

INTEGRATED  
SOLAR STREET LIGHT

**LD338 50W**

TECHNICAL SPECIFICATION



**Plusrite<sup>®</sup>**

# TECHNICAL SPECIFICATION & COMPONENTS

## LD338

MODEL NO. .... LD338/50W

### LIGHTING MODULE

Wattage ..... 50W  
 Efficiency ..... 200lm/W  
 Output ..... 10000lm  
 Chips LED ..... 5050  
 LED lifetime ..... 100,000 hours  
 Optics ..... Type II /III/IV/V  
 CCT ..... 4000/5000/6500/Optional 2200 & 1800K  
 Installation Height ..... 7-8m

### BATTERY

Technology ..... LiFePO4  
 Capacity ..... 460.8Wh (12.8V/36Ah)  
 Autonomy ..... 3-4 Rainy Days (Auto)  
 Charging time ..... 5-6 hours  
 Lifespan ..... Over 2000 CYCLES @ 80%  
 Working temp ..... -20°C to 60 °C

### SOLAR PANEL

Wattage ..... 100 Watts / 18V  
 Technology ..... Monocrystalline  
 Grade ..... A  
 Lifetime ..... 25 years

### ELECTRONIC

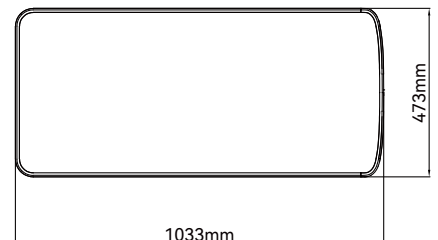
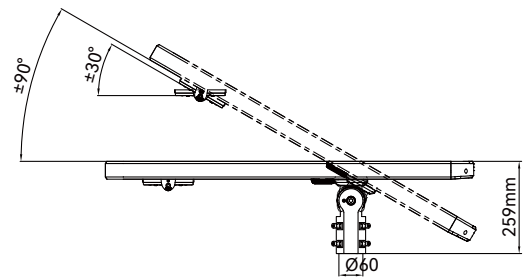
Controller ..... MPPT  
 Sensor ..... Microwave Motion Sensor  
 Connector ..... Waterproof Connector, Plug and Play  
 Protection ..... Battery Management System (BMS)

### MECHANICAL

Pole mounting .....  $\Phi 60$ mm  
 Material ..... Aluminium and Stainless Steel  
 SF Dimensions (mm) ..... 1033\*473\*259  
 SF Dimensions (inch) ..... 40.67\*18.62\*10.20  
 Net weight ..... 18kg  
 Wind resistance level ..... 52m/s (wind of force 14 to 16)



## DIMENSIONS



## PACKING

Model No.	n.w. (1 pc)		QTY/ CTN	N.W. (1 CTN)		G.W. (1 CTN)		Carton Dimensions (mm)	CBM (M <sup>3</sup> )	QTY/20GP	QTY/40HQ
	kgs	lbs		kgs	lbs	kgs	lbs				
LD338/50W	18.00	39.60	1	18.00	39.60	21.00	46.20	1135*520*390	0.2302	125	280




Warranty: 3 years for whole fixture.



# LUMINAIRE LIGHTING MODULE

## Two Options

Types	Pic	Chips	IP	IK	Advantages
PC module (Standard)		5050	66	08	-Economic price -Higher impact resistance -Multiple beam angle choices

## OVERALL ADVANTAGES

- Interchangeable lighting module, easy operation
- High efficiency up to 200lm/w
- Optional Various beam angle: Type 2, 3, 4, 5, etc
- Multiple CCT choices: 2200K, 3000K, 4000K, 5000K, Amber, Special CCT for DS1
- Chip life: 100,000 hours
- CRI: >70 (optional 80)
- No cabling, no trenching



# REMOTE CONTROL

- Infrared remote control mode and wireless remote control mode can be.
- Elected, wireless remote control distance can be selected.
- Wireless remote control has strong anti-interference ability and good penetration.
- Large LCD screen displays parameters and data.
- Simple and easy to understand interface design.
- No operation automatic sleep, ultra-low sleep power consumption; key to wake up.
- Two No.5 batteries power supply, battery capacity indication.
- Emergency lighting and SOS signal.
- Interval for switching between presence and absence: 1 minute



\*Additional Control Manual



	Induction time	Nobody under the light	Somebody under the light	
LD338 50W Reference #1	3H	30%	100%	(Common Factory Setting) Setting for relatively sunny cities: 305Wh
	8H	20%	50%	
	3H	20%	70%	

# BATTERY LIFEPO4

- Cycle life: over 2000 Cycles @ 80% DOD.
- Battery technology: LIFEPO4
- Battery warranty: 3 years
- Quick replacement: Inter changeable box, quick replacement
- Anti-drop Protection
- Temperature range: -20°~60°.
- Capacity: Support 3-4 rainy days
- UN38.3 IEC62133 certification
- Quality assurance: We choose the same quality like Philips, Belgium Schrader Lighting, United States ABL, Pelican, Ledvance and other popular brands.

## BMS System

The full name of the Battery Management System, is the link between the battery and the user, is mainly responsible for the management of the battery's charging and discharging performance, in order to ensure that the battery's safe, stable and long-life operation

## COMPARISONS OF DIFFERENT BATTERY TECHNOLOGIES

### LIFETIME & CYCLES AT 80% DOD\*

Comparison of different battery technologies



Lead Acid  
200



NimH  
700



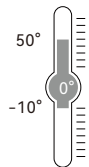
Lithium ION  
800



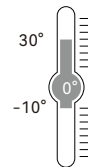
Lithium LifePO4  
2 000

### CHARGING TEMPERATURE RANGE WITHOUT CAPACITY LOSS

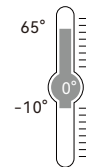
Minimum & Maximum temperature range for Optimal charging during the day



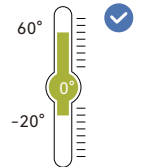
Lead Acid



NimH

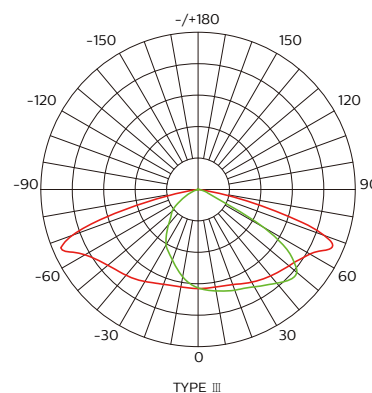
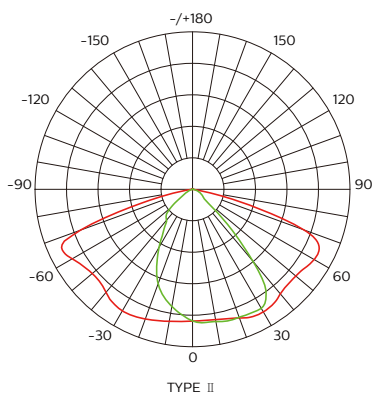


Lithium ION



Lithium LifePO4

## LIGHT DISTRIBUTION CURVES



# SOLAR PANEL

## 1 Material:

Monocrystalline silicon, tempered glass

## 2 Solar panel shade in the rain and sunny days of power generation:

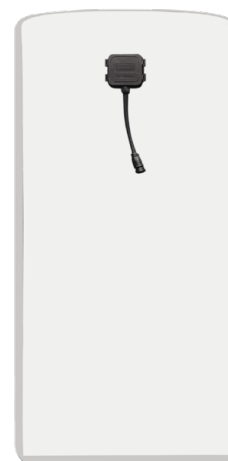
Sunny days, power generation efficiency is very good. When it is cloudy and rainy, as long as the sun is bright during the day, it will absorb solar energy, more than 5 consecutive cloudy and rainy days will be completely out of power.



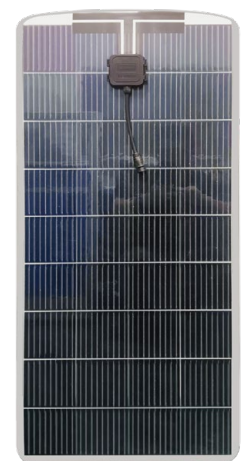
## 3 Advantages of double-sided solar panels:

- 1) 10% higher absorption efficiency than single-sided, but the price rise is very little impact on the whole light
- 2) Enhanced waterproof, IP67
- 3) Corrosion and impact resistance
- 4) Class A solar panels, available for 25 years
- 5) Meet the IEC61215; IEC61703; UL1703 standards
- 6) Cleaning recommendation: 6-12 months cleaning. If it has not been cleaned for 5 years, the power generation efficiency will decrease by about 30%.

Solar Panel Type	Efficiency	Increase Cost On Solar Panel	Increase Cost On Whole Fixture
Single Sided	11%	-	-
Double Sided	21%	2%	0.5%

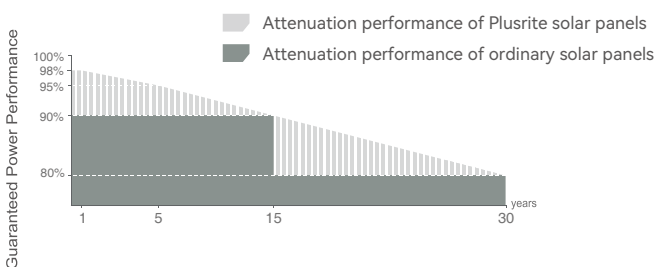


Single Charge



Double Charge

## Solar Panel Attenuation Comparison



## 4 Attenuation of solar energy absorption capacity:



In windy and sandy places, physical wear and tear is the main impact (physical wear and tear brought about by wind and sand will damage the encapsulation structure of PV modules, leading to excessive power attenuation or accelerated aging, which in turn affects the service life of the modules and power generation)

# MOTION SENSOR MICROWAVE

LD338 are equipped with microwave detectors that use the Doppler effect (like car radars) to detect a nearby objects and measure the distance. The sensor emits a high frequency wave to reflect off of and analyze the objects in the vicinity.

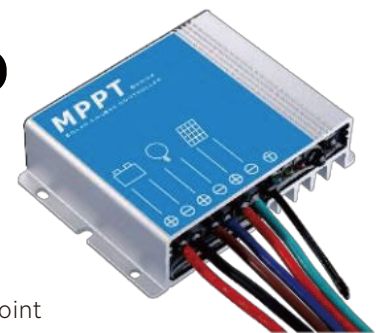


## COMPARISON OF MICROWAVE MOTION SENSORS AND PIR SENSORS

Types	Pic	Detection Zone	Advantages
MICROWAVE MOTION SENSOR		7-12 meters $\pm 45^\circ$	<ol style="list-style-type: none"> <li>1. Only detect specific moving objects. Much better reliability</li> <li>2. Insensitivity to other environmental variations such as light, color, temperature, etc</li> </ol>
PIR SENSOR		6-8 meters $\pm 45^\circ$	Only sensitive to temperature changes

# CONTROLLER MPPT (Standard)

MPPT controllers are designed for solar street light system, which can increase the charging efficiency by about 20% compared with the traditional PWM controllers, and can reduce the cost of the whole street lighting.



- Innovative maximum power point tracking technology (MPPT), maximum power point tracking efficiency >99%.
- Full digital control technology, charging conversion efficiency up to 97.5%, discharge conversion efficiency up to 96.5%.
- Five-stage time and power adjustment, power 0~100% adjustable.
- Automatic power down operation can be set when the battery power is low.
- Automatic light control point adjustment function.
- Charging automatic power down operation when the temperature exceeds the set value to avoid high temperature damage to the controller.
- External temperature sensor, automatic temperature compensation (liquid, gel and AGM batteries).
- Four-stage charging: MPPT, strong charging, equalization charging, float charging.
- Li-ion battery low-temperature charging protection function, environmental temperature below zero degrees can be prohibited or slow charging.
- Li-ion battery pack transportation mode, load off on the way, activated after 1 second of installation.

# MOUNTING

## Slip Fitter Mounting



## WIND RESISTANCE



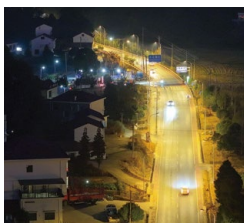
Global  
Wind Level



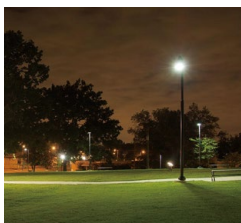
Hurricane  
Level 3

- Frame Material: Aviation aluminum profile using a one-piece roll-round process, high quality polyester powder coating.
- Wind resistance test: **52m/s** (Global wind level 16, U.S. hurricane level 3).

## APPLICATION



Main  
Roads



Pathways  
& Alleys



Bike  
Paths



Car Parks &  
Rest Areas



Hiking Trails  
& Campsites

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