

# 100W-S1-D-L

## 100W-S1-D-L Solar Powered LED Street Light

4000 Lumens

Mounting Hight 4m

1 x LED Light Source

100Wp Polycrystalline Panel

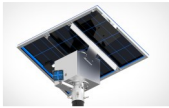
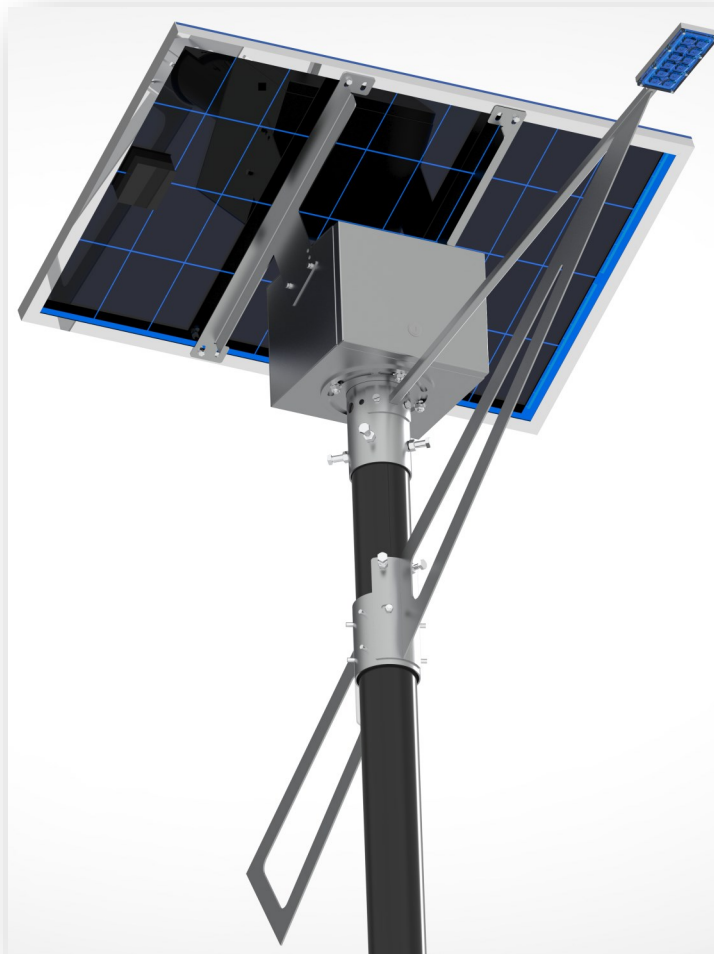
Mounting Pole Diameter 101mm

20Ah 12.8V Lithium

20W Power Consumption

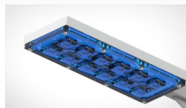
Street Light Lens

>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  
1 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)

# 100W-S1-D-L

## 100W-S1-D-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-S1-D-L

## 100W-S1-D-L Solar Powered LED Street Light

### 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	1 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)



# 100W-S1-D-L

## 100W-S1-D-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>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

# 100W-S1-D-L

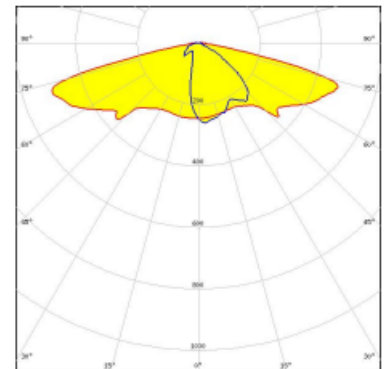
## 100W-S1-D-L Solar Powered LED Street Light

### 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)



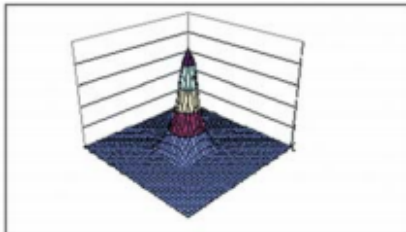
LED LUXEON V2  
 FWHM Asymmetric  
 Efficiency 94 %  
 Peak intensity 0.7 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



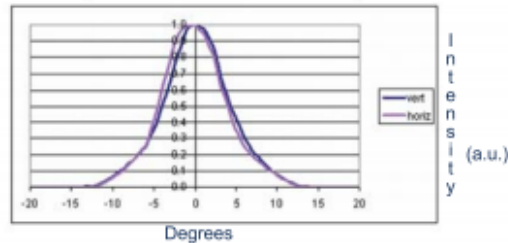
### SPOT LENS Design

### 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