



**BULLARD
SOLAR**
One with the Sun

ADJAR COLLECTION

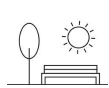
SOLAR STREET LIGHT
COLUMN



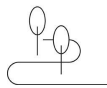
ADJAR COLLECTION

**Designed to last
No matter the conditions**

This ADJAR COLLECTION solar-powered lighting fixture is designed to provide reliable and energy-efficient outdoor illumination for commercial, residential, and public spaces. It features high-efficiency LED technology, an integrated lithium iron phosphate (LiFePO₄) battery, and a monocrystalline solar panel to ensure long-lasting performance and sustainable operation. The fixture includes smart control features such as a microwave motion sensor and battery management system for optimized energy usage and enhanced reliability. Built from durable aluminum and stainless steel, it is engineered to withstand harsh environmental conditions while delivering consistent lighting with minimal maintenance.



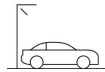
Park & Garden



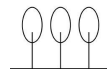
Hiking Trails



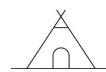
Places



Car Park & Rest



Pathways



Campsites



FIXTURE TYPE: _____

PROJECT NAME: _____



**5
YEARS**

* Bullard Solar offers a 5 Year Limited Warranty 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

Bullard Solar retains the right to modify or change product specifications without prior notice, as part of our ongoing commitment to improvement



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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

BATTERY

Technology Lithium Iron Phosphate LIFEPO4
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

Cells type Monocrystalline Panel Grade A 20 years
Certificates IEC 61215 - IEC 61730 I and II - IEC 60904

ELECTRONIC

Controller MPPT SMART CONTROLLER (optional BULLARD SOLAR BRIDGE)
Sensor Microwave 180° Sensor
Cabling Waterproof Connector, Plug and Play
Protection Battery Management System (BMS)

OTHER OPTIONS

Materials Aluminium and Stainless Steel
Wind speed 160 Km/h

CERTIFICATIONS

IEC / TUV / EMC / LM-79-08 AND LM-80 TEST STANDARDS / IK10+ / IP65 / CE / ETL

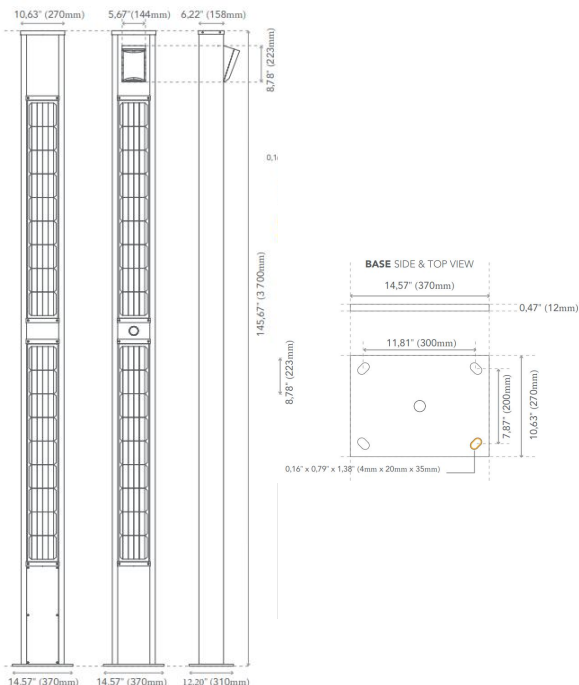
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991 South Gull Lake Dr Richland, MI 49083 USA

FIXTURE TYPE: _____

PROJECT NAME: _____



HOW TO ORDER:

CODE:

Example:
CODE: BS-ADJR-SLX-20-BL-30K

BS-ADJR-
SLX-20-BL-30K

1 MODELS:

-20

DIMENSIONS:

Height - H: 106.30" (270 cm)
Width - W: 10.63" (27 cm)
Base - L: 14.57" (37 cm)

NOMINAL FLUX 3920 LUMENS
NOMINAL POWER 20 WATTS

Light Height 106.30" (270 cm)
Carton size 108.27" x 12.99" x 14.96" (275 cm x 33 cm x 38 cm)
Weight 77,16 lb (35 KG)/81,57 lb (37 KG)
Capacity 346Wh
Solar panel 115Watts /18V

-40

DIMENSIONS:

Height - H: 145.67" (379 cm)
Width - W: 12.20" (31 cm)
Base - L: 14.57" (37 cm)

NOMINAL FLUX 7840 LUMENS
NOMINAL POWER 40 WATTS

Light Height 145.67" (3.7m)
Carton size 147.64" x 12.99" x 11.02" (375 cm x 33 cm x 280 cm)
Weight 103,62 lb (47 KG)/108,03lb (49 KG)
Capacity 730Wh
Solar panel 195Watts /18V

-60

DIMENSIONS:

Height - H: 236.22" (600 cm)
Width - W: 10.63" (27 cm)
Base - L: 14.57" (37 cm)

NOMINAL FLUX 11760 LUMENS
NOMINAL POWER 60 WATTS

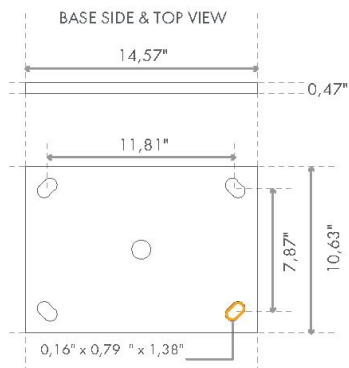
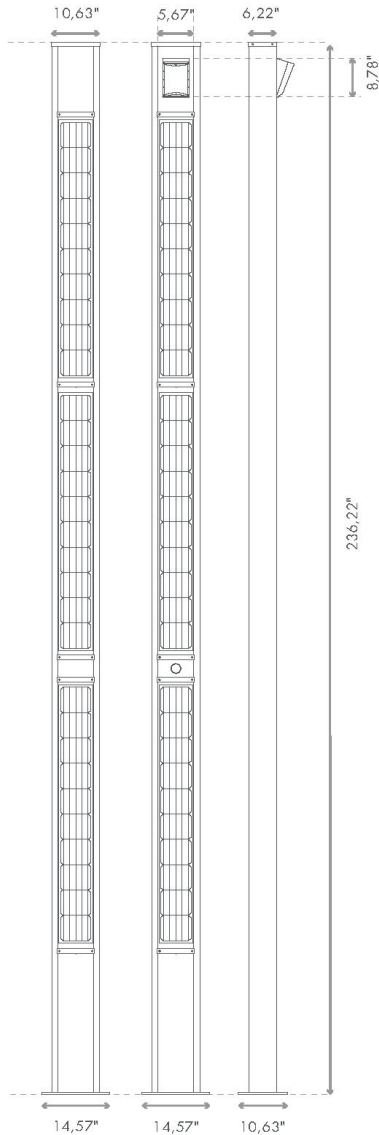
Light Height 236.22"(6m)
Carton size 240.16" x 12.99" x 14.96" (610 cm x 33 cm x 38 cm)
Weight 165,35lb (75 KG)/169,76 lb (77 KG)
Capacity 1062Wh
Solar panel 330Watts /18V



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PROJECT NAME: _____



CODE:
BS-ADJR-SLX

HOW TO ORDER:

CODE:

Example:
CODE: BS-ADJR-SLX-20-BL-30K

BS-ADJR-
SLX-20-BL-30K

2 FINISH OPTIONS:

-BL Black
-CUS Custom on request

3 CCT:

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



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LUMINAIRE HOUSING & LEDS

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 and overall 196 Lumens per Watt efficiency. Our lighting fixture also complies with the current standards regarding light pollution ULR (Upward Light Ratio).

FROM 3920 TO 11760 LUMENS

LUXEON
BY PHILIPS LUMILEDS

LED	3030	LED QTY (PCS)	72	OPTICS (PCS)	4	CRI	> 70
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IP65

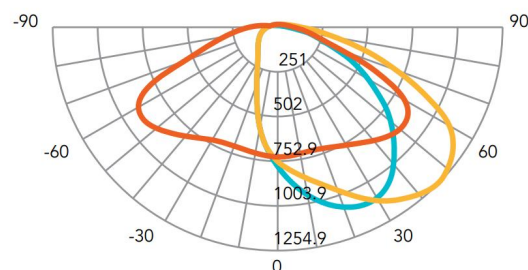


LIGHT DISTRIBUTION



PHOTOMETRIC CURVE

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 ADJAR 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

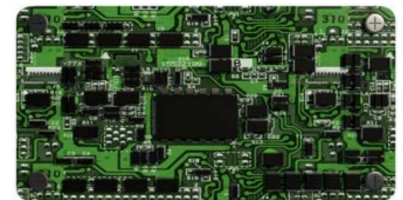
CODE:
BS-ADJR-SLX

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



Lead Acid
200



NimH
700



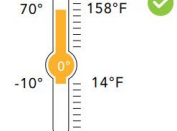
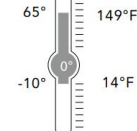
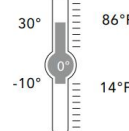
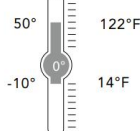
Lithium ION
800



Lithium LifePO₄
3 000

CHARGING TEMPERATURE RANGE WITHOUT CAPACITY LOSS

Minimum & Maximum temperature range for
Optimal charging during the day



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SOLAR PANEL

115 WATTS / 195 WATTS / 330 WATTS

For high performance and a sleek design, the ADJAR 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, ADJAR is fully integrated into its environment and most people will not notice the presence of solar panels.

CONTROLLER MPPT



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%

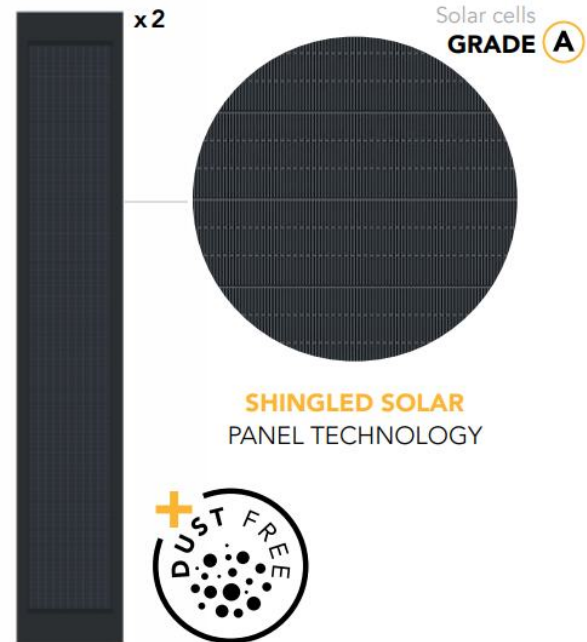
REMOTE CONTROL MONITORING

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 $\leq 10\text{mA}$
- 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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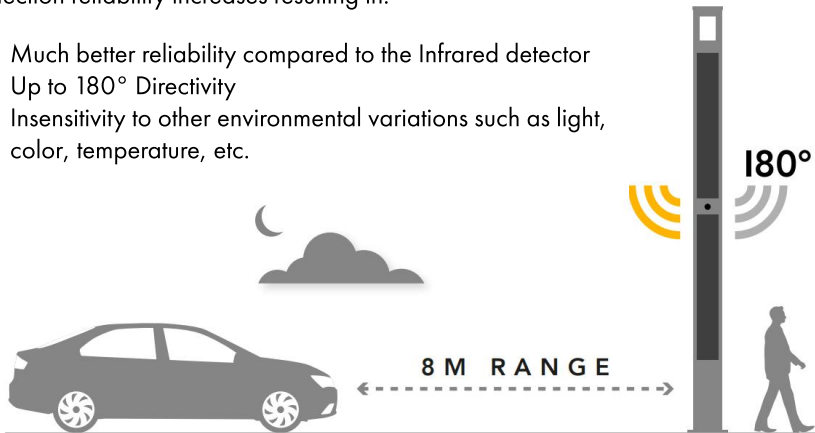
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MOTION SENSOR MICROWAVE

Bullard Solar luminaires are equipped with microwave detectors. The microwave detectors that use the Doppler effect (like car radars) to detect 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. 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.



BULLARD SOLAR BRIDGE REMOTE MONITORING

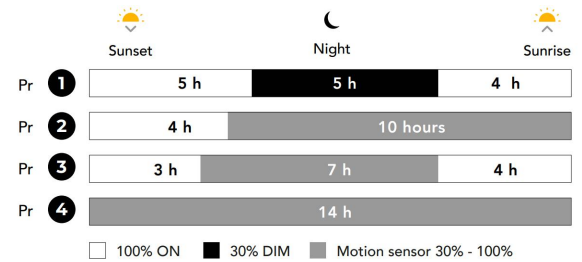
As part of his continuous effort for development, the Bullard Solar team is proud to have developed a special tool for remote monitoring of our solar street light. Bullard Solar Bridge uses low frequency technology LORA or ZIGBEE to monitor in real time a batch of solar street lights. YOU CAN NOW MANAGE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



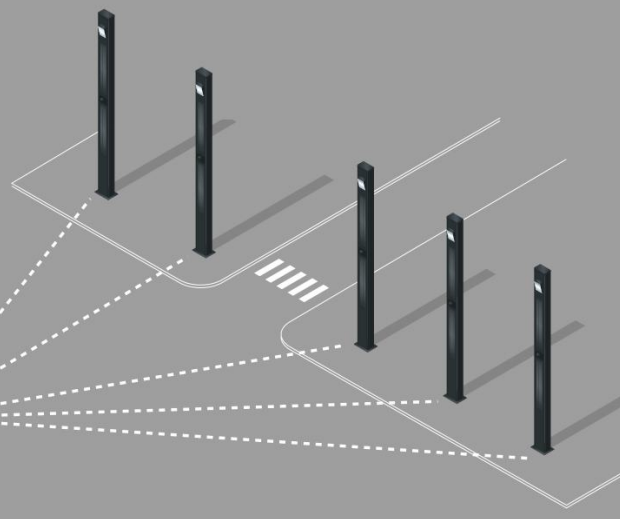
CONTACT US FOR MORE PROGRAM OPTIONS

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



CONTRÔLE



INTERNET
2G/3G/4G



CONNEXION
SÉCURISÉE



GRANDE
PORTÉE DE
COMMUNICATION



BASSE
CONSOMMATION



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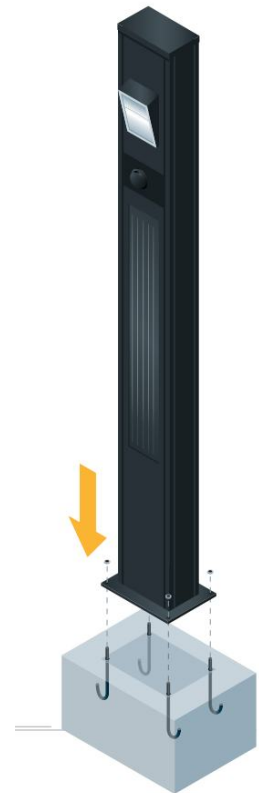
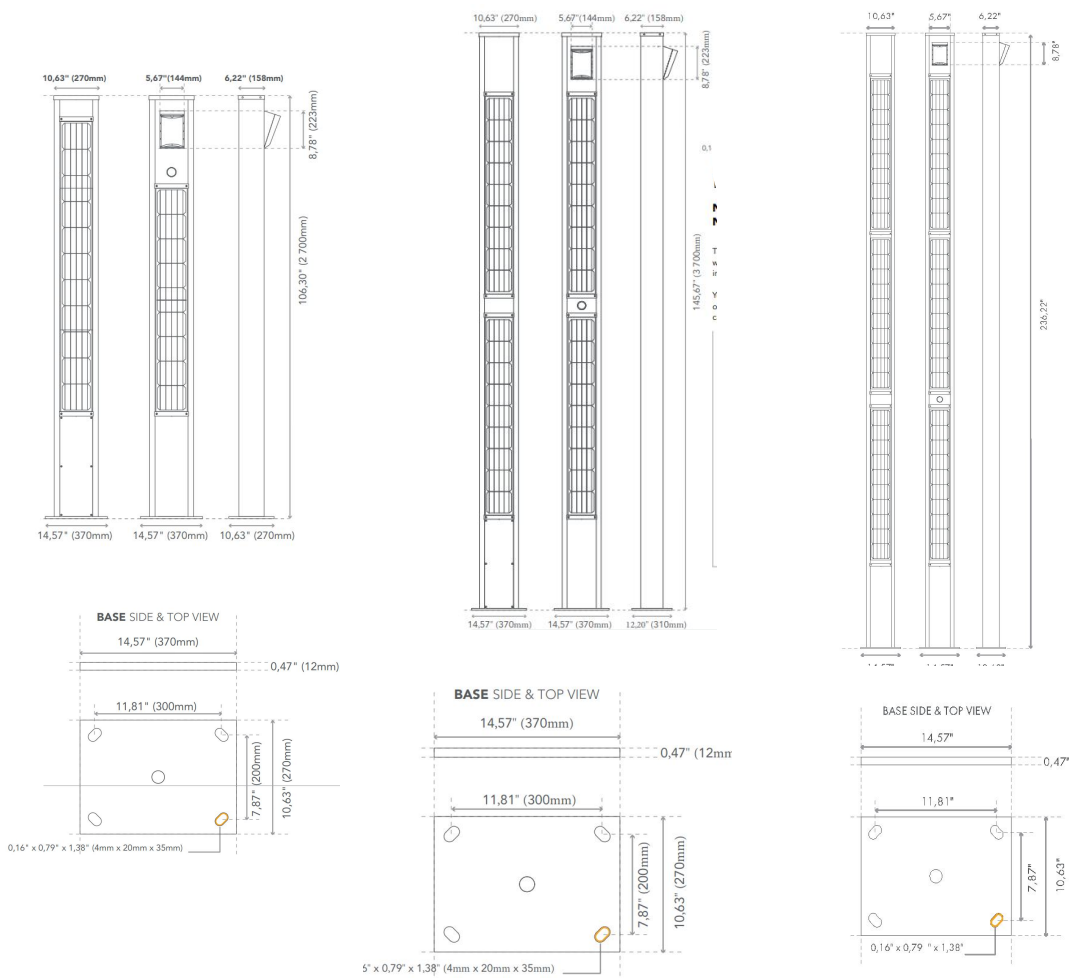
PROJECT NAME: _____

EASY INSTALLATION

NO WIRING NO TRENCH

ADJAR 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.

DIMENSIONS*



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