


vizulo



S T O R K





**Architectural & Landscape**

**Outdoor Industrial Area**

**Residential 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 metal clips and can easily be replaced

**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)*

**Intelligent light control system**

Power line or radio frequency

**Protection**

IP66 for the complete luminaire

**Impact resistance**

IK09 (Vandal protected)  
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 3 kV till 10 kV

**Light regulation**

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

**Opening**

Die-cast aluminium clip for tool-less opening or closing, fixed to the frame with stainless steel spring for easy maintenance

**Safety switch**

Safety switch disconnects power on opening



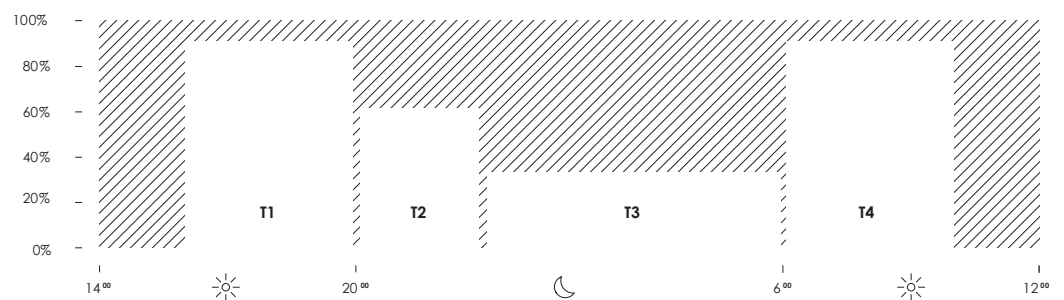
**Traffic Roads**

**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.







RAL7035



RAL9006



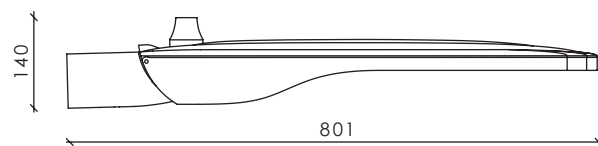
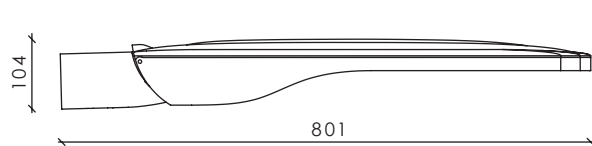
DB703



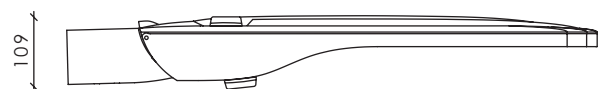
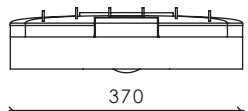
RAL9005

Other colors  
available on request

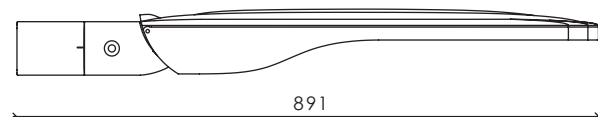




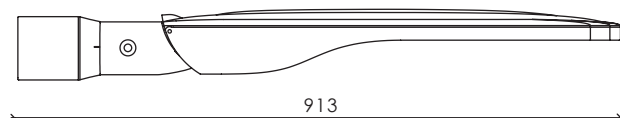
Dimensions with RF antenna



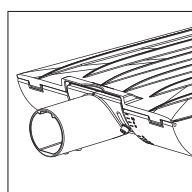
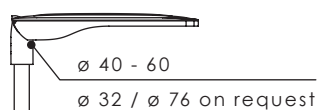
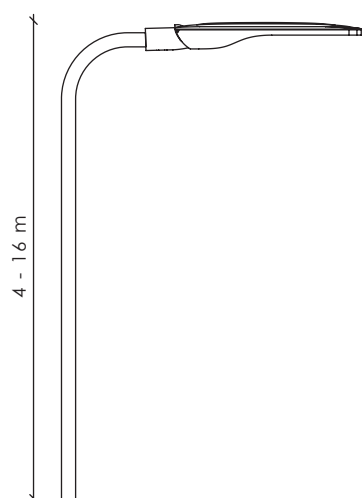
Dimensions with 2 Zhaga connectors



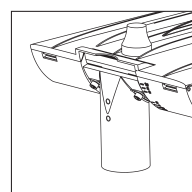
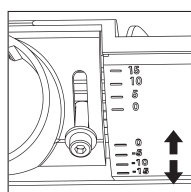
Dimensions with adjustable console  $\pm 90^\circ$ , 60 mm



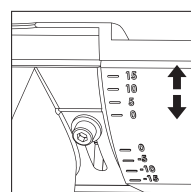
Dimensions with adjustable console  $\pm 90^\circ$ , 76 mm



Horizontal entry  $\leq -15 \dots 0$



Vertical entry  $\leq 0 \dots 15$



## Technical information



<b>V</b>	198 - 264 / 110 - 277 <sup>1)</sup>	<b>Body:</b>	Die-cast aluminium
<b>Hz</b>	50 - 60	<b>Dimming:</b>	DALI / 1 - 10 V / Midnight dimming / Step dimming / Mains dimming
<b>W</b>	5 - 280	<b>Initial chromaticity:</b>	MacAdam 5
<b>lm</b>	555 - 41000 <sup>2)</sup>	<b>Lifetime:</b>	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*
<b>lm/W</b>	108 - 161	<b>Warranty:</b>	5 years
<b>K</b>	2700 / 3000 / 4000 / TW 2700 - 6500 <sup>3)</sup>	<b>Installation:</b>	Tool-less
<b>°C</b>	-40 to +50   5 - 240 W -40 to +35   240 - 280 W	<b>Spigot:</b>	32 - 40 mm <sup>4)</sup> / 40 - 60 mm / 60 - 76 mm
<b>CRI</b>	>70 / >80 / >90 <sup>3)</sup>	<b>Socket:</b>	NEMA / Top and Bottom Zhaga
		<b>Intelligent Control:</b>	Stand-alone / Group / CMS
		<b>Sensor:</b>	Motion / Motion + Daylight / Daylight
		<b>Surge protection:</b>	4 / 6 / 10 kV <sup>5)</sup>
		<b>Nature friendly:</b>	PC Amber / Red / 1800 K
		<b>Corrosion protection:</b>	Up to C5
		<b>Neto weight:</b>	Up to 13.8 kg
		<b>Max. wind load area, SCd, m²:</b>	0.047

<sup>1)</sup> Maximum operating voltage, ENEC certificate voltage 220 - 240 V, UL certificate voltage 110 - 277 V

<sup>2)</sup> Lumen output indicated at CRI > 70

<sup>3)</sup> 1800 / 2200 / 3500 / 5000 / 5700 / 6500 K available on request along with other not listed CRI and CCT

<sup>4)</sup> Achievable with an adapter for 40 - 60 mm spigot

<sup>5)</sup> 10 kV (L-N; L/N-PE) surge protection device available on request

\*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

\* Data for L01 optic.

Check VIZULO members section for additional information

4000 K | CRI 70

<b>Number of LED's</b>	16			32			48		
<b>Nominal current, mA</b>	280	500	760	280	500	750	270	500	690
<b>Power, W</b>	15	26	39	28	50	75	40	75	102
<b>Luminous Flux, lm</b>	2180	3600	5300	4500	7550	10650	6360	11000	14800
<b>Efficacy, lm/W</b>	145	138	136	161	151	142	159	147	145
<b>Power factor, PF</b>	Up to 0.98			Up to 0.97			Up to 0.96		

<b>Number of LED's</b>	64			80		
<b>Nominal current, mA</b>	250	500	700	250	500	780
<b>Power, W</b>	50	98	137	60	120	190
<b>Luminous Flux, lm</b>	8000	15000	19800	9650	18200	26600
<b>Efficacy, lm/W</b>	160	153	145	161	152	140
<b>Power factor, PF</b>	Up to 0.98			Up to 0.98		

Luminaire efficacy	2700 K	15 - 190 W	1850 - 23000 lm	117 - 140 lm/W
	3000 K	15 - 190 W	2000 - 25000 lm	128 - 152 lm/W
	5000 K	15 - 190 W	2180 - 26600 lm	136 - 161 lm/W
	5700 K	15 - 190 W	2180 - 26600 lm	136 - 161 lm/W

## High density modules

\* Data for V01 optic.

Check VIZULO members section for additional information

4000 K | CRI 70

<b>Number of LED's</b>	32			48			64			80		
<b>Nominal current, mA</b>	280	500	750	270	500	690	250	500	700	250	500	780
<b>Power, W</b>	28	50	75	40	75	102	50	98	137	60	120	190
<b>Luminous Flux, lm</b>	4300	7400	10110	6300	11200	14500	7600	14000	18850	9600	18200	26600
<b>Efficacy, lm/W</b>	154	148	135	158	149	142	152	143	138	160	152	140
<b>Power factor, PF</b>	Up to 0.97			Up to 0.96			Up to 0.98			Up to 0.98		

<b>Number of LED's</b>	96			128			160		
<b>Nominal current, mA</b>	260	500	710	260	500	720	260	500	610
<b>Power, W</b>	75	145	205	102	195	280	120	200	280
<b>Luminous Flux, lm</b>	11600	21000	28000	16000	29000	39300	19000	30500	41000
<b>Efficacy, lm/W</b>	155	145	137	157	149	140	158	153	146
<b>Power factor, PF</b>	Up to 0.98			Up to 0.98			Up to 0.98		

Luminaire efficacy	2700 K	28 - 280 W	3600 - 35000 lm	116 - 138 lm/W
	3000 K	28 - 280 W	3900 - 39000 lm	129 - 152 lm/W
	5000 K	28 - 280 W	4300 - 41000 lm	135 - 161 lm/W
	5700 K	28 - 280 W	4300 - 41000 lm	135 - 161 lm/W

4000 K | CRI 70

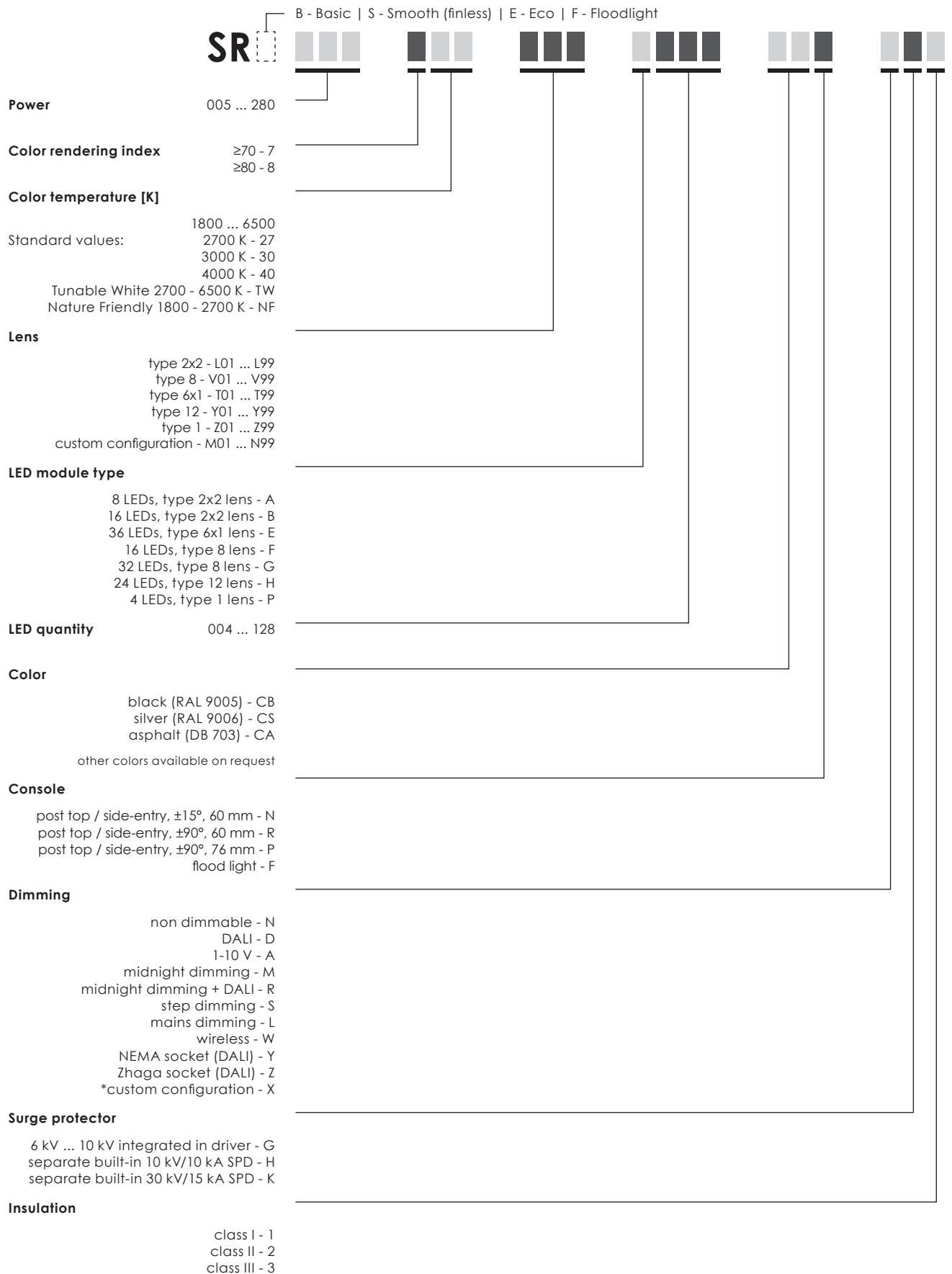
Number of LED's	8			16			24			32		
Nominal current, mA	220	470	700	280	490	700	270	500	700	250	500	700
Power, W	12	25	38	28	50	74	40	75	110	50	100	144
Luminous Flux, lm	1670	3300	4600	4100	6700	9100	6000	9700	13500	7500	13300	17500
Efficacy, lm/W	139	132	121	146	134	123	150	129	123	150	133	122
Power factor, PF	Up to 0.98			Up to 0.97			Up to 0.97			Up to 0.98		

Number of LED's	48			64			80		
Nominal current, mA	270	500	700	270	500	680	270	500	560
Power, W	78	150	211	107	200	280	130	250	280
Luminous Flux, lm	12000	20000	25500	15700	25300	32100	19400	32700	35600
Efficacy, lm/W	154	133	121	147	127	115	149	131	127
Power factor, PF	Up to 0.99			Up to 0.98			Up to 0.97		

Luminaire efficacy	2700 K	12 - 280 W	1560 - 33300 lm	108 - 142 lm/W
	3000 K	12 - 280 W	1620 - 34600 lm	112 - 148 lm/W
	5000 K	12 - 280 W	1670 - 35600 lm	115 - 154 lm/W
	5700 K	12 - 280 W	1670 - 35600 lm	115 - 154 lm/W



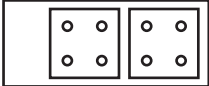
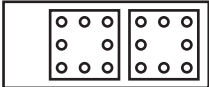
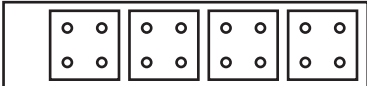
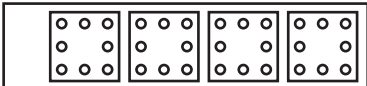
## Model name principles



### \* 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
A	4	4	8	32	2	Standard Eco	type 2x2 L01...LZ9	 A008
F	4	4	16	64	4	Standard	type 8 V01...VZ9	 F016
B	4	8	16	64	2	Standard Eco	type 2x2 L01...LZ9	 B016
G	4	16	32	128	4	Standard	type 8 V01...VZ9	 G032



# Cable core count

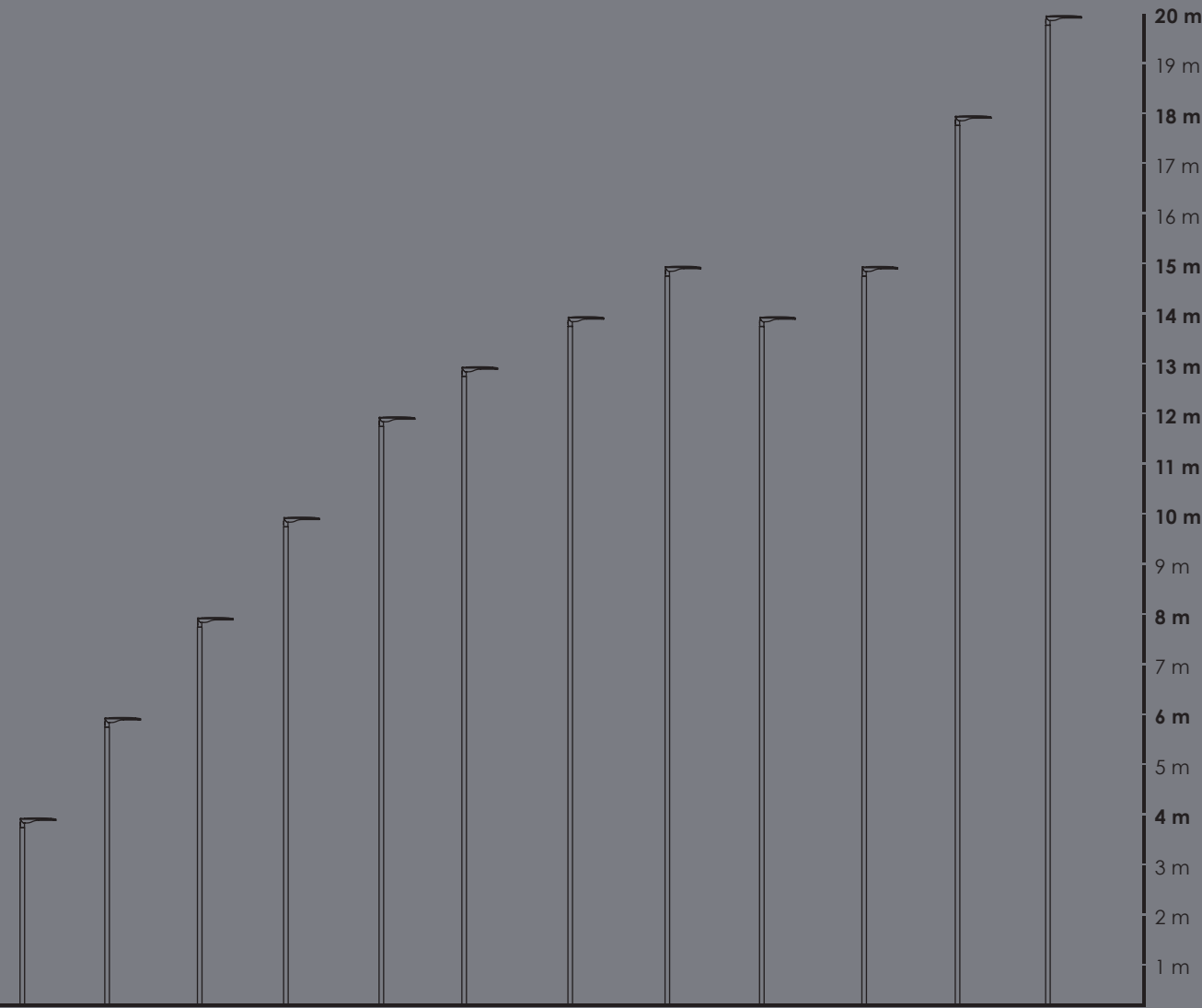
Socket	Dimming	Model number abbreviation	Input cable core count - Class I	Input cable core count - Class II
None	None	N	3	2
None	DALI	D	5	4
None	Midnight dimming	M	3	2
None	Midnight dimming + DALI	R	5	4
None	Step dimming	S	5 <sup>(1)</sup>	4 <sup>(1)</sup>
None	Mains dimming	L	3	2
Zhaga	DALI	Z	3 <sup>(2)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

<sup>(1)</sup> 1 core unused

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

<sup>(3)</sup> +2 cores for external DALI connection

# Pole height proposition



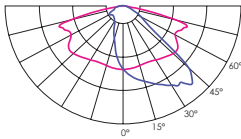
Pole height	4 m	6 - 8 m	8 - 10 m	10 m	12 m	12 - 14 m	14 - 16 m	14 - 18 m	14 - 16 m	14 - 18 m	14 - 20 m	18 - 25 m
Standard modules	18 W	37 W	68 W	102 W	137 W							
High-density modules									170 W	205 W	240 W	280 W



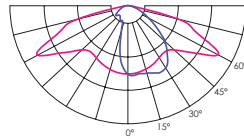
# Optics

## Standard modules

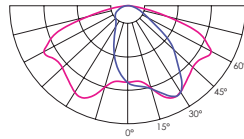
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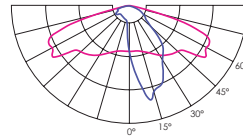
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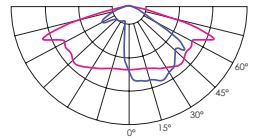
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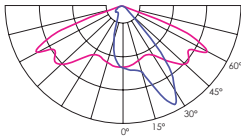
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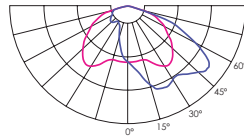
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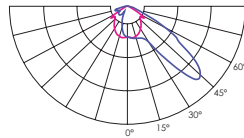
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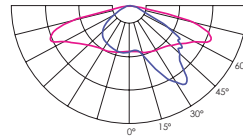
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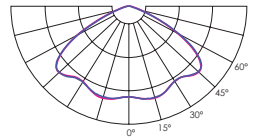
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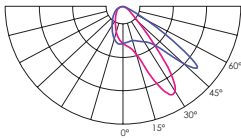
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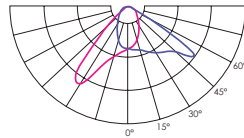
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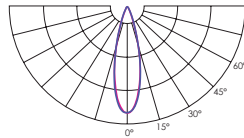
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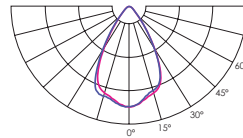
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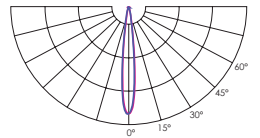
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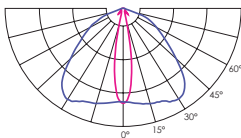
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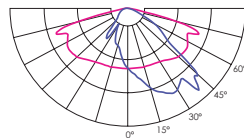
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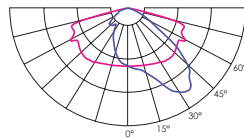
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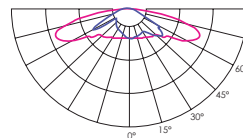
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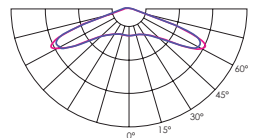
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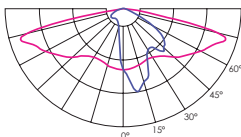
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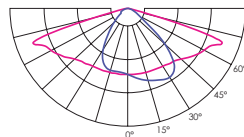
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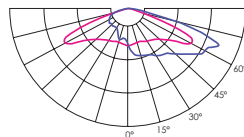
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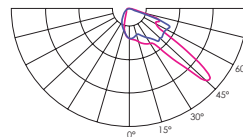
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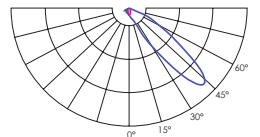
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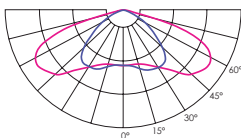
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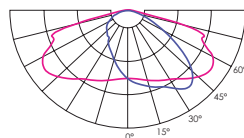
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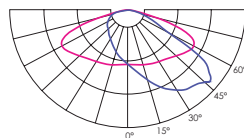
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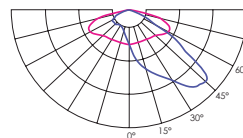
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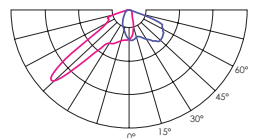
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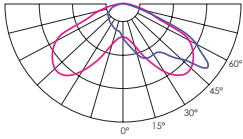
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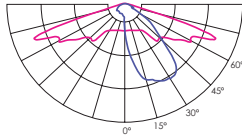
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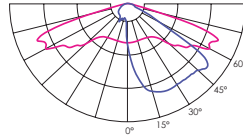
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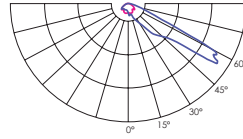
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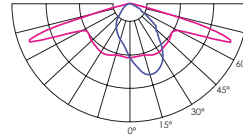
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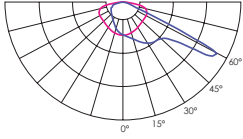
L60



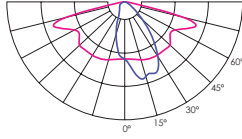
L63



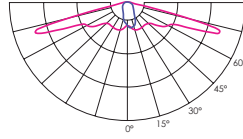
L66



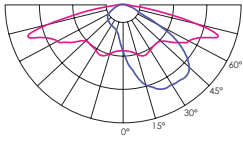
L90



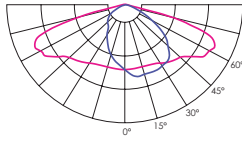
L94



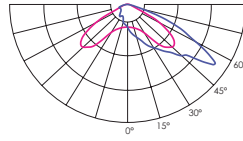
LB2



LB3

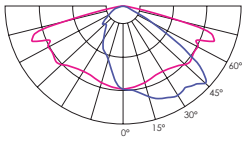


LC1

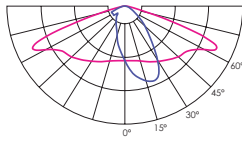


## High density modules

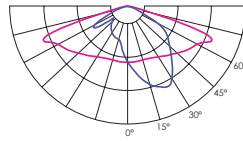
V01



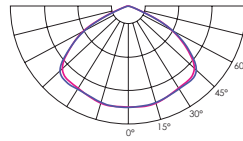
V04



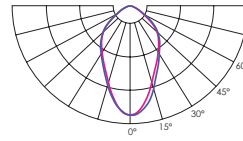
V05



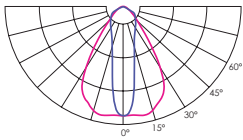
V10



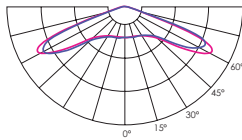
V13



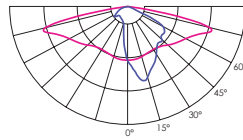
V16



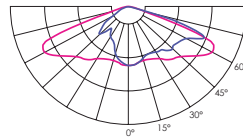
V20



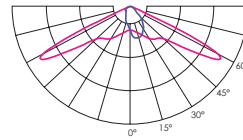
V22



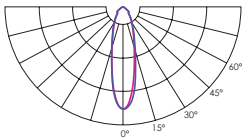
V35



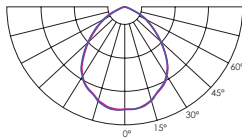
V45



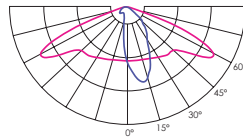
V52



V53



V57





# Pedestrian crossing optics



<b>V</b>	198 - 264 / 110 - 277 <sup>1)</sup>
<b>Hz</b>	50 - 60
<b>W</b>	5 - 190 <sup>2)</sup> 12 - 280 <sup>3)</sup>
<b>lm</b>	Up to 26600 <sup>2)</sup> Up to 35600 <sup>3)</sup>
<b>lm/W</b>	117 - 161 <sup>2)</sup> 108 - 154 <sup>3)</sup>
<b>K</b>	2700 / 3000 / 4000 / TW 2700 - 6500 <sup>4)</sup>
<b>°C</b>	-40 to +50   5 - 240 W -40 to +35   240 - 280 W
<b>CRI</b>	>70 / >80 / >90 <sup>4)</sup>

<b>Body:</b>	Die-cast aluminium
<b>Dimming:</b>	DALI / 1 - 10 V / Midnight dimming / Step dimming / Mains dimming
<b>Initial chromaticity:</b>	MacAdam 5
<b>Lifetime:</b>	Eco 100 000 h (L90B10) at Ta = 25 °C* / Standard 100 000 h (L98B10) at Ta = 25 °C* / 5 years
<b>Warranty:</b>	Tool-less
<b>Installation:</b>	32 - 40 mm <sup>5)</sup> / 40 - 60 mm / 60 - 76 mm
<b>Spigot:</b>	NEMA / Top and Bottom Zhaga
<b>Socket:</b>	Stand-alone / Group / CMS
<b>Intelligent Control:</b>	Motion / Motion + Daylight / Daylight
<b>Sensor:</b>	4 / 6 / 10 kV <sup>6)</sup>
<b>Surge protection:</b>	PC Amber / Red / 1800 K
<b>Nature friendly:</b>	Up to C5
<b>Corrosion protection:</b>	Up to 13.8 kg
<b>Neto weight:</b>	
<b>Max. wind load</b>	
<b>area, SCd, m²:</b>	0.047

<sup>1)</sup> Maximum operating voltage, ENEC certificate voltage 220 - 240 V, UL certificate voltage 110 - 277 V

<sup>2)</sup> Standard modules, lumen output indicated at CRI > 70

<sup>3)</sup> ECO modules, lumen output indicated at CRI > 70

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

<sup>5)</sup> Achievable with an adapter for 40 - 60 mm spigot

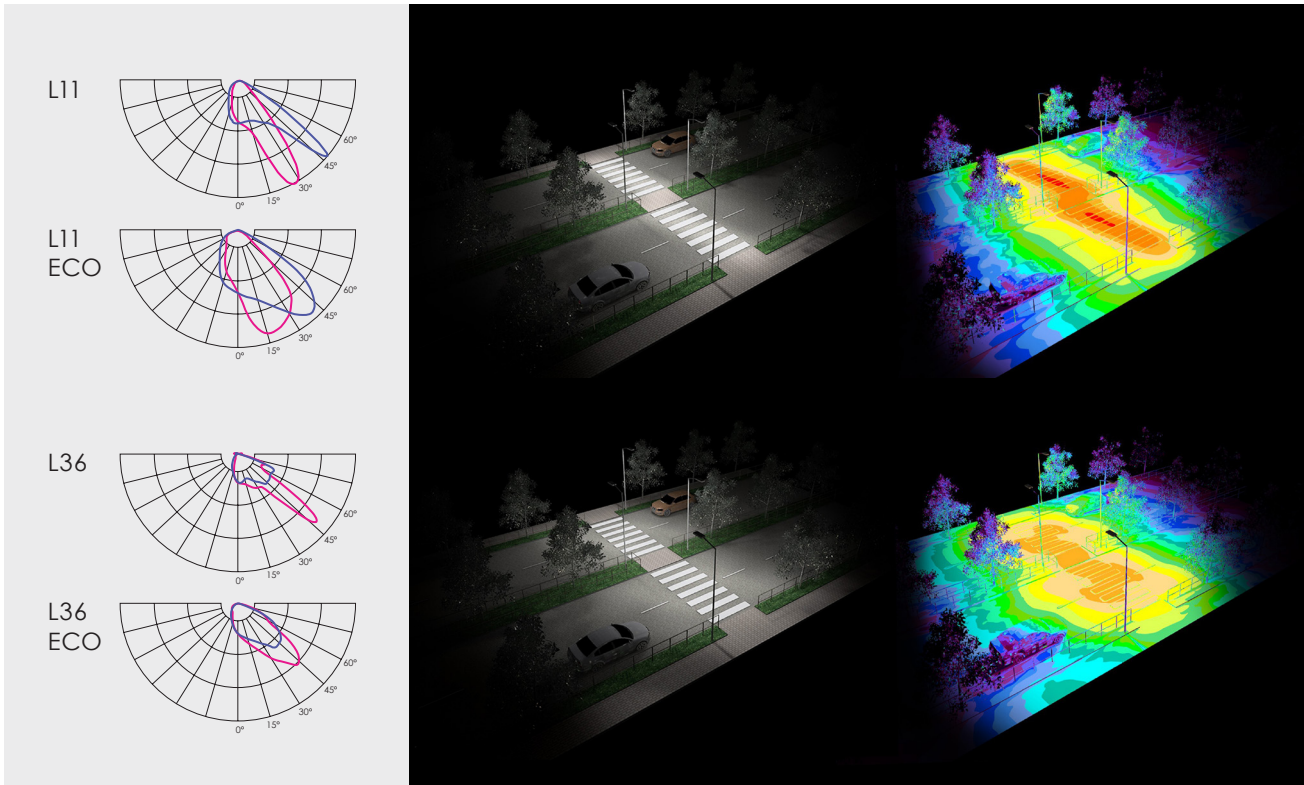
<sup>6)</sup> 10 kV (L-N; L/N-PE) surge protection device available on request

\*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.

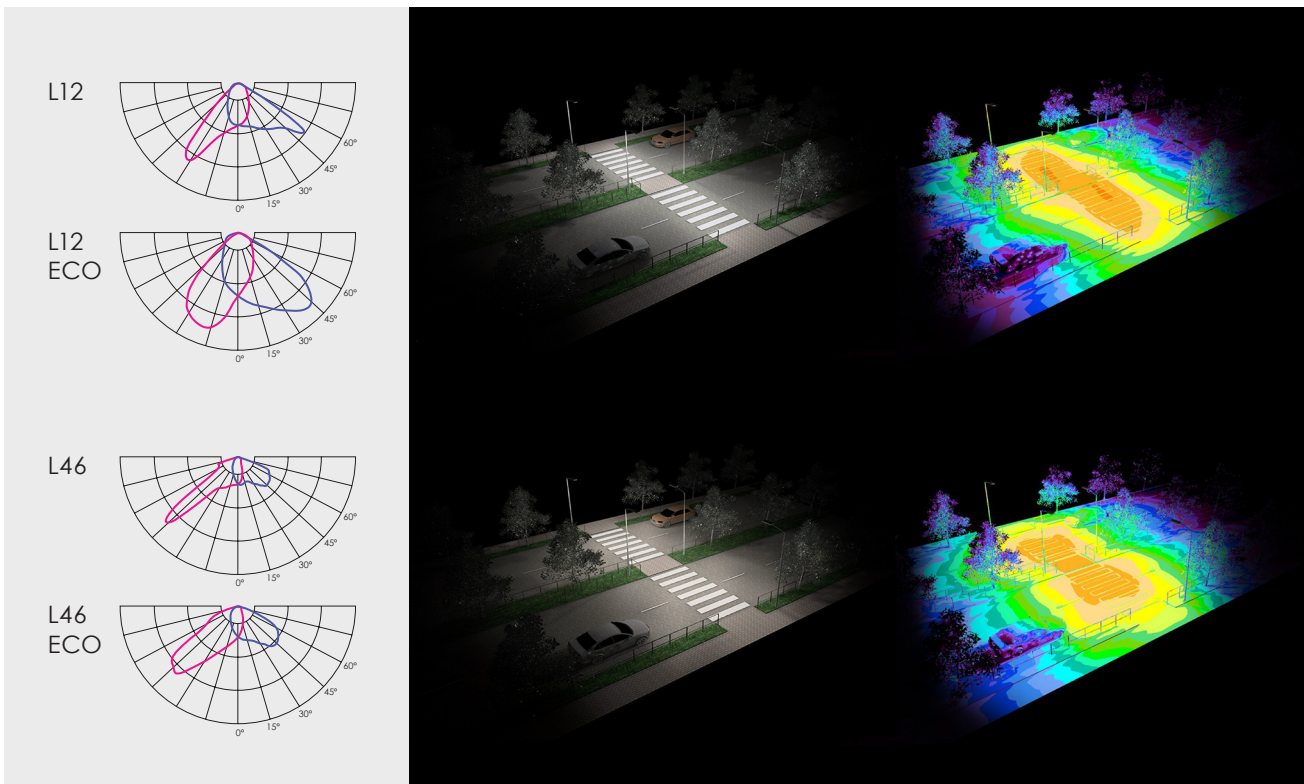
Technical parameters for final product can differ from typical data by 7% due to special conditions of LED manufacturing processes.



## Right side traffic



## Left side traffic

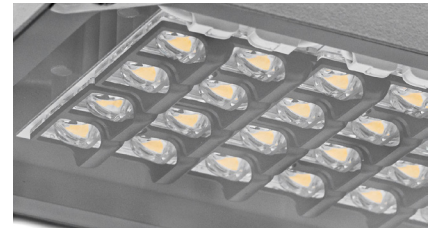




# Backlight cutter

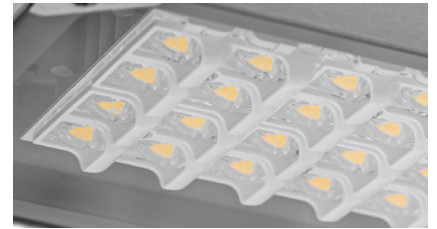
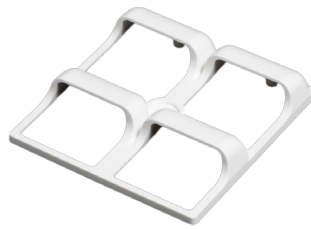
## Backlight cutter | black

Art. 70000661



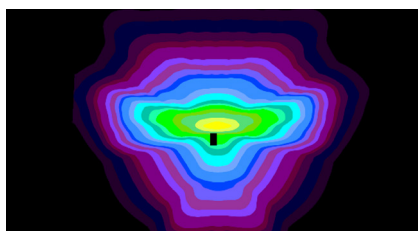
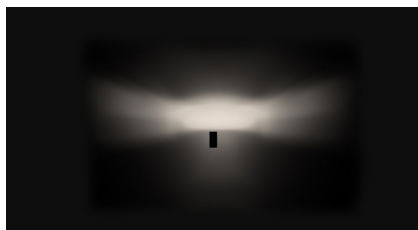
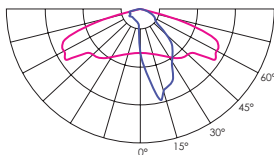
## Backlight cutter | white

Art. 70000662

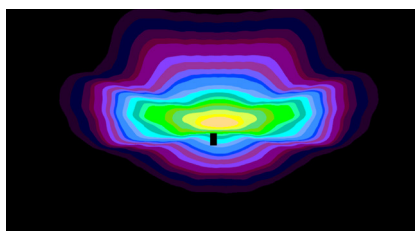
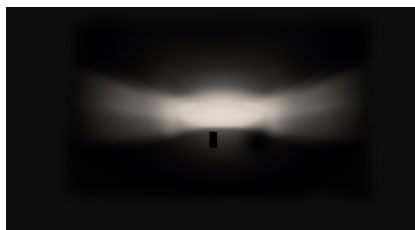
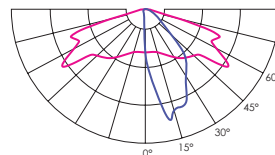


Optical losses from 10% to 31% depending from used optic.

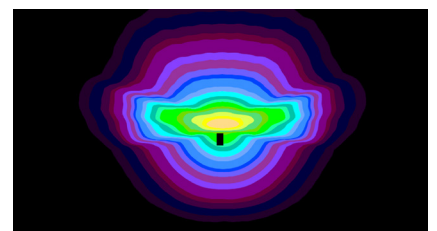
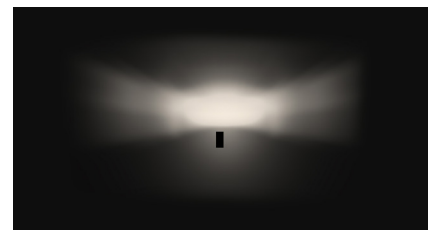
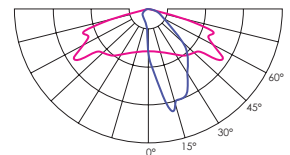
Without backlight cutter



Backlight cutter | black



Backlight cutter | white

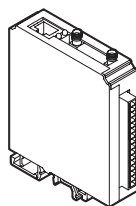


# Accessories

## Citintelly Segment controller

Art. 70010004

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

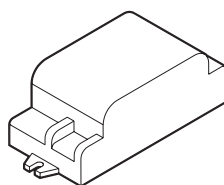


## Citintelly Luminaire controller

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



## Citintelly Surge Protection device

Art. 70020001

Surge Protection device offers protection against lighting surges;

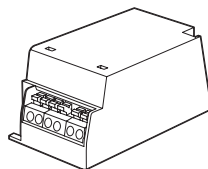
Voltage Protection level up (L-N)  $\leq 1,5$  kV

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

$U_{oc} = 10$  kV

$I_{max} = 10$  kA

$I_{nom} = 5$  kA



## Radio Frequency Antenna

Art. 70000108

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



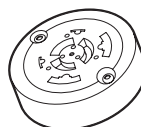
## NEMA Socket

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

Art. 70000362

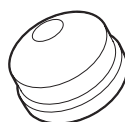
2213362-4, 7 pin NEMA socket 105°C wires

Art. 70000333



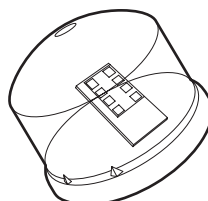
## Dummy Link for NEMA Socket

Art. 70000113



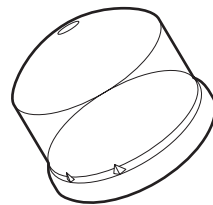
## MSLC205RG Luminaire controller + radar, Zhaga, 80 mm

Art. 70010027



**MSLC205RGL Luminaire controller,  
Zhaga, 80 mm**

Art. 70010029



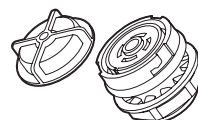
**Zhaga socket no cap**

Art. 70000612



**Zhaga socket with cap**

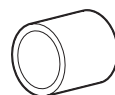
Art. 70000613



**Console adapter**

40 mm to 30 mm

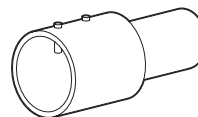
Art. 70055002



**Console adapter**

Spigot size 60 - 76 mm

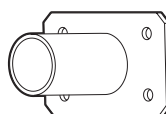
Art. 70044002



**Wall mounting bracket**

Spigot size 40 - 60 mm

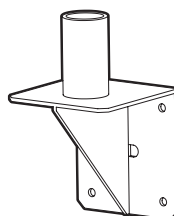
Art. 70044001



**Wall mounting bracket**

Vertical

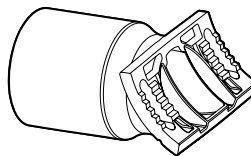
Art. 70044004



### Console 76 mm

76 mm - Stork/ Stork LB

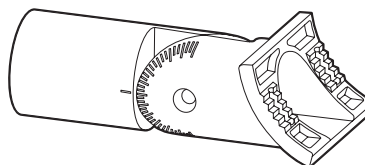
Art. 70044011 (R9006)



### Adjustable Console $\pm 90^\circ$

60 mm - Stork/ Stork LB

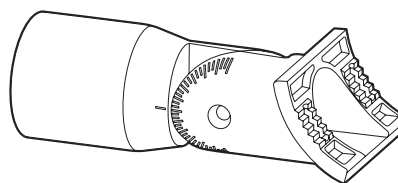
Art. 70044012



### Adjustable Console $\pm 90^\circ$

76 mm - Stork/ Stork LB

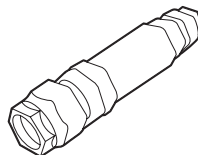
Art. 70044013



### Device connector

IP66 rated connector offers easy installation of the street luminaires.  
4 wire cable connector without PE connection.

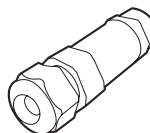
Art. 70000315



### Connector

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

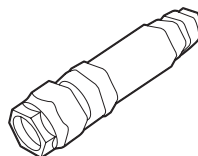
Art. 70000313



### Connector

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

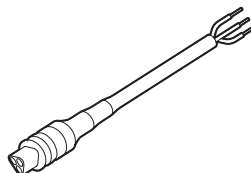
Art. 70000304



### Connection cable

Male - free end, length 1 m, RST20i3, 3 pole, 250 V,  
16 A, cable type H05VV, cross section 1,5 mm<sup>2</sup>

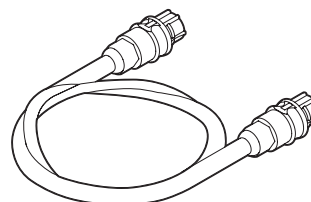
Art. 70000363





## Pre-installed cable sets For external power supply

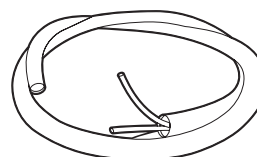
0,5 m long cable.....	Art. 70000436
5 m long cable.....	Art. 70000437
6 m long cable.....	Art. 70000438
8 m long cable.....	Art. 70000439
10 m long cable.....	Art. 70000440
12 m long cable.....	Art. 70000441
18 m long cable.....	Art. 70000442
20 m long cable.....	Art. 70000443
22 m long cable.....	Art. 70000444
25 m long cable.....	Art. 70000445



## Pre-installed cable sets

For internal power supply:

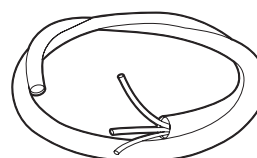
2 x 1,5 mm - 0,5 m long cable.....	Art. 70000418
2 x 1,5 mm - 5 m long cable.....	Art. 70000342
2 x 1,5 mm - 6 m long cable.....	Art. 70000337
2 x 1,5 mm - 8 m long cable.....	Art. 70000344
2 x 1,5 mm - 10 m long cable.....	Art. 70000338
2 x 1,5 mm - 12 m long cable.....	Art. 70000345
2 x 1,5 mm - 18 m long cable.....	Art. 70000419



## Pre-installed cable sets

For internal power supply:

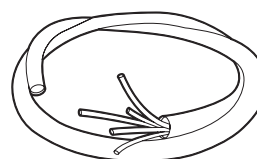
3 x 1,5 mm - 0,5 m long cable.....	Art. 70000319
3 x 1,5 mm - 5 m long cable.....	Art. 70000320
3 x 1,5 mm - 6 m long cable.....	Art. 70000321
3 x 1,5 mm - 8 m long cable.....	Art. 70000322
3 x 1,5 mm - 10 m long cable.....	Art. 70000323
3 x 1,5 mm - 12 m long cable.....	Art. 70000324
3 x 1,5 mm - 18 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



## Pre-installed cable sets

For internal power supply:

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

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.



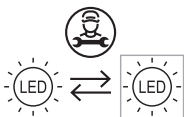
### International EPD System – Environmental Product Declaration available

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.



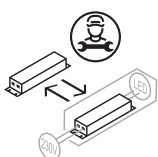
### Synergrid approved - compliance with Synergrid requirements for LED lighting

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 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.



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