



# MELDANS

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

### ACCESSIBILITY



#### Timeless

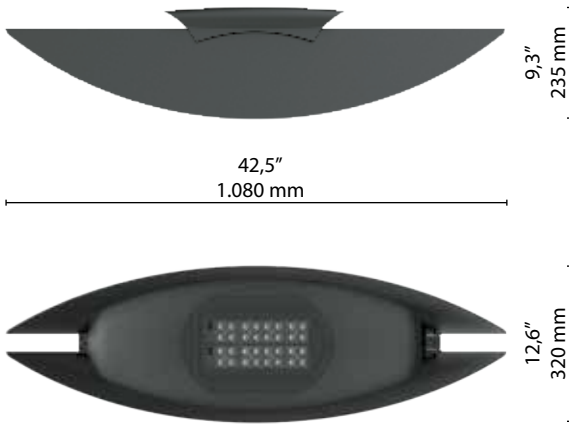
Tool-free openable fixture. Replaceable internal components without the need of tools.

### 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: 1:15

#### Max. weight

17,6 lb (8 Kg)

fixing device excluded

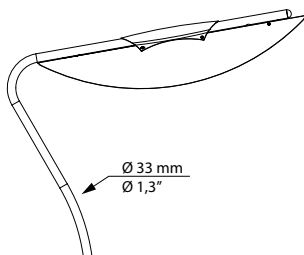
#### EPA (CXS)

Plan: 3,1 ft<sup>2</sup> (0,29 m<sup>2</sup>)

### FIXING TYPE



#### Pole attachment



### OPTIONAL

#### Additional surge protector device:

SPD | Max peak current 10kV/kA 8/20µs

#### Optional functions:

1,64ft (0,5m) power cable with 2-3 or 4-5 core connector

#### Funzionalità su richiesta:

DALI-DALI2 | DALI SENSOR

### STANDARD

Compliance: UL Standard 1598-CSA C22,2no.250.0.

### CONFORMITY | PROTECTION

#### Conformity



#### Salt spray test

ISO 9227



#### Safety classes



Class I

#### Protection classes



#### Photobiological safety



Classe 0 Exempt group IEC/TR62471

### PLUS



DARK SKY FRIENDLY



OPTICAL FLEXIBILITY



LOW GLARE



COMPLIANT

### LIGHTING FIXTURE FEATURES

#### General features

Power source: 120-277V | 50/60Hz | tolerance +/-10%

Current supply: 350 mA | 525 mA | 700 mA | 1050 mA (P<sub>max</sub> = 106W)

Power Factor | THD: ≥0.95 | <10 % (At full load)

Expected life (Ta=77°F|25°C): > 100.000 h | L90B10 | @ LED 700mA

Operational temperature (Ta): T<sub>min</sub> = -40°F (-40°C) T<sub>max</sub> = 131°F (55°C) | 700 mA  
104°F (40°C) | 1000 mA

Storage temperature: -40°F/+176°F (-40°C/+80°C)

Overcharge protection: Main surge immunity up to 10kV

Disconnecter:

Disconnecter and cable clamp | cross section AWG14 ÷ AWG6

Standard functions:

Current fixed | Virtual midnight | CLO

#### Materials

Lighting fixture: Die cast aluminium | EN1706

Optical system:

Optics in PMMA - Aluminium reflector  
Screen-printed ultraclear tempered glass | Th. 4mm

Gaskets:

Removable silicon

Cable gland:

Polyamide PA66 | PG16 | Ø 0,55in (14mm) MAX

Screws and bolts:

AISI 304 stainless steel

Fixture color:

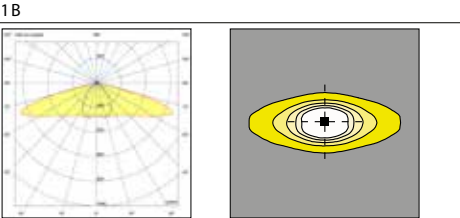
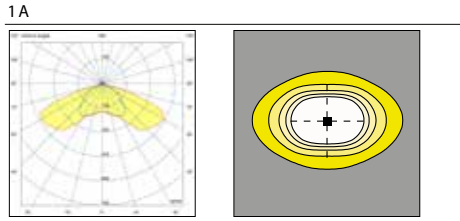
GMR dark Others on request

### LED FEATURES

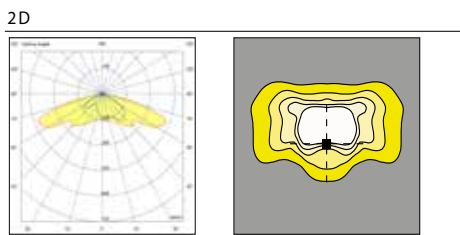
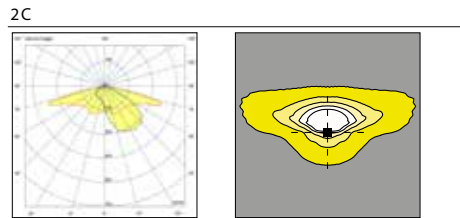
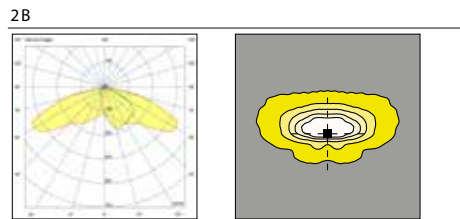
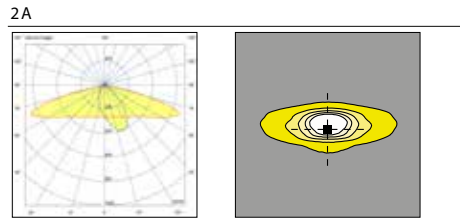
Dati LED 4.000 K - 640mA: 700 lm/LED | 181 lm/W | 25°C [Tj] | ≤ 3 step MacAdam

Color temperature: 2.200K | 2.700K | 3.000 K | 4.000 K

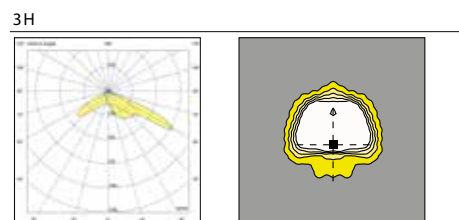
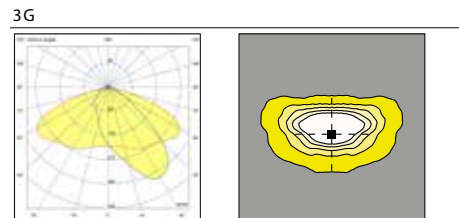
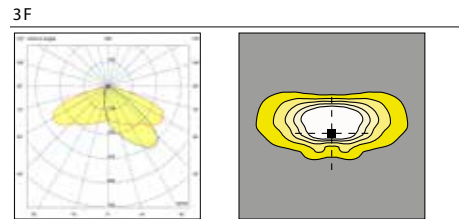
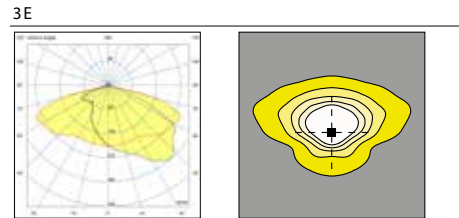
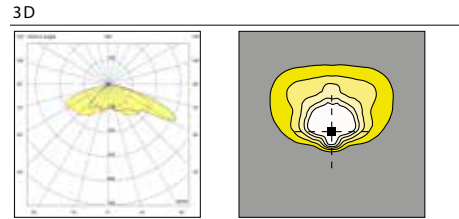
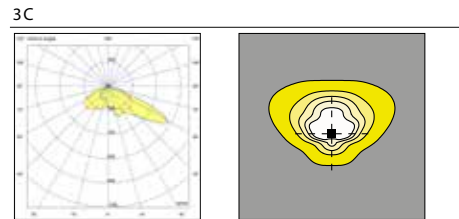
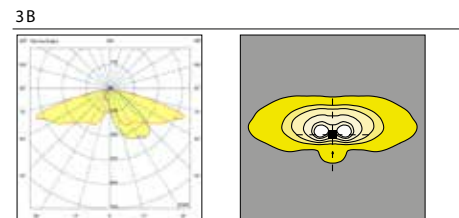
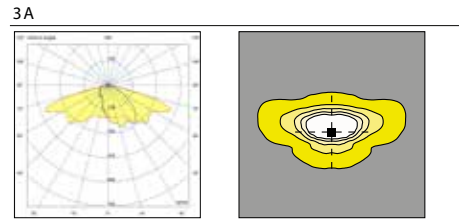
### SYMMETRICAL DISTRIBUTION\\



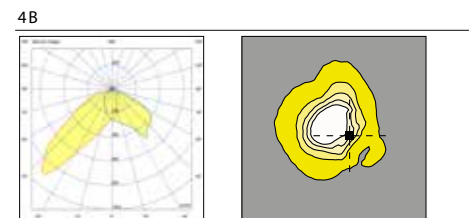
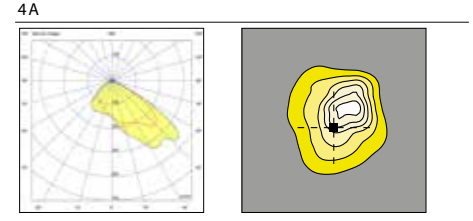
### ASYMMETRICAL DISTRIBUTION\\



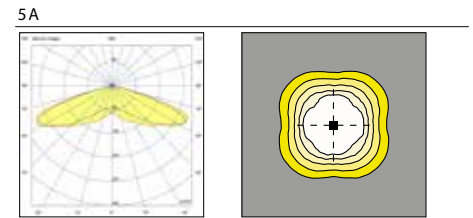
### ASYMMETRICAL DISTRIBUTION\\



### PEDESTRIAN PATHS\\



### SYMMETRICAL DISTRIBUTION\\



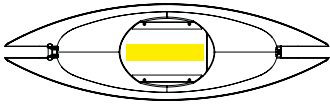
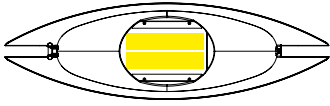
The LED modules nominal data refers only to the LED light sources in a standard version, with 4000 K color temperature, color rendering index CRI 70 min. and a junction temperature  $t_j$  of 77°F (25°C). The LED nominal data are extrapolated from the manufacturer documentations.

LED code	(*) I [mA]	Luminous flux [lm]	LED Power [W]	Efficiency [lm/W]
GL04	350	3328	16,2	206
	525	4671	24,4	192
	700	5927	33,4	178
	1050	8015	48,6	165
GL08	350	6472	31,6	205
	525	9183	48,2	191
	700	11650	66,0	177
	1050	15744	97,5	161

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  $t_a$  of 77°F (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: MSS_GLXX	(°) I [mA]	Luminous flux [lm]	LED Power [W]	Efficiency [lm/W]
<b>GL04</b> 	350	3229	17,5	184,5
	525	4750	26,5	179,2
	700	6115	35,0	174,7
	1050	8583	53,0	161,9
<b>GL08</b> 	350	6203	34,0	182,4
	525	8975	50,5	177,7
	700	11247	67,5	166,6
	1050	14513	103,5	140,2

### 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   3H	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 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 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).

### 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 etc.

### ZHAGA Lumawise Zhaga Socket (4 PIN)

The Lumawise Zhaga socket is a small and compact 4 Pin connector/socket, that fits ideally with the design of GMR ENLIGHTS fixtures. With ZHAGA Lumawise 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.

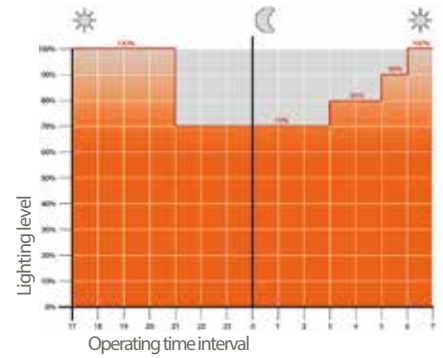
### PRESENCE SENSOR

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.

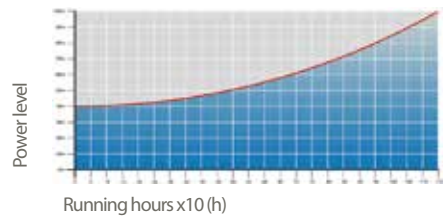
### Third-party remote control

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

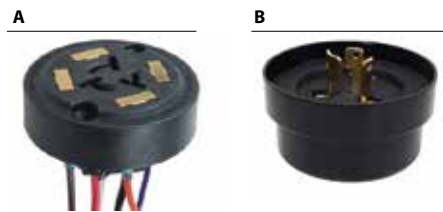
Example of 4-step adjustment with virtual midnight



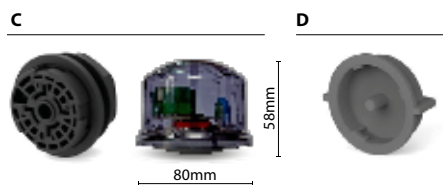
CLO Light Flow Compensation



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



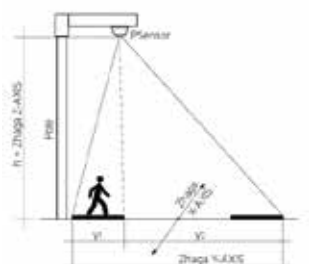
4 Pin Lumawise Zhaga Socket (C) and IP66 cap (D)



Installation example of Lumawise Zhaga



Installation example of presence sensor



## Protection cycles

GMR ENLIGHTS works with cast iron, steel and aluminum. The materials are selected and processed to maximize performance and quality.

### GALVANIZED STEEL

#### Protection of galvanized steel surfaces for poles

The protection of galvanized steel elements is achieved by following steps:

- Micro sandblasting;
- First epoxy layer application followed by: Wilting > Drying > Cooling;
- Acrylic glaze layer application followed by: Wilting > Drying > Cooling;
- Packing at least after 24-hour-drying at room temperature.

#### Protection of galvanized steel surfaces for brackets and pastorals

The protection of the galvanized steel elements is achieved thanks to:

- Micro sandblasting;
- Phosphoric pickling bath at a ph level ranging from 1.5 to 3;
- Rinsing with demineralised water;
- First powder layer application;
- Kiln firing;
- Application of a final powder layer;
- Kiln roasting of the final powder layer at 356°F (180°C);
- Cooling.

### CAST IRON

#### Protection of cast iron surfaces for bases

The protection of cast iron elements is achieved by the following treatments:

- Surface micro shotblasting;
- Mono-component dip galvanizing followed by: Wilting > Drying > Cooling;
- Epoxy micaceous primer application followed by: Wilting > Drying > Cooling;
- Acrylic enamel application followed by: Wilting > Drying > Cooling;
- Packing at least after 24-hour-drying at room temperature.

### 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;
- First powder layer application followed by kiln baking at 356°F (180°C);
- Final powder layer application using a High Durability product and final kiln roasting 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 demonstrated through the report test released.



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