



disano 
illuminazione
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Urban LED Lighting

- energy savings
- management cost reduction
- smart lighting control

VIRTUAL MIDNIGHT and SMART CITIES

M A D E I N I T A L Y

Greener cities begin with eco-friendly lighting

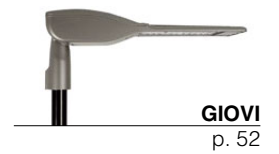
Cities strive for a sustainable future. The desire for more liveable urban spaces with no energy waste and a minimum impact on the environment is a growing interest everywhere, from large cities to small towns. The installation of more efficient lights that can be managed with the new technologies is the first step to building a greener city. new technologies is the first step towards a greener city.



Disano offers a wide range of luminaires with next-generation LEDs that integrate light management systems. These systems are particularly suited for public and private lighting installations to constantly monitor the whole system while reducing operating costs, controlling the luminous flux and, consequently, saving energy.



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- Smart lighting and smart cities p. 6
- Lighting management systems p. 84
- Elementary Solution p. 86
- Smart Solution p. 90
- IoT Solution p. 94



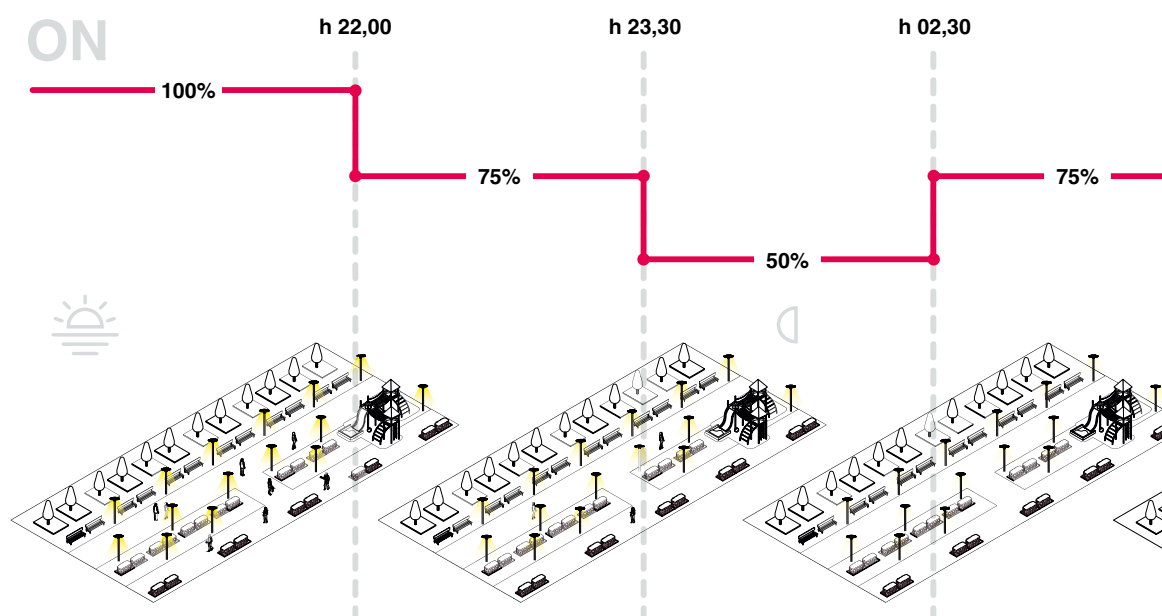
The virtual midnight calculation is based on a mechanism that can be applied to public lights, and more generally to outdoor luminaires, which allow programming a reduction of the luminous flux, when you don't need the luminaire to operate at full power all the time. This type of device, applied to a LED lighting system, results in considerable energy savings compared to old technology. It is worth noting that the initial system setup – if necessary – can be easily customized from the operat-



VIRTUAL MIDNIGHT, A SMART DEVICE THAT SAVES ENERGY

Solution with virtual midnight stand-alone system with automatic dimming of the luminous flux to **4 steps** of brightness. The lamp can be programmed according to a specific profile (customisable on request).

For example, in the central hours of the night, in areas where car and pedestrian traffic decreases significantly, a **reduction in luminous flux keeps the light within safety standards, while avoiding waste**. If we multiply this reduction by tens or hundreds of lamps, we get **significant savings**.



ing board. Therefore, the system doesn't require much effort or costs for running and maintenance. In this way, town administrators have the chance to make their streets, squares, big and small neighbourhoods safer and more liveable with a contained investment, which is mostly compensated by the energy savings.



Virtual midnight - high-quality, eco-friendly technology within anyone's reach: the advantages

Lower consumptions using light only when and where needed

No need to change the whole system

A preset, easily customizable mechanism with no running and maintenance costs

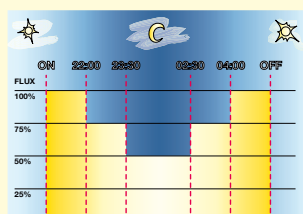
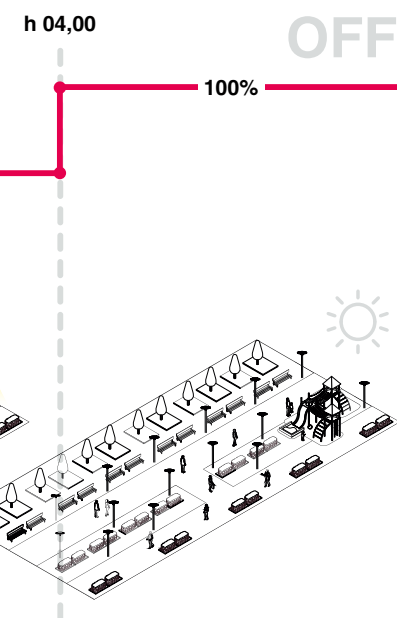
An eco-friendly solution, which is based on a smart technology that anyone can afford



VIRTUAL MIDNIGHT - Stand-alone system with automatic luminous flux reduction in 4 steps

To increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The "virtual midnight" is the reference point for dimming lights according to the desired profile. The device is integrated in the LED driver and therefore does not require any modification to the system.

In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.

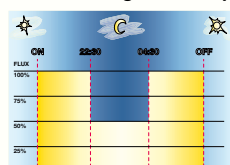


Factory settings	
Time	Flux
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

Virtual Midnight subcode -30: fixtures are equipped with a device to reduce flux in 4 steps based on the calculation of the virtual midnight.

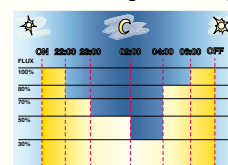
ATTENTION: original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request.

Virtual midnight in 2 steps subcode -31



Settings upon request	
Time	Flux
on ÷ 22:30	100%
22:30 ÷ 04:30	50%
04:30 ÷ off	100%

Virtual midnight in 5 steps subcode -32



Settings upon request	
Time	Flux
on ÷ 22:00	100%
22:00 ÷ 23:30	70%
23:30 ÷ 02:00	50%
02:00 ÷ 04:00	30%
04:00 ÷ 06:00	80%
06:00 ÷ off	100%

Smart lighting - an ecological choice

The digital revolution has changed the way we move around in our cities. Streets are safer and more sustainable with smarter lighting systems, which reduce consumption and improve performance, delivering light only where and when needed. Smart lighting systems can be dimmed at different times to prevent waste. They can be controlled remotely, warning about failures along the line. The new lighting technology is conceived to protect the environment and to manage, supervise and develop smart city projects.



A smart city is a city that offers and guarantees high life quality and where urban spaces help its residents achieve their projects and move easily, saving time and protecting the environment at the same time. Disano's street lighting fixtures integrate smart light management systems. These systems can eliminate energy waste, dimming the flux according to actual needs.



The ADVANTAGES of a smart lighting management are:



Savings:

operating costs are minimized thanks to smart systems that have the ability to adjust the luminous flux according to need.



Dimming:

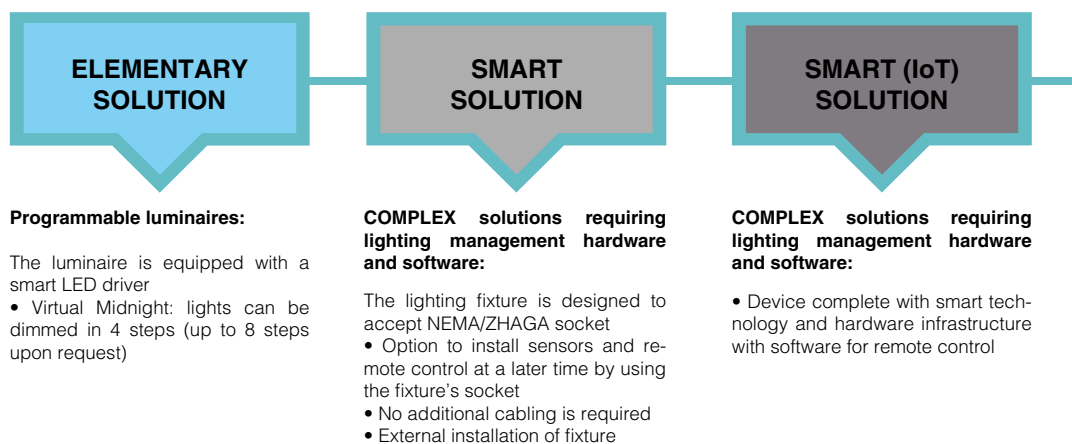
smart light management will allow you to create and/or customize the right light for any urban context.



Remote control:

you can control lighting fixtures remotely and in real-time, keeping the system's operating status constantly monitored.

Disano's luminaires integrate several lighting management systems that can meet any design requirement:



For further information, see page 84

Ischia - MIDNIGHT

GENERAL CHARACTERISTICS

Housing: pressed in die-cast aluminium.

Pole connection: pressed in die-cast aluminium. Suited for poles with a diameter 60 mm.

Diffuser: polycarbonate 2,5 mm thick, thermal shock and impact resistant (UNI EN 12150 tests 1/2001).

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cathaphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

UNI EN ISO 9227 **Upon request:** coating for marine environments in compliance with UNI EN ISO 9227.



LOW FLICKER

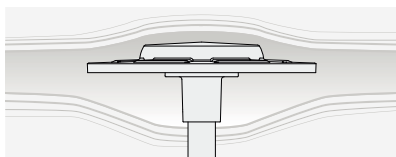
Flicker is a common issue with LED lamps. It can occur at frequencies below 60 Hz and depends on several factors, such as the ripple emitted by drivers.



Product with a very low flicker; uniform light for greater eye protection.

SURFACE EXPOSED TO WIND

The fixture's design is configured to minimise wind exposure surfaces:
L=345cm² - S=197cm²



LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET

Nema Socket order with subcode -40 (sealing cap to be ordered separately)	Zhaga Socket order with subcode -0054 (complete with sealing cap)
Mounted directly on the fixture's body, ideal for remote lighting management applications	



Example with Zhaga Socket (subcode -0054)

OTHER CHARACTERISTICS

Standard supply: automatic temperature control inside the device with automatic resetting; dedicated electronic device to protect the LED module; Complete with quick connection and anti-condensation valve for air recirculation.



Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.

It works in two modes:

- differential mode: surge between power cables and between the phase and neutral.

- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

IK LEVEL OF PROTECTION



The IK code indicates the fixture's degree of protection against mechanical impact and determines the degree of protection provided by the electrical equipment's enclosures against these impacts (EN 50102 - NF 20-015).

CERTIFICATIONS



The ENEC Plus mark certifies that the LED luminaires are compliant and reliable in terms of safety and declared performance.



ENEC is a European Mark that demonstrates that fixture is compliant with applicable European safety standards and was manufactured by a company that applies a Quality System according to ISO 9000.



The Zhaga-D4i mark certifies the fixture's compliance with Zhaga Book 18 version 2 specifications for outdoor luminaires and DiiA's D4i specifications for intra-luminaire DALI interface. This joint certification covers all critical features including mechanical adaptation, digital communication, data reporting and power requirements within a single luminaire, ensuring "plug & play" interoperability of luminaires (drivers) and peripherals, such as connectivity nodes.

Registered Design DM/100271 The International Bureau of the World Intellectual Property Organization (WIPO) hereby certifies that the particulars given below correspond to the recording made in the International Register of Industrial Designs.

OTHER INFORMATION

The range of ISCHIA street lamps is available in the following colour temperatures:

2200K **2200K (subcode -73):** lamps with warm amber light at a colour temperature of 2200K eliminate the risks of an excessive exposure to harmful blue LED light and allows a "softer" impact on inhabited zones, especially in historic centres.

3000K **3000K - 4000K as standard:** lamps with 3000K-4000K white light is the best choice for lighting up urban areas, streets, residential centres and generally all areas where this type of light guarantees greater safety and visual comfort.

Upon request LED 4000K - CRI 80 versions with **sub-code -60**.

SPECIAL VERSION



Upon request (subcode -0026): version with diffuser with opal finish for greater lighting control; ideal for installation in residential areas, including condominium gardens and private parks and streets.

AVAILABLE FUNCTIONS



Virtual midnight subcode -30: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise).

ATTENTION: original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request:

- Virtual midnight in 2 steps subcode -31
- Virtual midnight in 5 steps subcode -32

For further information, see page 86



Ischia

ISCHIA art. 3590

Optics: made of PMMA with high temperature resistance and UV rays.

LED: Power factor ≥ 0.9 .
Luminous flux maintenance 80%: 80.000h (L80B20).

ISCHIA art. 3591

Reflector: in pre-anodised 99.85 aluminium.

LED: Power factor: ≥ 0.9 .
Luminous flux maintenance 80%: 50.000h (L80B20).

ISCHIA art. 3592 - 3593 - 3594 - 3595 - 3596

Optics: made of PMMA with high temperature resistance and UV rays.

LED: Power factor ≥ 0.9 .
Luminous flux maintenance 80%: 100.000h (L80B10).

PRODUCT CODE STRUCTURE

The product code of the Ischia range consists of alphanumeric characters that indicate the product's technical features and is structured as follows:

standard code	equipment	current (I out)	optics type
424660	00	0280	RW

The type of optics is identified as follows:

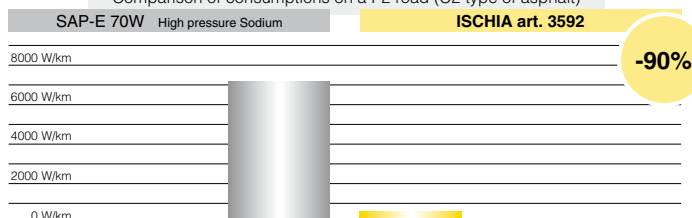
- RW: rotosymmetric wide beam optic
- RM: rotosymmetric medium beam optic
- SW: square wide beam optic
- CA: cycle-pedestrian asymmetric optic
- CS: cycle-pedestrian symmetric optic
- AM: asymmetric medium beam optic
- AW: asymmetric wide beam optic

DESIGN EXAMPLE

REPLACEMENT OF OBSOLETE FIXTURES

	L	H	distance	lux med	lux min	P tot (W)	W/Km
SAP-E 70W	13m	4m	13m	10,46	4,97	84,6	6508
ISCHIA art. 3592	13m	4m	13m	10,13	6,08	16	615

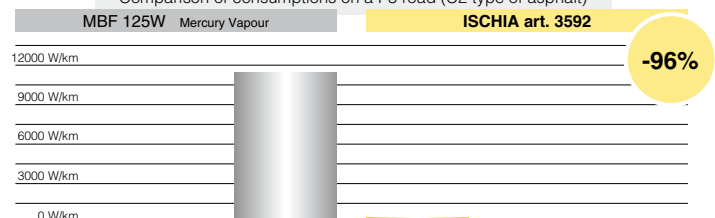
Comparison of consumptions on a P2 road (C2 type of asphalt)



INSTALLATION OF NEW LIGHTING FIXTURES

	L	H	distance	lux med	lux min	P tot (W)	W/Km
MBF 125W	12m	4m	12m	7,04	4,66	137,5	11458
ISCHIA art. 3592	12m	4m	12m	7,75	5	11	423

Comparison of consumptions on a P3 road (C2 type of asphalt)



Ischia - MIDNIGHT



RG0
Ethir
 +50 °C
 -30 °C
 3000K
 4000K
 CRI 70
 80.000h
 L80B20
 LOW FLICKER

L=345cm²
 S=197cm²
 60
 ZONA 1
 SURGE
 11W=6/10kV
 16W=6/10kV
 24W=6/10kV
 35W=6/10kV
 48W=6/10kV
3590

80.000h
Registered Design DM100211



105 | 167
 Ø60
 500

LED: power factor ≥ 0.9 .
 Luminous flux maintenance 80%:
 80.000h (L80B20).

Upon request (sub-code -60)	
LED	4000K - CRI 80


Other available versions		
code	W tot	K - ølm - CRI
424660-30-0280-RW	11	4000K - 1502lm - CRI 70
424660-3028-0280-RW		3000K - 1427lm - CRI 70
424660-30-0440-RW	16	4000K - 2333lm - CRI 70
424660-3028-0440-RW		3000K - 2216lm - CRI 70
424660-30-0320-RW	24	4000K - 3626lm - CRI 70
424660-3028-0320-RW		3000K - 3445lm - CRI 70

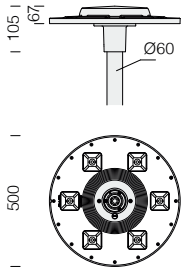
3590 Ischia MIDNIGHT - rotosymmetric wide beam RW					
		CLD MIDNIGHT		LUMEN OUTPUT (tq= 25 °C)	
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.50	424660-30	35	4000K - 4624lm - CRI 70
			424660-3028		3000K - 4393lm - CRI 70
LED	graphite	4.50	424661-30	48	4000K - 5874lm - CRI 70
			424661-3028		3000K - 5580lm - CRI 70

Luminous flux setup: this can be done by programming the drive current values requested when ordering/purchasing the fixture

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

IP66IK10 



50.000h
COB
Registered Design
DM/100271

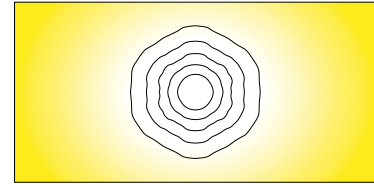
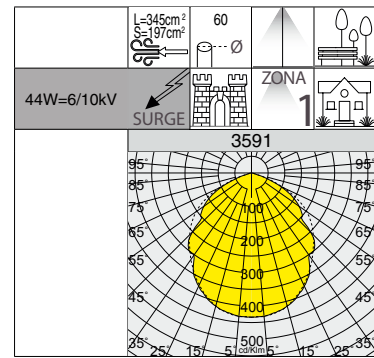







LED: power factor: $\geq 0,9$.
Luminous flux maintenance 80%:
50.000h (L80B20).

Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.

Luminaire designed for installation on:

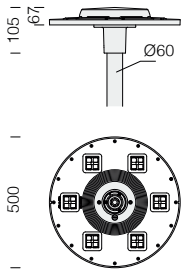
- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).



- RG0 
- +50°C -30°C 
- 2200K 3000K 4000K 
- CRI 80 
- 50.000h L80B20 
- LOW FLICKER 
- 

3591 Ischia MIDNIGHT - COB rotosymmetric medium beam RM					
		CLD MIDNIGHT		W tot	LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code		K - ølm - CRI
COB	graphite	4.50	424670-30	44	4000K - 5877lm - CRI 80
			424671-3028		3000K - 5469lm - CRI 80
COB AMBER			424670-7330		2200K - 5172lm - AMBER

IP66IK10 

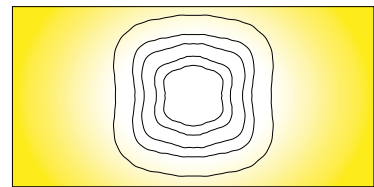
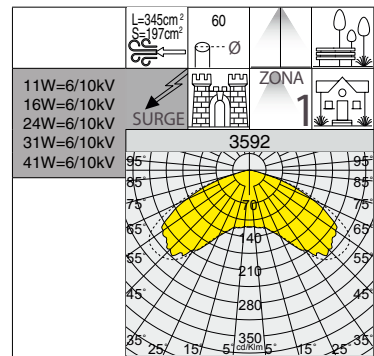









100.000h
Registered Design
DM/100271



LED: power factor $\geq 0,9$.
Luminous flux maintenance 80%:
100.000h (L80B10).

Upon request (sub-code -60)	
LED	4000K - CRI 80



- RG0 
- +50°C -30°C 
- 3000K 4000K 
- CRI 70 
- 100.000h L80B10 
- LOW FLICKER 
- 

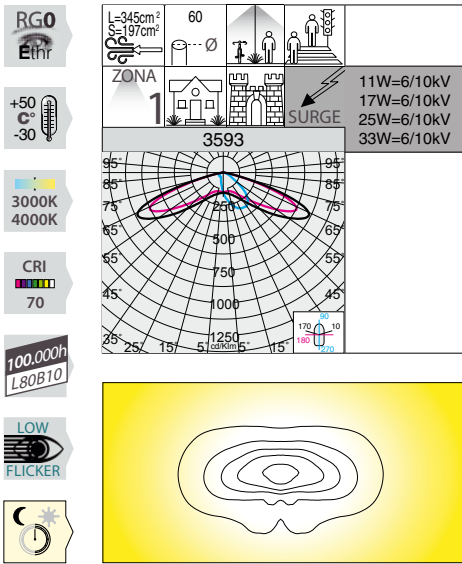
3592 Ischia MIDNIGHT - square wide beam SW					
		CLD MIDNIGHT		W tot	LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code		K - ølm - CRI
LED	graphite	4.50	424680-30	31	4000K - 4395lm - CRI 70
			424680-3028		3000K - 4175lm - CRI 70
LED	graphite	4.50	424681-30	41	4000K - 5676lm - CRI 70
			424681-3028		3000K - 5392lm - CRI 70

Other available versions		
code	W tot	K - ølm - CRI
424680-30-0280-SW	11	4000K - 1500lm - CRI 70
424680-3028-0280-SW		3000K - 1425lm - CRI 70
424680-30-0440-SW	16	4000K - 2218lm - CRI 70
424680-3028-0440-SW		3000K - 2107lm - CRI 70
424680-30-0320-SW	24	4000K - 3446lm - CRI 70
424680-3028-0320-SW		3000K - 3274lm - CRI 70

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

Luminous flux setup: this can be done by programming the drive current values requested when ordering/purchasing the fixture



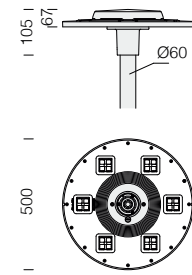
Other available versions		
code	W tot	K - ølm - CRI
424690-30-0480-CA	17	4000K - 2565lm - CRI 70
424690-3028-0480-CA		3000K - 2437lm - CRI 70
424690-30-0340-CA	25	4000K - 3634lm - CRI 70
424690-3028-0340-CA		3000K - 3452lm - CRI 70
424690-30-0450-CA	33	4000K - 4660lm - CRI 70
424690-3028-0450-CA		3000K - 4427lm - CRI 70

Luminous flux setup: this can be done by programming the drive current values requested when ordering/purchasing the fixture

100.000h
Registered Design DM100271



IP66 IK10 ZDi



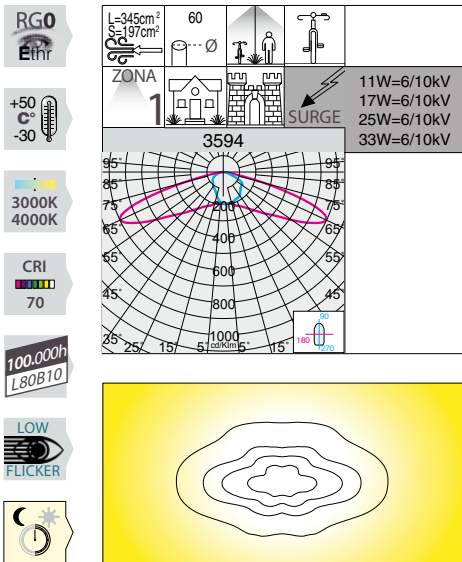
LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
100.000h (L80B10).

Upon request (sub-code -60)	
LED	4000K - CRI 80

3593 Ischia MIDNIGHT - cycle-pedestrian asymmetric CA					
CLD MIDNIGHT			LUMEN OUTPUT (tq= 25 °C)		
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.50	424690-30-0280-CA	11	4000K - 1507lm - CRI 70
			424690-3028-0280-CA		3000K - 1432lm - CRI 70

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).



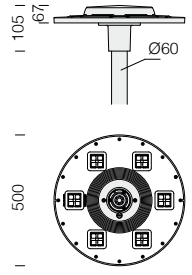
Other available versions		
code	W tot	K - ølm - CRI
424700-30-0480-CS	17	4000K - 2559lm - CRI 70
424700-3028-0480-CS		3000K - 2431lm - CRI 70
424700-30-0340-CS	25	4000K - 3625lm - CRI 70
424700-3028-0340-CS		3000K - 3444lm - CRI 70
424700-30-0450-CS	33	4000K - 4649lm - CRI 70
424700-3028-0450-CS		3000K - 4417lm - CRI 70

Luminous flux setup: this can be done by programming the drive current values requested when ordering/purchasing the fixture

100.000h
Registered Design DM100271



IP66 IK10 ZDi



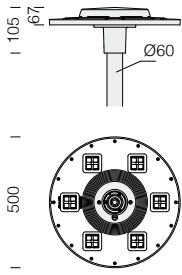
LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
100.000h (L80B10).

Upon request (sub-code -60)	
LED	4000K - CRI 80

3594 Ischia - cycle-pedestrian symmetric CS					
CLD MIDNIGHT			LUMEN OUTPUT (tq= 25 °C)		
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.50	424700-30-0280-CS	11	4000K - 1503lm - CRI 70
			424700-3028-0280-CS		3000K - 1428lm - CRI 70

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).



100.000h
Registered Design
DM/100271



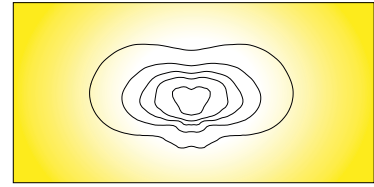
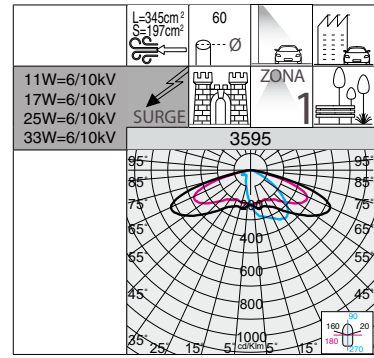
LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
100.000h (L80B10).

Upon request (sub-code -60)	
LED	4000K - CRI 80

3595 Ischia MIDNIGHT - asymmetric medium beam AM					
CLD MIDNIGHT			LUMEN OUTPUT (tq= 25 °C)		
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.50	424710-30-0280-AM	11	4000K - 1514lm - CRI 70
			424710-3028-0280-AM		3000K - 1438lm - CRI 70

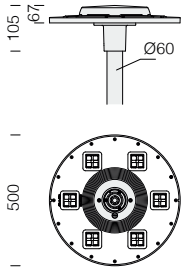
Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).



Other available versions		
code	W tot	K - ølm - CRI
424710-30-0480-AM	17	4000K - 2577lm - CRI 70
424710-3028-0480-AM		3000K - 2448lm - CRI 70
424710-30-0340-AM	25	4000K - 3651lm - CRI 70
424710-3028-0340-AM		3000K - 3468lm - CRI 70
424710-30-0450-AM	33	4000K - 4682lm - CRI 70
424710-3028-0450-AM		3000K - 4448lm - CRI 70

Luminous flux setup: this can be done by programming the drive current values requested when ordering/purchasing the fixture



100.000h
Registered Design
DM/100271



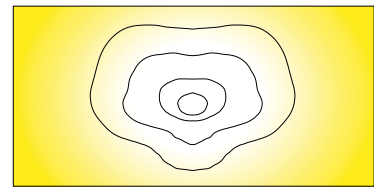
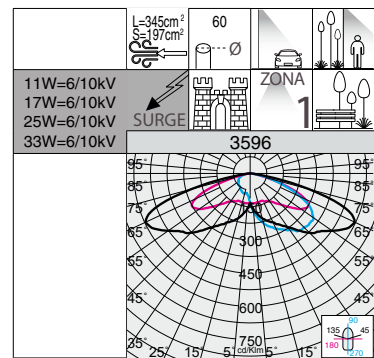
LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
100.000h (L80B10).

Upon request (sub-code -60)	
LED	4000K - CRI 80

3596 Ischia MIDNIGHT - asymmetric wide beam AW					
CLD MIDNIGHT			LUMEN OUTPUT (tq= 25 °C)		
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.50	424720-30-0450-AW	33	4000K - 4484lm - CRI 70
			424720-3028-0450-AW		3000K - 4260lm - CRI 70

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).



Other available versions		
code	W tot	K - ølm - CRI
424720-30-0280-AW	11	4000K - 1450lm - CRI 70
424720-3028-0280-AW		3000K - 1377lm - CRI 70
424720-30-0480-AW	17	4000K - 2468lm - CRI 70
424720-3028-0480-AW		3000K - 2345lm - CRI 70
424720-30-0340-AW	25	4000K - 3496lm - CRI 70
424720-3028-0340-AW		3000K - 3321lm - CRI 70

Luminous flux setup: this can be done by programming the drive current values requested when ordering/purchasing the fixture

Visconti 2.0 - MIDNIGHT

GENERAL CHARACTERISTICS

Housing: pressed in die-cast aluminium with fastening clamp for application of the arms.

Pole connection: version with pole connector incorporated directly into the fixture's housing to enable whip-type installation on poles with diameters Ø60mm.

Diffuser: art. 3336 polycarbonate 2,5 mm thick and art. 3337-3338 tempered glass, 4 mm thick, thermal shock and impact resistant (UNI-EN 12150-1 : 2001).

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cathaphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

LOW FLICKER

Flicker is a common issue with LED lamps. It can occur at frequencies below 60 Hz and depends on several factors, such as the ripple emitted by drivers.

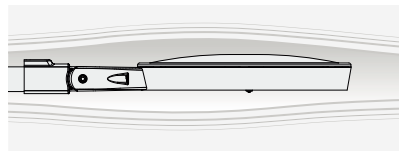


Product with a very low flicker; uniform light for greater eye protection.

SURFACE EXPOSED TO WIND

The fixture's design is configured to minimise wind exposure surfaces:

- L=400cm² - S=2120cm²
- L=420cm² - S=2120cm²
- L=500cm² - S=2120cm²



* version with central fixing

LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET

Nema Socket order with subcode -40 (sealing cap to be ordered separately)	Zhaga Socket order with subcode -0054 (complete with sealing cap)
Mounted directly on the fixture's body, ideal for remote lighting management applications	

Example with Zhaga Socket (subcode -0054)



OTHER CHARACTERISTICS

Standard supply: automatic temperature control inside the device with automatic resetting; dedicated electronic device to protect the LED module; Complete with quick connection and anti-condensation valve for air recirculation.



Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.

It works in two modes:

- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

Upon request available in two-colour version.



UPON REQUEST

UNIEN ISO 9227 Coating for marine environments in compliance with UNI EN ISO 9227.

CERTIFICATIONS



ENEC is a European Mark that demonstrates that fixture is compliant with applicable European safety standards and was manufactured by a company that applies a Quality System according to ISO 9000.

* ENEC European Certificate of Conformity: PENDING APPROVAL

Registered Design DM/100271 The International Bureau of the World Intellectual Property Organization (WIPO) hereby certifies that the particulars given below correspond to the recording made in the International Register of Industrial Designs.

OTHER INFORMATION

The range of VISCONTI 2.0 street lamps is available in the following colour temperatures:

2200K (subcode -73): lamps with warm amber light at a colour temperature of 2200K eliminate the risks of an excessive exposure to harmful blue LED light and allows a "softer" impact on inhabited zones, especially in historic centres.

3000K - 4000K as standard: lamps with 3000K-4000K white light is the best choice for lighting up urban areas, streets, residential centres and generally all areas where this type of light guarantees greater safety and visual comfort.

INTEGRATED FUNCTIONS



ADVANCED PROG (PROG CLD): the products of this family are supplied with programmable drivers as standard.

Luminaires made to meet specific technological needs and designed, as standard, to integrate special functions to ensure high energy-savings, customization options and versatility of use in many applications (e.g. installation with dimmers or emergency supply). *These functions are already available on standard products and must be enabled on request (except for versions with LED COB).* These products do not require any modification to the entire system because the lamp only needs to be connected to mains power supply no pilot cable and/or control bus required.



Virtual midnight subcode -30: to increase energy savings at night when there are fewer people and vehicles around,

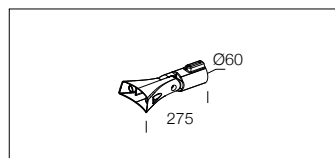
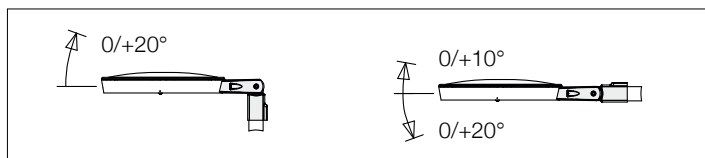
a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise).

ATTENTION: original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request:

- Virtual midnight in 2 steps subcode -31
- Virtual midnight in 5 steps subcode -32

For further information, see page 86

ACCESSORIES



acc. 286 adjustable arm	
graphite	991445-00
In die-cast aluminium. For for Ø60mm side-mount applications.	



Visconti 2.0

Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥ 0.9 .
Luminous flux maintenance 90%: 100.000h (L90B10).

Examples of configurations with the Visconti lamp with central connection.

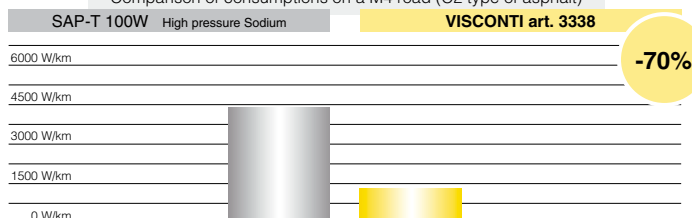


DESIGN EXAMPLE

REPLACEMENT OF OBSOLETE FIXTURES

	L	H	distance	Cd/m ²	P tot (W)	W/Km
SAP-T 100W	8m	8m	26m	0,75	115	4423
VISCONTI art. 3338	8m	8m	26m	0,75	34	1308

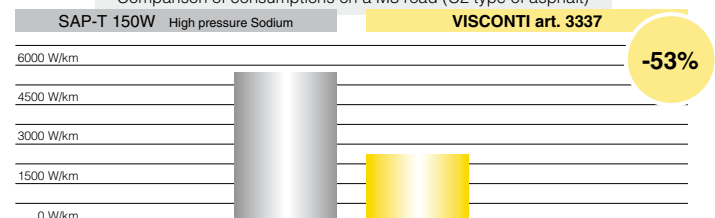
Comparison of consumptions on a M4 road (C2 type of asphalt)

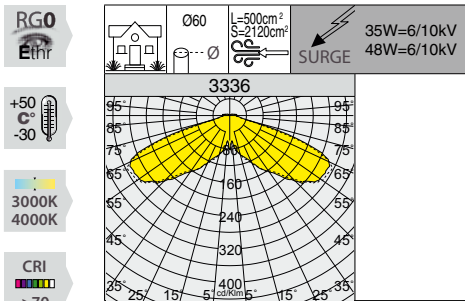


INSTALLATION OF NEW LIGHTING FIXTURES

	L	H	distance	Cd/m ²	P tot (W)	W/Km
SAP-T 150W	8m	8m	30m	1,25	168	5600
VISCONTI art. 3337	8m	8m	30m	1,25	68	2615

Comparison of consumptions on a M3 road (C2 type of asphalt)



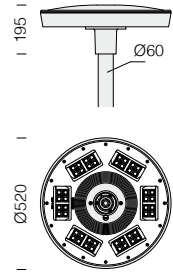


Upon request available in two-colour version.

80.000h
Registered Design DM100271



* IP66IK09



LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
80.000h (L80B20).

Integrated **ADVANCED PROG** functions.

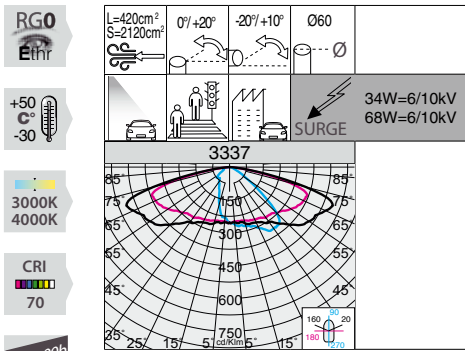
Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).

- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

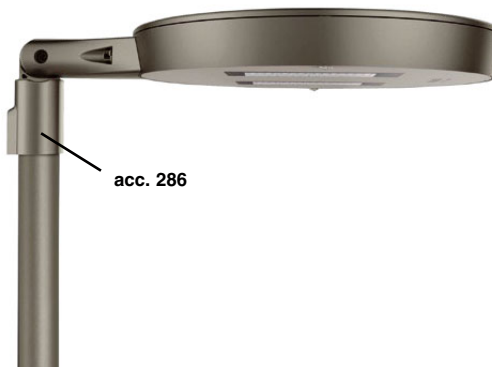
- RG0
- Ethr
- +50°C -30°C
- 3000K 4000K
- CRI >70
- 80.000h L80B20
- LOW FLICKER
- ADVANCED PROG
- MOONLIGHT

3336 Visconti 2.0 MIDNIGHT - rotosymmetric					
LED	colour	weight	CLD PROG		LUMEN OUTPUT (tq= 25 °C)
			code	W tot	K - ølm - CRI
LED	graphite	7.20	328200-30	35	4000K - 4392lm - CRI>70
			328200-3028		3000K - 4084lm - CRI>70
LED	graphite	7.20	328201-30	48	4000K - 5551lm - CRI>70
			328201-3028		3000K - 5162lm - CRI>70

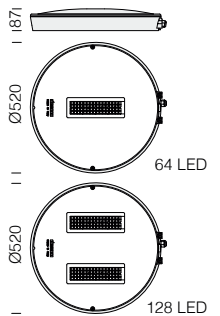


2200K - AMBER (sub-code -73)	
W tot	LUMEN OUTPUT (tq= 25 °C)
34	2200K - 5711lm
68	2200K - 11117lm

100.000h
Registered Design DM100271



* IP66IK09



LED: power factor ≥ 0.9 .
Luminous flux maintenance 90%:
100.000h (L90B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).

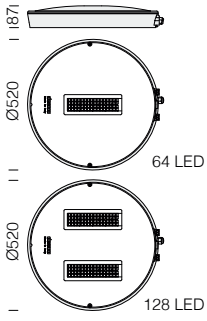
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

- RG0
- Ethr
- +50°C -30°C
- 3000K 4000K
- CRI 70
- 100.000h L90B10
- LOW FLICKER
- ADVANCED PROG
- MOONLIGHT

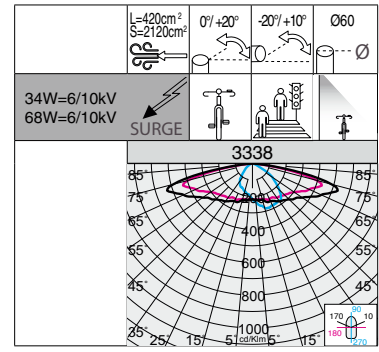
3337 Visconti 2.0 MIDNIGHT - residential amenities ME					
LED	colour	weight	CLD PROG		LUMEN OUTPUT (tq= 25 °C)
			code	W tot	K - ølm 700mA - CRI
LED	graphite	8.30	328210-30	34	4000K - 5099lm - CRI 70
			328210-3028		3000K - 4589lm - CRI 70
LED	graphite	8.30	328211-30	68	4000K - 9926lm - CRI 70
			328211-3028		3000K - 8933lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	350mA	64	16	4000K	2703lm	64	16	3000K	2433lm
		128	32		5263lm	128	32		4736lm
upon request	530mA	64	25	4000K	3978lm	64	25	3000K	3580lm
		128	50		7743lm	128	50		6969lm

* IP66 IK09



100.000h
Registered Design
DM/100271



2200K - AMBER (sub-code -73)	
W tot	LUMEN OUTPUT (tq= 25 °C)
34	2200K - 5935lm
68	2200K - 11859lm

LED: power factor ≥0.9.
Luminous flux maintenance 90%:
100.000h (L90B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

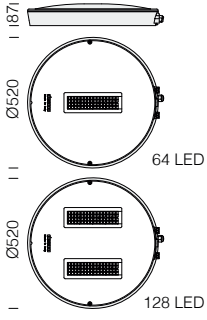
- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3338 Visconti 2.0 MIDNIGHT - cycleways							
LED	colour	weight	CLD PROG		W tot	LUMEN OUTPUT (tq= 25 °C)	
			code			K	ølm
LED	graphite	8.30	328240-30	34	4000K	4971lm	CRI 70
			328240-3028			4474lm	CRI 70
LED	graphite	8.30	328241-30	68	4000K	9641lm	CRI 70
			328241-3028			8677lm	CRI 70

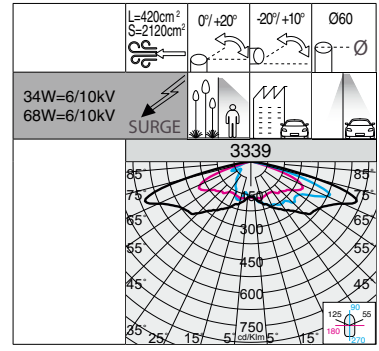
Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	350mA	64	16	4000K	2636lm	64	16	3000K	2372lm
		128	32		5111lm	128	32		4600lm
upon request	530mA	64	25	4000K	3878lm	64	25	3000K	3490lm
		128	50		7521lm	128	50		6769lm

RG0
Etrn
+50
C
-30
3000K
4000K
CRI
70
100.000h
L90B10
LOW
FLICKER
ADVANCED PROG
C

* IP66 IK09



100.000h
Registered Design
DM/100271



2200K - AMBER (sub-code -73)	
W tot	LUMEN OUTPUT (tq= 25 °C)
34	2200K - 5506lm
68	2200K - 10900lm

LED: power factor ≥0.9.
Luminous flux maintenance 90%:
100.000h (L90B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3339 Visconti 2.0 MIDNIGHT - large areas							
LED	colour	weight	CLD PROG		W tot	LUMEN OUTPUT (tq= 25 °C)	
			code			K	ølm
LED	graphite	8.30	328250-30	34	4000K	4916lm	CRI 70
			328250-3028			4424lm	CRI 70
LED	graphite	8.30	328251-30	68	4000K	9732lm	CRI 70
			328251-3028			8759lm	CRI 70

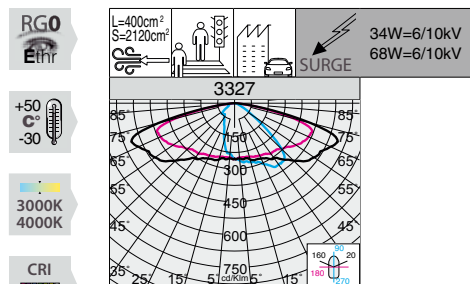
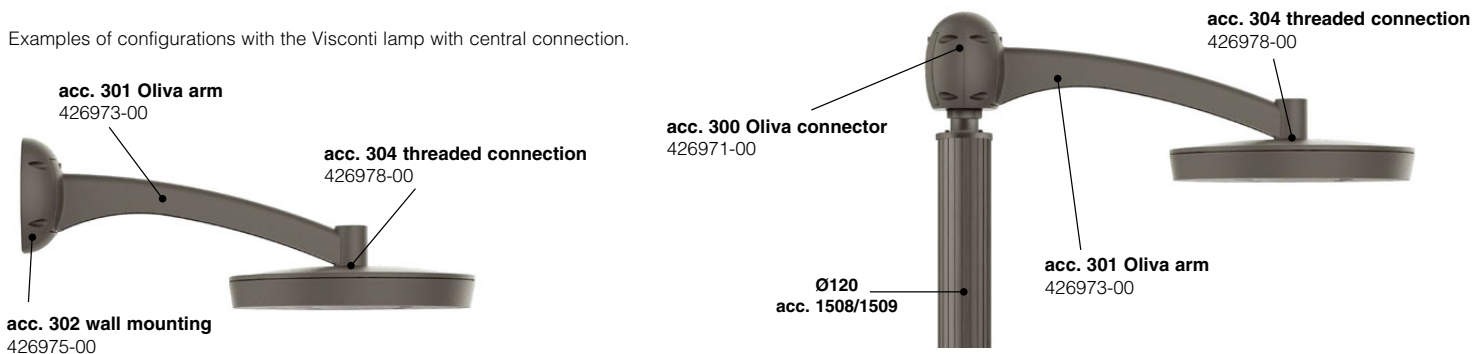
Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	350mA	64	16	4000K	2606lm	64	16	3000K	2346lm
		128	32		5160lm	128	32		4644lm
upon request	530mA	64	25	4000K	3835lm	64	25	3000K	3452lm
		128	50		7592lm	128	50		6833lm

RG0
Etrn
+50
C
-30
3000K
4000K
CRI
70
100.000h
L90B10
LOW
FLICKER
ADVANCED PROG
C

Visconti 2.0 - MIDNIGHT new product



Examples of configurations with the Visconti lamp with central connection.

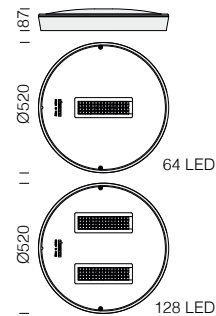


100.000h
Registered Design DM100271



new product

* IP66IK09



2200K - AMBER (sub-code -73)	
W tot	LUMEN OUTPUT (tq= 25 °C)
34	2200K - 5711lm
68	2200K - 11117lm

LED: power factor ≥ 0.9 .
Luminous flux maintenance 90%:
100.000h (L90B10).

Integrated **ADVANCED PROG** functions.

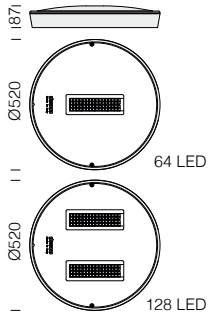
Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3327 Visconti 2.0 MIDNIGHT - residential amenities ME					
LED	colour	weight	CLD PROG		LUMEN OUTPUT (tq= 25 °C)
			code	W tot	K - ølm 700mA - CRI
LED	graphite	8.30	328270-30	34	4000K - 5099lm - CRI 70
			328270-3028		3000K - 4589lm - CRI 70
LED	graphite	8.30	328271-30	68	4000K - 9926lm - CRI 70
			328271-3028		3000K - 8933lm - CRI 70

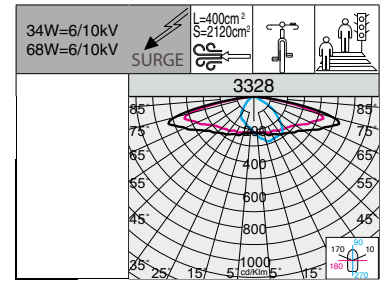
Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	350mA	64	16	4000K	2703lm	64	16	3000K	2433lm
		128			5263lm	128			4736lm
upon request	530mA	64	25	4000K	3978lm	64	25	3000K	3580lm
		128			7743lm	128			50

* IP66IK09



100.000h
Registered Design DM/100271

new product



LED: power factor ≥0.9.
Luminous flux maintenance 90%:
100.000h (L90B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

2200K - AMBER (sub-code -73)	
W tot	LUMEN OUTPUT (tq= 25 °C)
34	2200K - 5935lm
68	2200K - 11859lm

3328 Visconti 2.0 MIDNIGHT - cycleways							
LED	colour	weight	CLD PROG		W tot	LUMEN OUTPUT (tq= 25 °C)	
			code			K - ølm 700mA - CRI	
LED	graphite	8.30	328280-30	34	4000K - 4971lm - CRI 70	3000K - 4474lm - CRI 70	
			328280-3028				
LED	graphite	8.30	328281-30	68	4000K - 9641lm - CRI 70	3000K - 8677lm - CRI 70	
			328281-3028				

Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	64	16	4000K	2636lm
		128	32		5111lm

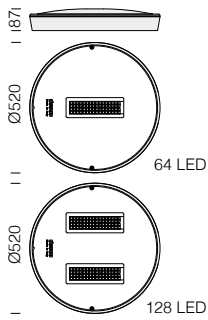
n.LED	W tot	K	ølm
64	16	3000K	2372lm
128	32		4600lm

Example	Power supply	n.LED	W tot	K	ølm
upon request	530mA	64	25	4000K	3878lm
		128	50		7521lm

n.LED	W tot	K	ølm
64	25	3000K	3490lm
128	50		6769lm

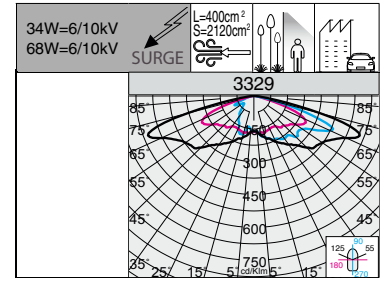
- RG0
- EthR
- +50 C° -30
- 3000K 4000K
- CRI 70
- 100.000h L90B10
- LOW FLICKER
- ADVANCED PROG
- MOON

* IP66IK09



100.000h
Registered Design DM/100271

new product



LED: power factor ≥0.9.
Luminous flux maintenance 90%:
100.000h (L90B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

2200K - AMBER (sub-code -73)	
W tot	LUMEN OUTPUT (tq= 25 °C)
34	2200K - 5506lm
68	2200K - 10900lm

3329 Visconti 2.0 MIDNIGHT - large areas							
LED	colour	weight	CLD PROG		W tot	LUMEN OUTPUT (tq= 25 °C)	
			code			K - ølm 700mA - CRI	
LED	graphite	8.30	328290-30	34	4000K - 4916lm - CRI 70	3000K - 4424lm - CRI 70	
			328290-3028				
LED	graphite	8.30	328291-30	68	4000K - 9732lm - CRI 70	3000K - 8759lm - CRI 70	
			328291-3028				

Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	64	16	4000K	2606lm
		128	32		5160lm

n.LED	W tot	K	ølm
64	16	3000K	2346lm
128	32		4644lm

Example	Power supply	n.LED	W tot	K	ølm
upon request	530mA	64	25	4000K	3835lm
		128	50		7592lm

n.LED	W tot	K	ølm
64	25	3000K	3452lm
128	50		6833lm

- RG0
- EthR
- +50 C° -30
- 3000K 4000K
- CRI 70
- 100.000h L90B10
- LOW FLICKER
- ADVANCED PROG
- MOON

Iseo - MIDNIGHT

GENERAL CHARACTERISTICS

Housing and arms: pressed in die-cast aluminium and designed with a very small surface exposed to wind.

Pole connection: suited for poles with a diameter 60-76mm.

Diffuser: extra-clear tempered glass, 5 mm thick, resistant to thermal shocks and impacts (UNI-EN 12150-1: 2001).

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

LOW FLICKER

Flicker is a common issue with LED lamps. It can occur at frequencies below 60 Hz and depends on several factors, such as the ripple emitted by drivers.

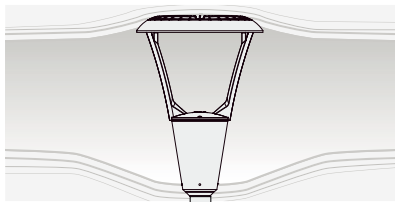


Product with a very low flicker; uniform light for greater eye protection.

SURFACE EXPOSED TO WIND



The fixture's design is configured to minimise wind exposure surfaces:
L=927cm² - S=1661cm²



LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET

Nema Socket order with subcode -40 (sealing cap to be ordered separately)	Zhaga Socket order with subcode -0054 (complete with sealing cap)
Mounted directly on the fixture's body, ideal for remote lighting management applications	



Example with Nema Socket (subcode -40)

OTHER CHARACTERISTICS

Equipment: nylon wiring plate 30% fibre glass complete with connector for mains connection and for LED module. Automatic temperature control inside the device with automatic resetting. With dedicated electronic device to protect the LED module. Equipped with an air-circulation valve.



Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.

It works in two modes:

- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.



Optical system: the modularity of the optical system, the solutions used for the electronic circuit design and the optimal control of operating temperatures, make the Iseo line a highly professional, flexible and reliable product, capable of guaranteeing huge application advantages in several situations.

UPON REQUEST



Coating for marine environments in compliance with UNI EN ISO 9227.

CERTIFICATIONS



ENEC is a European Mark that demonstrates that fixture is compliant with applicable European safety standards and was manufactured by a company that applies a Quality System according to ISO 9000.

OTHER INFORMATION

Heat sink: the heat dissipation system is specially designed and made to allow the operation of the LED lights with temperatures ensuring excellent performance/efficiency and durability.

Photometric performance: designed with an optical system capable of controlling the potential glare created by the growing light intensity of LEDs while achieving high photometric performance.



3000K - 4000K as standard: lamps with 3000K-4000K white light is the best choice for lighting up urban areas, streets, residential centres and generally all areas where this type of light guarantees greater safety and visual comfort.

INTEGRATED FUNCTIONS



ADVANCED PROG (PROG CLD): the products of this family are supplied with programmable drivers as standard.

Luminaires made to meet specific technological needs and designed, as standard, to integrate special functions to ensure high energy-savings, customization options and versatility of use in many applications (e.g. installation with dimmers or emergency supply). *These functions are already available on standard products and must be enabled on request (except for versions with LED COB).* These products do not require any modification to the entire system because the lamp only needs to be connected to mains power supply no pilot cable and/or control bus required.



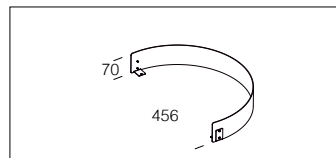
Virtual midnight subcode -30: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise).

ATTENTION: original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request:

- Virtual midnight in 2 steps subcode -31
- Virtual midnight in 5 steps subcode -32

For further information, see page 86

ACCESSORIES



acc. 109 anti-glare shield	
anthracite	991309-00
To prevent glare effects. To be fitted when Garda is installed near a window.	



Iseo

Optics: in aluminium coated with very high purity (99.99%) silver using physical vapour deposition (PVD).

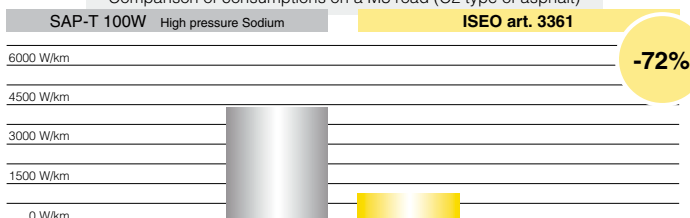
LED: power factor ≥ 0.92 .
Luminous flux maintenance 80%:
>100.000h (L80B10).

DESIGN EXAMPLE

REPLACEMENT OF OBSOLETE FIXTURES

	L	H	distance	Cd/m ²	P tot (W)	W/Km
SAP-E 70W	5m	6m	19m	1	84,6	4453
ISEO art. 3361	5m	6m	19m	1,08	33	1269

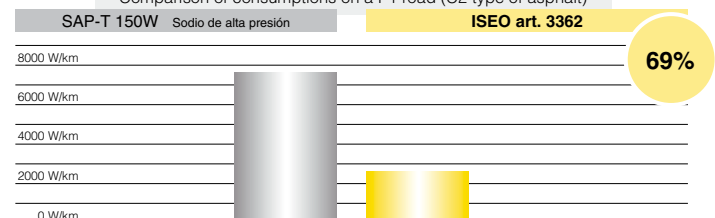
Comparison of consumptions on a M3 road (C2 type of asphalt)



INSTALLATION OF NEW LIGHTING FIXTURES

	L	H	distance	lux med	lux min	P tot (W)	W/Km
SAP-T 150W	10m	5m	21m	19,81	3,12	166	7905
ISEO art. 3362	10m	5m	21m	22,19	10,43	64	2462

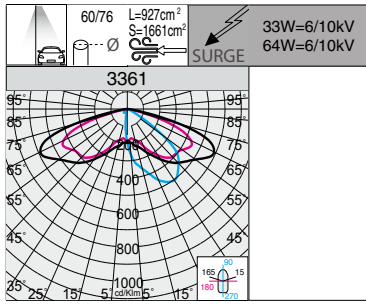
Comparison of consumptions on a P1 road (C2 type of asphalt)



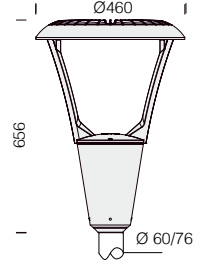
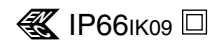
Iseo - MIDNIGHT







>100.000h



3361 Iseo 2 MIDNIGHT - residential amenities					
LED	colour	weight	CLD PROG		LUMEN OUTPUT (tq= 25 °C)
			code	W tot	K - ølm 530mA - CRI
LED	anthracite	7.10	330570-30	33	4000K - 3366lm - CRI 70
			330570-3028		3000K - 3130m - CRI 70
LED	anthracite	7.10	330571-30	64	4000K - 6732lm - CRI 70
			330571-3028		3000K - 6261lm - CRI 70

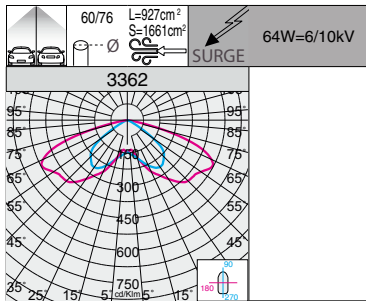
Example	Power supply	n.LED	W tot	K	ølm
upon request	700mA	8	42	4000K	4455lm
		16	84		8891lm
upon request	700mA	8	42	3000K	4143lm
		16	84		8269lm

LED: power factor ≥ 0.92 .
Luminous flux maintenance 80%:
>100.000h (L80B10).

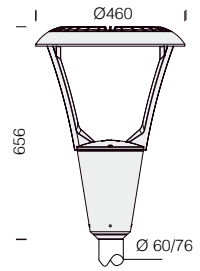
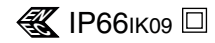
Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

- Nema Socket order with **subcode -40** (sealing cap to be ordered separately).
- Zhaga Socket order with **subcode -0054** (complete with sealing cap).



>100.000h



3362 Iseo 3 MIDNIGHT - residential amenities					
LED	colour	weight	CLD PROG		LUMEN OUTPUT (tq= 25 °C)
			code	W tot	K - ølm 530mA - CRI
LED	anthracite	7.10	330580-30	64	4000K - 6741lm - CRI 70
			330580-3028		3000K - 6269lm - CRI 70

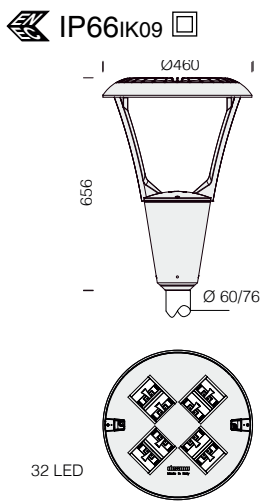
Example	Power supply	n.LED	W tot	K	ølm
upon request	700mA	16	84	4000K	8903lm
		16	84		3000K

LED: power factor ≥ 0.92 .
Luminous flux maintenance 80%:
>100.000h (L80B10).

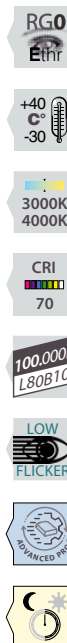
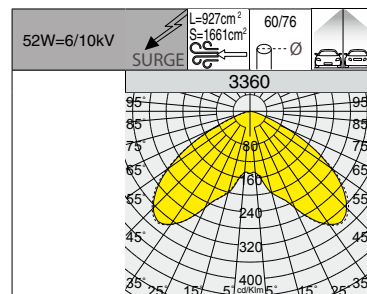
Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

- Nema Socket order with **subcode -40** (sealing cap to be ordered separately).
- Zhaga Socket order with **subcode -0054** (complete with sealing cap).



>100.000h



LED: power factor ≥ 0.92 .
Luminous flux maintenance 80%:
>100.000h (L80B10).

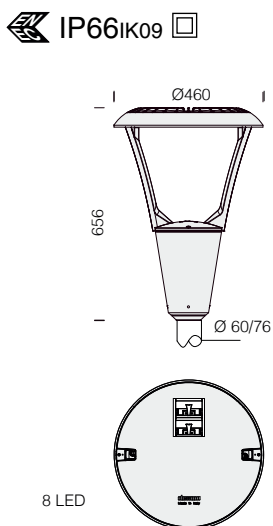
Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

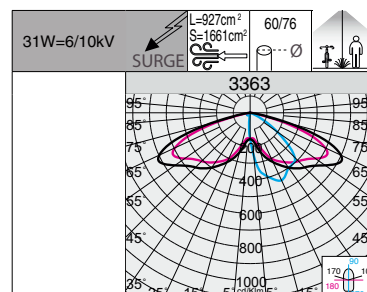
- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3360 Iseo 1 MIDNIGHT - rotosymmetric					
LED	colour	weight	CLD PROG code	W tot	LUMEN OUTPUT (tq= 25 °C)
LED	anthracite	7.30	330560-30	52	K - ølm 530mA - CRI
			330560-3028		4000K - 5667lm - CRI 70
					3000K - 5270lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm
upon request	700mA	32	68	4000K	7485lm
upon request	700mA	32	68	3000K	6961lm



>100.000h



LED: power factor ≥ 0.92 .
Luminous flux maintenance 80%:
>100.000h (L80B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3363 Iseo 4 MIDNIGHT - cycle-pedestrian					
LED	colour	weight	CLD PROG code	W tot	LUMEN OUTPUT (tq= 25 °C)
LED	anthracite	7.00	330590-30	31	K - ølm 530mA - CRI
			330590-3028		4000K - 3319lm - CRI 70
					3000K - 3087lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm
upon request	700mA	8	42	4000K	4384lm
upon request	700mA	8	42	3000K	4077lm

Garda - MIDNIGHT

GENERAL CHARACTERISTICS

Housing and arms: pressed in die-cast aluminium and designed with a very small surface exposed to wind.

Pole connection: suited for poles with a diameter 60-76mm.

Diffuser: extra-clear tempered glass, 4 mm thick, resistant to thermal shocks and impacts (UNI-EN 12150-1: 2001).

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

Equipment: nylon wiring plate 30% fibre glass complete with connector for mains connection and for LED module. Auto-

LOW FLICKER

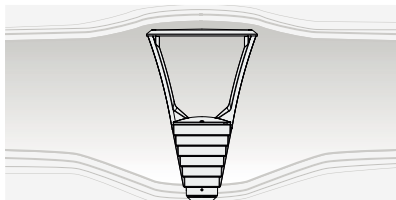
Flicker is a common issue with LED lamps. It can occur at frequencies below 60 Hz and depends on several factors, such as the ripple emitted by drivers.



Product with a very low flicker; uniform light for greater eye protection.

SURFACE EXPOSED TO WIND

The fixture's design is configured to minimise wind exposure surfaces:
L=769cm² - S=1256cm²



LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET

Nema Socket order with subcode -40 (sealing cap to be ordered separately)	Zhaga Socket order with subcode -0054 (complete with sealing cap)
Mounted directly on the fixture's body, ideal for remote lighting management applications	



Exemple with Zhaga Socket (subcode -0054)

OTHER CHARACTERISTICS

matic temperature control inside the device with automatic resetting. With dedicated electronic device to protect the LED module. Equipped with an air-circulation valve.



Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.

It works in two modes:

- differential mode: surge between power cables and between the phase and neutral.

- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

UPON REQUEST



Coating for marine environments in compliance with UNI EN ISO 9227.

Available in white color.



CERTIFICATIONS



ENEC is a European Mark that demonstrates that fixture is compliant with applicable European safety standards and was manufactured by a company that applies a Quality System according to ISO 9000.

OTHER INFORMATION

The range of GARDA street lamps is available in the following colour temperatures:



2200K (subcode -73): lamps with warm amber light at a colour temperature of 2200K eliminate the risks of an excessive exposure to harmful blue LED light and allows a "softer" impact on inhabited zones, especially in historic centres.



3000K - 4000K as standard: lamps with 3000K-4000K white light is the best choice for lighting up urban areas, streets, residential centres and generally all areas where this type of light guarantees greater safety and visual comfort.

AVAILABLE FUNCTIONS



Virtual midnight subcode -30: to increase energy savings at night when there are fewer people and vehicles

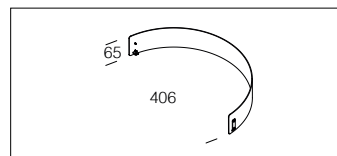
around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise).

ATTENTION: original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request:

- Virtual midnight in 2 steps subcode -31
- Virtual midnight in 5 steps subcode -32

For further information, see page 86

ACCESSORIES



acc. 109 anti-glare shield

anthracite 991312-00

To prevent glare effects. To be fitted when Garda is installed near a window.



Garda

Optics: made of PMMA with high temperature resistance and UV rays.

LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
80.000h (L80B20).

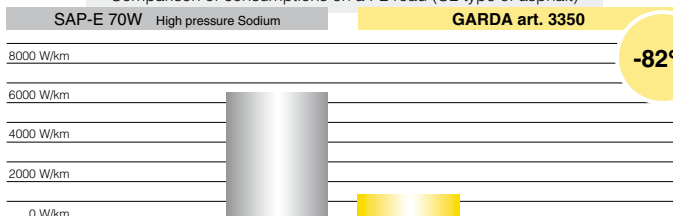
LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
>100.000h (L80B10).

E: DESIGN EXAMPLE 'S

REPLACEMENT OF OBSOLETE FIXTURES

	L	H	distance	lux med	lux min	P tot (W)	W/Km
SAP-E 70W	13m	4m	13m	10,46	4,97	84,6	6508
GARDA art. 3350	13m	4m	13m	14,06	10,88	31	1192

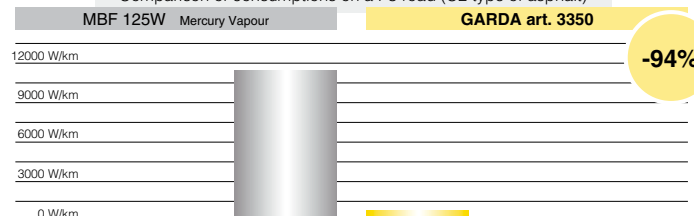
Comparison of consumptions on a P2 road (C2 type of asphalt)



INSTALLATION OF NEW LIGHTING FIXTURES

	L	H	distance	lux med	lux min	P tot (W)	W/Km
MBF 125W	12m	4m	12m	7,54	4,66	137,5	11458
GARDA art. 3350	12m	4m	12m	8,24	5,71	18	692

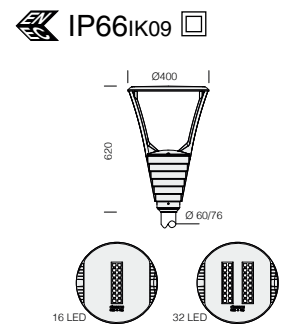
Comparison of consumptions on a P3 road (C2 type of asphalt)



Garda - MIDNIGHT



RG0
Ethir
 +50 °C
 -40 °C
 3000K
 4000K
 CRI
 70
 100.000h
 L80B10
 LOW
 FLICKER
 Upon request (sub-code -60)
 LED 4000K - CRI 80



3351 Garda 2 MIDNIGHT - asymmetric						
LED	colour	weight	CLD MIDNIGHT		LUMEN OUTPUT (tq= 25 °C)	
			code	W tot	K - ølm - CRI	
LED	anthracite	5.70	330520-30	35	4000K - 3773lm - CRI 70	
			330520-3028		3000K - 3508lm - CRI 70	
LED	anthracite	5.90	330521-30	66	4000K - 7275lm - CRI 70	
			330521-3028		3000K - 6765lm - CRI 70	

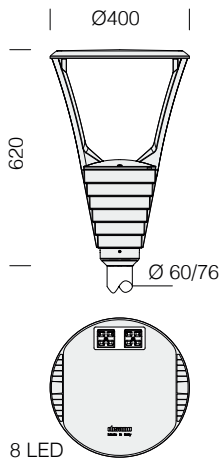
LED: power factor ≥0.9.
Luminous flux maintenance 80%:
>100.000h (L80B10).

Example	Power supply	n.LED	W tot	K	ølm
upon request	530mA	16	26	4000K	2830lm
		32	50		5765lm
upon request	530mA	16	26	3000K	2632lm
		32	50		5361lm

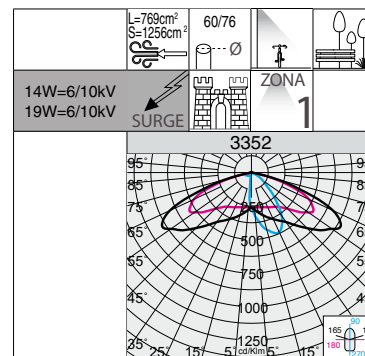
Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

IP66IK09



80.000h



- RG0
- Ethr
- +50°C -40°C
- 3000K 4000K
- CRI 70
- 80.000h L80B20
- LOW FLICKER
- MOON

LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
80.000h (L80B20).

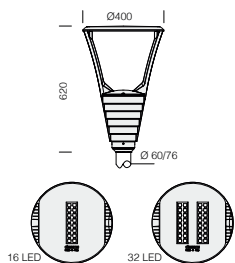
Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

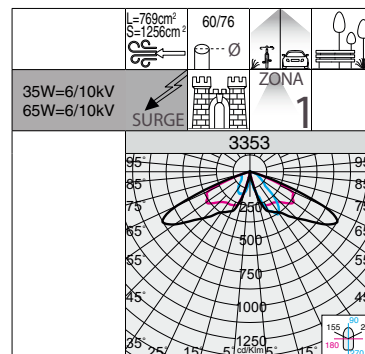
2200K - AMBER (sub-code -73)	
W tot	LUMEN OUTPUT (tq= 25 °C)
14	2200K - 1590lm
19	2200K - 2058lm

3352 Gardá 3 MIDNIGHT - cycleways					
		CLD MIDNIGHT		LUMEN OUTPUT (tq= 25 °C)	
LED	colour	weight	code	W tot	K - ølm - CRI
LED	anthracite	5.60	330530-30	14	4000K - 1790lm - CRI 70
			330530-3028		3000K - 1664lm - CRI 70
LED	anthracite	5.60	330531-30	19	4000K - 2318lm - CRI 70
			330531-3028		3000K - 2155lm - CRI 70

IP66IK09



>100.000h



- RG0
- Ethr
- +50°C -40°C
- 3000K 4000K
- CRI 70
- 100.000h L80B10
- LOW FLICKER
- MOON

LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
>100.000h (L80B10).

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

Upon request (sub-code -60)	
LED	LUMEN OUTPUT (tq= 25 °C)
4000K - CRI 80	

3353 Gardá 4 MIDNIGHT - cycleways + residential amenities					
		CLD MIDNIGHT		LUMEN OUTPUT (tq= 25 °C)	
LED	colour	weight	code	W tot	K - ølm - CRI
LED	anthracite	5.70	330540-30	35	4000K - 3525lm - CRI 70
			330540-3028		3000K - 3278lm - CRI 70
LED	anthracite	5.90	330541-30	65	4000K - 6887lm - CRI 70
			330541-3028		3000K - 6404lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm
upon request	530mA	16	26	4000K	2644lm
		32	50		5514lm
upon request	530mA	16	26	3000K	2458lm
		32	50		5128lm

RG0
Ethr

+50
°C
-40

3000K
4000K

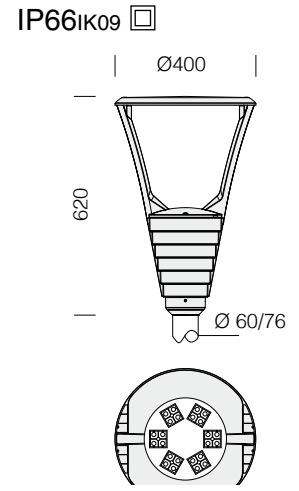
CRI
70

80.000h
L80B20

LOW
FLICKER

2200K - AMBER (sub-code -73)

W tot	LUMEN OUTPUT (tq= 25 °C)
44	2200K - 5195lm



LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
80.000h (L80B20).

Luminaire designed for installation on:

- Nema Socket order with **subcode -40** (sealing cap to be ordered separately).
- Zhaga Socket order with **subcode -0054** (complete with sealing cap).

3355 Garda 6 MIDNIGHT - rotosymmetric					
		CLD MIDNIGHT		LUMEN OUTPUT (tq= 25 °C)	
LED	colour	weight	code	W tot	K - ølm - CRI
LED	anthracite	5.80	330551-30	44	4000K - 5851lm - CRI 70
			330551-3028		3000K - 5441lm - CRI 70

RG0
Ethr

+50
°C
-40

3000K
4000K

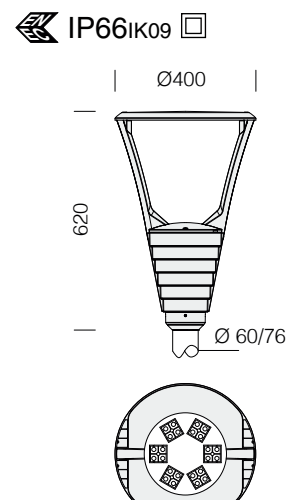
CRI
70

80.000h
L80B20

LOW
FLICKER

2200K - AMBER (sub-code -73)

W tot	LUMEN OUTPUT (tq= 25 °C)
44	2200K - 5121lm



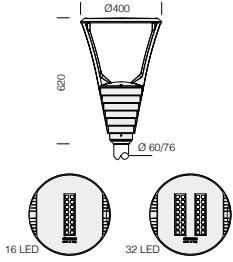
LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
80.000h (L80B20).

Luminaire designed for installation on:

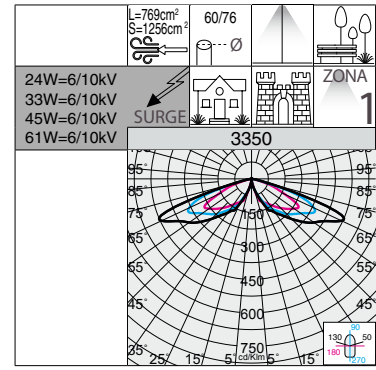
- Nema Socket order with **subcode -40** (sealing cap to be ordered separately).
- Zhaga Socket order with **subcode -0054** (complete with sealing cap).

3355 Garda 5 MIDNIGHT - rotosymmetric					
		CLD MIDNIGHT		LUMEN OUTPUT (tq= 25 °C)	
LED	colour	weight	code	W tot	K - ølm - CRI
LED	anthracite	5.80	330550-30	44	4000K - 5767lm - CRI 70
			330550-3028		3000K - 5363lm - CRI 70

IP66IK09



>100.000h



- RG0
- Ethr
- +50°C -40°C
- 3000K 4000K
- CRI 70
- 100.000h L80B10
- LOW FLICKER
- Day/Night sensor icon

Upon request (sub-code -60)	
LED	4000K - CRI 80

3350 Garda 1 MIDNIGHT - rotosymmetric

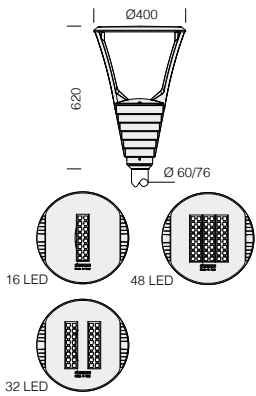
LED	colour	weight	CLD MIDNIGHT		W tot	LUMEN OUTPUT (tq= 25 °C)	
			code	K - ølm - CRI			
LED	anthracite	5.70	330518-30	24	4000K - 2400lm - CRI 70		
			330518-3028		3000K - 2232lm - CRI 70		
LED	anthracite	5.90	330519-30	45	4000K - 4800lm - CRI 70		
			330519-3028		3000K - 4464lm - CRI 70		
LED	anthracite	5.70	330510-30	33	4000K - 3200lm - CRI 70		
			330510-3028		3000K - 2976lm - CRI 70		
LED	anthracite	5.90	330511-30	61	4000K - 6400lm - CRI 70		
			330511-3028		3000K - 5952lm - CRI 70		

LED: power factor ≥0.9.
Luminous flux maintenance 80%:
>100.000h (L80B10).

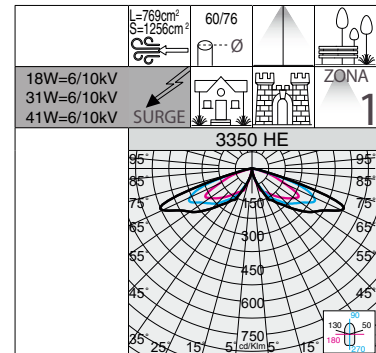
Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

IP66IK09



>100.000h



- RG0
- Ethr
- +50°C -40°C
- 3000K 4000K
- CRI 70
- 100.000h L80B10
- LOW FLICKER
- Day/Night sensor icon

Upon request (sub-code -60)	
LED	4000K - CRI 80

3350 Garda 1 MIDNIGHT HE - rotosymmetric

LED	colour	weight	CLD MIDNIGHT		W tot	LUMEN OUTPUT (tq= 25 °C)	
			code	K - ølm - CRI			
LED	anthracite	5.70	330512-30	18	4000K - 1823lm - CRI 70		
			330512-3028		3000K - 1695lm - CRI 70		
LED	anthracite	5.90	330513-30	31	4000K - 3463lm - CRI 70		
			330513-3028		3000K - 3221lm - CRI 70		
LED	anthracite	5.90	330517-30	41	4000K - 5193lm - CRI 70		
			330517-3028		3000K - 4829lm - CRI 70		

LED: power factor ≥0.9.
Luminous flux maintenance 80%:
>100.000h (L80B10).

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

Loto - MIDNIGHT

GENERAL CHARACTERISTICS

Housing and frame: pressed in die-cast aluminium and designed with a very small surface exposed to wind. Cooling fins are integrated into the cover.

Pole connection: suited for poles with a diameter 60 mm.

Diffuser: extra-clear tempered glass, 4 mm thick, resistant to thermal shocks and impacts (UNI-EN 12150-1: 2001).

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cathaphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

LOW FLICKER

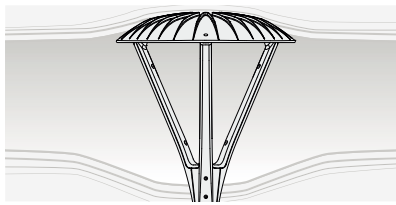
Flicker is a common issue with LED lamps. It can occur at frequencies below 60 Hz and depends on several factors, such as the ripple emitted by drivers.



Product with a very low flicker; uniform light for greater eye protection.

SURFACE EXPOSED TO WIND

The fixture's design is configured to minimise wind exposure surfaces:
L=1046cm² - S=2300cm²



LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET

Nema Socket order with subcode -40 (sealing cap to be ordered separately)	Zhaga Socket order with subcode -0054 (complete with sealing cap)
Mounted directly on the fixture's body, ideal for remote lighting management applications	



Exemple with Zhaga Socket (subcode -0054)

OTHER CHARACTERISTICS

Standard supply: automatic temperature control inside the device with automatic resetting. With dedicated electronic device to protect the LED module.

Equipment: equipped with an air-circulation valve. Complete with IP67 airtight connector for mains connection.



Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.

It works in two modes:

- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.



Heat sink: the heat dissipation system is specially designed and made to allow the operation of the LED lights with temperatures ensuring excellent performance/efficiency and durability.

UPON REQUEST

UNIEN ISO 9227 Coating for marine environments in compliance with UNI EN ISO 9227.

CERTIFICATIONS



ENEC is a European Mark that demonstrates that fixture is compliant with applicable European safety standards and was manufactured by a company that applies a Quality System according to ISO 9000.

OTHER INFORMATION

The range of LOTO street lamps is available in the following colour temperatures:

2200K (subcode -73): lamps with warm amber light at a colour temperature of 2200K eliminate the risks of an excessive exposure to harmful blue LED light and allows a "softer" impact on inhabited zones, especially in historic centres.

3000K - 4000K as standard: lamps with 3000K-4000K white light is the best choice for lighting up urban areas, streets, residential centres and generally all areas where this type of light guarantees greater safety and visual comfort.

INTEGRATED FUNCTIONS



ADVANCED PROG (PROG CLD): the products of this family are supplied with programmable drivers as standard.

Luminaires made to meet specific technological needs and designed, as standard, to integrate special functions to ensure high energy-savings, customization options and versatility of use in many applications (e.g. installation with dimmers or emergency supply). These functions are already available on standard products and must be enabled on request (except for versions with LED COB). These products do not require any modification to the entire system because the lamp only needs to be connected to mains power supply no pilot cable and/or control bus required.



Virtual midnight subcode -30: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise).

ATTENTION: original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request:

- Virtual midnight in 2 steps subcode -31
- Virtual midnight in 5 steps subcode -32

For further information, see page 86



Loto

Optics: made of PMMA with high temperature resistance and UV rays.

LED: power factor ≥ 0.92 .
Luminous flux maintenance 80%:
>100.000h (L80B10).

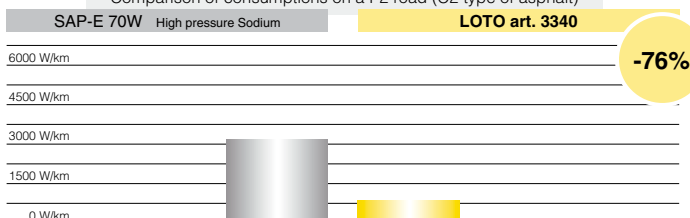
LED COB: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
50.000h (L80B20).

DESIGN EXAMPLE

REPLACEMENT OF OBSOLETE FIXTURES

	L	H	distance	lux med	lux min	P tot (W)	W/Km
SAP-E 70W	12m	4m	13m	11,23	5,3	82,5	3173
LOTO art. 3340	12m	4m	13m	11,22	5,8	20	769

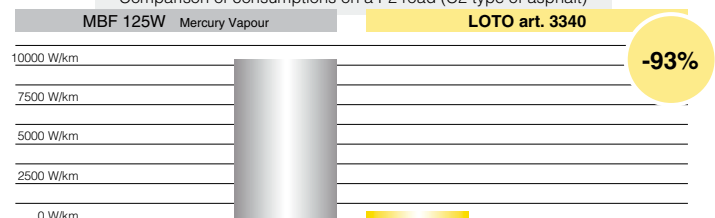
Comparison of consumptions on a P2 road (C2 type of asphalt)



INSTALLATION OF NEW LIGHTING FIXTURES

	L	H	distance	lux med	lux min	P tot (W)	W/Km
MBF 125W	12m	4m	13m	12,71	6,89	137,5	10577
LOTO art. 3340	12m	4m	13m	12,31	3,21	20	769

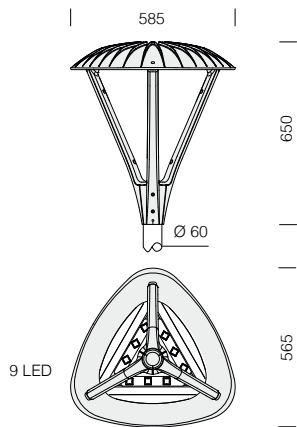
Comparison of consumptions on a P2 road (C2 type of asphalt)



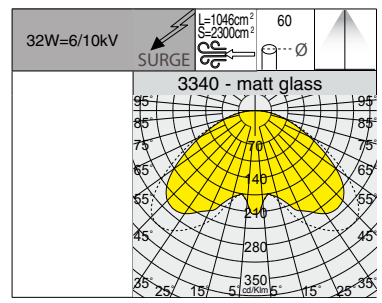
Loto - MIDNIGHT



IP66IK09



>100.000h



- RG0
- Ethr
- +40 C° -30
- 4000K
- CRI 80
- 100.000h L80B10
- LOW FLICKER
- ADVANCED PROG
- MOON

LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
>100.000h (L80B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

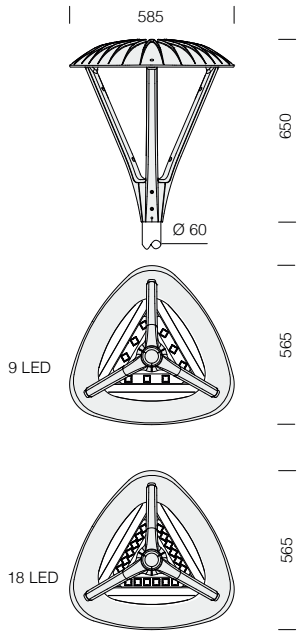
- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

Upon request: (subcode -39)	
LED	3000K - CRI 80

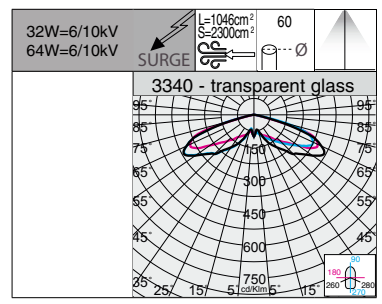
3340 Loto 2 MIDNIGHT - wide beam - matt					
LED		CLD PROG		LUMEN OUTPUT (tq= 25 °C)	
colour	weight	code		W tot	K - ølm 550mA - CRI
LED	grey 9007	330214-30		32	4000K - 2933lm - CRI 80
	graphite	330215-30			

Example	Power supply	n.LED	W tot	ølm
upon request	350mA	9	20	1937lm

IP66IK09



>100.000h



- RG0
- Ethr
- +40 C° -30
- 3000K 4000K
- CRI 80
- 100.000h L80B10
- LOW FLICKER
- ADVANCED PROG
- MOON

LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
>100.000h (L80B10).

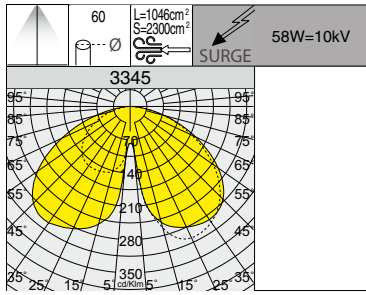
Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

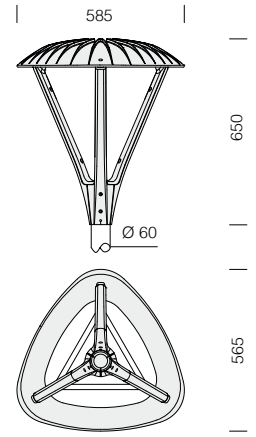
- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3340 Loto 1 MIDNIGHT - wide beam					
LED		CLD PROG		LUMEN OUTPUT (tq= 25 °C)	
colour	weight	code		W tot	K - ølm 550mA - CRI
LED	grey 9007	330210-30		32	4000K - 3765lm - CRI 80
	graphite	330211-30			
LED	grey 9007	330210-3028		32	3000K - 3501lm - CRI 80
	graphite	330211-3028			
LED	grey 9007	330212-30		64	4000K - 7531lm - CRI 80
	graphite	330213-30			
LED	grey 9007	330212-3028		64	3000K - 7004lm - CRI 80
	graphite	330213-3028			

Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	9	20	4000K	2485lm
		18	41		4970lm
upon request	350mA	9	20	3000K	2311lm
		18	41		4623lm



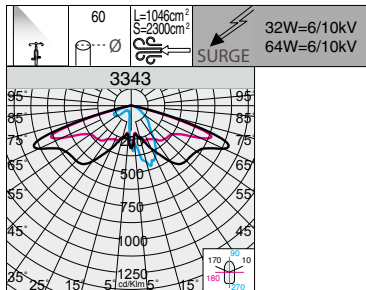
IP66IK09



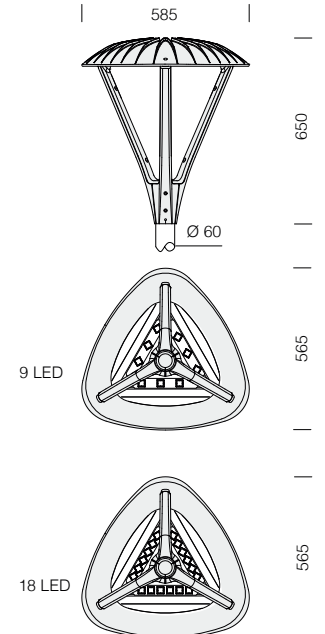
LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%
50.000h (L80B20).

Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.

3345 Loto 6 MIDNIGHT - COB					
LED	colour	weight	CLD MIDNIGHT		LUMEN OUTPUT (tq= 25 °C) K - ølm 1400mA - CRI
			weight	W tot	
COB	grey 9007	12.50	330264-30	58	4000K - 3502lm - CRI 90
	graphite		330265-30		
COB	grey 9007	12.50	330264-3028	58	3000K - 3257lm - CRI 90
	graphite		330265-3028		
COB AMBER	grey 9007	12.50	330264-3073	58	2200K - 3934lm - AMBER
	graphite		330265-3073		



IP66IK09



LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
>100.000h (L80B10).

Integrated **ADVANCED PROG** functions.

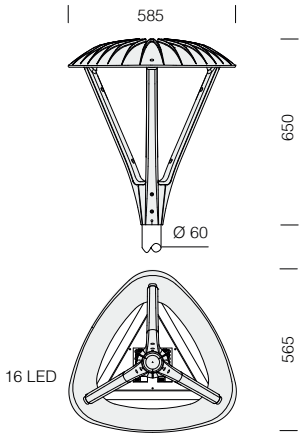
3343 Loto 4 MIDNIGHT - cycleways					
LED	colour	weight	CLD PROG		LUMEN OUTPUT (tq= 25 °C) K - ølm 550mA - CRI
			code	W tot	
LED	grey 9007	12.50	330240-30	32	4000K - 3769lm - CRI 80
	graphite		330241-30		
LED	grey 9007	12.50	330240-3028	32	3000K - 3505lm - CRI 80
	graphite		330241-3028		
LED	grey 9007	12.80	330242-30	64	4000K - 7540lm - CRI 80
	graphite		330243-30		
LED	grey 9007	12.80	330242-3028	64	3000K - 7012m - CRI 80
	graphite		330243-3028		

Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	350mA	9	20	4000K	2488lm	9	20	3000K	2313lm
		18	41		4976lm	18	41		4628lm
upon request	700mA	9	41	4000K	4975lm	9	41	3000K	4627lm
		18	81		9953lm	18	81		9256lm

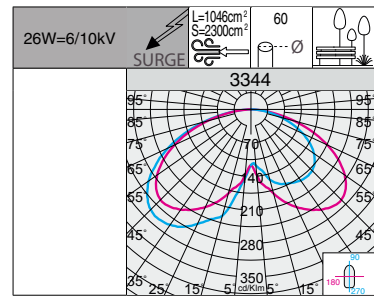
Luminaire designed for installation on:

- Nema Socket order with subcode -40 (sealing cap to be ordered separately).
- Zhaga Socket order with subcode -0054 (complete with sealing cap).

IP66IK09 



>100.000h



-  RG0
-  Etrr
-  +40 C° -30
-  4000K
-  CRI 70
-  100.000h L80B10
-  LOW FLICKER
-  ADVANCED PROG
- 

LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
>100.000h (L80B10).

Integrated **ADVANCED PROG** functions.


Luminaire designed for installation on:

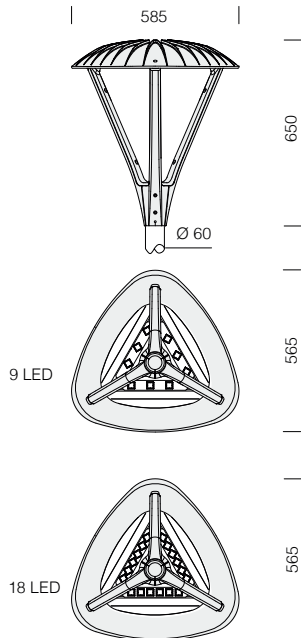
- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

Upon request: (subcode -39)	
LED	3000K - CRI 70

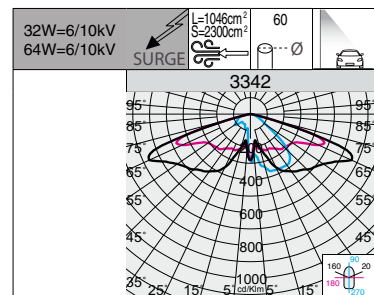
3344 Loto 5 MIDNIGHT - wide beam					
CLD PROG				LUMEN OUTPUT (tq= 25 °C)	
LED	colour	weight	code	W tot	K - ølm 530mA - CRI
LED	grey 9007	12.50	330250-30	26	4000K - 2930lm - CRI 70
	graphite		330251-30		

Example	Power supply	n.LED	W tot	ølm
upon request	700mA	16	35	3868lm

IP66IK09 



>100.000h



-  RG0
-  Etrr
-  +40 C° -30
-  3000K 4000K
-  CRI 80
-  100.000h L80B10
-  LOW FLICKER
-  ADVANCED PROG
- 

LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
>100.000h (L80B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3342 Loto 3 MIDNIGHT - asymmetric					
CLD PROG				LUMEN OUTPUT (tq= 25 °C)	
LED	colour	weight	code	W tot	K - ølm 550mA - CRI
LED	grey 9007	12.50	330230-30	32	4000K - 3747lm - CRI 80
	graphite		330231-30		
LED	grey 9007	12.50	330230-3028	32	3000K - 3485lm - CRI 80
	graphite		330231-3028		
LED	grey 9007	12.80	330232-30	64	4000K - 7481lm - CRI 80
	graphite		330233-30		
LED	grey 9007	12.80	330232-3028	64	3000K - 6957lm - CRI 80
	graphite		330233-3028		

Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	350mA	9	20	4000K	2473lm	9	20	3000K	2300lm
		18	41		4937lm	18	41		4592lm
upon request	700mA	9	41	4000K	4946lm	9	41	3000K	4600lm
		18	81		9875lm	18	81		9183lm

Lucerna - MIDNIGHT

GENERAL CHARACTERISTICS

Housing, lid, spokes, and pole connection: die-cast aluminium.

Diffuser: tempered glass, 5 mm thick, withstands thermal shock and impacts (UNI-EN 12150-1 : 2001).

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cathoporesis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

Equipment: nylon wiring plate, 30% fibre glass, removable, tool-free, for quick maintenance. Standard knife switch, which enables to automatically cut off the power supply during maintenance. Complete with quick-connector for connection to the line (art. 3202, 3209, 3212, 3214, 3322). Can be adjusted by loosening the bolts without taking the lighting

LOW FLICKER

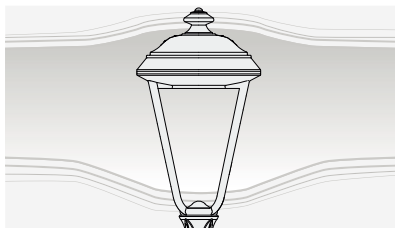
Flicker is a common issue with LED lamps. It can occur at frequencies below 60 Hz and depends on several factors, such as the ripple emitted by drivers.



Product with a very low flicker; uniform light for greater eye protection.

SURFACE EXPOSED TO WIND

The fixture's design is configured to minimise wind exposure surfaces:
suspension: R=1204cm² - Q=1378cm²
on pole: R=1431/2081cm² - Q=1620cm²



LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET

Nema Socket order with subcode -40 (sealing cap to be ordered separately)	Zhaga Socket order with subcode -0054 (complete with sealing cap)
Mounted directly on the fixture's body, ideal for remote lighting management applications	



Exemple with Zhaga Socket (subcode -0054)

OTHER CHARACTERISTICS

fixture apart. Temperature control device. In the event of an unexpected LED temperature rise caused by particular weather conditions or a LED failure, the system will reduce the luminous flux to lower the working temperature and guarantee proper operation.



Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.

It works in two modes:

- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

UPON REQUEST



Coating for marine environments in compliance with UNI EN ISO 9227.

Available in white color.



CERTIFICATIONS



ENEC is a European Mark that demonstrates that fixture is compliant with applicable European safety standards and was manufactured by a company that applies a Quality System according to ISO 9000.

OTHER INFORMATION

The range of LUCERNA street lamps is available in the following colour temperatures:



2200K (subcode -73): lamps with warm amber light at a colour temperature of 2200K eliminate the risks of an excessive exposure to harmful blue LED light and allows a "softer" impact on inhabited zones, especially in historic centres.



3000K - 4000K as standard: lamps with 3000K-4000K white light is the best choice for lighting up urban areas, streets, residential centres and generally all areas where this type of light guarantees greater safety and visual comfort.

INTEGRATED FUNCTIONS



ADVANCED PROG (PROG CLD): the products of this family are supplied with programmable drivers as standard.

Luminaires made to meet specific technological needs and designed, as standard, to integrate special functions to ensure high energy-savings, customization options and versatility of use in many applications (e.g. installation with dimmers or emergency supply). These functions are already available on standard products and must be enabled on request (except for versions with LED COB). These products do not require any modification to the entire system because the lamp only needs to be connected to mains power supply no pilot cable and/or control bus required.



Virtual midnight subcode -30: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise).

ATTENTION: original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request:

- Virtual midnight in 2 steps subcode -31
- Virtual midnight in 5 steps subcode -32

For further information, see page 86



Lucerna

Optics: made of PMMA with high temperature resistance and UV rays.

LED: power factor ≥ 0.92 .
Luminous flux maintenance 80%:
>100.000h (L80B10).

LED COB: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
50.000h (L80B20).

DESIGN EXAMPLE

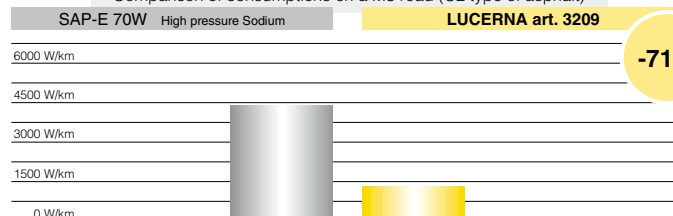
ADVANTAGES IN REPLACING OLD LUMINAIRES

The replacement of obsolete lighting systems based on traditional lamps (still very common in residential zones despite being outdated and poorly efficient), will enable to reduce energy consumptions, while increasing the light output to the levels currently required by applicable legislation, without the need to modify neither the poles nor the systems.

With the modularity offered by **Lucerna** fixtures you can always choose the exact amount of power necessary to deliver the right lighting levels without over-dimensioning and therefore wasting energy.

	L	H	distance	Cd/m ²	P tot (W)	W/Km
SAP-E 70W	5m	5,7m	19m	1,18	84,6	4453
LUCERNA art. 3209	5m	5,7m	19m	1,21	34	1308

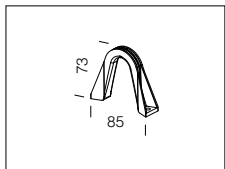
Comparison of consumptions on a M3 road (C2 type of asphalt)



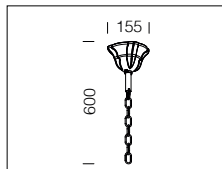
Lucerna - MIDNIGHT



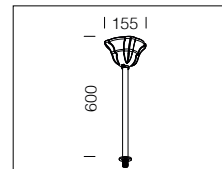
ACCESSORIES



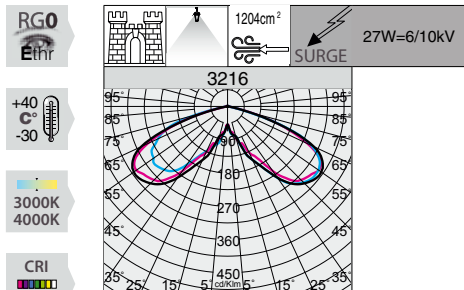
acc. 329 suspension unit	
anthracite	998003-00
In die-cast aluminium. Supplied separately for suspension applications.	



acc. 518 chain connection	
anthracite	991284-00
Supplied with suspension chain. To be used with acc. 329.	



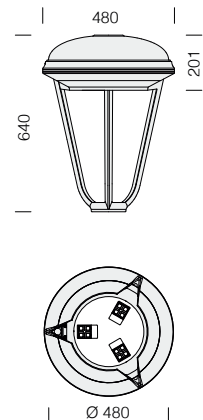
acc. 519 rod connection	
anthracite	991285-00
Supplied with suspension rod.	



>100.000h



IP66IK08



- RG0**
- Ethr**
- +40 C° -30**
- 3000K 4000K**
- CRI >70**
- 100.000h L80B10**
- LOW FLICKER**
- ADVANCED PROG**
-

LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
>100.000h (L80B10).

Integrated **ADVANCED PROG** functions.

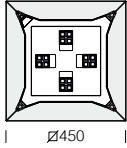
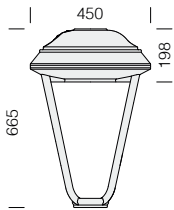
Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

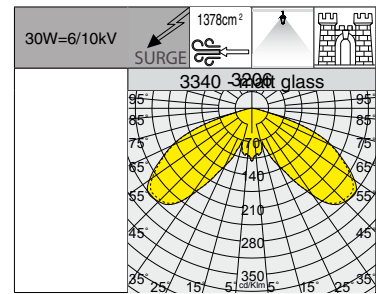
3216 Lucerna R 6 MIDNIGHT				
LED		CLD CTL		LUMEN OUTPUT (tg= 25 °C)
colour	weight	code	W tot	K - ølm 350mA - CRI
anthracite	10.55	327210-30	27	4000K - 3390lm - CRI>70
		327210-3028		3000K - 3153lm - CRI>70

Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	530mA	12	42	4000K	5180lm	12	42	3000K	4817lm

IP66IK08



>100.000h



RG0
Etrr

+40
C
-30

3000K
4000K

CRI
>70

100.000h
L80B10

LOW
FLICKER

ADVANCED PROG

☾ ☀

LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
>100.000h (L80B10).

Integrated **ADVANCED PROG**
functions.

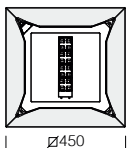
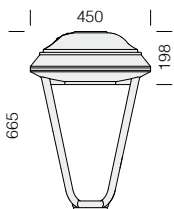
Luminaire designed for installation
on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

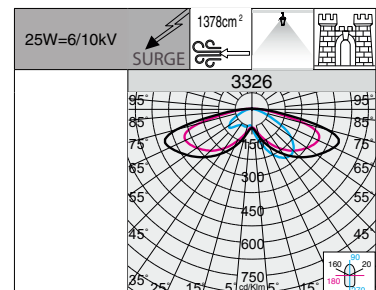
3206 Lucerna Q 6 MIDNIGHT					
LED	colour	weight	code	W tot	LUMEN OUTPUT (tq= 25 °C)
LED	anthracite	10.55	327200-30	30	K - ølm 300mA - CRI
			327200-3028		4000K - 3830lm - CRI>70
					3000K - 3562lm - CRI>70

Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	470mA	16	48	4000K	5700lm	16	48	3000K	5301lm

IP66IK08



>100.000h



RG0
Etrr

+40
C
-30

3000K
4000K

CRI
70

100.000h
L80B10

LOW
FLICKER

ADVANCED PROG

☾ ☀

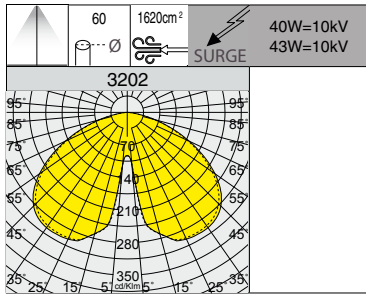
LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
>100.000h (L80B10).

Integrated **ADVANCED PROG**
functions.

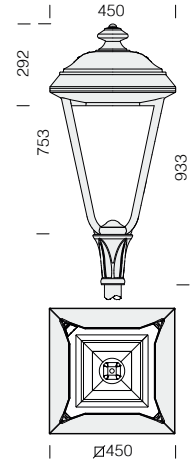
Luminaire designed for installation
on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3326 Lucerna Q 9 FX MIDNIGHT					
LED	colour	weight	code	W tot	LUMEN OUTPUT (tq= 25 °C)
LED	anthracite	10.55	327202-30	25	K - ølm 530mA - CRI
			327202-3028		4000K - 2910lm - CRI 70
					3000K - 2706lm - CRI 70



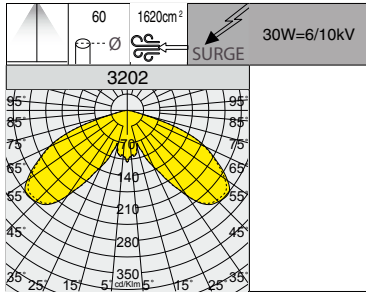
IP66IK08



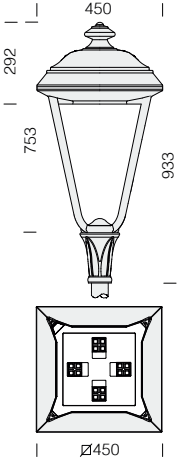
3202 Lucerna Q MIDNIGHT - COB					
LED	colour	weight	CLD MIDNIGHT		LUMEN OUTPUT (tq= 25 °C)
			code	W tot	K - ølm 1050mA - CRI
COB	anthracite	12.55	326923-30	40	4000K - 2579lm - CRI 90
			326923-3028		3000K - 2398lm - CRI 90
COB AMBER	anthracite	12.55	326923-3073	43	2200K - 2953lm - AMBER

LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%
50.000h (L80B20).

Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.



IP66IK08



3202 Lucerna Q MIDNIGHT					
LED	colour	weight	CLD PROG		LUMEN OUTPUT (tq= 25 °C)
			code	W tot	K - ølm 300mA - CRI
LED	anthracite	12.55	326920-30	30	4000K - 3830lm - CRI>70
			326920-3028		3000K - 3562lm - CRI>70

LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
>100.000h (L80B10).

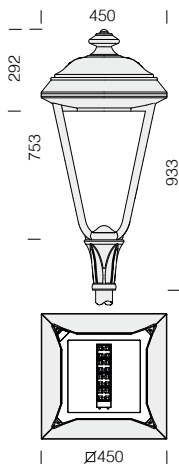
Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

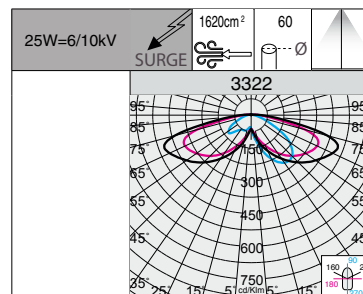
- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

Example upon request	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
	470mA	16	48	4000K	5700lm	16	48	3000K	5301lm

IP66IK08



>100.000h



- RG0 Etrn
- +40 C° -30
- 3000K 4000K
- CRI >70
- 100.000h L80B10
- LOW FLICKER
- ADVANCED PROG
- ☾ ☀

LED: power factor ≥0.9.
Luminous flux maintenance 80%:
>100.000h (L80B10).

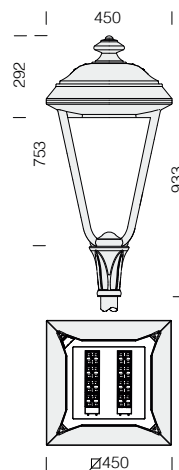
Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

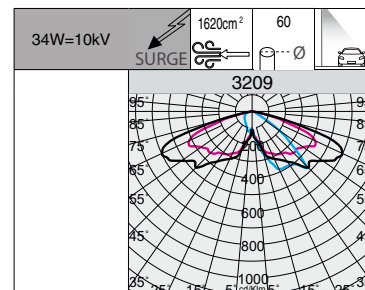
- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3322 Lucerna Q 7 FX MIDNIGHT					
LED		CLD PROG		LUMEN OUTPUT (tq= 25 °C)	
colour	weight	code	W tot	K - ølm 530mA - CRI	
LED	anthracite	326922-30	25	4000K - 2910lm - CRI 70	
		326922-3028		3000K - 2706lm - CRI 70	

IP66IK08



>100.000h



- RG0 Etrn
- +40 C° -30
- 3000K 4000K
- CRI >70
- 100.000h L80B10
- LOW FLICKER
- ADVANCED PROG
- ☾ ☀

LED: power factor ≥0.9.
Luminous flux maintenance 80%:
>100.000h (L80B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

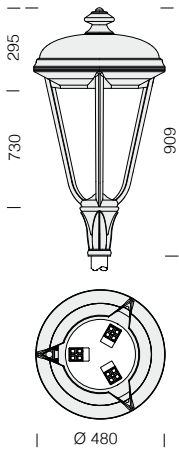
3209 Lucerna Q 8 MIDNIGHT - residential amenities					
LED		CLD PROG		LUMEN OUTPUT (tq= 25 °C)	
colour	weight	code	W tot	K - ølm 350mA - CRI	
LED	anthracite	327220-30	34	4000K - 4072lm - CRI>70	
		327220-3028		3000K - 3787lm - CRI>70	

Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	520mA	32	50	4000K	5720lm	32	50	3000K	5320lm

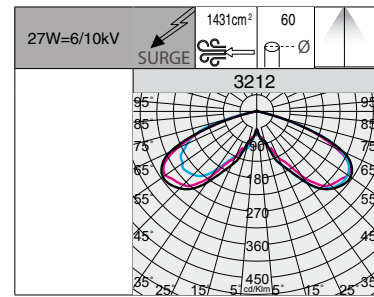
Lucerna - MIDNIGHT



IP66IK08



>100.000h



- RG0
- Ethr
- +40 C° -30
- 3000K 4000K
- CRI 70
- 100.000h L80B10
- LOW FLICKER
- ADVANCED PROG
- ☾ ☀

LED: power factor ≥0.9.
Luminous flux maintenance 80%:
>100.000h (L80B10).

Integrated **ADVANCED PROG** functions.

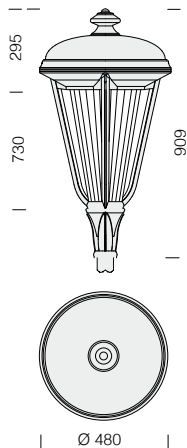
Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

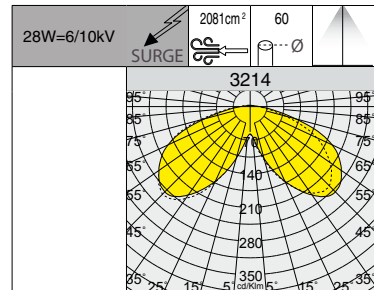
3212 Lucerna R MIDNIGHT					
LED	colour	weight	code	W tot	LUMEN OUTPUT (tq= 25 °C)
LED	anthracite	12.35	326970-30	27	K - ølm 350mA - CRI
			326970-3028		4000K - 3390lm - CRI>70
					3000K - 3153lm - CRI>70

	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
Upon request	530mA	12	42	4000K	5180lm	12	42	3000K	4817lm

IP66IK08



>100.000h



- RG0
- Ethr
- +40 C° -30
- 4000K
- CRI >70
- 100.000h L80B10
- LOW FLICKER
- ADVANCED PROG
- ☾ ☀

LED: power factor ≥0.9.
Luminous flux maintenance 80%:
>100.000h (L80B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3214 Lucerna R MIDNIGHT					
LED	colour	weight	code	W tot	LUMEN OUTPUT (tq= 25 °C)
LED	anthracite	12.35	326985-30	28	K - ølm 350mA - CRI
					4000K - 2626lm - CRI>70

Volo - MIDNIGHT

GENERAL CHARACTERISTICS

Housing and frame: pressed in die-cast aluminium and designed with a very small surface exposed to wind. Cooling fins are integrated into the cover.

Pole connection: pressed in die-cast aluminium. Suited for poles with a diameter 60 mm.

Diffuser: extra-clear tempered glass, 4 mm thick, resistant to thermal shocks and impacts (UNI-EN 12150-1: 2001).

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cathodolysis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

LOW FLICKER

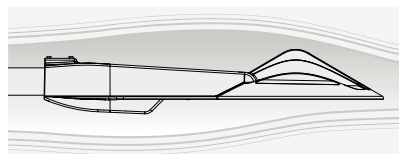
Flicker is a common issue with LED lamps. It can occur at frequencies below 60 Hz and depends on several factors, such as the ripple emitted by drivers.



Product with a very low flicker; uniform light for greater eye protection.

SURFACE EXPOSED TO WIND

The fixture's design is configured to minimise wind exposure surfaces:
L=470cm² - S=1250cm²



LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET

Nema Socket order with subcode -40 (sealing cap to be ordered separately)	Zhaga Socket order with subcode -0054 (complete with sealing cap)
Mounted directly on the fixture's body, ideal for remote lighting management applications	



Example with Zhaga Socket (subcode -0054)

OTHER CHARACTERISTICS

Standard supply: dedicated electronic device to protect the LED module. Supplied with connector for mains connection and complete with an air-circulation valve.



Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.

It works in two modes:

- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

UPON REQUEST

UNI EN ISO 9227 Coating for marine environments in compliance with UNI EN ISO 9227.



Available in:

- two-colour version (anthracite - graphite)
- pearl colour (for codes see website)



CERTIFICATIONS



ENEC is a European Mark that demonstrates that fixture is compliant with applicable European safety standards and was manufactured by a company that applies a Quality System according to ISO 9000.

* ENEC European Certificate of Conformity: PENDING APPROVAL

Registered Design DM/100271 The International Bureau of the World Intellectual Property Organization (WIPO) hereby certifies that the particulars given below correspond to the recording made in the International Register of Industrial Designs.

OTHER INFORMATION

The range of VOLO street lamps is available in the following colour temperatures:



3000K - 4000K as standard: lamps with 3000K-4000K white light is the best choice for lighting up urban areas, streets, residential centres and generally all areas where this type of light guarantees greater safety and visual comfort.

Upon request LED 4000K - CRI 80 versions with **sub-code -60**.

INTEGRATED FUNCTIONS



ADVANCED PROG (PROG CLD): the products of this family are supplied with programmable drivers as standard.

Luminaires made to meet specific technological needs and designed, as standard, to integrate special functions to ensure high energy-savings, customization options and versatility of use in many applications (e.g. installation with dimmers or emergency supply). These functions are already available on standard products and must be enabled on request (except for versions with LED COB). These products do not require any modification to the entire system because the lamp only needs to be connected to mains power supply no pilot cable and/or control bus required.



Virtual midnight subcode -30: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise).

ATTENTION: original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request:

- Virtual midnight in 2 steps subcode -31
- Virtual midnight in 5 steps subcode -32

For further information, see page 86



Volo

Optics: made of PMMA with high temperature resistance and UV rays.

LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%: 80.000h (L80B20).

LED: power factor ≥ 0.92 .
Luminous flux maintenance 80%:
>100.000h (L80B10).

DESIGN EXAMPLE

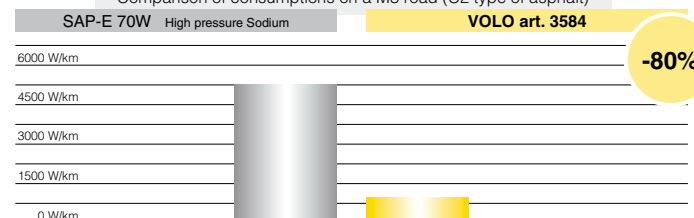
ADVANTAGES IN REPLACING OLD LUMINAIRES

The replacement of obsolete lighting systems based on traditional lamps (still very common in residential zones despite being outdated and poorly efficient), will enable to reduce energy consumptions, while increasing the light output to the levels currently required by applicable legislation, without the need to modify neither the poles nor the systems.

With the modularity offered by **Volo** fixtures you can always choose the exact amount of power necessary to deliver the right lighting levels without over-dimensioning and therefore wasting energy.

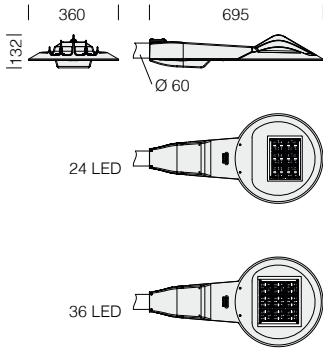
	L	H	distance	Cd/m ²	P tot (W)	W/Km
SAP-E 70W	5m	5m	16m	1,2	84,6	5288
VOLO art. 3584	5m	5m	16m	1,3	27	1038

Comparison of consumptions on a M3 road (C2 type of asphalt)





IP66IK09



80.000h
Registered Design
DM/100271

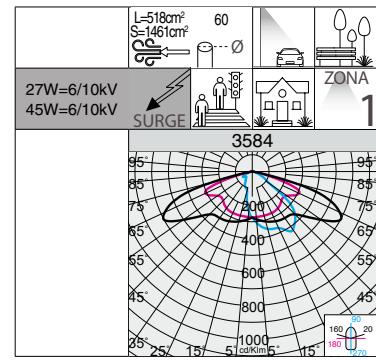


LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
80.000h (L80B20).

Integrated **ADVANCED PROG** functions.

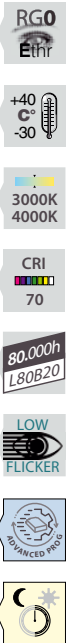
Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

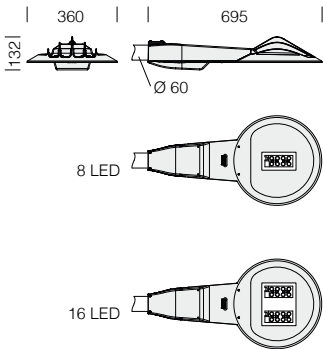


Upon request (sub-code -60)	
LED	CRI 80

3584 Volo MIDNIGHT - residential amenities - high performance						
LED	colour	weight	CLD PROG		LUMEN OUTPUT (tq= 25 °C)	
			code	W tot	K - ølm - CRI	
LED	graphite	6.00	424640-30	27	4000K - 4346lm - CRI 70	
			424640-3028		3000K - 4115lm - CRI 70	
LED	graphite	6.50	424641-30	45	4000K - 7412lm - CRI 70	
			424641-3028		3000K - 7019lm - CRI 70	



IP66IK09



>100.000h
Registered Design
DM/100271

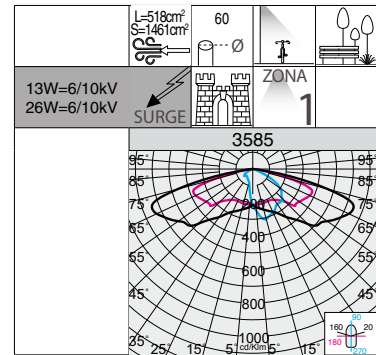


LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
>100.000h (L80B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

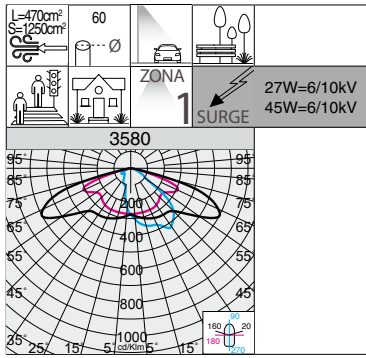
- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).



Upon request (sub-code -60)	
LED	CRI 80

3585 Volo MIDNIGHT - cycleways						
LED	colour	weight	CLD PROG		LUMEN OUTPUT (tq= 25 °C)	
			code	W tot	K - ølm - CRI	
LED	graphite	6.00	424650-30	13	4000K - 1847lm - CRI 70	
			424650-3028		3000K - 1716lm - CRI 70	
LED	graphite	6.20	424651-30	26	4000K - 3589lm - CRI 70	
			424651-3028		3000K - 3337lm - CRI 70	





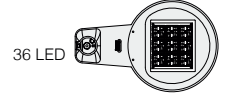
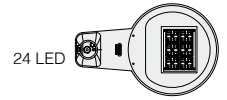
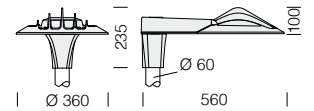
Upon request (sub-code -60)	
LED	CRI 80

3580 Volo MIDNIGHT - residential amenities - high performance					
LED	colour	weight	CLD PROG		LUMEN OUTPUT (tq= 25 °C)
			code	W tot	K - ølm - CRI
LED	graphite	6.00	424600-3068	27	4000K - 4346lm - CRI 70
			424600-6828		3000K - 4115lm - CRI 70
LED	graphite	6.50	424602-3068	45	4000K - 7412lm - CRI 70
			424602-6828		3000K - 7019lm - CRI 70

80.000h
Registered Design DM100271



* IP66IK09

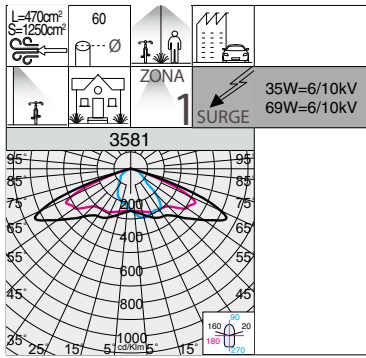


LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
80.000h (L80B20).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).



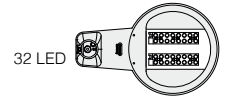
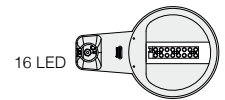
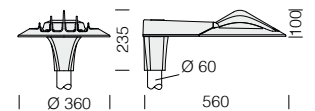
Upon request (sub-code -60)	
LED	CRI 80

3581 Volo MIDNIGHT - cycleways + residential amenities					
LED	colour	weight	CLD PROG		LUMEN OUTPUT (tq= 25 °C)
			code	W tot	K - ølm - CRI
LED	graphite	6.00	424610-3068	35	4000K - 4411lm - CRI 70
			424610-6828		3000K - 4177lm - CRI 70
LED	graphite	6.20	424612-3068	69	4000K - 8970lm - CRI 70
			424612-6828		3000K - 8494lm - CRI 70

>100.000h
Registered Design DM100271



* IP66IK09



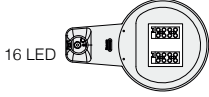
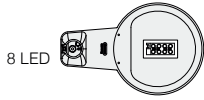
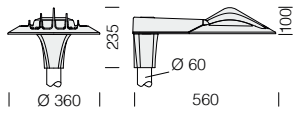
LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
>100.000h (L80B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

* IP66IK09



>100.000h
Registered Design
DM/100271

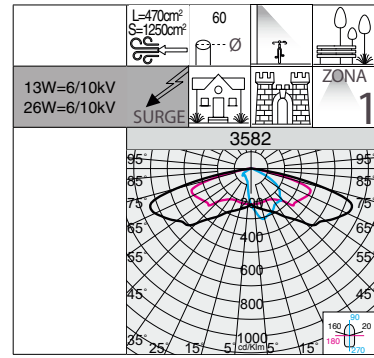


LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
>100.000h (L80B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

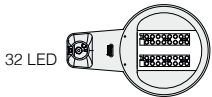
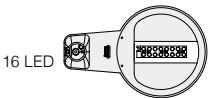
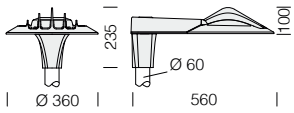


Upon request (sub-code -60)	
LED	CRI 80

3582 VoLo MIDNIGHT - cycleways						
LED	colour	weight	CLD PROG		W tot	LUMEN OUTPUT (tq= 25 °C)
			code	K - ølm - CRI		
LED	graphite	6.00	424620-3068	13	4000K - 1847lm - CRI 70	3000K - 1716lm - CRI 70
			424620-6828			3000K - 1716lm - CRI 70
LED	graphite	6.20	424622-3068	26	4000K - 3589lm - CRI 70	3000K - 3337lm - CRI 70
			424622-6828			3000K - 3337lm - CRI 70

- RG0 Etnr
- +40 C° -30
- 4000K
- CRI 70
- 100.000h L80B10
- LOW FLICKER
- ADVANCED PROG
- MOON

* IP66IK09



>100.000h
Registered Design
DM/100271

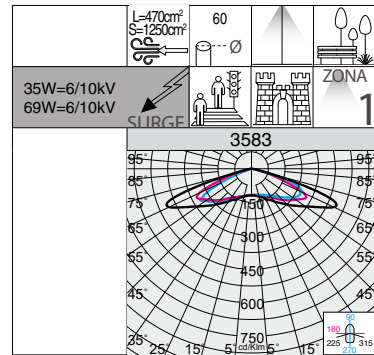


LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
>100.000h (L80B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).



Upon request (sub-code -60)	
LED	CRI 80

3583 VoLo MIDNIGHT - rotosymmetric						
LED	colour	weight	CLD PROG		W tot	LUMEN OUTPUT (tq= 25 °C)
			code	K - ølm - CRI		
LED	graphite	6.00	424630-3068	35	4000K - 4261lm - CRI 70	3000K - 4035lm - CRI 70
			424630-6828			3000K - 4035lm - CRI 70
LED	graphite	6.20	424632-3068	69	4000K - 8715lm - CRI 70	3000K - 8253lm - CRI 70
			424632-6828			3000K - 8253lm - CRI 70

- RG0 Etnr
- +40 C° -30
- 3000K 4000K
- CRI 70
- 100.000h L80B10
- LOW FLICKER
- ADVANCED PROG
- MOON

Mini Giovi / Giovi - MIDNIGHT

GENERAL CHARACTERISTICS

Housing and cover: in die-cast aluminium, EN-AB 47100 alloy and designed with a very small surface exposed to wind. Cooling fins integrated in the cover. Once removed, the cover allows accessing the electric gear compartment and power terminal board.

Pole connection: in die-cast aluminium suited for poles with a diameter of min. 46 mm to max. 76 mm, adjustable from -20° to +10° for side-mount applications; and from 0° to +20° for top-mount applications. Tilting angle of 5°.

Diffuser: clear, tempered glass, 4 mm thick, resistant to thermal shock and impacts (UNI-EN 12150-1 : 2001).

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

Standard supply: complete with insulation connector for quick installation.

LOW FLICKER

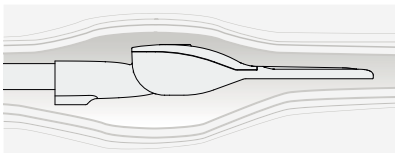
Flicker is a common issue with LED lamps. It can occur at frequencies below 60 Hz and depends on several factors, such as the ripple emitted by drivers.



Product with a very low flicker; uniform light for greater eye protection.

SURFACE EXPOSED TO WIND

The fixture's design is configured to minimise wind exposure surfaces:
Mini Giovi L=495cm² - S=1551cm²
Giovi L=620cm² - S=2520cm²



LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET

Nema Socket order with subcode -40 (sealing cap to be ordered separately)	Zhaga Socket order with subcode -0054 (complete with sealing cap)
Mounted directly on the fixture's body, ideal for remote lighting management applications	



Exemple with Zhaga Socket (subcode -0054)

OTHER CHARACTERISTICS



Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.

It works in two modes:

- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.



The products of the Mini Giovi - Giovi family are compliant with all applicable tests (third-party certification) pursuant to standard **ANSI C136.31: Street Lighting – Luminaire Vibration**. - Test level: 3.0G Level 2 for bridge/overpass applications.

Heat sink: the heat dissipation system is specially designed and made to allow the operation of the LED lights with temperatures ensuring excellent performance/efficiency and durability.

CERTIFICATIONS



The ENEC Plus mark certifies that the LED luminaires are compliant and reliable in terms of safety and declared performance.



ENEC is a European Mark that demonstrates that fixture is compliant with applicable European safety standards and was manufactured by a company that applies a Quality System according to ISO 9000.



The Zhaga-D4i mark certifies the fixture's compliance with Zhaga Book 18 version 2 specifications for outdoor luminaires and DiiA's D4i specifications for intra-luminaire DALI interface. This joint certification covers all critical features including mechanical adaptation, digital communication, data reporting and power requirements within a single luminaire, ensuring "plug & play" interoperability of luminaires (drivers) and peripherals, such as connectivity nodes.

Registered Design DM/100271 The International Bureau of the World Intellectual Property Organization (WIPO) hereby certifies that the particulars given below correspond to the recording made in the International Register of Industrial Designs.

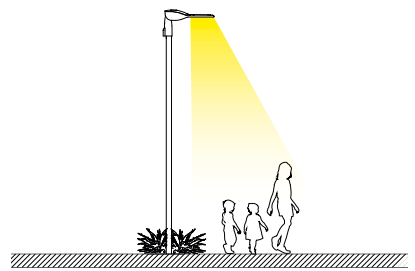
UPON REQUEST



Coating for marine environments in compliance with UNI EN ISO 9227.



CUT-OFF accessory (HP versions excluded): ideal for blocking backlight and eliminating potential intensity peak behind the light pole; available in either white or black shades (NOTE: the black version will block backlight best, while the white version will enable greater efficiency).



INTEGRATED FUNCTIONS



ADVANCED PROG (PROG CLD): the products of this family are supplied with programmable drivers as standard.

Luminaires made to meet specific technological needs and designed, as standard, to integrate special functions to ensure high energy-savings, customization options and versatility of use in many applications (e.g. installation with dimmers or emergency supply). These functions are already available on standard products and must be enabled on request (except for versions with LED COB). These products do not require any modification to the entire system because the lamp only needs to be connected to mains power supply no pilot cable and/or control bus required.



Virtual midnight subcode -30: to increase energy savings at night when there are fewer people and vehicles around,

a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise).

ATTENTION: original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request:

- Virtual midnight in 2 steps subcode -31
- Virtual midnight in 5 steps subcode -32



Giovi

Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥ 0.9 . Luminous flux maintenance 90%: 100.000h (L90B10).

Mini Giovi

Optics: in PMMA, highly resistant to temperature and UV radiation.

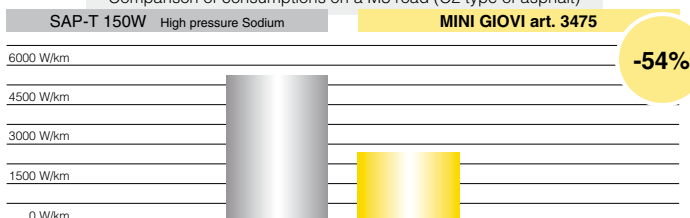
LED: power factor ≥ 0.9 . Luminous flux maintenance 90%: 100.000h (L90B10).

DESIGN EXAMPLE

REPLACEMENT OF OBSOLETE FIXTURES

	L	H	distance	Cd/m ²	P tot (W)	W/Km
SAP-T 150W	8m	8m	30m	1,25	168	5600
MINI GIOVI art. 3475	8m	8m	30m	1,25	67	2577

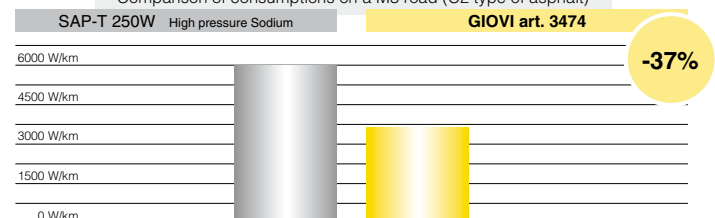
Comparison of consumptions on a M3 road (C2 type of asphalt)



INSTALLATION OF NEW LIGHTING FIXTURES

	L	H	distance	Cd/m ²	P tot (W)	W/Km
SAP-T 250W	12	12	44	1,13	268	6091
GIOVI art. 3474	12	12	44	1,33	170	3864

Comparison of consumptions on a M3 road (C2 type of asphalt)

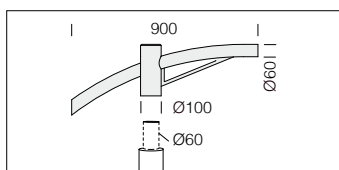


Mini Giovi - MIDNIGHT



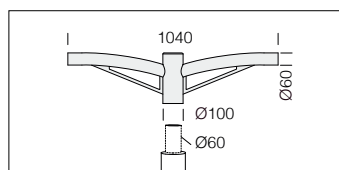
FOTO

ACCESSORIES



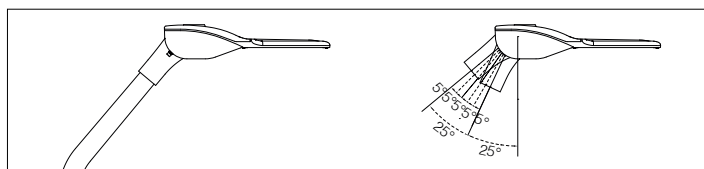
acc. 504 single arm

graphite	991263-00
Suited for poles with a diameter 60mm.	

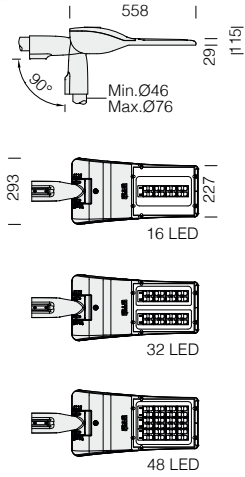


acc. 508 double arm

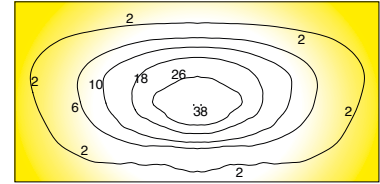
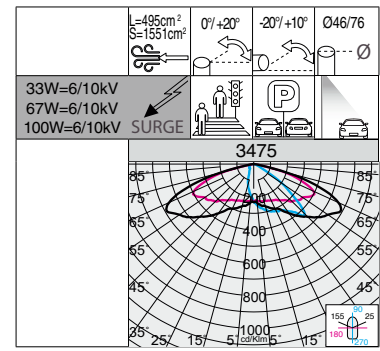
graphite	991267-00
Suited for poles with a diameter 60mm.	



Upon request: top-mast connection, ideal for mounting on lighting poles with arm tilted +25° to +50° (diameter of end arm: 60 mm).



100.000h
Registered Design
DM/100271



LED: power factor ≥ 0.9 .
Luminous flux maintenance 90%:
100.000h (L90B10).

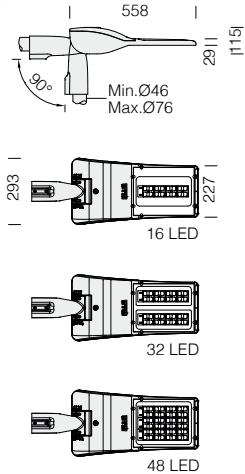
Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

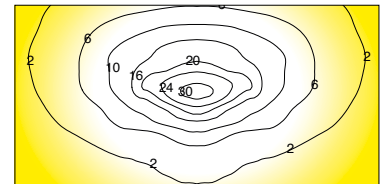
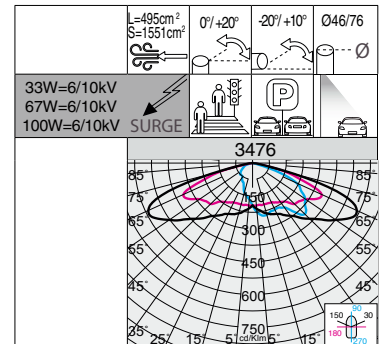
- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3475 Mini Giovi W1 MIDNIGHT - residential amenities						
LED	colour	weight	CLD PROG		LUMEN OUTPUT (tq= 25 °C)	
			code	W tot	K - ølm - CRI	
LED	graphite	5.90	331000-30	33	4000K - 4468lm - CRI 70	
			331000-3028		3000K - 4244lm - CRI 70	
LED	graphite	6.20	331001-30	67	4000K - 8937lm - CRI 70	
			331001-3028		3000K - 8490lm - CRI 70	
LED	graphite	6.60	331002-30	100	4000K - 13406lm - CRI 70	
			331002-3028		3000K - 12735lm - CRI 70	

Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	350mA	16	16	4000K	2370lm	16	16	3000K	2251lm
		32	33		4741lm	32	33		4504lm
		48	50		7112lm	48	50		6756lm
upon request	530mA	16	25	4000K	3529lm	16	25	3000K	3352lm
		32	50		7059lm	32	50		6706lm
		48	76		10589lm	48	76		10059lm



100.000h
Registered Design
DM/100271



LED: power factor ≥ 0.9 .
Luminous flux maintenance 90%:
100.000h (L90B10).

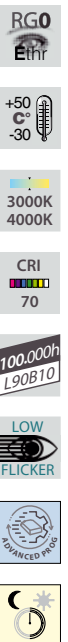
Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

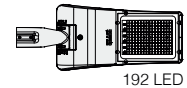
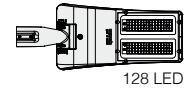
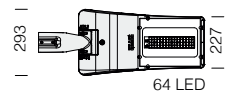
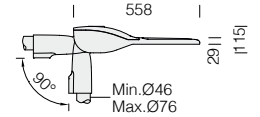
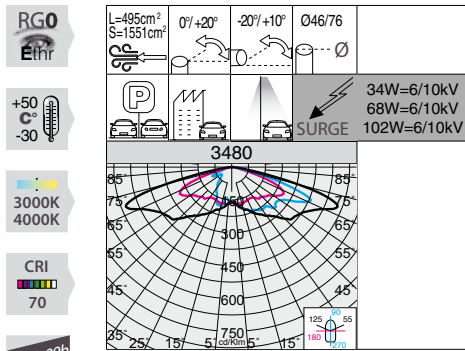
- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3476 Mini Giovi W2 MIDNIGHT - residential amenities						
LED	colour	weight	CLD PROG		LUMEN OUTPUT (tq= 25 °C)	
			code	W tot	K - ølm - CRI	
LED	graphite	5.90	331010-30	33	4000K - 4542lm - CRI 70	
			331010-3028		3000K - 4314lm - CRI 70	
LED	graphite	6.20	331011-30	67	4000K - 9085lm - CRI 70	
			331011-3028		3000K - 8630lm - CRI 70	
LED	graphite	6.60	331012-30	100	4000K - 13630lm - CRI 70	
			331012-3028		3000K - 12950lm - CRI 70	

Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	350mA	16	16	4000K	2410lm	16	16	3000K	2289lm
		32	33		4820lm	32	33		4578lm
		48	50		7231lm	48	50		6870lm
upon request	530mA	16	25	4000K	3588lm	16	25	3000K	3408lm
		32	50		7176lm	32	50		6817lm
		48	76		10766lm	48	76		10229lm



Mini Giovi - MIDNIGHT



- RG0
- Ethir
- +50°C / -30°C
- 3000K / 4000K
- CRI 70
- 100.000h L90B10
- LOW FLICKER
- ADVANCED PROG
- ☾ ☀

3480 Mini Giovi MIDNIGHT - high performance - large areas					
LED	colour	CLD PROG		W tot	LUMEN OUTPUT (tq= 25 °C) K - ølm 700mA - CRI
		weight	code		
LED	graphite	5.80	331050-30	34	4000K - 4916lm - CRI 70
			331050-3028		3000K - 4424lm - CRI 70
LED	graphite	6.00	331051-30	68	4000K - 9732lm - CRI 70
			331051-3028		3000K - 8759lm - CRI 70
LED	graphite	6.60	331052-30	102	4000K - 14758lm - CRI 70
			331052-3028		3000K - 13282lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	64	16	4000K	2606lm
		128	32		5160lm
		192	49		7824lm
upon request	530mA	64	25	4000K	3835lm
		128	50		7592lm
		192	75		11513lm

n.LED	W tot	K	ølm
64	16	3000K	2346lm
128	32		4644lm
192	49		7042lm
64	25	3000K	3452lm
128	50		6833lm
192	75		10362lm

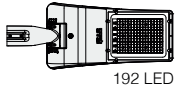
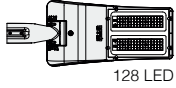
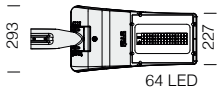
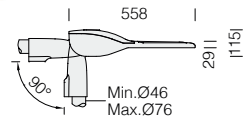
LED: power factor ≥0.9.
Luminous flux maintenance 90%:
100.000h (L90B10).

Integrated **ADVANCED PROG functions.**

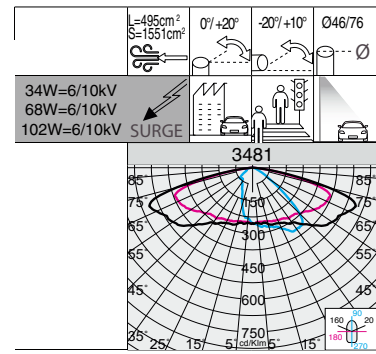
Luminaire designed for installation on:

- Nema Socket order with **subcode -40** (sealing cap to be ordered separately).

- Zhaga Socket order with **subcode -0054** (complete with sealing cap).



100.000h
Registered Design
DM/100271



LED: power factor ≥ 0.9 .
Luminous flux maintenance 90%:
100.000h (L90B10).

Integrated **ADVANCED PROG** functions.

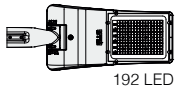
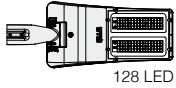
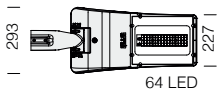
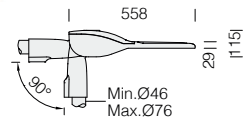
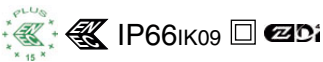
Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

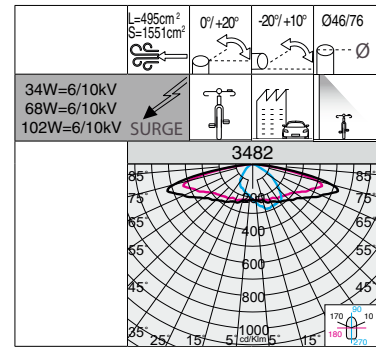
3481 Mini Giovi MIDNIGHT - high performance - residential amenities ME

LED	colour	weight	CLD PROG		W tot	LUMEN OUTPUT (tq= 25 °C)	
			code	K		ølm	ølm
LED	graphite	5.80	331060-30	4000K	34	4000K - 5099lm - CRI 70	2433lm
			331060-3028			3000K - 4589lm - CRI 70	4736lm
LED	graphite	6.00	331061-30	4000K	68	4000K - 9926lm - CRI 70	4736lm
			331061-3028			3000K - 8933lm - CRI 70	7275lm
LED	graphite	6.60	331062-30	4000K	102	4000K - 15246lm - CRI 70	6969lm
			331062-3028			3000K - 13721lm - CRI 70	10704lm

Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	350mA	64	16	4000K	2703lm	64	16	3000K	2433lm
		128	32		5263lm	128	32		4736lm
		192	49		8083lm	192	49		7275lm
upon request	530mA	64	25	4000K	3978lm	64	25	3000K	3580lm
		128	50		7743lm	128	50		6969lm
		192	75		11894lm	192	75		10704lm



100.000h
Registered Design
DM/100271



LED: power factor ≥ 0.9 .
Luminous flux maintenance 90%:
100.000h (L90B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

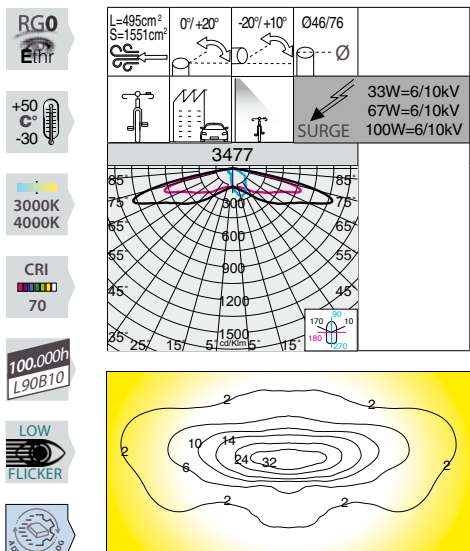
- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3482 Mini Giovi MIDNIGHT - high performance - cycleways

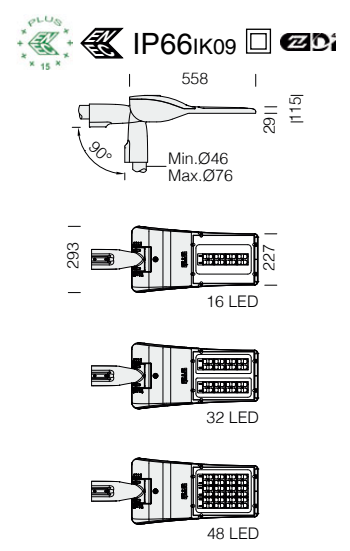
LED	colour	weight	CLD PROG		W tot	LUMEN OUTPUT (tq= 25 °C)	
			code	K		ølm	ølm
LED	graphite	5.80	331070-30	4000K	34	4000K - 4971lm - CRI 70	2372lm
			331070-3028			3000K - 4474lm - CRI 70	4600lm
LED	graphite	6.00	331071-30	4000K	68	4000K - 9641lm - CRI 70	4600lm
			331071-3028			3000K - 8677lm - CRI 70	7115lm
LED	graphite	6.60	331072-30	4000K	102	4000K - 14911lm - CRI 70	6769lm
			331072-3028			3000K - 13420lm - CRI 70	10469lm

Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	350mA	64	16	4000K	2636lm	64	16	3000K	2372lm
		128	32		5111lm	128	32		4600lm
		192	49		7905lm	192	49		7115lm
upon request	530mA	64	25	4000K	3878lm	64	25	3000K	3490lm
		128	50		7521lm	128	50		6769lm
		192	75		11632lm	192	75		10469lm

Mini Giovi - MIDNIGHT



100.000h
Registered Design DM100271



3477 Mini Giovi N1 MIDNIGHT - cycleways						
LED	colour	weight	CLD PROG		LUMEN OUTPUT (tq= 25 °C)	
			code	W tot	K - ølm 700mA - CRI	
LED	graphite	5.90	331020-30	33	4000K - 4340lm - CRI 70	3000K - 4122lm - CRI 70
			331020-3028		4000K - 8300lm - CRI 70	
			331021-30		3000K - 7885lm - CRI 70	
LED	graphite	6.20	331021-3028	67	4000K - 12840lm - CRI 70	3000K - 12197lm - CRI 70
			331022-30			
			331022-3028			
LED	graphite	6.60		100		

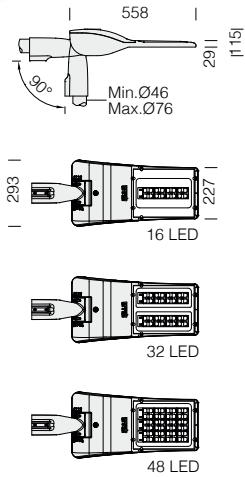
Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	350mA	16	16	4000K	2316lm	16	16	3000K	2200lm
		32	33		4429lm	32	33		4207lm
		48	50		6851lm	48	50		6509lm
upon request	530mA	16	25	4000K	3385lm	16	25	3000K	3215lm
		32	50		6556lm	32	50		6228lm
		48	76		10015lm	48	76		9514lm

LED: power factor ≥0.9.
Luminous flux maintenance 90%:
100.000h (L90B10).

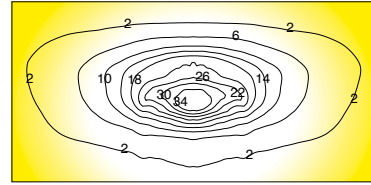
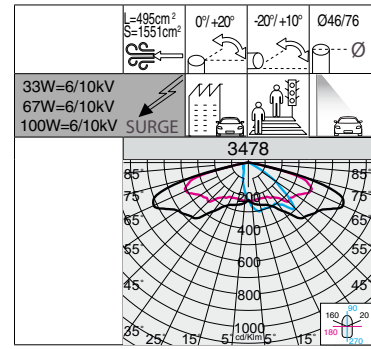
Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

- Nema Socket order with **subcode -40** (sealing cap to be ordered separately).
- Zhaga Socket order with **subcode -0054** (complete with sealing cap).



100.000h
Registered Design
DM/100271



LED: power factor ≥ 0.9 .
Luminous flux maintenance 90%:
100.000h (L90B10).

Integrated **ADVANCED PROG** functions.

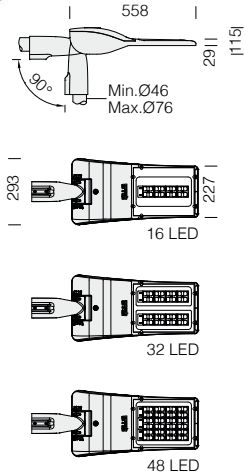
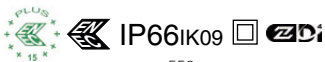
Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

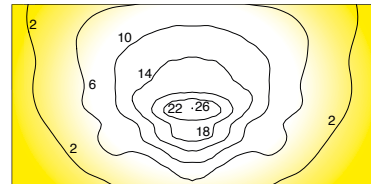
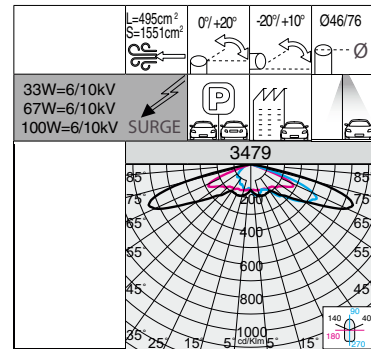
3478 Mini Giovi M1 MIDNIGHT - residential amenities						
LED	colour	weight	CLD PROG		W tot	LUMEN OUTPUT (tq= 25 °C)
LED	graphite	5.90	code		33	K - ϕ lm 700mA - CRI
			331030-30	331030-3028		4000K - 4613lm - CRI 70
LED	graphite	6.20	code		67	3000K - 4382lm - CRI 70
			331031-30	331031-3028		4000K - 9150lm - CRI 70
LED	graphite	6.60	code		100	3000K - 8692lm - CRI 70
			331032-30	331032-3028		4000K - 13839lm - CRI 70
						3000K - 12735lm - CRI 70

Example	Power supply	n.LED	W tot	K	ϕ lm
upon request	350mA	16	16	4000K	2447lm
		32	33		4854lm
		48	50		7342lm
upon request	530mA	16	25	4000K	3644lm
		32	50		7228lm
		48	76		10931lm

n.LED	W tot	K	ϕ lm
16	16	3000K	2325lm
32	33		4611lm
48	50		6756lm
16	25	3000K	3461lm
32	50		6866lm
48	76		10059lm



100.000h
Registered Design
DM/100271



LED: power factor ≥ 0.9 .
Luminous flux maintenance 90%:
100.000h (L90B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3479 Mini Giovi T4 MIDNIGHT - large areas						
LED	colour	weight	CLD PROG		W tot	LUMEN OUTPUT (tq= 25 °C)
LED	graphite	5.90	code		33	K - ϕ lm 700mA - CRI
			331040-30	331040-3028		4000K - 4571lm - CRI 70
LED	graphite	6.20	code		67	3000K - 4342lm - CRI 70
			331041-30	331041-3028		4000K - 9141lm - CRI 70
LED	graphite	6.60	code		100	3000K - 8684lm - CRI 70
			331042-30	331042-3028		4000K - 13712lm - CRI 70
						3000K - 13027lm - CRI 70

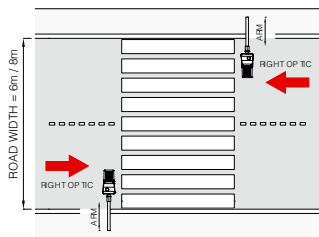
Example	Power supply	n.LED	W tot	K	ϕ lm
upon request	350mA	16	16	4000K	2425lm
		32	33		4849lm
		48	50		7274lm
upon request	530mA	16	25	4000K	3611lm
		32	50		7220lm
		48	76		10831lm

n.LED	W tot	K	ϕ lm
16	16	3000K	2303lm
32	33		4607lm
48	50		6911lm
16	25	3000K	3430lm
32	50		6859lm
48	76		10290lm

Mini Giovi - MIDNIGHT

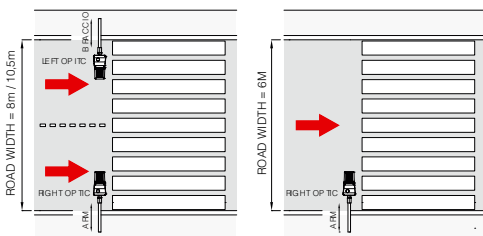


Examples of installation of Mini Giovi at pedestrian crossings



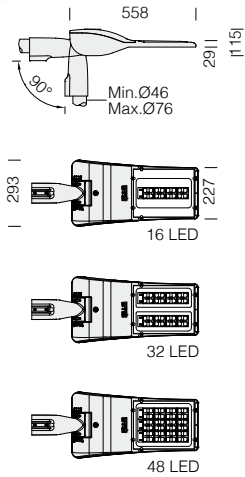
EXAMPLE OF INSTALLATION ON TWO-WAY ROADS

POLE HEIGHT H=6m							
road width	tot. wattage	extension	road lumin. class	pedestrian lumin. class	ev min. richiesto	ev min.	fixtures arrangement
6m	33W	0m	M5	EV3	10lux	12lux	R - R
6m	67W	1,25m	M3-M4	EV2	30lux	34lux	
8m	100W	1,25m				46lux	

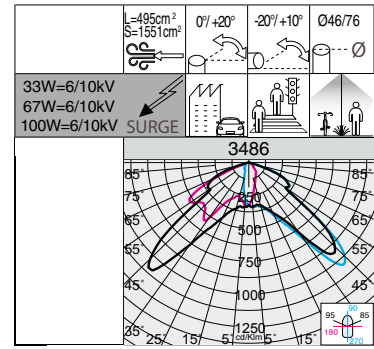


EXAMPLE OF INSTALLATION ON ONE-WAY ROADS

POLE HEIGHT H=6m							
road width	tot. wattage	extension	road lumin. class	pedestrian lumin. class	ev min. richiesto	ev min.	fixtures arrangement
6m	67W	1,25m	M5	EV3	10lux	16lux	R
6m	67W	0m	M3-M4	EV2	30lux	46lux	R - L
8m	100W	0m				37lux	
10,5m	67W	0m				39lux	
10,5m	100W	0m	M2	EVV1	50lux	58lux	



100.000h
Registered Design
DM/100271



LED: power factor ≥ 0.9 .
Luminous flux maintenance 90%:
100.000h (L90B10).

Integrated **ADVANCED PROG** functions.

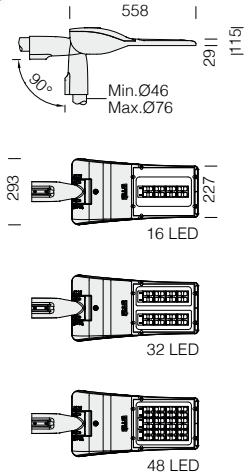
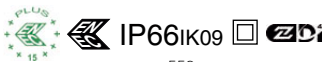
Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

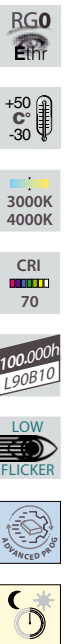
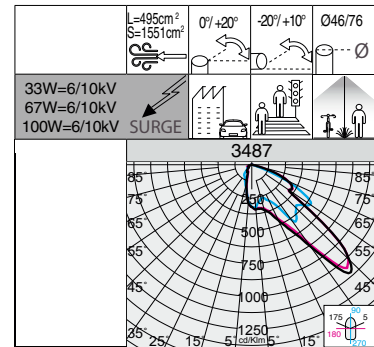
3486 Mini Giovi MIDNIGHT left (L) - for pedestrian crossing						
LED	colour	weight	CLD PROG code	W tot	LUMEN OUTPUT (tq= 25 °C)	
LED	graphite	5.90	331080-30	33	K - ølm 700mA - CRI	
			331080-3028		4000K - 4641lm - CRI 70	3000K - 4409lm - CRI 70
LED	graphite	6.20	331081-30	67	K - ølm 700mA - CRI	
			331081-3028		4000K - 9281lm - CRI 70	3000K - 8817lm - CRI 70
LED	graphite	6.60	331082-30	100	K - ølm 700mA - CRI	
			331082-3028		4000K - 13922lm - CRI 70	3000K - 13226lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	16	16	4000K	2476lm
		32	33		4953lm
		48	50		7429lm
upon request	530mA	16	25	4000K	3620lm
		32	50		7239lm
		48	76		10859lm

n.LED	W tot	K	ølm
16	16	3000K	2352lm
32	33		4705lm
48	50		7057lm
16	25	3000K	3439lm
32	50		6877lm
48	76		10316lm



100.000h
Registered Design
DM/100271



LED: power factor ≥ 0.9 .
Luminous flux maintenance 90%:
100.000h (L90B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

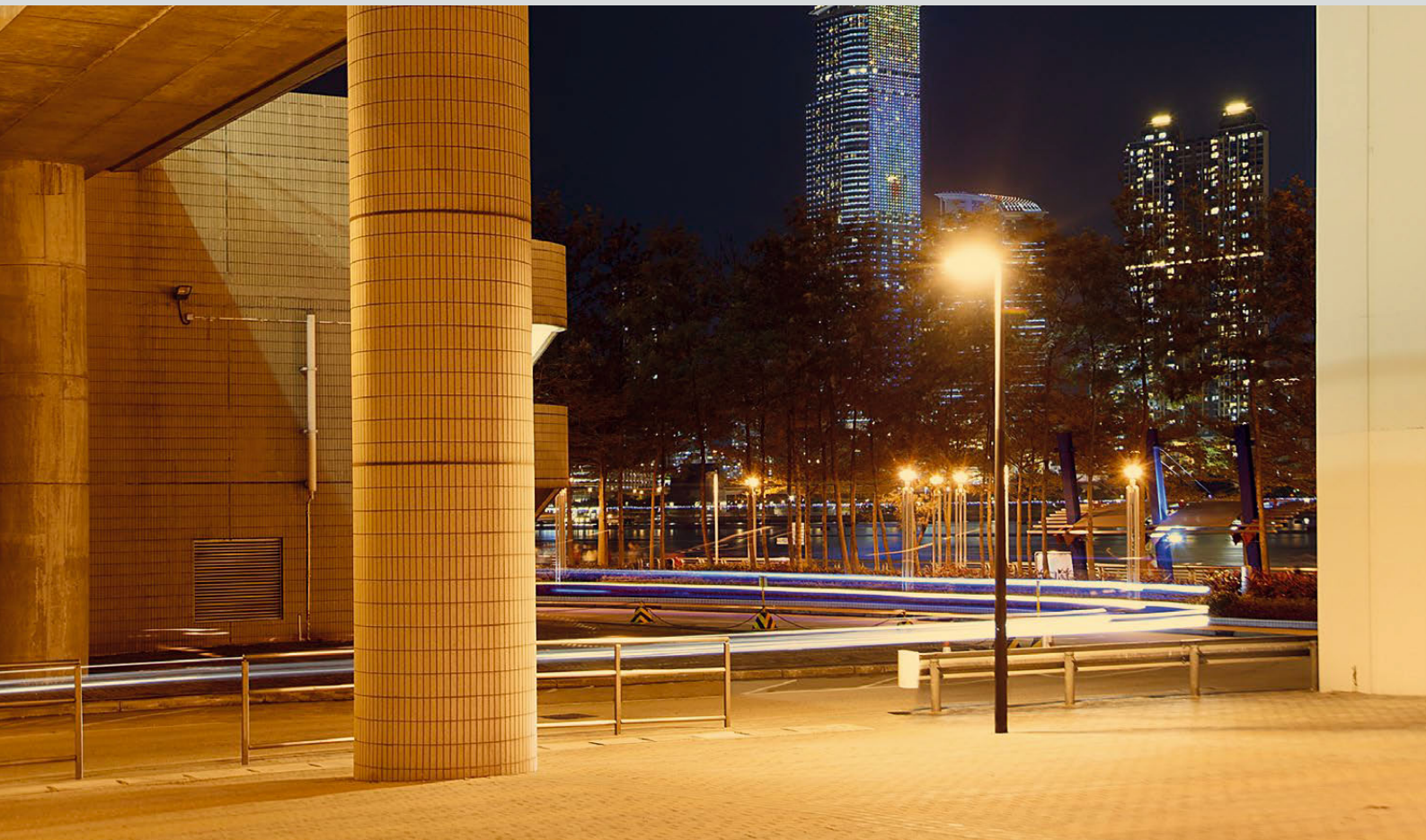
- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3487 Mini Giovi MIDNIGHT right (R) - for pedestrian crossing						
LED	colour	weight	CLD PROG code	W tot	LUMEN OUTPUT (tq= 25 °C)	
LED	graphite	5.90	331090-30	33	K - ølm 700mA - CRI	
			331090-3028		4000K - 4641lm - CRI 70	3000K - 4409lm - CRI 70
LED	graphite	6.20	331091-30	67	K - ølm 700mA - CRI	
			331091-3028		4000K - 9281lm - CRI 70	3000K - 8817lm - CRI 70
LED	graphite	6.60	331092-30	100	K - ølm 700mA - CRI	
			331092-3028		4000K - 13922lm - CRI 70	3000K - 13226lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	16	16	4000K	2476lm
		32	33		4953lm
		48	50		7429lm
upon request	530mA	16	25	4000K	3620lm
		32	50		7239lm
		48	76		10859lm

n.LED	W tot	K	ølm
16	16	3000K	2352lm
32	33		4705lm
48	50		7057lm
16	25	3000K	3439lm
32	50		6877lm
48	76		10316lm

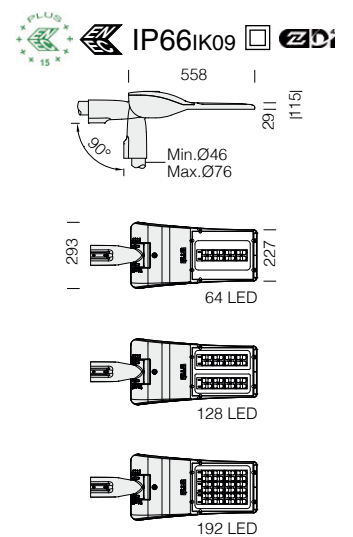
Mini Giovi - MIDNIGHT



L=495cm ²	0°/+20°	-20°/+10°	Ø46/76
S=1551cm ²	SURGE		
39W=6/10kV		77W=6/10kV	
77W=6/10kV		115W=6/10kV	

3483

1750K: lamps with warm light at a colour temperature of 1750K are ideal for particularly dangerous areas (pedestrian crossings, entries, roundabouts, etc.) and to minimize the lighting's impact on the environment and on the fauna of green urban areas.



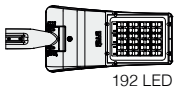
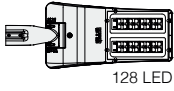
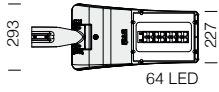
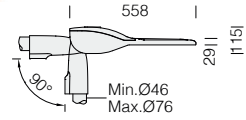
3483 Mini Giovi MIDNIGHT AMBER - large areas				
LED	colour	CLD PROG		LUMEN OUTPUT (tq= 25 °C)
		weight	code	W tot
LED	graphite	5.90	331050-3044	39
		6.20	331051-3044	77
		6.60	331052-3044	115

LED: power factor ≥ 0.9 .
 Luminous flux maintenance 80%:
 60.000h (L80B10).

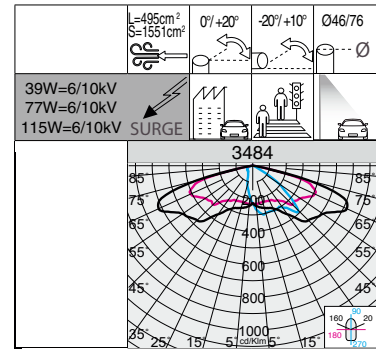
Integrated **ADVANCED PROG**
functions.

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).



60.000h
1750K
Registered Design
DM/100271



1750K: lamps with warm light at a colour temperature of 1750K are ideal for particularly dangerous areas (pedestrian crossings, entries, roundabouts, etc.) and to minimize the lighting's impact on the environment and on the fauna of green urban areas.



LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
60.000h (L80B10).

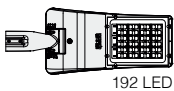
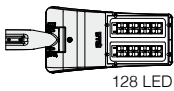
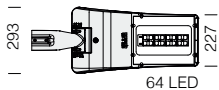
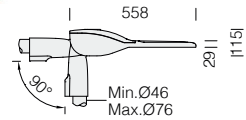
Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

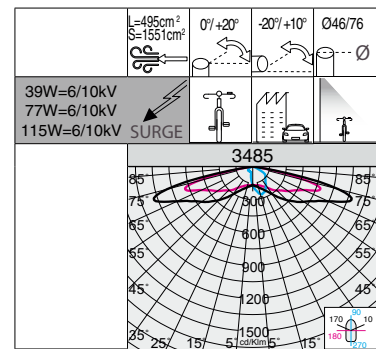
- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3484 Mini Giovi MIDNIGHT AMBER - residential amenities ME

		CLD PROG		W tot	LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code		K - ølm 200mA - CRI
LED	graphite	5.90	331060-3044	39	1750K - 3825lm - AMBER
		6.20	331061-3044	77	1750K - 7244lm - AMBER
		6.60	331062-3044	115	1750K - 10948lm - AMBER



60.000h
1750K
Registered Design
DM/100271



1750K: lamps with warm light at a colour temperature of 1750K are ideal for particularly dangerous areas (pedestrian crossings, entries, roundabouts, etc.) and to minimize the lighting's impact on the environment and on the fauna of green urban areas.



LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
60.000h (L80B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

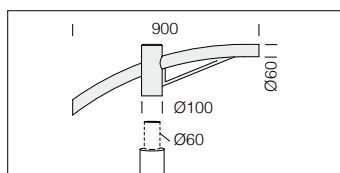
- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3485 Mini Giovi MIDNIGHT AMBER - cycleways

		CLD PROG		W tot	LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code		K - ølm 200mA - CRI
LED	graphite	5.90	331070-3044	39	1750K - 3653lm - AMBER
		6.20	331071-3044	77	1750K - 6920lm - AMBER
		6.60	331072-3044	115	1750K - 10457lm - AMBER

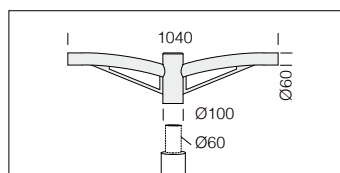


ACCESSORIES



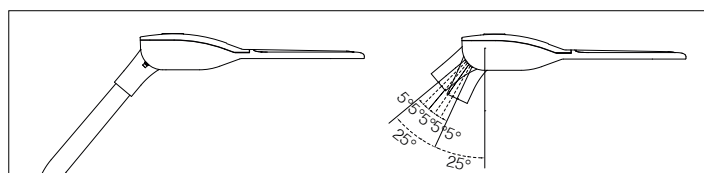
acc. 504 single arm

graphite 991263-00
Suited for poles with a diameter 60mm.

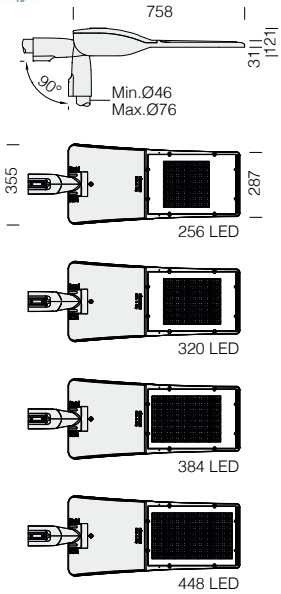


acc. 508 double arm

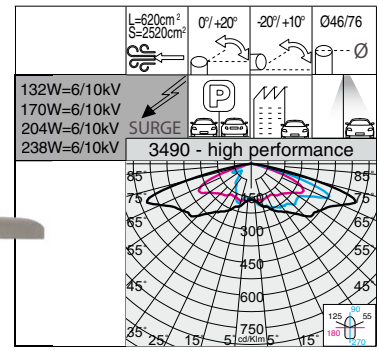
graphite 991267-00
Suited for poles with a diameter 60mm.



Upon request: top-mast connection, ideal for mounting on lighting poles with arm tilted +25° to +50° (diameter of end arm: 60 mm).



100.000h
Registered Design
DM/100271



LED: power factor ≥ 0.9 .
Luminous flux maintenance 90%:
100.000h (L90B10).

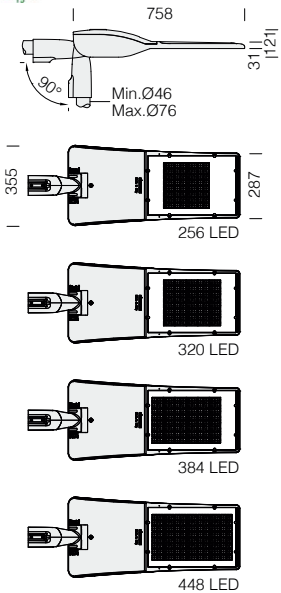
Integrated **ADVANCED PROG**
functions.

Luminaire designed for installation
on:

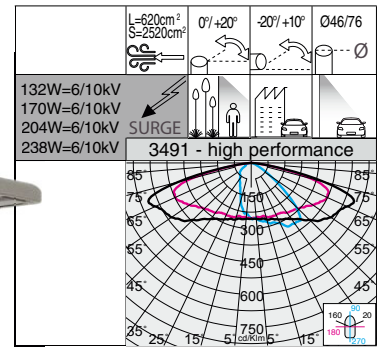
- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3490 Giovi MIDNIGHT - high performance - large areas					
		CLD PROG		W tot	LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code		K - ølm 700mA - CRI
LED	graphite	9.00	341040-30	132	4000K - 19080lm - CRI 70
			341040-3028		3000K - 17172lm - CRI 70
LED	graphite	9.30	341041-30	170	4000K - 24627lm - CRI 70
			341041-3028		3000K - 22164lm - CRI 70
LED	graphite	9.50	341042-30	204	4000K - 29348lm - CRI 70
			341042-3028		3000K - 26413lm - CRI 70
LED	graphite	10.00	341043-30	238	4000K - 33856lm - CRI 70
			341043-3028		3000K - 30470lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	350mA	256	65	4000K	10116lm	256	65	3000K	9104lm
		320	82		13057lm	320	82		11751lm
		384	99		15560lm	384	99		14004lm
		448	116		17950lm	448	116		16155lm
upon request	530mA	256	99	4000K	14885lm	256	99	3000K	13396lm
		320	125		19212lm	320	125		17291lm
		384	151		22895lm	384	151		20605lm
		448	177		26412lm	448	177		23770lm



100.000h
Registered Design
DM/100271



LED: power factor ≥ 0.9 .
Luminous flux maintenance 90%:
100.000h (L90B10).

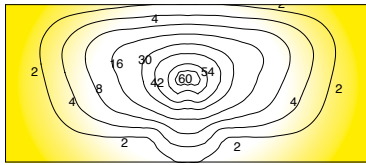
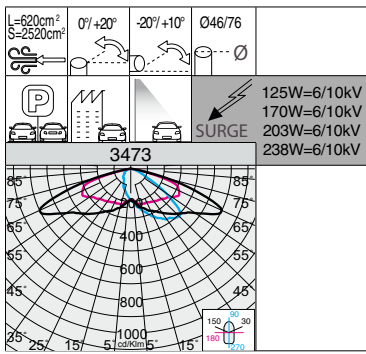
Integrated **ADVANCED PROG**
functions.

Luminaire designed for installation
on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3491 Giovi MIDNIGHT - high performance - residential amenities ME					
		CLD PROG		W tot	LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code		K - ølm 700mA - CRI
LED	graphite	9.00	341050-30	132	4000K - 19799lm - CRI 70
			341050-3028		3000K - 17819lm - CRI 70
LED	graphite	9.30	341051-30	170	4000K - 25554lm - CRI 70
			341051-3028		3000K - 22999lm - CRI 70
LED	graphite	9.50	341052-30	204	4000K - 30379lm - CRI 70
			341052-3028		3000K - 27341lm - CRI 70
LED	graphite	10.00	341053-30	238	4000K - 35076lm - CRI 70
			341053-3028		3000K - 31568lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	350mA	256	65	4000K	10497lm	256	65	3000K	9447lm
		320	82		13548lm	320	82		12193lm
		384	99		16106lm	384	99		14496lm
		448	116		18597lm	448	116		16737lm
upon request	530mA	256	99	4000K	15445lm	256	99	3000K	13901lm
		320	125		19935lm	320	125		17942lm
		384	151		23699lm	384	151		21329lm
		448	177		27363lm	448	177		24627lm

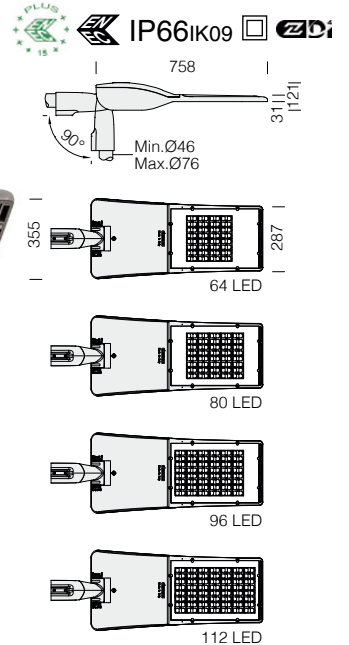


100.000h
Registered Design DM100271



3473 Giovi W1 MIDNIGHT - residential amenities					
LED	colour	weight	CLD PROG code	W tot	LUMEN OUTPUT (tq= 25 °C)
LED	graphite	9.00	341030-30	125	4000K - 18080lm - CRI 70
			341030-3028		3000K - 17176lm - CRI 70
LED	graphite	9.30	341031-30	170	4000K - 23772lm - CRI 70
			341031-3028		3000K - 22568lm - CRI 70
LED	graphite	9.50	341032-30	203	4000K - 28544lm - CRI 70
			341032-3028		3000K - 27118lm - CRI 70
LED	graphite	10.00	341033-30	238	4000K - 32670lm - CRI 70
			341033-3028		3000K - 31035lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	350mA	64	66	4000K	10163lm	64	66	3000K	9654lm
		80	83		13362lm	80	83		12686lm
		96	100		16045lm	96	100		15243lm
		112	117		18364lm	112	117		17445lm
upon request	530mA	64	100	4000K	14498lm	64	100	3000K	13773lm
		80	125		19063lm	80	125		18098lm
		96	150		22889lm	96	150		21746lm
		112	175		26198lm	112	175		24887lm

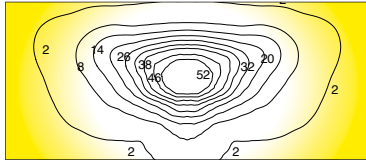
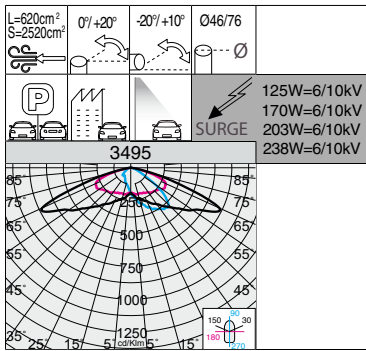


LED: power factor ≥0.9.
Luminous flux maintenance 90%:
100.000h (L90B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

- Nema Socket order with **subcode -40** (sealing cap to be ordered separately).
- Zhaga Socket order with **subcode -0054** (complete with sealing cap).

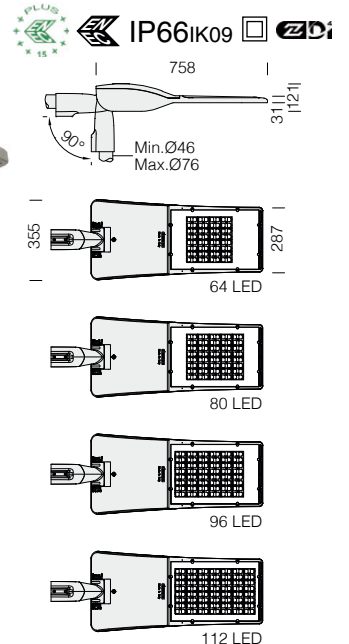


100.000h
Registered Design DM100271



3495 Giovi W2 MIDNIGHT - residential amenities					
LED	colour	weight	CLD PROG code	W tot	LUMEN OUTPUT (tq= 25 °C)
LED	graphite	9.00	341010-30	125	4000K - 17911lm - CRI 70
			341010-3028		3000K - 17014lm - CRI 70
LED	graphite	9.30	341011-30	170	4000K - 23550lm - CRI 70
			341011-3028		3000K - 22372lm - CRI 70
LED	graphite	9.50	341012-30	203	4000K - 28455lm - CRI 70
			341012-3028		3000K - 27032lm - CRI 70
LED	graphite	10.00	341013-30	238	4000K - 32568lm - CRI 70
			341013-3028		3000K - 30940lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	350mA	64	66	4000K	10068lm	64	66	3000K	9564lm
		80	83		13237lm	80	83		12575lm
		96	100		15995lm	96	100		15194lm
		112	117		18306lm	112	117		17391lm
upon request	530mA	64	100	4000K	14363lm	64	100	3000K	13644lm
		80	125		18885lm	80	125		17940lm
		96	150		22818lm	96	150		21677lm
		112	175		26116lm	112	175		24810lm

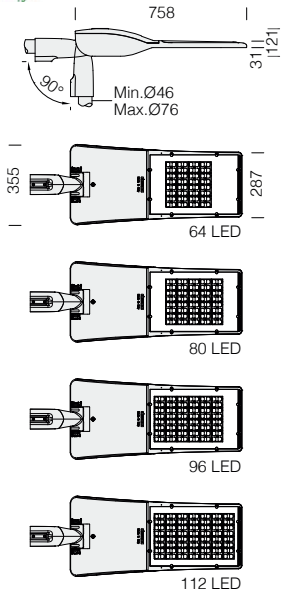


LED: power factor ≥0.9.
Luminous flux maintenance 90%:
100.000h (L90B10).

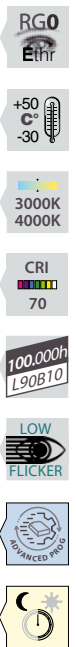
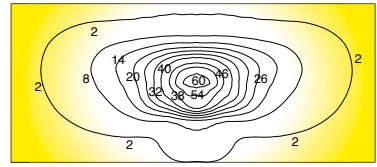
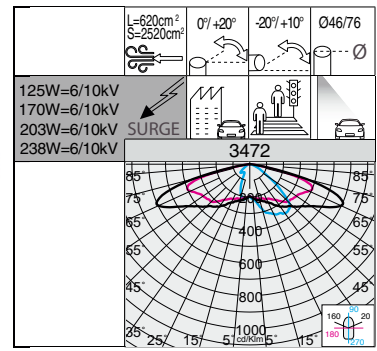
Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

- Nema Socket order with **subcode -40** (sealing cap to be ordered separately).
- Zhaga Socket order with **subcode -0054** (complete with sealing cap).



100.000h
Registered Design
DM/100271



LED: power factor ≥ 0.9 .
Luminous flux maintenance 90%:
100.000h (L90B10).

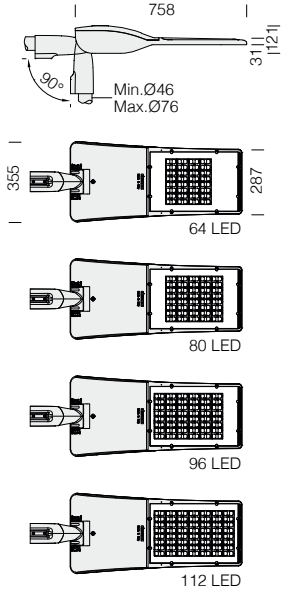
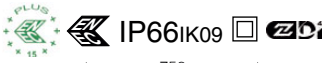
Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

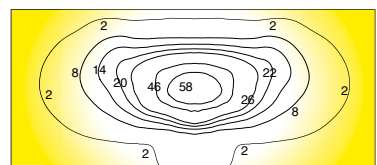
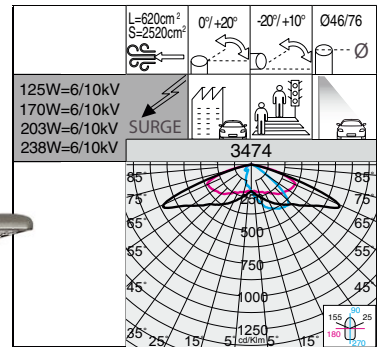
- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3472 Giovi M1 MIDNIGHT - residential amenities					
		CLD PROG		W tot	LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code		K - ølm 700mA - CRI
LED	graphite	9.00	341020-30	125	4000K - 17742lm - CRI 70
			341020-3028		3000K - 16860lm - CRI 70
LED	graphite	9.30	341021-30	170	4000K - 23329lm - CRI 70
			341021-3028		3000K - 22130lm - CRI 70
LED	graphite	9.50	341022-30	203	4000K - 28090lm - CRI 70
			341022-3028		3000K - 26669lm - CRI 70
LED	graphite	10.00	341023-30	238	4000K - 32150lm - CRI 70
			341023-3028		3000K - 30537lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	350mA	64	66	4000K	9973lm	64	66	3000K	9477lm
		80	83		13113lm	80	83		12439lm
		96	100		15789lm	96	100		14991lm
		112	117		18072lm	112	117		17165lm
upon request	530mA	64	100	4000K	14227lm	64	100	3000K	13520lm
		80	125		18708lm	80	125		17746lm
		96	150		22525lm	96	150		21386lm
		112	175		25781lm	112	175		24488lm



100.000h
Registered Design
DM/100271



LED: power factor ≥ 0.9 .
Luminous flux maintenance 90%:
100.000h (L90B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

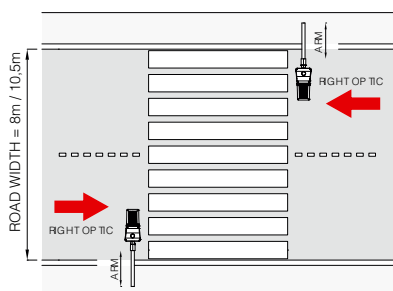
3474 Giovi M2 MIDNIGHT - residential amenities					
		CLD PROG		W tot	LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code		K - ølm 700mA - CRI
LED	graphite	9.00	341110-30	125	4000K - 17834lm - CRI 70
			341110-3028		3000K - 16942lm - CRI 70
LED	graphite	9.30	341111-30	170	4000K - 23450lm - CRI 70
			341111-3028		3000K - 22162lm - CRI 70
LED	graphite	9.50	341112-30	203	4000K - 28265lm - CRI 70
			341112-3028		3000K - 26851lm - CRI 70
LED	graphite	10.00	341113-30	238	4000K - 32350lm - CRI 70
			341113-3028		3000K - 30723lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	350mA	64	66	4000K	10024lm	64	66	3000K	9523lm
		80	83		13181lm	80	83		12522lm
		96	100		15888lm	96	100		15093lm
		112	117		18184lm	112	117		17269lm
upon request	530mA	64	100	4000K	14301lm	64	100	3000K	13586lm
		80	125		18805lm	80	125		17864lm
		96	150		22666lm	96	150		21532lm
		112	175		25941lm	112	175		24637lm

Giovi - MIDNIGHT

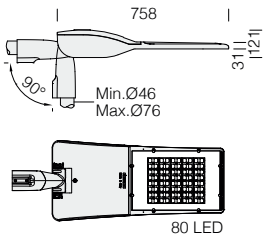


Examples of installation of Giovi at pedestrian crossings



EXAMPLE OF INSTALLATION ON TWO-WAY ROADS

POLE HEIGHT H=6m							
road width	tot. wattage	extension	road lumin. class	pedestrian lumin. class	ev min. richiesto	ev min.	fixtures arrangement
8m	170W	0m	M3- M4	EV2	30lux	36lux	DX-DX
10,5m	170W	1,25m					



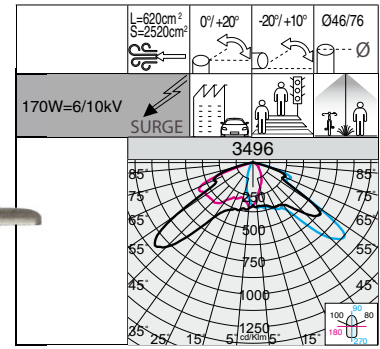
LED: power factor ≥ 0.9 .
Luminous flux maintenance 90%:
100.000h (L90B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

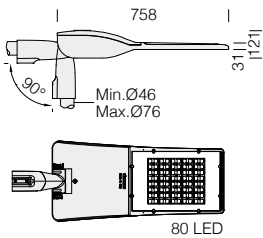
- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

100.000h
Registered Design
DM/100271



3496 Giovi MIDNIGHT - left (L) - for pedestrian crossing					
LED		CLD PROG		W tot	LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	170	K - ølm 700mA - CRI
LED	graphite	9.30	341080-30		4000K - 23760lm - CRI 70
			341080-3028		3000K - 22573lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	350mA	80	83	4000K	13355lm	80	83	3000K	12688lm
upon request	530mA	80	125	4000K	19053lm	80	125	3000K	18101lm



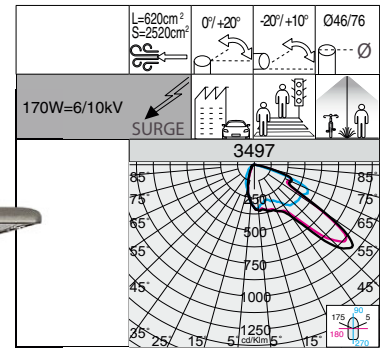
LED: power factor ≥ 0.9 .
Luminous flux maintenance 90%:
100.000h (L90B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

100.000h
Registered Design
DM/100271

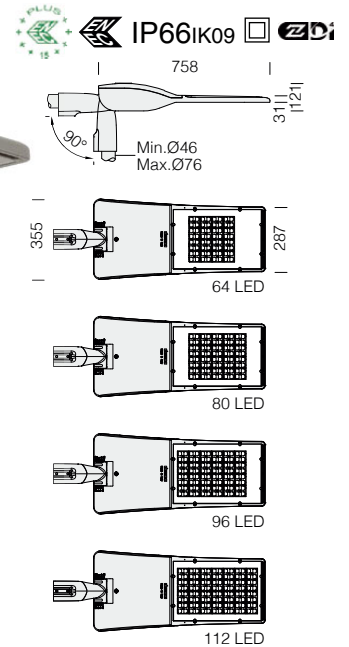
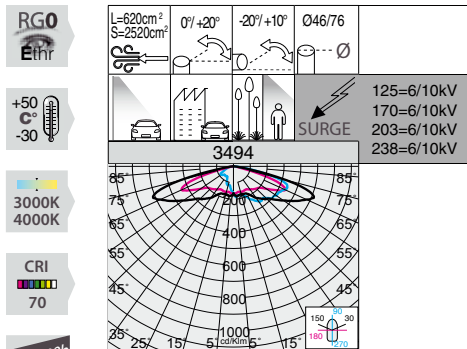


3497 Giovi MIDNIGHT - right (R) - for pedestrian crossing					
LED		CLD PROG		W tot	LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	170	K - ølm 700mA - CRI
LED	graphite	9.30	341090-30		4000K - 23760lm - CRI 70
			341090-3028		3000K - 22573lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	350mA	80	83	4000K	13355lm	80	83	3000K	12688lm
upon request	530mA	80	125	4000K	19053lm	80	125	3000K	18101lm



Giovi - MIDNIGHT



3494 Giovi T4 MIDNIGHT - asymmetric - large areas					
LED	colour	weight	CLD PROG		LUMEN OUTPUT (tq= 25 °C)
LED	graphite	9.00	341000-30	125	4000K - 16822lm - CRI 70
			341000-3028		3000K - 15983lm - CRI 70
LED	graphite	9.30	341001-30	170	4000K - 22118lm - CRI 70
			341001-3028		3000K - 21004lm - CRI 70
LED	graphite	9.50	341002-30	203	4000K - 27533lm - CRI 70
			341002-3028		3000K - 26156lm - CRI 70
LED	graphite	10.00	341003-30	238	4000K - 31512lm - CRI 70
			341003-3028		3000K - 29933lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	350mA	64	66	4000K	9456lm	64	66	3000K	8984lm
		80	83		12433lm	80	83		11806lm
		96	100		15476lm	96	100		14702lm
		112	117		17713lm	112	117		16825lm
upon request	530mA	64	100	4000K	13490lm	64	100	3000K	12816lm
		80	125		17736lm	80	125		16843lm
		96	150		22079lm	96	150		20975lm
		112	175		25269lm	112	175		24003lm

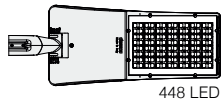
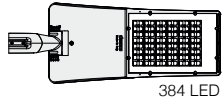
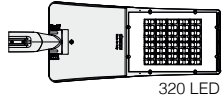
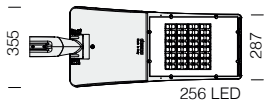
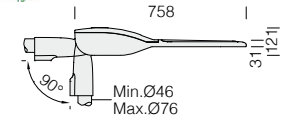
LED: power factor ≥0.9.
 Luminous flux maintenance 90%:
 100.000h (L90B10).

Integrated **ADVANCED PROG**
functions.

Luminaire designed for installation
 on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).

- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).



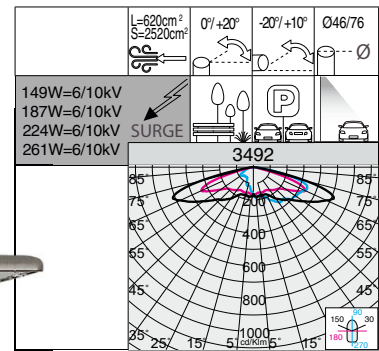
LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
60.000h (L80B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

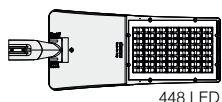
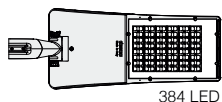
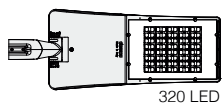
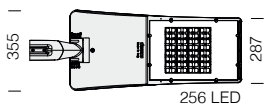
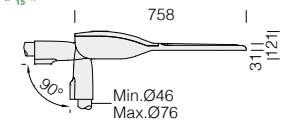
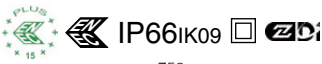
- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

60.000h
1750K
Registered Design
DM/100271



1750K: lamps with warm light at a colour temperature of 1750K are ideal for particularly dangerous areas (pedestrian crossings, entries, roundabouts, etc.) and to minimize the lighting's impact on the environment and on the fauna of green urban areas.

3492 Giovi MIDNIGHT AMBER T4 - large areas					
		CLD PROG		LUMEN OUTPUT (tq= 25 °C)	
LED	colour	weight	code	W tot	K - ø1m 200mA - CRI
LED	graphite	9.00	341060-3044	149	1750K - 14049lm - AMBER
		9.30	341061-3044	187	1750K - 17321lm - AMBER
		9.50	341062-3044	224	1750K - 20481lm - AMBER
		10.00	341063-3044	261	1750K - 23870lm - AMBER



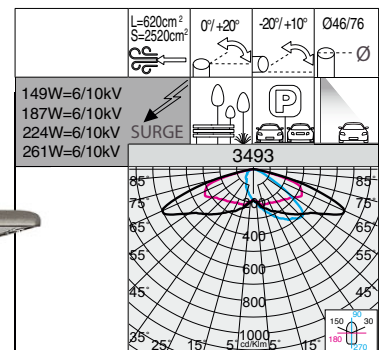
LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
60.000h (L80B10).

Integrated **ADVANCED PROG** functions.

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

60.000h
1750K
Registered Design
DM/100271



1750K: lamps with warm light at a colour temperature of 1750K are ideal for particularly dangerous areas (pedestrian crossings, entries, roundabouts, etc.) and to minimize the lighting's impact on the environment and on the fauna of green urban areas.

3493 Giovi MIDNIGHT AMBER - residential amenities ME					
		CLD PROG		LUMEN OUTPUT (tq= 25 °C)	
LED	colour	weight	code	W tot	K - ø1m 200mA - CRI
LED	graphite	9.00	341070-3044	149	1750K - 14414lm - AMBER
		9.30	341071-3044	187	1750K - 17770lm - AMBER
		9.50	341072-3044	224	1750K - 21011lm - AMBER
		10.00	341073-3044	261	1750K - 24489lm - AMBER



Rolle 2.0 - MIDNIGHT

GENERAL CHARACTERISTICS

Housing and cover: in die-cast aluminium and designed with a very small surface exposed to wind. Cooling fins are integrated into the cover.

Pole connection: in die-cast aluminium and with gaskets to secure the frame according to different inclinations. Adjustable ranges: between 0° and 20° for side mount; and between 0° and 15° for mast-top mounting. Inclination pace: 5°. Suited for poles with a diameter 46-76.

Diffuser: clear, tempered glass, 4 mm thick, resistant to thermal shock and impacts (UNI-EN 12150-1 : 2001)

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

LOW FLICKER

Flicker is a common issue with LED lamps. It can occur at frequencies below 60 Hz and depends on several factors, such as the ripple emitted by drivers.

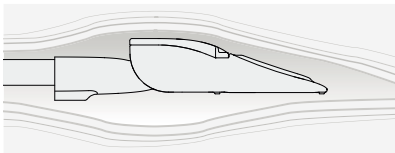


Product with a very low flicker; uniform light for greater eye protection.

SURFACE EXPOSED TO WIND



The fixture's design is configured to minimise wind exposure surfaces:
L=548cm² - S=1431cm²



LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET

Nema Socket order with subcode -40 (sealing cap to be ordered separately)	Zhaga Socket order with subcode -0054 (complete with sealing cap)
Mounted directly on the fixture's body, ideal for remote lighting management applications	



Example with Zhaga Socket (subcode -0054)

OTHER CHARACTERISTICS

Standard supply: automatic temperature control inside the device with automatic resetting. With dedicated electronic device to protect the LED module. Complete with quick connection.



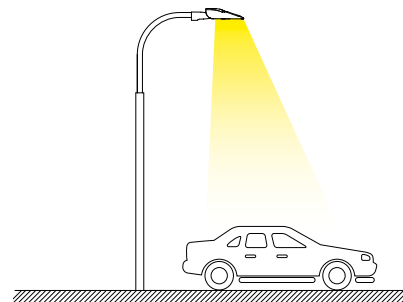
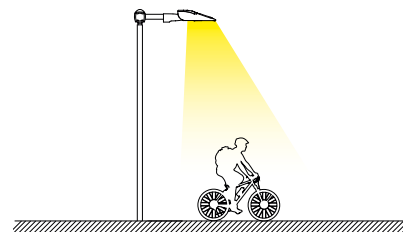
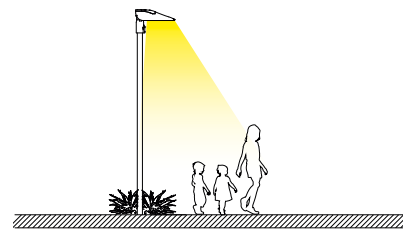
Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.

It works in two modes:

- differential mode: surge between power cables and between the phase and neutral.

- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

Optical system: the modularity of the optical system, the solutions used for the electronic circuit design and the optimal control of operating temperatures, make the Rolle line a highly professional, flexible and reliable product, capable of guaranteeing huge application advantages in several situations.



OTHER INFORMATION

3000K 4000K **3000K - 4000K as standard:** lamps with 3000K-4000K white light is the best choice for lighting up urban areas, streets, residential centres and generally all areas where this type of light guarantees greater safety and visual comfort.

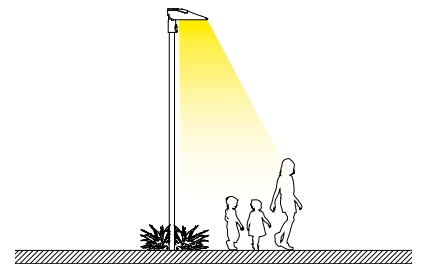
UPON REQUEST



Coating for marine environments in compliance with UNI EN ISO 9227.



CUT-OFF accessory (HP versions excluded): ideal for blocking backlight and eliminating potential intensity peak behind the light pole; available in either white or black shades (*NOTE: the black version will block backlight best, while the white version will enable greater efficiency.*)



AVAILABLE FUNCTIONS



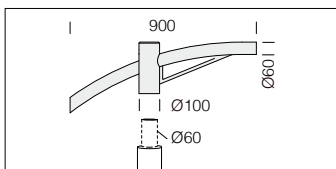
Virtual midnight subcode -30: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise).

ATTENTION: original settings and time settings for the "virtual midnight" value can be customized in up to 8 steps upon request:

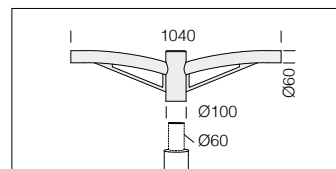
- Virtual midnight in 2 steps subcode -31
- Virtual midnight in 5 steps subcode -32

For further information, see page 86

ACCESSORIES



acc. 504 single arm	
grey	991262-00
Suited for poles with a diameter 60mm.	



acc. 508 double arm	
grey	991266-00
Suited for poles with a diameter 60mm.	



Rolle 2.0

Optics: in PMMA, highly resistant to temperature and UV radiation. Flow recovery in V2 polycarbonate.

LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%: >100.000h (L80B10).

Optics: in PMMA, highly resistant to temperature and UV radiation.

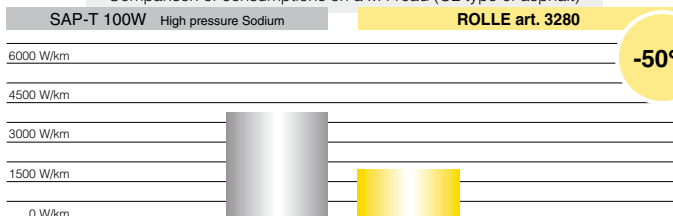
LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%: 80.000h (L80B20).

E: DESIGN EXAMPLE 'S

REPLACEMENT OF OBSOLETE FIXTURES

	L	H	distance	Cd/m ²	P tot (W)	W/Km
SAP-T 100W	8m	10m	30m	0,77	115	4000
ROLLE art. 3280	8m	10m	30m	0,83	60	2000

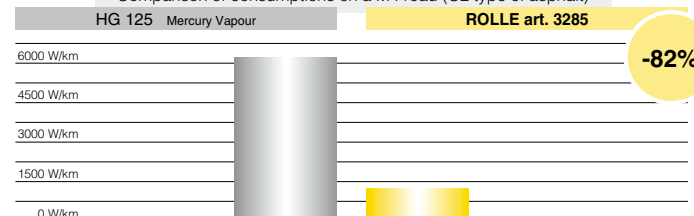
Comparison of consumptions on a M4 road (C2 type of asphalt)



INSTALLATION OF NEW LIGHTING FIXTURES

	L	H	distance	Cd/m ²	P tot (W)	W/Km
HG 125	8m	8m	22m	0,74	137	6227
ROLLE art. 3285	8m	8m	22m	0,80	25	1136

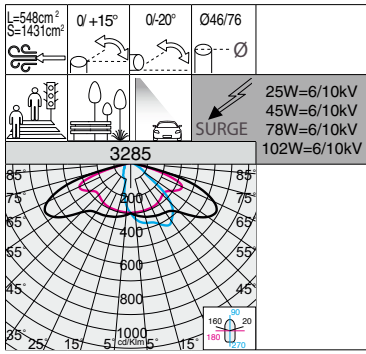
Comparison of consumptions on a M4 road (C2 type of asphalt)



Rolle 2.0 - MIDNIGHT





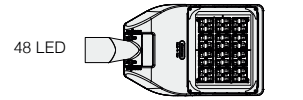
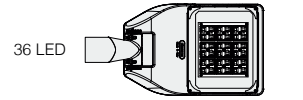
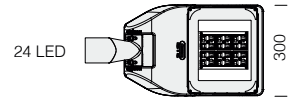
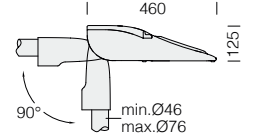
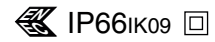


80.000h



* On request: available ideal version for pedestrian crossing (left and right).

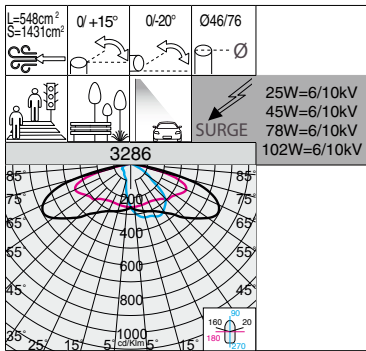
3285 Rolle MIDNIGHT - high performance					
LED	colour	weight	CLD MIDNIGHT		LUMEN OUTPUT (tq= 25 °C)
			code	W tot	K - ølm - CRI
LED	grey	6.50	340100-30	25	4000K - 4346lm - CRI 70
			340100-3028		3000K - 4287lm - CRI 70
LED	grey	7.00	340101-30	45	4000K - 7412lm - CRI 70
			340101-3028		3000K - 7266lm - CRI 70
LED	grey	7.00	340102-30	78	4000K - 11561lm - CRI 70
			340102-3028		3000K - 11221lm - CRI 70
LED*	grey	7.00	340103-30	102	4000K - 15415lm - CRI 70
			340103-3028		3000K - 13828lm - CRI 70



LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
80.000h (L80B20).

Luminaire designed for installation on:

- Nema Socket order with subcode -40 (sealing cap to be ordered separately).
- Zhaga Socket order with subcode -0054 (complete with sealing cap).

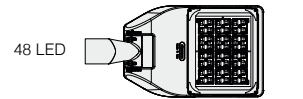
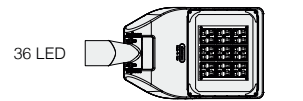
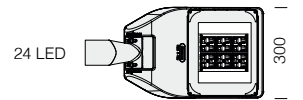
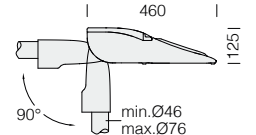
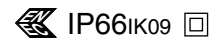


80.000h



* On request: available ideal version for pedestrian crossing (left and right).

3286 Rolle MIDNIGHT - high performance					
LED	colour	weight	CLD MIDNIGHT		LUMEN OUTPUT (tq= 25 °C)
			code	W tot	K - ølm - CRI
LED	grey	6.50	340110-30	25	4000K - 4229lm - CRI 70
			340110-3028		3000K - 4172lm - CRI 70
LED	grey	7.00	340111-30	45	4000K - 7212lm - CRI 70
			340111-3028		3000K - 7071lm - CRI 70
LED	grey	7.00	340112-30	78	4000K - 11251lm - CRI 70
			340112-3028		3000K - 10920lm - CRI 70
LED*	grey	7.00	340113-30	102	4000K - 15001lm - CRI 70
			340113-3028		3000K - 13033lm - CRI 70

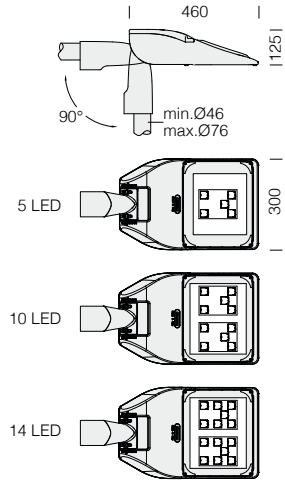


LED: power factor ≥ 0.9 .
Luminous flux maintenance 80%:
80.000h (L80B20).

Luminaire designed for installation on:

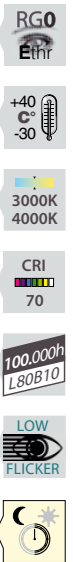
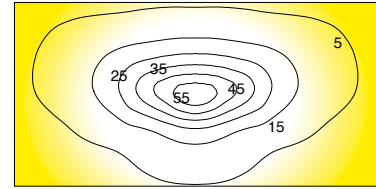
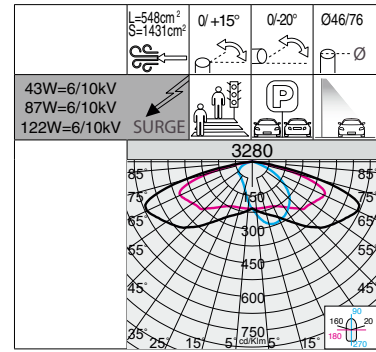
- Nema Socket order with subcode -40 (sealing cap to be ordered separately).
- Zhaga Socket order with subcode -0054 (complete with sealing cap).

IP66IK09



>100.000h

new performance



LED: power factor $\geq 0,9$.
Luminous flux maintenance 80%:
>100.000h (L80B10).

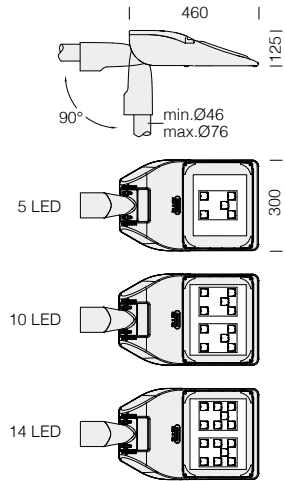
Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3280 Rolle MIDNIGHT - T1						
LED	colour	weight	CLD MIDNIGHT		W tot	LUMEN OUTPUT (tq= 25 °C)
LED	grey	7.70	code		43	K - ϕ lm 700mA - CRI
			330400-30			4000K - 5826lm - CRI 70
LED	grey	7.70	330401-30		87	4000K - 5437lm - CRI 70
			330401-3028			4000K - 11096lm - CRI 70
LED	grey	7.70	330402-30		122	3000K - 10356lm - CRI 70
			330402-3028			4000K - 15535lm - CRI 70
						3000K - 14499lm - CRI 70

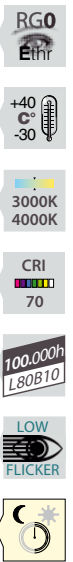
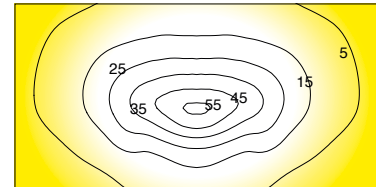
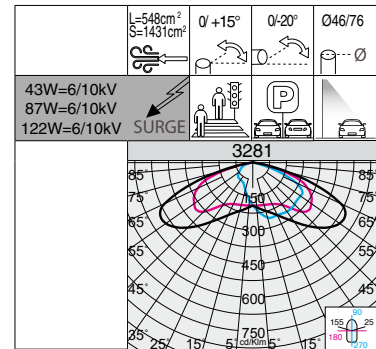
Example	Power supply	n.LED	W tot	K	ϕ lm	n.LED	W tot	K	ϕ lm
upon request	350mA	5	22	4000K	3146lm	5	22	3000K	2936lm
		10	44		5992lm	10	44		5593lm
		14	60		8389lm	14	60		7830lm
upon request	530mA	5	33	4000K	4544lm	5	33	3000K	4241lm
		10	65		8655lm	10	65		8078lm
		14	91		12117lm	14	91		11309lm

IP66IK09



>100.000h

new performance



LED: power factor $\geq 0,9$.
Luminous flux maintenance 80%:
>100.000h (L80B10).

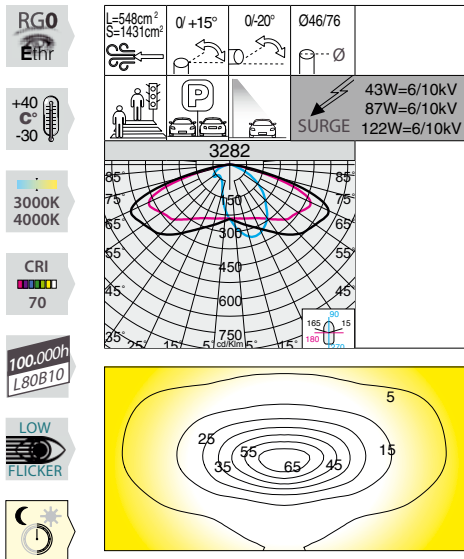
Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3281 Rolle MIDNIGHT - T2						
LED	colour	weight	CLD MIDNIGHT		W tot	LUMEN OUTPUT (tq= 25 °C)
LED	grey	7.70	code		43	K - ϕ lm 700mA - CRI
			330410-30			4000K - 5955lm - CRI 70
LED	grey	7.70	330410-3028		87	3000K - 5558lm - CRI 70
			330411-30			4000K - 11344lm - CRI 70
LED	grey	7.70	330411-3028		122	3000K - 10587lm - CRI 70
			330412-30			4000K - 15881lm - CRI 70
						3000K - 14822lm - CRI 70

Example	Power supply	n.LED	W tot	K	ϕ lm	n.LED	W tot	K	ϕ lm
upon request	350mA	5	22	4000K	3216lm	5	22	3000K	3002lm
		10	44		6126lm	10	44		5717lm
		14	60		8576lm	14	60		8004lm
upon request	530mA	5	33	4000K	4645lm	5	33	3000K	4336lm
		10	65		8848lm	10	65		8258lm
		14	91		12387lm	14	91		11562lm

Rolle 2.0 - MIDNIGHT

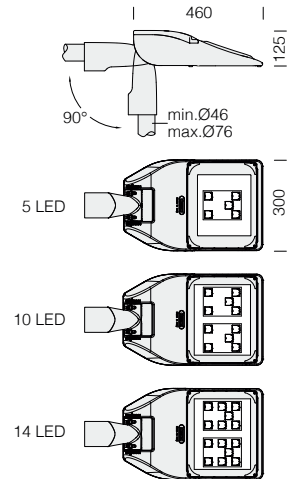


>100.000h

new performance



IP66IK09



3282 Rolle MIDNIGHT - T3					
			CLD MIDNIGHT		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	grey	7.70	330420-30	43	4000K - 5933lm - CRI 70
			330420-3028		3000K - 5538lm - CRI 70
LED	grey	7.70	330421-30	87	4000K - 11302lm - CRI 70
			330421-3028		3000K - 10548lm - CRI 70
LED	grey	7.70	330422-30	122	4000K - 15822lm - CRI 70
			330422-3028		3000K - 14768lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	350mA	5	22	4000K	3204lm	5	22	3000K	2990lm
		10	44		6103lm	10	44		5696lm
		14	60		8544lm	14	60		7975lm
upon request	530mA	5	33	4000K	4628lm	5	33	3000K	4320lm
		10	65		8815lm	10	65		8228lm
		14	91		12342lm	14	91		11519lm

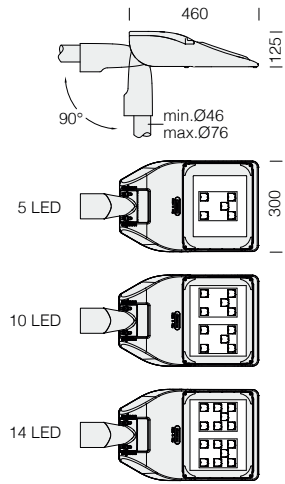
LED: power factor ≥0,9.
Luminous flux maintenance 80%:
>100.000h (L80B10).

Luminaire designed for installation on:

- Nema Socket order with **subcode -40** (sealing cap to be ordered separately).

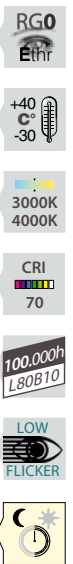
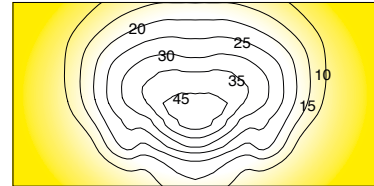
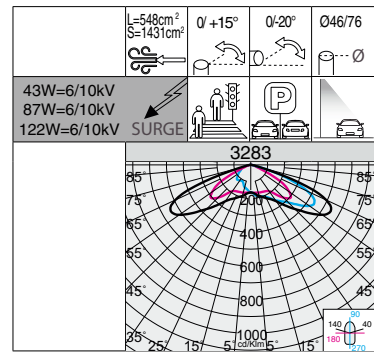
- Zhaga Socket order with **subcode -0054** (complete with sealing cap).

IP66IK09



>100.000h

new performance



LED: power factor $\geq 0,9$.
Luminous flux maintenance 80%:
>100.000h (L80B10).

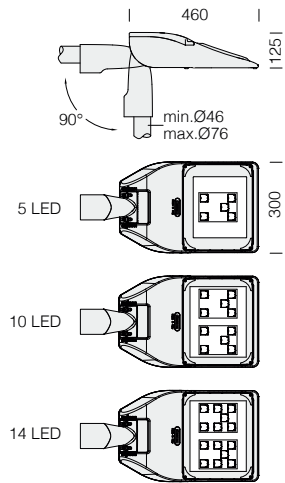
Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3283 Rolle MIDNIGHT - T4						
		CLD MIDNIGHT			LUMEN OUTPUT (tq= 25 °C)	
LED	colour	weight	code	W tot	K - ølm 700mA - CRI	
LED	grey	7.70	330430-30	43	4000K - 6082lm - CRI 70	
			330430-3028		3000K - 5676lm - CRI 70	
LED	grey	7.70	330431-30	87	4000K - 11585lm - CRI 70	
			330431-3028		3000K - 10812lm - CRI 70	
LED	grey	7.70	330432-30	122	4000K - 16218lm - CRI 70	
			330432-3028		3000K - 15137lm - CRI 70	

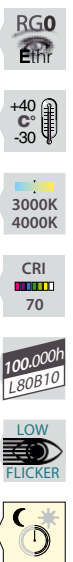
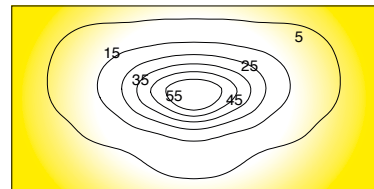
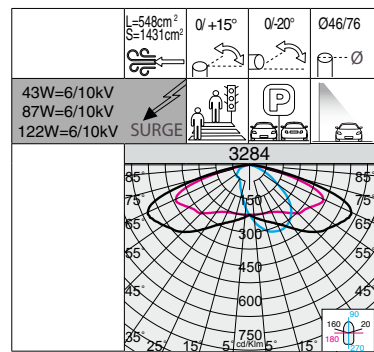
Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	350mA	5	22	4000K	3284lm	5	22	3000K	3065lm
		10	44		6256lm	10	44		5839lm
		14	60		8758lm	14	60		8174lm
upon request	530mA	5	33	4000K	4744lm	5	33	3000K	4428lm
		10	65		9036lm	10	65		8434lm
		14	91		12650lm	14	91		11807lm

IP66IK09



>100.000h

new performance



LED: power factor $\geq 0,9$.
Luminous flux maintenance 80%:
>100.000h (L80B10).

Luminaire designed for installation on:

- **Nema Socket** order with **subcode -40** (sealing cap to be ordered separately).
- **Zhaga Socket** order with **subcode -0054** (complete with sealing cap).

3284 Rolle MIDNIGHT - T5						
		CLD MIDNIGHT			LUMEN OUTPUT (tq= 25 °C)	
LED	colour	weight	code	W tot	K - ølm 700mA - CRI	
LED	grey	7.70	330440-30	43	4000K - 5960lm - CRI 70	
			330440-3028		3000K - 5563lm - CRI 70	
LED	grey	7.70	330441-30	87	4000K - 11353lm - CRI 70	
			330441-3028		3000K - 10596lm - CRI 70	
LED	grey	7.70	330442-30	122	4000K - 15894lm - CRI 70	
			330442-3028		3000K - 14834lm - CRI 70	

Example	Power supply	n.LED	W tot	K	ølm	n.LED	W tot	K	ølm
upon request	350mA	5	22	4000K	3219lm	5	22	3000K	3004lm
		10	44		6130lm	10	44		5722lm
		14	60		8583lm	14	60		8010lm
upon request	530mA	5	33	4000K	4649lm	5	33	3000K	4339lm
		10	65		8855lm	10	65		8265lm
		14	91		12397lm	14	91		11571lm

Rodio - MIDNIGHT

GENERAL CHARACTERISTICS

Housing: in die-cast aluminium with cooling fins.

Heat sink: the heat dissipation system is specially designed and made to allow the operation of the LED lights with temperatures ensuring excellent performance/efficiency and durability.

Diffuser: 5mm thick tempered glass, resistant to thermal shocks and impacts (UNI-EN 12150-1 : 2001).

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

Equipment: complete with galvanised and coated bracket including goniometric scale with 10° increment adjustment. Silicone rubber gasket; external screws and bolts in stainless steel; air recirculation valve. Airtight connector for quick installation with **no need to open the fixture**.

LOW FLICKER

Flicker is a common issue with LED lamps. It can occur at frequencies below 60 Hz and depends on several factors, such as the ripple emitted by drivers.

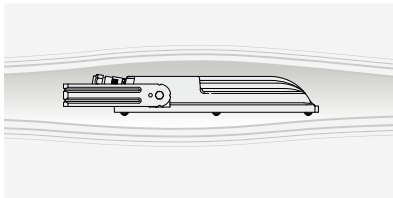


Product with a very low flicker; uniform light for greater eye protection.

SURFACE EXPOSED TO WIND



The fixture's design is configured to minimise wind exposure surfaces: L=390cm² - F=1420cm²



OTHER CHARACTERISTICS



Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.

It works in two modes:

- differential mode: surge between power cables and between the phase and neutral.

- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

On request: protection up to 10KV.

Photometric performance: designed with an optical system capable of controlling the potential glare created by the growing light intensity of LEDs while achieving high photometric performance.

IK LEVEL OF PROTECTION



The IK code indicates the fixture's degree of protection against mechanical impact and determines the degree of protection provided by the electrical equipment's enclosures against these impacts (EN 50102 - NF 20-015).

UPON REQUEST



Coating for marine environments in compliance with UNI EN ISO 9227.

CERTIFICATIONS



ENEC is a European Mark that demonstrates that fixture is compliant with applicable European safety standards and was manufactured by a company that applies a Quality System according to ISO 9000.

OTHER INFORMATION



Special version (with *conformal coating* treatment with **subcode -38**) featuring high chemical resistance for environments with high chlorine content.



2200K (subcode -73): lamps with warm amber light at a colour temperature of 2200K eliminate the risks of an excessive exposure to harmful blue LED light and allows a "softer" impact on inhabited zones, especially in historic centres.



3000K - 4000K as standard: lamps with 3000K-4000K white light, instead, is the best choice for lighting up urban areas, streets, residential centres and generally all areas where this type of light guarantees greater safety and visual comfort.

AVAILABLE FUNCTIONS



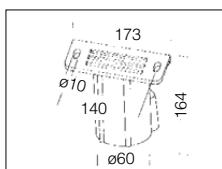
Virtual midnight subcode -30: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise).

ATTENTION: original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request:

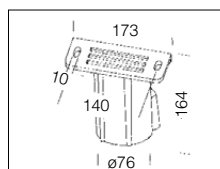
- Virtual midnight in 2 steps subcode -31
- Virtual midnight in 5 steps subcode -32

For further information, see page 86

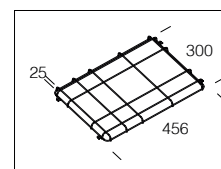
ACCESSORIES



acc. 333	
ø60 pole mounting	
graphite	997915-00
Made of aluminium. To be used to apply the fixture on a ø 60 pole.	



acc. 334	
ø76 pole mounting	
graphite	997916-00
Made of aluminium. To be used to apply the fixture on a ø 76 pole.	



acc. 350	
protection guard	
black	997925-00
Plastic-coated steel rod. For protection against impact.	



Rodio

Optics: in high efficiency PMMA.

LED: power factor: $\geq 0,9$.

Luminous flux maintenance 80%:
80.000h (L80B20).

acc. 333

DESIGN EXAMPLE

ADVANTAGES IN REPLACING OLD LUMINAIRES

The replacement of obsolete lighting systems based on traditional lamps (still very common in residential zones despite being outdated and poorly efficient), will enable to reduce energy consumptions, while increasing the light output to the levels currently required by applicable legislation, without the need to modify neither the poles nor the systems.

With the modularity offered by **Rodio** fixtures you can always choose the exact amount of power necessary to deliver the right lighting levels without over-dimensioning and therefore wasting energy.

	n. fixtures	P (w)
MBF 80W	1	80
RODIO art. 1892	1	53

ENERGY SAVING
-34%

	n. fixtures	P (w)
HG 250W	1	250
RODIO art. 1892	1	157

ENERGY SAVING
-37%

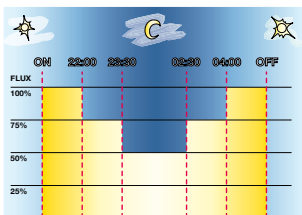
Rodio - MIDNIGHT



VIRTUAL MIDNIGHT

To increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The "virtual midnight" is the reference point for dimming lights according to the desired profile. The device is integrated in the LED driver and therefore does not require any modification to the system.

In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.

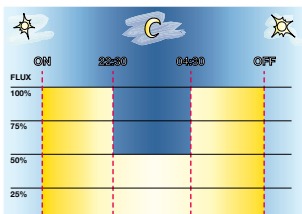


Factory settings	
Time	Flux
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

Virtual Midnight subcode -30: fixtures are equipped with a device to reduce flux in **4 steps** based on the calculation of the virtual midnight.

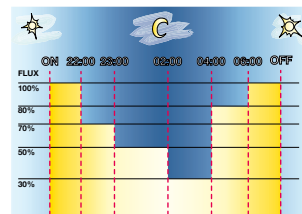
ATTENTION: original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request.

Virtual midnight in 2 steps subcode -31



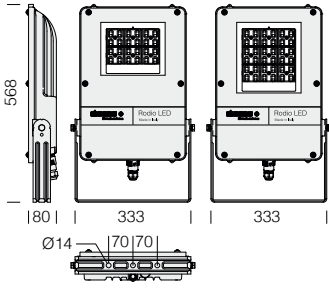
Settings upon request	
Time	Flux
on ÷ 22:30	100%
22:30 ÷ 04:30	50%
04:30 ÷ off	100%

Virtual midnight in 5 steps subcode -32



Settings upon request	
Time	Flux
on ÷ 22:00	100%
22:00 ÷ 23:30	70%
23:00 ÷ 02:00	50%
02:00 ÷ 04:00	30%
04:00 ÷ 06:00	80%
06:00 ÷ off	100%

IP66IK08 □



LED: power factor: $\geq 0,9$.
Luminous flux maintenance 80%:
80.000h (L80B20).

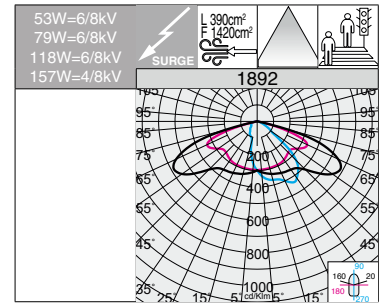
80.000h
MIDNIGHT



24 LED



36 LED

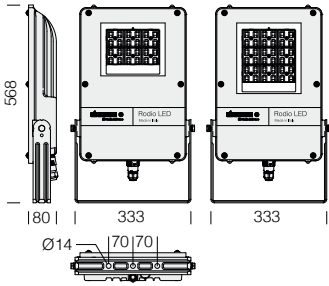


2200K - AMBER (sub-code -73)	
W tot	LUMEN OUTPUT (tq= 25 °C)
53	2200K - 7017lm
79	2200K - 9402lm
118	2200K - 13768lm
157	2200K - 17193lm

- RG0
- Etrn
- +40 °C
-20 °C
- +50 °C
-40 °C
- 4000K
- CRI
- 80
- 80.000h
L80B20
- LOW
FLICKER
- ☾ ☀

1892 Rodio MIDNIGHT - street optics					
		CLD MIDNIGHT		W tot	LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code		K - elm - CRI
LED	graphite	6.30	414774-30	* 53	4000K - 7974lm - CRI 80
			414774-3028		3000K - 7416lm - CRI 80
LED	graphite	6.30	414775-30	79	4000K - 10684lm - CRI 80
			414775-3028		3000K - 9936lm - CRI 80
LED	graphite	6.30	414776-30	118	4000K - 15646lm - CRI 80
			414776-3028		3000K - 14551lm - CRI 80
LED	graphite	6.30	414777-30	157	4000K - 19538lm - CRI 80
			414777-3028		3000K - 18170lm - CRI 80

* IP66IK08 □



LED: power factor: $\geq 0,9$.
Luminous flux maintenance 80%:
80.000h (L80B20).

80.000h
MIDNIGHT

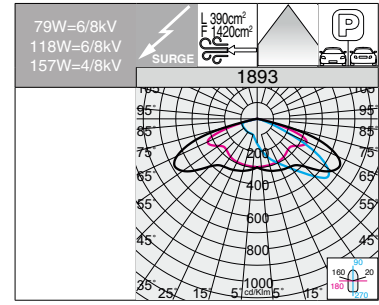


24 LED



36 LED

new product



2200K - AMBER (sub-code -73)	
W tot	LUMEN OUTPUT (tq= 25 °C)
79	2200K - 7017lm
118	2200K - 9402lm
157	2200K - 17193lm

- RG0
- Etrn
- +40 °C
-20 °C
- 4000K
- CRI
- 80
- 80.000h
L80B20
- LOW
FLICKER
- ☾ ☀

1893 Rodio MIDNIGHT - street opticse - large areas					
		CLD MIDNIGHT		W tot	LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code		K - elm - CRI
LED	graphite	6.30	414763-30	79	4000K - 10684lm - CRI 80
			414763-3028		3000K - 9936lm - CRI 80
LED	graphite	6.30	414778-30	118	4000K - 15646lm - CRI 80
			414778-3028		3000K - 14551lm - CRI 80
LED	graphite	6.30	414779-30	157	4000K - 19538lm - CRI 80
			414779-3028		3000K - 18170lm - CRI 80

Lighting management systems

Disano illuminazione offers a wide range of solutions that meet the design requirements of both simple and complex installations, as well as IoT infrastructure where data are monitored and the system is analyzed to increase **energy savings through personalized control strategies**.

Simple access and usage are crucial for making the technology available to everyone through smartphones and tablets.



Disano's outdoor lights are equipped with **Advanced Prog** programmable drivers that can manage different aspects and functions of lighting systems according to specific design or installation requirements and can control the system completely.

Moreover, Disano's lights can be equipped with light management functions such as the **virtual midnight**, which avoids energy waste, dimming the luminous flux according to the actual needs of different switch-on times.



Advanced Prog




Virtual midnight



Advanced Prog (CLD PROG wiring): luminaires made to meet specific technological needs and designed, as standard, to integrate special functions to ensure high energy-savings, customization options and versatility of use in many applications (e.g. installation with dimmers or emergency supply).

These functions are already available on standard products and must be enabled on request (except for versions with LED COB). These products do not require any modification to the entire system because the lamp only needs to be connected to mains power supply no pilot cable and/or control bus required.

Street lighting fixtures are equipped with the latest generation of programmable drivers that allow controlling different aspects and functions of a lighting system.

OPERATING MODE	DESCRIPTION	
Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture	✓
Virtual Midnight order with subcode -30	Stand-alone system with automatic luminous flux reduction in 4 steps (up to max 8 steps available upon request)	✓
Broadcast Prog	This allows the reconfiguration of the Virtual Midnight profile, including the enabling/disabling of all the fixtures installed on the same power line (broadcast function) via a sequence of electrical impulses.	✓
Mains voltage regulation	This allows varying the luminous flux by adjusting the mains voltage between 170 and 250 V AC	✓
CLO (Constant Light Output)	The lighting fixture maintains a constant light output throughout its entire service life	✓
DC power in EM	In centralized emergency systems, the LED Driver automatically detects when the power changes from AC to DC and adjusts the lights to a pre-set value (DC level)	✓
Monitoring (default)	The driver is equipped with a micro-processor that records the operating conditions from the moment it is turned on	✓
Setup via APP	The NFC technology allows users to set the different operating modes via an APP	✓

LUMINOUS FLUX SETUP

With this function luminaires can adjust their **luminous flux to optimise design requirements** by varying LED drive current. A reduced luminous flux caused by a reduced current allows the LED to operate in better thermal conditions due to the reduction in power consumption.

NOTE: an increase of the luminous flux must always be assessed by our technical staff.

MAINS VOLTAGE REGULATION

This function allows the luminaire to be **dimmed when the mains voltage varies between 170 and 250 V AC**. It allows using LED luminaires with a dimmer that varies the mains voltage. It is used to dim the lights of older systems fitting traditional lamps. With the use of a software programme it is possible to set the maximum and minimum brightness levels that the luminaire must ensure when the mains voltage varies.

CLO (COSTANT LIGHT OUTPUT)

The LED's luminous flux is **kept constant throughout the luminaire's entire lifetime**. The Constant Light Output (CLO) function compensates for the natural decay of the luminous flux by progressively increasing LED driver current. This results in a slow and constant increase in the luminaire's power consumption.

MONITORING

The driver records the **operating conditions throughout the entire service life** (operating hours, operating temperature, overvoltage). In the event of a product malfunction, the system will quickly and easily detect the problem.

SETUP VIA APP

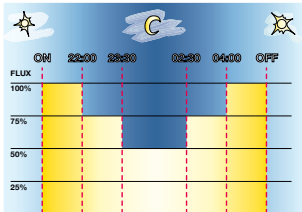
Luminous flux, Virtual Midnight, power regulation and CLO values can be reprogrammed in accordance with the product's specifications and certificates only after agreeing them with our offices.



VIRTUAL MIDNIGHT

To increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The "virtual midnight" is the reference point for dimming lights according to the desired profile. The device is integrated in the LED driver and therefore does not require any modification to the system.

In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.

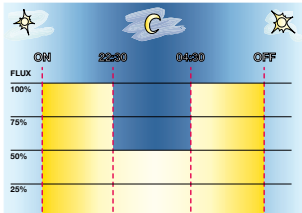


Factory settings	
Time	Flux
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

Virtual Midnight subcode -30: fixtures are equipped with a device to reduce flux in **4 steps** based on the calculation of the virtual midnight.

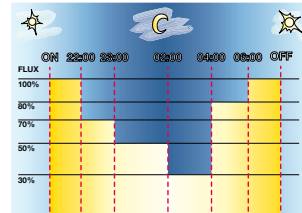
ATTENTION: original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request.

Virtual midnight in 2 steps subcode -31



Settings upon request	
Time	Flux
on ÷ 22:30	100%
22:30 ÷ 04:30	50%
04:30 ÷ off	100%

Virtual midnight in 5 steps subcode -32



Settings upon request	
Time	Flux
on ÷ 22:00	100%
22:00 ÷ 23:30	70%
23:30 ÷ 02:00	50%
02:00 ÷ 04:00	30%
04:00 ÷ 06:00	80%
06:00 ÷ off	100%

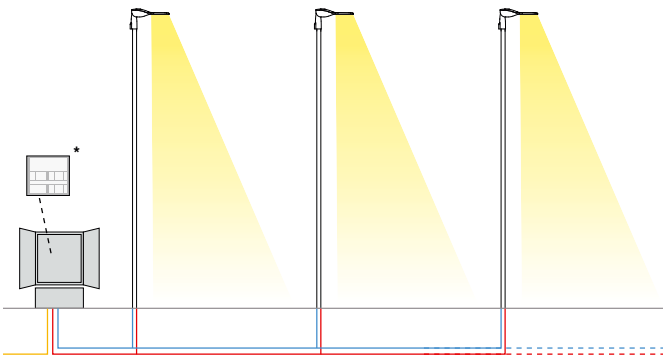
BROADCAST PROG

The Broadcast Prog function, **through a regular sequence of voltage interruptions**, allows modifying the driver programming of all the luminaires installed on the same power line by means of a **predefined sequence of ON/OFF cycles** that interrupt the phase without the need of additional cables. The Broadcast Prog function requires the use of an external device to be mounted in the luminaires' electrical supply panel. In addition to the **energy savings** that can be obtained with the "Virtual Midnight" function, there is the **possibility to vary the profile** of the entire system without having to use complex management systems

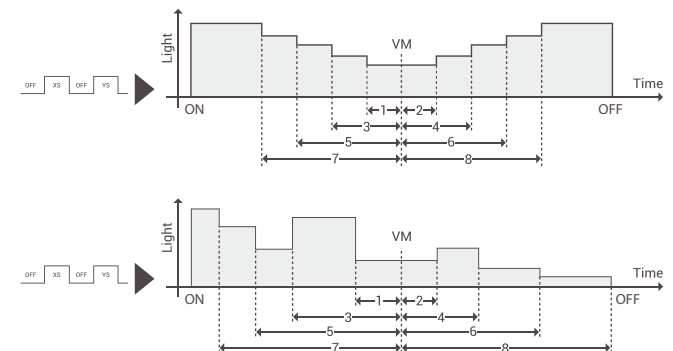
The external device to be used in the supply panel allows the automatic reconfiguration of the entire line. With the use of additional accessories, it is also possible to control and monitor the system remotely.

With this technology it is possible:

- enable/disable the "Virtual Midnight" function
- reconfigure the luminaire's drivers, modifying each one of the 8 steps (4 pre- and 4 post-virtual midnight) in terms of time and luminous flux regulation.



* device with integrated Broadcast Prog technology



configuration examples

Upon request: you can use a device equipped with SIM card to control the power line of lighting fixtures. By interfacing with a wireless device you can re-programme the LED driver.

Nema and Zhaga socket

To monitor and manage public lighting centrally, lighting fixtures will always be more equipped with wireless controls that will allow their integration with the IoT. Today the market offers two solutions: **NEMA and ZHAGA**. Both solutions offer an electrical and mechanical connection between the control antenna and the lighting fixture.

Applications: ideal for use in public or private street lights, car parks, cycle and pedestrian lanes, corridors within hospitals, schools and industrial plants and urban amenities and generally in any area where you need a “smart” control of lighting fixtures.

Zhaga Socket order with **subcode -0054** (complete with sealing cap)

Nema Socket order with **subcode -40** (sealing cap to be ordered separately)

Mounted directly on the fixture's body, ideal for remote lighting management applications.



The Zhaga-D4i mark certifies the fixture's compliance with Zhaga Book 18 version 2 specifications for outdoor luminaires and DiiA's D4i specifications for intra-luminaire DALI interface. This joint certification covers all critical features including mechanical adaptation, digital communication, data reporting and power requirements within a single luminaire, ensuring “plug & play” interoperability of luminaires (drivers) and peripherals, such as connectivity nodes.

The fixture is designed to accept Zhaga socket, projecting public lighting into the future. You can create a 'smart' Plug-and-Play solution featuring maximum interoperability.

The Zhaga D4i certification means that a product has a Zhaga Book 18 interface and is compliant with DALI-2 and D4i standards.

* The lighting fixtures of the Ischia, Mini Giovi and Giovi range have the Zhaga D4i certification.

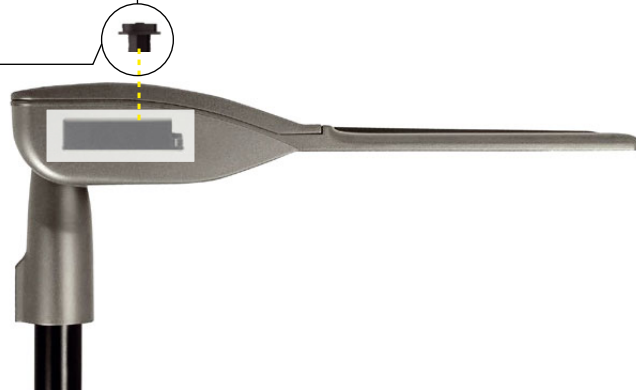




The photocells, wireless antennas and controllers are installed directly onto the supplied Zhaga socket.

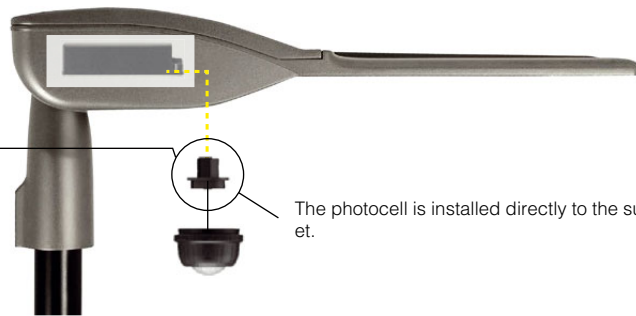
Zhaga socket -0054 (standard configuration)

Fixture designed to accept Zhaga socket, which is found on the **top part of the lighting fixture**, electrically connected to the lighting fixture's driver.



Zhaga socket (bottom configuration - upon request)

Fixture designed to accept the Zhaga socket, which is found in the **lower part of the lighting fixture**, electrically connected to the lighting fixture's driver.



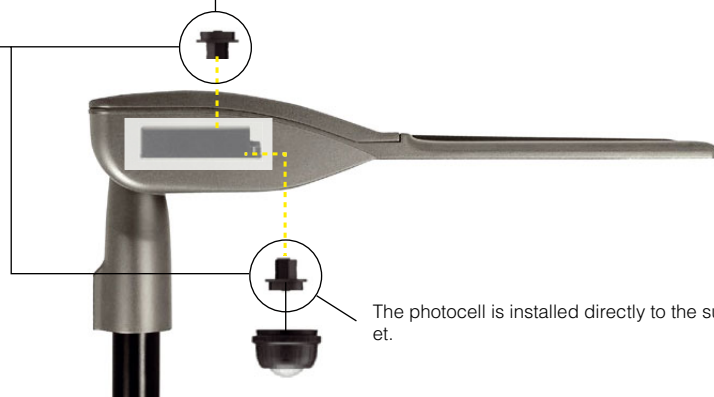
The photocell is installed directly to the supplied Zhaga socket.



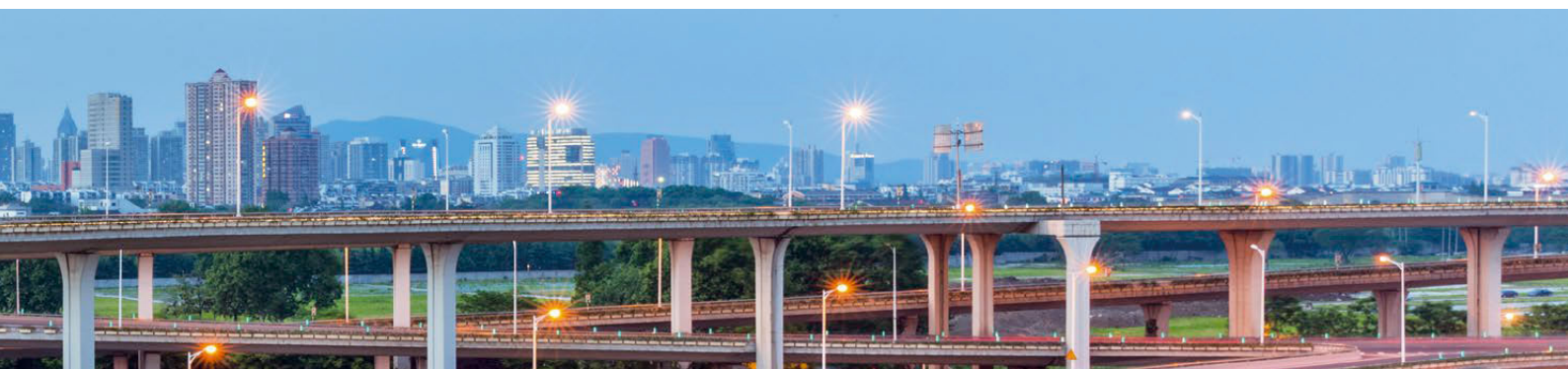
The photocells, wireless antennas and controllers are installed directly onto the supplied Zhaga socket.

Zhaga socket (double configuration - upon request)

Fixture designed to accept the Zhaga socket, which is found on **both the top and lower part of the lighting fixture**, electrically connected to the lighting fixture's driver.



The photocell is installed directly to the supplied Zhaga socket.



PHOTOCELL AND LIGHTING-MOTION SENSOR

Luminaires compatible with Zhaga receptacles may be equipped with photocells or light/motion sensors. In this way, the luminaire will have the necessary "intelligence" to adjust to specific needs.

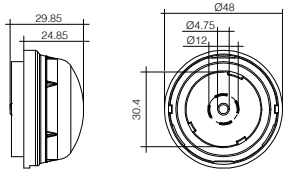
PHOTOCELL for DALI-2 street lighting



cod. 986450-00



bottom view



Main features:

- Monitoring of ambient lighting for stand-alone or network applications
- Ready for Zhaga receptacles for quick installation to the luminaire
- Precise light measurement from 0.2 to 20,000 Lux
- Detection angle for light measurement: 150° - Start time: ≤ 5 s
- Designed to be installed to the upper side of the luminaire
- Service life up to 100,000 h at a TC of 60 °C

Structural features:

- Body: grey plastic
- Lens: plastic, smoked grey
- Protection up to IP66
- Impact resistance ≤ IK09

Advantages:

- Innovative: simple start-up for stand-alone applications, Plug & Play interface
- Flexible: luminaire switches on/off depending on ambient light
- Reliable: tested for critical outdoor conditions

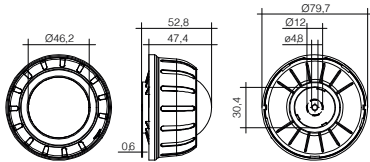
MOTION AND LIGHT SENSOR for DALI-2 street lighting



cod. 986451-00



bottom view



Main features:

- Monitoring of ambient light and presence detection
- Integrated temperature measurement
- 2 PIR sensors with extended features such as detecting objects with side orientation
- Ready for Zhaga receptacle for quick installation to the luminaire
- Rectangular detection range, ideal for street applications - Start time: 30 s
- Detection angle for light measurement: 76°
- Precise light measurement from 1 to 4,000 Lux
- Integrated pressure equalizing membrane
- Service life up to 100,000 h at a TC of 60 °C

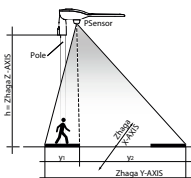
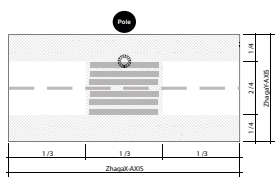
Structural features:

- Body: dark grey (RAL 7040)
- Protection up to IP66
- Impact resistance IK08 (without lens)

Advantages:

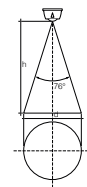
- Innovative: first DALI-2 asymmetric motion sensor based on Zhaga socket
- Flexible: adjustment of parameters with configuration software
- Reliable: tested for critical outdoor conditions

Motion detection: the motion sensor detects moving objects that radiate warmth (mainly pedestrians) thanks to PIR technology that reacts to heat changes within a rectangular coverage area (part of a street). The entire coverage area is rectangular, while the highlighted area is the one optimised for the detection of pedestrians. The sensitivity of the sensor can be adjusted via the application.



Height	Detection area			Covered area		
	h	x	y	h	x	y
4.0 m	17.0m	8 m	2.0m	6.0m	136 m ²	
4.5 m	19.3m	9 m	2.3m	6.8m	173 m ²	
5.0 m	21.5m	10 m	2.5m	7.5m	215 m ²	
5.5 m	23.8m	11m	2.8m	8.3m	261 m ²	
6.0 m	26.0m	12m	3.0m	9.0m	312 m ²	
6.5 m	28.3m	13m	3.3m	9.8m	367 m ²	
7.0 m	30.5m	14m	3.5m	10.5m	427 m ²	
7.5 m	32.8m	15m	3.8m	11.3m	491 m ²	
8.0 m	35.0m	16m	4.0m	12.0m	560 m ²	

Brightness detection: the detection angle for light measurement is 76°.



Height	Detection area		Covered area
	h	d	
4.0 m	6.2 m	31 m ²	
4.5 m	7.0 m	39 m ²	
5.0 m	7.8 m	48 m ²	
5.5 m	8.6 m	58 m ²	
6.0 m	9.4 m	69 m ²	
6.5 m	10.2 m	81 m ²	
7.0 m	10.9 m	94 m ²	
7.5 m	11.7 m	108 m ²	
8.0 m	12.5 m	123 m ²	



WIRELESS ANTENNAS WITH REMOTE CONTROL

Thanks to Zhaga compatibility, remote communication modules can now be effectively used for lighting control and data transmission. Each RF node has the necessary “intelligence” to control multiple DALI devices while simultaneously setting up a stable wireless network.

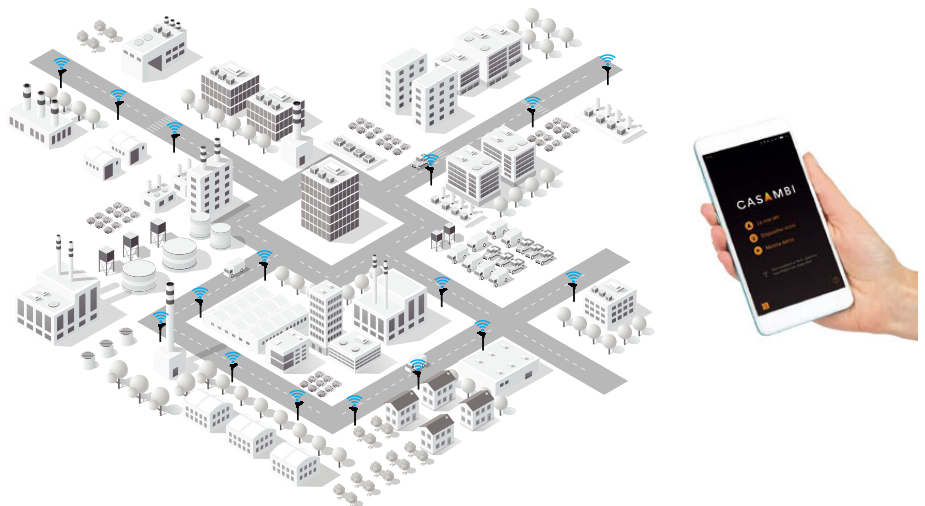
WIRELESS ANTENNAS for DALI-2 Street Lighting



Main features:

- Each control unit stores information about its own configuration and the configuration of the rest of the controls installed in the same network.
- Configuration and control can be done from a mobile phone or a tablet using the free CASAMBI APP (available for iOS and Android).
- Remote control of the installation is also possible via cloud through a Casambi router connected to the Internet.
- Electrical connection and mechanical fixing are done through standard ZHAGA Book 18 compatible socket by twisting and locking into place, without tools.
- No need for hubs, master devices, computers or programmes. Communication is via a Bluetooth 4.0 mesh network.

FEATURES	
Nominal input voltage	24 VDC SELV
Energy consump. in standby mode	0,5W
Energy consump. in operating mode	0,6W
Control interface	DALI/DALI2
DALI output current	40mA max.
Dimming	0-100%
RF communication interface	Bluetooth 4.0 BLE
RF communication protocol	Casambi
Wireless class	Class 2
Firmware update	OTA (Over the air)
Casing material	PC con trattamento UV
IP - IK	66 - 09
Connectors	ZHAGA Book 18
Dimensions (diameter - height)	986445-00 Ø48mm. H 44mm
	986446-00 Ø80mm. H 50mm



Operation and configuration:

From the **CASAMBI APP** it is possible to group luminaires by street, set dimming levels according to time, schedule special events for particular days, etc. The communication range between controllers is up to **70m** outdoors. Since devices are operating on a mesh network, controllers communicate with each other until the information reaches the controller for which it was intended, even if it is far away. During setup it is sufficient to be located in the range of one of the controllers.

Communication security is guaranteed through encrypted messages. It is possible to set different access levels and configuration permissions. Network configuration information can optionally be stored in the CASAMBI cloud and restored if necessary. When a controller receives a firmware update, it will automatically retransmit the update to the other controllers. Each network can support up to **250 controllers**.

Several operating modes are possible (on/off, 0-100% dimming, circadian control, tunable white, etc.). Different communication profiles can be configured to meet the requirements of different luminaires. The monitoring of internal temperature is done via the Casambi App. Information is received from the associated driver (energy consumption, temperature, etc.) and sent to the cloud.



THE "CONTROL-GROUP PROG" SYSTEM

The CONTROL-GROUP PROG solution allows managing the lighting system through local and autonomous dimming programmes based on the data supplied by motion and light sensors. The CONTROL-GROUP PROG is ideal for automating the lighting of roads, pedestrian routes and cycle lanes, residential neighbourhoods, parks, car parks, road junctions, marinas and much more.

CONTROL-GROUP PROG for DALI-2 street lighting

Main features:

The system is made up of a PROGRAMMER for the on-site management/programming of the light points through the CONTROLLERS installed on the fixtures.

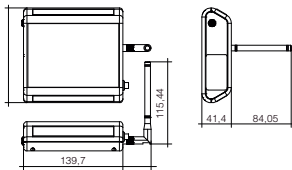
- Management of wireless mesh installations divided into groups of up to 60 nodes
- Dynamic point-to-point management, with integration of sensors
- Easy to use, both at the hardware and software level
- Multi-channel DALI support up to 8 power suppliers
- Real-time clock, and access to satellite clock in case of power outages lasting longer than 48 hours
- Light sensor integrated in the RF node
- 868 MHz signal that guarantees reliable communication and node-to-node distances of up to 100 metres



upon request

Control-Group Programmer:

- Programmer for on-site commissioning
- Control via smartphone / tablet (android and iOS) and laptop with dedicated WEB app
- Local autonomous management of groups of luminaires via RF mesh
- Groups of luminaires, small installations of up to 60 network nodes
- Standard-based solution (ZD4i) can be applied directly to a smart city solution via IoT
- Built-in battery for offline operation, including power supplier and an additional 12V charger



Structural features:

- Housing: Black ABS
- IP40 protection
- Radio range: 100 m max
- Life: up to 50,000 h

Advantages:

- Innovative: integrates sensors, schedules and scenes for customized outdoor lighting
- Intuitive: user-friendly interface display with map support and live test function
- Reliable: creates a network built on self-healing mesh technology for stable and long-lasting operation
- Safe: hardware components tested for outdoor use



upon request



upon request

Controller:

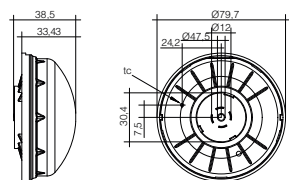
- *RF DALI Controller* with built-in light sensor: controls up to 8 DALI DT6 channels and 1 motion sensor, it automatically sets the driver to DALI mode; compatible with 868 MHz narrow frequency band
- *Controller GPS* version for quick commissioning with user interface display and acting as master clock

Structural features:

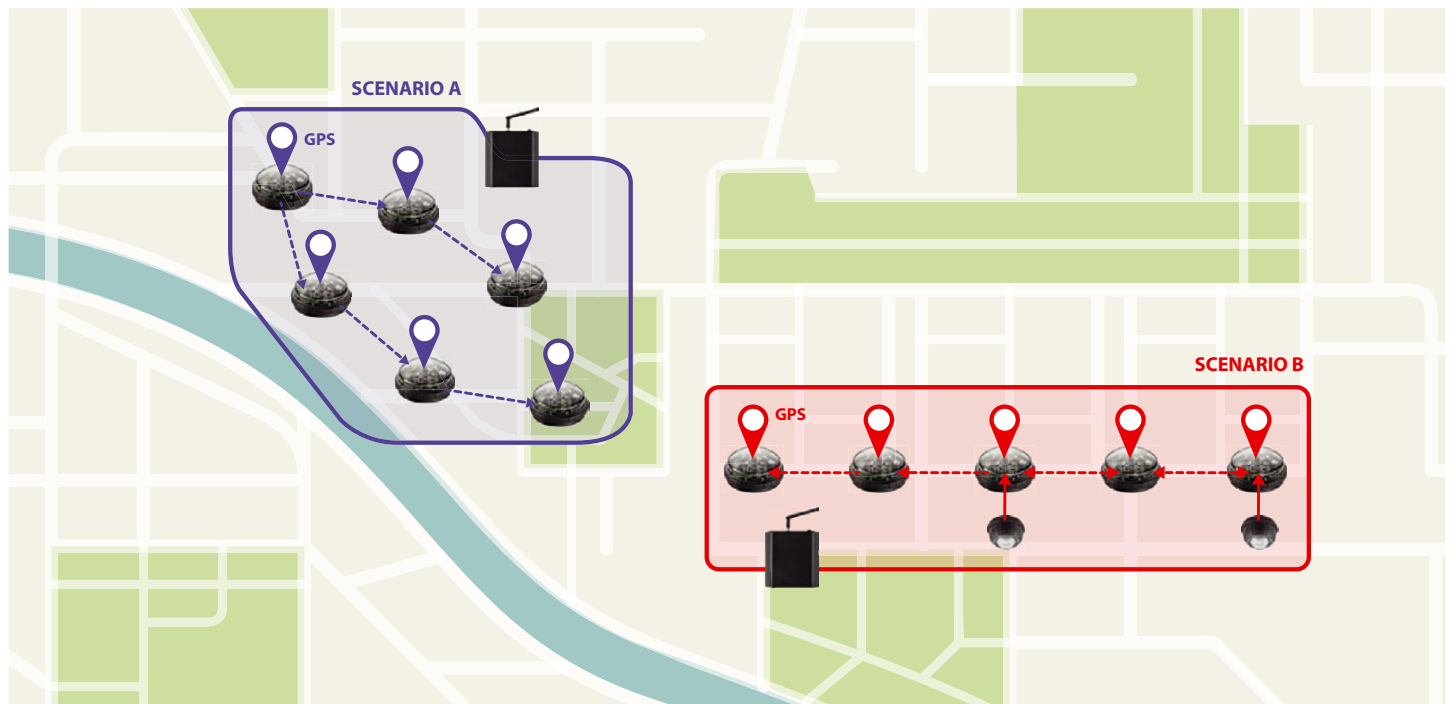
- Body: grey plastic
- Lens: plastic, smoked grey
- Protection up to IP66
- Impact resistance \leq IK09

Advantages:

- Innovative: RF Multi Master controller based on Zhaga interface with IPv6 6LoWPAN mesh technology
- Intuitive: fast and easy connectivity update of the luminaire with Zhaga Book 18 Ed. 2 interface
- Reliable: self-healing mesh network for stable and safe operation
- Safe: pressure equalization membrane to withstand quick outdoor temperature changes



The CONTROL-GROUP PROG is based on the most advanced industry standards, such as Z4i, ensuring future-proof operation, interoperability and easy maintenance. The system integrates directly into a cloud-connected IoT solution. All you need to do is to add a gateway and connect it to the Internet.

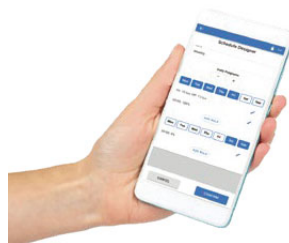


Example of possible installations

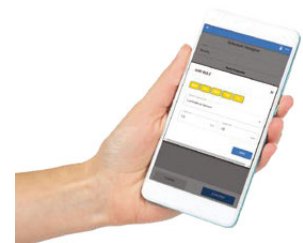
- Map support for device location



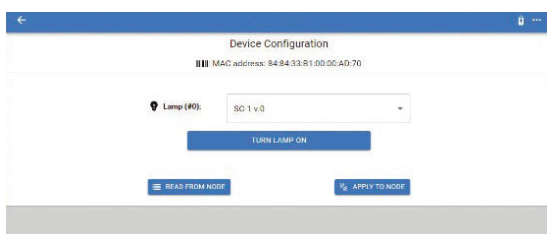
- Schedule definition and weekly programming



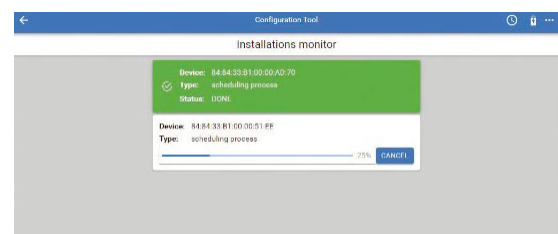
- Contextual submenus for detailed programming



- Identification of on-site fixtures (fig. a) and confirmation of information upload (fig. b)



a)



b)

- Selection of the luminaires that make up the motion path (fig. c) and checking of onboard controllers (fig. d)

Type	MAC address	RSSI	Loc
<input type="radio"/>	84:84:33:81:00:00:AD:70	-53	✓
<input checked="" type="radio"/>	84:84:33:81:00:00:51:FF	58	✓
<input type="radio"/>	84:84:33:81:00:00:0F:A2	-51	✓
<input type="radio"/>	84:84:33:81:00:00:0E:04	-56	✓

c)



d)

What is a smart city?

The intelligence of a «Smart City» is a distributed, shared, horizontal and social intelligence. It is an intelligence that promotes the participation of citizens and the organization of the city towards a greater optimization of resources and results. Energy consumption, public resource use and time are all optimized.

With the Web and the new technologies, access to services is easier and public spaces can be organized to favour mobility, save time and turn our cities smarter. Remote management systems make objects more intelligent and recognizable, so that they can communicate data and provide access to aggregated information. Thanks to a more efficient use of the Web, everything within a city (urban fittings, public buildings, monuments, etc.) can play an active role and become collectors and distributors of information about traffic, energy consumption, services and assistance to citizens, cultural and touristic attractions and much more.

The fixture can be equipped with a **control system which provides lighting managers with the ability to improve the performance of urban and street lighting** installations while saving costs by lowering energy usage, optimizing operation and reducing CO₂ emissions. The system incorporates the latest technologies in power electronics, communications and IoT. This makes possible, among other features, an on/off scheduled switching, a dynamic programming of lighting levels, map-based visualizations, automatic alarm reports, real-time fixture monitoring and maintenance scheduling of every single luminaire of multiple installations at once. The system has a friendly and secure web-based user interface which can be operated anywhere and anytime from any web-connected device such as computers, smartphones and tablets providing real time and accurate control of the lighting infrastructure.

System Highlights

- Flexible solution
 - Valid for new installations as well as for lighting renovation
 - Autonomous system but integrable with other city services platforms
 - Valid worldwide
 - Compatible with most Smart City services platforms
- Values and revenues
 - Better lighting performance
 - Money savings
 - Energy costs reduction
 - Operation costs reduction
- Users
 - Municipalities and County Councils
 - Smart City platforms operators
 - Managers of large infrastructure
- Applications
 - Street and residential lighting (streets, roads)
 - Urban & architectural lighting (monuments, public spaces)
 - Large infrastructure lighting (airports, ports)
 - Large areas and sport lighting (car parks, stadiums)
 - Urban events lighting (celebrations, demonstrations)

System Architecture & Components

- System architecture
 - Smart power electronics: LED drivers
 - Wireless network hardware
 - RF Nodes and GSM Gateways
 - Cloud-based data acquisition and network management
 - Management software suite (Network & data management)
 - Web-based multi-device user friendly interface
- Technical aspects
 - Fully programmable electrical parameters and functionalities
 - Connectivity of sensors
 - Self-diagnosis, notification of alarms
 - Mains voltage and frequency monitoring
 - High efficiency
- Lighting network nodes
 - Multi-hop wireless mesh network
 - IP-based protocol, broad coverage
 - Automatic neighbour discovery, self-organization, ad hoc configuration
 - Extensibility, interoperability, open standards
 - Robust link, reliable and high-performance network
 - Additional sensor data acquisition (optional)
- Gateway
 - Mesh network concentrator
 - 2G/3G/LTE network gateway
 - Time and date precise synch
- Central host and database
 - Local or cloud hosting available
 - End-to-end secured system
 - Smart City and other horizontal management platforms integrability
 - Multi-level data interchange capabilities, app interfaces
 - Business Intelligence and data analytics
- Management Software Suite
 - Lighting configuration, management and maintenance
 - Easy installation, test capabilities
 - Data network management and configuration
 - Reports, statistics and data visualization tools
- Fast commissioning
 - Ease of installation
 - Assembling outside fitting
 - Remote configuration
 - Reliable, outdoor-proof
- Accuracy
 - GPS accurate location
 - Point-to-point management
 - Real-time operation



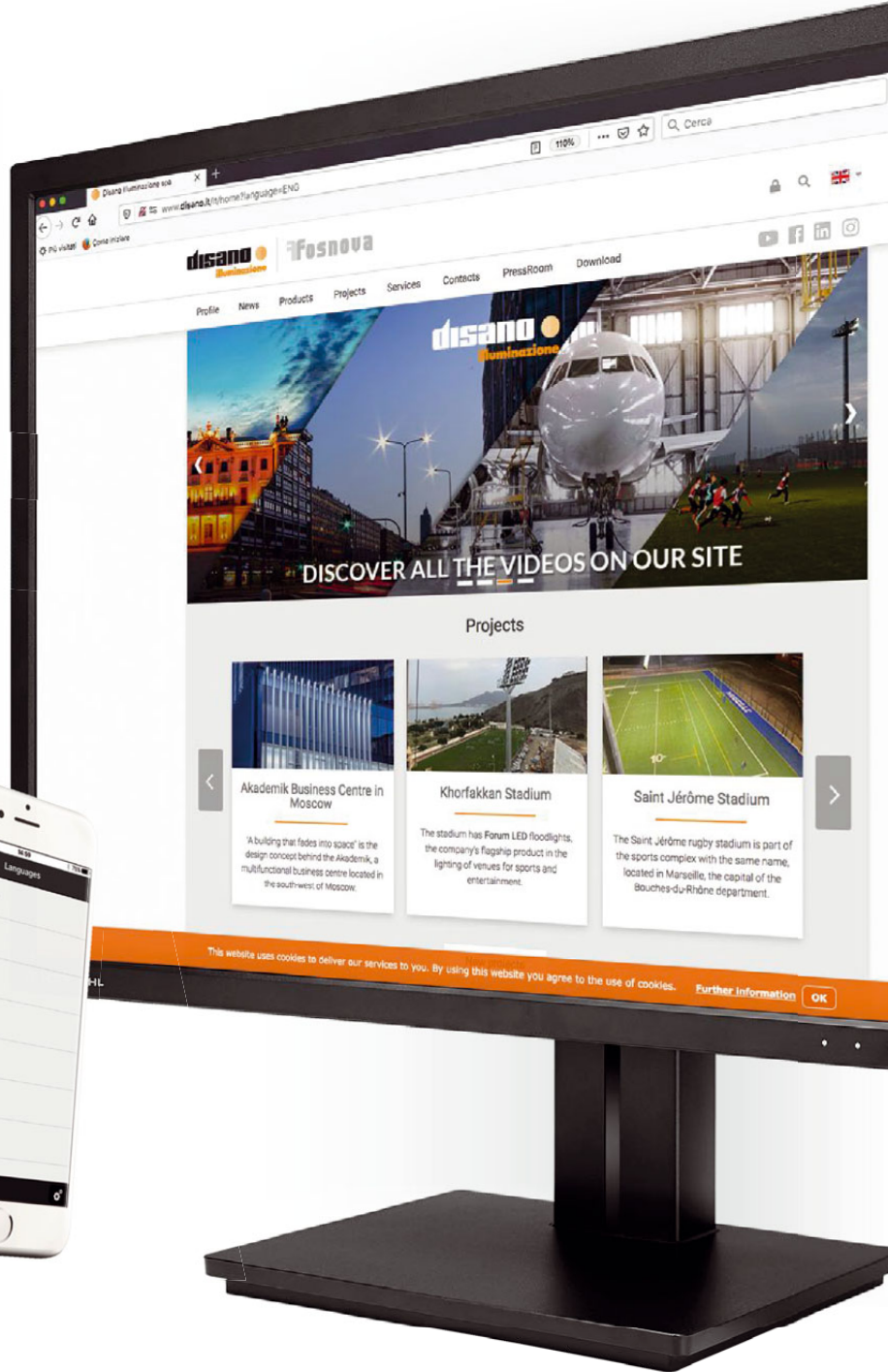
Smart City Lighting

- Flexible and avant-garde lighting
 - Programmable lighting
 - Dynamic lighting
 - Reactive to events
 - Makes possible a human centric lighting
 - Increases citizen satisfaction
 - Helps to improve safety on streets
 - Compatible with most existing Smart City & urban services management platforms and easily adaptable thanks to its open architecture
- Environmental sustainability
 - Energy savings
 - Reduction of CO2 footprint
 - Lower lighting pollution
- Data-enabled lighting
 - IoT technology enables scalable, site-based or cloud-based street lights connectivity through a robust, self-healing, wireless mesh network

User Friendly Web-based Interface

- Main functionalities
 - Easy lighting levels & timing configuration
 - Creation of customized lighting schedules
 - Energy consumption monitoring
 - Power supply monitoring
 - Alarms and events reporting
 - Operation time recording
 - Geolocation and mapping of luminaires (multiple map choice)
 - Easy allocation of luminaires by town, street, coordinates, type
 - Maintenance planning
 - Multiple users administration
- Optimum lighting maintenance
 - Possibility of preventive maintenance
 - Optimization of reactive maintenance
- Privacy and security commitment
 - Encrypted communications
 - Safe communications exchange through highest encryption levels
 - Database access security
 - Secure hosting
 - Cloud protection and data confidentiality
 - Safe access with authentication
 - Highest protection against unauthorized access





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illuminazione

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