



**4w LED**  
**387 Lumens**

**IP65**  
 Suitable For Wet Locations  
**IK07**  
 Impact Resistant (Vandal Resistant)

**Weight 13.4 lbs**

### Construction

**Aluminum**  
 Less than 0.1% copper content - Marine Grade 6060 extruded & LM6 Aluminum High Pressure die casting provides excellent mechanical strength, clean detailed product lines and excellent heat dissipation.

**Pre paint**  
 8 step degrease and phosphate process that includes deoxidizing and etching as well as a zinc and nickel phosphate process before product painting.

**Memory Retentive - Silicon Gasket**  
 Provided with special injection molded "fit for purpose" long life high temperature memory retentive silicon gaskets. Maintains the gaskets exact profile and seal over years of use and compression.

**Thermal management**  
 LM6 Aluminum is used for its excellent mechanical strength and thermal dissipation properties in low and high ambient temperatures. The superior thermal heat sink design by Ligman controls thermals below critical temperature range to ensure maximum luminous flux output, as well as providing long LED service life and ensuring less than 10% lumen depreciation at 50,000 hours.

**BUG Rating**  
 Contact Factory

**Finishing**  
 All Ligman products go through an extensive finishing process that includes fettling to improve paint adherence.

**Paint**  
 UV Stabilized 4.9Mil thick powder coat paint and baked at 200 Deg C. This process ensures that Ligman products can withstand harsh environments. Rated for use in natatoriums.

### MicroPRIM Finishes

MicroPRIM is Ligman's trade marked decorative powder coating technology that permanently infuses colors, patterns, or imagery directly into the surface of luminaires and poles while providing protections that standard powder coating does not offer.

MicroPRIM finishes include nature-inspired wood grains and stone aesthetics, material-inspired finishes such as brushed metal, concrete, and carbon fiber. Solid colors in Ligman standard colors, as well as any RAL or Pantone color, Decorative patterns, custom imagery and more.

### Coating and Infusion Process

Metal components are pre-treated and powder coated with a proprietary polyurethane-based coating engineered for outdoor architectural use. Decorative patterns or imagery are then permanently infused into the cured powder coat through a heat-based process, creating a durable, integrated finish.

### Performance and Validation

MicroPRIM finishes are suitable for indoor and outdoor applications and meet AAMA2605 architectural coating requirements. Performance is validated through laboratory and real-world testing to ASTM standards for UV exposure, adhesion, abrasion, impact, salt spray, chemical resistance, and graffiti resistance.

### Key Performance Attributes

- Anti-graffiti resistance
- UV and weather resistance
- Scratch and abrasion resistance
- Natatorium Rated for installation in corrosive environments

### Hardware

Provided Hardware is Marine grade 316 Stainless steel.

### Anti Seize Screw Holes

Tapped holes are infused with a special anti seize compound designed to prevent seizure of threaded connections, due to electrolysis from heat, corrosive atmospheres and moisture.

### Crystal Clear Low Iron Glass Lens

Provided with tempered, impact resistant crystal clear low iron glass ensuring no green glass tinge.

### Optics & LED

Precise optic design provides exceptional light control and precise distribution of light.  
 LED CRI > 80

### Lumen - Maintenance Life

L80 /B10 at 50,000 hours (This means that at least 90% of the LED still achieve 80% of their original flux)

**Indirect light-emitting bollard range.**  
**Smooth and sharp devised bollard with digital controller and integrated battery enabling both main and solar power supply**

**10.5 hours of operation time (2 step dimming with motion sensor override) - 2 days of autonomy**

[operation time & days of autonomy may vary depending on application, geographical location & available sunlight, contact factory for more information]

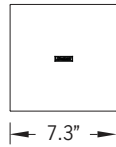
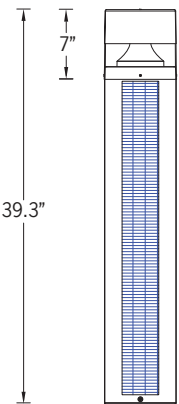
The innovative reflector technology of the Lightsoft bollard guarantees a high degree of efficiency and optimal visual comfort. Lightsoft has been developed to have excellent controlled downward light providing wide spacing ratios. Color temperature 2700K, 3000K, 3500K and 4000K.

The family is available in **two bollard styles [Round/Square]**, along with **matching wall-mounted versions**, allowing designers to maintain a consistent visual theme across the site.

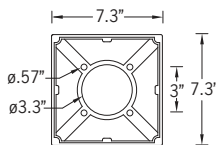
All Ligman luminaires can be manufactured using a specialized pre-treatment and coating process that enables installation in natatoriums and other environments with high concentrations of chlorine or salt, while still retaining the full **5-year warranty**.

The Lightsoft series also includes an integral **12V 18Ah Lithium Iron Phosphate (LiFePO<sub>4</sub>) battery**, providing long-lasting performance and high efficiency.

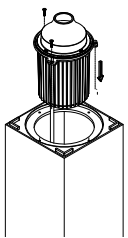
To specify this natatorium-rated finish, include **NAT** in the options.



Top View



Mounting Detail



IP65 - Internal top access driver housing, prewired with SO cord and waterproof cable gland for easy installation.

The performance of solar PV systems cannot be guaranteed with absolute certainty due to natural variations in solar radiation (sunlight) from one location to another, as well as year-to-year changes in weather conditions.

Ligman Lighting makes every effort to accurately estimate expected luminaire operating hours using the information provided for each project. These estimates are based on historical solar data, average usable sunlight, and typical weather patterns for the installation's geographical region. However, it is important to understand that the performance and functionality of each solar luminaire depend entirely on the amount of sunlight available at the installation site.

To achieve optimal performance, the installation area must remain free of obstructions. Shading from trees, buildings, nearby structures, or prolonged overcast conditions will reduce solar exposure and directly decrease system charging efficiency, resulting in diminished lighting performance.

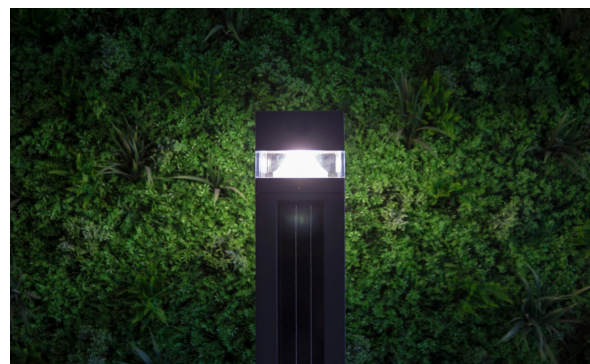
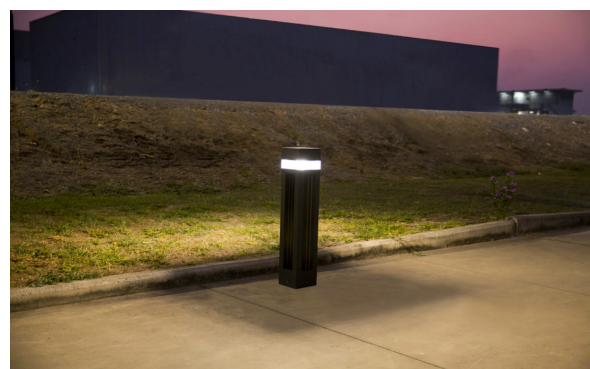
Any potential shading or site obstructions that may prevent adequate sunlight from reaching the solar panels must be disclosed to Ligman during the design phase.

Due to these environmental variables, Ligman cannot be held responsible for underperforming luminaires caused by insufficient solar exposure or shading at the installed location.

### Additional Options (Consult Factory For Pricing)



A92691 Remote Solar Charger Programmer



|         |  |      |  |
|---------|--|------|--|
| PROJECT |  | DATE |  |
|---------|--|------|--|

|          |  |      |  |      |  |
|----------|--|------|--|------|--|
| QUANTITY |  | TYPE |  | NOTE |  |
|----------|--|------|--|------|--|

ORDERING EXAMPLE || ULH - 10822 - 4w - T2 - W30 - 02 - Options

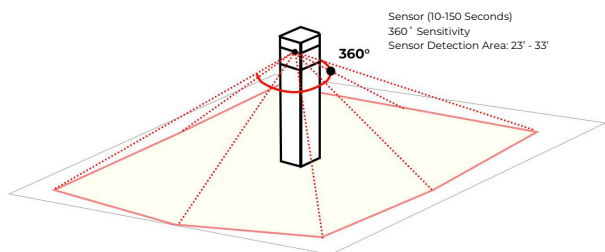
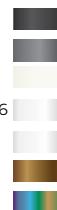
|           |      |           |              |
|-----------|------|-----------|--------------|
| ULH-10822 |      |           |              |
| LAMP      | BEAM | LED COLOR | FINISH COLOR |

4w LED  
387 Lumens

T2 - Type II Distribution  
T3 - Type III Distribution  
T4 - Type IV Distribution  
W - Wide Beam 108°  
EW - Extra Wide Beam 120°

W27 - 2700K  
W30 - 3000K  
W35 - 3500K  
W40 - 4000K

01 - BLACK RAL 9011  
02 - DARK GREY RAL 7043  
03 - WHITE RAL 9003  
04 - METALLIC SILVER RAL 9006  
05 - MATTE SILVER RAL 9006  
06 - LIGMAN BRONZE  
07 - CUSTOM RAL



|  |  |  |
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### ADDITIONAL OPTIONS

NAT - Natatorium Rated

A92691 - Remote Solar Charge Controller

ND - Dusk-to-Dawn Mode (See 3rd Page for More information)

CT - Custom Step Dimming Mode (See 3rd Page for More information)

## More Custom Finishes Available Upon Request

Consult factory for pricing and lead times

### MicroPRIM FINISHES

- SW01 - OAK FINISH
- SW02 - WALNUT FINISH
- SW03 - PINE FINISH
- DF - DOUGLAS FIR FINISH
- CW - CHERRY WOOD FINISH
- NW - NATIONAL WALNUT FINISH
- SU01 - CONCRETE FINISH
- SU02 - STONESCPE FINISH
- SU03 - STONE FINISH
- SU04 - CORTEN FINISH
- CSM - Custom Image/Pattern

### MicroPRIM FINISHES

- MP - MAPLE FINISH
- MHC - MAHOGANY FINISH
- BH - BEECH FINISH
- CN - CHESTNUT FINISH
- WMBL - WHITE MARBLE FINISH
- MBL - MARBLE FINISH
- GRNT - GRANITE FINISH
- BGD - BRUSHED GOLD FINISH
- BBRZ - BRUSHED BRONZE FINISH
- CAMO - CAMOUFLAGE FINISH

- MP01 - MicroPRIM RAL 9011 Black (Glossy)
- MP02 - MicroPRIM RAL 7043 Dark Grey (Glossy)
- MP03 - MicroPRIM RAL 9003 White (Glossy)
- MP04 - MicroPRIM RAL 9006 Metallic Silver (Glossy)
- MP05 - MicroPRIM RAL 9006 Matte Silver (Matte/Textured)
- MP06 - MicroPRIM Ligman Bronze (Glossy)
- MP07 - MicroPRIM Custom Color (Glossy)



Example: MicroPRIM & Two-Tone Style

# Explanation of Dimming Profiles

Autonomy and performance depend on the geographical installation region. A GSA report will be included with the drawing package to outline expected bollard performance based on site location and solar availability.

## Standard Profile

STD: 2-Step Dimming with Motion Sensor Override

First 3 hours:

60% brightness without movement  
100% brightness for 1 minute when motion is detected

After 3 hours:

30% brightness without movement  
60% brightness for 1 minute when motion is detected

For bollards without customized settings, the fixture default is Auto-Dimming Mode.

*Note: Actual nightly operating hours vary based on motion-triggered events such as pedestrian traffic or wildlife.*

*If more than 120 motion events occur in a single night, the system will automatically reduce brightness based on remaining battery capacity. For example, starting at 100% brightness, the luminaire may dim to 90%, 80%, 70%, or lower to preserve energy.*

Motion Detection Range: 360°

Detection Area: 23–33 ft

Specific dimming profiles can be programmed using Remote Controller **A92691** (available at additional cost).

## ND: Dusk-to-Dawn Mode

Runs from dusk until dawn at a consistent output level (no dimming steps).

## CT: Custom Profiles

Custom programming options include:

### Step Dimming

Custom operating hours

Custom dimming levels (minimum step length and minimum brightness level: 10%)

### 2-Step Dimming Without Motion Sensor Override

2-Step Dimming operates with two predefined brightness levels throughout the night.

Step 1 — Full Power (High Brightness)

Begins the night at 100% output for maximum visibility during peak activity hours.

Step 2 — Reduced Power (Lower Brightness)

Automatically dims—typically to 30–50%—during low-activity hours to conserve energy.

Example Schedule:

6:00 PM–11:00 PM: 100% brightness

11:00 PM–sunrise: 40% brightness

### 5-Step Dimming Without Motion Sensor Override

5-Step Dimming provides up to five adjustable brightness levels, offering greater flexibility and improved battery management. This mode is especially beneficial during cloudy weather or winter months when solar charging is reduced.

Example Schedule:

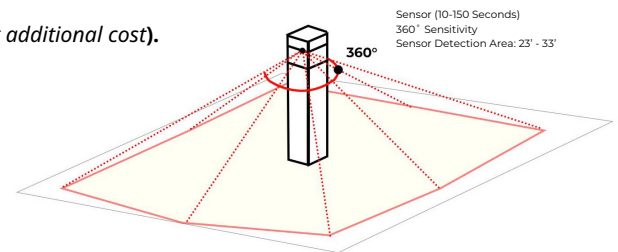
100% at dusk (high pedestrian activity)

70% after the first hour

50% around midnight

30% during early-morning low-activity hours

100% before dawn (supports commuters and enhances safety)



## System Capacity & Calculations

Maximum 27 hours of operation time (using dimming with motion-sensor override)

Autonomy calculations are based on:

**Peak Sun Hours (PSH):** 3 hours

12 hours of nightly operation

10 motion detections per hour

# Lightsoft Product Family



Lightsoft 1

- ULH-10655-27w-1188lm [23.6"]
- ULH-10665-27w-1188lm [39.3"]



Lightsoft 2

- ULH-10675-27w-1050lm [23.6"]
- ULH-10685-27w-1050lm [39.3"]



Lightsoft 3

- ULH-10573-14w-447lm [23.6"]
- ULH-10583-14w-447lm [39.3"]



Lightsoft 4

- ULH-10593-14w-346lm [23.6"]
- ULH-10603-14w-346lm [39.3"]



Lightsoft 5

- ULH-31146-14w-447lm



Lightsoft 6

- ULH-31156-14w-346lm



Lightsoft 19

- ULH-10821-2w-176lm
- ULH-10822-4w-352lm
- ULH-10823-6w-528lm