

# 100W-S3-L

## 100W-S3-L Solar Powered LED Street Light

4000 Lumens

Mounting Hight 4m

3 x LED Light Source

100Wp Polycrystalline Panel

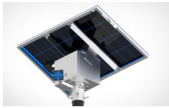
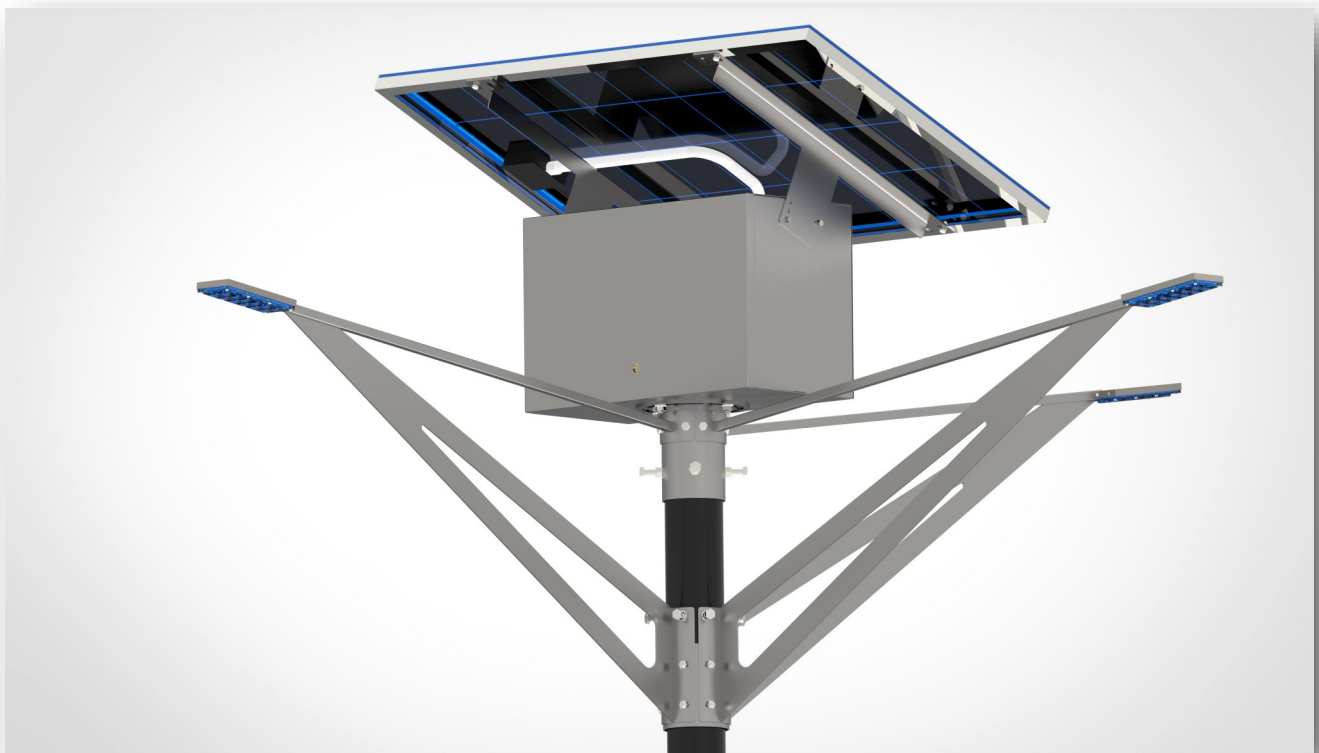
Mounting Pole Diameter 101mm

20Ah 12.8V Lithium

20W Power Consumption

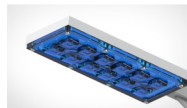
Street Light Lens

>5000 Battery 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 (24) High Power CHIPS  
Nominal CCT/Color 5650K Cool White  
Typical CRI 70  
Typical Luminous Flux @350mA  
200lm per Watt  
Combination Spot and Flood



### BATTERY

Phasor  
12.8V  
20Ah (0.2C Discharge)  
Weight 1kg  
>5000 Cycles (0.2C Charge / 0.2C Discharge)

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## 100W-S3-L Solar Powered LED Street Light

### Designed System Performance

|  |  |
|--|--|
| Power Consumption per Hour                                   | 20W  |
| Total Available Lumens                                       | 4000 Lumens                                    |
| Operation Dusk to Dawn (Designed for 14 hours during Winter) | Dip Switch Selectable Factory Set Dusk to Dawn |
| Mapped Current output to LED                                 | 1500mA   |
| Used amps during the night (10 Hours)                        | 15A  |
| Size of Internal Battery                                     | 20A  |
| Depth of discharge of battery per night                      | 75%  |
| Working Redundancy no Sun                                    | 1 Day  |
| Number of Cycles   | >5000  |
| Battery Replacement  | >3 Years                                       |
| Operation Temperature  | -20°C—50° C                                    |
| Recharge Time  | 4 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-S3-L

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### Enclosure

|                              |   |
|------------------------------|---|
| Fixing on Pole               | Slide over collars                                |
| Fixing on Pole               | 6 x 12mm Bolts (4 x Collar below Battery 2 x Arm) |
| Recommended Mounting Height  | 6—9 Meters  |
| Internally hosted controller | Controller loose Item serviceable                 |
| Weight                       | Of Complete Unit 20kg                             |

### LED USED

|   |  |
|---|--|
| Manufacturer  | LUMILEDS—V2                                      |
| Quantity  | 3 x LED Light Source made up out of (24 x LED's) |
| Nominal CCT/Colour                                    | 5650K Cool White                                 |
| Typical CRI   | 70   |
| Typical Luminous Flux(lm) @350mA Forward Current +_1W | 200lm per Watt                                   |
| Cooling Solid Aluminium 12mm Block                    | Machined Profile                                 |
| Lens Type Used  | Combination of Spots and Wide Lenses             |

### Battery

|  |                                       |
|--|---------------------------------------|
| Manufacturer                                 | PHASOR                                |
| Capacity                                     | 20Ah (0.2C) Discharge                 |
| Weight                                       | 1kg                                   |
| Type   | Lithium (Lithium Iron Phosphate)      |
| Cycle Life in Relation to Depth of Discharge | >5000 @ (0.2C Charge / 0.2 Discharge) |
| Nominal Voltage                              | 12.8V                                 |
| Max Voltage                                  | 14.6V +_ 1.0V                         |
| Min Voltage                                  | 10V +_ 1.0V                           |
| Dimensions                                   | 181x76x170(mm)                        |



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### 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>2</sub> °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

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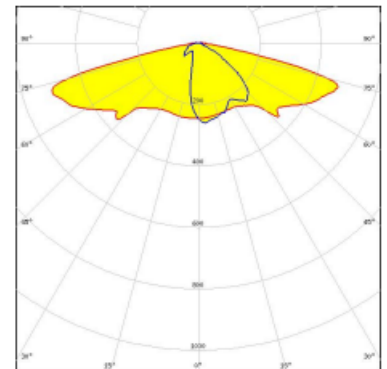
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### Light Distribution

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



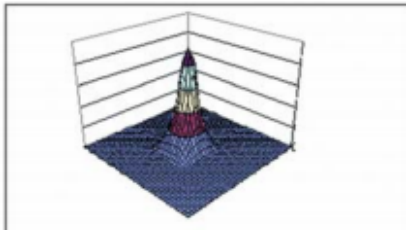
LED LUXEON V2  
 FWHM Asymmetric  
 Efficiency 94 %  
 Peak intensity 0.7 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



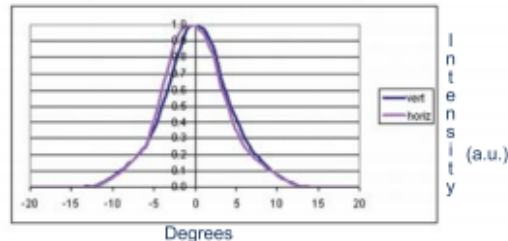
### SPOT LENS Design

### 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