


vizulo



MICRO
MARTIN



Architectural & Landscape

Sports Lighting

Outdoor Industrial Area

Ventilation cable gland

Combines pressure equalization and cable gland in a single unit. It ensures high air flow rates as well as high water protection capacity

Glass

Flat glass. Glass is fixed to die-cast aluminium frame with screws

LED module

High quality LED's with optimal thermal resistance and energy consumption characteristic, for high lumen output and long expected life time. Color temperature available: 2700 K, 3000 K, 4000 K

(1800 K, 2200 K, 3500 K, 5000 K, 5700 K, 6500 K available on customer request)

Sockets

Zhaga and NEMA sockets compatible

Protection

IP66 for the complete luminaire

Module temperature control

The LED driver will start reducing the light output when the LED's approach critical temperature. The temperature is measured via a sensor placed on the PCB

(function available on customer request)

Body

Die-cast aluminium

Lighting protection

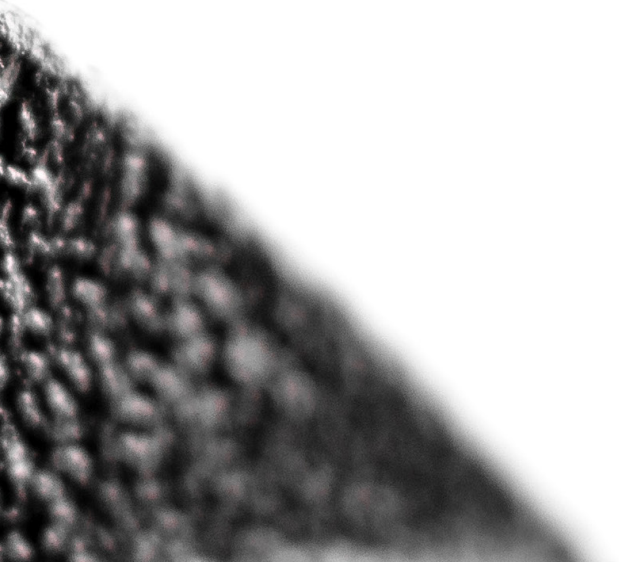
Built-in surge protection starting from 6 kV till 10 kV

Light regulation

MICRO MARTIN drivers offer integrated midnight dimming and network-controlled 1-10 V and DALI protocols

Impact resistance

Up to IK10 (Vandal protected) for the complete luminaire



Traffic Roads

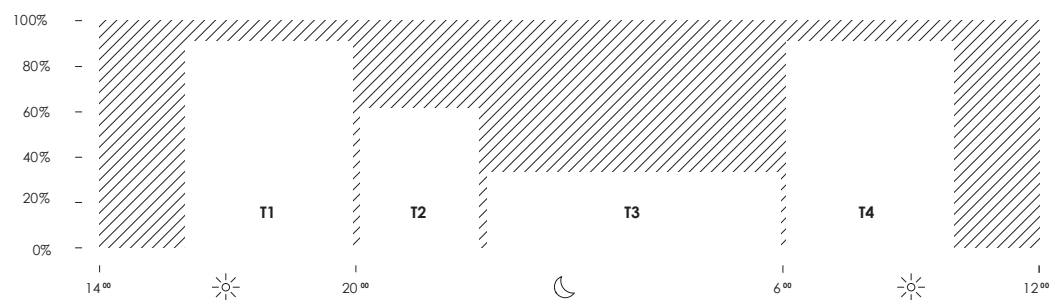
Pedestrian Roads

Residential Street/Area

City Centre

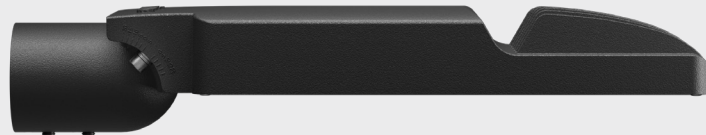
Midnight dimming

Midnight dimming provides multi-stage night-time power reduction based on an internal timer referenced to the power on/off time. There is no need for an external control infrastructure. The unit automatically performs a dimming profile based on the predefined scheduled reference to the midpoint, which is calculated based on the power on/off times.



Micro martin

with 60 mm console



Note! Glass with gray print is standard
(black print glass on request!)



RAL7035



RAL9006

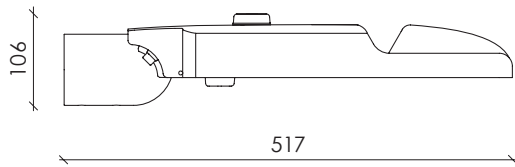
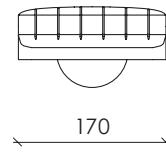
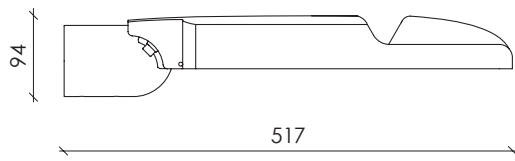


DB703

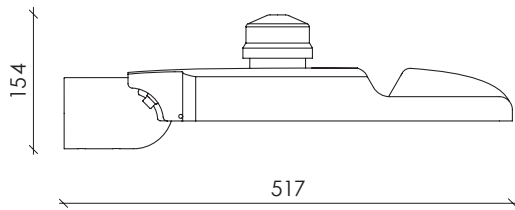


RAL9005

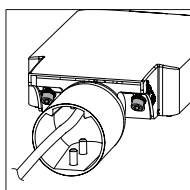
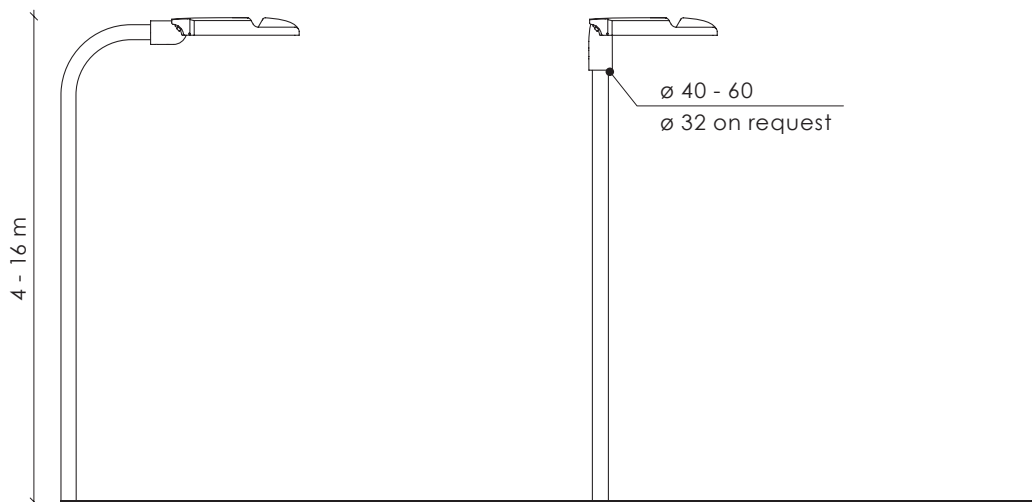
Other colors
available on request



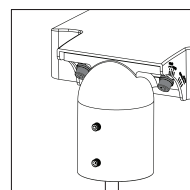
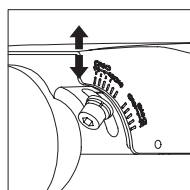
Dimensions with 2 Zhaga connectors



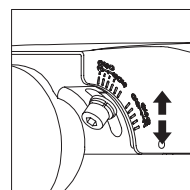
Dimensions with NEMA socket



Horizontal entry $\leq -20^\circ \dots 5^\circ$

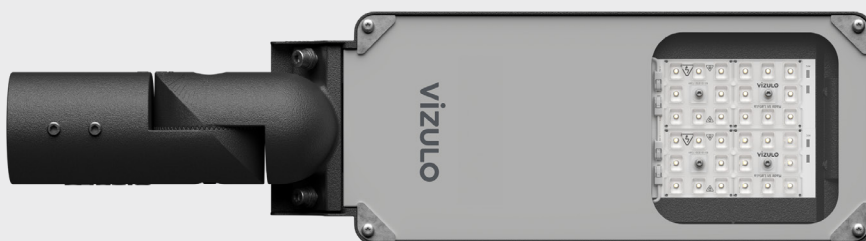


Vertical entry $\leq 0^\circ \dots 20^\circ$



Micro martin

with 60 mm adjustable console



Note! Glass with gray print is standard
(black print glass on request!)



RAL7035



RAL9006

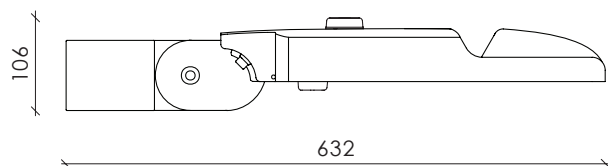
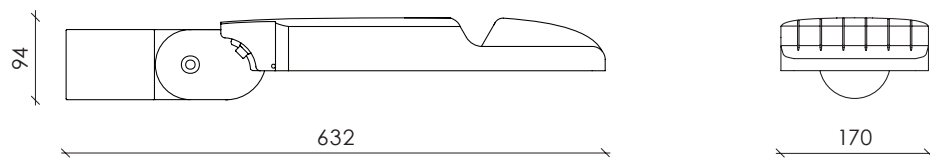


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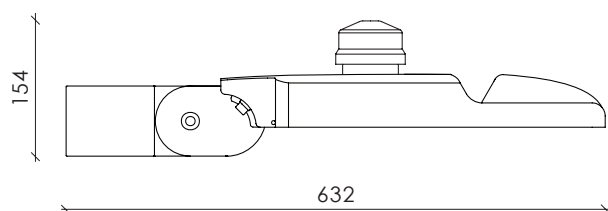


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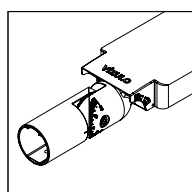
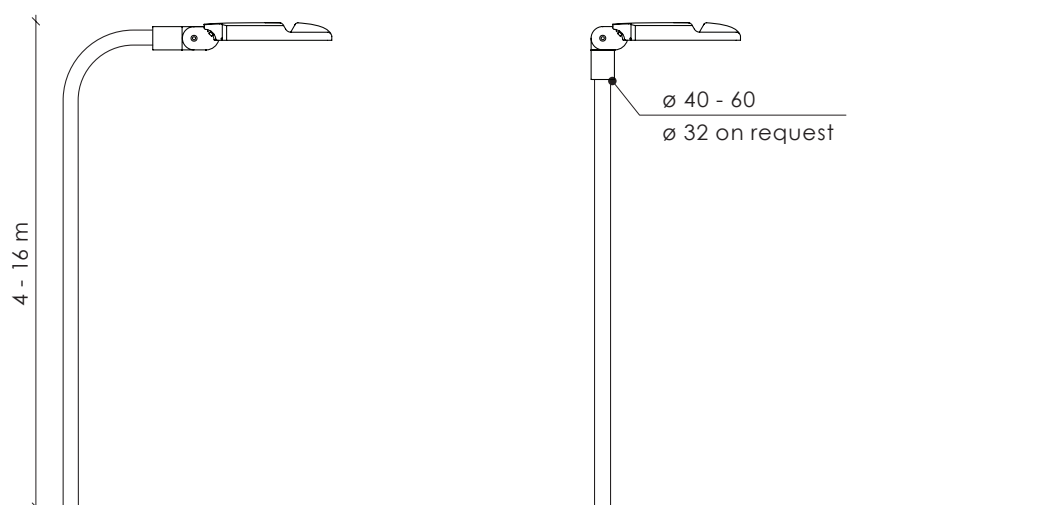
Other colors
available on request



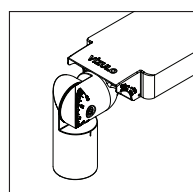
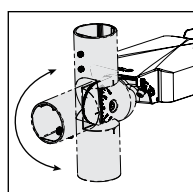
Dimensions with 2 Zhaga connectors



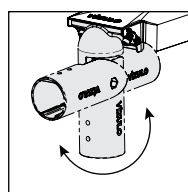
Dimensions with NEMA socket



Horizontal entry $\pm 90^\circ$



Vertical entry $\pm 90^\circ$



Micro martin

with 76 mm adjustable console



Note! Glass with gray print is standard
(black print glass on request!)



RAL7035



RAL9006

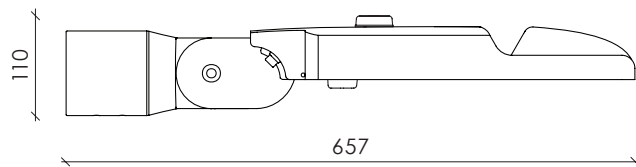
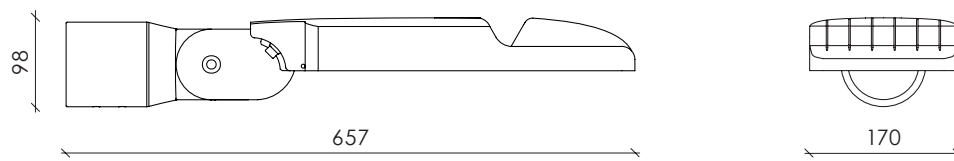


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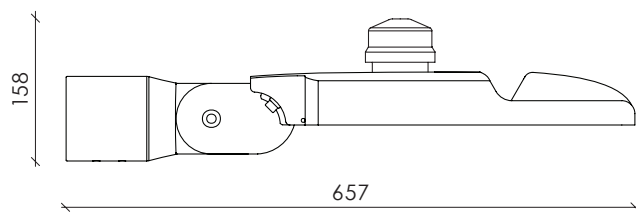


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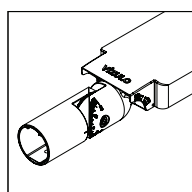
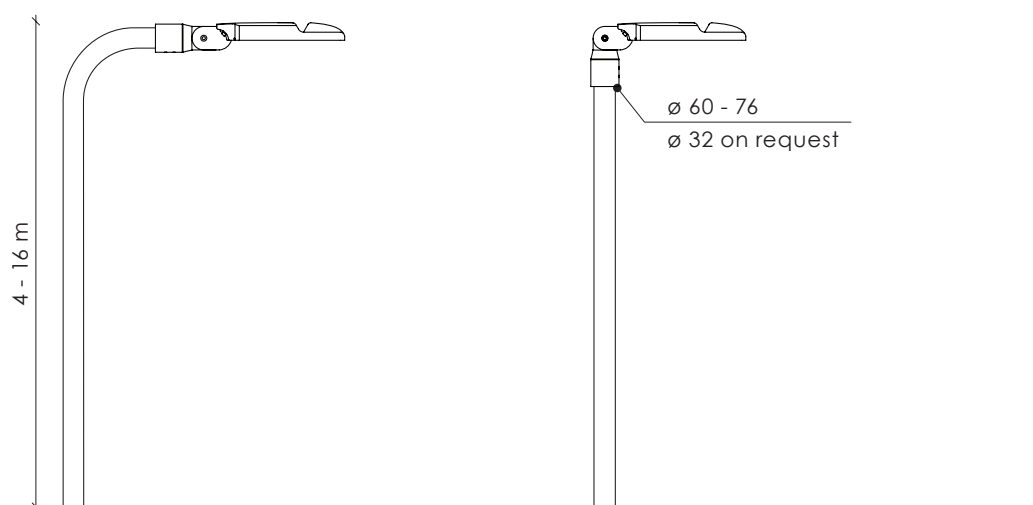
Other colors
available on request



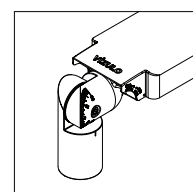
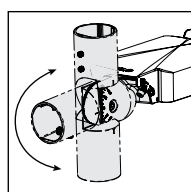
Dimensions with 2 Zhaga connectors



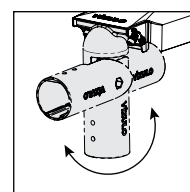
Dimensions with NEMA socket



Horizontal entry $\pm 90^\circ$



Vertical entry $\pm 90^\circ$



Features

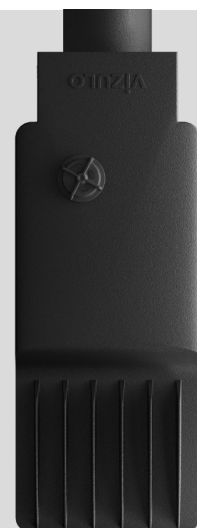
▮ SAFETY SWITCH

Safety first!
Quick and safe maintenance of
the opened luminaire by automatic
disconnecting the mains supply



▮ ZHAGA TOP AND BOTTOM

Connect up to 2 Zhaga Book 18
devices for motion detection
and luminaire control



▮ REFLECTOR

MICRO MARTIN reflector provides
4 to 7% increase in luminous flux
depending on optics



Technical information



| | |
|-------------|--------------------------------------|
| V | 198 - 264 / 110 - 277 ⁽¹⁾ |
| Hz | 50 - 60 |
| W | 5 - 115 |
| lm | 446 - 14371 ⁽²⁾ |
| lm/W | 90 - 179 ⁽³⁾ |
| K | 2700 / 3000 / 4000 ⁽⁴⁾ |
| °C | -40 up to +50 ⁽⁵⁾ |
| CRI | >70 / >80 / >90 ⁽⁴⁾ |

| | |
|----------------------------------|---|
| Body: | Die-cast aluminium |
| Dimming: | DALI / 1-10 V / Midnight dimming / Step dimming / Mains dimming |
| Initial chromaticity: | MacAdam 5 |
| Lifetime: | Eco 100 000 h (L90B10) at Ta = 25 °C* Standard 100 000 h (L98B10) at Ta = 25 °C* High density 100 000 h (L98B10) at Ta = 25 °C* |
| Warranty: | 5 years |
| Installation: | Pre-wired cable 30 cm ⁽⁶⁾ |
| Spigot: | 32 - 40 mm ⁽⁷⁾ / 40 - 60 mm / 60 - 76 mm |
| Socket: | NEMA Top / Zhaga Top and Bottom |
| Intelligent Control: | Stand-alone / Group / CMS |
| Sensor: | Motion / Motion + Daylight / Daylight |
| Surge protection: | 4 / 6 / 10 kV ⁽⁸⁾ |
| Corrosion protection: | Up to C5 |
| Neto weight: | Up to 3.8 kg |
| Max. wind load area, SCd: | 0.039 m ² |

¹⁾ Maximum operating voltage, ENEC certificate voltage 198 - 264 V, UL certificate voltage 110 - 277 V

²⁾ Lumen output indicated at CRI > 70

³⁾ This value depends from configuration and can reach even higher number when max efficient components are combined

⁴⁾ 1800 / 2200 / 3500 / 5000 / 5700 / 6500 K available on request along with other not listed CRI and CCT

⁵⁾ Operating temperature differs depending on chosen output wattage

⁶⁾ Other lengths available on request

⁷⁾ Achievable with an adapter for 40 - 60 mm spigot

⁸⁾ 10 kV (L-N; L/N-PE) surge protection device available on request

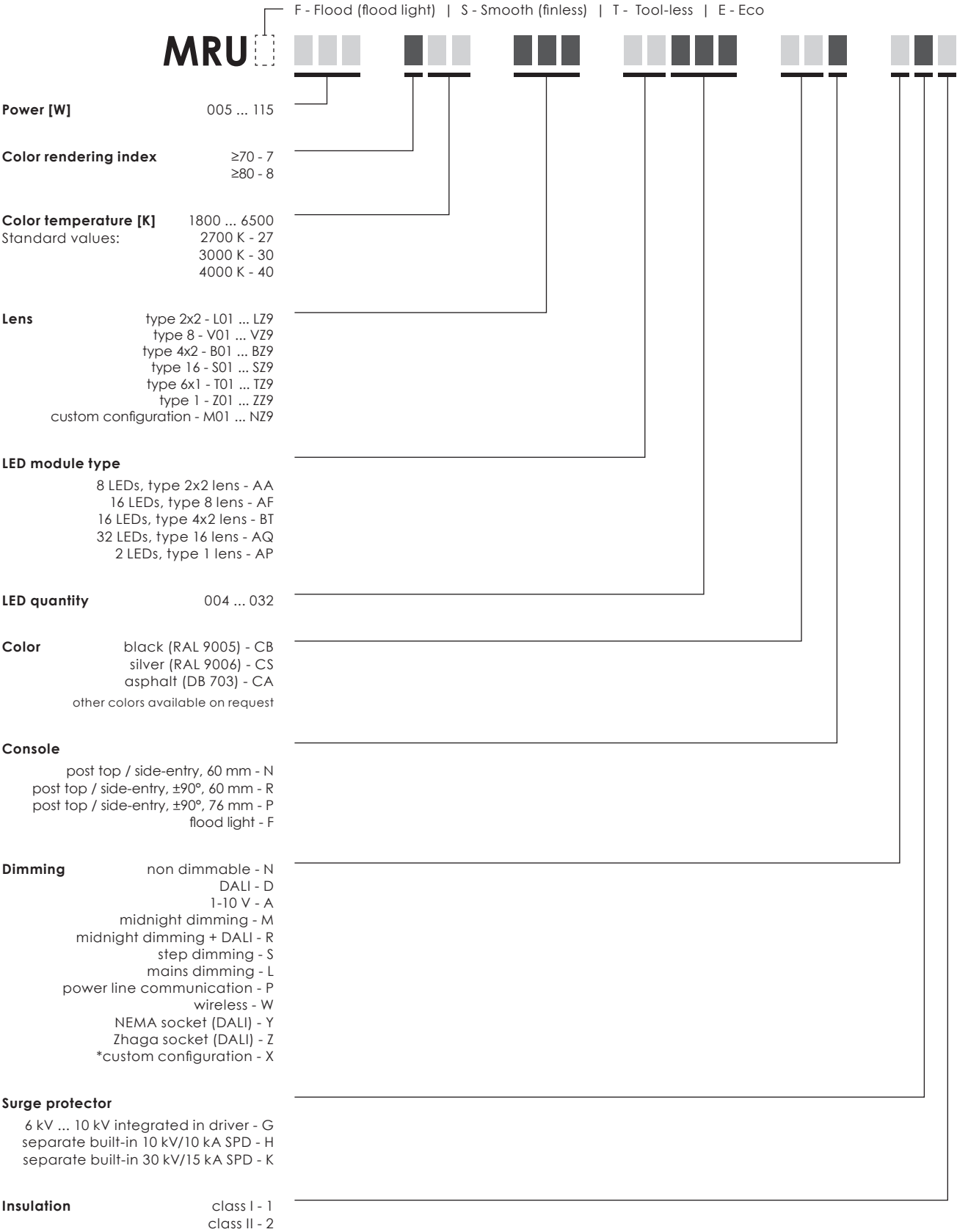
⁹⁾ Depending on the configuration. Please contact VIZULO export representatives for additional information

¹⁰⁾ Coming soon

* This value is only informative and may change according to selected article. LED Lifetime is strongly depending from LEDs current and junction temperature – increase in LED current and luminaire power lead to increase of junction temperature and as consequence lifetime decrease. Thus, luminaire models with lower power, lower current (and lower junction temperature) will have higher lifetime than standard models. And high power and high current luminaire models may have negative lifetime deviation comparing to standard models. To receive precise value please contact VIZULO export representatives.

Technical parameters for final product can differ from typical data by 7% due to special conditions of LED manufacturing processes.

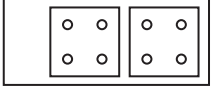
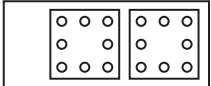
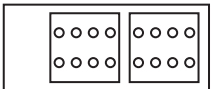
Model name
principles



* CUSTOM CONFIGURATION EXAMPLE

NEMA socket + Zhaga socket; NEMA socket + Zhaga socket + midnight dimming; etc.
Custom configuration information is available in order confirmation.

LED modules

| Type | Max module quantity | Min LED quantity per module | Max LED quantity per module | Max LED quantity per luminaire | LED step | LED type | Lens type | Layout |
|------|---------------------|-----------------------------|-----------------------------|--------------------------------|----------|--------------|--------------------|---|
| AA | 2 | 4 | 8 | 16 | 2 | Standard Eco | type 2x2 L01...LZ9 |  |
| AF | 2 | 4 | 16 | 32 | 4 | Standard | type 8 V01...VZ9 |  |
| BT | 2 | 4 | 16 | 32 | 4 | Standard Eco | type 4x2 B01...BZ9 |  |

Cable core count

| Socket | Dimming | Model number abbreviation | Input cable core count - Class I | Input cable core count - Class II |
|--------|-------------------------|---------------------------|----------------------------------|-----------------------------------|
| None | None | N | 3 | 2 |
| None | DALI | D | 5 | 4 |
| None | Midnight dimming | M | 3 | 2 |
| None | Midnight dimming + DALI | R | 5 | 4 |
| None | Step dimming | S | 5 ⁽¹⁾ | 4 ⁽¹⁾ |
| None | Mains dimming | L | 3 | 2 |
| Zhaga | DALI | Z | 3 ⁽²⁾ | 2 ⁽²⁾ |
| Zhaga | Midnight dimming | X | 3 | 2 |
| Zhaga | Mains dimming | X | 3 | 2 |
| NEMA | DALI | Y | 3 / 5 ⁽³⁾ | 2 / 4 ⁽³⁾ |
| NEMA | Midnight dimming | X | 3 | 2 |
| NEMA | Step dimming | X | 5 ⁽¹⁾ | 4 ⁽¹⁾ |
| NEMA | Mains dimming | X | 3 | 2 |

¹⁾ 1 core unused

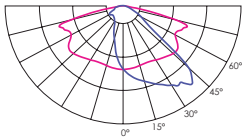
²⁾ DALI wires used only for internal connection between driver and Zhaga socket(s)

³⁾ +2 cores for external DALI connection

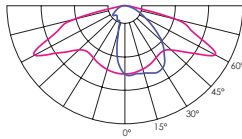
Optics

Standard modules

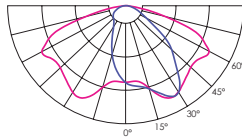
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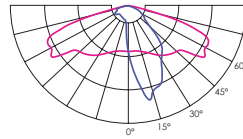
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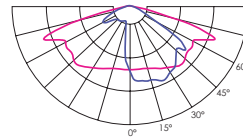
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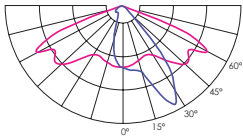
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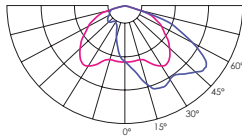
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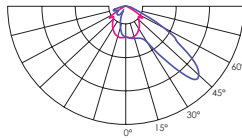
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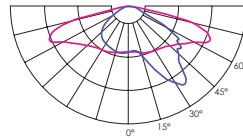
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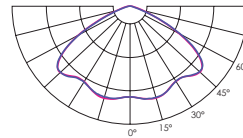
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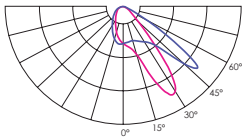
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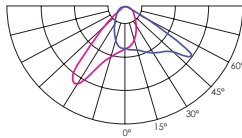
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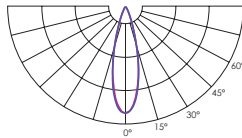
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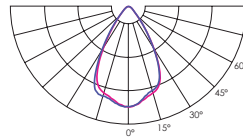
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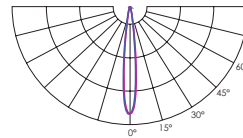
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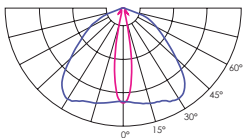
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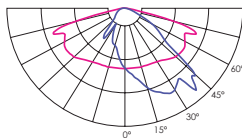
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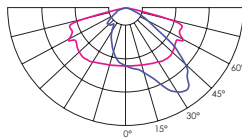
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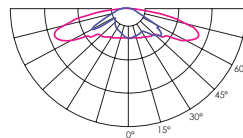
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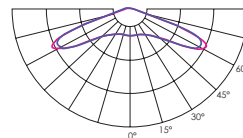
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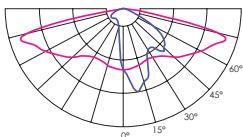
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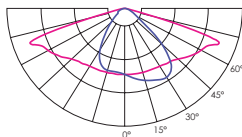
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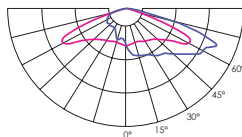
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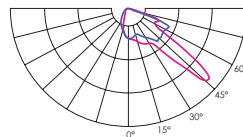
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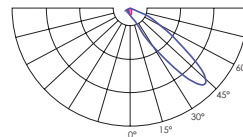
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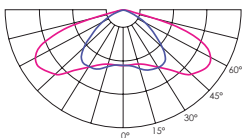
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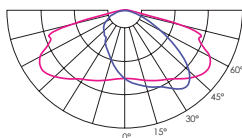
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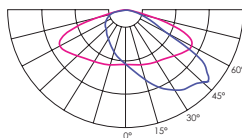
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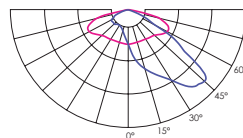
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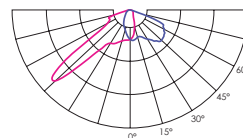
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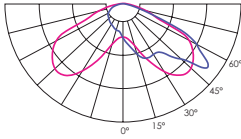
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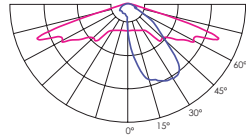
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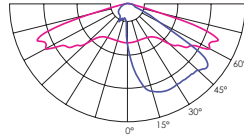
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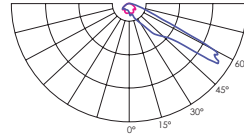
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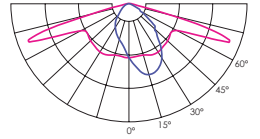
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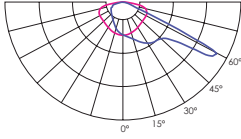
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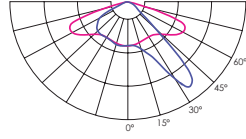
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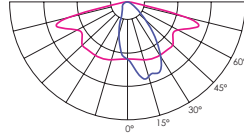
L66



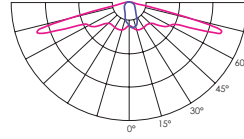
L67



L90

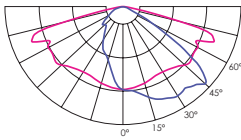


L94

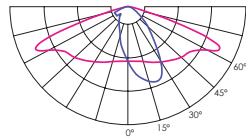


High density
modules

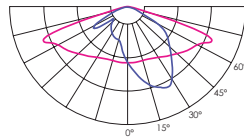
V01



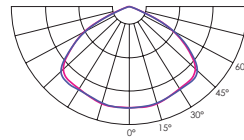
V04



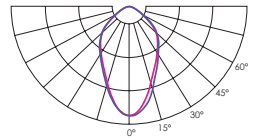
V05



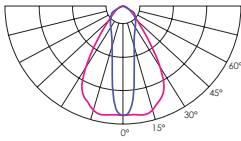
V10



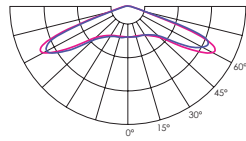
V13



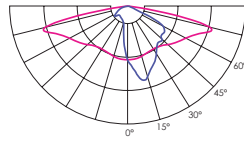
V16



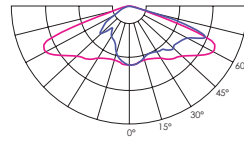
V20



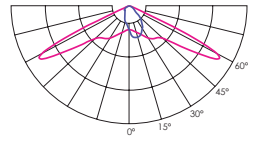
V22



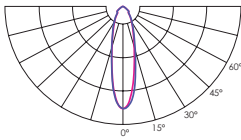
V35



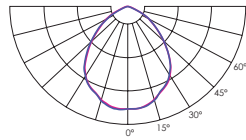
V45



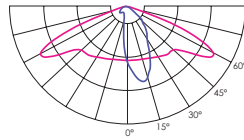
V52



V53



V57





Pedestrian crossing optics



| | | | |
|-------------|---|--------------------------------------|---|
| V | 198 - 264 / 110 - 277 ⁽¹⁾ | Body: | Die-cast aluminium |
| Hz | 50 - 60 | Dimming: | DALI / 1-10 V / Midnight dimming / Step dimming / Mains dimming |
| W | 5 - 50 ⁽²⁾ 5 - 115 ⁽³⁾ | Initial chromaticity: | MacAdam 5 |
| lm | Up to 6290 ⁽²⁾ Up to 14371 ⁽³⁾ | Lifetime: | Eco 100 000 h (L90B10) at Ta = 25 °C* Standard 100 000 h (L80B10) at Ta = 25 °C* |
| lm/W | Up to 179 ⁽⁴⁾ | Warranty: | 5 years |
| K | 2700 / 3000 / 4000 ⁽⁵⁾ | Installation: | Pre-wired cable 30 cm ⁽⁷⁾ |
| °C | -40 up to +50 ⁽⁶⁾ | Spigot: | 32 - 40 mm ⁽⁸⁾ / 40 - 60 mm / 60 - 76 mm |
| CRI | >70 / >80 / >90 ⁽⁵⁾ | Socket: | NEMA Top / Zhaga Top and Bottom |
| | | Intelligent Control: | Stand-alone / Group / CMS |
| | | Sensor: | Motion / Motion + Daylight / Daylight |
| | | Surge protection: | 4 / 6 / 10 kV ⁽⁹⁾ |
| | | Corrosion protection: | Up to C5 |
| | | Neto weight: | Up to 3.8 kg |
| | | Max. wind load area, SCd: | 0.039 m ² |

⁽¹⁾ Maximum operating voltage, ENEC certificate voltage 198 - 264 V, UL certificate voltage 110 - 277 V

⁽²⁾ Standard modules, lumen output indicated at CRI > 70

⁽³⁾ ECO modules, lumen output indicated at CRI > 70

⁽⁴⁾ This value depends from configuration and can reach even higher number when max efficient components are combined

⁽⁵⁾ 1800 / 2200 / 3500 / 5000 / 5700 / 6500 K available on request along with other not listed CRI and CCT

⁽⁶⁾ Operating temperature differs depending on chosen output wattage

⁽⁷⁾ Other lengths available on request

⁽⁸⁾ Achievable with an adapter for 40 - 60 mm spigot

⁽⁹⁾ 10 kV (L-N; L/N-PE) surge protection device available on request

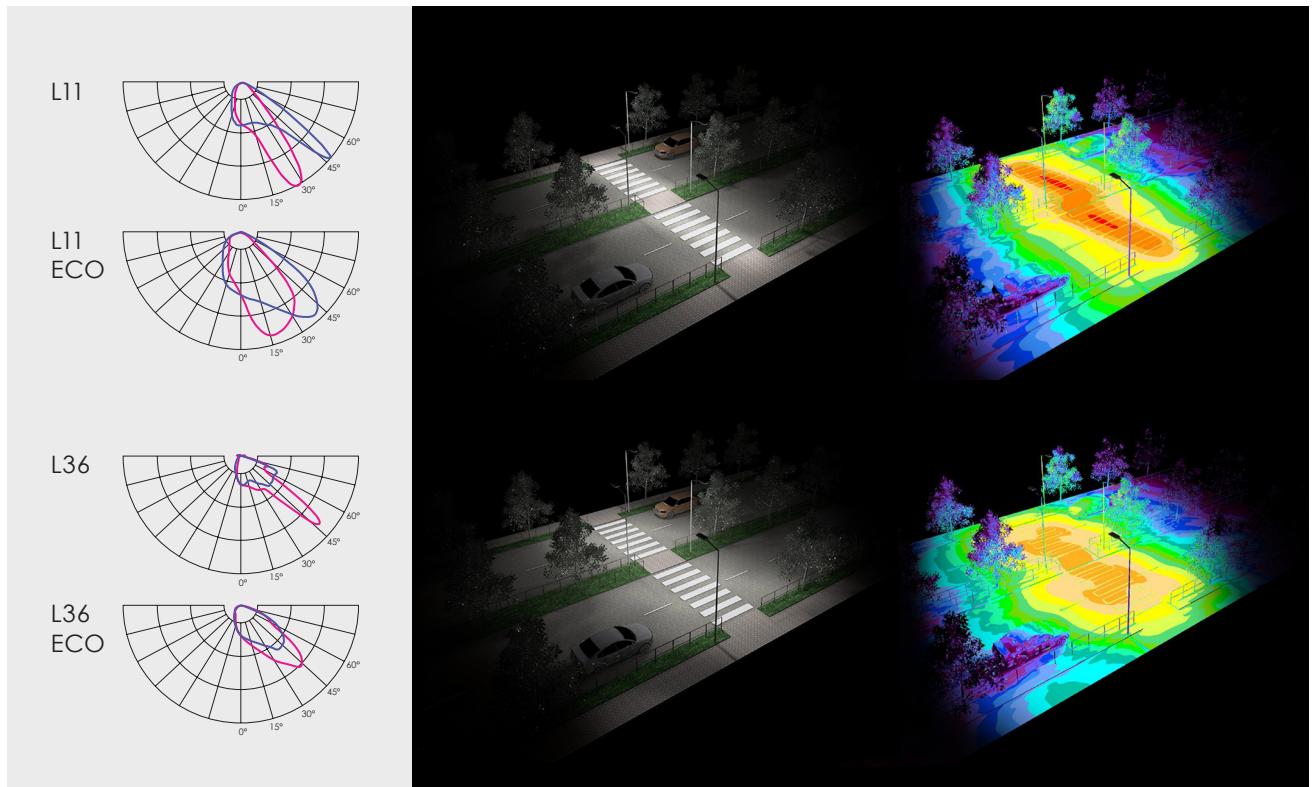
⁽¹⁰⁾ Depending on the configuration. Please contact VIZULO export representatives for additional information

⁽¹¹⁾ Coming soon

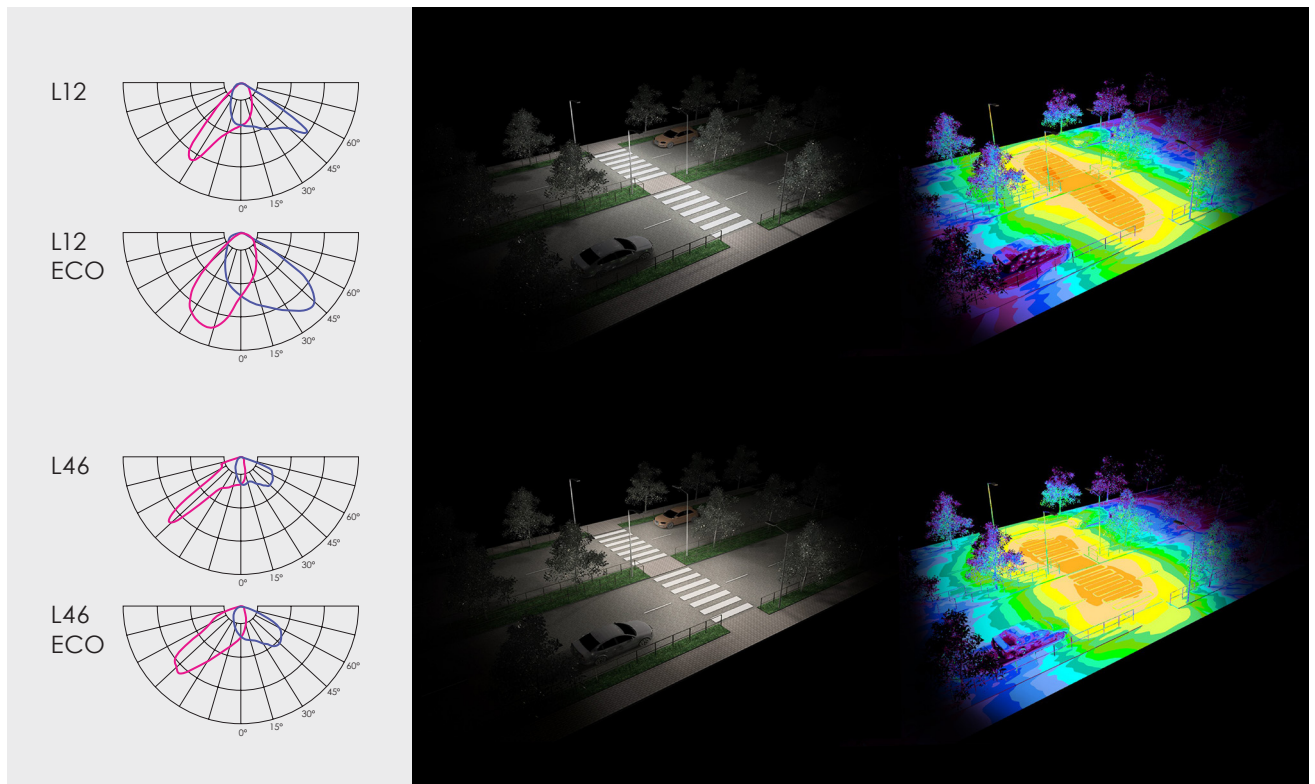
* This value is only informative and may change according to selected article. LED Lifetime is strongly depending from LEDs current and junction temperature – increase in LED current and luminaire power lead to increase of junction temperature and as consequence lifetime decrease. Thus, luminaire models with lower power, lower current (and lower junction temperature) will have higher lifetime than standard models. And high power and high current luminaire models may have negative lifetime deviation comparing to standard models. To receive precise value please contact VIZULO export representatives.

Technical parameters for final product can differ from typical data by 7% due to special conditions of LED manufacturing processes.

Right side traffic

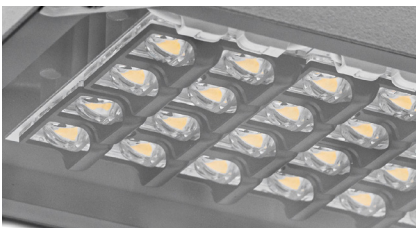


Left side traffic



Backlight cutter

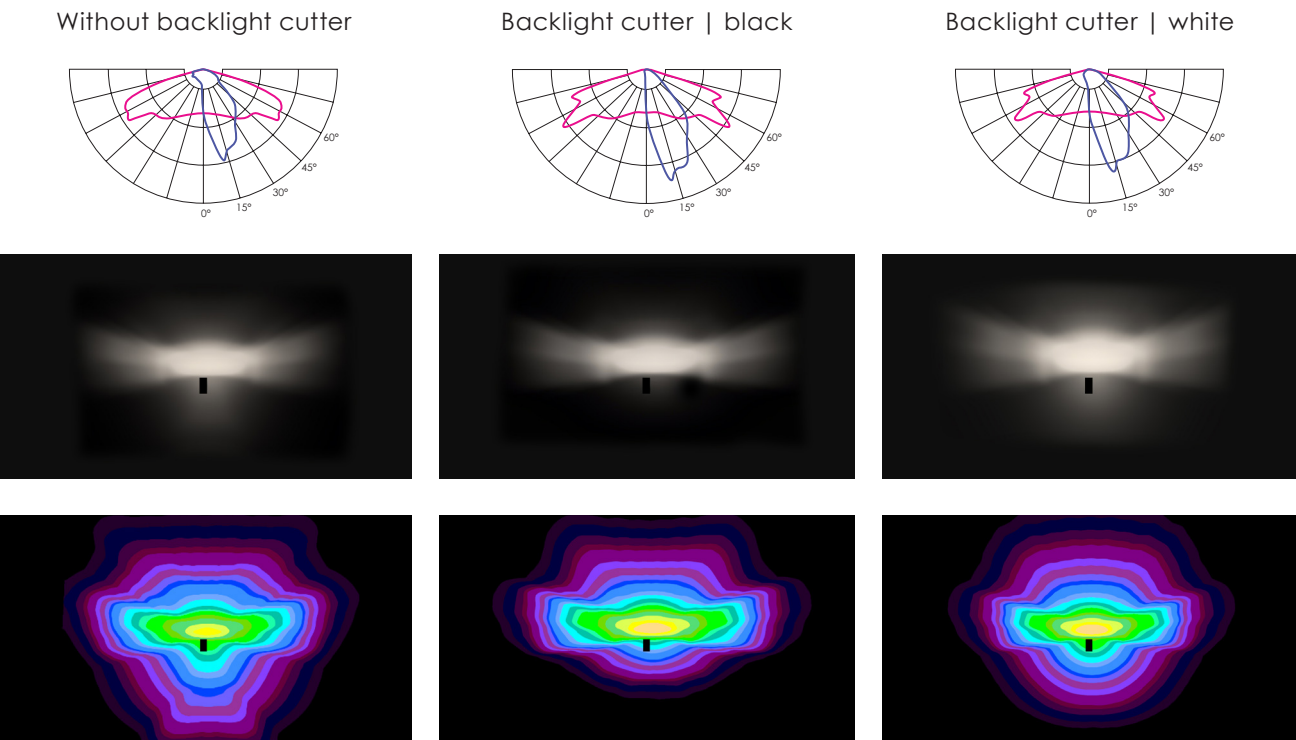
Backlight cutter | black
Art. 70000661



Backlight cutter | white
Art. 70000662



Optical loses from 10% to 31% depending from used optic.



Visors



MRU back visor | silver (RAL9006)

Art. 70055116

➤ Back visor



MRU side visor | silver (RAL9006)

Art. 70055117

➤ Back + side visors



MRU front visor | silver (RAL9006)

Art. 70055118

MRU visor set | silver (RAL9006)

Art. 70055132

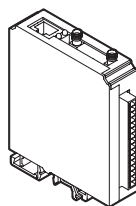
➤ Visor set

Accessories

MAUGLO Segment controller

Art. 70010004

Segment Controller receives commands from MAUGLO server via GSM and transmits tasks to Luminaire Controller via radio frequency communication.

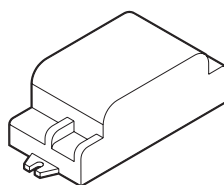


MAUGLO Luminaire controller

Art. 70010001 /
LC2M-23-05-R Luminaire
Controller - 2 relays

Luminaire Controller is wireless mesh-networking device that uses 868 MHz for communication with Segment Controller and other Luminaire Controllers. It is delivered in various configurations to meet the needs of your applications.

Art. 70010002 /
LC2M-12-05-R Luminaire
Controller - 1 relay



MAUGLO Surge Protection device

Art. 70020001

Surge Protection device offers protection against lighting surges;

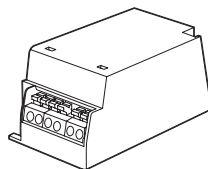
Voltage Protection level up (L-N) $\leq 1,5$ kV

Voltage Protection level up (L/N-PE) $\leq 2,0$ kV

$U_{oc} = 10$ kV

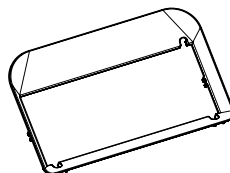
$I_{max} = 10$ kA

$I_{nom} = 5$ kA



MICRO MARTIN reflector

Art. 70055123



Radio Frequency Antenna

Art. 70000108

Heavy duty IP67 enclosure

Mounted in cabinet or luminaire body
with 14 mm screw

SMA connector



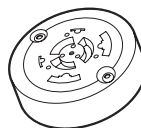
NEMA Socket

2213362-3, 5 pin NEMA socket 105°C wires

Art. 70000362

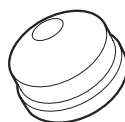
2213362-4, 7 pin NEMA socket 105°C wires

Art. 70000333



Dummy Link for NEMA Socket

Art. 70000113



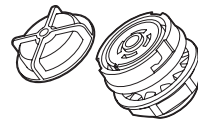
Zhaga socket no cap

Art. 70000612



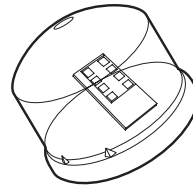
Zhaga socket with cap

Art. 70000613



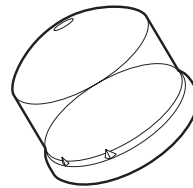
MSLC205RG Luminaire controller + radar, Zhaga, 80 mm

Art. 70010027



MSLC205RGL Luminaire controller, Zhaga, 80 mm

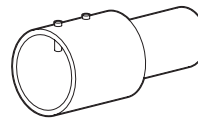
Art. 70010029



Console adapter

Spigot size 60 - 76 mm

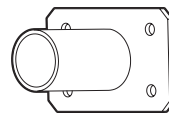
Art. 70044002



Wall mounting bracket

Spigot size 40 - 60 mm

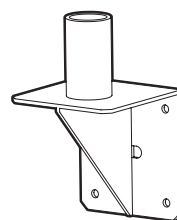
Art. 70044001



Wall mounting bracket

Vertical

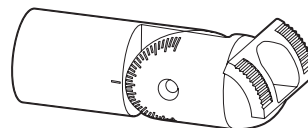
Art. 70044004



Adjustable Console $\pm 90^\circ$

40 mm to 60 mm - Mini Martin / Micro Martin

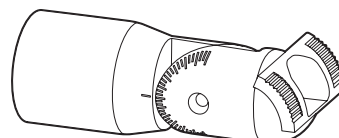
Art. 70055005



Adjustable Console $\pm 90^\circ$

60 mm to 76 mm - Mini Martin / Micro Martin

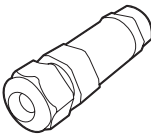
Art. 70055006



Connector

Art. 70000313

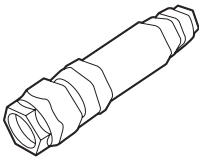
IP66 rated connector offers easy installation of the street luminaires.
3 wire cable connector



Connector

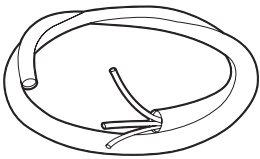
Art. 70000304

IP66 rated connector offers easy installation of the street luminaires.
5 wire cable connector

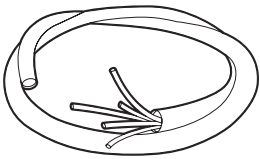


Pre-installed cable sets
For internal power supply

| | |
|------------------------------------|---------------|
| 3 x 1,5 mm - 0,5 m long cable..... | Art. 70000319 |
| 3 x 1,5 mm - 5 m long cable..... | Art. 70000320 |
| 3 x 1,5 mm - 6 m long cable..... | Art. 70000321 |
| 3 x 1,5 mm - 8 m long cable..... | Art. 70000322 |
| 3 x 1,5 mm - 10 m long cable..... | Art. 70000323 |
| 3 x 1,5 mm - 12 m long cable..... | Art. 70000324 |
| 3 x 1,5 mm - 18 m long cable..... | Art. 70000325 |
| 3 x 1,5 mm - 20 m long cable..... | Art. 70000425 |
| 3 x 1,5 mm - 22 m long cable..... | Art. 70000426 |
| 3 x 1,5 mm - 25 m long cable..... | Art. 70000427 |
| 3 x 1,5 mm - 32 m long cable..... | Art. 70000430 |
| 3 x 1,5 mm - 42 m long cable..... | Art. 70000431 |
| 3 x 1,5 mm - 50 m long cable..... | Art. 70000432 |



| | |
|------------------------------------|---------------|
| 5 x 1,5 mm - 0,5 m long cable..... | Art. 70000305 |
| 5 x 1,5 mm - 5 m long cable..... | Art. 70000316 |
| 5 x 1,5 mm - 6 m long cable..... | Art. 70000317 |
| 5 x 1,5 mm - 8 m long cable..... | Art. 70000318 |
| 5 x 1,5 mm - 10 m long cable..... | Art. 70000306 |
| 5 x 1,5 mm - 12 m long cable..... | Art. 70000307 |
| 5 x 1,5 mm - 18 m long cable..... | Art. 70000308 |
| 5 x 1,5 mm - 20 m long cable..... | Art. 70000428 |
| 5 x 1,5 mm - 22 m long cable..... | Art. 70000429 |
| 5 x 1,5 mm - 25 m long cable..... | Art. 70000429 |
| 5 x 1,5 mm - 32 m long cable..... | Art. 70000433 |
| 5 x 1,5 mm - 42 m long cable..... | Art. 70000434 |
| 5 x 1,5 mm - 50 m long cable..... | Art. 70000435 |



Certification



CE – conformity with European Union's health, safety and environmental protection standards

The CE mark is placed on products to state conformity with the relevant EU health, safety and environmental protection standards. In case of electronic products, the standards are, for example, the Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS) directive, Waste Electrical and Electronic Equipment (WEEE) directive, the Electromagnetic Compatibility (EMC) directive etc. The mark ensures that the product can be sold anywhere in the European Economic Area (EEA).



UKCA - conformity with the relevant essential requirements of Great Britain

UKCA is a product mark intended to demonstrate compliance with the directives set by Great Britain (England, Scotland and Wales). It is analogous to the European Union's CE marking, meaning that depending on the type of product the applicable regulations are different. In case of LED lighting, the relevant requirements are compliance with the Electromagnetic Compatibility Regulations, the Electrical Equipment (Safety) Regulations, the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations and the Ecodesign for Energy-Related Products and Energy Information (Lighting Products) Regulations.



EAC - compliance with the regulations of the Eurasian Customs Union

The EAC Mark demonstrates conformity with all technical regulations defined by the Eurasian Customs Union. The conformity is assessed by an accredited independent testing laboratory. The EAC marking is a requirement in order to place a product on the market of Russia and the Eurasian Economic Union.



RoHS – compliance with European Union's RoHS directive

The RoHS (Restriction of Hazardous Substances in Electrical and Electronic Equipment) directive restricts (with exceptions) the use of ten hazardous materials in the manufacture of various types of electronic and electrical equipment. The aim of the directive is to prevent the risks posed to human health and the environment related to the management of electronic and electrical waste.



Zhaga-D4i - compliance with the requirements of Zhaga Book 18 or 20 and DALI standard

The Zhaga-D4i Mark represents the fact that a product is certified following the Zhaga-D4i joint certification program – a program established by Zhaga and the DALI Alliance (DiiA). The Zhaga part of the Mark represents that a product meets the requirements of Zhaga Book 18 or 20 – Zhaga standards that describe a smart interface between outdoor luminaires and sensing/ communication nodes. The DALI Alliance part of the Mark signifies that the product conforms with the DALI standard for intelligent, IoT-ready luminaires.



UL - compliance with UL standards for LED lighting **[Coming soon]**

UL stands for Underwriter Laboratories, a third-party certification company that's been around for over a century. UL sets industry-wide standards for products and performs testing according to these standards to ensure that the products marked with the UL mark are safe and high quality.



ENEC - compliance with European standards for electrical equipment

The ENEC Mark is the high quality European Mark for electrical equipment. It is governed by the European Testing Inspection Certification System which ensures that the testing of products is conducted at ENEC – accredited laboratories, following additional requirements regarding the testing procedures. The ENEC Mark means that the testing procedure was followed scrupulously and that the consumer can be certain of the product's safety and quality.



ENEC+ - compliance with European standards for LED – based electronic products

The ENEC+ Mark is the high quality European Mark for LED – based electronic products. It demonstrates the product's compliance with the IEC standards for performance of LED modules and LED based luminaires. The ENEC+ Mark can only be granted to a product that has already acquired the ENEC Mark.



International EPD System – Environmental Product Declaration available

An Environmental Product Declaration (EPD) is a declaration of the materials, energy, transportation and other resources involved in the production, use and end-of life of a specific product. It is based on a Life Cycle Assessment (LCA) study that complies with standards EN ISO 14040 and EN ISO 14044. A product's EPD can help evaluate its impact on the environment and make sustainable choices.



LED module replaceable by a professional

This pictogram shows that the LED modules included in the luminaire are only replaceable by a professional. This labeling is a requirement following the introduction of European Union's Regulation on energy labelling for light sources (EU) 2019/2015.



LED driver replaceable by a professional

This pictogram shows that the LED driver included in the luminaire is only replaceable by a professional. This labeling is a requirement following the introduction of European Union's Regulation on energy labelling for light sources (EU) 2019/2015.

References



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VIZULO



VIZULOSOLUTIONS

