

# 50W-F2-L

## 50W-F2-Lithium Solar Powered LED Flood Light

2000 Lumens

50Wp Polycrystalline Panel

10W Power Consumption

Mounting Hight 2m to 4m

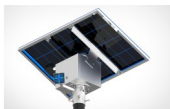
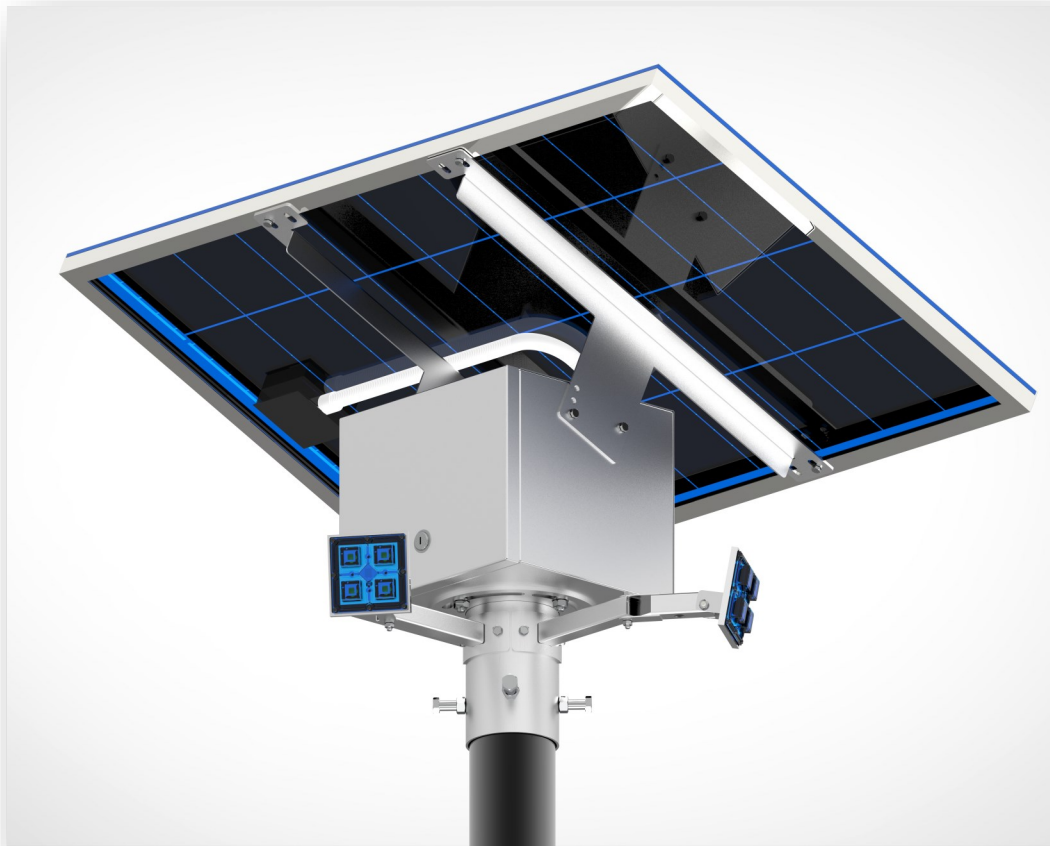
Mounting Pole Diameter 101mm

Wide Area Flood

2 x LED Light Source

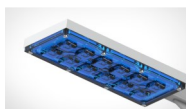
7Ah 12.8V Lithium Battery

>5000 Batter Cycles



### MECHANICAL

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



### LED CONFIGURATION

SEOUL Z5M  
2 x (21) 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  
7Ah (0.5C Discharge)  
Weight 0.5kg  
>5000 Cycles (0.2C Charge / 0.2C Discharge)

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### Designed System Performance

Power Consumption per Hour	10W
Total Available Lumens	2000 Lumens
Operation Dusk to Dawn (Designed for 14 hours during Winter)	Dip Switch Selectable Factory Set Dusk to Dawn
Mapped Current output to LED	400mA
Used amps during the night (10 Hours)	4A
7Ah Battery	7Ah
Depth of discharge of battery per night	57%
Working Redundancy no Sun	2 Days
Number of Cycles	>5000
Battery Replacement	>3 Years
Operation Temperature	-20°C—50° C
Recharge Time	3 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

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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 Hight	3—4 Meters
Internally hosted controller	Controller loose Item serviceable
Weight	Of Complete Unit 20kg

### LED USED

Manufacturer	SEOUL MZ5
Quantity	2 x LED Light Source made up out of (21 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	7Ah (0.2C) Discharge
Weight	0.4kg
Type	Lithium
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	4.0 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	50Wp
Power Tolerance	0/+5Wp
Maximum Power Voltage	18V
Maximum Power Current	2.56A
Open Circuit Voltage	22.2V
Short Circuit Current	3.06A

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

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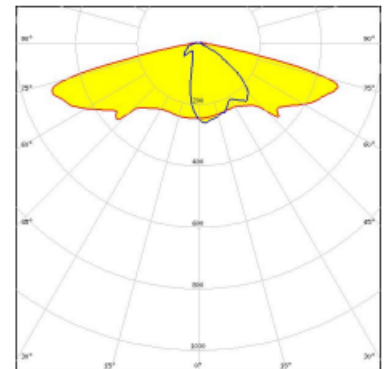
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### Light Distribution

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



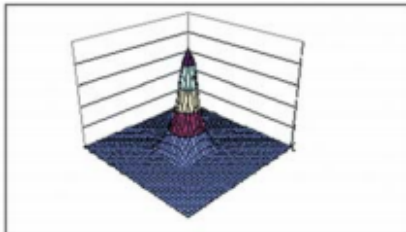
LED LUXEON V2  
 FWHM Asymmetric  
 Efficiency 94 %  
 Peak intensity 0.7 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



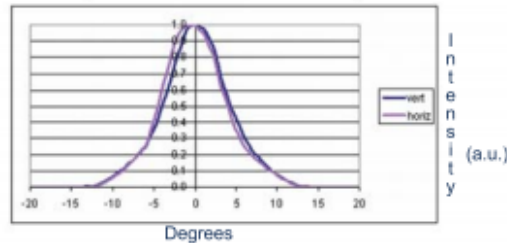
### SPOT LENS Design

### 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