Virgo B

Product code: VB4_GLxx

Ghisamestieri
the green way of light

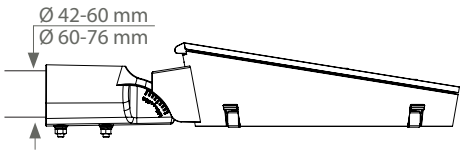
lightecture: Virgo | rev. 2019.07.26

Scale: 1:5

Max. weight	CXS
5,2 Kg	Lateral: 0,03 m² |Plan: 0,11 m²

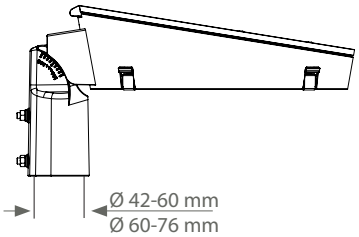
Fixing type

Side

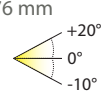


Adjustable with 5° step

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
ISO 9227
6000 hr

Vibration test passed
IEC 60068-2-6

Insulation classes

Protection classes
IP 66 IK 09

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:	525 mA |700 mA | 1000 mA (P_{max} = 52W)
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

Model:	NICHIA NSVL219F
LED data 4.000 K - 700mA:	340 lm/LED | 180 lm/W | 25°C [Tj] | ≤ 3 step macadam
Colour temperature:	2.200K | 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)

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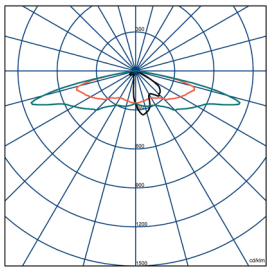
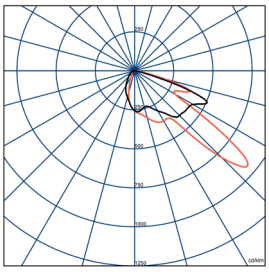
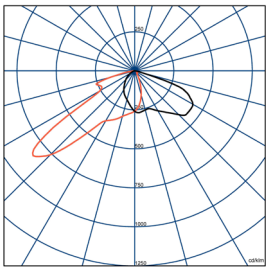
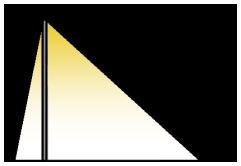
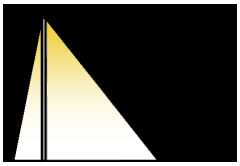
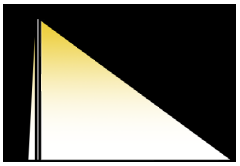
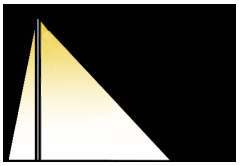
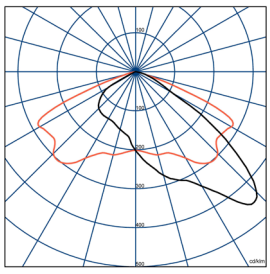
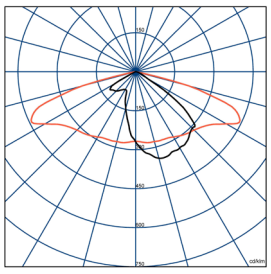
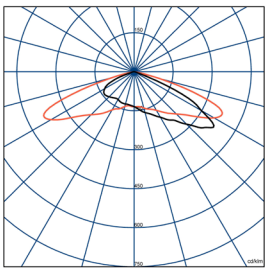
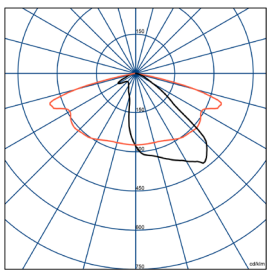
Available optical system

All photometric data below were determined in accordance with UNI EN 13032-1 and IES LM 79-08.

	TYPE 2A	TYPE 4A	TYPE 4B
OPTIC			
POLAR			
DESCRIPTION	Asymmetric optic. Asymmetric luminous distribution for installation in cycle-pedestrian paths.	Asymmetric optic. Asymmetric luminous distribution for installation on pedestrian crossings.	Asymmetric optic. Asymmetric luminous distribution for installation on pedestrian crossings.

	TYPE 3A	TYPE 3B	TYPE 3C	TYPE 3E
OPTIC				
POLAR				
DESCRIPTION	Asymmetric optic. Asymmetric luminous distribution for installation: - street and highway - road wet surface.	Asymmetric optic. Asymmetric luminous distribution for installation in urban and suburban roads.	Asymmetric optic. Asymmetric luminous distribution suitable for installation on roads of very high width, squares, roundabouts.	Asymmetric optic. Asymmetric luminous distribution for installation in urban and suburban roads.

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Photometric data | LED modules nominal data (4000K [ta = 25°C; tj=25°C])

The photometric data refers to GHISAMESTIERI products in the standard version, with 4000K color temperature, optical reference type 3A and ambient temperature of 25 ° C. In the case of lighting calculations with the driving current and / or different color temperature from the standard, using the conversion factors for the luminous flux reported in the tables.

(Data extrapolated from the Manufacturer documentations.)

LED code	I [mA]	Luminous flux [lm]	Power [W]	Efficiency [lm/W]
GL02	525	2220	12	185
	700	2610	15	174
	1000	3542	22	161
GL04	525	4255	23	185
	700	5394	31	174
	1000	7084	44	161

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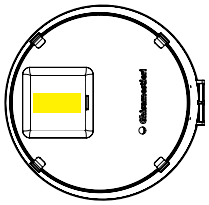
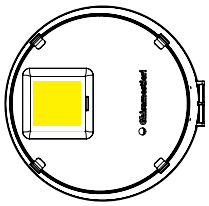
Photometric data | Lighting fixture measured data (4000K, Ottica 3A)

The photometric data refers to GHISAMESTIERI products in the standard version, with 4000K color temperature, optical reference type 3A and ambient temperature of 25 ° C. Ghisamestieri offers the possibility of driving the device with custom currents (•). In the case of lighting calculations with the driving current and / or different color temperature from the standard, using the conversion factors for the luminous flux reported in the tables.

Order code: VB4_GLxx		**(•) I [mA]**	**Luminous flux [lm]**	**Power [W]**	**Efficiency [lm/W]**
GL02		525	1861	13	143
		700	2386	18	136
		1000 (max)	3123	26	120
GL04		525	3721	26	143
		700	4771	35	136
		1000 (max)	6246	52	120

OPTIC CONVERSION FACTOR LUMINOUS FLUX

Optic type	Flux multiplier
1A (*)	1,05
2A (*) | 3D (*)	0,94
3B	1,00
3C	0,90
3E	1,00
4A (*) | 4B (*)	1,06
5A (*)	1,00

Tk CONVERSION FACTOR LUMINOUS FLUX

Tk [K]	Flux multiplier
2.200 (**)	0,79
3.000	0,94
5.700	1,01

CRI CONVERSION FACTOR LUMINOUS FLUX

CRI (color render index)	Flux multiplier
70	1,00
80	0,90

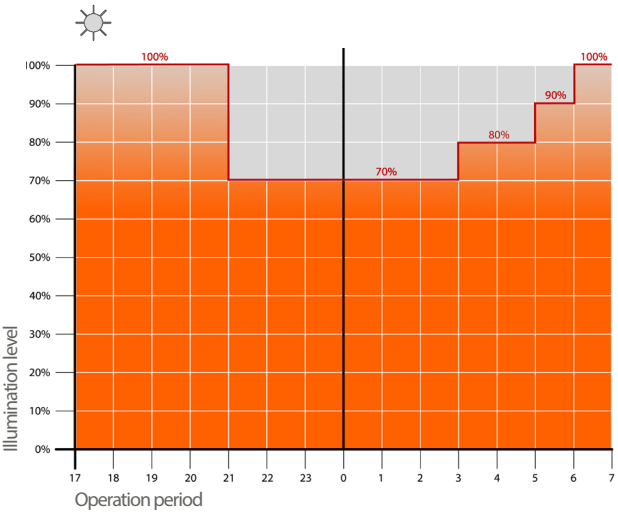
(*) See pag.2 to check the optic type availability.
(**) See pag.1 to check the colour temperatureb availability.

Standard functions

Fixed Output
The lighting fixture is set to use a fixed current in order to maintain the same power consumption over time.

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.

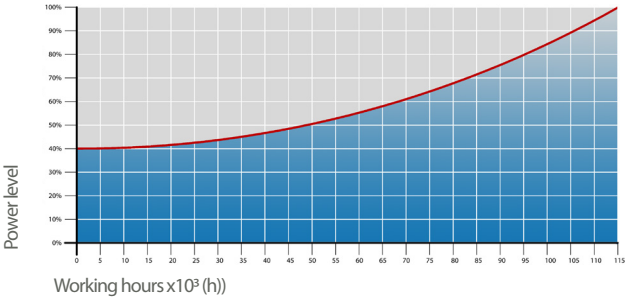


Example of 4-step adjustment with virtual midnight

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
The standard DALI protocol allows the use of a flexible lighting system using digital technology. The DALI system allows unlimited control of light control, as well as interrogation of the power supply on the status of the device, ensuring maximum energy savings and optimization of management costs. The appliance is designed for connection of L-N-DALI cables. A signal via cable is required in addition to the +/- cables.
The regulation of the luminous flux can be totally customized by the user. It is possible to set up to 4 time adjustment levels in 5 steps. The versatility of this system makes it possible to rationalize consumption in specific use functions.
Thanks to DALI2, instead, new features are now available. Especially for the connection of a point-to-point remote control node with radio waves technology.



CLO | Costant lumen output

Additional functions

FR | Full range
The lighting fixture can be powered by wide voltage range (120-280V) to ensure operation in variable power situations.

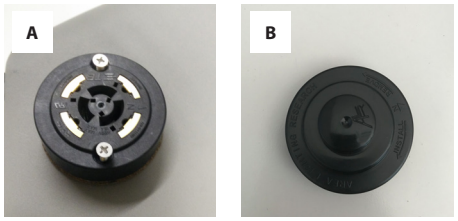
NTC | Negative Temperature Coefficient
It is a temperature sensor that adjusts the current powering the LEDs. In case the transistor junction (Tj) reaches critical high temperatures, the current is decreased in order to preserve the longevity of the LEDs.

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.

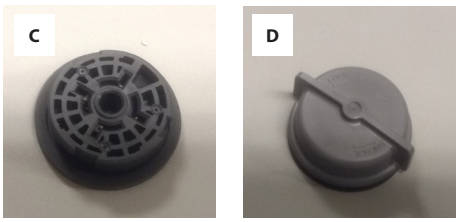
External connectors and sockets on request

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 4 PIN (A) and IP66 closing cup(B)



Lumawise Zhaga Socket 7 PIN (C) and IP66 closing cup (D)

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 6.000 hours at 35 °C and demostrated through the report test released.

Ghisamestieri the green way of light s.r.l

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