



**BULLARD  
BOLLARDS**  
Think Bollard Think Bullard

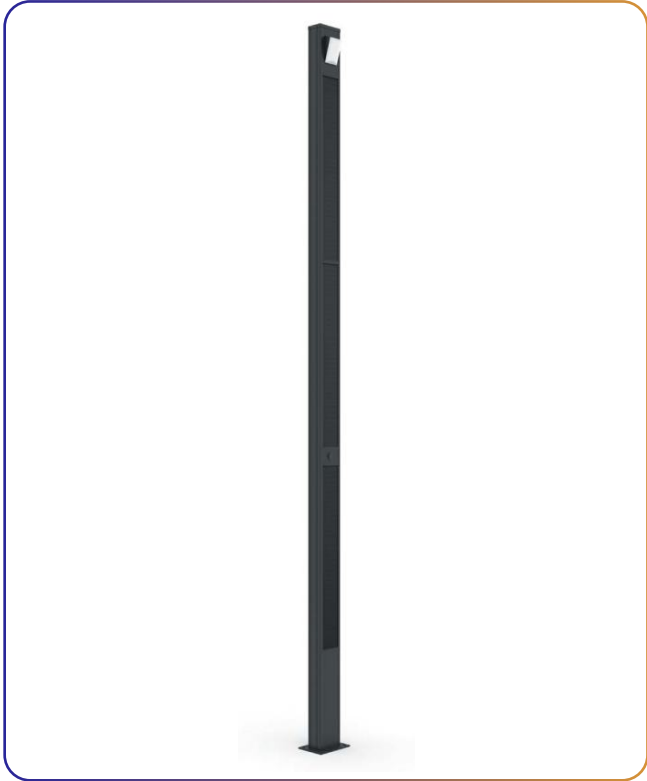
# TOTEM 60 SOLAR BOLLARD





FIXTURE TYPE: \_\_\_\_\_

PROJECT NAME: \_\_\_\_\_



**CERTIFICATIONS**      **IEC / TUV / EMC / LM-79- 08  
AND LM-80 TEST STANDARDS  
/ IK8 / IP65 / CE**

**5  
YEARS**

\* Bullard Solar offers a 5 Year Limited Warranty for the TOTEM-Series luminaire shall be free from defects in material and workmanship for up to five (5) years from date of shipment. This limited warranty covers all components when installed and operated according to Bullard Solar instructions. Fixture suitable for ambient temperature from -10° to 50°. PV Panels - 20 year performance warranty Controller & Batteries : 5 years

**GENERAL INFORMATION:**

TOTEM combines a unique design with integrated panels within the structure, striking a perfect balance between elegance and performance. Equipped with SHINGLED PERC solar cells, the solar column can charge under both the sun and cloudy weather, always ensuring an optimal lighting all year long.

NOMINAL FLUX	.....	11760 LUMENS
NOMINAL POWER	.....	60 WATTS

**LIGHTING**

Efficiency	.....	196 Lumens/Watts
Chips LED	.....	PHILIPS Luxeon 30-30 / 2300K to 6500K
LED lifetime	.....	Over 80 000 hours LM80
Optics/CCT	.....	TII-S / 2300 to 6500K
Light Height	.....	236.22" (6m)

**BATTERY**

Technology	.....	Lithium Iron Phosphate LIFEPO4
Capacity	.....	1062Wh
Autonomy	.....	Over 24 hours at full charge - 4 Rainy Days back up
Charging time	.....	6-7 hours
Lifespan	.....	Over 3000 CYCLES @ 80% DOD over 10 years Lifetime
Working temp	.....	14°F to 158°F (optional -40°F to 158°F) -10°C to 70°C (optional -40°C TO 70°C)

**ENERGY**

Solar panel	.....	330 Watts /18V
Cells type	.....	Monocrystalline Panel Grade A 25 years
Certificates	.....	IEC 61215 - IEC 61730 I and II - IEC 60904

**ELECTRONIC**

Sensor	.....	Microwave 180° Sensor
Cabling	.....	Waterproof Connector, Plug and Play
Protection	.....	Battery Management System (BMS)

**MECHANICAL**

Wind speed	.....	160 Km/h
Material	.....	Aluminium and Stainless Steel

**DIMENSIONS**

Product	.....	236.22" x 12.20" x 14.57" (600 cm x 31 cm x 37 cm)
Carton size	.....	240.16" x 12.99" x 14.96" (610 cm x 33 cm x 38 cm)
Net Weight	.....	165,35lb ( 75 KG)
Gross Weight	.....	169,76 lb (77 KG)

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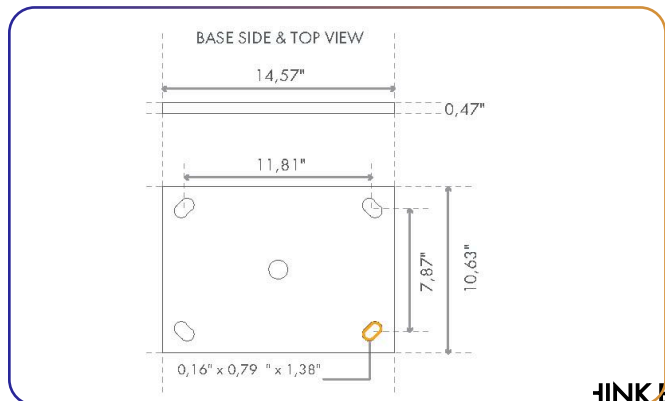
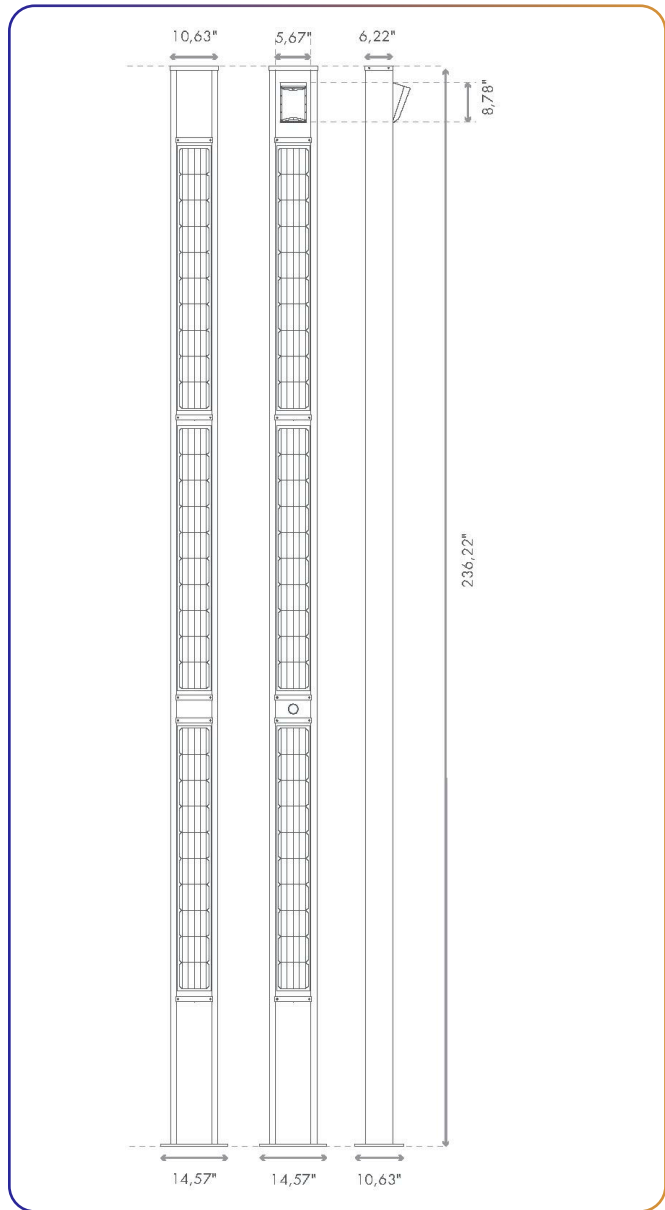


991 South Gull Lake Dr  
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USA



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**HOW TO ORDER:**

**CODE:**

**Example:**  
**CODE: BB-TTM60-BL-23K**

**BB-TTM60-  
BL-23K**

**1 DIMENSIONS:**

236.22" x 12.20" x 14.57" (600 cm x 31 cm x 37 cm)

**2 FINISH OPTIONS:**

-BL Black

**3 CCT:**

- 23K 2300K
- 30K 3000K
- 40K 4000K
- 50K 5000K
- 65K 6500K

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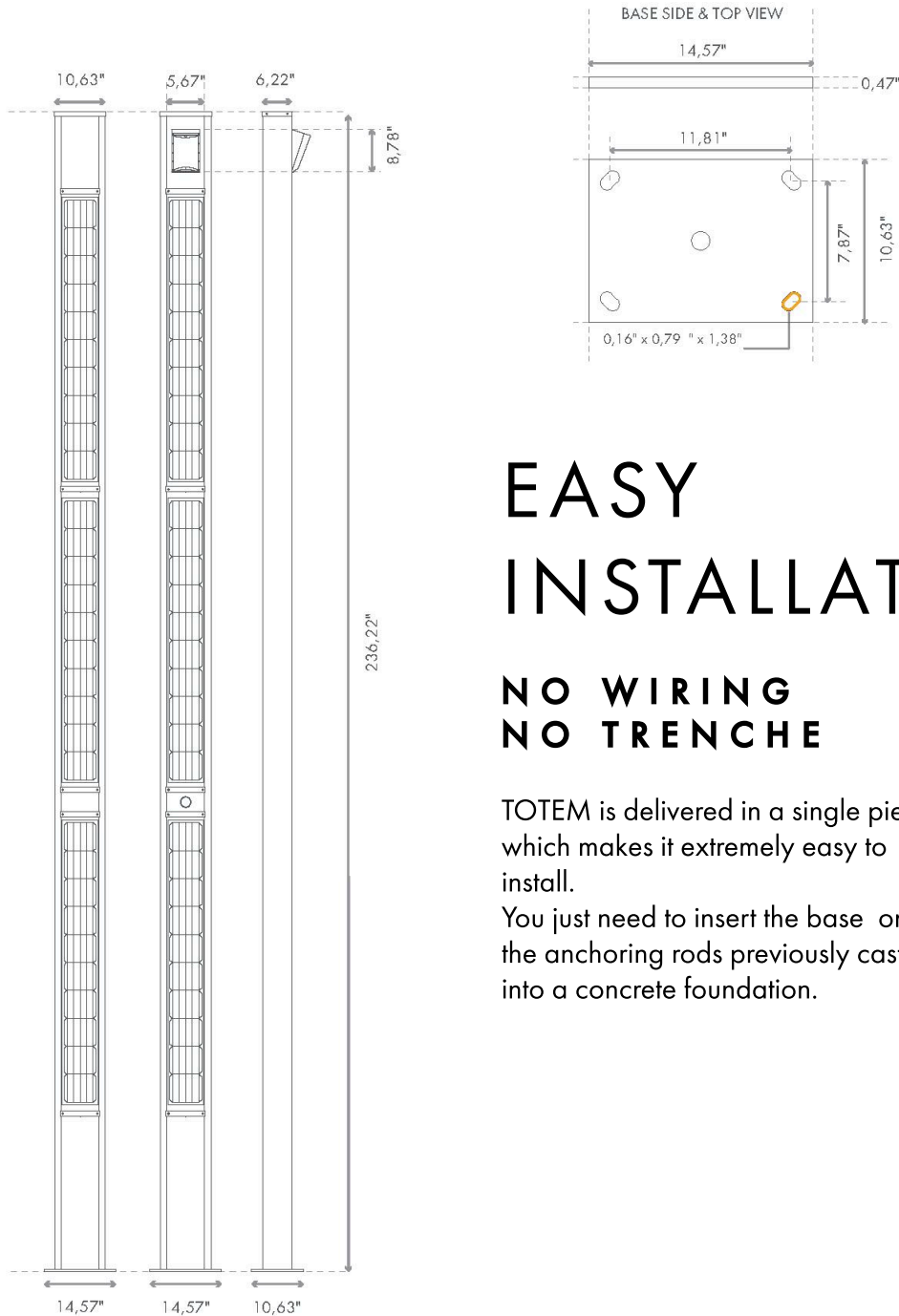
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BB-TTM60**

FIXTURE TYPE: \_\_\_\_\_

PROJECT NAME: \_\_\_\_\_

# DIMENSIONS \*

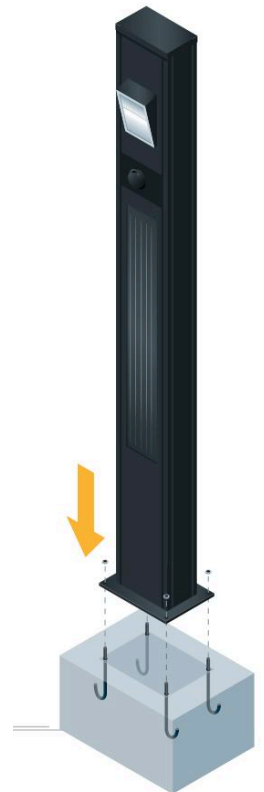
## SOLAR PANEL & BASE



# EASY INSTALLATION

**NO WIRING  
NO TRENCH**

TOTEM is delivered in a single piece which makes it extremely easy to install. You just need to insert the base onto the anchoring rods previously cast into a concrete foundation.



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IP<sup>65</sup>

# LUMINAIRE HOUSING & LEDS

**7840 LUMENS 2300 TO 6500K**

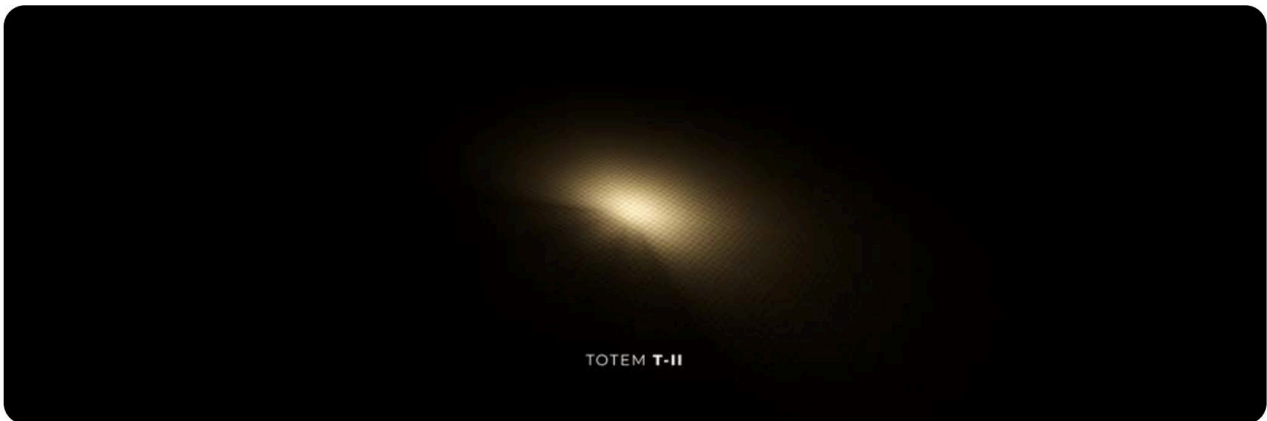
High pressure die-cast low-copper aluminum. Protection class (IP65). BULLARD SOLAR uses a high quality Polyester Powder Coating from AKZO NOBEL. This powder coating provides an excellent salt and humidity resistance as well as ultra violet resistance for color retention for this product. Our Luminaire is equipped with PHILIPS LUXEON HE PLUS High efficiency Chips offering an overall 196 Lumens per Watt efficiency. Our lighting fixture also complies with the current standards regarding light pollution ULR (Upward Light Ratio).



LED	3030	LED QTY (PCS)	72	OPTICS (PCS)	4	CRI	> 70
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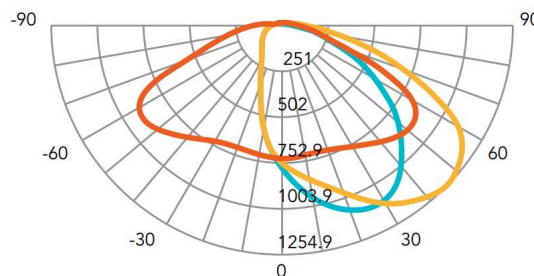


## SYMMETRICAL DISTRIBUTION



## LIGHT DISTRIBUTION CURVES

AVERAGE BEAM ANGLE (50%) : **106,2 DEG**



- C0/180,141.3°
- C30/210,122.3°
- C60/240,87.2°

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**OVER 10 YEARS LIFESPAN**

The TOTEM series is equipped with Iron Phosphate Lithium LiFePo4 battery. This technology is proved to be the best chemical technology for solar application on the market. With a cycle life of over 3000 Cycles @ 80% DOD, the battery enjoys lifespan of over 10 years.

**EXTREME TEMPERATURE**

14°F to 158°F / -10 °C to 70 °C

When Standard Lithium LiFePo4 batteries enjoy a working temperature range from 14°F to 158°F (-10°C TO 70 °C). Bollard Sollar offers as optional a new Special LIFEPO4 battery with working range of -40°F to 158°F (-40 °C. to 70 °C).

**EASY MAINTENANCE & ANTI THEFT SCREWS**

Easy and direct access to the battery casing for maintenance. The fixation are made with anti theft screws, which request special tooling to unscrew.

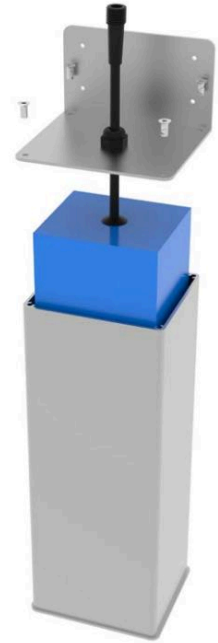
**BMS ELECTRONIC PROTECTION  
BATTERY MANAGEMENT SYSTEM**

Our batteries are equipped with electronic circuit boards for a higher protection, ensuring battery functioning optimization no matter the situation.

**THE BMS PROTECTS AGAINST**

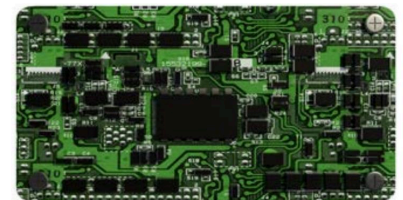
- OVER/UNDER CURRENT • OVERLOAD • OVER/UNDER VOLTAGE
- OVER/UNDER CHARGE • TEMPERATURE MANAGEMENT

**BATTERY LIFEPO4**



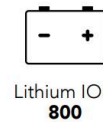
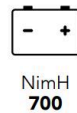
**ALUMINUM BOX**

High temperatures greatly affect the lifespan of batteries. To solve this problem, our batteries are placed in a sealed extruded aluminum box, which is known for its heat dissipation properties

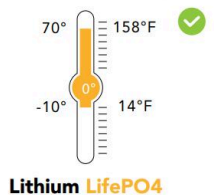
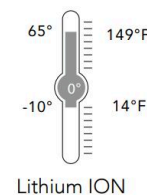
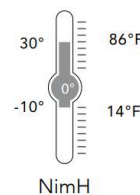
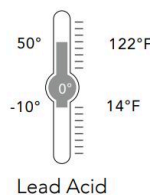


**COMPARISONS OF DIFFERENT BATTERY TECHNOLOGIES**

**LIFETIME & CYCLES AT 80% DOD\***  
*Comparison of different battery technologies*



**CHARGING TEMPERATURE RANGE  
WITHOUT CAPACITY LOSS**  
*Minimum & Maximum temperature range for  
Optimal charing during the day*



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# SOLAR PANEL

## 115 WATTS

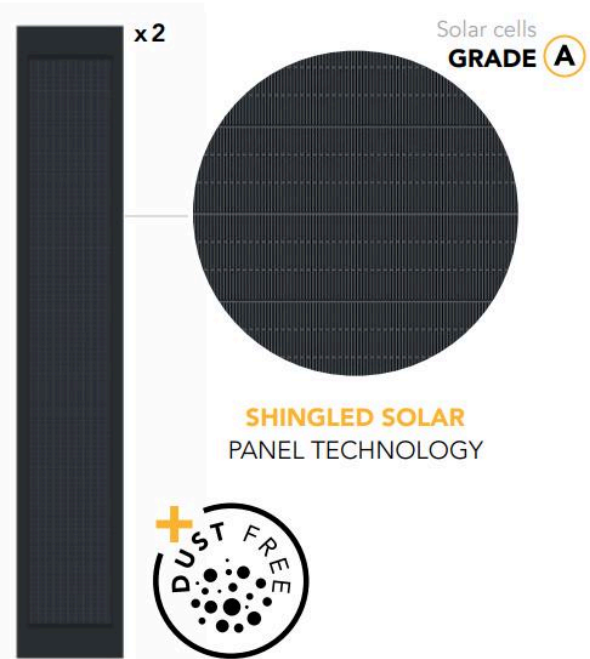
For high performance and a sleek design, the TOTEM lights are equipped with SHINGLED PERC photovoltaic technology, providing very high efficiency, as well as improved performance in low irradiation. It allows maximizing the installed power in a limited space.

### SHINGLED PERC ADVANTAGES POWER LOSS DUE TO SHADING



### DISCRETION

With no visible connections or circuits, TOTEM is fully integrated into its environment and most people will not notice the presence of solar panels.



## CONTROLLER MPPT



**WATERPROOF CONNECTORS  
"PLUG & PLAY"**

All our components are assembled **seamless and easy to access**

In a search for performance and reliability, our products are equipped with MPPT technology controller offering the best charging efficiency on the market up to 98%

### REMOTE CONTROL MONITORING

In order to facilitate all maintenance operations and above all to diagnose any possible problem, without having to intervene mechanically on the luminaire, BULLARD SOLAR luminaires are equipped with a wireless diagnostic system via remote control



**With a simple click it is possible  
to have real-time information such as:**

- Automatic diagnosis in case of malfunction
- State of charge and battery history
- Real Time load and solar panel energy production history
- Age of the product and installation Temperature and its history

## FEATURES

- Minimal stand-by power consumption
- Current consumption ≤ 10mA
- Intelligent battery management

### 3 Phases charging:

- Charge MPPTT
- Constant voltage
- Floating voltage

- Intelligent LED driver Auto detecting of Dusk and Dawn for automatic operation, 7 Lighting Programs Configuration.
- ANTI BLACK OUT: Load adjust according to battery capacity assuring all night long lighting in any weather conditions.
- The controller also acts against:

- OVERLOAD
- OVERCURREN
- OVERTEMPERATURE
- OVERVOLTAGE / OVERLOAD
- OVERDISCHARGE

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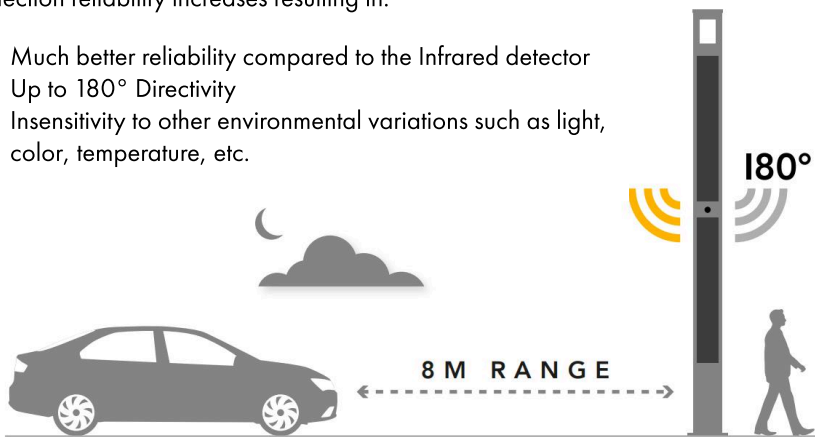
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# MOTION SENSOR MICROWAVE

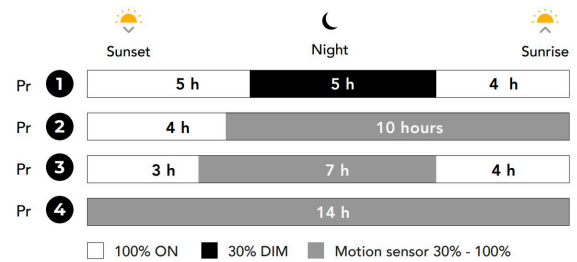
Bullard Solar luminaires are equipped with microwave detectors. The microwave detectors that use the Doppler effect (like car radars) to detect nearby objects and measure the distance. The sensor emits a high frequency wave to reflect off of and analyze the objects in the vicinity. Since the microwaves only detect specific objects, detection reliability increases resulting in:

- Much better reliability compared to the Infrared detector
- Up to 180° Directivity
- Insensitivity to other environmental variations such as light, color, temperature, etc.



## OPERATION MODE & LIGHTING SCHEDULE

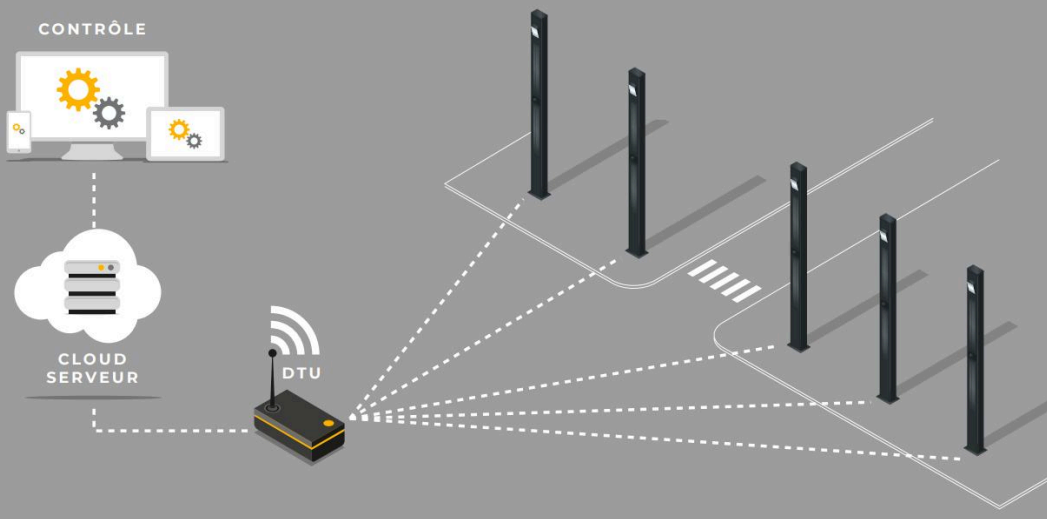
In addition to automatic switching on and off, you have the possibility of choosing among different modular operating modes according to the needs of the project.



CONTACT US FOR MORE PROGRAM OPTIONS

# BULLARD SOLAR BRIDGE REMOTE MONITORING

As part of his continuous effort for development, the Bullard Solar team is proud to have developed a special tool for remote monitoring of our solar street light. Bullard Solar Bridge uses low frequency technology LORA or ZIGBEE to monitor in real time a batch of solar street lights. YOU CAN NOW MANAGE YOUR SOLAR PARK REMOTELY:



- INTERNET 2G/3G/4G
- CONNEXION SÉCURISÉE
- GRANDE PORTÉE DE COMMUNICATION
- BASSE CONSOMMATION

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