

**BULLARD  
SOLAR**  
One with the Sun

# AOSPRO 120 INTEGRATED SOLAR STREET LIGHT





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One with the Sun

CODE:  
**AP**

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

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



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

**5  
YEARS**

\* Bullard Solar offers a 5 Year Limited Warranty for the AOSPRO-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

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

### GENERAL INFORMATION:

AOSPRO is a fully integrated solar street light system with all the components together in one single unit. The AOSPRO series is extremely simple to install and operate, making it the ultimate solution for area lighting with motion sensors.

NOMINAL FLUX ..... 23 520 LUMENS  
NOMINAL POWER ..... 120 WATTS

### LIGHTING

Efficiency ..... 196 Lumens/Watts  
Chips LED ..... PHILIPS Luxeon 30-30 / 3000K to 6500K  
LED lifetime ..... Over 80 000 hours LM80  
Optics/CCT ..... TIII / 2300 to 6500K  
Light Height ..... From 6 To 8 Meters (236.22" - 314.96")

### BATTERY

Technology ..... Lithium Iron Phosphate LIFEPO4  
Capacity ..... 922Wh  
Autonomy ..... Over 24 hours at full charge - 4 Rainy Days back up  
Charging time ..... 5-6 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 ..... 140 Watts /18V  
Cells type ..... Monocrystalline Panel Grade A 25 years  
Certificates ..... IEC 61215 - IEC 61730 I and II - IEC 60904

### ELECTRONIC

Controller ..... MPPT SMART CONTROLLER (Bullard Solar BRIDGE optional)  
Sensor ..... Microwave 360° Motion Sensor  
Cabling ..... Waterproof Connector, Plug and Play  
Protection ..... Battery Management System (BMS)

### MECHANICAL

Pole mounting ..... 89mm - 76mm (3.50" x 3.00")  
Material ..... Aluminium and Stainless Steel

### DIMENSIONS

Product ..... 140.6 cm x 56.3 cm x 38.4 cm (55.35" x 22.17" x 15.19")  
Carton size ..... 146 cm x 61 cm x 26 cm (57.48" x 24.02" x 10.24")  
Net Weight ..... 22.5 KG (49,60 lb)  
Gross Weight ..... 27.5 KG (60,53 lb)  
QTY /CTN 20"/40"..... 122/267

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Due to the dynamic nature of lighting products and the associated technologies, luminaire data on all specification sheets is subject to change at the discretion of Gordon Bullard LLC and associated companies.

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Updated 07/09/2024



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## LUMINAIRE HOUSING & LEDS

### 23520 LUMENS - 2300 TO 6500 K

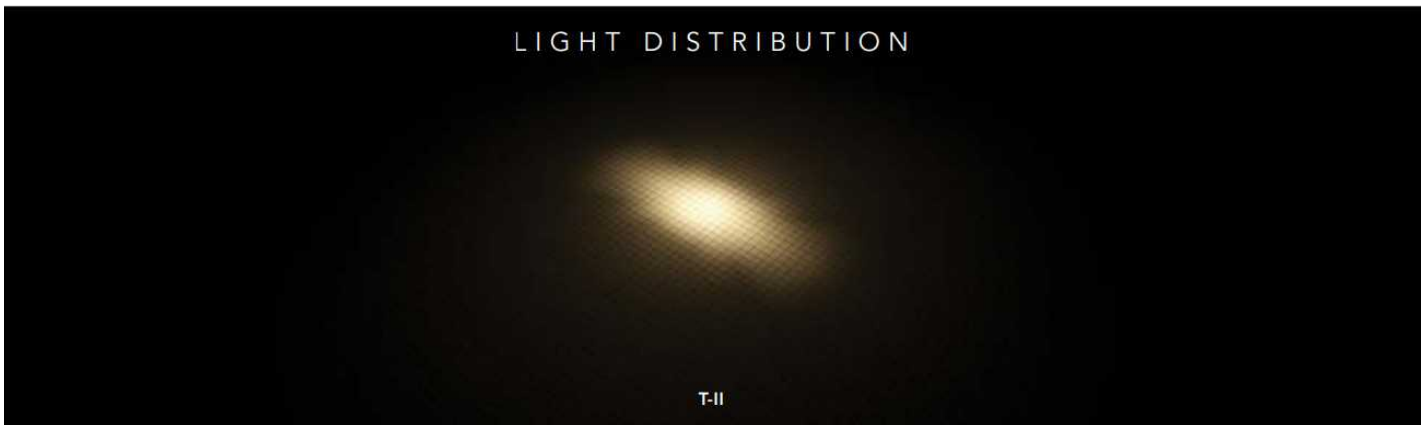
High pressure die-cast low-copper aluminum. Protection class (IP65). Bullard Solar uses a high quality Polyester Powder Coating from AKZO NOBEL. This powder coating provides an excellent salt and humidity resistance as well as ultra violet resistance for color retention for this product.

Our Luminaire is equipped with PHILIPS LUXEON HE PLUS High efficiency Chips offering and overall 196 Lumens per Watt efficacy.

Our luminaire also complies with the DARK SKY requirement for light pollution with an Upward lighting of 0,71%.

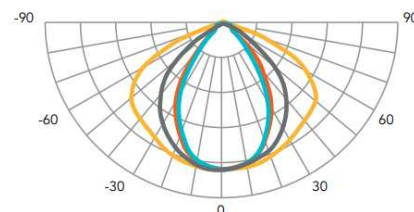
LED	3030	LED QTY (PCS)	144	LENS (PCS)	4	CRI	> 80
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### AOSPRO OPTICS



### LIGHT DISTRIBUTION CURVES

AVERAGE BEAM ANGLE (50%) : **91,2 DEG**



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## + OVER 10 YEARS LIFESPAN

The AOSPRO 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 over 10 years lifetime.

## 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). Bullard Solar 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 WATERPROOF CASING & NATURAL AIRFLOW


High temperatures greatly negatively affect the battery's lifespan. This is why our batteries are encapsulated in an aluminum waterproof casing for a perfect heat dissipation. In addition to that, the casing enjoys a natural airflow which keeps the battery to ambient temperature.


## COMPARISONS OF DIFFERENT BATTERY TECHNOLOGIES

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

Comparison of different battery technologies

  
Lead Acid  
200

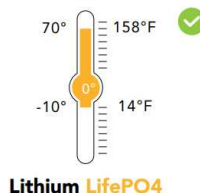
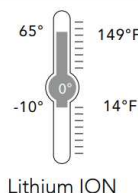
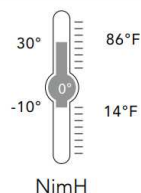
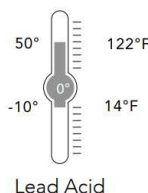
  
NimH  
700

  
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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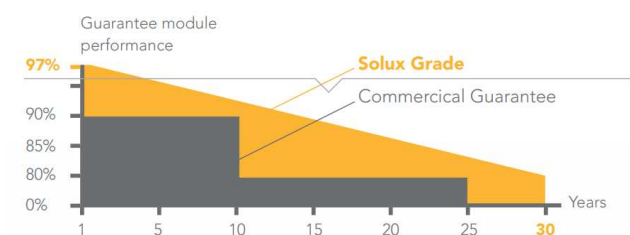
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# SOLAR PANEL

**140 WATTS**

High efficiency mono-crystalline Solar panels. Carefully selected Grade A Solar cells. Up to 19.4% efficiency. Its octagonal Anodized aluminium alloy frame gives it a modern and elegant design as well as perfect resistance to corrosion. They are also equipped with fully waterproof Plug and Play connectors.

## OUR PV PERFORMANCE GUARANTEE



solar cells  
**GRADE A**



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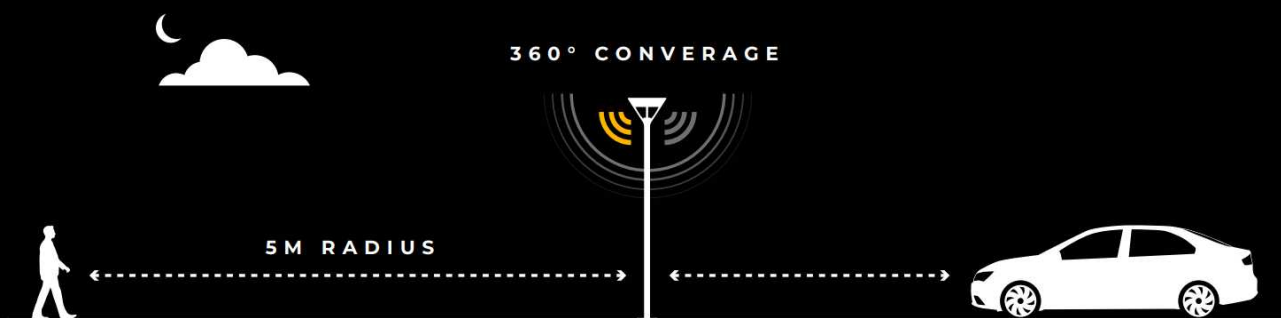
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## MOTION SENSOR MICROWAVE

Bullard Solar luminaires are equipped with microwave detectors 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 360° 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.

	Sunset	Night	Sunrise
Pr 1	2 h	10 h	2 h
Pr 2	2 h	12 hours	
Pr 3	2 h	10 h	2 h
Pr 4		14 h	

☐ 100% ON   
 ☒ 30% Dim   
 ☐ Sensor 30% Dim +100% Power

CONTACT US FOR **MORE PROGRAM OPTIONS**

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# EASY INSTALLATION

## NO CABLING NO TRENCHING

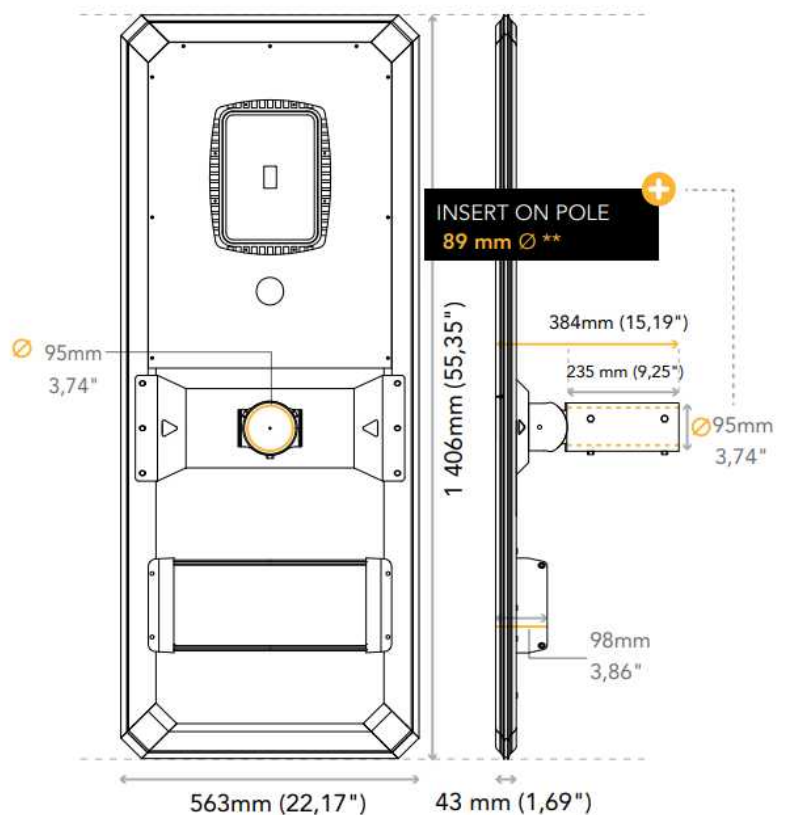
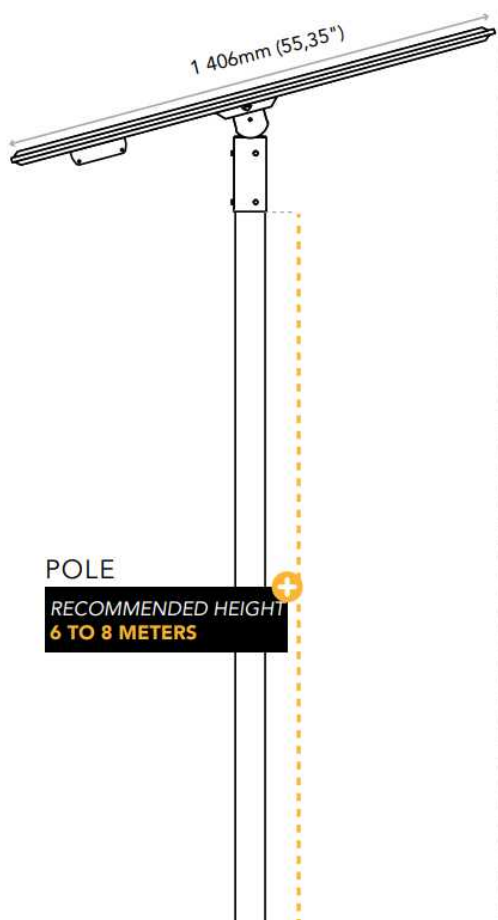
With a well designed bracket support AOSPRO is effortless and flexible to install.

INSERT, ORIENTATE & CHOOSE YOUR TILT



# DIMENSIONS \*

## SOLAR PANEL & LED



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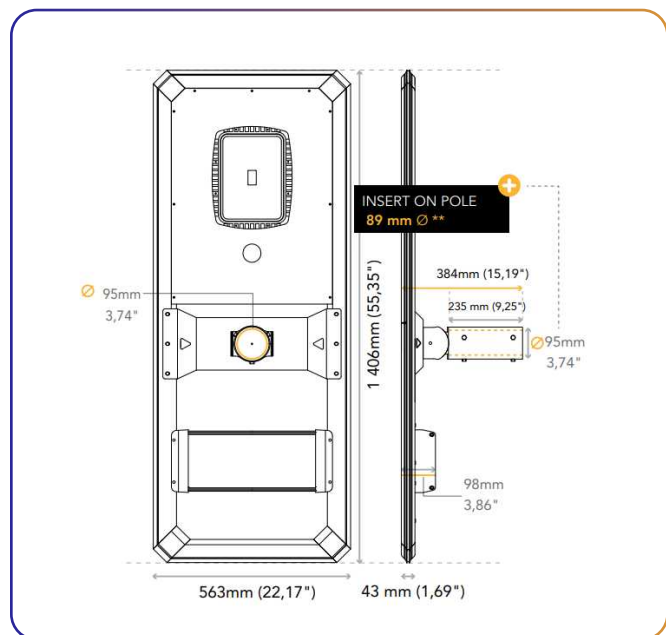
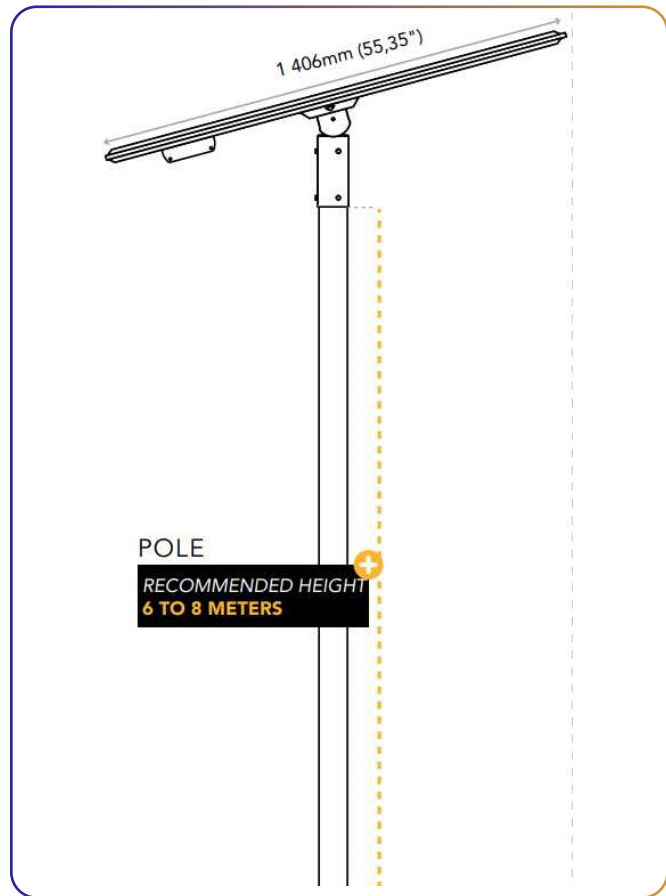
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## HOW TO ORDER:

## CODE:

**Example:**  
CODE: AP-120-BL-30K

AP-120-BL-30K

## DIMENSIONS:

140.6 cm x 56.3 cm x 38.4 cm (55.35" x 22.17" x 15.19")

2

## FINISH OPTIONS:

-BL

-BL Black

3

## CCT:

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

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