



LQ093B

Lq 093 B

Technical data

ACCESSIBILITY



Timeless

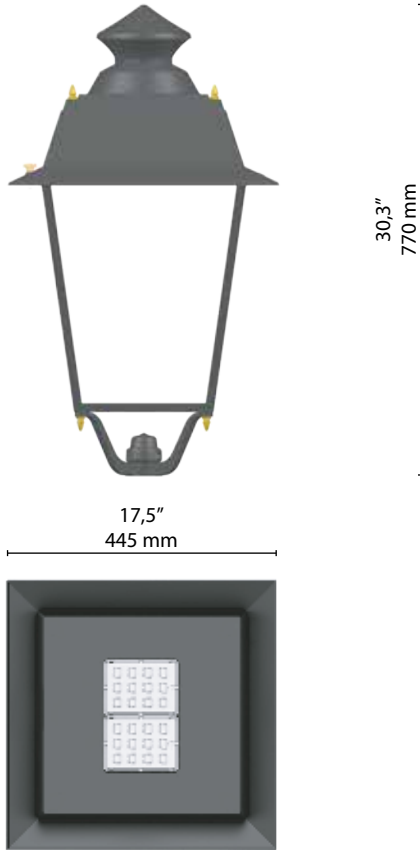
Tool-free openable fixture. Replaceable internal components without the need of tools.

OPTICAL TECHNOLOGY



Glass free

Refracting optical system consist of single-chip LED, shockproof lenses with 30 years of warranty against UV and yellowing by aging (GLASS-FREE).



Scale: 1:12

Max. weight

10,0 Kg
fixing device excluded

CXS

Lateral: 0,11 m² | Plan: 0,20 m²

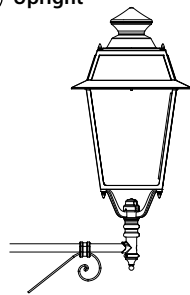
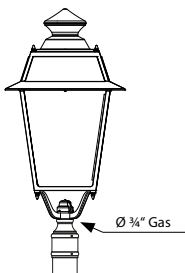
FIXING TYPE



Pole top



Upright



OPTIONAL

Glass

Ultraclear tempered glass
Th. 0,15in (4mm)

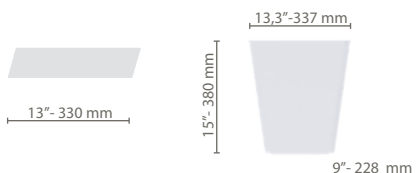
1,7 lb
0,8 Kg

Diffusers

Polycarbonate with U.V. protection

Quadrata

3,1 lb
1,4 Kg

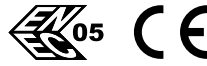


STANDARD

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

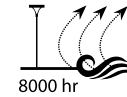
CONFORMITY | PROTECTION

Conformity



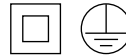
Salt spray test

ISO 9227



8000 hr

Insulation classes



Protection classes



Photobiological safety



Classe 0 Exempt group IEC/TR62471

PLUS



CUT OFF



OPTICAL FLEXIBILITY



LOW GLARE



COMPLIANT



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 _{max} = 78W)
Power Factor THD:	≥0.95 <10% (At full load)
Expected life (Ta=25°):	> 100.000 h L90B10
Operational temperature (Ta):	T _{min} = -40°C T _{max} = +55°C 700 mA +40°C 1050 mA
Storage temperature:	-40°C/+80°C
Overcharge protection:	Main surge immunity up to 10kV
Disconnecter:	Disconnecter and cable clamp cross section 1.5mm ² ÷ 4mm ²
Standard functions:	Current fixed Virtual midnight CLO (page: Functionality)

Materials

Lighting fixture:	Die cast aluminium EN1706 Epoxy powder coating
Optical system:	Optics in PMMA
Gaskets:	Removable silicon
Cable gland:	Polyamide PA66 PG16 Ø 14mm MAX IP 68
Screws and bolts:	AISI 304 stainless steel
Fixture color:	GMR dark
Diffusers color:	Transparent Frosted

LED FEATURES

LED data 4.000 K - 640mA:	722 lm/LED 186 lm/W 25°C [Tj] ≤ 3 step MacAdam
Color temperature:	2.200 K 2.700 3.000 K 4.000 K CRI ≥ 70

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

Optional functions:

0,5 m power cable with 2-3 or 4-5 core connector

Funzionalità su richiesta:

DALI2 | D4i

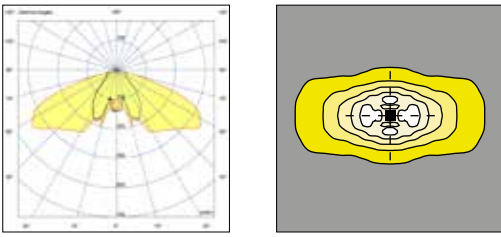
Connectors and sockets:

NM (Nema Socket) | ZS (Zhaga Socket)

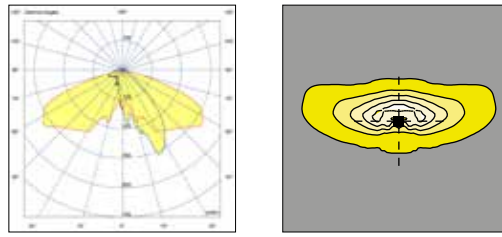
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Available optical system

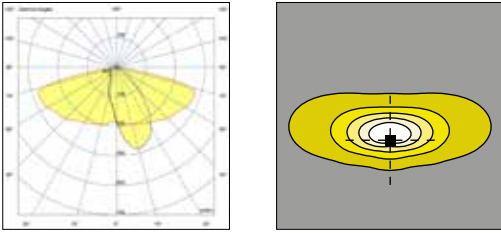
1A



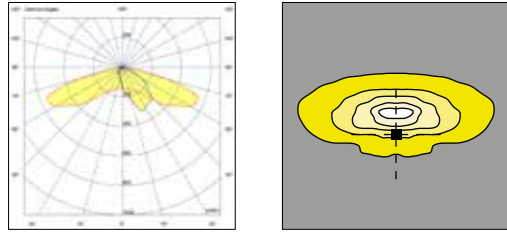
3A



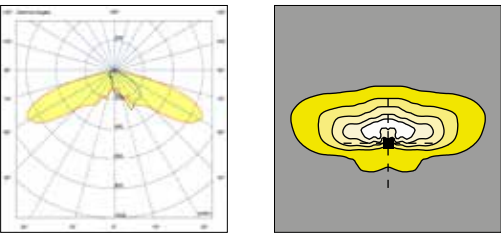
2A



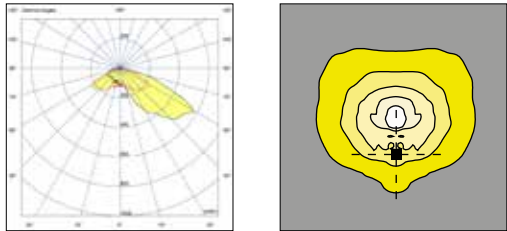
3B



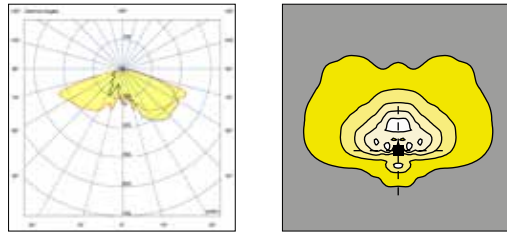
2B



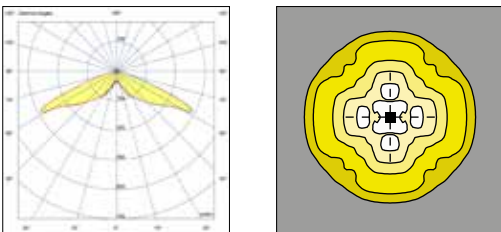
3C



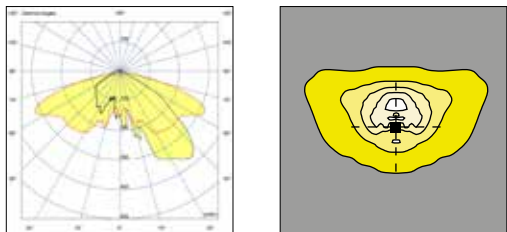
3D






5A



3E



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]	Luminous flux [lm]	LED Power [W]	Efficiency [lm/W]
GF03		350	2413	11,5	210
		525	3537	17,6	201
		700	4599	23,8	193
		1050	6652	36,7	181
GF04		350	3156	15,3	206
		525	4652	23,4	199
		700	6089	31,7	192
		1050	8534	48,8	175
GF06		350	4599	22,9	201
		525	6765	35,0	193
		700	8579	47,4	181
		1050	11617	72,8	160

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

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

In case of optional glass some LED codes may be different from those indicated (GL02, GL04, GL06). In this case the values of luminous flux and efficiency are different from those shown in the table.

Order code: L93 B_GFxx		I LED [mA]	I lighting fixture [mA]	Luminous flux [lm]	LED Power [W]	Efficiency [lm/W]
GF03		175	350	2140	13,5	159
		265	525	3137	20,5	153
		350	700	4079	27,0	151
		525	1050	5899	40,5	146
GF04		175	350	2799	17,5	160
		265	525	4126	26,5	159
		350	700	5400	35,0	154
		525	1050	7569	53,0	143
GF06		175	350	4132	26,0	159
		265	525	6079	38,5	158
		350	700	7709	51,5	150
		525	1050	10438	78,5	133

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 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 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.

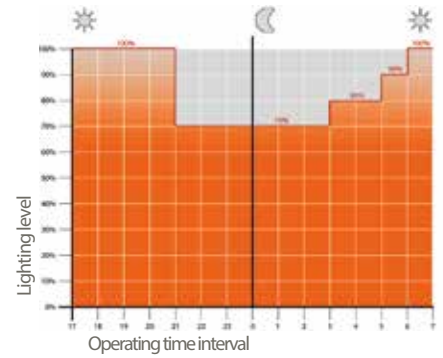
PRESENCE SENSOR

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.

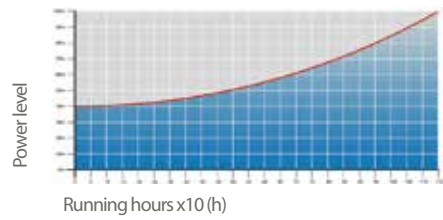
Third-party remote control

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

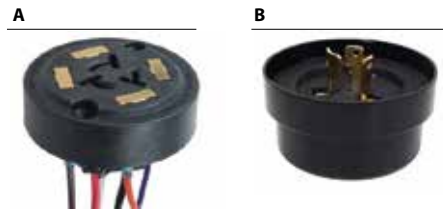
Example of 4-step adjustment with virtual midnight



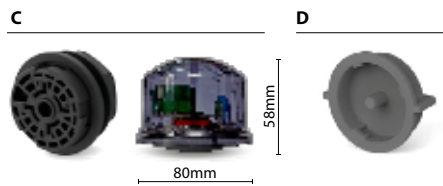
CLO Light Flow Compensation



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



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



Installation example of Zhaga



Installation example of presence sensor

