GMR ENLIGHTS

ORN400

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

Orn 400

Technical data

GMR ENLIGHTS

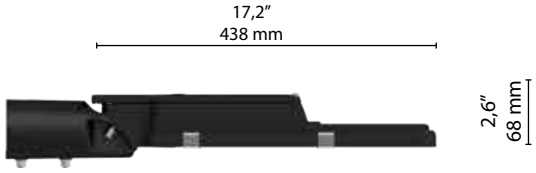
rev. 2026.01.01

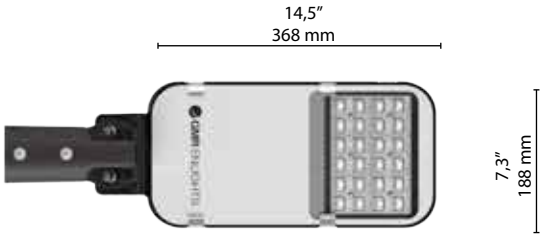
Accessibility

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, aluminium reflector having a purity of 99,7% and extra clear tempered glass.

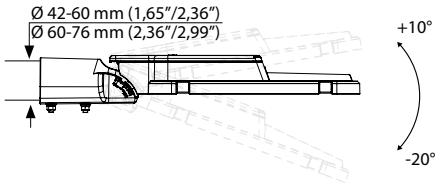




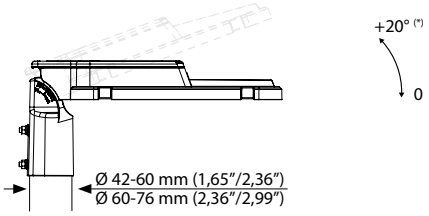
Max. weight	EPA (CXS)
7,7 lb (3,5 Kg)	Plan: 0,09ft² (0,084 m²)

Fixing type

Side
Adjustable in 5 ° steps



Pole top
Adjustable in 5 ° steps



DarkSky Approved with 3000K CCT and maximum of 10degree tilt for leveling only. (*) To limit upward tilt to max +10°,an integrated stopper is included for DarkSky approved configurations.

Standard

Compliance: UL Standard 1598-CSA C22,2no.250.0. | Salt Spray ASTM B117

Conformity | protection

Conformity

Intertek (PENDING)

Salt spray test

ISO 9227
8.000 hr

Vibration test

IEC 60068-2-6
3G ANSI C136

Safety classes

Class I

Protection classes

WET LOCATION · IK 09 · 4 NEMA

Photobiological safety

Classe 0 Exempt group IEC/TR62471

Plus

Dark Sky Friendly · optical flexibility · low glare · CAM 2017 Compliant · Separate Units (electrical and optical)

Lighting fixture features

General features

Power source:	120-277V | 50/60Hz | tolerance +/-10%
Current supply:	350 mA | 525 mA |700 mA | 1050 mA (P_{max} = 78W)
Power Factor | THD:	≥0.95 | <10 % (At full load)
Expected life (Ta=77°F|25°C):	> 100.000 h | L90B10
Operational temperature (Ta):	T_{min} = -40°F (-40°C) T_{max} = 131°F (55°C) |700mA 122°F (50°C) |1050mA
Storage temperature:	-40°F/+176°F (-40°C/+80°C)
Overcharge protection:	Main surge immunity up to 10kV
Disconnector:	Optional
Standard functions:	Current fixed |Virtual midnight |CLO

Materials

Lighting fixture:	Die cast aluminium | EN1706
Optical system:	Optics in PMMA Aluminium reflector, 99.7% oxidised and polished purity
Screen:	Screen-printed ultraclear tempered glass | Th. 0,15in (4mm)
Gaskets:	Removable silicon
Cable gland:	Polyamide PA66 | M20 | Ø 0,55in (14mm) MAX
Screws and bolts:	AISI 304 stainless steel
Fixture color:	GMR dark
Silkscreen color:	RAL 7047

LED features

LED data 4.000 K - 640mA:	700 lm/LED | 181 lm/W | 77°F (25°C) [Tj] | ≤ 3 step MacAdam
Color temperature:	2.200K | 2.700K |3.000 K | 4.000 K

Optional

Additional surge protector device:	SPD | Max peak current 10kV/5kA 8/20µs
Additional surge protector device SPD 400:	SPD | Max peak current 10kV 8/20µs + permanent overvoltage protection higher than 270Vac
Electrical equipment:	1,64ft (0,5m) power cable with 2-3 or 4-5 core connector Disconnector and cable clamp | cross section AWG14 ÷ AWG6
Optional functions:	DALI2 | D4i| Presence sensor
Connectors and sockets:	NM (Nema Socket) | ZS (Zhaga Socket)

Orn 400

Available optical system

GMR ENLIGHTS

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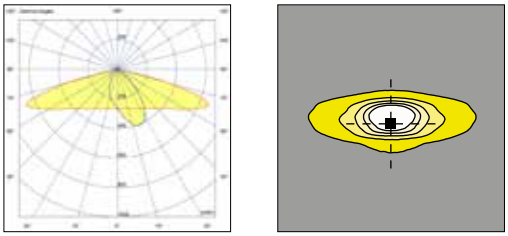
ASYMMETRICAL DISTRIBUTION\\

2A



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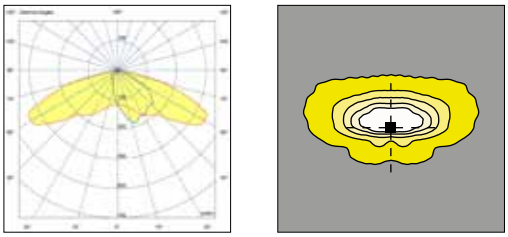

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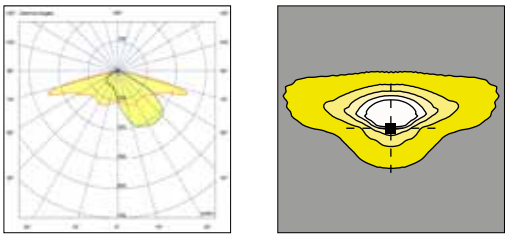

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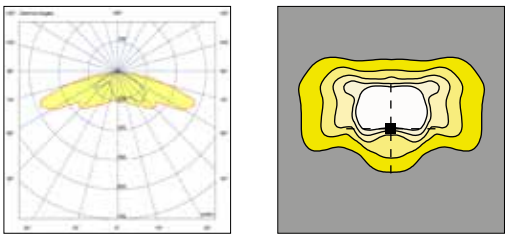

ASYMMETRICAL DISTRIBUTION\\

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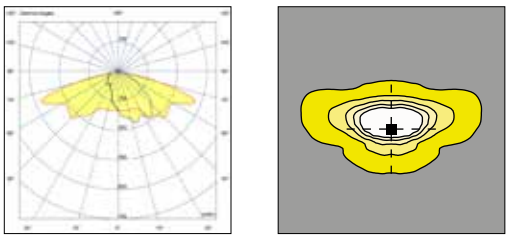

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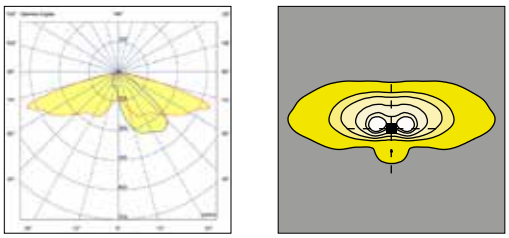

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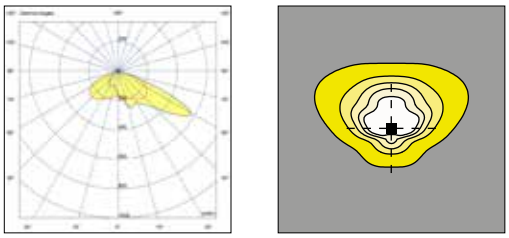
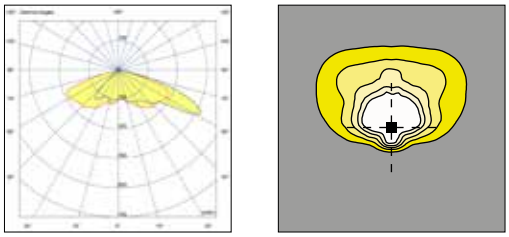
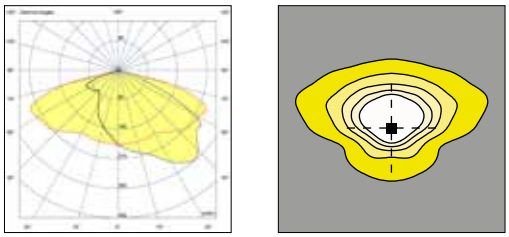


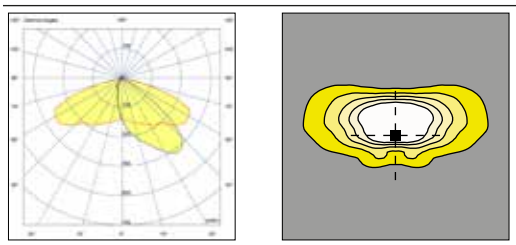
3D



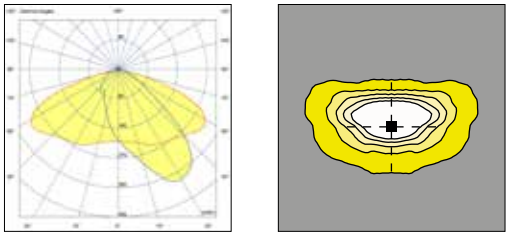
3E



3F

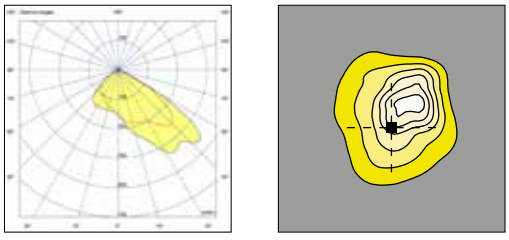


3G

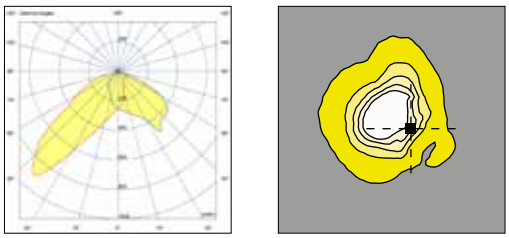


PEDESTRIAN PATHS\\

4A



4B



Orn 400

Photometric data | LED modules nominal data

GMR ENLIGHTS

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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 77°F (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	1568	7,6	206
	265	525	2310	11,7	197
	350	700	3023	15,9	190
	525	1050	4435	24,5	181
GL04	175	350	3034	15,2	200
	265	525	4463	23,3	192
	350	700	5745	31,6	182
	525	1050	8065	48,7	166
GL06	175	350	4503	22,8	198
	265	525	6612	34,9	189
	350	700	8296	47,3	175
	525	1050	11255	72,7	155

Orn 400

Photometric data | Lighting fixture measured data

GMR ENLIGHTS

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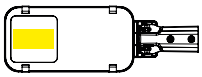
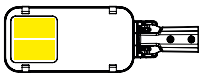
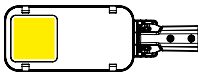
The lighting fixture measured data refers to GMR ENLIGHTS products in a standard version, with 4000 K color temperature, optica type 3G and an ambient temperature ta of 77°F(25 °C).

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: OR4_GLxx

		I LED [mA]	I lighting fixture [mA]	Luminous flux [lm]	Power [W]	Efficiency [lm/W]
GL02		175	350	1543	9,0	171
		265	525	2273	13,5	168
		350	700	2975	18,5	161
		525	1050	4364	28,0	156
GL04		175	350	2985	17,5	171
		265	525	4391	26,5	166
		350	700	5653	35,0	162
		525	1050	7936	53,0	150
GL06		175	350	4431	26,0	170
		265	525	6506	38,5	169
		350	700	8163	51,5	159
		525	1050	11075	78,0	142

OPTIC CONVERSION FACTOR LUMINOUS FLUX

Optic type	Flux multiplier
1A | 2B | 3G	1,00
2C | 4B	0,99
1B | 2A | 3C | 3D | 4A | 5A	0,98
2D | 3E | 3F	0,97
3A |3B	0,96

Tk CONVERSION FACTOR LUMINOUS FLUX

Tk [K]	Flux multiplier
2.200	0,86
2.700	0,94
3.000	0,95

CRI CONVERSION FACTOR LUMINOUS FLUX

CRI (color render index)	Flux multiplier
70	1,00
80	0,91

(*) See pag: Available optical system, to check the optic type availability.
(**) See pag: Technical data, to check the colour temperatureb availability.

Functions

rev. 2026.01.01

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.

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).

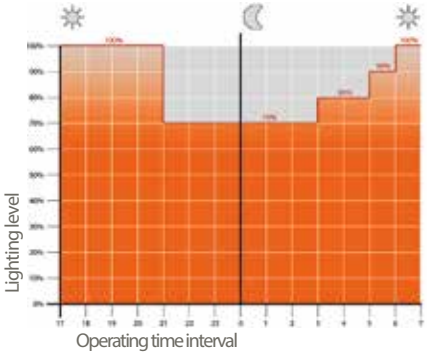
NEMA | Nema Socket (7 PIN)
The Nema Socket is a 7 PIN connector/socket with IP66 rating, that is fitted on the fixture to make it interfaceable with various ANSI C136 compliant devices and remote-control gear.
These devices can be installed during or after installation of the light fixtures. The NEMA socket can provide power interruption and is interfaceable with DALI buses and/or 1-10V dimming. It is compatible with point-to-point node connection, and twilight sensors ect.

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.

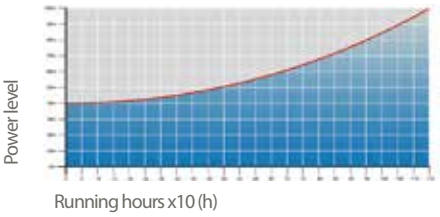
PRESENCE SENSOR
The product can be equipped with a presence sensor type zhaga book 18 in the lower part of the luminaire. In this case the lighting body is provided with Zhaga socket and Driver D4I. It is very important to carefully evaluate the installation context (height and underlying area) according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



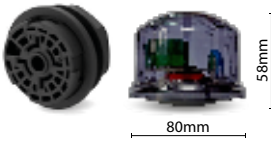
7 Pin Nema Socket 7 (A) and IP66 shorting cap (B)

A

B

4 Pin Zhaga Socket (C) and IP66 cap (D)

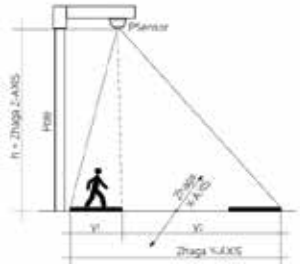
C



D

Installation example of Zhaga

Installation example of presence sensor



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

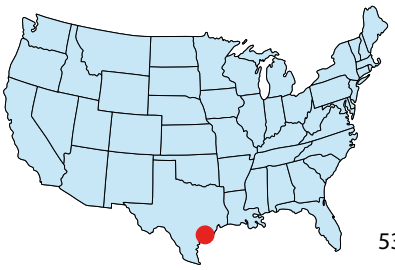
Protection of die-cast aluminium surfaces for lighting fixtures, tops, collars, brackets and pastorals

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;
- Application of a first powder coating layer, followed by oven curing at 356°F (180°C);
- Application of a final powder coating layer using a high-durability product, followed by oven curing at 356°F (180°C);

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 95°F (35°C) and demostrated through the report test released.
Meets ASTM B117 (Salt Spray Test – Corrosion Resistance)



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