# PRQ

## KEY BENEFITS

- Up to 2 different mountings.
- Tool-free opening from the front for easy maintenance
- Robustness: IP65 + IK09.
- Die-cast aluminium caps (Cu<0.1%)
- 6060 T6 extruded anodised aluminium body.
- Energy Efficient: 136 lm/W
- Smart Ready: Designed to house an internal communications node
- Future Proof: Complies with Zhaga standard
- Service life L90B10 100.000h (Ta) 25°C
- Night Friendly: ULR Arrêté du 27 décembre 2018.
- 5 years guarantee.

IP65 IK09 CI CII

RAL 9007
Smooth Gloss

## DESCRIPTION

The PRQ series of LED floodlights is designed by Carandini to provide a solution for various indoor and outdoor applications. Thanks to its functional design and the different versions and accessories available, this new LED version of the PRQ Series integrates perfectly into lighting for tunnels, underpasses and sports facilities, including football pitches, tennis courts and sports centres.

The LED solution uses latest-generation, high-performance, high-efficiency LEDs in a universal modular solution. With the adoption of this technology Carandini can offer a solution which combines excellent optical output with increased energy efficiency.

Amber CRI>60 | 2,200 K CRI>70 | 2,700 K CRI>70 | 3,000 K CRI>70 | 4,000 K CRI>70

2,100 lm - 11,800 lm

0.196 m²

136 lm /W
Luminaire

-20°C - +40°C

10.7 kg

0.00% - 0.12%
FHS/ULR

Access to the equipment without tools

220 - 240 V/100 V - 277 V
50-60 Hz
L90B10 100,000 h
Ta 25°C

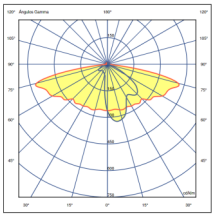
## STANDARDS / CERTIFICATES

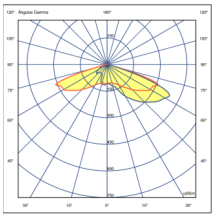
- CE
- RoHS
- UNE-EN 60598-1
- UNE-EN 60598-2-3 or 60598-2-5
- UNE-EN 62471:2009
- UNE-EN 60598
- UNE-EN 61000-3-2
- UNE-EN 61000-3-3
- UNE-EN 55015
- UNE-EN 61547
- UNE-EN 62031
- UNE-EN 61347-2-13
- UNE-EN 62384
- UNE-EN 13032-4
- UNE-EN ISO 9227 NSS: 2017 (1000h)

Distributor: EPK elektro s.r.o.
info@carandini.cz - www.carandini.cz

## PHOTOMETRIC DISTRIBUTIONS

Provides the 8 photometric distribution patterns suited to the environments in which this luminaire is typically installed, making it adaptable to all requirements:


ALM1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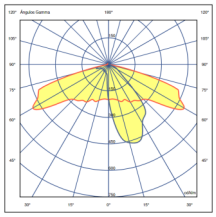
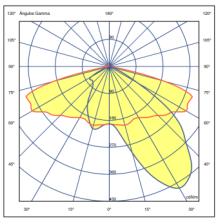
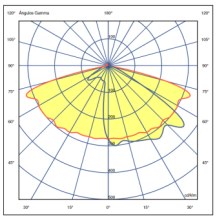
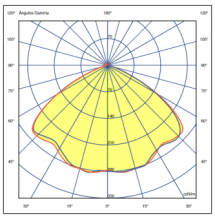
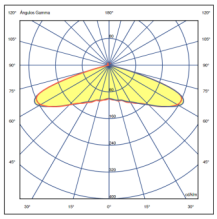
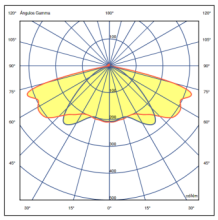

AME1


AME2

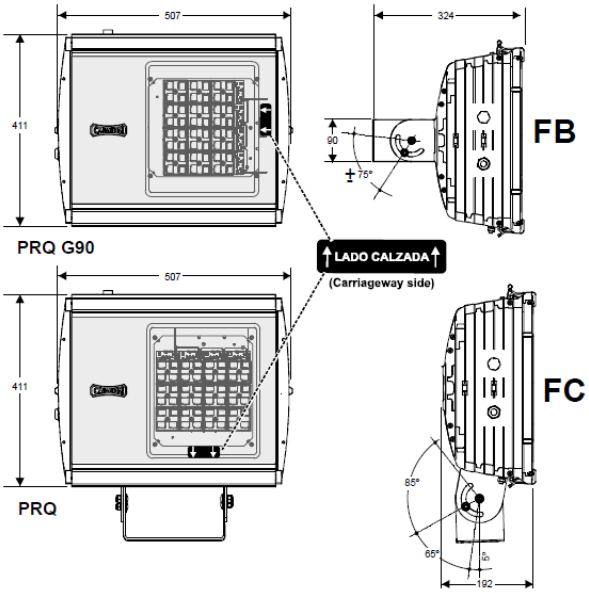

AMM1

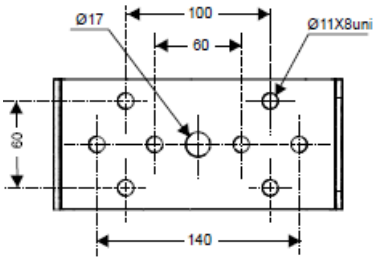

SCM1


SMA1


SME1

## DIMENSIONS




## APPLICATIONS

Gardens, parks, tunnels, underpasses, outdoor areas, streets, avenues, urban crossings and sports facilities.

# PRQ CHARACTERISTICS

## GENERAL CHARACTERISTICS

| | |
|---|---|
| Body | Extruded anodised aluminium profile 6060 T6 |
| Covers | Die-cast aluminium EN AC-44100 with low copper content <0.1%. die-cast aluminium, inlet via M20 cable gland. |
| Enclosure | 5 mm tempered flat glass, silicone gasket and two longitudinal extruded anodised quick-release 6060 T6 aluminium profiles. |
| External bolts | Stainless steel (AISI304). |
| General watertightness | IP65 (EN 60598-1 and EN 60529). |
| Impact resistance rating | IK09 (EN 62262) |
| Operating temperature | Ta -20°C to +35°C<br>Depending on luminaire configuration. |
| Estimated service life | L90B10 100,000h at Ta of 25°C.<br>Light maintenance values at 25°C. They are calculated in accordance with TM-21 based on LM-80 data. |
| Cable | Clase I/II<br>Longitud: De 4 a 13m<br>Sección: 2x1,.5; 3x1,.5; 4x1,.5; 5x1,.5; |

## MAINTENANCE AND ASSEMBLY

| | |
|---|---|
| Installation and maintenance | Access to the driver and LED module from the front, without the need for tools. Independent replacement of the component systems by sharing optics and auxiliary equipment. |
| Fixation | Depending on the application, two configurations are available:<br>FC0 => Lower<br>FB0 => Upper centre |
| Weight with equipment | 10,7 Kg |
| Wind surface | 0,2 m² |

# FINITIONS

### Predefined luminaire colour

| | |
|---|---|
| RAL 9007 | Polyester powder coating in grey RAL 9007 |

### Corrosion protection

| | |
|---|---|
| SEA SIDE SUITABLE | Marine Finish (1.000h) (Optional) |

## ELECTRICAL CHARACTERISTICS

| | |
|---|---|
| Electrical class | Class I and Class II |
| Input voltage | 220V - 240 V/50 Hz - 60 Hz<br>Optional 100 V - 277 V |
| Power factor | > 0.9 |
| Harmonic distortion | < 10% |
| Surge protection | Surge protection (1.2/50) 10 kV<br>Maximum current (8/20) 10 kA<br>Maximum voltage (L-N) 320 V<br>Maximum voltage (L/N-GND) 400 V<br>Optional surge protection: 20 kA, 20 kV |

## LIGHTING CHARACTERISTICS

| | |
|---|---|
| Package real light | 2,100 lm to 11,800 lm (17 W - 102 W) |
| LED colour temperature | 4,000 K (Neutral White, nw).<br>3,000 K (Warm White, ww).<br>2,700 K (Warm White, ww).<br>2,200K (Warm White, ww).<br>Amber colour temperature, on request. |
| Colour rendering index (CRI) | CRI>70<br>CRI80 on request. |
| LEDs | It incorporates 24, 32 and 48 LEDs. |
| FHS / ULR | Between 0.00% and 0.12% |
| Optics | PAMMA acrylic lenses specially designed for LEDs |
| Photometric distributions | **ALM1**=> throw angle 75° spread angle 15°/45° (Type III)<br>**AMA1**=> throw angle 70° spread angle 65° (Type IV)<br>**AME1**=> throw angle 60°/70° spread angle 20° (Type II)<br>**AME2**=> throw angle 70° spread angle 15°/40° (Type II)<br>**AMM1**=> throw angle 70° spread angle 35°/50° (Type III)<br>**SCM1**=> throw angle 50° spread angle 50° (VS Type)<br>**SMA1**=> throw angle 65° spread angle 65° (VS Type) |
| LED thermal control | Heat dissipation by conduction, radiation and convection designed for LED technology. |

## MANAGEMENT AND CONTROL

| | |
|---|---|
| Equipment | **1N:** 1 Level<br>**RC:** Controller dimmed<br>**RD:** DALI<br>**AF:** 1 - 10 V<br>**RL:** Pulse adjustable LED<br>**2N:** 2 Level |
| Autonomous regulation | Regulations programmed from the factory:<br>**56**: 50% of the 24: 00h at 6: 00h.<br>**66**: 60% of the 24: 00h at 6: 00h.<br>**76**: 70% of the 24: 00h at 6: 00h.<br>**SC**: Programming according to client. |
| CLO regulation | Flow rate during the life of the product:<br>**7**: 70% luminous flux throughout the life of the luminaire.<br>**8**: 80% luminous flux throughout the life of the luminaire.<br>**9**: 90% luminous flux throughout the life of the luminaire. |
| Node | **BS:** Controlux Basic IMCU |

## LOGISTICAL INFORMATION

Box dimensions: 630 x 530 x 250 mm

Box weight: 11.7 kg.

Number of boxes: 14 units

US socket: 1200 x 800 x 1950 mm

Number of levels: 7 levels

Surface area used: 69.6%

Volume used: 67.6%

Total gross weight: 184 kg.

## LUMINAIRE ADJUSTMENT

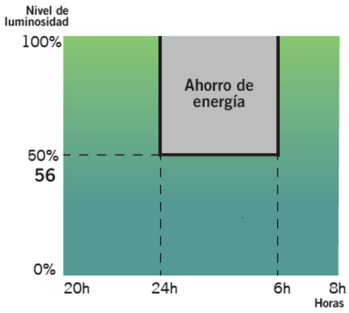
### By programming the driver

Programming profile

The driver can be programmed so that luminous flux is reduced from the luminaire during the least busy hours at night while always meeting the required lighting and uniformity levels.

Programming profile 56

From 00:00 to 06:00 the luminaire reduces its initial intensity by 50%.


**NOTE: Programming the Dynadimmer using the multione scheduling tool is done for wintertime. In summer everything is delayed by an hour.**

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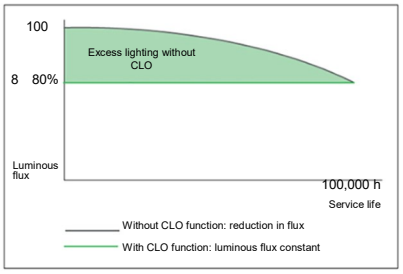
### Using the CLO function

While taking lumen depreciation over the years into account, the driver is programmed so that it starts at a reduced level and gradually increases power over the lifespan of the luminaire. This saves energy and increases the lifespan of the system. Furthermore, the light level in the area where the luminaire is installed remains constant over time.

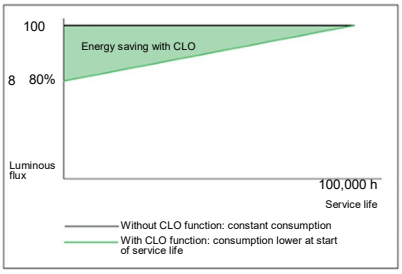
#### Constant luminous flux 8

luminous flux from the luminaire at 80% to maintain light levels throughout its lifespan.


**Graph: Luminous flux**




**Graph: Consumption**




### By incorporating an additional device

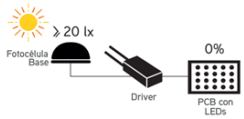
#### Photocell

A photocell enables the luminaire to be switched on or off based on the solar light intensity detected.

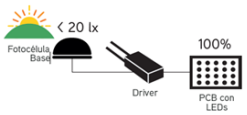
This is extremely useful so the luminaires are not switched on during the day when there is still sufficient natural light.

**Ejemplo con fotocélula de 20 lx:**

Si la fotocélula detecta más de 20 lx no activará el encendido de la luminaria.




Es cuando los niveles lumínicos empiezan a bajar que la fotocélula detecta 20 lx y activa el encendido de la luminaria.



## INNOVATIVE AND UPDATABLE OVER TIME (Zhaga/ ZD4i)

"All luminaires incorporating Nema Bases or Zhaga Bases, where the control system is not the responsibility of Carandini, must always incorporate IP 66 covers in order to ensure the correct safety and operation of the product.

The sale of luminaires with Nema or Zhaga Bases without the IP 66 cover will only be permitted upon receipt of a written assurance from the customer that the control sys-

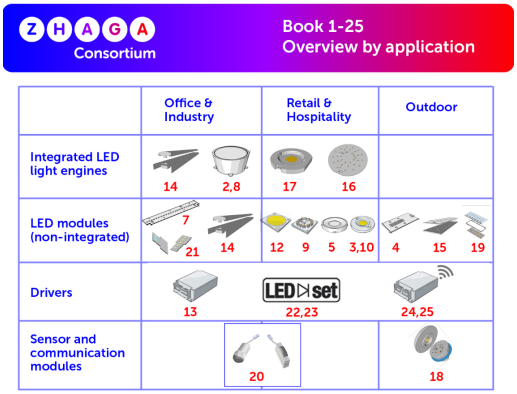
### Zhaga - Future Proof

Zhaga is an industry-wide consortium that aims to standardise specifications for interfaces between LED luminaires and light sources. The aim is to achieve interchangeability between products made by different manufacturers. Zhaga defines test procedures for luminaire and LED light sources so that the luminaire can receive the LED source.

### Zhaga D4i - Sensor Ready

The Zhaga consortium joined up with DiiA to create a unique Zhaga-D4i certification that combines Zhaga's Book 18 version 2 outdoor connectivity specifications with Dii4's D4i specifications for intra-luminaire DALI.

### BOOKS PER APPLICATION. A COST-EFFECTIVE SOLUTION.




The specifications that mark a component as Zhaga-compliant are contained in a series of books, available only to consortium members, that allow you to design to the marked standard. The benefits for society are evident since, apart from reducing the consumption of materials, it favours the reuse of luminaires, aiming towards a circular economy.

### CERTIFICATION PROGRAMME

Zhaga-D4i certification covers all essential features, including automatic setting, digital communication, data reporting and power requirements within a single luminaire, ensuring plug-and-play interoperability for luminaires (drivers) and peripherals such as connectivity nodes.

### STANDARDISATION AS A MEANS TOWARDS SUSTAINABILITY

The **PRQ** luminaire has been designed to operate with the latest tried and tested technology available on the market, in accordance with current standards, making it a product that conforms to CARANDINI's values of sustainability and that can guarantee future maintenance while respecting society and the environment.

Luminaires marked as **Zhaga** feature ***Future Proof*** design, meaning that they are based on and designed around Zhaga standard components. These components are mainly LED modules and drivers. The electrical compartment and dissipation area for the LED modules have additional space and mountings to integrate any driver that complies with Zhaga standard Book 13, based on the required dimensions for drivers on the market or any LED module that complies with Zhaga Book 15, based on the LED driver interface specifications.

This allows us to provide a sustainable product that can be upgraded over time.