VIZULO

Luscinia
TOP ENTRY

Architectural & Landscape

Outdoor Industrial Area

Residental Street/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
LUSCINIA drivers offer integrated midnight dimming and network-controlled 1-10 V and DALI protocols

Impact resistance
IK08 (Vandal protected) for the complete luminaire

Traffic Roads

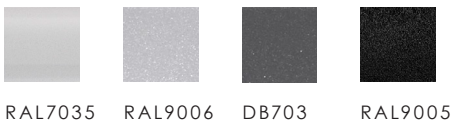**Pedestrian Roads**

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.
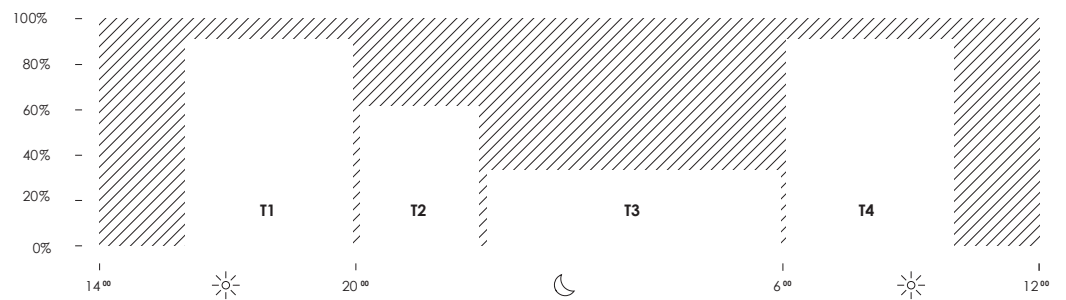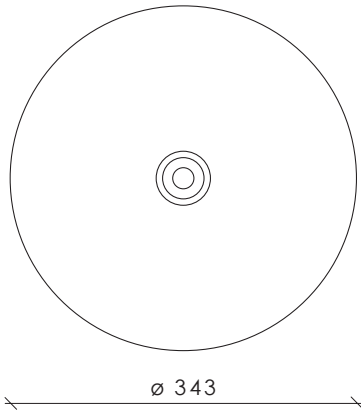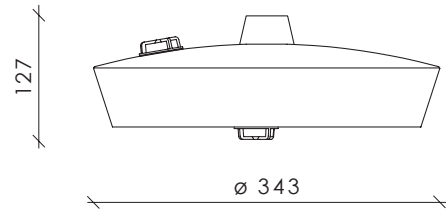
Luscinia top entry
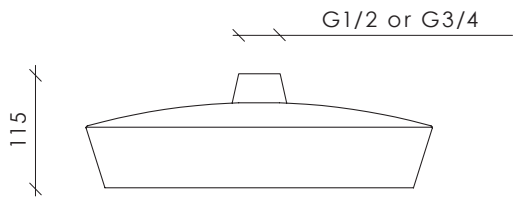
Note! Glass with gray print is standard
(black print glass on request!)

RAL7035   RAL9006   DB703   RAL9005   Other colors
available on request

G1/2 or G3/4

115

127

ø 343

ø 343

Dimensions with 2 Zhaga connectors

4 - 12 m
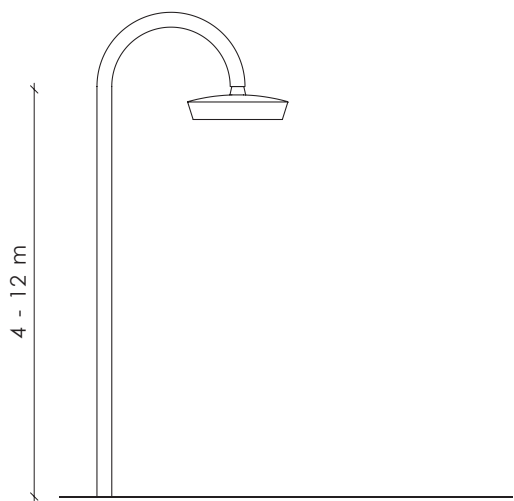
Features

↘ ZHAGA UP AND DOWN

Connect up to 2 Zhaga Book 18 devices!
Control luminaires and control motion on streets!

Technical information

IP66 IK08 CE UKCA RoHS UL CERTIFIED [8]

ZDi [8] [8] PLUS [8] EPD® [8]

V	198 - 264 / 110 - 277 [1]
Hz	50 - 60
W	5 - 75
lm	476 - 11150 [2]
lm/W	95 - 158
K	2700 / 3000 / 4000 [3]
°C	-40 up to +50 [4]
CRI	>70 / >80 / >90 [3]

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 [5]
Mounting:	On console with 1/2" thread
Socket:	NEMA Top / Zhaga Top and Bottom [6]
Intelligent Control:	Stand-alone / Group / CMS
Sensor:	Motion / Motion + Daylight / Daylight
Surge protection:	4 / 6 / 10 kV [7]
Corrosion protection:	Up to C5
Neto weight:	Up to 6 kg
Max. wind load area, SCd:	0.09 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] 1800 / 2200 / 3500 / 5000 / 5700 / 6500 K available on request along with other not listed CRI and CCT

[4] Operating temperature differs depending on chosen output wattage

[5] Other lengths available on request

[6] Bottom Zhaga socket is not applicable with BL, BM and BJ LED modules (see "*LED modules*" section on pages 10 - 11)

[7] 10 kV (L-N; L/N-PE) surge protection device available on request

[8] 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.

Standard modules

4000 K | CRI 70

Number of LED's	8			16			24		
Nominal current, mA	140	540	700	280	480	770	260	460	700
Power, W	5	15	19	15	25	39	20	35	52
Luminous Flux, lm	555	1980	2480	2150	3575	5305	3000	5150	7290
Efficacy, lm/W	111	132	131	143	143	136	150	147	140
Power factor, PF	Up to 0.94			Up to 0.98			Up to 0.97		

Luminaire efficacy			
2700 K	5 - 75 W	476 - 6250 lm	95 - 130 lm/W
3000 K	5 - 75 W	524 - 6873 lm	105 - 142 lm/W
5000 K	5 - 75 W	555 - 7290 lm	111 - 150 lm/W
5700 K	5 - 75 W	555 - 7290 lm	111 - 150 lm/W

High density modules

4000 K | CRI 70

Number of LED's	8			16			32			48		
Nominal current, mA	140	540	700	280	480	770	280	510	760	270	410	510
Power, W	5	15	19	15	25	39	28	50	75	40	60	75
Luminous Flux, lm	555	1980	2480	2150	3575	5305	4325	7370	10360	6320	9160	11150
Efficacy, lm/W	111	132	131	143	143	136	154	147	138	158	153	149
Power factor, PF	Up to 0.94			Up to 0.98			Up to 0.97			Up to 0.97		

Luminaire efficacy			
2700 K	5 - 75 W	476 - 9555 lm	95 - 135 lm/W
3000 K	5 - 75 W	524 - 10510 lm	105 - 149 lm/W
5000 K	5 - 75 W	555 - 11150 lm	111 - 158 lm/W
5700 K	5 - 75 W	555 - 11150 lm	111 - 158 lm/W

ECO

4000 K | CRI 70

Number of LED's	8			16			24		
Nominal current, mA	280	490	700	280	490	715	270	400	500
Power, W	15	26	38	28	50	75	40	60	75
Luminous Flux, lm	2120	3470	4710	4215	6840	9260	6140	8620	10300
Efficacy, lm/W	141	133	124	151	137	123	154	144	137
Power factor, PF	Up to 0.98			Up to 0.97			Up to 0.97		

| Luminaire efficacy			
2700 K	15 - 75 W	1990 - 9610 lm	116 - 144 lm/W
3000 K	15 - 75 W	2120 - 10300 lm	124 - 154 lm/W
5000 K	15 - 75 W	2120 - 10300 lm	124 - 154 lm/W
5700 K	15 - 75 W	2120 - 10300 lm	124 - 154 lm/W

Model name principles

C - Street (side-entry) | P - Park (post-top) | H - Hanging | A - Top-entry

E - Eco

LU ☐☐

Power [W] 005 ... 075

Color rendering index ≥70 - 7
≥80 - 8

Color temperature [K] 1800 ... 6500
Standard values: 2700 K - 27
3000 K - 30
4000 K - 40

Lens type 2x2 - L01 ... LZ9
type 8 - V01 ... VZ9
type 4x2 - B01 ... BZ9
custom configuration - M01 ... NZ9

LED module type
8 LEDs, type 2x2 lens - AA
16 LEDs, type 8 lens - AF
16 LEDs, type 4x2 lens - BT
4 LEDs, type 2x2 lens - BG
8 LEDs, type 8 lens - BH
32 LEDs, type 1 lens - BJ
24 LEDs, type 2x2 lens - BL
48 LEDs, type 8 lens - BM

LED quantity 004 ... 048

Diffuser opal - O
opal cone - M
none - N

Color black (RAL 9005) - CB
silver (RAL 9006) - CS
asphalt (DB 703) - CA
other colors available on request

Through wiring *yes - Y
no - N

Dimming non dimmable - N
DALI - D
1-10 V - A
midnight dimming - M
midnight dimming + DALI - R
step dimming - S
mains dimming - L
power line communication - P
wireless - W
NEMA socket (DALI) - Y
Zhaga socket (DALI) - Z
**custom configuration - X

Surge protector
6 kV ... 10 kV integrated in driver - G
separate built-in 10 kV/10 kA SPD - H
separate built-in 30 kV/15 kA SPD - K

Insulation class I - 1
class II - 2

EXAMPLE   LUA 075 730 L05 BL024 NCS NNG1

 * Available only for Hanging version

** CUSTOM CONFIGURATION EXAMPLE:
NEMA socket + Zhaga socket; NEMA socket + Zhaga socket + midnight dimming; etc.
Custom configuration information is available in order confirmation.

LED modules

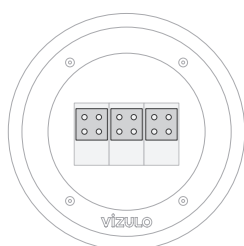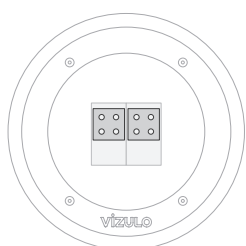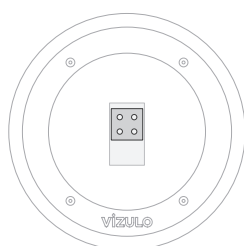| Type	Max module QTY	Min LED QTY per module	Max LED QTY per module	Max LED QTY per luminaire	LED step	LED type	Lens type	LED module
AA	3	4	8	24	2	Standard Eco	type 2x2 L01...LZ9	
AF	3	8	16	48	2	Standard	type 8 V01...VZ9	
BT	3	8	16	48	8	Standard	type 4x2 B01...BZ9	
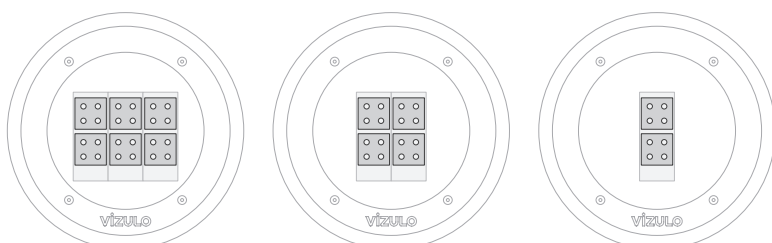
AA024

AA016

AA008
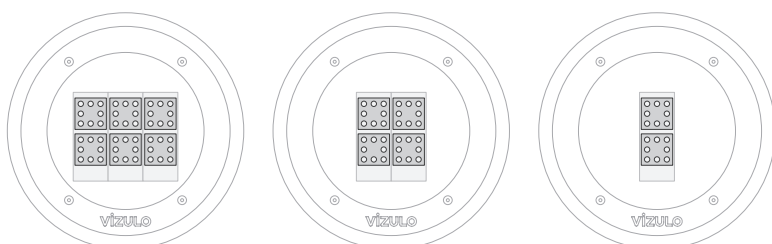
AF048

AF032

AF016
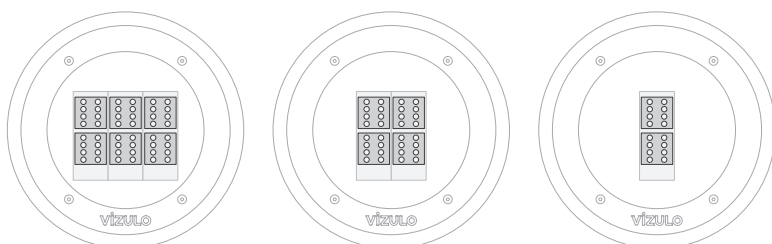
BT048

BT032

BT016

Type	Max module QTY	Min LED QTY per module	Max LED QTY per module	Max LED QTY per luminaire	LED step	LED type	Lens type	LED module
BG	3	4	4	12	2	Standard Eco	type 2x2 L01…LZ9	
BH	3	4	8	24	2	Standard	type 8 V01…VZ9	

BG012

BG008

BG004
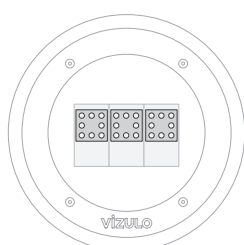
BH024
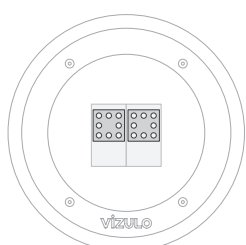
BH016
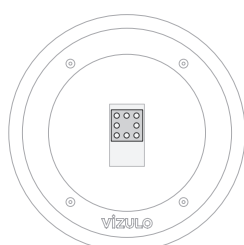
BH008

Type	Max module QTY	Min LED QTY per module	Max LED QTY per module	Max LED QTY per luminaire	LED step	LED type	Lens type	LED module
BL*	1	16	24	24	2	Standard Eco	type 2x2 L01…LZ9	
BM*	1	32	48	48	4	Standard	type 8 V01…VZ9	
BJ*	1	8	24	24	-	Standard Eco	type 1 Z01...ZZ9	
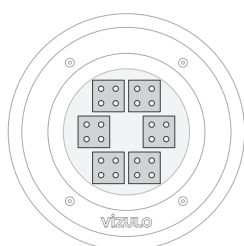
BL024
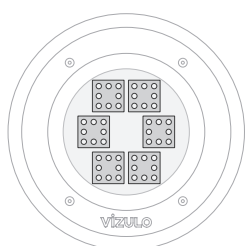
BM048
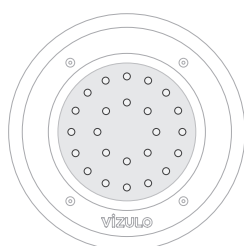
BJ024

* Not applicable with Bottom Zhaga socket

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

L01

L02

L03

L04

L05

L06

L07

L09

L10

L16

L17

L18

L19

L20

L22

L23

L35

High density modules

V01

V04

V05

V10

V16

V20

V22

V35
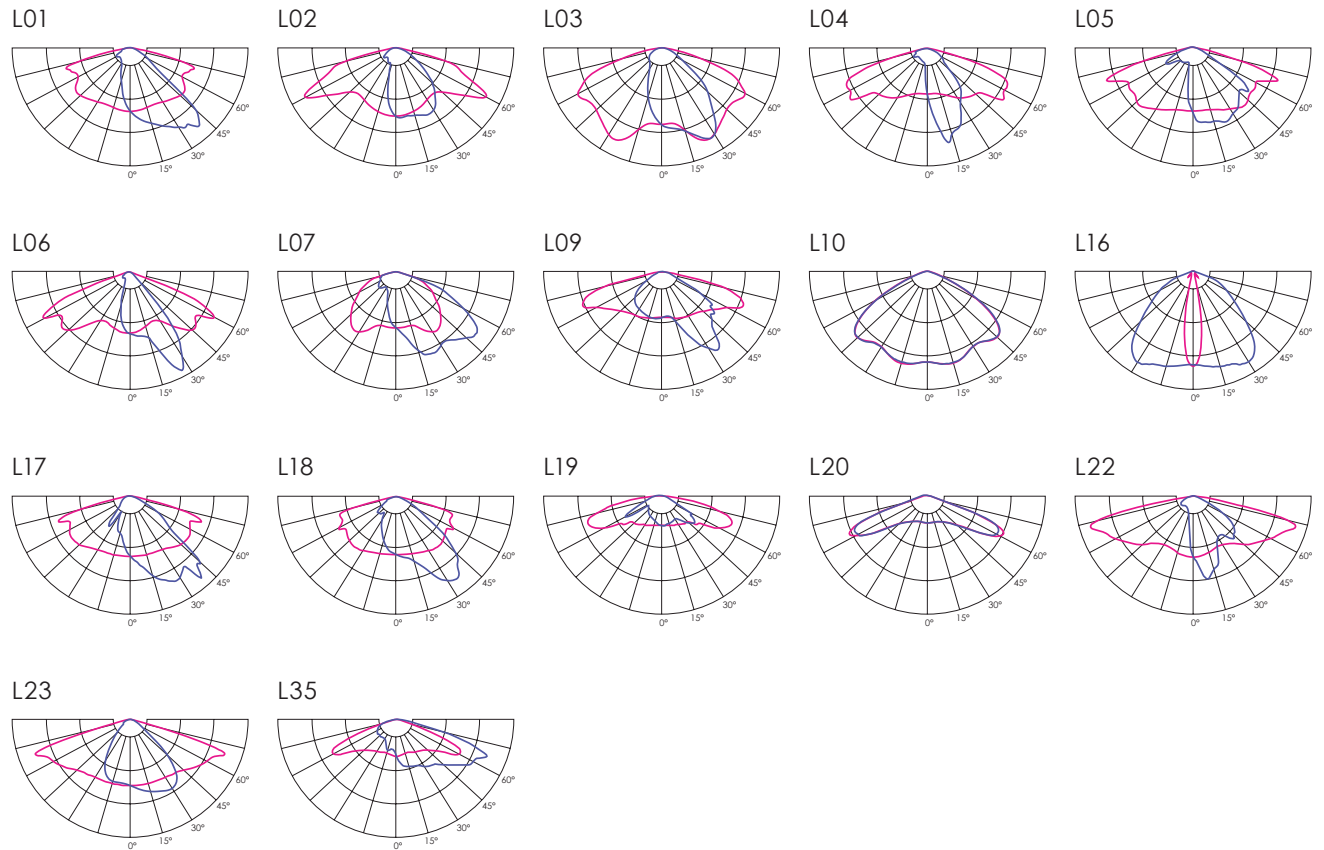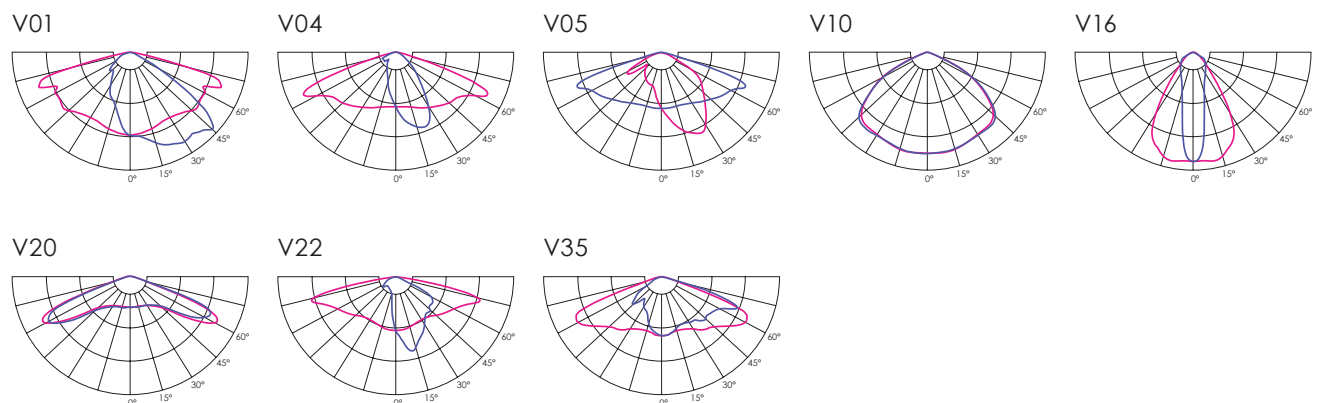
Pedestrian crossing optics

| | | IP66 | IK08 | CE | UK CA | RoHS | UL CERTIFIED (9 | ZD (9 | EK (9 | EK PLUS (9 | EPD (9 | | |

V	198 - 264 / 110 - 277 [1]	**Body:**	Die-cast aluminium
Hz	50 - 60	**Dimming:**	DALI / 1-10 V / Midnight dimming /
W	5 - 52 [2]		Step dimming / Mains dimming
	15 - 75 [3]	**Initial chromaticity:**	MacAdam 5
lm	Up to 7290 [2]	**Lifetime:**	Eco 100 000 h (L90B10) at Ta = 25 °C*
	Up to 10300 [3]		Standard 100 000 h (L98B10) at Ta = 25 °C*
lm/W	95 - 150 [2]	**Warranty:**	5 years
	116 - 154 [3]	**Installation:**	Pre-wired cable 30 cm [6]
K	2700 / 3000 / 4000 [4]	**Mounting:**	On console with 1/2" thread
°C	-40 up to +50 [5]	**Socket:**	NEMA Top / Zhaga Top and Bottom [7]
CRI	>70 / >80 / >90 [4]	**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 6 kg
		Max. wind load area, SCd:	0.09 m²

[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] 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] Bottom Zhaga socket is not applicable with BL, BM and BJ LED modules (see "*LED modules*" section on pages 10 - 11)

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

[9] 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

L11

L11
ECO

L36

L36
ECO

Left side traffic

L12

L12
ECO

L46

L46
ECO
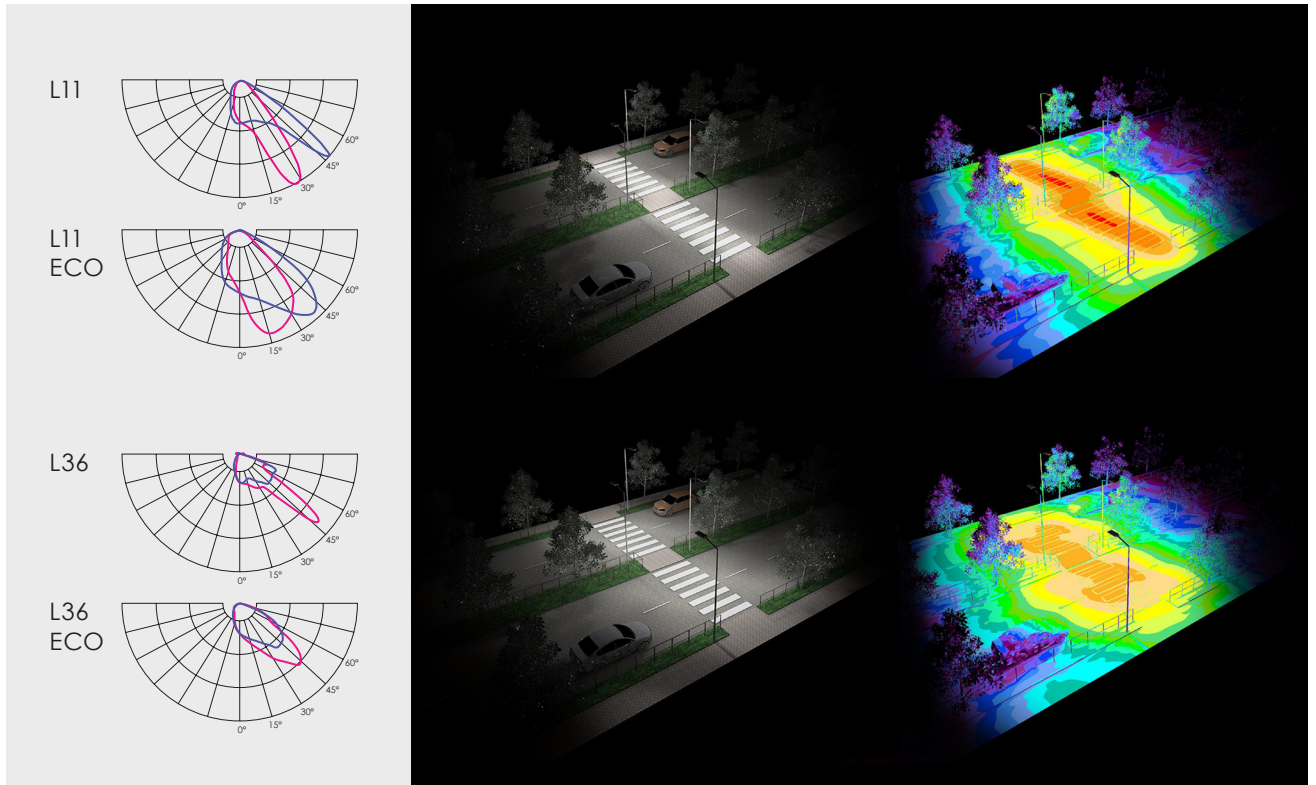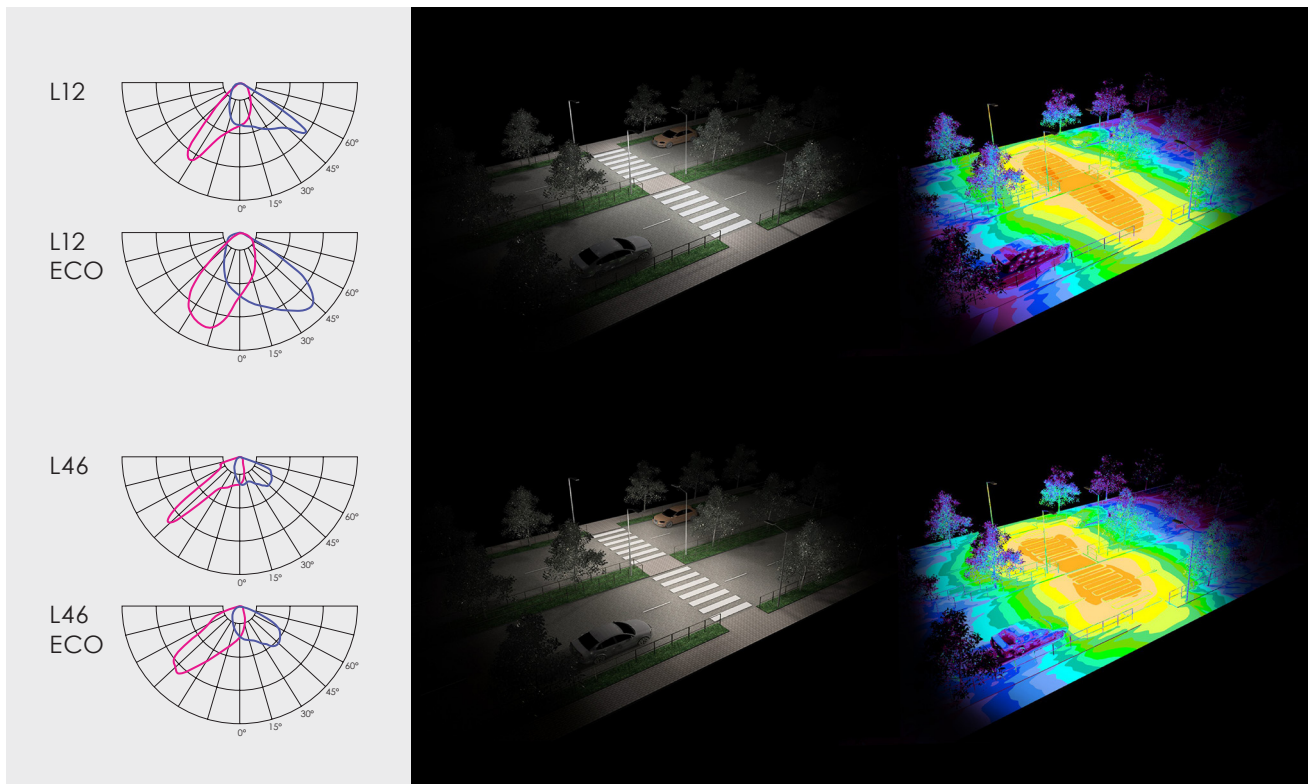
Backlight cutter

Backlight cutter | black
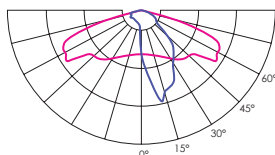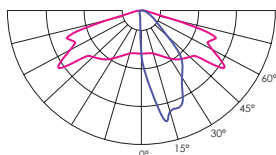
Art. 70000661

Backlight cutter | white

Art. 70000662

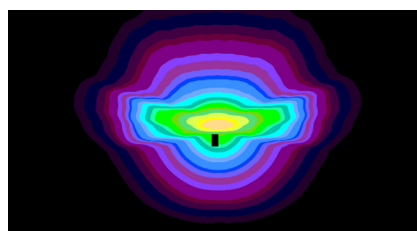Optical loses from 10% to 31% depending from used optic.

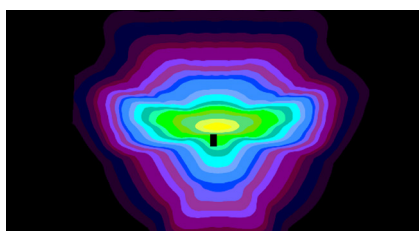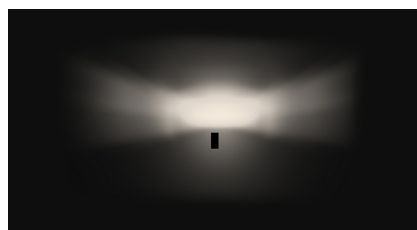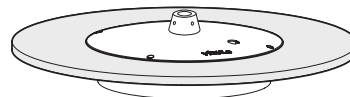| Without backlight cutter | Backlight cutter | black | Backlight cutter | white |
|---|---|---|
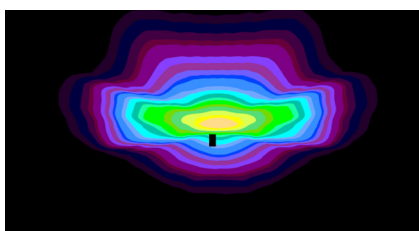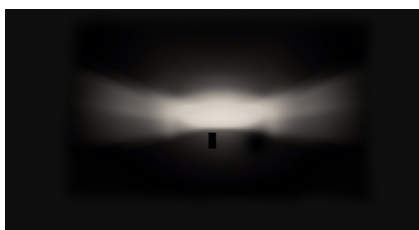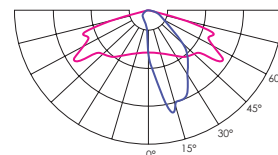
Accessories

Luscinia cap

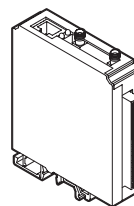|		
▢	RAL7035	*Art. 70081017*
▢	RAL9006	*Art. 70081005*
▢	DB703	*Art. 70081007*
▢	RAL9005	*Art. 70081006*

Other colors available on request

MAUGLO Segment controller

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

Art. 70010004

MAUGLO Luminaire controller

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

Art. 70010002 / LC2M-12-05-R Luminaire Controller - 1 relay
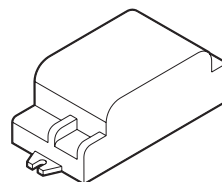
MAUGLO Surge Protection device

Surge Protection device offersprotection against lighting surges;
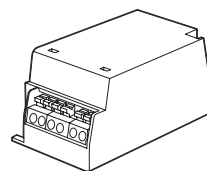Voltage Protection level up (L-N) ≤ 1,5 kV
Voltage Protection level up (L/N-PE) ≤ 2,0 kV
U_{oc} = 10 kV
I_{max} = 10 kA
I_{nom} = 5 kA

Art. 70020001

Radio Frequency Antenna

Heavy duty IP67 enclosure
Mounted in cabinet or luminaire body
with 14 mm screw
SMA connector

Art. 70000108

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

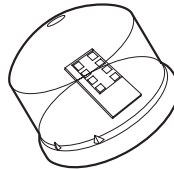**Zhaga socket no cap**   *Art. 70000612*

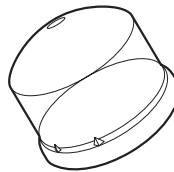**Zhaga socket with cap**   *Art. 70000613*

**MSLC205RG Luminaire controller +
radar, Zhaga, 80 mm**   *Art. 70010027*

**MSLC205RGL Luminaire controller,
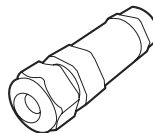Zhaga, 80 mm**   *Art. 70010029*
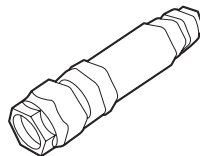
Connector   *Art. 70000313*

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*
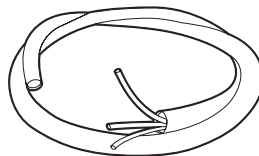
5 x 1,5 mm - 0,5 m long cable	*Art. 70000305*
5 x 1,5 mm - 5 m long cable	*Art. 70000316*
5 x 1,5 mm - 6 m long cable	*Art. 70000317*
5 x 1,5 mm - 8 m long cable	*Art. 70000318*
5 x 1,5 mm - 10 m long cable	*Art. 70000306*
5 x 1,5 mm - 12 m long cable	*Art. 70000307*
5 x 1,5 mm - 18 m long cable	*Art. 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.

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.

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.

Zhaga-D4i - compliance with the requirements of Zhaga Book 18 or 20 and DALI standard   **[Coming soon]**

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.

ENEC - compliance with European standards for electrical equipment   **[Coming soon]**

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   **[Coming soon]**

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.

Synergrid approved - compliance with Synergrid requirements for LED lighting   **[Coming soon]**

Synergrid is a federation of electricity and natural gas network operators in Belgium. The Synergrid approval mark means that the product is compliant with the design, safety and performance requirements set by Synergrid. The approval can be confirmed by checking the official list of Synergrid approved luminaires on the Synergrid website.
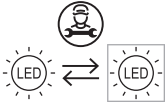
LED module replaceable by a professional

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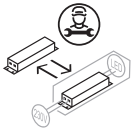
LED driver replaceable by a professional

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

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