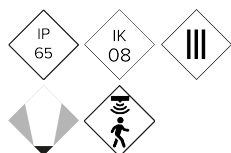


ABRA3

Bollard

# RAY SOLAR



Solar bollard with cylindrical design and indirect light by means of a diffuser for signage lighting applications. The set integrates solar panel, battery and control system in a single body, facilitating installation. Control by PIR presence sensor offering intelligent light management. Its compact and elegant design allows outdoor spaces to be transformed with minimum visual impact and maximum lighting comfort.

## MAIN FEATURES:

- All-in-One compact aerodynamic design
- Battery with LiFePo4 technology
- MPTT Charge Controller - PIR Sensor
- Comfortable indirect light
- Easy installation without wiring

## APPLICATIONS:

- Bicycle Lanes and Narrow Roads
- Pedestrian Zones
- Rural Roads
- Squares
- Green Areas; Parks and Gardens

[HD image](#)

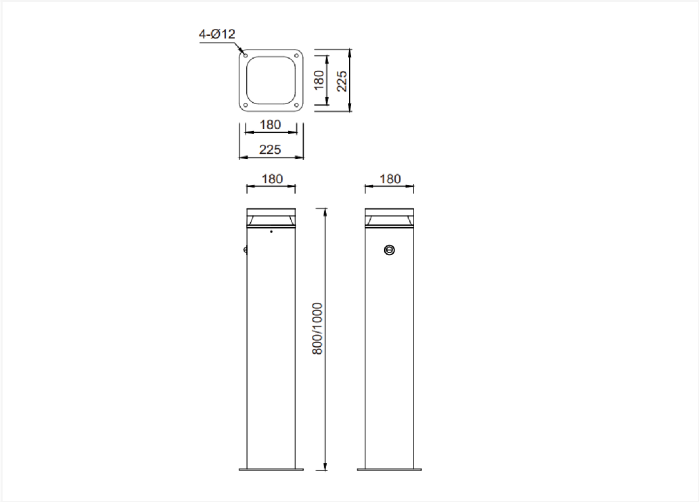
# BENITO

[info@benito.com](mailto:info@benito.com)  
tel. 93 852 1000

SPECIFICATIONS :

Housing material:	High pressure die-cast aluminium EN AC-43000, EN AC-43100, EN AC-43400, EN AC-44100, EN AC-47100 according to the UNE EN 1706 standard
Diffuser (optic system enclosure):	High transparency polycarbonate, UV filtering.
Fixing elements:	Stainless steel 18/8 - AISI 304
Housing:	It consists of two parts: the upper body which houses the solar panel, battery and BENITO LED module, the control electronics and the fixing bracket.
Sealing gaskets:	Silicone foam
IP rating (luminaire):	IP65
IP rating (optic system):	IP65
IK rating (impact resistance):	IK08
LEDs thermal dissipation:	Thermal dissipation through the bollard body, without external fins or conductive fluids. Passive dissipation by convection and ensuring thermal contact of the LED modules through highly conductive heat transfer material.
Anti-condensation valve:	Pressure compensation valve that ensures the evacuation of humidity, preventing condensation and maintaining the IP tightness level of the luminaire.
Paint and finishes:	Polyester powder paint coating, electrostatically sprayed and sublimated in the oven. Resistant to corrosion
Colour:	Micro-textured black.
Mounting:	Ground by means of 4 screws (not supplied).
Tilt range:	No.
Maintenance:	No.
Recommended mounting height:	Ground.
Controller:	MPPT charge controller.
Ready4IOT - Connectivity:	PIR presence sensor 8 m detection.
Battery:	LiFePo4. 21 Wh / 3.2 Vdc / 6 Ah. BMS protection.
Photovoltaic panel:	Polycrystalline. 5 Wp / 6 Vdc.

DRAWING:



INSTALLATION:



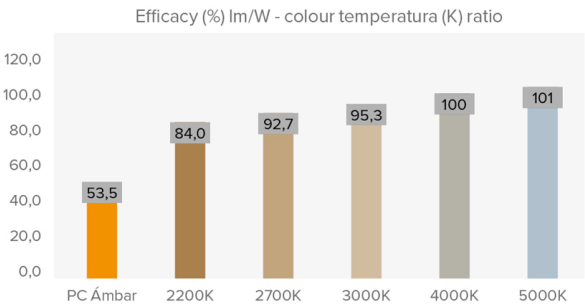
V. 2024-04-02 | The constant improvement and evolution of our products may result in some modifications of the technical specifications and characteristics of the products without prior notice.



TECHNICAL DATA:

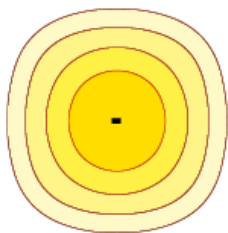
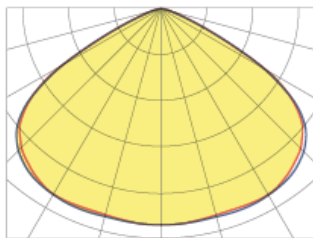
	REF.	N° LEDs	Power W	I Driver mA	Real luminous flux (T) =85°C		Initial luminous flux (T) =25°C	
					Flux lm	Efficacy lm/W	Flux lm	Efficacy lm/W
Bollard RAY	ABRA3	80	4	-	350	87	420	105

Luminous flux and efficiency at 4000°K and CRi>70.  
Luminous flux tolerance < +/-3%.  
Values may be subject to changes due to LED binning.



PHOTOMETRY:

Symetric 120° (C12)



\*Show 4 recommended lighting distributions. Refer to the 18 typologies.

V. 2024-04-02 | The constant improvement and evolution of our products may result in some modifications of the technical specifications and characteristics of the products without prior notice.

### LEDs MODULE:

LEDs module:	BENITO Format 80 LEDs. Check colour temperature, CRI and light distributions (Optional NTC).		
Replaceable module:	Yes		
LED:	3030		
Number of LEDs:	80		
PCBs format:	-		
LED nominal efficacy:	197 lm/W		
Colour temperature:	3K (Optional PC Amber - 1K8, 2K2, 2K7, 4K)		
Colour rendering index CRI:	>70 (optional >80)		
Average LED useful time L90B10:	L90B10 >75.000 hours		

### OPTIC SPECIFICATIONS:

Optic system:	Indirect light by diffuser.		
Light distributions:	1 light distribution curve		
Upward light output ratio ULOR:	<5%		
Downward light output ratio DLOR:	>95%		
Glare index:	Between D5 and D6 (depending on the light distribution)		
Luminous intensity category:	Between G*4 and G*6 (depending on the light distribution)		
Luminous flux CIE n°3:	>95%		
Photobiological safety:	RG0 (exempt of risk)		
Initial luminous flux Tj=25°C (up to):	lm	420	
Initial luminaire efficacy Tj=25°C (up to):	lm/W	105	
Real luminous flux Tj=85°C (UNE EN 13032-4) (up to):	lm	350	
Real luminaire efficacy Tj=85°C (UNE EN 13032-4) (up to):	lm/W	87	

### ELECTRIC SPECIFICATIONS:

Nominal maximum power (LEDs):	W	4	
Power range:	W	4	
Power range:	W	4	
Maximum current of LED:	mA	-	
Power supply protection classes IEC:	Class III		
Battery:	LiFePo4 - 21 Wh / 3,2 Vdc / 6 Ah		
Depth of discharge:	kV	>80%	
Battery Recharge Time:	h	3 - 4	
Photovoltaic Panel:	Polycrystalline - 45 Wp 18 Vdc		
Charge controller:	MPPT		
Double discharge protection:	BMS protector in battery and minimum level controller		
Flow reduction:	By means of presence detector		
Remote control:	-		
Autonomy without prevention sensor:	Up to 2 nights		
Driver efficacy:	>90% (MPPT)		
Energy class:	C (According to EU Regulation 2019/2015 EPREL) - A++ IPEA>1,15		

### OPERATING CONDITIONS:

Average LED useful time L90B10:	hours	>75.000
Average driver useful life to Tp <70°C:	hours	-
Average luminaire useful life L90B10 (TM-21):	hours	>50.000
Ambient temperature (Ta):	°C	de -35°C a +50°C
Aerodynamic resistance (CxS):	m2	0,039
Vibration test (15Hz 3 axis):		
Guarantee:	years	5

### PACKAGING DIMENSIONS:

Net weight	kg	-
Gross weight	kg	-
Luminaire dimensions (LxWxH)	mm	1030x445x160
Packaging dimensions (LxWxH)	mm	-
Pieces per box		1
Quantity per container 20ft		-
Quantity per container 40ft		-

### CERTIFICATES:

Security certificates:	EN 60598-1 / EN 60598-2-3 / EN 62493 / IEC 62471
EMC certificates:	EN 55015 / EN 61547 / EN 61000-3-2 / EN 61000-3-3 / EN 61347-2-13 / EN 61347-1 / EN 62384
Other certifications:	IEC 62262 / EN 13032-4 / EN 62717 / EN 6272-1 / EN 6272-2-1 / EN 61643-11

Company Certifications



**BENITO**

info@benito.com  
tel. 93 852 1000