: Container dimension is as below:

20 Feet Container: 5,890×2,342×2,388mm. Entrance Height is 2,280mm.

40HQ: 12,017×2,342×2,693mm. Entrance Height is 2,580mm.