Mina

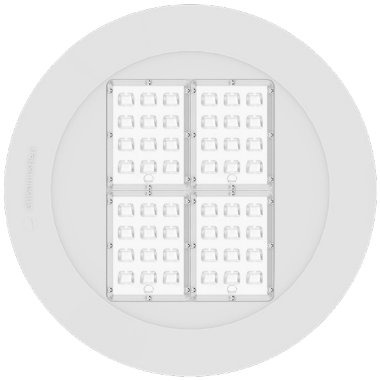
Product code: MIN

Ghisamestieri
the green way of light

lightart: lanterns | rev. 2019.10.03

Available versions

Timeless
Regenerable luminaire: replaceable LEDs and drivers without tools.

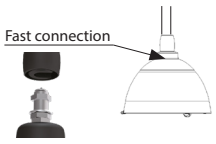


(*)
Scale: 1:08

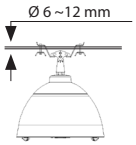
Max. weight	CXS
10,0 Kg fixing device excluded	lateral: 0,08 m² | plan: 0,14 m²

Fixing type

Suspended
Standard: fast connection
On request: Ø ¾" Gas



Wire system



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/TR62778

Plus

CUTOFF | OPTICAL FLEXIBILITY | LOW GLARE | IPEA MIN A++

Lighting fixture features

General features

Power source:	220-240V | 50/60Hz | tolerance +/-10% | other voltages on request
Current supply:	525mA | 700mA | 1.000mA (P_{max} = 145,5 W)
Power Factor | THD:	≥0.95 | <10 % (At full load)
Expected life (Ta=25°):	> 100.000 h | L90B10 | @700mA
Operational temperature (Ta):	T_{min} = -40°C T_{max} = +55°C |700 mA +50°C |1000 mA
Storage temperature:	-40°C/+80°C
Overcharge protection:	Impulse whitstand up to 10kV CM/DM
Disconnector	Cable clamp included | cables section 1.5mm² ÷ 4mm²
Standard functions: (Details pag.4)	Current fixed |Virtual midnight |CLO

Materials

Lighting fixture:	Die cast aluminium |EN1706
Optical system:	Nano-optics in PMMA
Gaskets:	Silicon
Cable gland:	Polyamide PA66 | PG16 | Ø 14mm MAX | IP 68
Screws and bolts:	AISI 304 stainless steel
Fixture color:	Dark grey Ghisamestieri®

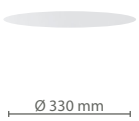
LED features

LED data 4.000 K - 700mA:	180 lm/W | 25°C [Tj] | ≤ 3 step macadam
Colour temperature:	2.200 K | 3.000 K | 4.000 K | 5.700 K | CRI ≥ 70
"Flip chip LED" technology:	Hight performance and hight quality LED equipped with gold electrode; hight protection against corrosion and color shifting.

(*) In case of optional glass, some specifications and product configurations may change.

Optional

Glass
ultraclear tempered glass \| Th. 4mm
0,8 Kg



Overcharge protection:
optional - SPD with warning LED
CLASS 1 | CLASS 2 10kV / 10kA CM/DM

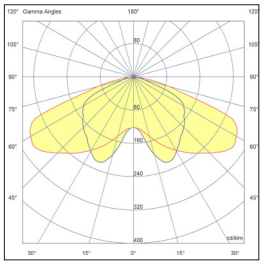
Electrical equipment
0,5 m power cable with 2-3 or 4-5 core connector

Optional functions (Details pag.4)
1-10V | DALI-DALI2 | SENSOR READY

Connectos and external sockets: (Details pag.4)
NM (Nema Socket) | LM (Lumawise Socket)

STREET-CENTRE\\
OPTIC TYPES 1

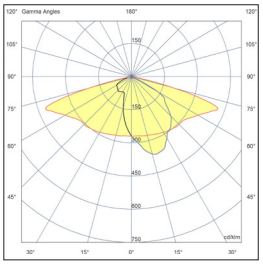
TYPE 1A



Symmetrical light, designed to be installed in the middle of the street.

PEDESTRIAN PATHS\\
OPTIC TYPES 2

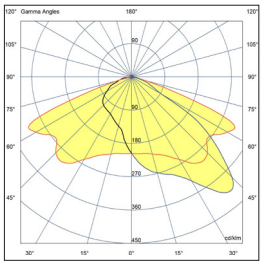
TYPE 2A



Asymmetrical light, designed to suit streets and pedestrian or cycle paths.

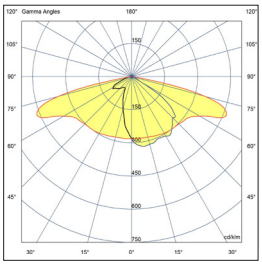
URBAN AND SUBURBAN STREETS, SQUARES, PARKING LOTS AND ROUNDABOUTS\\
OPTIC TYPES 3

TYPE 3A



Asymmetrical light, designed to suit streets and road wet surface.

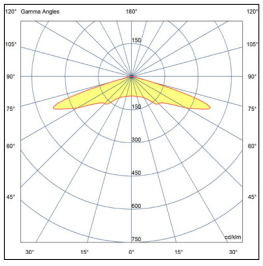
TYPE 3B



Asymmetrical light, designed to suit suburban and urban streets.

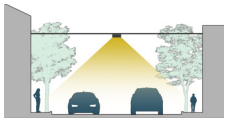
PARKS AND SQUARES\\
OPTIC TYPES 5

TYPE 5A



Symmetrical light, designed to be installed in parks, squares,parking lots and other large surfaces.

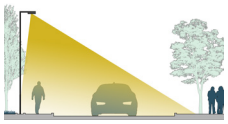
APPLICATION EXAMPLES\\



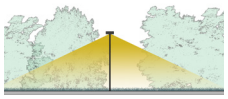
TYPE 1A

TYPE 2A

TYPE 2A



TYPE 3A | TYPE 3B



TYPE 5A

Mina

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.

In case of optional glass some LED codes my be different from those indicated (GLxx).

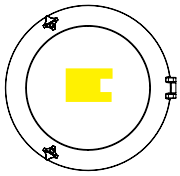
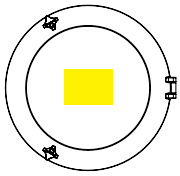
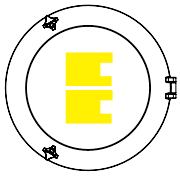
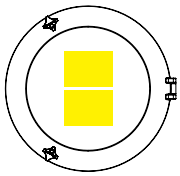
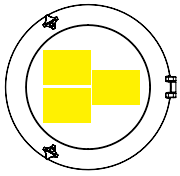
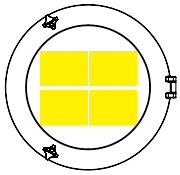
LED code	I [mA]	Luminous flux [lm]	Power [W]	Efficiency [lm/W]
GF02	525	2220	12,0	185
	700	2610	15,0	174
	1000	3542	22,0	161
GF03	525	3145	17,0	185
	700	4002	23,0	174
	1000	5313	33,0	161
GF04	525	4255	23,0	185
	700	5394	31,0	174
	1000	7084	44,0	161
GF06	525	6475	35,0	185
	700	8004	46,0	174
	1000	10626	66,0	161
GF09	525	9620	52,0	185
	700	12006	69,0	174
	1000	15939	99,0	161
GF12	525	12765	69,0	185
	700	16008	92,0	174
	1000	21252	132,0	161

Mina

Photometric data | Lighting fixture measured data

The lighting fixture measured data refers to GHISAMESTIERI products in a standard version, with 4000 K color temperature, optica type 3B and an ambient temperature ta of 25 °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.
Ghisamestieri offers the possibility of driving the device with custom currents (•).

In case of optional glass some LED codes my be different from those indicated (GLxx). In this case the values of luminous flux and efficiency are different from those shown in the table.

Order code: MIN_**GFxx**		**I [mA] (•)**	**Luminous flux [lm]**	**Power [W]**	**Efficiency [lm/W]**
GF02		525	2012	14,5	139
		700	2576	19,4	133
		1000 (max)	3481	27,2	128
GF03		525	3027	21,0	144
		700	3838	27,5	140
		1000 (max)	5186	39,0	133
GF04		525	3930	27,5	143
		700	5083	36,0	141
		1000 (max)	6867	51,5	133
GF06		525	5856	39,5	148
		700	7572	53,0	143
		1000 (max)	10229	76,0	135
GF09		525	8664	57,5	151
		700	11203	77,0	145
		1000 (max)	15129	111,0	136
GF12		525	11472	75,5	152
		700	14833	101,0	147
		1000 (max)	20029	145,5	138

OPTIC CONVERSION FACTOR LUMINOUS FLUX

Optic type	Flux multiplier
1A (*)	1,00
2A (*)	0,99
3A	0,97
5A (*)	1,01

Tk CONVERSION FACTOR LUMINOUS FLUX

Tk [K]	Flux multiplier
2.200 (**)	0,70
3.000	0,94
5.700	1,02

CRI CONVERSION FACTOR LUMINOUS FLUX

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

(*) See pag.2 to check the optic type availability.
(**) See pag.1 to check the colour temperatureb availability.
In case of glass or diffuser, the flows will be reduced by 8%.

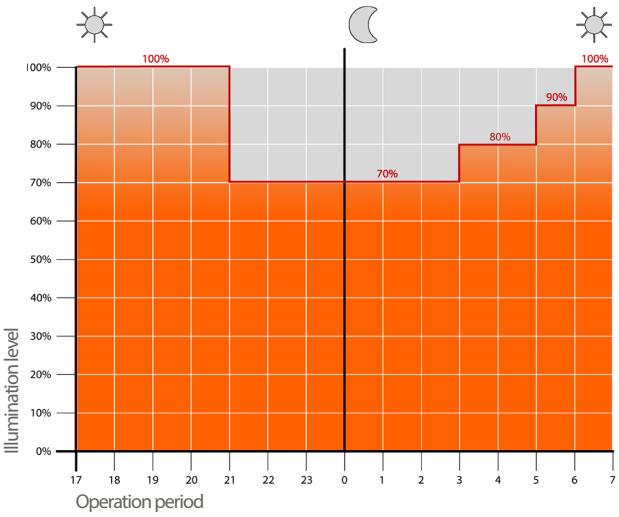
Functions

Standard functions

Fixed Output
The lighting fixture is set to use a fixed current among the standard ones indicated in the tables on page 3. It is possible to set other currents on customer request (custom).

Virtual midnight | Automatic lighting control
The driver is programmed to automatically switch the light On or Off based on the time of the day ensuring high energy saving. The maximum output is usually set during the first and last hours of operation that statistically are proven to have higher traffic, it will then decrease during the middle hours when there is less traffic.
The system is able to automatically regulate itself, identifying the average between the instant it turns on and turns off. This is called "virtual midnight" and is the reference point for reducing the light emission based on the desired profile.
The output will automatically adapt to the length of the night throughout the year.

CLO | Costant lumen output
Considering LED performance deteriorates with use and time, it may be compensated by using a lower than maximum flux output and maintaining it constant in time by progressively increasing the current.
In this case maintenance and management costs of the systems are considerably lower.



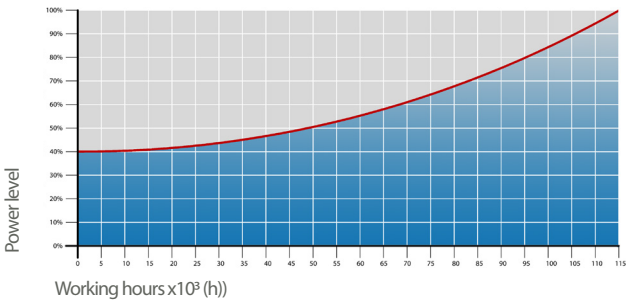
Example of 4-step adjustment with virtual midnight

Optional functions

1-10V | Flux control by analogic control
It is possible to adjust the amount of luminous output by means of an analog input signal that has a minimum level of 1V and maximum of 10V. The device is fitted with L-N-1 / 10V cable connection.

DALI - DALI2 | Controllo e programmazione digitale
On request, the lighting body can be supplied with a DALI interface. The DALI system allows a lighting system to be controlled by providing control and diagnostic functions.

DALI SENSOR
With the DALI SENSOR interface it is possible to manage the functions of the DALI - DALI2 protocol. In addition, there is a low voltage AUX switch to manage remote control systems and external sensors in a Smart City perspective.

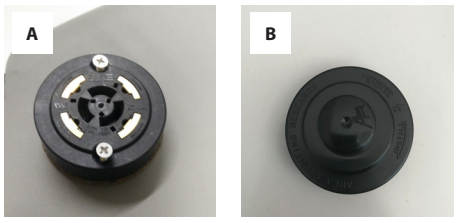


CLO | Costant lumen output

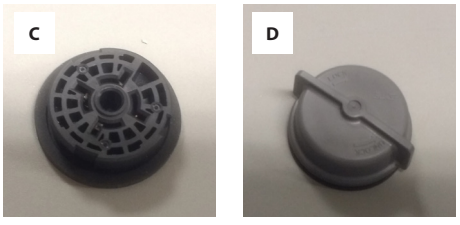
External connectors and sockets on request

NM | Nema Socket (7 PIN)
The Nema Socket 7 PIN is a connector / socket that is mounted in the lighting body and allows access to the driver programming functions from the outside. The remote control system, which can be installed via this external connector, can also be implemented in a phase subsequent to commissioning the system. If the system is not used immediately, the socket is equipped with an IP66 closing cap and a short-circuit system for the power supply by-pass. Various telecontrol technologies can be used, both radio wave and conveyed wave, which can interface both to the 1-10V and DALI ports.

LM | Lumawise Zhaga Socket (4 PIN)
The Lumawise Zhaga Socket 4 PIN is a connector / socket equivalent to the Nema Socket 7 PIN but smaller and more compact and uses the Zhaga standard. Through this connector it is possible from the outside of the device to integrate driver management and programming systems and other "smart" functions such as various sensors. Also this device can only be prepared and not used immediately, therefore it is provided with its IP66 protection cap.
(In conjunction with DALI SENSOR).



Nema Socket 7 PIN (A) and IP66 closing cup(B)



Lumawise Zhaga Socket 4 PIN (C) and IP66 closing cup (D)

Protection cycles

Ghisamestieri 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 180°;
- 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

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 bowder layer application followed by kiln baking at 180°;
- Final powder layer application using a High Durability product and final kiln roasting at 180°C.

Salt spray test | FLORIDA 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 and demostrated through the report test released.

Ghisamestieri the green way of light s.r.l

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