

SOLARLIGHT.CO.ZA

SPECIFICATION SHEET - Products

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SOLARLIGHT.CO.ZA utilizes the latest technology in solar power generation, to ensure very bright light at night. The power for the light is harnessed during sufficient daylight conditions and stored in an internal battery. The stored energy is used to power an extremely effective and efficient light source at night. The new improved MPPT algorithm allows the system to use a smaller sized photo voltaic solar panel. The LED's used our products are the latest technology from LUMILEDS, capable to produce 135+ lumens per watt. The solar powered LED redundancy is determined by the model selected. The lockable battery box includes a collar to allow it to be mounted on any pole up to a maximum of 100mm. The design allows complete angle adjustments for best solar panel positioning.

80W/1687-X* System Performance

Designed System Performance

Power usage during Night	12.5W
Total Available Lumens	1687 lm
Operation Dusk to Dawn – Desgined for 14 hours during Winter	Dip switch selectable – Factory set Dusk to Dawn
Mapped Current output	1042 mA
Used Watts (14 hours)	175W
AvailableTotal Watts (Battery)	438W
Depth of Discharge from battery per Night	40%
Working Redundency no Sun	2.5 days
Number of Cycles	>1500
Battery Replacement	>4 years
Operating Temperature	-40°C – 60°C
Recharge Time	3.5 Hours per Day
MPPT Charge Algorithm	YES
Undervoltage Cut Out	YES
Overvoltgae Cut Out	YES
LED Protection	YES
Short Circuit Protected	YES

80W/1687-X* *number of LEDs

Enclosure

IP Rating	52
Finishing	Powder Coated Dove Gray
Solar Degrees	Adjustable 15° - 37° Degrees
Adjustable Light Output Direction	Adjustable LED's (1,2,3 or 4) Left Right & Up and Down 50W/1687-replace" X with amount of lights" 50W/1687-1 = 1LED etc.
Weight	35 kg
Dimensions	635mm x 670mm x 500mm
Maximum Pole Diameter	100 mm
Pole Fixing	4 x 12mm lock Nuts
Mounting Height	2.5m – 7m
External Cutouts on enclosure	On-Off Switch, Dip Switch Selector, 5 x Fault LED's

LEDs used for 80W/1687-X Lights

LUMILEDS	LXML-PWC2
Quantity	X 6 per LED light Source 80W/1687-1 = 1 Light Source 6 LEDS 80W/1687-2 = 2 Light Source 12 LEDES 80W/1687-3 = 3 Light Source 18 LEDES 80W/1687-4 = 4 Light Source 21 LEDES
Nominal CCT/Color	5650K Cool White
Typical CRI	70
Typical Luminous Flux (lm) @ 350mA Forward Current _+(1W)	135 lm per Watt

Battery used for 80W/1687-X Lights

Capacity	40Ah@20hr-rate to 1.75V per Cell @ 25°C
Weight	13.3 kg
Type – EV	Frequently deep cycle applications
Cells per Unit	6
Voltage	12
Cylce Life in Relation to Depth of Discharge	
50%	>1500 Cycles
30%	>1750 Cycles

80W/1687-X* *number of LEDs

Solar Panel

Electrical Performance at STC*

Maximum Power	80Wp
Power Tolerance	0/+5Wp
Maximum Power Voltage	18V
Maximum Power Current	4.5A
Open Circuit Voltage	21.9V
Short Circuit Current	4.78A

*Standard Test Conditions : 1000W/m² irradiance, 25°C and AM = 1.5

Thermal Conditions

Normal Operating Cell Temperature	46°C + -2°C
800W/m ² irradiance, 20°C and AM = 1.5	
Power Temperature Coefficient	-0.5%/K
Current Temperature Coefficient	0.0035%/K
Voltage Temperature Coefficient	-0.37MV/K

Limits

Operating Temperature	-40°C to 85°C
Maximum System Voltage	1000V DC

General Characteristics

Cell	Polycrystalline Solar Cell (156 x 63)mm
No Cells	36 (4x9)
Panel Dimensions	958 x 680 x 35 mm
Weight	5.2 kg