

# 100W-S2-L

## 100W-S2-L Solar Powered LED Street Light

3976 Lumens

Mounting Hight 4m to 9m

2 x LED Light Source

100Wp Polycrystalline Panel

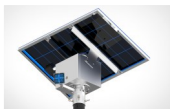
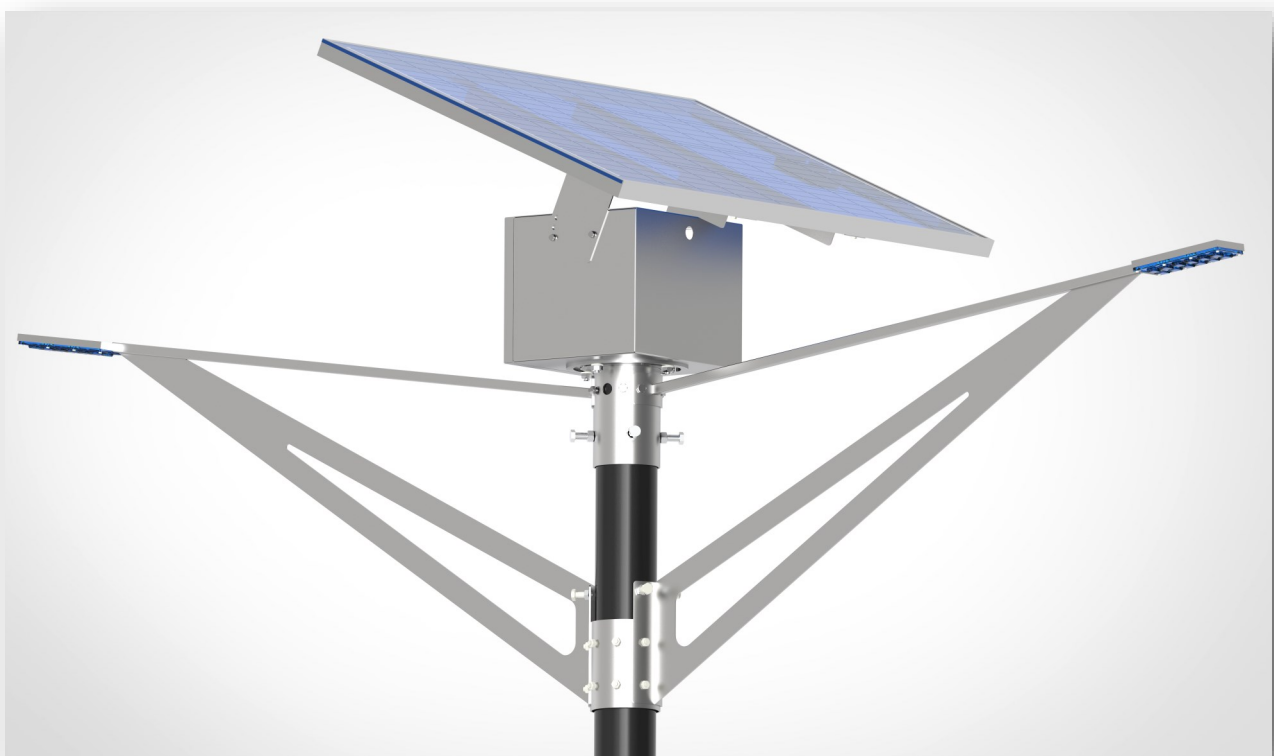
Mounting Pole Diameter 101mm

24Ah 12V Lithium

25W Power Consumption

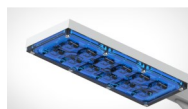
Wide Area Flood

>4500 Batter Cycles



### MECHANICAL

Fully Adjustable Solar Panel Design  
Adjustable orientation for LED light  
IP Rated 52  
Powder Coated Dove Gray



### LED CONFIGURATION

LUMILEDS V2  
2 x (12) High Power CHIPS  
Nominal CCT/Color 5650K Cool White  
Typical CRI 70  
Typical Luminous Flux @350mA  
159lm per Watt  
Combination Spot and Flood



### BATTERY

Ritar  
12.8V  
24Ah (0.2C Discharge)  
Weight 3.9kg  
>4500 Cycles (0.2C Charge / 0.2C Discharge)

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### Designed System Performance

|                                                              |                                                |
|--------------------------------------------------------------|------------------------------------------------|
| Power Consumption per Hour                                   | 25W                                            |
| Total Available Lumens                                       | 3975 Lumens                                    |
| Operation Dusk to Dawn (Designed for 14 hours during Winter) | Dip Switch Selectable Factory Set Dusk to Dawn |
| Mapped Current output to LED                                 | 2083mA                                         |
| Used amps during the night (10 Hours)                        | 20.83A                                         |
| 24Ah                                                         | 24Ah                                           |
| Depth of discharge of battery per night                      | 86.80%                                         |
| Working Redundancy no Sun                                    | 1 Hours                                        |
| Number of Cycles                                             | >4500                                          |
| Battery Replacement                                          | >8 Years                                       |
| Operation Temperature                                        | -20°C—50° C                                    |
| Recharge Time                                                | 3.75 Hours                                     |
| MPPT Charge Algorithm                                        | YES                                            |
| Undervoltage Cut Out                                         | YES                                            |
| Overvoltage Cut Out                                          | YES                                            |
| LED Protection                                               | YES                                            |
| Short Circuit Protection                                     | YES                                            |

### Enclosure

|                          |                                   |
|--------------------------|-----------------------------------|
| IP Rating                | 52                                |
| Finishing                | Powder Coated Dove Gray           |
| Solar Panel Orientation  | Fully Adjustable                  |
| Solar Degrees Adjustment | Adjustable from 15° - 37° Degrees |
| Weight                   | Of Complete Unit 20kg             |
| Dimension                | 1480mmx670mmx500mm                |
| Maximum Pole Diameter    | 101mm                             |

# 100W-S2-L

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### Enclosure

Fixing on Pole

Fixing on Pole

Recommended Mounting Hight

Internally hosted controller

Weight

Slide over collars

6 x 12mm Bolts (4 x Collar below Battery 2 x Arm)

6—9 Meters

Controller loose Item serviceable

Of Complete Unit 20kg

### LED USED

Manufacturer

Quantity

Nominal CCT/Colour

Typical CRI

Typical Luminous Flux(lm) @350mA Forward Current +\_1W

Cooling Solid Aluminium 12mm Block

Lens Type Used

LUMILEDS—V2

2 x LED Light Source made up out of (12 x LED's)

5650K Cool White

70

159lm per Watt

Machined Profile

Combination of Spots and Wide Lenses

### Battery

Manufacturer

Capacity

Weight

Type

Cycle Life in Relation to Depth of Discharge

Nominal Voltage

Max Voltage

Min Voltage

Dimensions

Ritar

24Ah (0.2C) Discharge

3.9kg

Lithium (Lithium Iron Phosphate)

>4500 @ (0.2C Charge / 0.2 Discharge

12.8V

14.6V +\_ 1.0V

10V +\_ 1.0V

181x76x170(mm)



# 100W-S2-L

## 100W-S2-L Solar Powered LED Street Light

### Solar Panel

#### General Characteristics

|                               |                                        |
|-------------------------------|----------------------------------------|
| Cell                          | Polycrystalline solar cell 156 x 156mm |
| Number of Cells (Connections) | 36(4x9)                                |
| Panel Dimensions              | 1005 x 670 x 35mm                      |
| Weight                        | 8.0 kg                                 |
| Connectors and Cables         | Connectors and 1m Cables               |

#### Thermal Conditions

|                                                                                |                        |
|--------------------------------------------------------------------------------|------------------------|
| Normal Operating Cell Temperature 800W/m <sup>2</sup> Irradiance, 20°C, AM=1.5 | 48°C+ <sub>-</sub> 2°C |
| Power Temperature Coefficient                                                  | -0.5%/K                |
| Current Temperature Coefficient                                                | 0.035%/K               |
| Voltage Temperature Coefficient                                                | -0.37 MV/K             |

#### Limits

|                        |               |
|------------------------|---------------|
| Operating Temperature  | -40°C to 85°C |
| Maximum System Voltage | 36V           |

#### Electrical Performance at STC

|                       |        |
|-----------------------|--------|
| Maximum Power         | 100Wp  |
| Power Tolerance       | 0/+5Wp |
| Maximum Power Voltage | 18V    |
| Maximum Power Current | 5.56A  |
| Open Circuit Voltage  | 22.2V  |
| Short Circuit Current | 6.06A  |

Standard Test Conditions 1000W/m<sup>2</sup> irradiance, 25°C and AM = 1.5

# 100W-S2-L

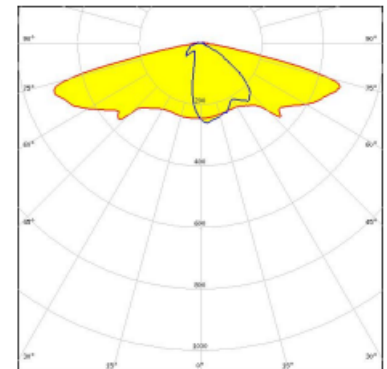
## 100W-S2-L Solar Powered LED Street Light

### Light Distribution

Type II/III (long) beam for very wide pole to pole distances. Ideal for pedestrian walkways and residential road lighting.  
(EN13201 P-classes)



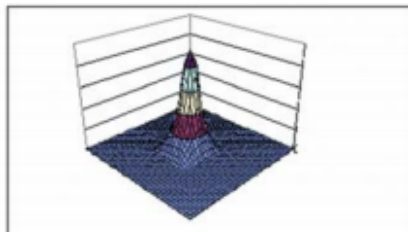
LED LUXEON V2  
FWHM Asymmetric  
Efficiency 94 %  
Peak intensity 0.7 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



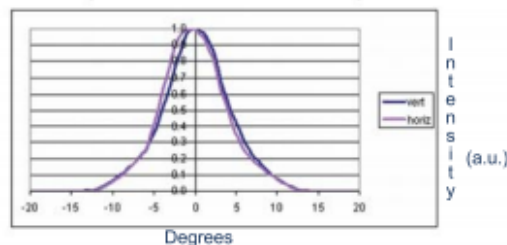
### SPOT LENS Design

### PHOTOMETRIC DATA FOR SPOT VERSION

3 D surface Plot based on simulation



Horizontal and vertical Scans (Lab Measurement)



IES files available at [www.dialight.com](http://www.dialight.com)

For photometric data on other models, please contact factory

### ORDERING INFORMATION

| BASE LENSES                          |                                              |          |
|--------------------------------------|----------------------------------------------|----------|
| Dialight P/N                         | Description                                  | Degree*  |
| OPC1-1-SPOT                          | Spot Base Module for LUXEON Rebel            | 5°       |
| OPC1-1-SDIF                          | Diffused Base Module for LUXEON Rebel        | 7°       |
| OPC1-1-MDIF                          | Medium Diffused Base Module for LUXEON Rebel | 10°      |
| OPC1-1-OVAL                          | Oval Base Module for LUXEON Rebel            | 8° X 25° |
| OPC1-1-WIDE                          | Wide Diffused Base Module For LUXEON Rebel   | 20°      |
| *All angles refer to half divergence |                                              |          |