

**ORN200**

*The pictures shown are for illustrative purposes only. For shape, material and color specifications refer to internal descriptions.*

# Orn 200

## Technical data

rev. 2025.06

### ACCESSIBILITY



#### Openable

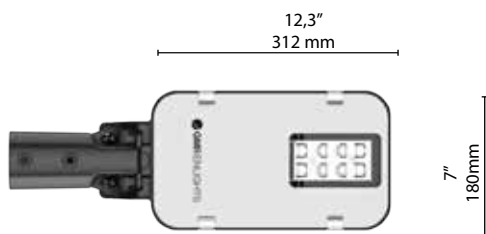
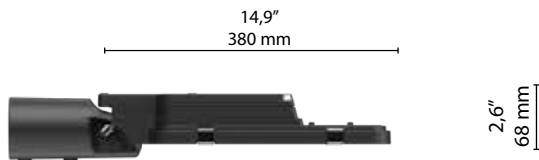
Openable fixture with basic tools  
Replaceable internal components  
using basic tools.

### OPTICAL TECHNOLOGY



#### Glassed

Refracting optical system consist of  
singlechip LED, PMMA lenses with  
30 years of warranty against UV and  
yellowing by aging and extra clear  
tempered glass.



### Max. weight

2,8 Kg

### CXS

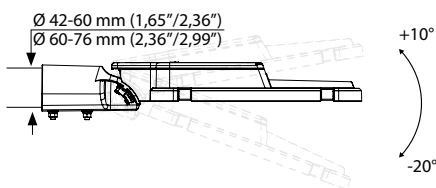
Lateral: 0,02 m<sup>2</sup> | Plan: 0,06 m<sup>2</sup>

### FIXING TYPE



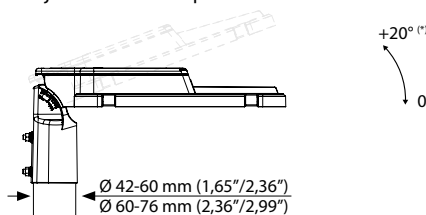
#### Side

Adjustable in 5° steps



#### Pole top

Adjustable in 5° steps



### STANDARD

EN 60598-1, EN 60598-2-3, EN 62471, EN 55015, EN 61547, EN 61000-3-2, EN 61000-3-3, UNI EN ISO 16474-3, UNI EN ISO 6270-1

### CONFORMITY | PROTECTION

#### Conformity



#### Salt spray test

ISO 9227



#### Vibration test

IEC 60068-2-6



#### Insulation classes



#### Protection classes



#### Photobiological safety



Classe 0 Exempt  
group IEC/TR62471

### PLUS



CUT OFF



OPTICAL  
FLEXIBILITY



LOW GLARE



COMPLIANT



SEPARATE UNITS  
(ELECTRICAL AND  
OPTICAL)



IPEA MIN

### LIGHTING FIXTURE FEATURES

#### General features

Power source:	220-240V   50/60Hz   tolerance +/-10%
Current supply:	350 mA   525 mA   700 mA   1050 mA (P <sub>max</sub> = 28W)
Power Factor   THD:	≥0.95   <10 % (At full load)
Expected life (Ta=25°):	> 100.000 h   L90B10
Operational temperature (Ta):	T <sub>min</sub> = -40°C   T <sub>max</sub> = +55°C   700 mA +50°C   1050 mA
Storage temperature:	-40°C/+80°C
Overcharge protection:	Main surge immunity up to 10kV

Standard functions: Current fixed | Virtual midnight |

#### Materials

CLO

Lighting fixture: Die cast aluminium | EN1706

Optical system: Optics in PMMA

Screen: Screen-printed ultraclear tempered glass | Th. 4mm

Gaskets: Removable silicon

Cable gland: Polyamide PA66 | PG16 | Ø 14mm MAX | IP 66

Screws and bolts: AISI 304 stainless steel

Fixture color: **GMR dark**

Silkscreen color: RAL 7047

### LED FEATURES

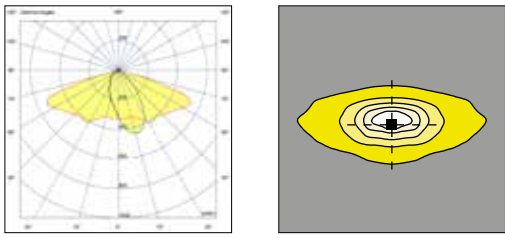
LED data 4.000 K - 640mA:	722 lm/LED   186 lm/W   25°C [Tj]   ≤ 3 step MacAdam
Color temperature:	2.200K   2.700K   3.000 K   4.000 K

### OPTIONAL

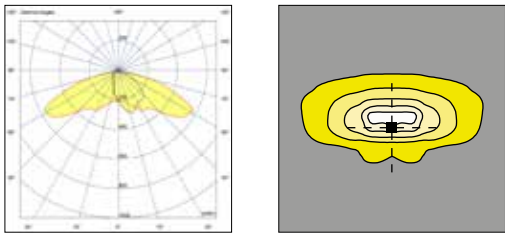
Additional surge protector device:	SPD with warning LED CLASS 1   CLASS 2 12kV
Additional surge protector device SPD 400:	SPD with warning LED CLASS 1   CLASS 2 12kV+ permanent overvoltage protection higher than 270Vac
Electrical equipment:	0,5 m power cable with 2-3 or 4-5 core connector
Optional functions:	DALI2   D4ij   Presence sensor
Connectors and sockets:	ZS (Zhaga Socket)

### ASYMMETRICAL DISTRIBUTION\

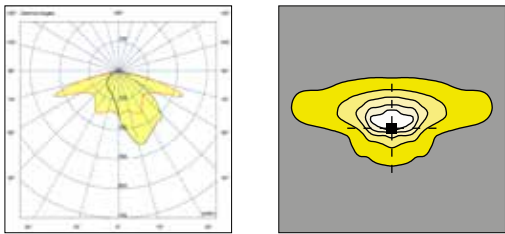
2A



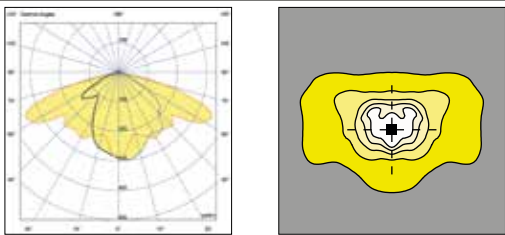
2B



2C

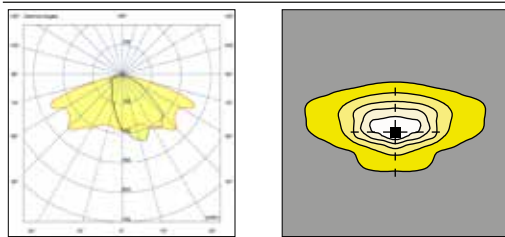


2D

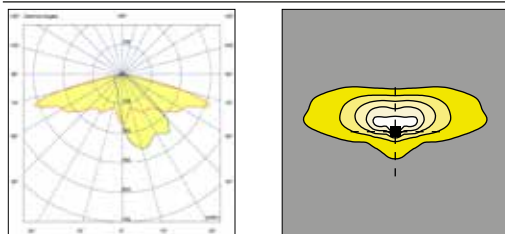


### ASYMMETRICAL DISTRIBUTION\

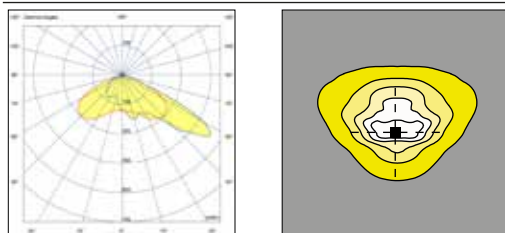
3A



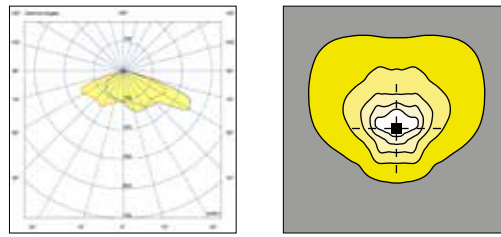
3B



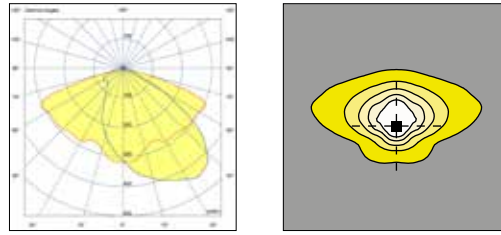
3C



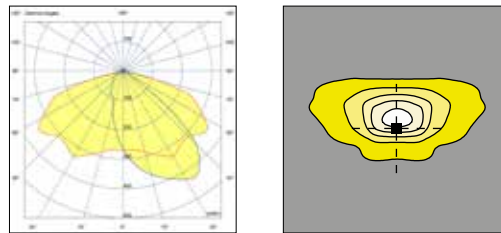
3D



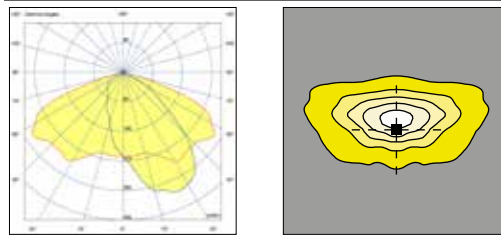
3E



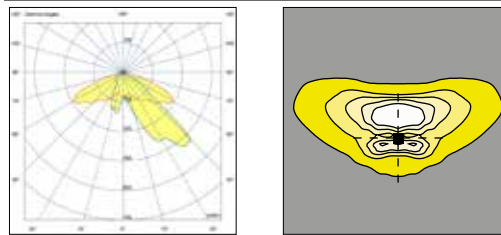
3F




3G



3H



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  $t_j$  of 25°C. The LED nominal data are extrapolated from the manufacturer documentations.

LED code		I LED [mA]	I lighting fixture [mA]	Luminous flux [lm]	Power [W]	Efficiency [lm/W]
GL02		175	350	1545	7,6	203
		265	525	2275	11,7	194
		350	700	2965	15,9	186
		525	1050	4253	24,6	173

The lighting fixture measured data refers to GMR ENLIGHTS products in a standard version, with 4000 K color temperature, optica type 3G and an ambient temperature  $t_a$  of 25 °C.

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

Feature availability is subject to configurations. To obtain luminous fluxes and efficiencies of the lighting fixture in case of optic type and/or color temperature and/or color rendering index different from the standard use the conversion factors shown in the tables.

Order code: OR2\_GLxx

		I LED [mA]	I lighting fixture [mA]	Luminous flux [lm]	Power [W]	Efficiency [lm/W]
GL02		175	350	1499	9,5	158
		265	525	2207	14,0	158
		350	700	2876	18,5	155
		525	1050	4125	28,0	147

### OPTIC CONVERSION FACTOR LUMINOUS FLUX

Optic type	Flux multiplier
3G	1,00
2A	0,99
3C   3F   3H	0,98
3A   3E	0,96
2B   2C   2D   3B	0,95
3D	0,93

### Tk CONVERSION FACTOR LUMINOUS FLUX

Tk [K]	Flux multiplier
2.200	0,84
2.700	0,93
3.000	0,96

### CRI CONVERSION FACTOR LUMINOUS FLUX

CRI (color render index)	Flux multiplier
70	1,00
80	0,90

(\*) See pag: Available optical system, to check the optic type availability.

(\*\*) See pag: Technical data, to check the colour temperature availability.

# Functions

## 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 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.

## On request functionality

### 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.

### D4i

On request, the fixture can be equipped with a D4i certified power supply. This is the ideal solution for wireless sensors and/or controls. This system was developed to integrate various systems to address smart city requirements. Included is DALI2 protocol + auxiliary power (AUX) to supply power to devices and sensors. This system is usually required when using a Zhaga socket.

### 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).

### ZHAGA Zhaga Socket (4 PIN)

The Zhaga socket is a small and compact 4 Pin connector/socket, that is fits ideally with the design of GMR ENLIGHTS fixtures. With ZHAGA sockets it is possible install the devices, sensors, ZHAGA remote controls during or after installation of the light fixtures. This socket is usually required in conjunction with the DALI Sensor feature, which involves a DALI2/D4i communication protocol in addition to 12/24V auxiliary port to supply power to the sensors. It is compatible with point-to-point wireless control solutions and SMART CITY applications to control and monitor the public lighting infrastructure.

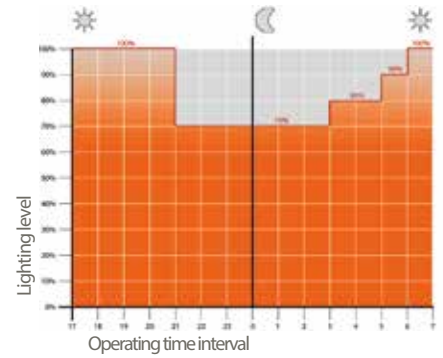
### PRESENCE SENSOR

The product can be equipped with a presence sensor type zhaga book 18 in the lower part of the luminaire. In this case the lighting body is provided with Zhaga socket and Driver D4I. It is very important to carefully evaluate the installation context (height and underlying area) according to the sensing diagram of the device.

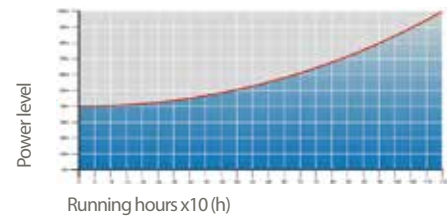
### Third-party remote control

GMR ENLIGHTS fixtures are compatible with most third-party remote controls, powerline communication systems, wired systems (buses) and wireless systems.

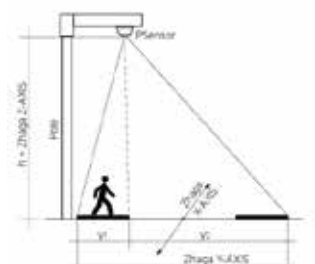
Example of 4-step adjustment with virtual midnight



CLO Light Flow Compensation



Installation example of presence sensor



## Protection cycles

rev. 2025.06

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, pastorals, 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 powder 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 demonstrated through the report test released.



**GMR ENLIGHTS s.r.l.**

Legal headquarters:  
Strada Provinciale Specchia - Alessano, 68 • 73040 (LE)

Administrative and operational headquarters:  
Via Grande n°226 • 47032 Bertinoro (FC)

T +39 0543 462611  
F +39 0543 449111

**sales@gmrenlights.com**  
**www.gmrenlights.com**