GMR ENLIGHTS

# PHAROS090

*For product specifications, materials and colours, please refer to the details inside*

# Pharos 90

## Technical data

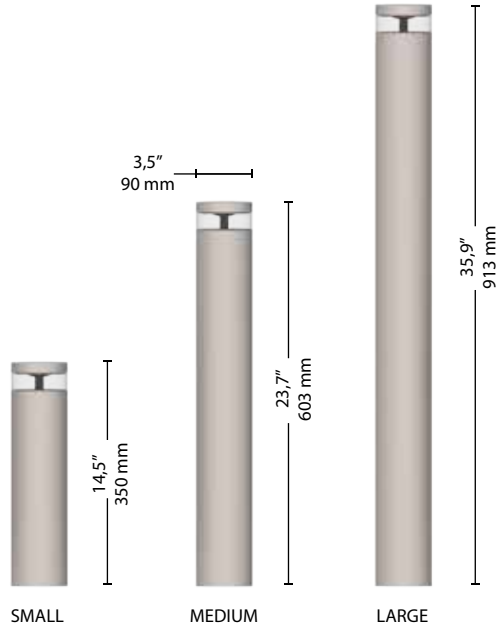
GMR ENLIGHTS

rev. 2026.01.01

### Accessibility

**Openable**
Openable fixture with basic tools
Replaceable internal components using basic tools.

RF



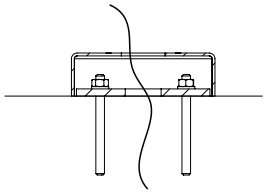

Scale: 1:12

**Max. weight**

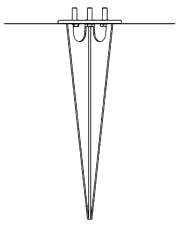
**Small** 3 Kg
**Medium** 5 Kg
**Large** 10Kg

### Fixing type

**Flange**



**Earth pike**



### Standard

EN 60598-1, EN 60598-2-3, EN 62471, EN 55015, EN 61547, EN 61000-3-2, EN 61000-3-3

### Conformity | protection

**Conformity**

05 PENDING

CE

**Salt spray test**

ISO 9227

8000 hr

**Insulation classes**

**Protection classes**

IP 66

IK 09

**Photobiological safety**

Classe 0 Rischio esente IEC/TR62471

### Plus

- Cut Off
- optical flexibility
- low glare
- CAM 2017 Compliant
- A++ Ipea min

### Lighting fixture features

**General features**

| | |
|---|---|
| **Power source:** | 220-240V \| 50/60Hz \| tolerance +/-10%<br>120-277V \| 50/60Hz \| tolerance +/-10% |
| **Current supply:** | 350 mA \| 525 mA\| 700 mA ($P_{max}$ = 11W) |
| **Power Factor \| THD:** | ≥0.95 \| <10 % (At full load) |
| **Expected life (Ta=25°):** | > 100.000 h \| L90B10 \| @ LED 700mA |
| **Operational temperature (Ta):** | $T_{min}$ = -40°C $T_{max}$ = +55°C |
| **Storage temperature:** | -40°C/+80°C |
| **Standard functions:** | Current fixed |

**Materials**

| | |
|---|---|
| **Lighting fixture:** | Die cast aluminium \| EN1706 |
| **Optical system:** | Direct low glare reflector |
| **Structure:** | Extruded aluminium \| EN573-3 |
| **Screen:** | Glass \| PMMA |
| **Gaskets:** | Removable silicon |
| **Cable gland:** | Polyamide PA66 \| PG16 \| Ø 14mm MAX \| IP 66 |
| **Screws and bolts:** | AISI 304 stainless steel |
| **Fixture color:** | GMR light |
| **Flange:** | Powder coated hot galvanized S235 steel |

### Led features

| | |
|---|---|
| **LED data 4.000 K - 700mA:** | 340 lm/LED \| 180 lm/W \| 25°C [Tj] \| ≤ 3 step MacAdam |
| **Color temperature:** | 3.000 K \| 4.000 K\| CRI ≥ 70 |

### Optional

| | |
|---|---|
| **Additional surge protector device:** | SPD with warning LED CLASS 1 \| CLASS 2 10kV/kA |
| **Mechanical equipment:** | Fixing by means of an AISI 304 stainless steel stake |
| **Optional functions:** | DALI-DALI2 |

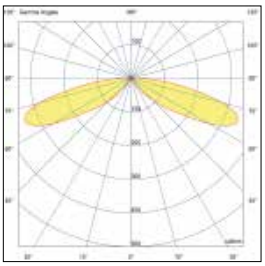
# Pharos 90

## Available optical system

rev. 2026.01.01

**WALKWAYS**
***OPTIC TYPES 6***

**TYPE 6A-360**



**Roto-symmetrical optics,** designed to suite pedestrian areas, parks, public and private gardens.

**APPLICATION EXAMPLES**

TYPE 6A-360

# Pharos 90

## Photometric data

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**rev. 2026.01.01**

The LED modules nominal data refers only to the LED light sources in a standard version, with 4000 K color temperature, color rendering index CRI 70 min. and a junction temperature tj of 25°C. The LED nominal data are extrapolated from the manufacturer documentations.

The lighting fixture measured data refers to GMR ENLIGHTS products in a standard version, with 4000 K color temperature, optica type 6A and an ambient temperature ta of 25 °C.

**GMR ENLIGHTS offers the possibility of driving the device with custom currents (•).**

To obtain luminous fluxes and efficiencies of the lighting fixture in case of color temperature and/or color rendering index different from the standard use the conversion factors shown in the tables.

### LED modules nominal data (4000 K | CRI 70 min.| tj=25°)

| LED code | I [mA] | Luminous flux [lm] | LED power [W] | Efficiency [lm/W] |
|---|---|---|---|---|
| GL01 | 350 | 752 | 4 | 188 |
| | 525 | 1084 | 6 | 181 |
| | 700 | 1562 | 9 | 174 |

### Lighting fixture measured data (4000 K | OPTIC 6A | ta=25°)

| Order code: PHB090_RFxx | (•) I [mA] | Luminous flux [lm] | LED power [W] | Efficiency [lm/W] |
|---|---|---|---|---|
| GL01 | 350 | 302 | 6,0 | 50 |
| | 525 | 429 | 9,0 | 48 |
| | 700 (max) | 543 | 10,0 | 54 |

**Tk CONVERSION FACTOR LUMINOUS FLUX**

| Tk [K] | Flux multiplier |
|---|---|
| 3.000 | 0,94 |
| 5.700 | 1,01 |

**CRI CONVERSION FACTOR LUMINOUS FLUX**

| CRI (color render index) | Flux multiplier |
|---|---|
| 70 | 1,00 |
| 80 | 0,93 |

# Pharos 90

## Functions

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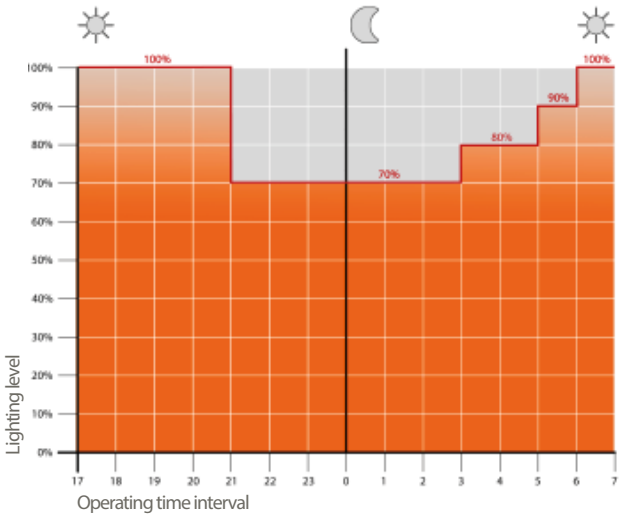
## Standard functionality

**Fixed current**
During production, the light fixture is pre-set with a fixed current amongst the standard settings that appear in the tables on page 3. Upon customer's request, it is also possible to set a specific current (custom setting).

**Virtual Midnight | Automatic dimming**
The driver is programmed to automatically dim the light output according to the time. As required by regulations, the maximum output is set during initial hours and towards the end of the light fixture's operating time interval. During these hours there is statistically more traffic. The light output is then dimmed during the central hours of the operating time interval. This management is achievable through a self-learning process of the device, that establishes the centre point of the time interval. This moment is called "virtual midnight" and it is the point that the dimming profile refers to in order to know when to reduce the light output. We can manage up to 8hrs of programming that evolve around the virtual midnight and up to 5 steps of dimming. This way the light output will adjust automatically, adapting throughout the year to the duration of the nighttime, by referring to the pre-set parameters based on the centre point of the operating time interval.

**CLO Constant Lumen Output**
LEDs over time are inevitably subject to performance depreciation. This light reduction may be compensated by gradually increasing the LED's current during its lifespan, this corresponds to a gradual increase of lumen output proportional to the amount that is naturally depreciated.



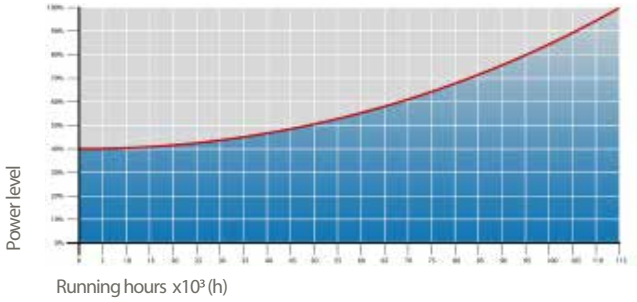

**Example of 4-step adjustment with virtual midnight**

## On request functionality

**DALI - DALI2 Control and monitoring system**
On request, the fixture can be fitted with a DALI2 communication interface. This protocol allows it to be monitored and controlled remotely through use of Dali control buses.

**LINESWITCH**
This functionality by using an extra wire within the streetlight's power line, allows to dimmer to a pre-set level. For example, a centralised timer can change this value from 100% to 50%, and vice versa.

**AMPDIM**
This feature allows dimming using the power line controlled by an upstream flow regulator. For this feature, the flow controller must use amplitude modulation (AM).




**CLO Light Flow Compensation**

# Protection cycles

rev. 2026.01.01

GMR ENLIGHTS works with cast iron, steel and aluminum. The materials are selected and processed to maximize performance and quality.

DIE-CAST ALUMINIUM

**Protection of die-cast aluminium surfaces for lighting fixtures, tops, collars, brackets and pastorals**

Lighting fixtures, brackets, pastoral, and die-cast accessories undergo a cycle of powder painting which creates a barrier against the corrosion of metal parts. Moreover this barrier makes the finished product comply with design specifications in terms of surface roughness, color and reflectance.
The cycle consists of the following steps:

- Micro sandblasting;
- Hot pickling bath in a zinc-based phosphodegreasing solution;
- Specific process for the preparation of surfaces before painting;
- Washing with water;
- Rinsing with demineralised water and subsequent drying;
- First bowder layer application followed by kiln baking at 180°;
- Final powder layer application using a High Durability product and final kiln roasting at 180°C (356°F).

**Salt spray test**

The top quality of such treatments is confirmed by salt spray tests performed in accordance with standard ISO 9227:2017 Neutral Salt Spray test (NSS).
The test was carried out for 8.000 hours at 35°C (95°F) and demostrated through the report test released.

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