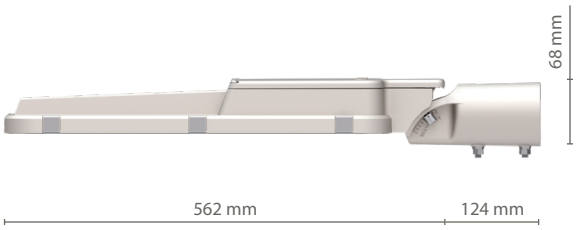
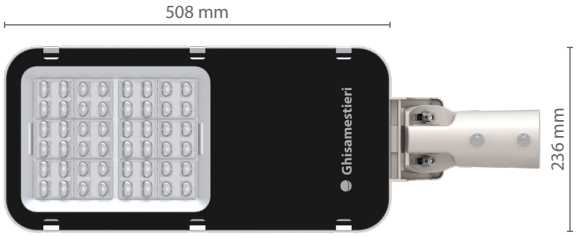
Orn 500

Product code: OR5

Ghisamestieri
the green way of light

lightecture: Orn | rev. 2019.10.24



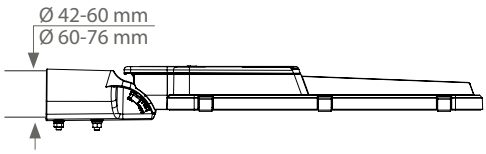


Scale: 1:5

Max. weight	CXS
5,2 Kg	Lateral: 0,03 m² |Plan: 0,12 m²

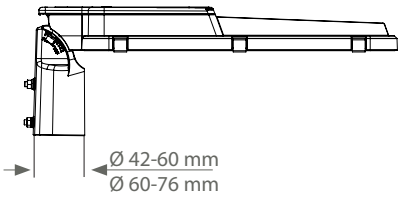
Fixing type

Side



Adjustable with 5° step

Pole-top



Adjustable with 5° step

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	Vibration test passed
	ISO 9227	IEC 60068-2-6
	8000 hr	

Insulation classes	Protection classes	Photobiological safety
	IP 66 / IK 09	Classe 0 Exempt group IEC/TR62778

Plus

CUTOFF | OPTICAL FLEXIBILITY | LOW GLARE | IPEA MIN | SEPARATE UNITS (ELECTRICAL AND OPTICAL)

Lighting fixture features

General features

Power source:	220-240V | 50/60Hz | tolerance +/-10% | other voltages on request
Current supply:	525 mA |700 mA | others up to 1000 mA (P_{max} = 145,0 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
Standard functions: (Details pag.4)	Current fixed |Virtual midnight |CLO

Materials

Lighting fixture:	Die cast aluminium |EN1706
Optical system:	Nano-optics in PMMA Aluminum reflector, 99.7% oxidised and polished purity
Screen:	Screen-printed ultraclear tempered glass | Th. 4mm
Gaskets:	Silicon
Cable gland:	Polyamide PA66 | PG16 | Ø 14mm MAX | IP 68
Screws and bolts:	AISI 304 stainless steel
Fixture color:	Light grey Ghisamestieri®

LED features

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

Optional

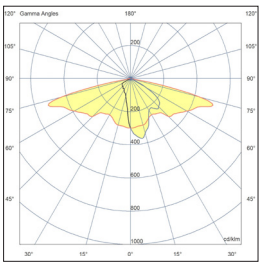
Overcharge protection:	*optional - SPD with warning LED* CLASS 1 | CLASS 2 10kV / 10kA CM/DM
Electrical equipment:	0,5 m power cable with 2-3 or 4-5 core connector Disconnector and cable clamp | cross section 1.5mm² ÷ 4mm²
Optional functions: (Details pag.4)	1-10 V | DALI-DALI2 | DALI SENSOR
Connectos and external sockets: (Details pag.4)	NM (Nema Socket) | LM (Lumawise Zhaga Socket)

Orn 500

Available optical system

PEDESTRIAN PATHS\\
OPTIC TYPES 2

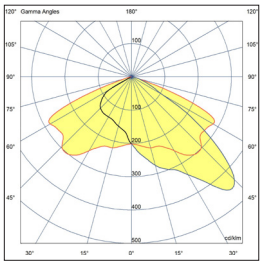
TYPE 2A



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

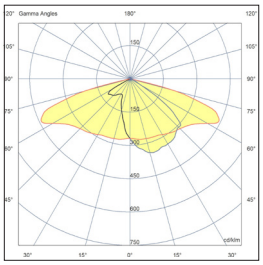
URBAN AND SUBURBAN STREETS, SQUARES, PARKING LOTS AND ROUNDABOUTS\\
OPTIC TYPES 3

TYPE 3A



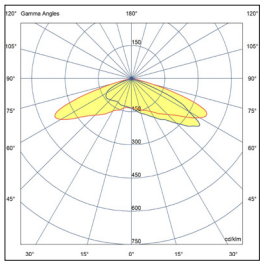
Asymmetrical light, designed to suit streets and road wet surface.

TYPE 3B



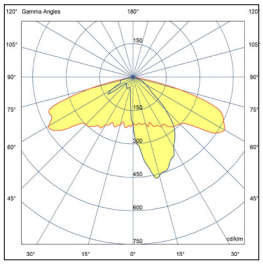
Asymmetrical light, designed to suit suburban and urban streets.

TYPE 3C



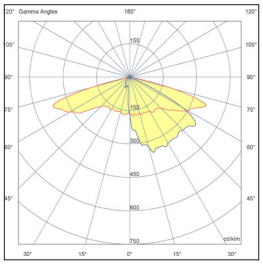
Asymmetrical light, designed to suit very large streets, parking lots and roundabouts.

TYPE 3D



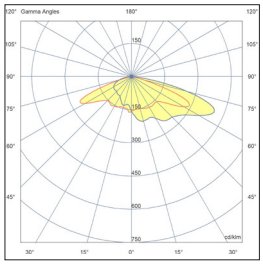
Asymmetrical light, designed to suit streets and pedestrian paths.

TYPE 3E



Asymmetrical light, designed to suit very large streets, parking lots and roundabouts.

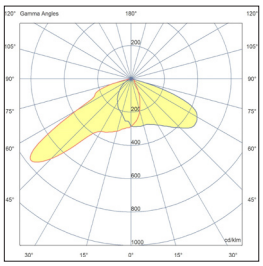
TYPE 3F



Asymmetrical light, designed to suit very large streets and road with a low installation of the lighting fixture, parking lots and roundabouts.

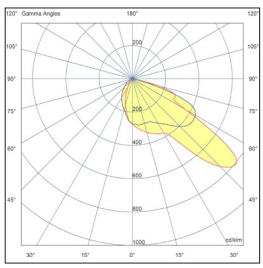
PEDESTRIAN CROSSINGS\\
OPTIC TYPES 4

TYPE 4A



Asymmetrical light, designed to suite installation to pedestrian crossings.

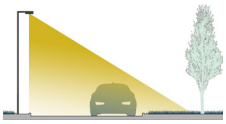
TYPE 4B



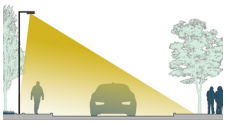
Asymmetrical light, designed to suite installation to pedestrian crossings.

APPLICATION EXAMPLES \\

TYPE 2A | TYPE 3D

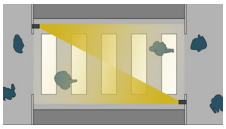


TYPE 2A | TYPE 3D

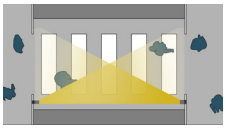


TYPE 3A | TYPE 3B

TYPE 3C | TYPE 3E | TYPE 3F



TYPE 4A | TYPE 4B



TYPE 4A + TYPE 4B

Orn 500

Photometric data | LED modules nominal data

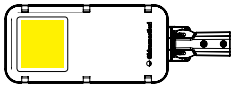
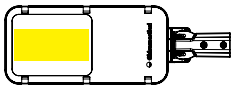
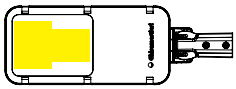
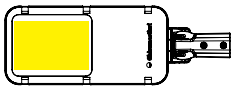
The LED modules nominal data refers only to the LED light sources in a standard version, with 4000 K color temperature, color rendering index CRI 70 min. and a junction temperature tj of 25°C.
The LED nominal data are extrapolated from the manufacturer documentations.

LED code	I [mA]	Luminous flux [lm]	Power [W]	Efficiency [lm/W]
GL06	525	6475	35,0	185
	700	8004	46,0	174
	1000	10626	66,0	161
GL08	525	8510	46,0	185
	700	10788	62,0	174
	1000	14168	88,0	161
GL10	525	10730	58,0	185
	700	13398	77,0	174
	1000	17710	110,0	161
GL12	525	12765	69,0	185
	700	16008	92,0	174
	750	16500	100,0	165

Orn 500

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.
Ghisamestieri offers the possibility of driving the device with custom currents (•).
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: OR5_GLxx		(•) I [mA]	Luminous flux [lm]	Power [W]	Efficiency [lm/W]
GL06		525	5478	40,0	137
		700	7037	53,0	133
		1000 (max)	9505	76,0	125
GL08		525	7206	52,0	139
		700	9318	69,5	134
		1000 (max)	12496	99,5	126
GL10		525	9007	64,5	140
		700	11567	85,5	135
		1000 (max)	15620	123,0	127
GL12		525	10735	76,0	141
		700	13687	101,0	136
		750 (max)	18479	145,0	127

OPTIC CONVERSION FACTOR LUMINOUS FLUX

Optic type	Flux multiplier
1A (*)	1,00
2A (*)	0,99
3A | 3C | 3D | 3E | 3F	0,99
4A | 4B	0,98
5A (*)	1,01

Tk CONVERSION FACTOR LUMINOUS FLUX

Tk [K]	Flux multiplier
2.200 (**)	0,70
3.000	0,94
5.700	1,01

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.

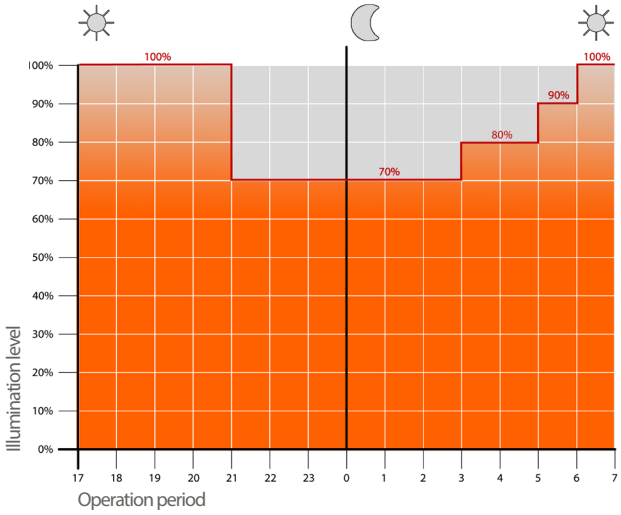
Functions

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.



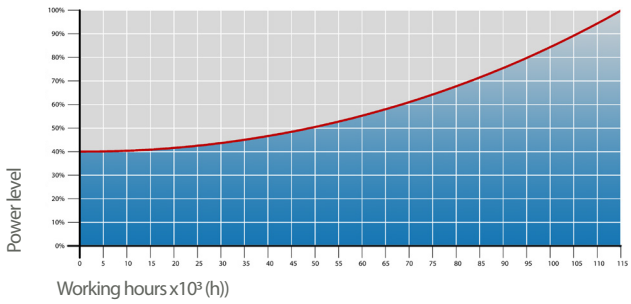
Example of 4-step adjustment with virtual midnight

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.

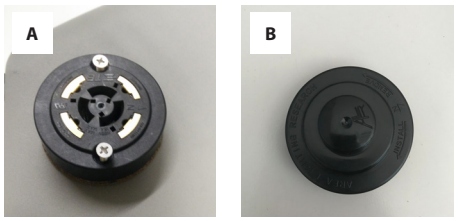


CLO | Costant lumen output

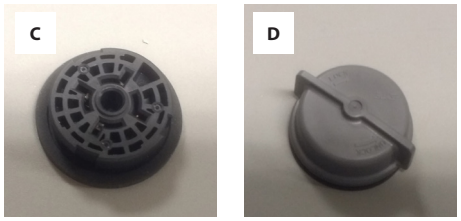
External connectors and sockets on request

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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