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# Solar LED Roadway Luminaire

## **Applications:**

The DS Series Luminaire is designed as a direct upgrade replacement for traditional dusk-to-dawn security light units. The Luminaire offers easy mounting and compatibility to standard ANSI refractor/reflector assemblies. The rugged, corrosion-resistant, die-cast aluminum housing is outfitted with stainless steel hardware and an epoxy coating that offers an extremely long service life and excellent weather resistance. The DS offers multiple light distribution options to improve the visual experience for your specific application. While not commonly available on traditional HID or competing LED products, the DS offers a full line of roadway distribution patterns.

## **Description:**

This unit replaces 100 watt, 150 watt, 175 watt incandescent lighting (HID, high-pressure sodium, metal-halide, etc.), using only 55 watts maximum, saving significant electrical costs.

Excellent for parking lots, entryways, driveways, office buildings, warehouse exteriors, storage buildings, etc. Powerful, extra-bright LEDs deliver bright, even lighting in outdoor applications. LEDs rated at 100,000 hours (18 years at average use), reducing bulb replacement costs by up to 10 times. LED lighting provides instant-on illumination versus standard HID bulbs which require a warm-up period. Advanced heat dissipation technologies for long-term reliability.

High-quality driver components. Unlike standard outdoor lighting which attract bugs, LED light is invisible to most bugs, reducing "bug swarming" around light.

## **Construction:**

Heavy-duty cast aluminum housing and corrosion-resistant hardware provides strength of construction and longevity in application. Powder-coated finish and IP65 construction provides durable resistance to the outdoor environment. Lightning and surge protection, MOVs and Arc Tubes.

## **On-Board Lighting Controls:**

Includes replaceable high-quality Lumatrol photocontrol for dusk to dawn on operation.

## **Optics:**

Precision-molded, high-impact, optical-grade PMMA lens providing uniform Type V wide oval distribution. Keyed lens assembly ensures consistent optical performance across a broad range of available outputs. Lens resists impact damage.

Dark Sky certified, full cut-off reduces light pollution. Fixture and lens design provides more focused, even lighting with better color rendition. Color temperature is 5,500K (natural white).

## **Electrical:**

High-efficiency 5,500K, 70CRI LEDs are mounted to a metal core printed circuit board (COB) which is installed onto the finned LED heat sink to maximize thermal management and provide long operating life for the LEDs (rated life 100,000 hrs, 40°C ambient L85\*\* based on 9,000 hours of LED testing per LM-80-08. LED life based on projected values per IESNA TM21-11). Variable voltage input drivers (12-60 volts DC) LED driver design provides long life of electrical components by providing thermal separation of electrical components from LED heat sink.

## **Mounting:**

Mounts to standard 1.5" O.D. round pole arm (available at most home improvement stores). Listings – DLC, (cULus, ETL ) only in AC version), ISO, CE, RoHS, IDA Dark Sky. IP65 rated. Suitable for ambient temperatures from -40° to 40°C.

## **Warranty:**

5-year limited warranty. Consult manufacturer for additional terms and conditions. Fully tested and certified.

Call us for a quote on large commercial projects and quantity pricing.

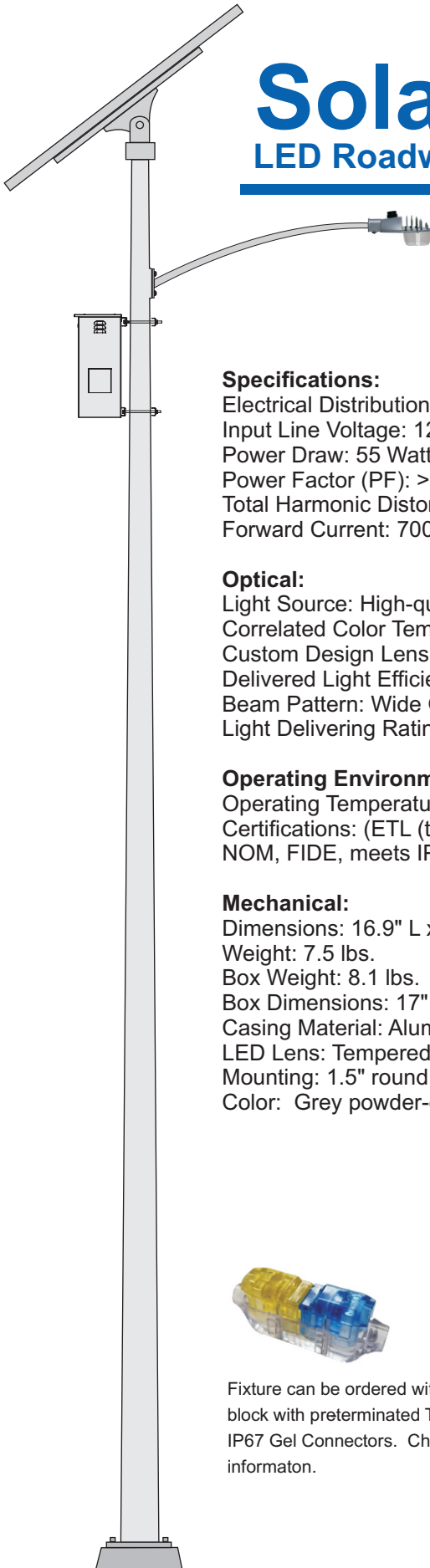


# Solar

## LED Roadway Luminaire



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### Specifications:

**Electrical Distribution:**  
 Input Line Voltage: 12-24 VDC standard (V1)  
 Power Draw: 55 Watt Max  
 Power Factor (PF): >0.95  
 Total Harmonic Distortion (THD): <10%  
 Forward Current: 700 mA

### Optical:

Light Source: High-quality LumiLEDs, 100,000 hour life  
 Correlated Color Temperature (Kelvin): 5,500K (pure white)  
 Custom Design Lens Source: Ledil  
 Delivered Light Efficiency: >90%  
 Beam Pattern: Wide Oval (Type V Standard)  
 Light Delivering Rating: Cutoff (Dark Sky certified)

### Operating Environment:

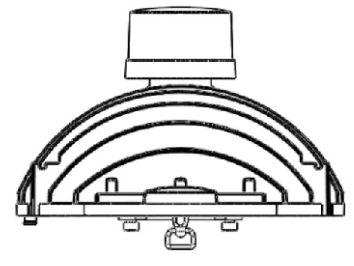
Operating Temperature: -40F to 110F, -40C to +40C  
 Certifications: (ETL (to UL standards) in AC version), CE, RoHS, NOM, FIDE, meets IP65, IESNA, Dark Sky

### Mechanical:

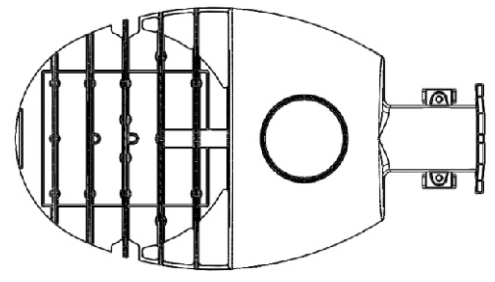
Dimensions: 16.9" L x 9.4" W x 4.5" H  
 Weight: 7.5 lbs.  
 Box Weight: 8.1 lbs.  
 Box Dimensions: 17" x 9.3" x 4.3  
 Casing Material: Aluminum alloy  
 LED Lens: Tempered Glass  
 Mounting: 1.5" round arm and wall mount  
 Color: Grey powder-coated aluminum



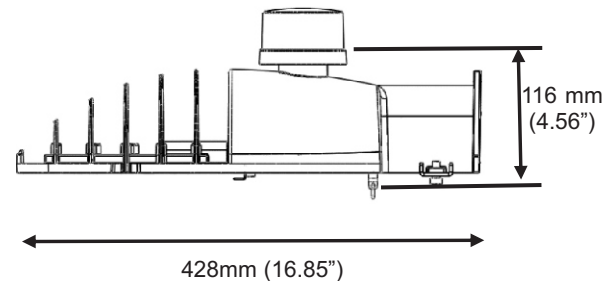
167.54mm  
(6.57")



240mm  
(9.44")



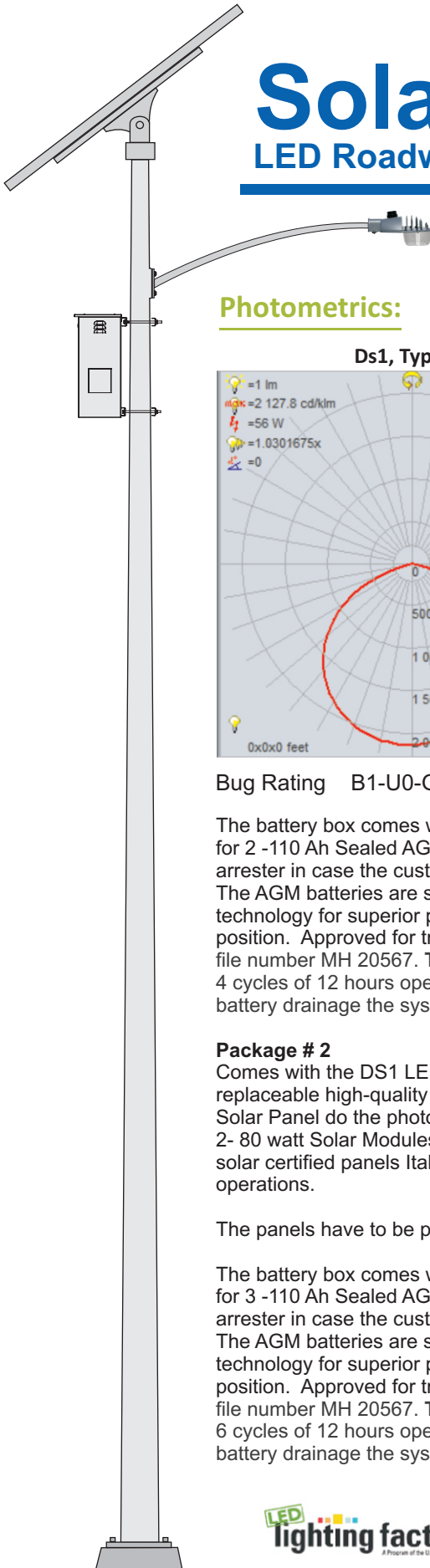
Fixture can be ordered with a pig tail instead of a terminal block with preterminated TYCO Insulaton Displacement IP67 Gel Connectors. Check with your Sales rep for more informaton.



# Solar LED Roadway Luminaire

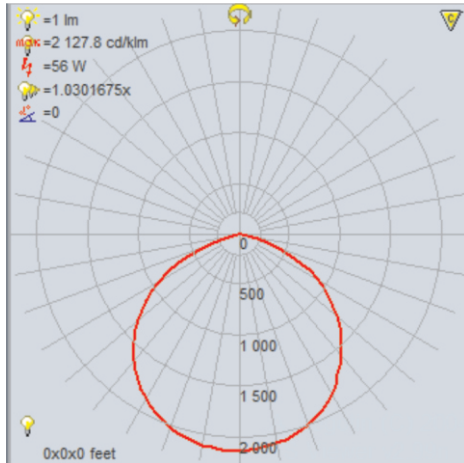


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## Photometrics:

Ds1, Type 5



## Lamp Configurations:

The lamp comes in 2 configurations:

### Package # 1

Comes with the DS1 LED street lamp that will produce 5900 Lumens, the lamp comes with the 12 Volts replaceable high-quality Lumatrol photocontrol for dusk to dawn on operation, or shorting cap in case the Solar Panel do the photo control job. it depend of the Charge controller used according the situation. 2- 80 watt Solar Modules, to produce 160 watt combined in the solar array, High Quality European made solar certified panels Italian *Peimar* this modules are designed to do the best performance in Off Grid operations.

The panels have to be placed on top of the pole facing the south direction in 45 degrees angle.

Bug Rating B1-U0-G1

The battery box comes with brackets for 6 inches pole, the metal box is weather proof with accommodation for 2 -110 Ah Sealed AGM batteries. the Charge controller is pre-assembled on the box also the Lighting arrester in case the customer require it on the package.

The AGM batteries are standard sealed industrial grade AGM solar batteries, Absorbant Glass Mat (AGM) technology for superior performance. Valve regulated, spill proof construction allows safe operation in any position. Approved for transport by air. D.O.T., I.A.T.A., F.A.A. and C.A.B. certified. U.L. recognized under file number MH 20567. **The Battery Box will hold 2,640 watt in storage capacity.** it means it will supply 4 cycles of 12 hours operation consuming 660 watt per night keeping one cycle as battery backup to avoid battery drainage the system will be **categorized as 3 days duty** setup system.

### Package # 2

Comes with the DS1 LED street lamp that will produce 5900 Lumens, the lamp comes with the 12 Volts replaceable high-quality Lumatrol photocontrol for dusk to dawn on operation, or shorting cap in case the Solar Panel do the photo control job. it depend of the Charge controller used according the situation. 2- 80 watt Solar Modules, to produce 160 watt combined in the solar array, High Quality European made solar certified panels Italian *Peimar* this modules are designed to do the best performance in Off Grid operations.

The panels have to be placed on top of the pole facing the south direction in 45 degrees angle.

The battery box comes with brackets for 6 inches pole, the metal box is weather proof with accommodation for 3 -110 Ah Sealed AGM batteries. the Charge controller is pre-assembled on the box also the Lighting arrester in case the customer require it on the package.

The AGM batteries are standard sealed industrial grade AGM solar batteries, Absorbant Glass Mat (AGM) technology for superior performance. Valve regulated, spill proof construction allows safe operation in any position. Approved for transport by air. D.O.T., I.A.T.A., F.A.A. and C.A.B. certified. U.L. recognized under file number MH 20567. **The Battery Box will hold 3,960 watt in storage capacity.** it means it will supply 6 cycles of 12 hours operation consuming 660 watt per night keeping one cycle as battery backup to avoid battery drainage the system will be **categorized as 5 days duty** setup system.

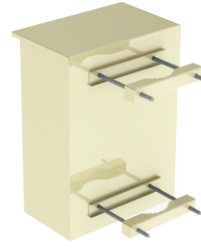
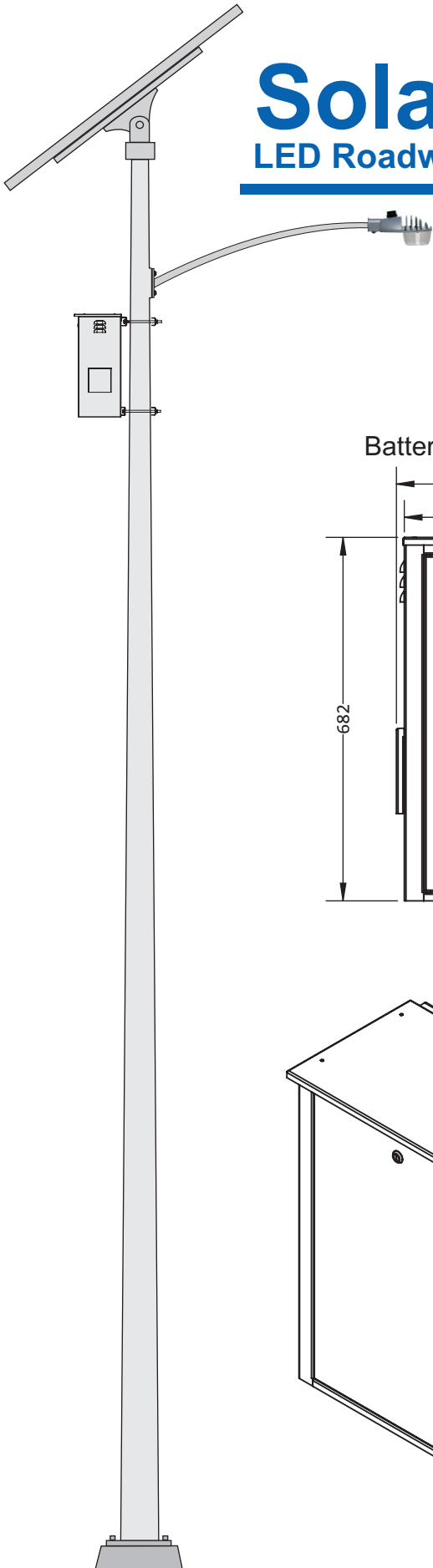


# Solar

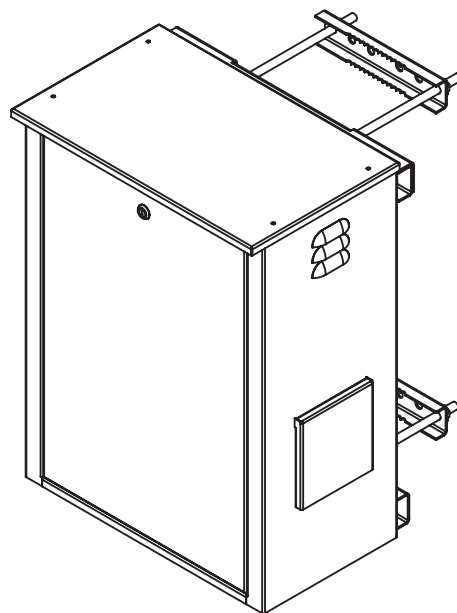
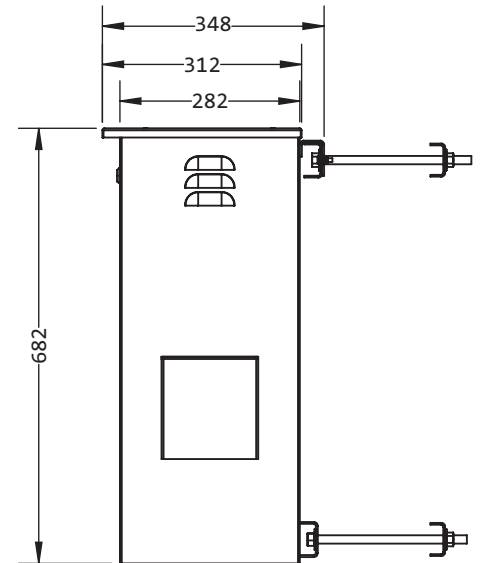
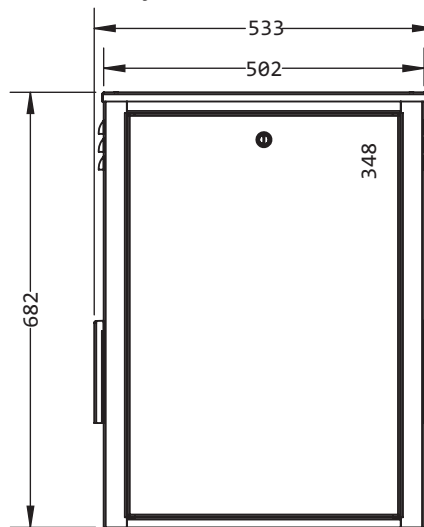
## LED Roadway Luminaire



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Battery box dimensions in mm



### General Characteristics

Brand : Lone Star

Code : LME-02-PM

Description : Metal enclosure for 2 batteries  
Pole mount type

### Box Construction:

Material : Rolled steel sheet

Gauge : 18, 11

Color : Beige

Applications : Exterior

### Paint finish:

Powder coated

### Weight

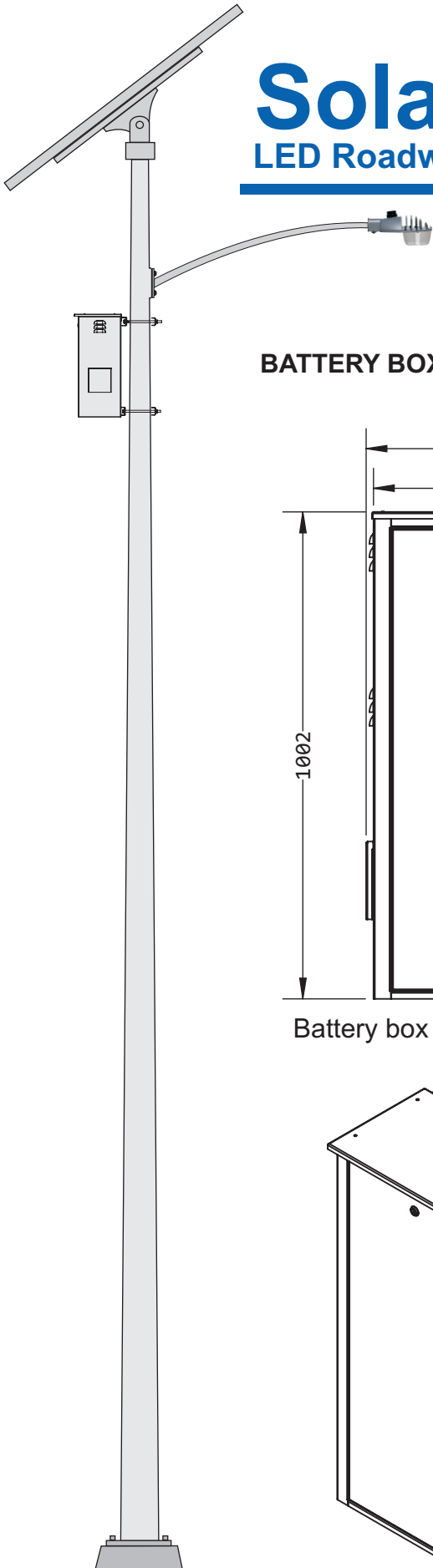
22.32 Kg

# Solar

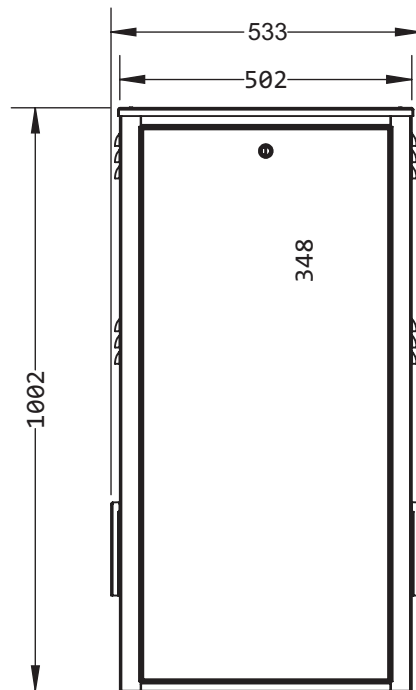
## LED Roadway Luminaire



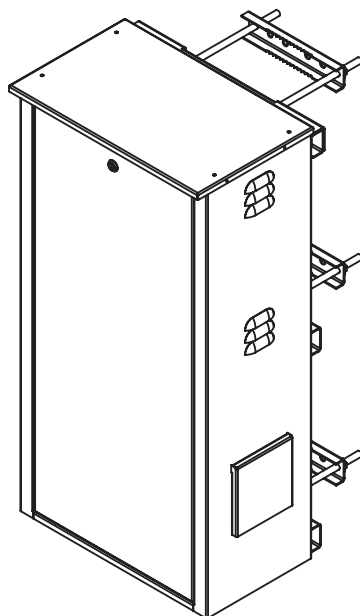
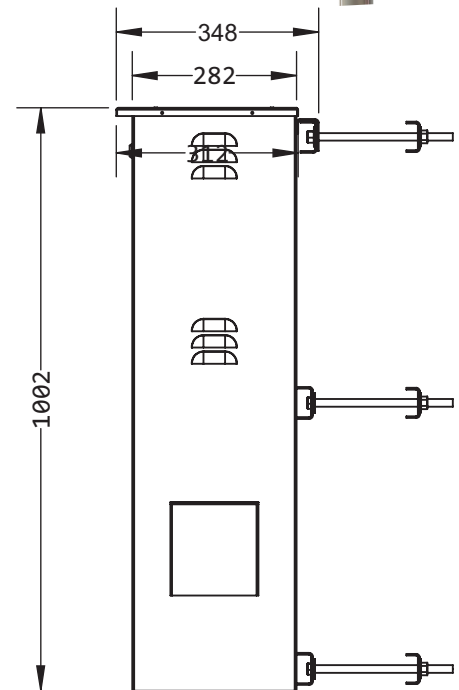
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### BATTERY BOX ENCLOSURE



Battery box dimensions in mm



#### General Characteristics

Brand : Lone Star

Code : LME-03-PM

Description : Metal enclosure for 3 batteries  
Pole mount type

#### Box Construction:

Material : Rolled steel sheet

Gauge : 18, 11

Color : Beige

Applications : Exterior

#### Paint finish:

Powder coated

#### Weight

30.93 Kg

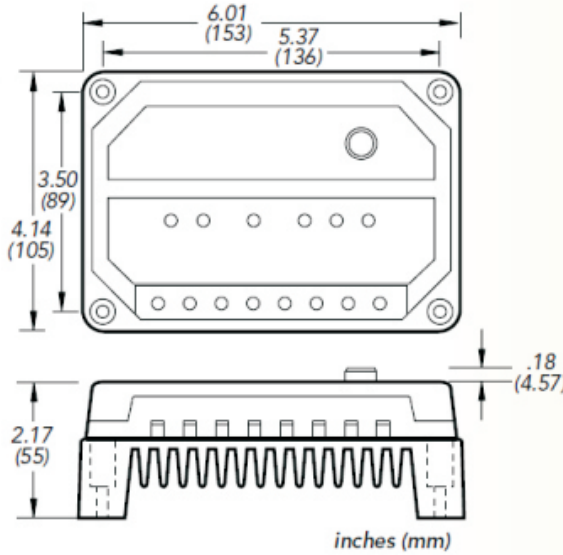


# Solar LED Roadway Luminaire



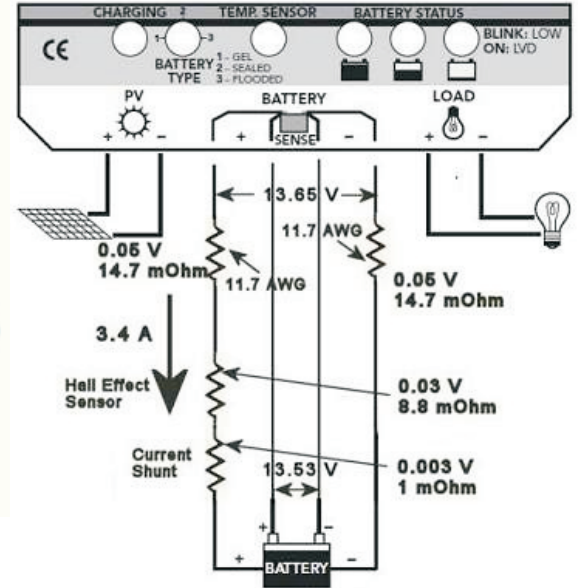
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## Controller option #1 using PWM charge controller, LED driver and Nema 3 pin Photocontrol

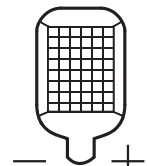
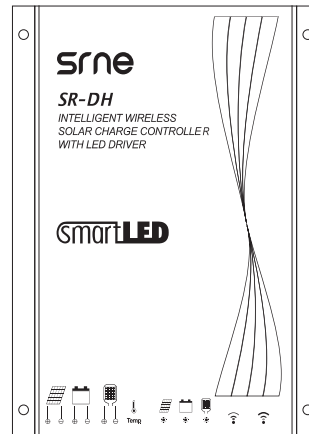
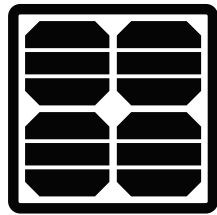


Charge controller model will change according to the project requirements

## WIRING DIAGRAM



## Controller option #2 using the solar panel as Photocontrol and the all in one smart LED driver with charge controller and programable features.



# Solar LED Roadway Luminaire



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## BATTERY SPECS

### Sealed Lead-Acid Battery

Absorbant Glass Mat (AGM) technology for superior performance. Valve regulated, spill proof construction allows safe operation in any position. Approved for transport by air. D.O.T., I.A.T.A., F.A.A. and C.A.B. certified. U.L. recognized under file number MH 20567.

UPG No. D5751

# UB121100

Maintenance-Free

#### Specification

<b>Nominal Voltage</b>	12 volts		
<b>Nominal Capacity</b>	77° F (25° C)		
20-hr. (5.50A)	110.0 Ah		
10-hr. (10.23A)	102.3 Ah		
5-hr. (18.70A)	93.5 Ah		
1-hr. (66.00A)	66.0 Ah		
<b>Approximate Weight</b>	65.7 lbs (29.8 kgs)		
<b>Internal Resistance</b> (approx.)	5m?		
<b>Shelf Life</b> (% of normal capacity at 77° F (25° C))			
3 Months	6 Months	12 Months	
91%	82%	64%	
<b>Temperature Dependency of Capacity</b> (20 hour rate)			
104° F (40 C)	77° F (25 C)	32° F (0 C)	5° F (-15 C)
102%	100%	85%	65%
<b>AGM Operational Temperature</b>			
Charge	32° F to 104° F (0° C to 40° C)		
Discharge	5° F to 113° F (-15° C to 45° C)		
<b>AGM Storage Temperature</b>	5° F to 104° F (-15° C to 40° C)		



#### Charge Method (Constant Voltage)

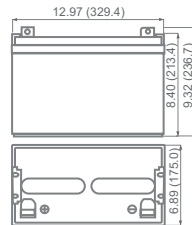
#### Cycle Use (Repeating Use)

Initial Current	33 A or smaller
Control Voltage	14.6 - 14.8 V

#### Float Use

Control Voltage	13.6 - 13.8 V
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#### Physical Dimensions: in (mm)



L: 12.97in (329.4 mm)  
 W: 6.89in (175.0 mm)  
 H: 8.40in (213.4 mm)  
 TH: 9.32in (236.7 mm)  
 Tolerances are +/- 0.04 in. (+/- 1mm) and +/- 0.08 in. (+/- 2mm) for height dimensions. All data subject to change without notice.

#### Terminals



#### L Series (L Type Terminal)

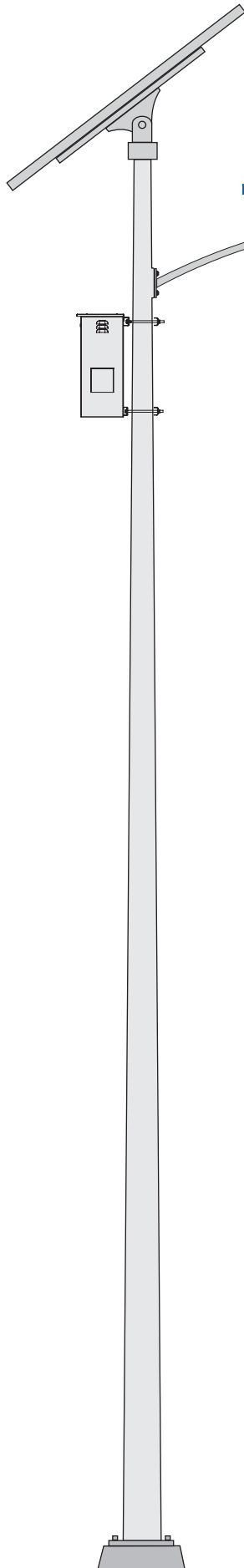
Dimension / Type	L	W	H	h	Ø
La	25.5	7.0	22.0	10.5	8.5

#### Constant Current Discharge Characteristics Unit:A (25°C, 7

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	361.1	269.3	189.5	114.7	59.9	34.9	25.6	20.0	16.5	11.6	10.5	5.7
10.20V	325.2	245.4	169.6	108.7	56.3	33.3	24.9	19.5	16.2	11.4	10.2	5.5
10.50V	313.2	233.4	159.6	105.7	54.9	32.5	24.3	19.2	16.0	11.3	10.0	5.5
10.80V	301.2	221.4	149.6	102.7	52.9	31.7	23.7	18.9	15.6	11.0	10.0	5.4
11.10V	289.3	209.5	139.7	99.8	50.9	30.9	22.9	18.3	15.2	10.7	9.5	5.1

#### Constant Power Discharge Characteristics Unit:W (25°C, 7

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	3919.2	2959.6	2013.0	1217.9	693.3	404.0	297.3	231.4	190.5	134.7	121.7	65.5
10.20V	3610.0	2724.2	1882.3	1207.0	651.4	386.0	289.3	225.4	149.7	131.7	118.7	63.8
10.50V	3552.1	2647.4	1809.5	1199.0	630.4	377.1	282.3	221.4	184.5	130.7	116.7	63.0
10.80V	3506.2	2577.5	1741.6	1196.0	613.5	369.1	276.3	217.5	181.5	127.7	115.7	62.7
11.10V	3442.4	2492.8	1661.8	1187.0	605.5	368.1	273.3	216.5	180.5	126.7	112.7	60.8



# Solar

## LED Roadway Luminaire



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### SOLAR PANELS SMALL



**12V DC MODULES**  
FOR OFF-GRID SOLUTIONS



SUITABLE FOR: **SOLAR KITS, RVs, BOATS**  
AND CABINS



**MAXIMUM ADAPTABILITY**

### Poly- SMALL PANELS FROM OS80P TO OS130P

#### ELECTRICAL Characteristics (STC)\*

	OS80P	OS100P	OS130P
Nominal Output (Pmax)	80 W	100 W	130 W
Voltage at Pmax (Vmp)	17.78 V	17.80 V	17.64 V
Current at Pmax (Imp)	4.50 A	5.62 A	7.37 A
Open Circuit Voltage (Voc)	21.33 V	21.36 V	21.17 V
Short Circuit Current (Isc)	5.03 A	6.26 A	8.25 A
Cell Efficiency	14.69 %	15.22 %	14.84 %
Module Efficiency	12.48 %	13.12 %	13.01 %
Solar Cells	36 (4x9)	36 (4x9)	36 (4x9)
Cells Dimensions	156x97 mm / 6x3.8"	156x117 mm / 6x4.6"	156x156 mm / 6x6"
Dimensions	951x674x35 mm 37.4x26.5x1.4"	1131x674x35 mm 44.5x26.5x1.4"	1482x674x35 mm 58.3x26.5x1.4"
Weight	7.15 Kg / 15.76 lb	8 Kg / 17.64 lb	8.9 Kg / 19.62 lb

\*STC (Standard Test Condition): Irradiance 1000W/m<sup>2</sup>, Module Temperature 25°C, Air Mass 1.5