VIZULO

MINI MARTIN

Tool-less

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.
Available color temperature: 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

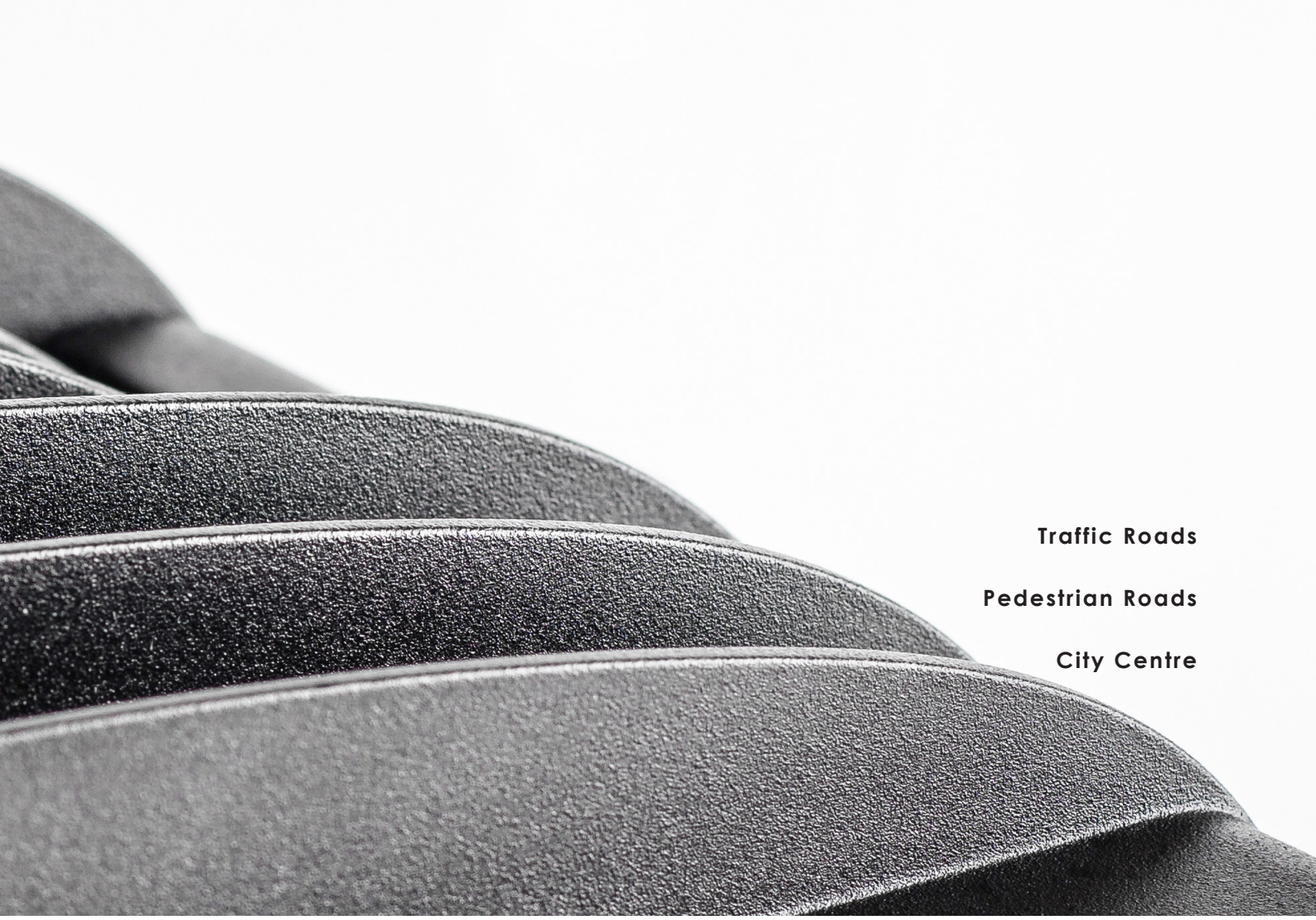
Module temperature control
The LED driver will start reducing the light output when the LED's approach critical temperature. The temperature is measured via a sensor placed on the PCB
(function available on customer request)

Body
Die-cast aluminium

Lighting protection
Built-in surge protection starting from 3 kV till 10 kV

Light regulation
MINI 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



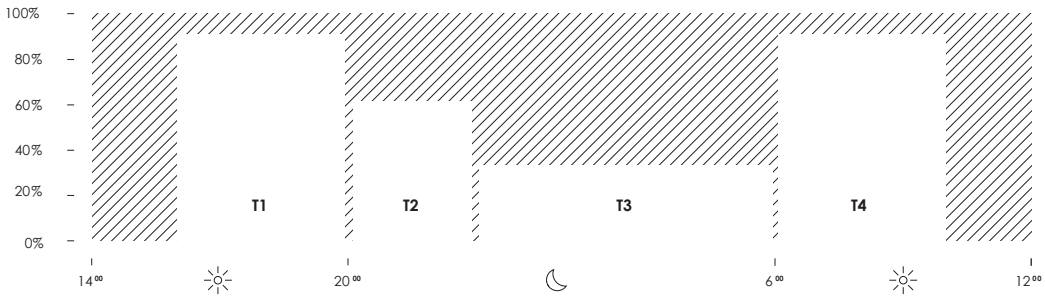
Traffic Roads

Pedestrian Roads

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.



Mini martin tool-less

with 60 mm console

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

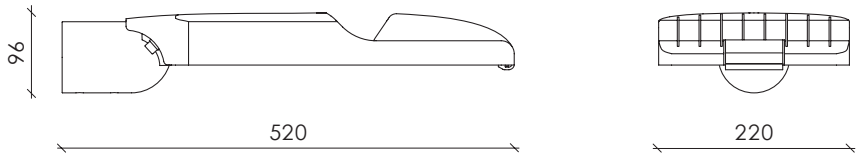

RAL7035

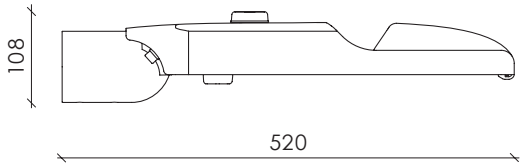

RAL9006


DB703

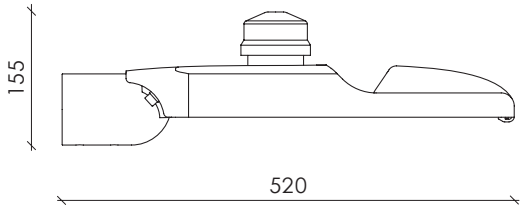

RAL9005

Other colors
available on request

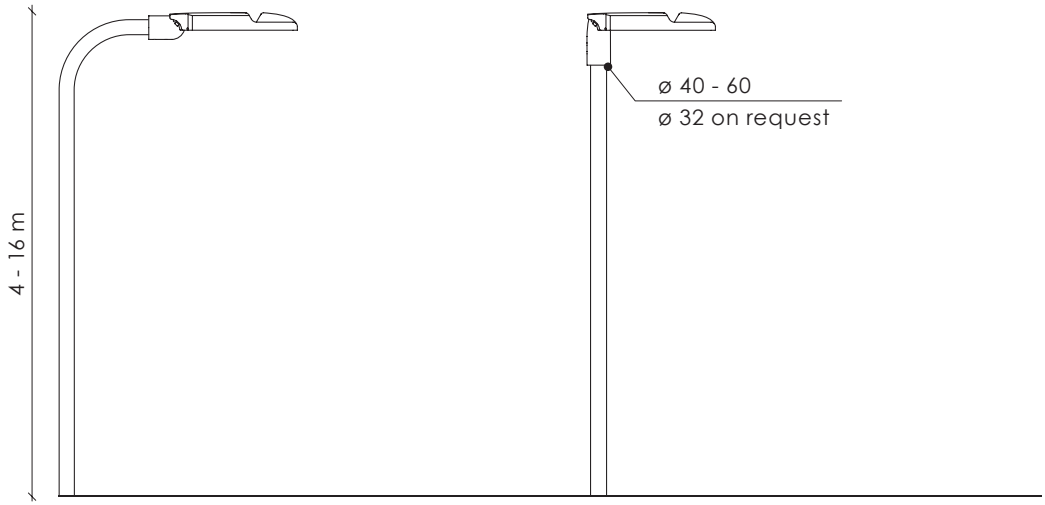


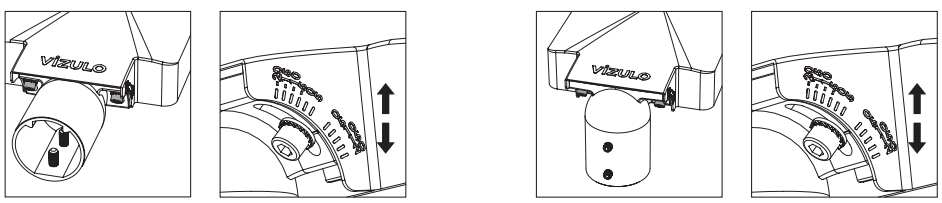


Dimensions with 2 Zhaga connectors



Dimensions with NEMA socket





Horizontal entry ≤ -20° ... 5°

Vertical entry ≤ 0° ... 20°

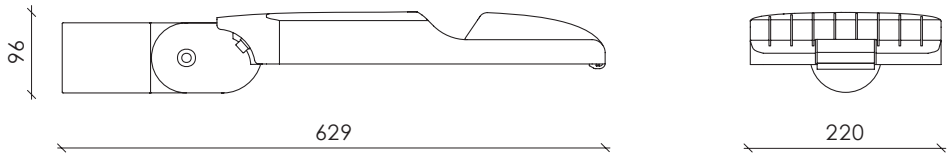
Mini martin tool-less

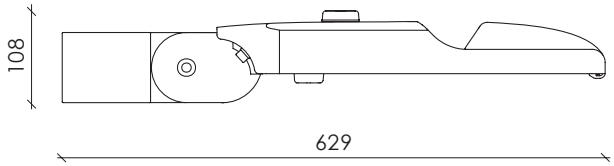
with 60 mm adjustable console

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

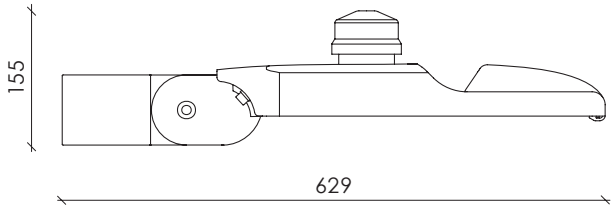
RAL7035 RAL9006 DB703 RAL9005

Other colors
available on request

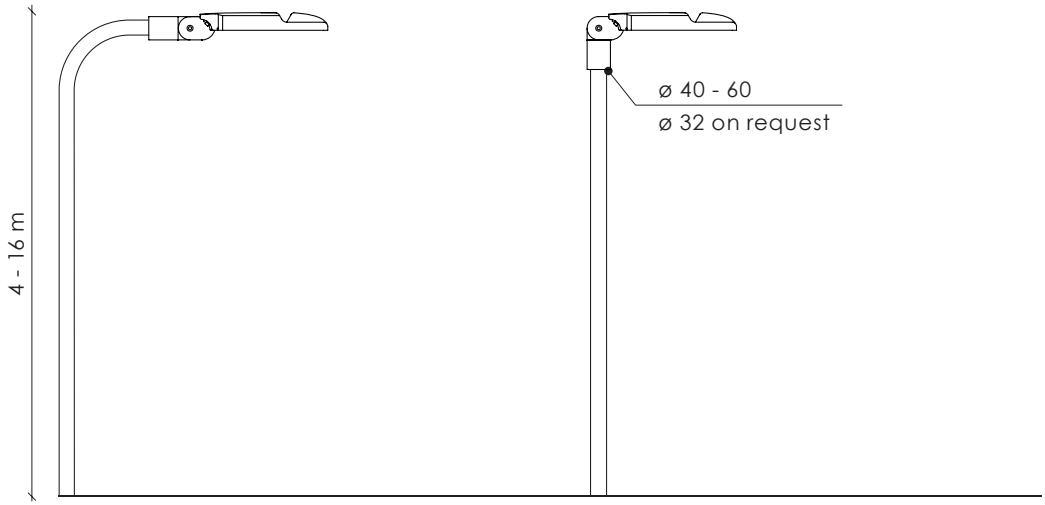


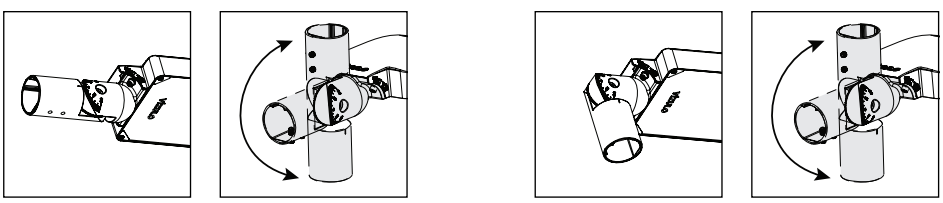


Dimensions with 2 Zhaga connectors



Dimensions with NEMA socket





Horizontal entry ± 90° Vertical entry ± 90°

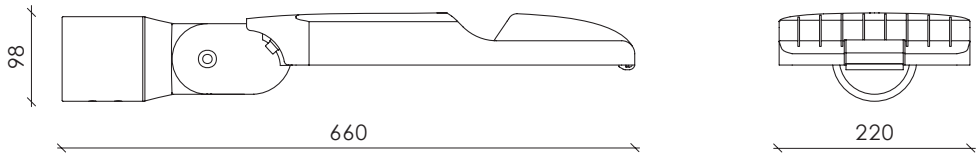
Mini martin tool-less

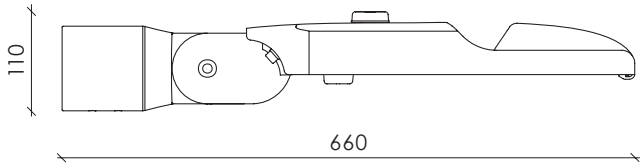
with 76 mm adjustable console

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

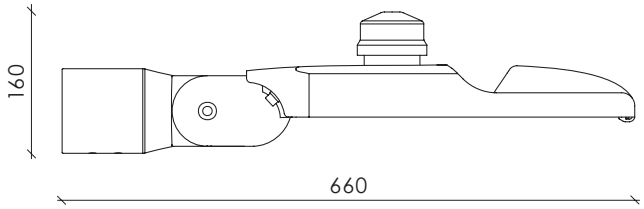
RAL7035 RAL9006 DB703 RAL9005

Other colors
available on request

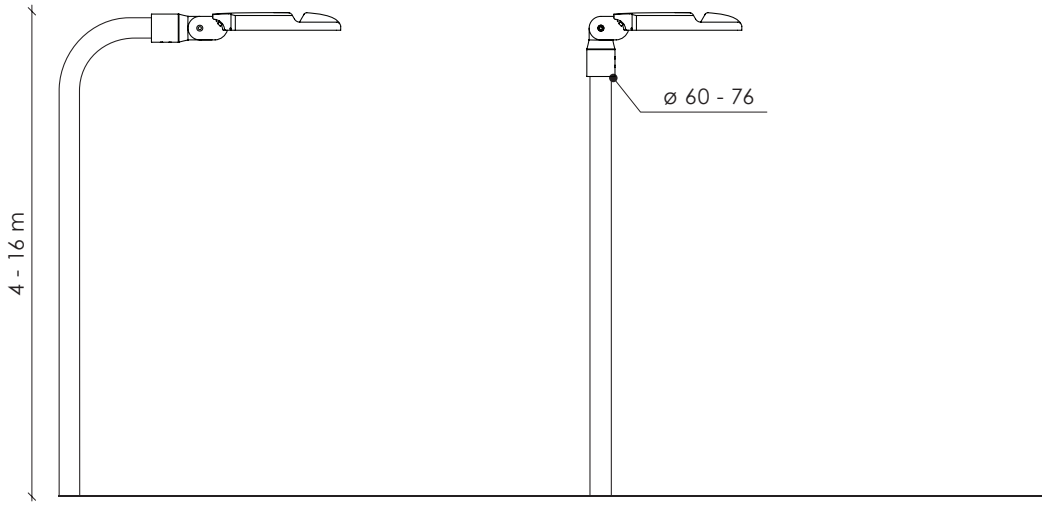


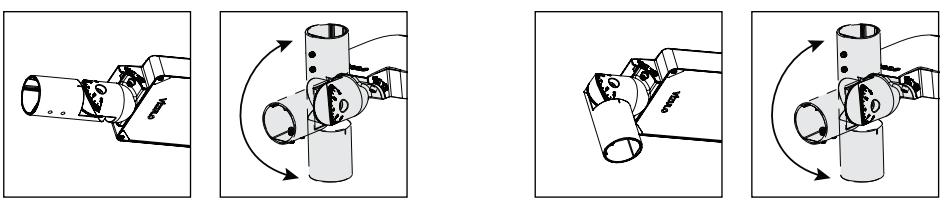


Dimensions with 2 Zhaga connectors



Dimensions with NEMA socket



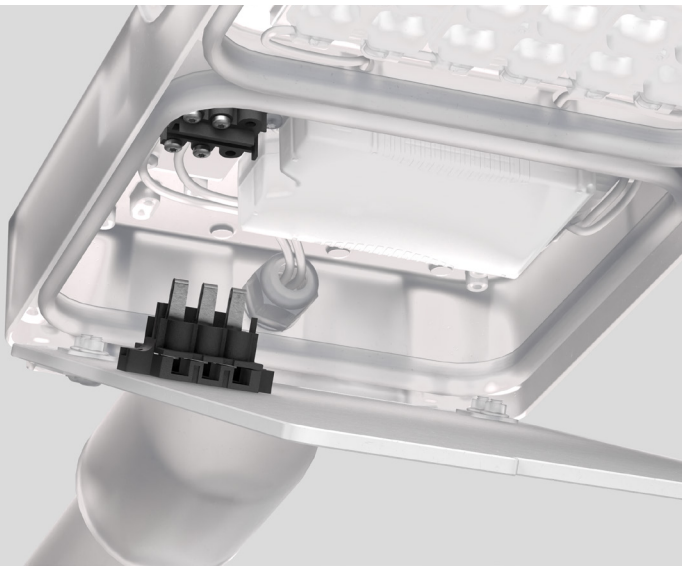


Horizontal entry ± 90° Vertical entry ± 90°

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

Technical information

IP66 | IK08 / IK09 / IK10 [9] | RoHS

V	198 - 264 / 110 - 277 [1]
Hz	50 - 60
W	5 - 145
lm	446 - 19 755 [2]
lm/W	90 - 187 [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:	Tool-less / 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 6.5 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 on 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 pole adapter from luminaire with ø 60 mm console to pole with ø 32 - 40 mm (on request)

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

* 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

Number of LED's		4			8			12	
Nominal current, mA	270	500	730	140	540	700	280	500	670
Power, W	5	8	11	5	15	19	12	20	26
Luminous Flux, lm	520	920	1300	560	2000	2500	1650	2800	3550
Efficacy, lm/W	104	115	118	112	133	132	138	140	137
Power factor, PF		Up to 0.93			Up to 0.94			Up to 0.97	

Number of LED's		16			24	
Nominal current, mA	280	500	680	260	470	700
Power, W	15	25	35	20	35	52
Luminous Flux, lm	2150	3630	5000	3060	5300	7300
Efficacy, lm/W	143	145	143	153	151	140
Power factor, PF		Up to 0.97			Up to 0.97	

Luminaire efficacy	2700 K	5 - 52 W	446 - 6300 lm	90 - 130 lm/W
	3000 K	5 - 52 W	490 - 6900 lm	98 - 142 lm/W
	5000 K	5 - 52 W	520 - 7300 lm	104 - 153 lm/W
	5700 K	5 - 52 W	520 - 7300 lm	104 - 153 lm/W

High density modules

* Data for V01 optic.

Check VIZULO members section for additional information

4000 K | CRI 70

Number of LED's		16			32			48		
Nominal current, mA	280	480	760	290	500	760	270	815	940	975
Power, W	15	25	39	29	50	75	40	120	140	145
Luminous Flux, lm	2150	3540	5300	4600	7600	10600	6400	16425	18620	19110
Efficacy, lm/W	143	142	136	159	152	141	160	137	133	132
Power factor, PF		Up to 0.98			Up to 0.97			Up to 0.99		

Luminaire efficacy	2700 K	15 - 145 W	1850 - 16380 lm	113 - 137 lm/W
	3000 K	15 - 145 W	2000 - 18015 lm	125 - 150 lm/W
	5000 K	15 - 145 W	2150 - 19110 lm	132 - 160 lm/W
	5700 K	15 - 145 W	2150 - 19110 lm	132 - 160 lm/W

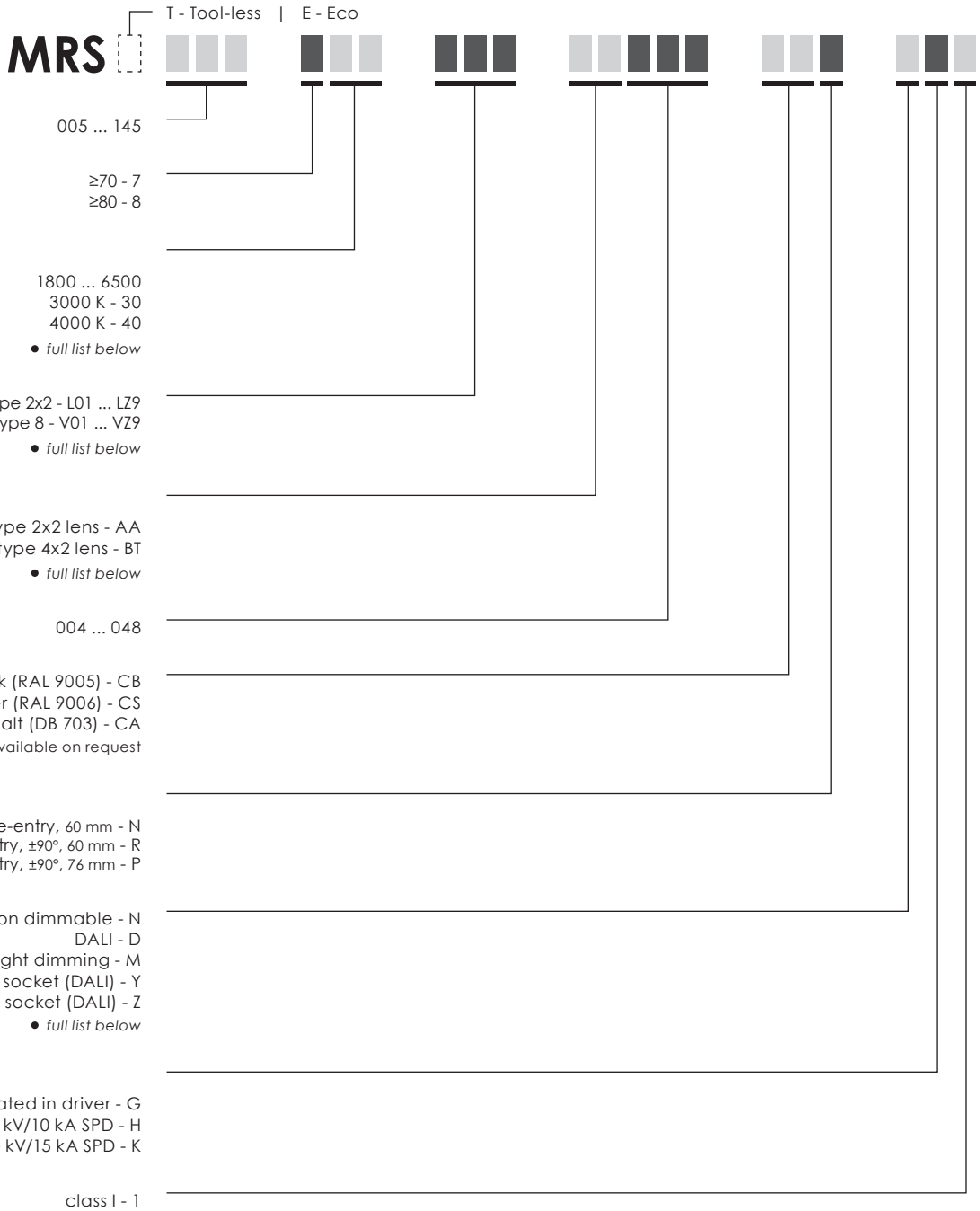
* Data for L01 optic.
Check VIZULO members section for additional information

4000 K | CRI 70

Number of LED's	8			16			24			
Nominal current, mA	290	475	700	270	480	710	265	750	865	895
Power, W	15	25	38	28	50	75	40	120	140	145
Luminous Flux, lm	2260	3600	5070	4250	7200	10000	6250	15780	17750	18230
Efficacy, lm/W	151	144	133	152	144	133	156	132	127	126
Power factor, PF	Up to 0.98			Up to 0.98			Up to 0.99			

Luminaire efficacy				
	2700 K	15 - 145 W	2100 - 16965 lm	117 - 144 lm/W
	3000 K	15 - 145 W	2170 - 17445 lm	120 - 154 lm/W
	5000 K	15 - 145 W	2240 - 18050 lm	124 - 155 lm/W
	5700 K	15 - 145 W	2210 - 17800 lm	123 - 155 lm/W

Model name principles



EXAMPLE MRST 050 740 L01 AA024 CSN DG1

• Full list of options

Color temperature [K]

1800 ... 6500
2700 K - 27
3000 K - 30
4000 K - 40
Nature Friendly Red - NR
Nature Friendly Amber - NA
Nature Friendly 1800 K - NK

Lens

type 8 - V01 ... VZ9
type 2x2 - L01 ... LZ9
type 2x3 - J01 ... JZ9
type 4x2 - B01 ... BZ9
type 6x1 - T01 ... TZ9
type 12 - Y01 ... YZ9
type 1 - Z01 ... ZZ9
custom configuration - M01 ... NZ9

Dimming

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

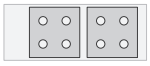
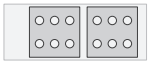
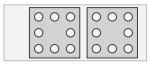
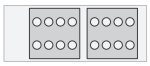
LED module type

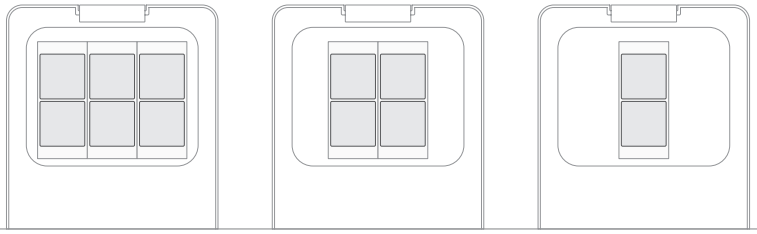
4 LEDs, type 2x2 lens - BG
8 LEDs, type 2x2 lens - AA
12 LEDs, type 2x3 lens - BY
16 LEDs, type 4x2 lens - BT
8 LEDs, type 8 lens - BH
16 LEDs, type 8 lens - AF

*** CUSTOM CONFIGURATION EXAMPLE**

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

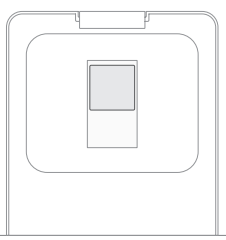
LED modules

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	
BY	3	6	12	36	6	Eco	type 2x3 J01…JZ9	
AF	3	8	16	48	2	Standard	type 8 V01…VZ9	
BT	3	8	16	48	8	Standard Eco	type 4x2 B01…BZ9	



AA	max 24 LEDs up to 13 540 lm	max 16 LEDs up to 9 230 lm	max 8 LEDs up to 4 690 lm
BY	max 36 LEDs up to 18 830 lm	max 24 LEDs up to 13 735 lm	max 12 LEDs up to 7 040 lm
AF	max 48 LEDs up to 14 535 lm	max 32 LEDs up to 9 775 lm	max 16 LEDs up to 4 930 lm
BT	max 48 LEDs up to 19 755 lm	max 32 LEDs up to 16 020 lm	max 16 LEDs up to 13 525 lm

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	1	4	4	4	2	Standard Eco	type 2x2 L01…LZ9	
BH	1	4	8	8	2	Standard	type 8 V01…VZ9	



BG max 4 LEDs
up to 2 310 lm

BH max 8 LEDs
up to 2 410 lm

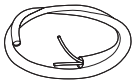
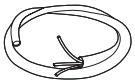
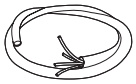
Cable core count

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

Cable order information*

* Custom cable lengths available on request

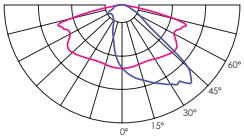





Cable length [m]	2 x 1.5 mm²	3 x 1.5 mm²	4 x 1.5 mm²	5 x 1.5 mm²
0.5	*Art. 70100184*	*Art. 70100179*	*Art. 70100402*	*Art. 70100409*
1	*Art. 70100156*	*Art. 70100193*	*Art. 70000527*	*Art. 70100220*
1.5	*Art. 70100391*	*Art. 70100258*	*Art. 70100403*	*Art. 70100410*
2	*Art. 70100202*	*Art. 70100177*	*Art. 70000515*	*Art. 70100262*
2.5	*Art. 70100392*	*Art. 70100213*	*Art. 70100404*	*Art. 70100411*
3	*Art. 70100166*	*Art. 70100178*	*Art. 70000529*	*Art. 70100217*
4	*Art. 70100172*	*Art. 70100144*	*Art. 70000530*	*Art. 70100189*
5	*Art. 70100173*	*Art. 70100146*	*Art. 70000531*	*Art. 70100185*
6	*Art. 70100099*	*Art. 70000512*	*Art. 70000532*	*Art. 70000370*
7	*Art. 70100174*	*Art. 70100182*	*Art. 70000533*	*Art. 70100201*
8	*Art. 70100152*	*Art. 70000630*	*Art. 70000534*	*Art. 70100212*
9	*Art. 70100176*	*Art. 70000381*	*Art. 70000535*	*Art. 70100192*
10	*Art. 70100153*	*Art. 70000631*	*Art. 70000536*	*Art. 70000387*
11	*Art. 70100191*	*Art. 70100143*	*Art. 70000537*	*Art. 70000388*
12	*Art. 70100167*	*Art. 70100147*	*Art. 70000538*	*Art. 70100200*
13	*Art. 70100186*	*Art. 70100187*	*Art. 70000539*	*Art. 70100412*
14	*Art. 70100204*	*Art. 70100164*	*Art. 70000540*	*Art. 70100165*
15	*Art. 70100380*	*Art. 70100030*	*Art. 70000541*	*Art. 70100183*
20	*Art. 70100393*	*Art. 70100397*	*Art. 70100405*	*Art. 70100413*
25	*Art. 70100276*	*Art. 70100398*	*Art. 70100406*	*Art. 70100414*

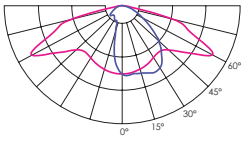
Optics

Standard modules

L01



L02



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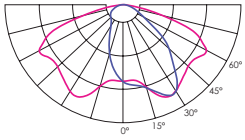

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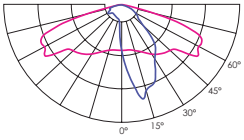

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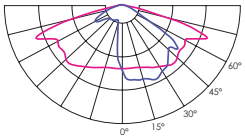

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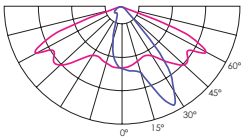

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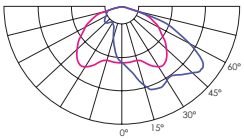

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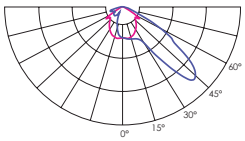

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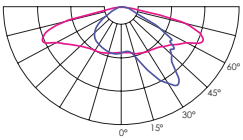

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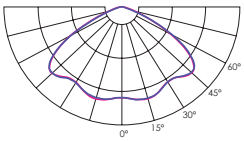

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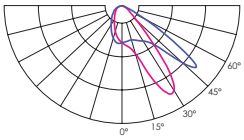

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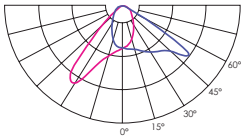

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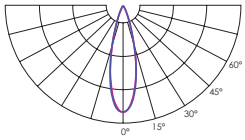

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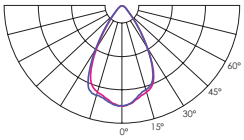

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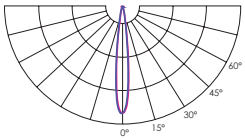

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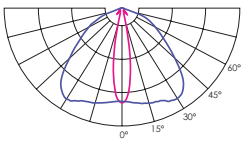

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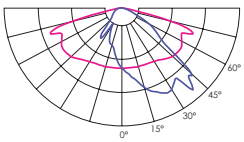

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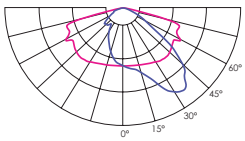

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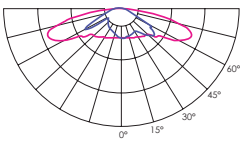

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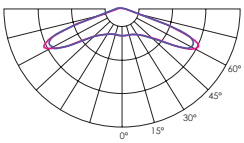

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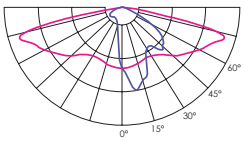

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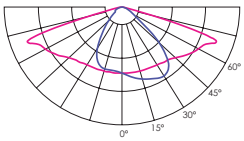

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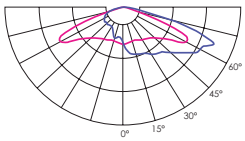

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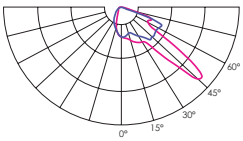

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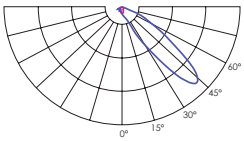

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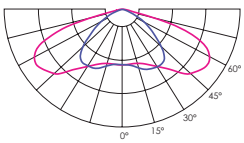

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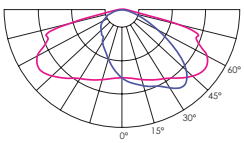

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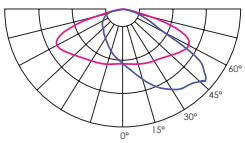

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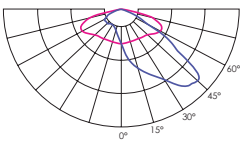

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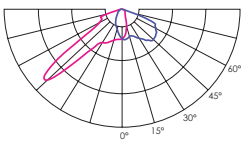

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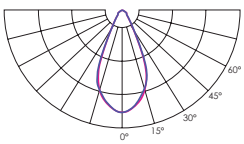

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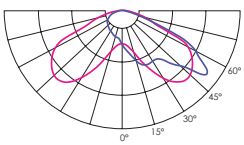

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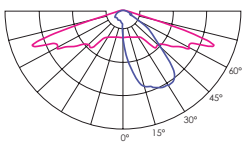

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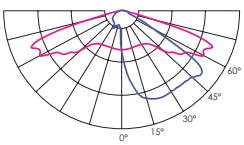

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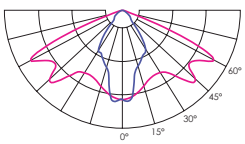

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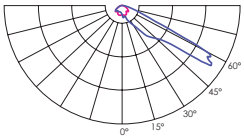

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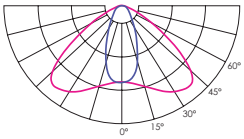

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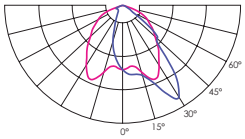

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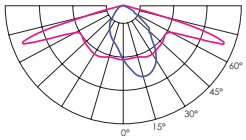

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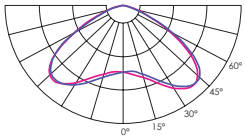

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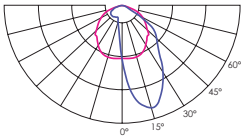

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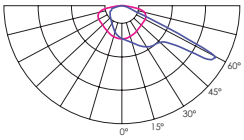

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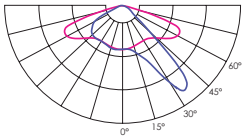

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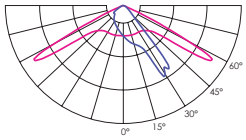

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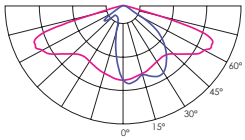

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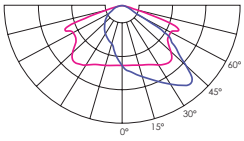

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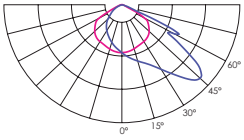

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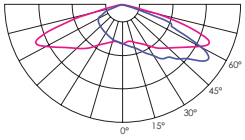

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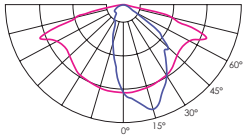

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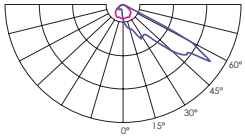

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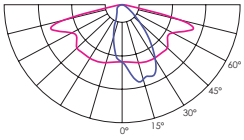

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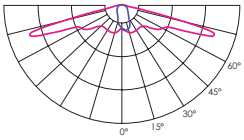

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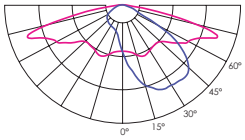

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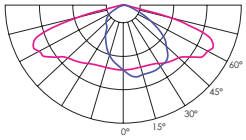
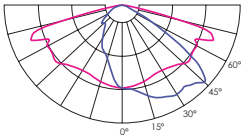


High density modules

V01



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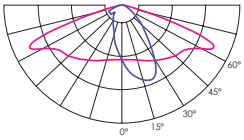

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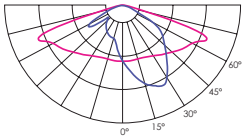

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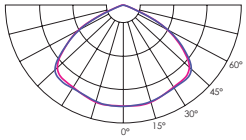

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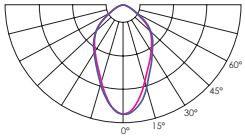

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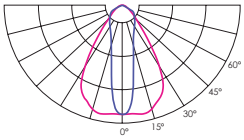

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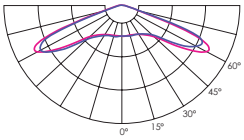
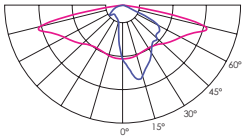
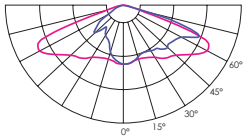


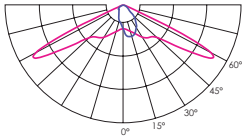
V22



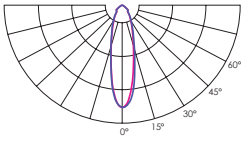
V35



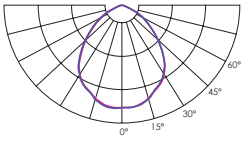
V45



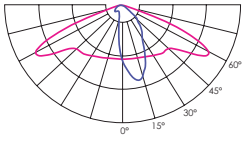
V52



V53



V57



Pedestrian crossing optics

IP66 | IK08 / IK09 / IK10 [10] | RoHS | EPD

V	198 - 264 / 110 - 277 [1]
Hz	50 - 60
W	5 - 52 [2] 15 - 145 [3]
lm	Up to 7 300 [2] Up to 19 755 [3]
lm/W	Up to 187 [4]
K	2700 / 3000 / 4000 [5]
°C	-40 up to +50 [6]
CRI	>70 / >80 / >90 [5]

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*
Warranty:	5 years
Installation:	Tool-less / Pre-wired cable 30 cm [7]
Spigot:	32 - 40 mm [8] / 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 [9]
Corrosion protection:	Up to C5
Neto weight:	Up to 6.5 kg
Max. wind load area, SCd:	0.039 m^2

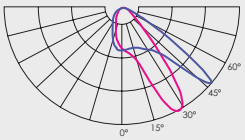
1) Maximum operating voltage, ENEC certificate voltage 198 - 264 V, UL certificate voltage 110 - 277 V
2) Standard modules, lumen output indicated at CRI > 70
3) Eco modules, lumen output indicated at CRI > 70
4) This value depends on configuration and can reach even higher number when max efficient 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 pole adapter from luminaire with ø 60 mm console to pole with ø 32 - 40 mm (on request)
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

* 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.

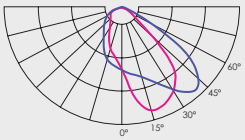
Technical parameters for final product can differ from typical data by 7% due to special conditions of LED manufacturing processes.

Right side traffic

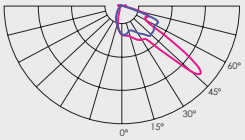
L11



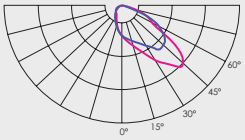
L11
ECO

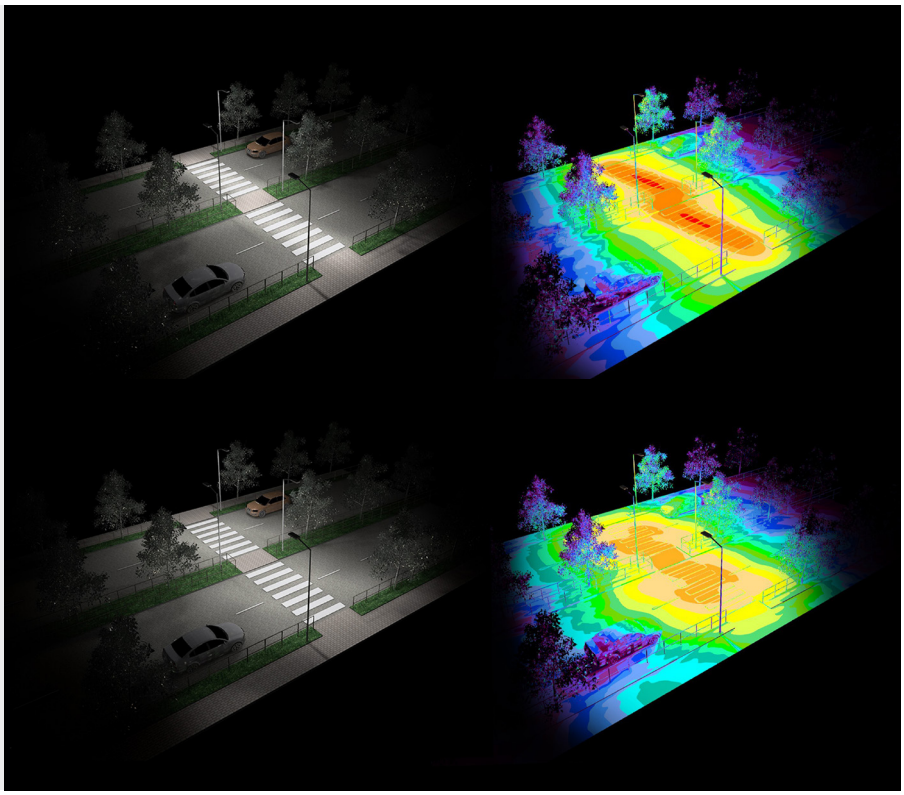


L36



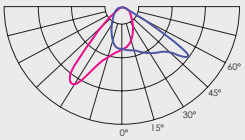
L36
ECO



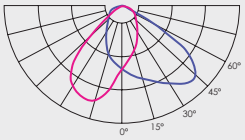


Left side traffic

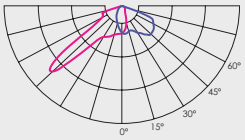
L12



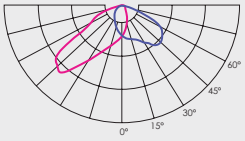
L12
ECO

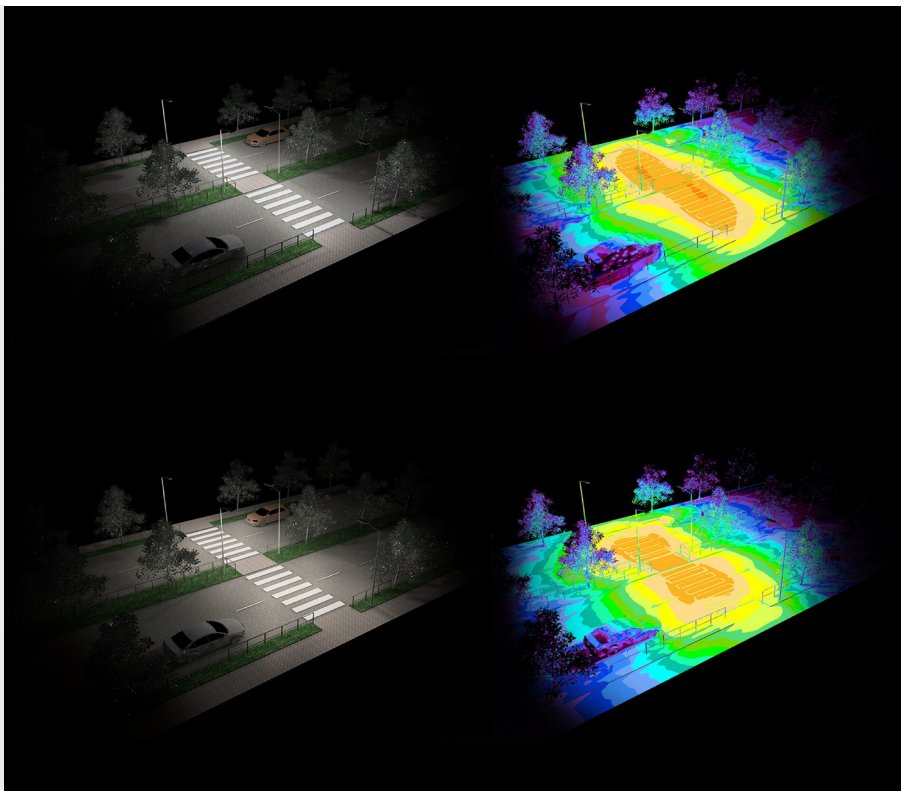


L46



L46
ECO

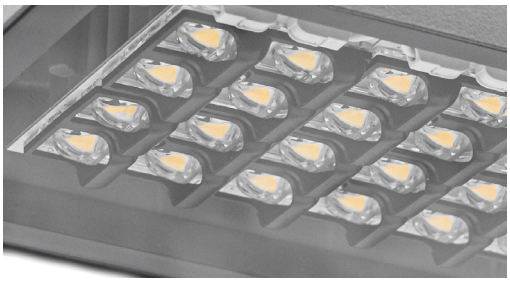




Backlight cutter

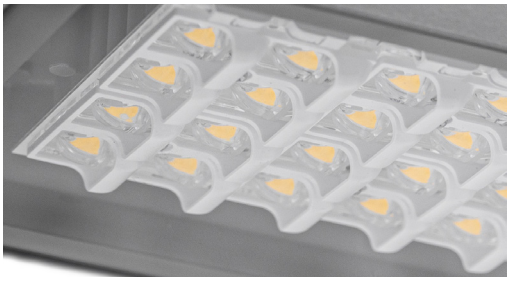
Backlight cutter | black

Art. 70000661



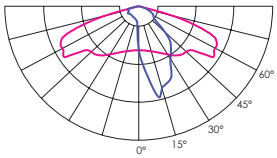
Backlight cutter | white

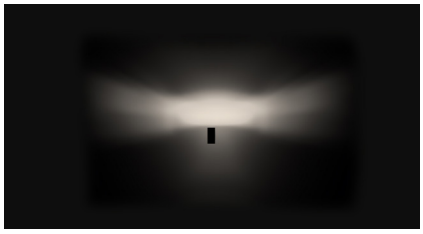
Art. 70000662

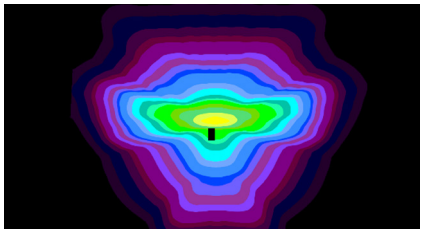


Optical loses from 10% to 31% depending from used optic.

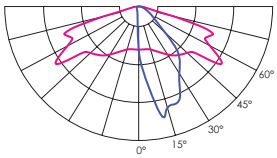
Without backlight cutter

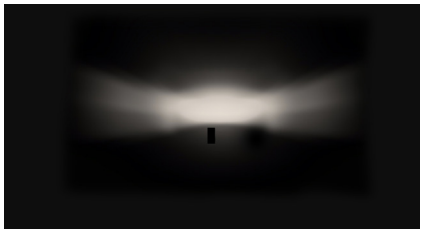


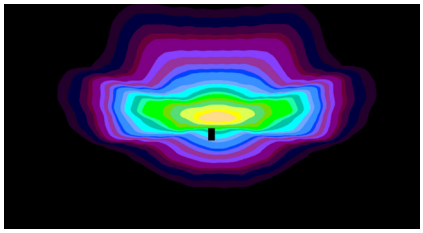




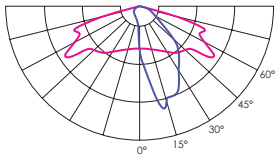
Backlight cutter | black

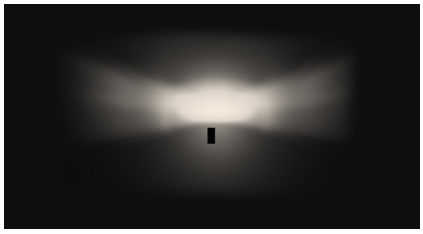


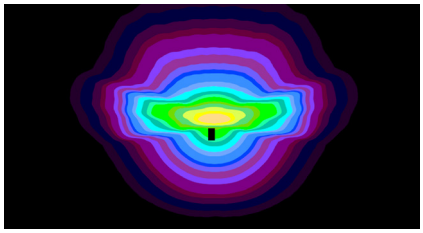




Backlight cutter | white







Visors

↘ BACK VISOR

MRS back visor | silver (RAL9006)

Art. 70055120

↘ BACK + SIDE VISORS

MRS side visor | silver (RAL9006)

*Art. 70055121 **

* The article includes a **single** side visor, which can be mounted on either the left or right side

↘ VISOR SET

MRS front visor | silver (RAL9006)

Art. 70055122

MRS visor set | silver (RAL9006)

Art. 70055131

Accessories

NEMA Socket

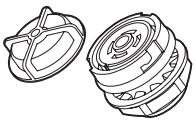
operating temperature up to 105 °C

2213362-3, 5 pin NEMA socket ..... *Art. 70000362*
2213362-4, 7 pin NEMA socket ..... *Art. 70000333*

Dummy Link for NEMA Socket ..... *Art. 70000113*

Zhaga Socket

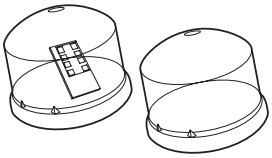
with cap ..... *Art. 70000613*
without cap ..... *Art. 70000612*



Luminaire controller for Zhaga-standard connectors

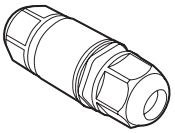
ø 80 mm

MSLC205RG controller with radar ..... *Art. 70010027*
MSLC205RGL controller ..... *Art. 70010029*



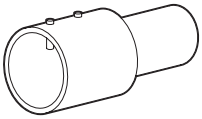
IP68 rated wire cable connector

2 wire cable connector ..... *Art. 70000676*
3 wire cable connector ..... *Art. 70000677*
4 wire cable connector ..... *Art. 70000725*
5 wire cable connector ..... *Art. 70000678*



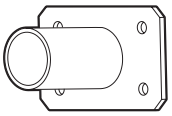
Pole adapter ..... *Art. 70044002*

from luminaire with ø 60 mm console
to pole with ø 60 - 76 mm



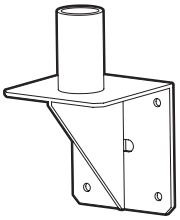
Wall mounting bracket ..... *Art. 70044001*

for luminaire with ø 60 mm console



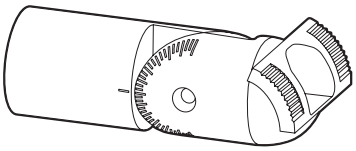
Vertical wall mounting bracket ..... *Art. 70044004*

for luminaire with ø 60 mm console



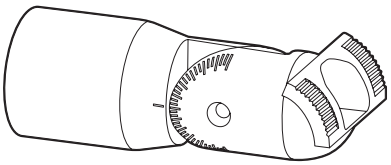
Adjustable console ø 60 mm ..... *Art. 70055005*

regulation angles ±90°



Adjustable console ø 76 mm ..... *Art. 70055006*

regulation angles ±90°



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.

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 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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