



# Kingfisher Lighting

A division of the LUCECO group

## Datasheet

### CERO Solar Bollard



#### Specification Text

The CERO shall be manufactured from die-cast aluminium and powder coated in RAL 7016 Marine Grade finish. It shall have a power output of 10.0W, with an efficacy of up to 144.0 lm/W. The luminaire shall deliver 1,452 - 1,596 luminaire lumens. It shall have a fully programmable driver with solar control functionality. Available in 2700K or 4000K, the luminaire shall be IK08 and IP65 rated. It shall have motion sensor options available.

#### Specification

|               |                                                |
|---------------|------------------------------------------------|
| Weight:       | 16.6 kg                                        |
| Windage:      | 0.20m <sup>2</sup>                             |
| Material:     | Die-cast Aluminium                             |
| Paint Finish: | RAL7016 Anthracite Grey<br>Marine Grade Finish |

#### Product Description

Defined by its sleek angular form and streamlined silhouette, CERO Solar Bollard is a modern, solar lighting system with integrated solar panels.

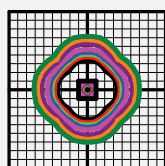


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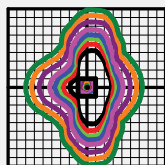
#### Key Features

- 10.0W
- 1,452 - 1,596 Luminaire Lumens
- Efficacy up to 144.0 lm/W
- 2700K & 4000K, CRI >70
- IP65, IK08
- Lifetime > 100,000 hrs, L90, B10
- Microwave presence detector as standard
- Integrated MPPT controller

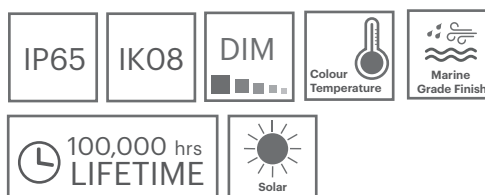
#### Optics



T1 Optic



T2A Optic



Other Options Available

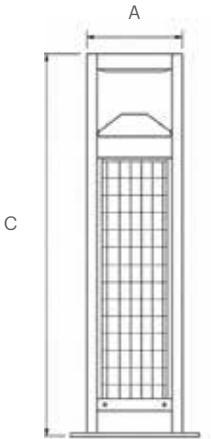
Contact for further details

- Colour Temperature Options

Dimensions

| Body Size | A   | B   | C    |
|-----------|-----|-----|------|
| Standard  | 200 | 200 | 1050 |

All measurements in mm



| Code                  | Power (W) | Luminaire Lumens (lm) | Solar Panel Power | Battery Capacity (Wh) | Optic     | CCT(K) | IP   | IK   | Weight (kg) | MPPT Type    |
|-----------------------|-----------|-----------------------|-------------------|-----------------------|-----------|--------|------|------|-------------|--------------|
| CERB-T1-4-10MPPT-01   | 10.0      | 1,596                 | 4 * 18V / 19W     | 230                   | T1 Optic  | 4000   | IP65 | IK08 | 16.6        | Programmable |
| CERB-T1-27-10MPPT-01  | 10.0      | 1,516                 | 4 * 18V / 19W     | 230                   |           | 2700   | IP65 | IK08 | 16.6        | Programmable |
| CERB-T2A-4-10MPPT-01  | 10.0      | 1,528                 | 4 * 18V / 19W     | 230                   | T2A Optic | 4000   | IP65 | IK08 | 16.6        | Programmable |
| CERB-T2A-27-10MPPT-01 | 10.0      | 1,452                 | 4* 18V / 19W      | 230                   |           | 2700   | IP65 | IK08 | 16.6        | Programmable |

This table shows the maximum outputs of the luminaire. Designs will vary depending on your site.

# How CERO Solar Bollard Works

The CERO Solar Bollard incorporates an integrated microwave sensor as standard, allowing the luminaire to operate using an adaptive lighting profile. During periods of inactivity, the bollard remains at a reduced standby output. When movement is detected, the sensor communicates with the MPPT controller to temporarily increase light levels before automatically returning to its dormant state. This intelligent operation helps reduce energy consumption whilst maintaining safe and effective illumination

Solar lighting schemes are designed around the worst-case operating conditions, typically December in the UK when daylight hours are shortest and solar generation is at its lowest. A lighting designer will therefore determine a sustainable operating profile based on expected winter energy harvest rather than the luminaire's maximum output.

## Example

Solar lighting schemes are designed around the worst-case operating conditions, typically December in the UK when daylight hours are shortest and solar generation is at its lowest. Using expected winter energy harvest data, the lighting designer determines the appropriate dormant and active light levels, ensuring sufficient battery autonomy is maintained throughout the year.

### Standard Operating Profile

| State                                  | Output |
|----------------------------------------|--------|
| No presence detected                   | 20%    |
| Presence detected (first 2 hours)      | 100%   |
| Presence detected (remainder of night) | 50%    |
| Return to standby                      | 20%    |

### Example Lighting Design Calculation

| CERB-T1-4-10MPPT-01        | Output   |
|----------------------------|----------|
| Maximum luminaire output   | 1,596 lm |
| Required maintained output | 319 lm   |
| Programmed dormant level   | 20%      |
| Dormant output achieved    | 319 lm   |
| Energy reduction           | 80%      |

## Design Scenario

To ensure reliable operation during December conditions, the lighting designer determines that only 319 lumens are required when the pathway is unoccupied. The integrated microwave sensor therefore allows the bollard to remain at a 20% dormant output (319 lm) during inactive periods before automatically increasing to higher light levels when users are detected. This adaptive lighting strategy reduces energy consumption by 80% whilst maintaining effective illumination and preserving stored energy for prolonged periods of poor winter weather.