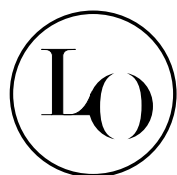


MODÌ

design LORELUX®



LORELUX

LORELUX - MODI DATASHEET



Concept	Essential design for a sustainable and resistant urban lighting with an easy maintenance.
Description	Modì is a LED urban luminaire suitable for illuminating parks, squares and city roads. Its lighting body is made from innovative polymeric materials that respect urban ecology and resist corrosion, extreme temperatures (from - 60°C to + 80°C) and UV discolouration thanks to the innovative Rotoskin® patented system, the self-cleaning covering providing a protective shield on all exposed surfaces of the luminaire. Modì includes both suspended and on catenary mounting and offers a wide range of finishes and photometries, as well as remote-control devices located inside the luminaire that do not alter its design while guaranteeing further savings and road safety. In addition, the optical compartment featuring LED modules with the Zhaga Book 15 standard can be removed using captive screws.
Materials	Polyethylene containing PSV-certified plastic (Plastic Second Life) as specified below: Black: 90% Floral: 50% Coloured: 50%
Product's preview	

Pluses

- Lighting body's useful service life of over 50 years
- Immunity to corrosion by atmospheric agents and pollutants
- Resistance to impacts and vandalism
- No flaking or significant discolouration over time
- Interchangeable LED engine with captive screws for upgrades and/or repairs, with a separate IP66 optical compartment, fitted with a dedicated anti-condensation valve
- Wide range of colours in 100% recyclable polyethylene
- Wide range of photometries in order to meet all lighting needs
- Devices for Smart cities that can be integrated without any external antenna

Product's certifications



Material's certifications



Application areas



Mountings

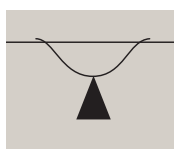
Mast arm
Code **KM-MODI-S**



Wall suspended on arm
Code **KM-MODI-S**



Suspended on catenary
Code **KM-MODI-T**



Ceiling suspension
Code **KM-MODI-S**



LORELUX - MODI DATASHEET

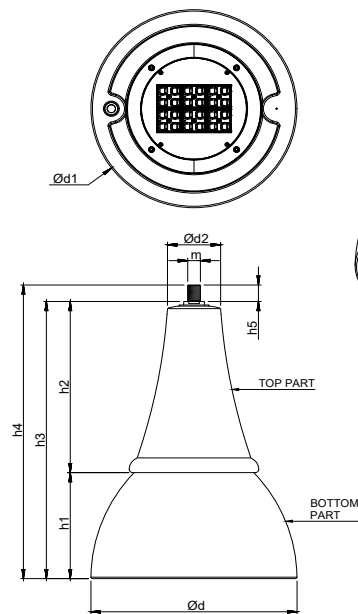


Installation examples



Technical drawing standard model

Suspended mounting: Modì luminaire
+ KM-MODI-S mounting kit



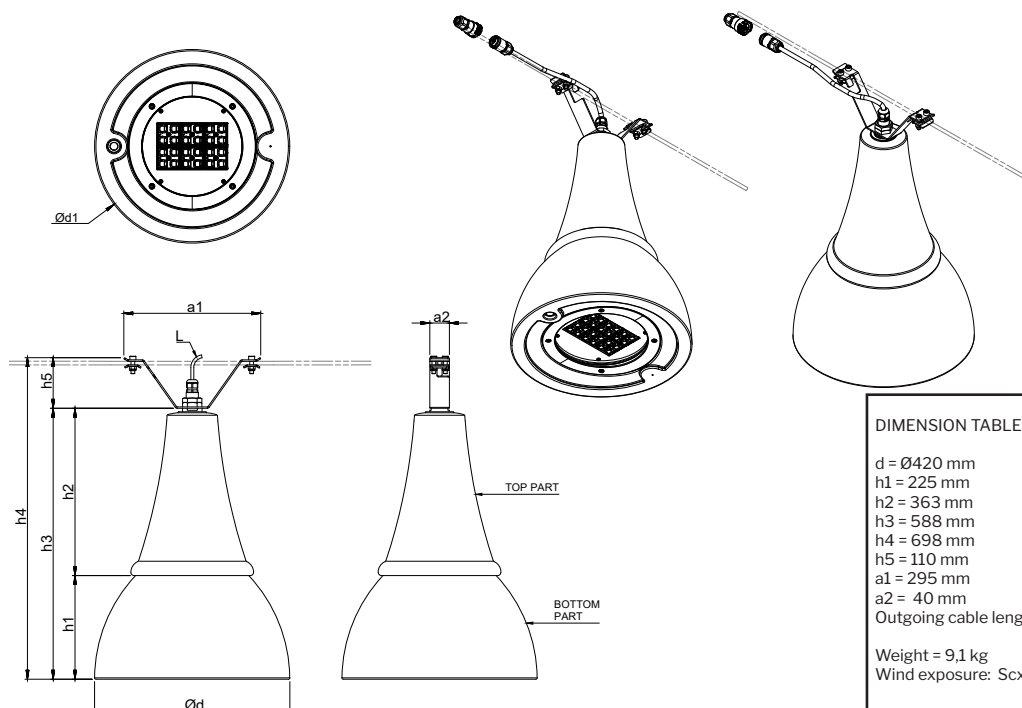
DIMENSION TABLE

$d_1 = \varnothing 420$ mm
 $d_2 = \varnothing 110$ mm
 $h_1 = 225$ mm
 $h_2 = 363$ mm
 $h_3 = 588$ mm
 $h_4 = 623$ mm
 $h_5 = 35$ mm
 $m =$ Male Thread Standard
 $3/4"$ GAS DIN ISO 228

Weight = 8,5 kg
 Wind exposure: $Scx = 0,138$ m² base
 = 0,137 m² lateral

Technical drawing optional model

Suspended on catenary:
Modì luminaire + KM-MODI-T mounting kit



DIMENSION TABLE

$d = \varnothing 420$ mm
 $h_1 = 225$ mm
 $h_2 = 363$ mm
 $h_3 = 588$ mm
 $h_4 = 698$ mm
 $h_5 = 110$ mm
 $a_1 = 295$ mm
 $a_2 = 40$ mm
 Outgoing cable length: $L = 500$ mm

Weight = 9,1 kg
 Wind exposure: $Scx = 0,138$ m² base
 = 0,137 m² lateral

LORELUX - MODÌ DATASHEET

MAIN FEATURES

Manufacturer	NITEKO S.R.L.
Brand	LORELUX®
Series	Modì
Device type	LED urban luminaire
Application areas	Street, urban and residential lighting Historic centres, squares, car parks and green areas Pedestrian areas and cycle lanes
Mounting	Mast arm, wall suspended on arm, suspended on catenary, ceiling suspension
Mounting accessories	Standard suspended: KM-MODI-S (¾" GAS connection) Optional suspended: · KM-MODI-1/2-INCH (½" GAS connection) · KM-MODI-1-INCH (1" GAS connection) · KM-S-60MM-3/4-INCH (60mm adapter - ¾" GAS) Optional on catenary: KM-MODI-T (mounting kit for suspension on catenary)
Product's protection rating	External agents: IP66 Mechanical impacts: IK10 Chemical: VOC Free Electrical: EOS Free SPD: MC ≤ 12 kV ; MD ≤ 12kV ; I ≤ 10kA Photobiological: RG1 (D > 1,97m)
Material's protection rating	UV: 15 (15.000 h) Flame: HB Discolouration: max CMC 3 colour deviation for 3.000 h according to ISO 4892-2 B1 cycle
Temperature	Operating: -40°C ÷ +45°C (Control via N.T.C.) Storage: -40°C ÷ +80°C
Energy rating	>A++
Warranty	Body: 20 years Light source: 10 years
Certifications	Product: CE; ENEC; RoHS; EOS free; VOC free; LCA; EPD Italy; IEC/EN 62262; DarkSky; Vibration&Shock Test Material: UL94; ISO 4892-2; PSV (Plastic Second Life)
Optical compartment / Electric compartment	Separated Opening of the compartments after removal of the anti-fall fixing screws Optional Tool Less Opening

LORELUX - MODI DATASHEET

OPTICAL FEATURES

Light source	HI Power LED
LED modules	PCB, independent and replaceable
Optics	Independent and replaceable
Nominal luminous flux	1.421 ÷ 13.281 lm
Light source efficiency	· $\eta_{LED} > 180 \text{ lm/W}$ (CCT > 4.000 K / CRI > 70) · $\eta_{LED} > 170 \text{ lm/W}$ (CCT > 3.000 K / CRI > 70) · $\eta_{LED} > 160 \text{ lm/W}$ (CCT > 2.700 K / CRI > 70) · $\eta_{LED} > 150 \text{ lm/W}$ (CCT > 2.200 K / CRI > 70)



LORELUX - MODI DATASHEET

Colour temperature	Standard CCT: 3.000K Optional CCT: 1.800K; 2.200K; 2.700K; 4.000K; 5.000K; 5.700K Colour stability: 3 Step MacAdam
Colour rendering index	Standard CRI: 70 Optional CRI: 80; 90
Photometries	Asymmetric; elliptic; rotosymmetric; symmetric; pedestrian
Optical accessories	B.L.S. (Back Light Stop) Code: KM - MODI - BLS
Optical performance	Standard: η_{OPT} : 79 ÷ 87 % Optional with KM - MODI - BLS accessory: η_{OPT} : 69 ÷ 81%
Lighting fixture efficiency	$\eta_{FIX} > 130 \text{ lm/W}$ (CCT > 4.000 K / CRI > 70) $\eta_{FIX} > 125 \text{ lm/W}$ (CCT > 3.000 K / CRI > 70) $\eta_{FIX} > 115 \text{ lm/W}$ (CCT > 2.700 K / CRI > 70) $\eta_{FIX} > 105 \text{ lm/W}$ (CCT > 2.200 K / CRI > 70)
Light intensity class	$\geq G^*2$
Glare index	$\geq D.4$
ULR / ULOR	0,00%
Service life	L95 B10: > 100.000 h ($T_A = 25^\circ \text{C}$ IF $\leq 500\text{mA}$) L90 B10: > 120.000 h ($T_A = 25^\circ \text{C}$ IF $\leq 500\text{mA}$) L80 B10: > 270.000 h ($T_A = 25^\circ \text{C}$ IF $\leq 500\text{mA}$) L70 B10: > 450.000 h ($T_A = 25^\circ \text{C}$ IF $\leq 500\text{mA}$)

LORELUX - MODI DATASHEET

CONFIGURATIONS

Model	Power [W]	Nominal luminous flux [lm]						
		4.000 K CRI 70 5.000 K CRI 70	5.700 K CRI 70	3.000 K CRI 70	2.700 K CRI 70 4.000 K CRI 80 5.000 K CRI 80 5.700 K CRI 80	3.000 K CRI 80	2.200 K CRI 70 2.700 K CRI 80	1.800 K CRI 70 2.700 K CRI 90
MODI 15 W	10,8	2.019	1.941	1.908	1.867	1.739	1.687	1.421
	15,7	2.873	2.766	2.718	2.657	2.477	2.403	2.025
MODI 20 W	20,7	3.710	3.577	3.512	3.431	3.201	3.105	2.618
MODI 30 W	25,7	4.667	4.506	4.421	4.317	4.030	3.909	3.295
	30,4	5.607	5.419	5.313	5.186	4.842	4.697	3.960
MODI 40 W	35,3	6.399	6.189	6.064	5.918	6.066	5.884	4.520
	38,7	6.920	6.697	6.559	6.401	5.979	5.800	4.889
MODI 50 W	20,9	4.273	4.099	4.036	3.952	3.678	3.568	3.007
	25,3	5.117	4.913	4.836	4.733	4.408	4.276	3.604
	30,4	6.091	5.854	5.760	5.634	5.521	5.093	4.293
	35,6	7.055	6.785	6.674	6.525	6.084	5.901	4.974
	40,1	7.872	7.575	7.449	7.281	6.790	6.586	5.552
	45,4	8.817	8.490	8.345	8.155	7.607	7.379	6.220
	50,8	9.752	9.396	9.232	9.020	8.415	8.163	6.881
MODI 60 W	55,1	10.253	9.835	9.689	9.483	8.832	8.567	7.223
	60,5	11.145	10.574	10.414	10.191	9.915	9.618	7.763
MODI 70 W	65,2	11.904	11.429	11.253	11.011	10.257	9.949	8.388
	70,0	12.657	12.157	11.996	11.707	10.907	10.580	8.920
MODI 75 W	75,7	13.281	12.760	12.556	12.284	11.445	11.102	9.359

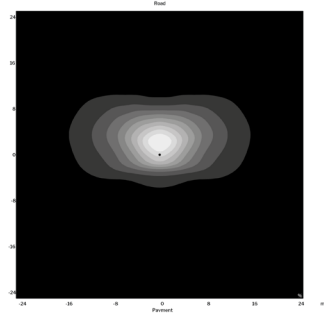
LORELUX - MODI DATASHEET

DARKSKY APPROVED CONFIGURATIONS

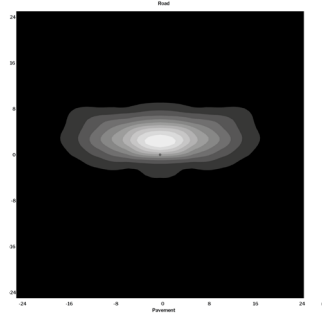
Model	Power [W]	Nominal luminous flux [lm]			
		3.000 K CRI 70	2.700 K CRI 70	3.000 K CRI 80	2.200 K CRI 70 2.700 K CRI 80
MODI 15 W	10,8	1.908	1.867	1.739	1.687
	15,7	2.718	2.657	2.477	2.403
MODI 20 W	20,7	3.512	3.431	3.201	3.105
MODI 30 W	25,7	4.421	4.317	4.030	3.909
	30,4	5.313	5.186	4.842	4.697
MODI 40 W	35,3	6.064	5.918	6.066	5.884
	38,7	6.559	6.401	5.979	5.800
MODI 50 W	35,6	6.674	6.525	6.084	5.901
	40,1	7.449	7.281	6.790	6.586
	45,4	8.345	8.155	7.607	7.379
	50,8	9.232	9.020	8.415	8.163

PHOTOMETRIES

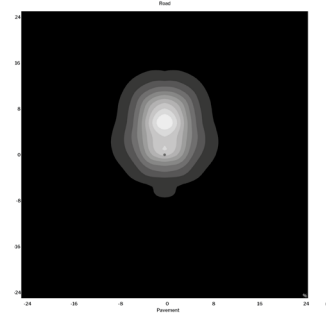
Asymmetric



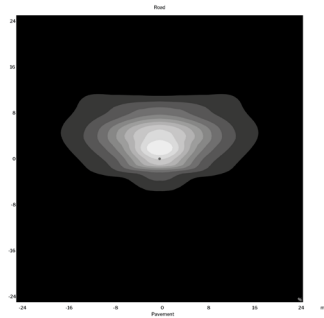
Code A1 ($\eta = 84\% \mid G^*6$)



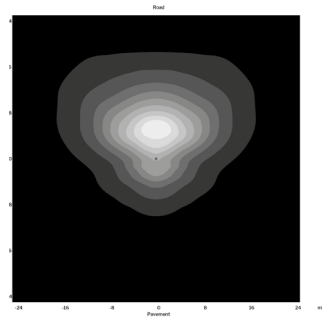
Code A2 ($\eta = 84\% \mid G^*4$)



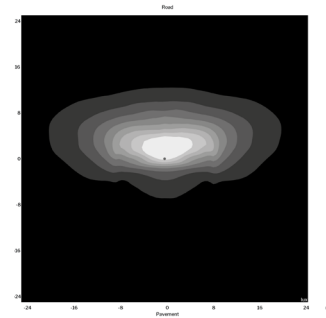
Code A3 ($\eta = 87\% \mid G^*6$)



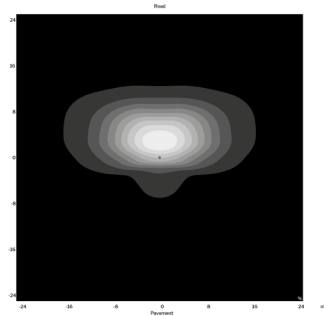
Code A4 ($\eta = 83\% \mid G^*6$)



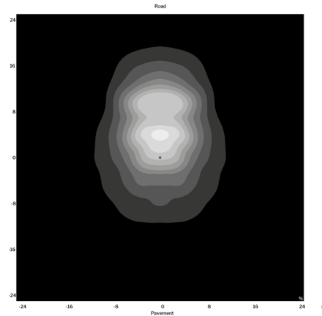
Code A7 ($\eta = 79\% \mid G^*2$)



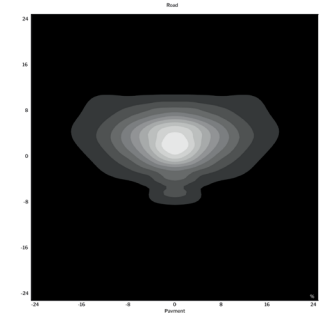
Code A8 ($\eta = 82\% \mid G^*1$)



Code A9 ($\eta = 85\% \mid G^*4$)



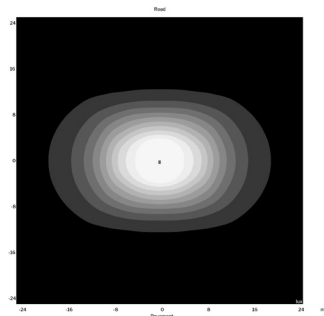
Code A13 ($\eta = 81\% \mid G^*6$)



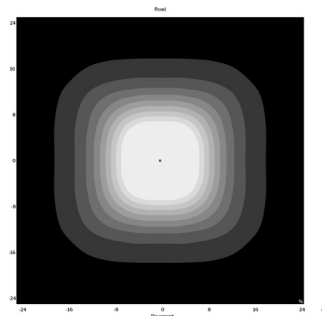
Codice A15 ($\eta = 85\% \mid G^*4$)

Elliptic

Rotosymmetric

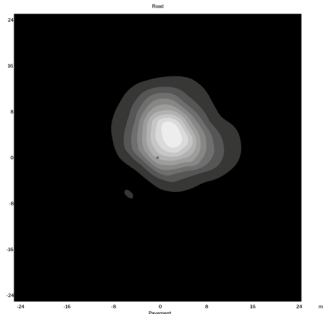


Code E3 ($\eta = 87\% \mid G^*6$)

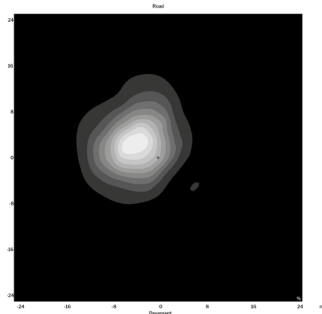


Code R1 ($\eta = 82\% \mid G^*6$)

Pedestrian

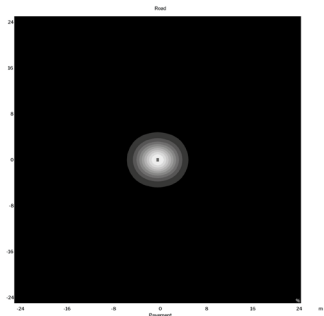


Codice PCDX ($\eta = 85\% \mid G^*6$)

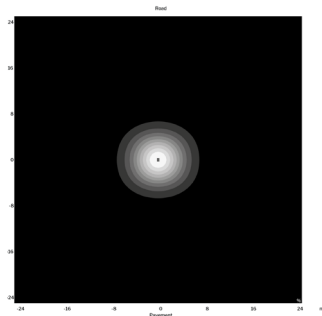


Codice PCSX ($\eta = 85\% \mid G^*6$)

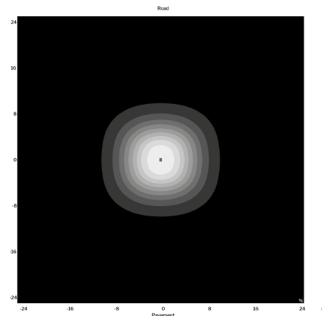
Symmetric



Code 25 ($\eta = 90\% \mid G^*6$)



Code 50 ($\eta = 90\% \mid G^*6$)



Code 100 ($\eta = 86\% \mid G^*6$)

*DarkSky approved configurations
(Asymmetric A8,A15; Rotosymmetric R1)

Optional

Other photometries available on request.

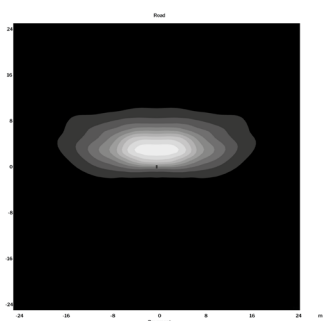
OPTICAL ACCESSORIES

Code KM-MODI-BLS

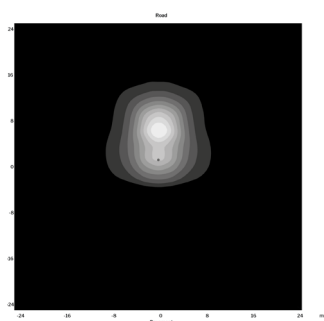


PHOTOMETRIES WITH KM-MODI-BLS OPTICAL ACCESSORY

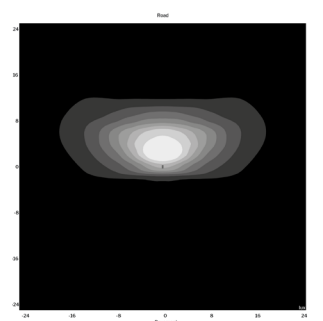
Asymmetric



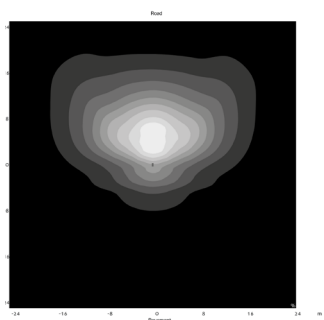
Code BA2 ($\eta = 79\%$ | G^*6)



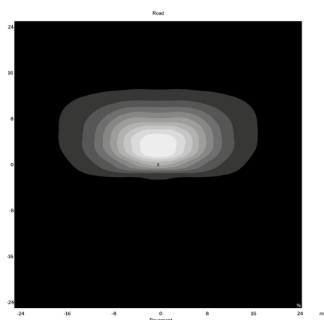
Code BA3 ($\eta = 81\%$ | G^*4)



Code BA4 ($\eta = 77\%$ | G^*6)



Code BA7 ($\eta = 69\%$ | G^*6)



Code BA9 ($\eta = 81\%$ | G^*2)

ELECTRICAL FEATURES

Power supply	Standard 240V AC : 175 ÷ 264 V AC; 50 / 60 Hz Optional 240V AC: 120 ÷ 277 V AC; 50 / 60 Hz Optional 12V DC: 9 ÷ 18 V DC Optional 24V DC: 18 ÷ 32 V DC
LED power current	$I_f \leq 500 \text{ mA}$
Insulation class	Standard: class II Optional: class I
Power	15 ÷ 75W
Power factor	PF > 0,97 (Active PFC)
Electrical efficiency	$\eta_{EL} : 83 \div 92 \%$
Electrical connection	External power cable (IP66 protected electrical connector). Standard length: 1,0 m Standard Cable (Class II): H07RN-F 2x1,5mmq; Optional Cable (Class I): H07RN-F 3x1,5mmq; Optional Cable (DALI): H07RN-F 5x1,5mmq;
Electrical protection	Built-in SPD: C.M. $\leq 12 \text{ kV}$; D.M. $\leq 12 \text{ kV}$; $I \leq 10 \text{ kA}$

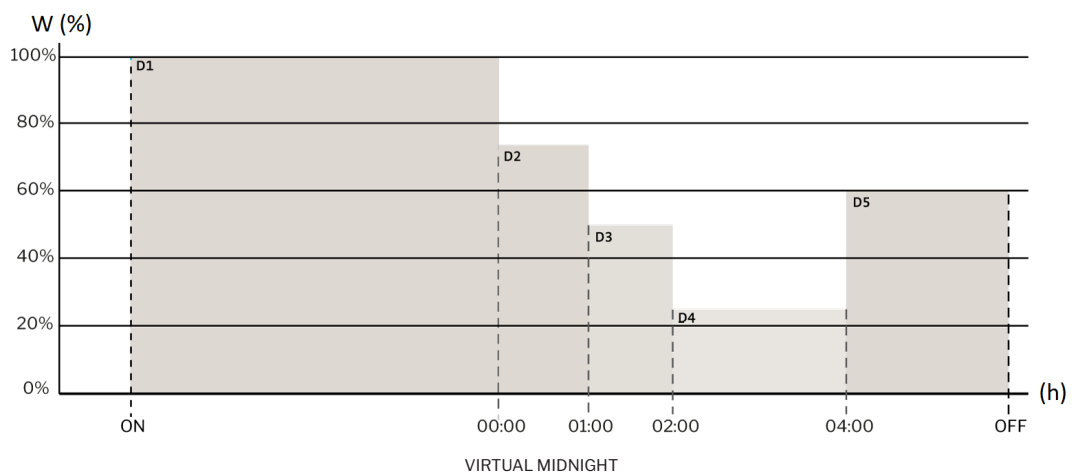


CONTROL FEATURES

Autonomous dimming	K-MODI-PRG5: automatic control up to 5 daily profiles
	K-MODI-CLO.LITE: constant lighting control during the lifetime with a single profile
	K-MODI-CLO.FULL: constant lighting control during the lifetime up to 20 profiles
Control cable dimming	K-MODI-DIM: 1-10V analogue control
	K-MODI-DALI: DALI digital control
	K-MODI-D4i: DALI 2.0 / AUX 24 V DC digital control
Power Line control dimming	K-MODI-PLV: Power Line Voltage control
Radio wave control	K-MODI-NEMASCK: control with NEMA device
	K-MODI-ZAGHASCK: control with ZHAGA device

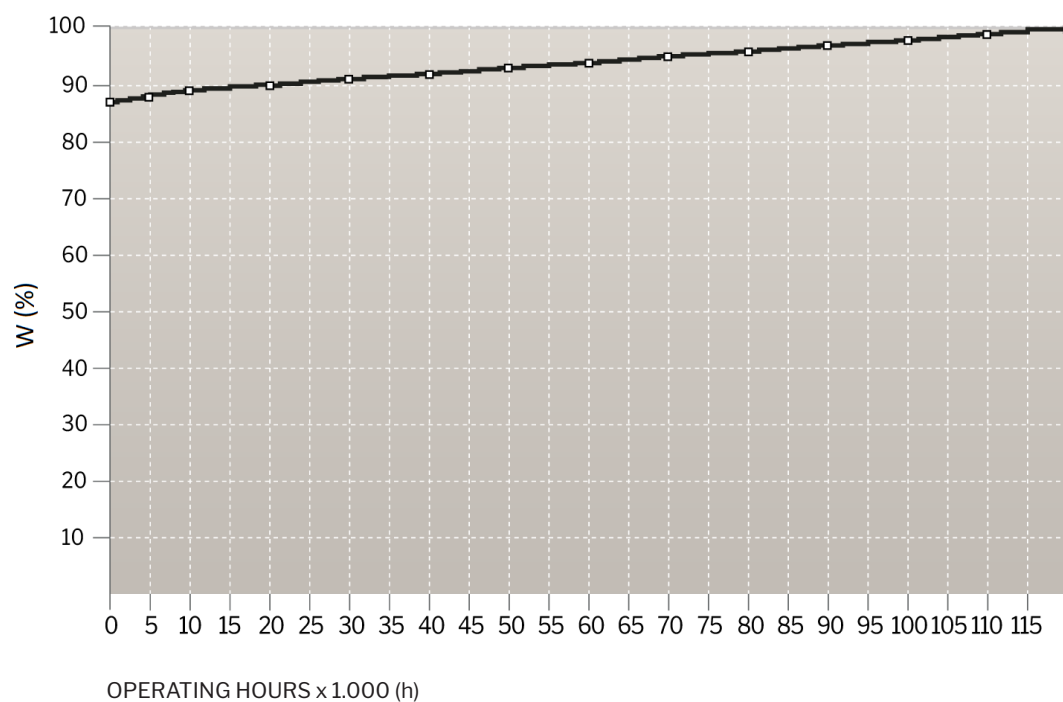
CONTROL FUNCTIONS

PRG5 module



The PRG module allows to control and reduce the luminous flux of the lighting fixture from 10% to 100% of the maximum value, without the use of dedicated cables

- D1: time slot ON - 23:59 → power 100%
- D2: time slot 00:00 - 00:59 → power 75%
- D3: time slot 01:00 - 01:59 → power 50%
- D4: time slot 02:00 - 03:59 → power 25%
- D5: time slot 04:00 - OFF → power 60%

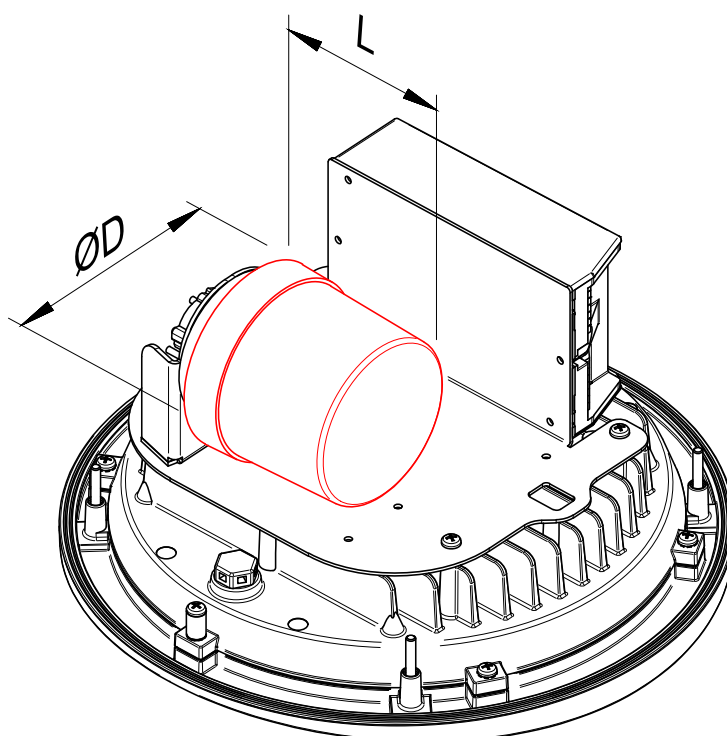
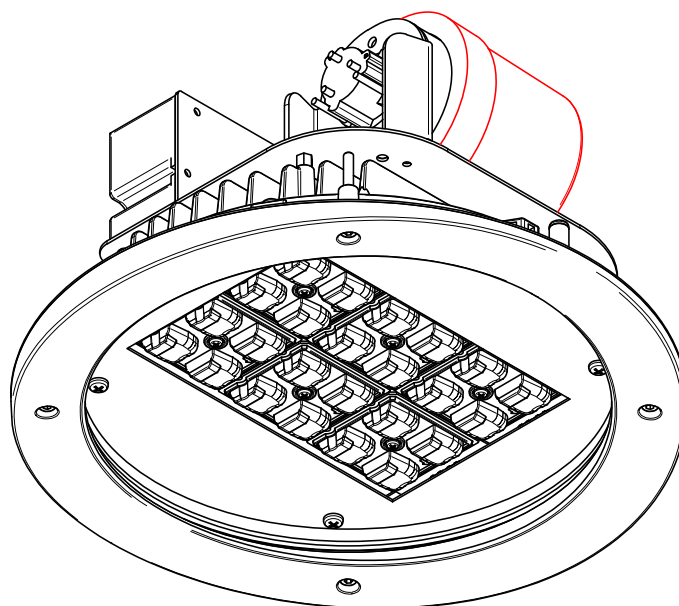
CLO module

The CLO function allows to gradually increase the level of light output over time from a lower initial luminous flux up to 100%, thus compensating the luminous flux degradation of the LED module during the lighting fixture entire lifetime. It can also serve as a means to reduce energy consumption.

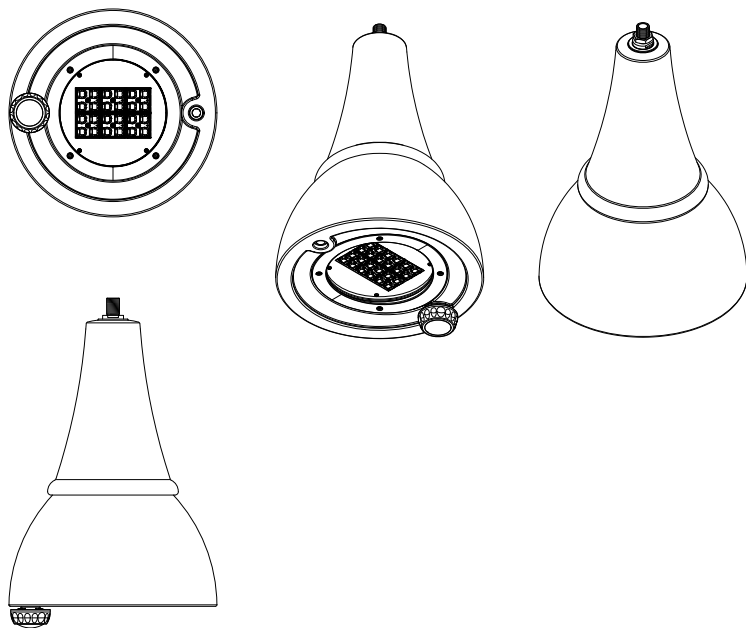
INTERNAL ZHAGA SOCKET

Maximum possible
dimensions [mm] for
remote-control devices:

$\varnothing D \times L = 84 \times 74$



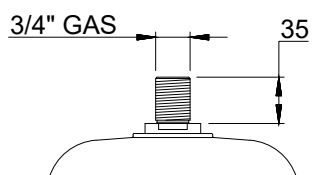
ZHAGA SOCKET ON THE BOTTOM



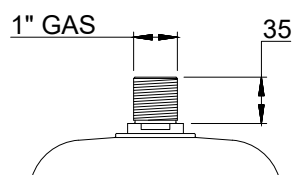
MECHANICAL FEATURES

Materials	Body: UV stabilised, self-cleaning, anti-discolouration and PSV (Plastic Second Life) certified polyethylene, 5 mm minimum thickness Heat sink: die-cast aluminium LED modules: aluminium Optics: PMMA, PC Screen: tempered flat glass, 5 mm thickness Gaskets: silicone Anti-condensation valves: PA (polyamide) Accessories: stainless steel Screws: stainless steel Packaging: FSC cardboard
Recycled plastic content	Black: 90% Coloured: 50% Floral: 50%
Service life	Body: >50 years Components: >10 years
Dimensions and weight	Suspended model: Ø420 x h623 mm 8,50 kg On catenary model: Ø420 x h698 mm 9,10 kg
Wind exposure	Base: 0,138 mq Lateral: 0,137 mq
Packaging free from both polystyrene and internal cardboard inserts	Primary (suspended): W440 x L440 x H660 mm 12,2 kg 1 pcs / box (eco-friendly packaging) Tertiary (suspended): W900 x L1.350 x H1.460 mm 172,0 kg 12 pcs / pallet (eco-friendly packaging) Primary (on catenary): W440 x L440 x H660 mm 12,8 kg 1 pcs / box (eco-friendly packaging) Tertiary (on catenary): W900 x L1.350 x H1.460 mm 180,0 kg 12 pcs / pallet (eco-friendly packaging)
Tolerance: luminous flux +/-5%; power consumption +/- 5%; dimensions +/-1%; weight +/-3%	

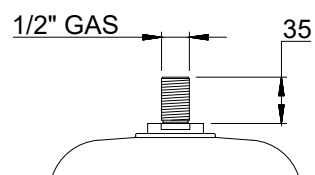
MOUNTING ACCESSORIES



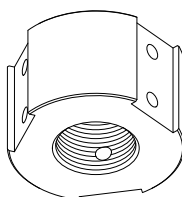
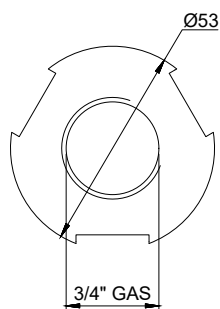
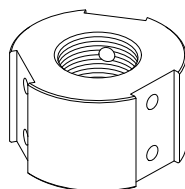
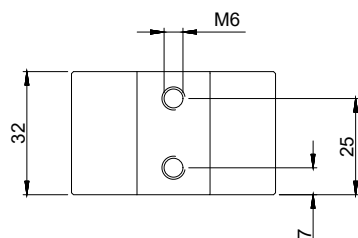
Standard:
Code KM-MODI-S



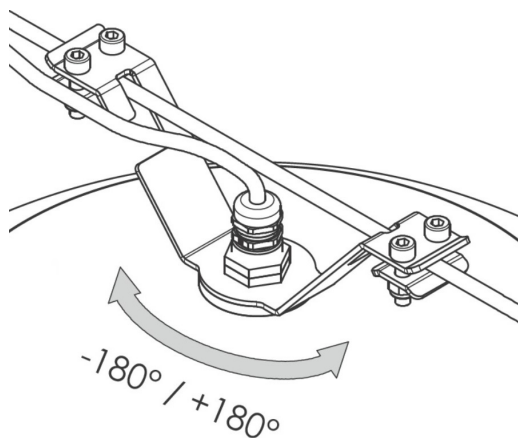
Optional:
Code KM-MODI-1-INCH



Optional:
Code KM-MODI-1/2-INCH



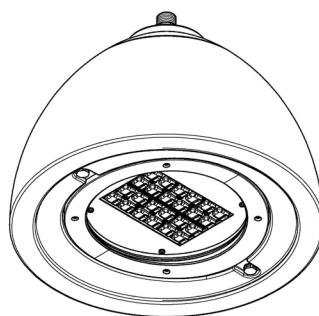
Optional:
3/4" GAS adapter for Ø60mm poles.
Code KM-S-60MM-3/4-INCH



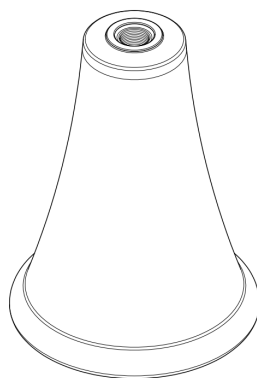
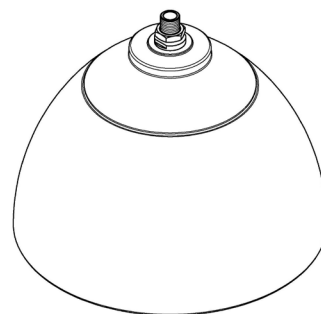
Optional:
Code KM-MODI-T

FINISHES

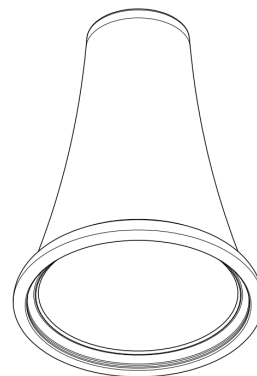
The lighting body consists of two parts (skirt and neck) for which it is possible to combine two different type of colour effects, choosing between floral or batch-dyed textures.



SKIRT



NECK



FINISHES

Batch-dyed colours



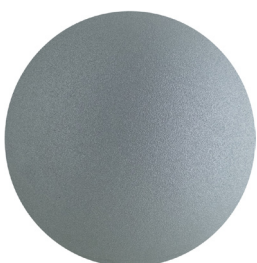
VBLK (graphite black)



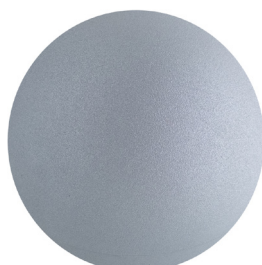
VNTH (anthracite)



VBZM (metallic bronze)



VGRM (metallic grey)



VGY1 (grey)



VWH1 (white)



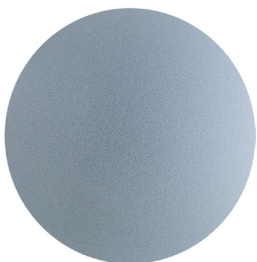
VCRT (marte)



VCR1 (venere)



VGRN (green)



VTQ1 (urano)

Floral



RTTN (antares)



RBLK (callisto)