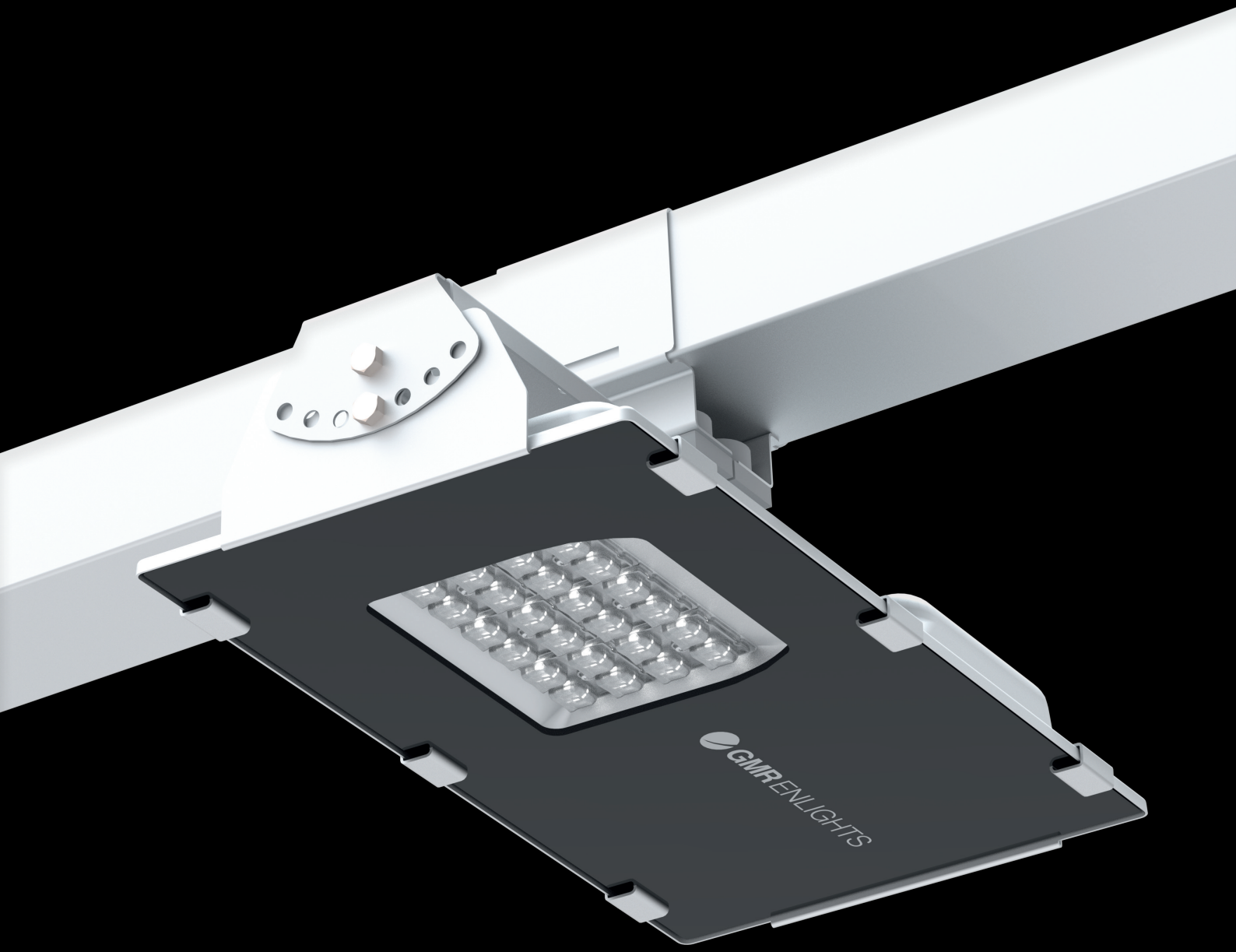
GMR ENLIGHTS



CUBE

Cube

Technical data

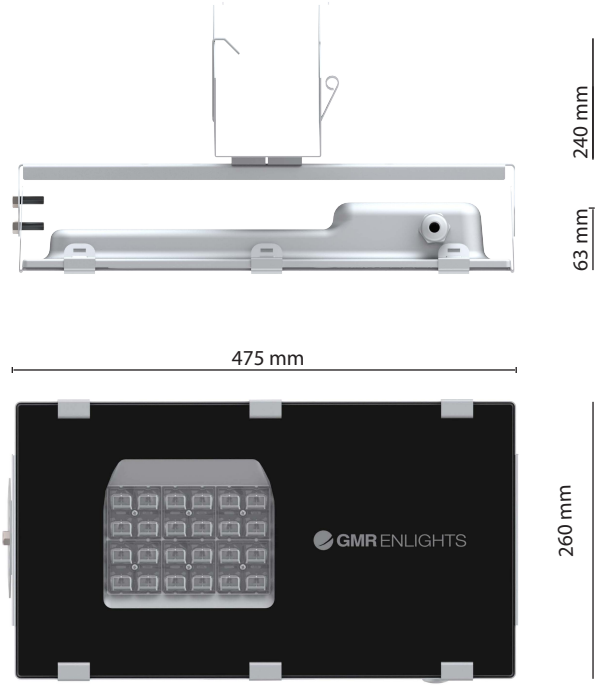
GMR ENLIGHTS

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.

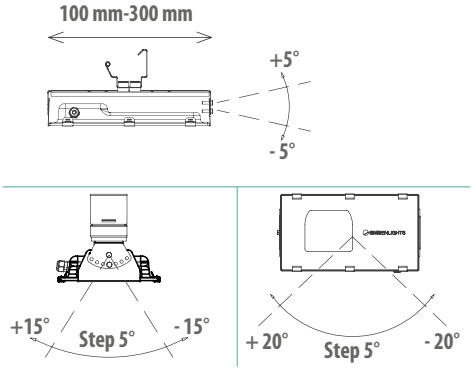


Weight max
5.5 Kg

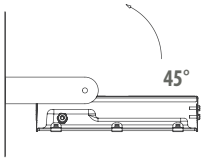
CXS
Lateral: 0,04 m² |Plan: 0,13 m²

Fixing type

CABLE CHANNEL SUPPORT



Wall bracket



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
IP 66 IK 08

Photobiological safety
Classe 0
Exempt group
IEC/TR62471

Plus

OPTICAL FLEXIBILITY
LOW GLARE
IPEA MINI
CONFORM

Lighting fixture features

General features

Power source:	220-240V | 50/60Hz | tolerance +/-10% | other voltages on request
Current supply:	525 mA | 700 mA | 1050 mA (P_{max} = 78 W)
Power Factor | THD:	≥0.95 | <10 % (At full load)
Expected life (Ta=25°):	> 100.000 h | L90B10 | @ LED 700 mA
Operational temperature (Ta):	T_{min} = -40°C T_{max} = +40°C |700 mA
Storage temperature:	-40°C/+80°C
Overcharge protection:	Impulse whitstand up to 10kV
Standard functions: (page: Functionality)	Corrente fissa |CLO
Equipement:	power cable type FG7OM106 / 1kV 2x1.5, plug type IEC309 2P+T 230V 16A- IP67

Materials

Lighting fixture:	AISI316 stainless steel | from mold without welding
Optical system:	Optic in PMMA Aluminium reflector, 99.7% oxidised and polished
Screen:	purity Ultraclear tempered glass | Th. 4mm
Gaskets:	Silicon
Cable gland:	AISI 316 | PG16 | Ø 14mm MAX | IP 68
Screws and bolts:	AISI 316 stainless steel

LED FEATURES

LED data 4.000 K - 700mA:	340 lm/W | 180 lm/W | 25°C [Tj] | ≤ 3 step macadam
Colour temperature:	4.000 K | 5.700 K | CRI ≥ 70

Optional

Surge protection:	SPD with LED | CLASSE 1 | CLASSE 2 | 12kV/kA
Optional functions: (page: Functionality)	1-10 V | DALI - DALI2 | DALI SENSOR

Cube

Available optical system

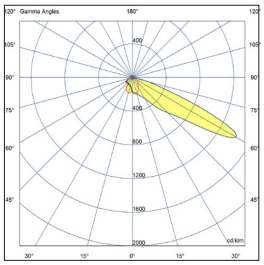
rev. 2020.06

REINFORCED LIGHTING FOR TUNNEL

ASYMMETRIC PHOTOMETRIES\\

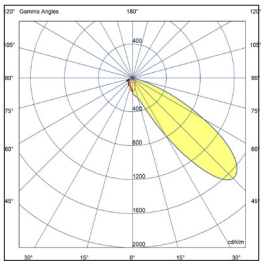
OPTIC TYPE 11

11A



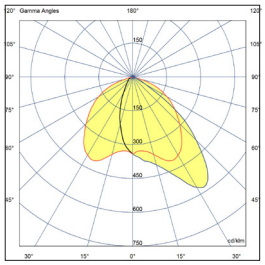
Asymmetric optic.
Beam 60°, high cd/klm peak.

11B



Asymmetric optic.
Beam 40°, high cd/klm peak.

11C



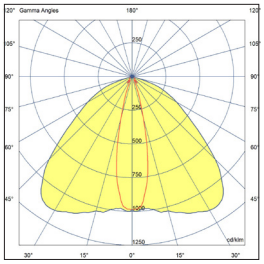
Asymmetric optic.
Beam 40°, average cd/klm peak.

PERMANENT LIGHTING FOR TUNNEL

CENTRE OF THE TUNNEL INSTALLATION

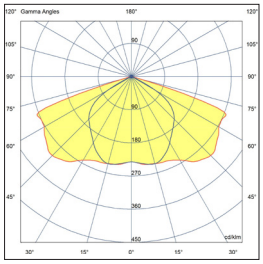
OPTIC TYPE 10

10A



OPTIC TYPE 1

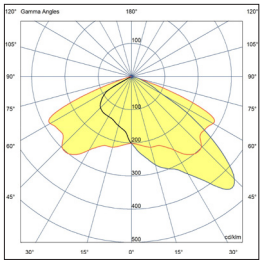
TIPO 1A



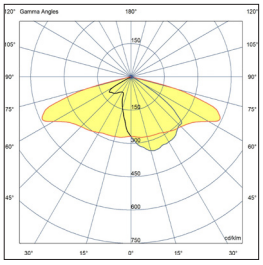
TUNNEL LATERAL SIDE INSTALLATION

OPTIC TYPE 3

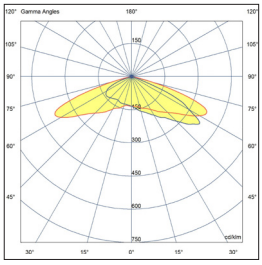
TYPE 3A



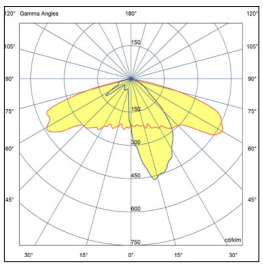
TYPE 3B



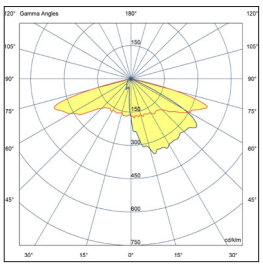
TYPE 3C



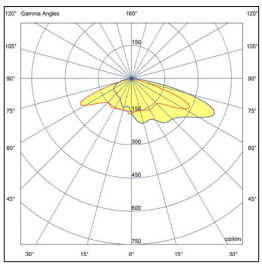
TYPE 3D



TYPE 3E



TYPE 3F



Cube

Photometric data | LED modules nominal data

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.

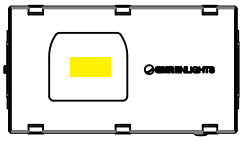
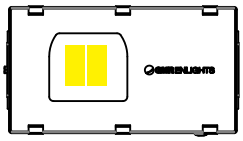
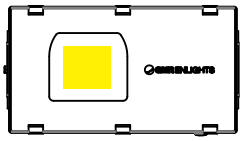
LED code	I [mA]	Luminous flux [lm]	Power [W]	Efficiency [lm/W]
GL02	525	2168	12,0	181
	700	2951	17,0	174
	1050	4191	26,0	161
GL04	525	4337	24,0	181
	700	5729	33,0	174
	1050	8221	51,0	161
GL06	525	6505	36,0	181
	700	8506	49,0	174
	1050	12251	76,0	161

Cube

GMR ENLIGHTS

Photometric data | LED modules nominal data

The lighting fixture measured data refers to GMR ENLIGHTS products in a standard version, with 4000 K color temperature, optica type 3B and an ambient temperature ta of 25 Â°C. 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.
GMR ENLIGHTS offers the possibility of driving the device with custom currents (â€¢).

LED code		I [mA]	Luminous flux [lm]	Power [W]	Efficiency [lm/W]
GL02		525	1826	14,5	126
		700	2362	18,5	128
		1050 (max)	3350	28,0	120
GL04		525	3628	27,0	134
		700	4659	35,5	131
		1050 (max)	6515	53,0	123
GL06		525	5367	39,0	138
		700	6892	52,0	133
		1050 (max)	9704	78,0	124

OPTIC CONVERSION FACTOR LUMINOUS FLUX

Optic type	Flux multiplier
3A | 3C | 3D | 3E | 3F	0,99
10A	1,00
11A | 11B	0,99
11C	1,00
1A	1,00

Tk CONVERSION FACTOR LUMINOUS FLUX

Tk [K]	Flux multiplier
5.700	1,01

CRI CONVERSION FACTOR LUMINOUS FLUX

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

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

Functions

rev. 2020.06

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).

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

1-10V Analog control system
On request, the fixture can be equipped with 1-10V dimming interface. This protocol provides the possibility of dimming a single device or a public lighting line through a 1-10V control bus.

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.

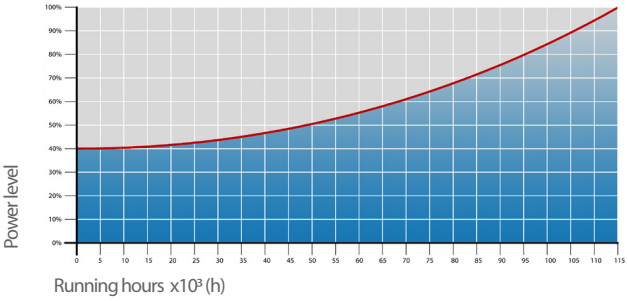
DALI SENSOR (D4I)
On request, the fixture can be equipped with a D4i certified power supply. This is the ideal solution for wireless sensors and/or controls. This system was developed to integrate various systems to address smart city requirements. Included is DALI2 protocol + auxiliary power (AUX) to supply power to devices and sensors. This system is usually required when using a Zhaga Lumawise 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).

On request connectors and external sockets

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



CLO Light Flow Compensation