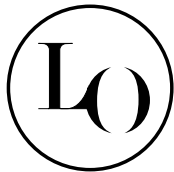


# MORAVIA

design LORELUX®



LORELUX

LORELUX - MORAVIA DATASHEET



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**Concept** A historic design revised in a modern key, for a sustainable and resistant urban lighting with an easy maintenance.

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**Description** Moravia 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. Moravia 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.

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**Materials**

Mono-material (Vxxx finishes):  
 100% recyclable and PSV (Plastic Second Life) certified polyethylene (from 50 to 98% of post-consumer plastic content), anti-discolouration, UV stabilised and batch-dyed.

Floral (Rxxx finishes):  
 100% recyclable and PSV (Plastic Second Life) certified compound (with post-consumer plastic content equal to 75%), obtained from the combination of flakes and PE powders with anti-UV additives.

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**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 discolouration over time
- Interchangeable LED engine for upgrades and/or repairs
- Wide range of finishes from recycled polyethylene (PSV -Plastic Second Life- certified)
- 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**

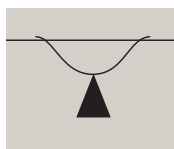
Mast arm  
Code **KM-MORAVIA-S**

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



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

Ceiling suspension  
Code **KM-MORAVIA-S**





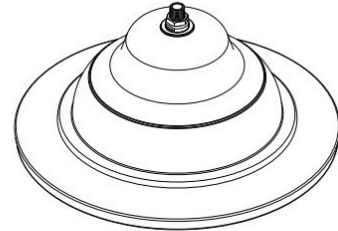
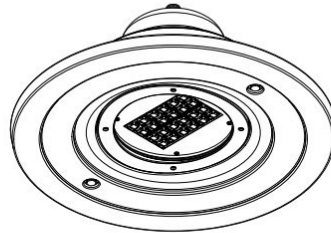
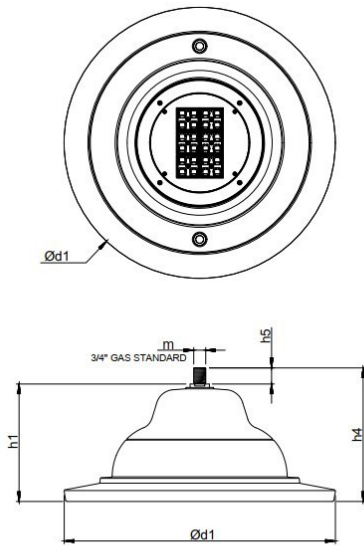
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Installation examples



Technical drawing standard model

Suspended mounting: Moravia luminaire + KM-MORAVIA-S mounting kit

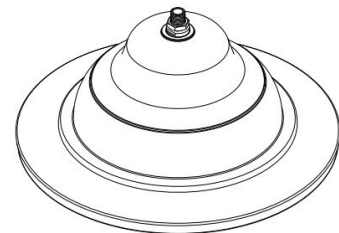
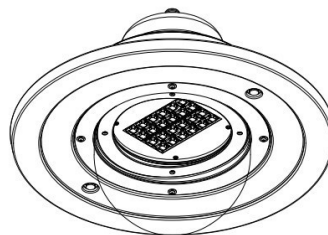
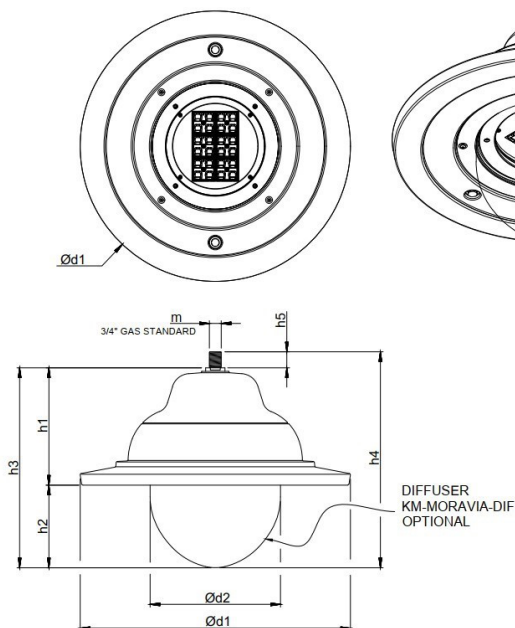


DIMENSION TABLE

d1 = Ø590 mm
d2 = Ø284 mm
h1 = 255 mm
h4 = 290 mm
h5 = 35 mm
m = Male Thread Standard 3/4" GAS DIN ISO 228
m2 = Optional 1" GAS
Weight = 8,2 kg
Wind exposure: Scx = 0,273 m <sup>2</sup> base = 0,081 m <sup>2</sup>

Technical drawing optional model

Suspended mounting with diffuser: Moravia luminaire + KM-MORAVIA-S mounting kit + KM-MORAVIA-DIF optical accessory

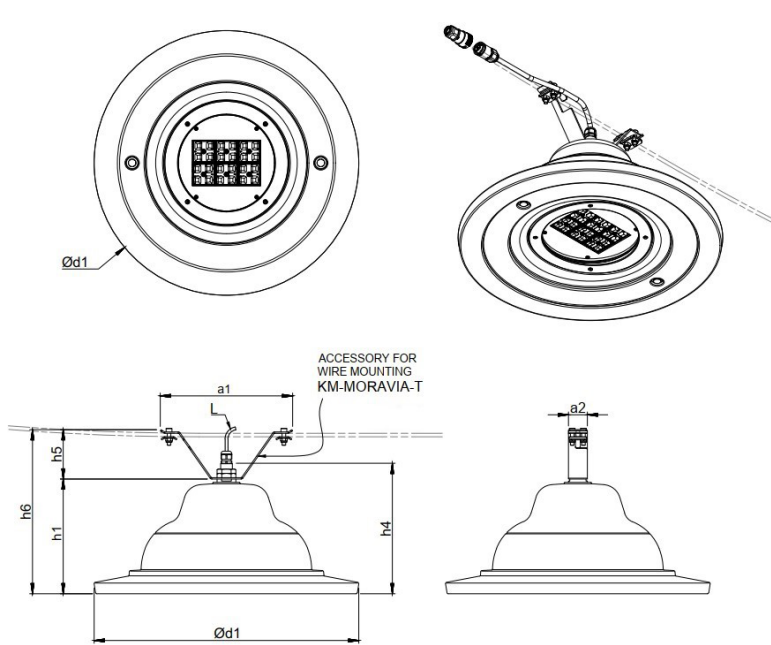


DIMENSION TABLE

d1 = Ø590 mm
d2 = Ø284 mm
h1 = 255 mm
h2 = 180 mm
h3 = 435 mm
h4 = 470 mm
h5 = 35 mm
m = Male Thread Standard 3/4" GAS DIN ISO 228
m2 = Optional 1" GAS
Weight = 9,0 kg
Wind exposure: Scx = 0,273 m <sup>2</sup> base = 0,122 m <sup>2</sup> lateral

Technical drawing standard model

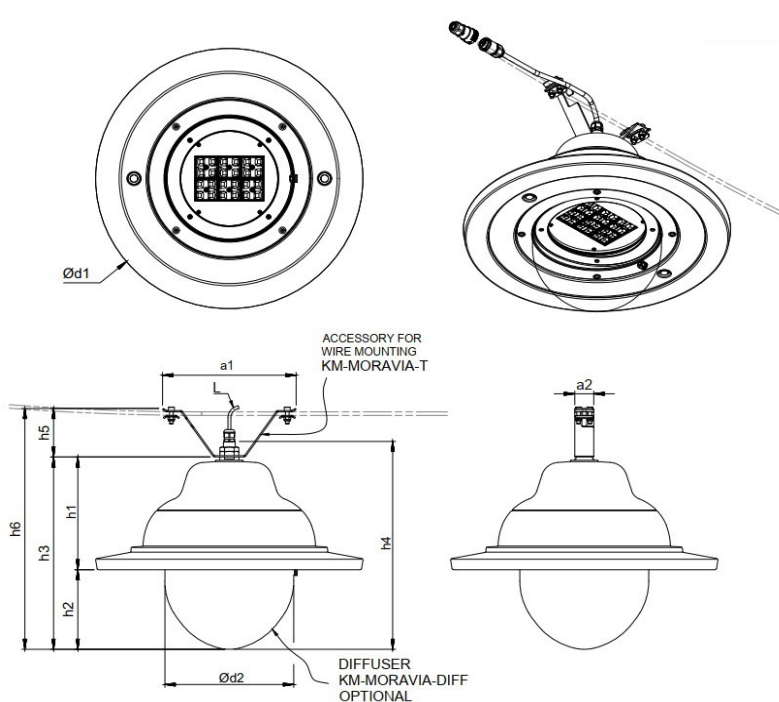
Suspended on catenary: Moravia luminaire + KM-MORAVIA-T mounting kit



DIMENSION TABLE	
d1 =	Ø590 mm
d2 =	Ø284 mm
h1 =	255 mm
h4 =	290 mm
h5 =	110 mm
h6 =	365 mm
a1 =	295 mm
a2 =	40 mm
Outgoing cable length:	L = 500 mm
Weight =	8,1 kg
Wind exposure: Scx =	0,273 m <sup>2</sup> base = 0,081 m <sup>2</sup> lateral

Technical drawing optional model

Suspended mounting with diffuser: Moravia luminaire + KM-MORAVIA-T mounting kit + KM-MORAVIA-DIF optical accessory



DIMENSION TABLE	
d1 =	Ø590 mm
d2 =	Ø284 mm
h1 =	255 mm
h2 =	180 mm
h3 =	435 mm
h4 =	470 mm
h5 =	110 mm
h6 =	545 mm
a1 =	295 mm
a2 =	40 mm
Outgoing cable length:	L = 500 mm
Weight =	8,8 kg
Wind exposure: Scx =	0,273 m <sup>2</sup> base = 0,122 m <sup>2</sup> lateral



## LORELUX - MORAVIA DATASHEET

### MAIN FEATURES

<b>Manufacturer</b>	NITEKO S.R.L.
<b>Brand</b>	LORELUX®
<b>Series</b>	Moravia
<b>Device type</b>	LED urban luminaire
<b>Application areas</b>	Street, urban and residential lighting Historic centres, squares, car parks and green areas Pedestrian areas and cycle lanes
<b>Mounting</b>	Mast arm, wall suspended on arm, suspended on catenary, ceiling suspension
<b>Mounting accessories</b>	Standard Suspended: KM-MORAVIA-S (¾" GAS connection)  Optional Suspended: · KM-MORAVIA-1/2-INCH (½" GAS connection) · KM-MORAVIA-1-INCH (1" GAS connection) · KM-S-60MM-3/4-INCH (60mm adapter - ¾" GAS)  Optional on catenary: KM-MORAVIA-T (Mounting kit for suspension on catenary)
<b>Product's protection rating</b>	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)
<b>Material's protection rating</b>	UV: 15 (15.000 h) Flame: HB Discolouration: max CMC 3 colour deviation for 3.000 h according to ISO 4892-2 B1 cycle
<b>Temperature</b>	Operating: -40°C ÷ +45°C (Control via N.T.C.) Storage: -40°C ÷ +80°C
<b>Energy rating</b>	>A++
<b>Warranty</b>	Body: 20 years Light source: 10 years
<b>Certifications</b>	Product: CE; ENEC; RoHS; EOS free; VOC free; EPD Italy (Pending); IEC/EN 62262 Material: UL94; ISO 4892-2; PSV (Plastic Second Life)
<b>Optical compartment / Electric compartment</b>	Separated   Opening of the compartments after removal of the anti-fall fixing screws Optional   Tool Less Opening

# LORELUX - MORAVIA DATASHEET

## OPTICAL FEATURES

Light source	HI Power LED
LED modules	PCB, independent and replaceable
Optics	Independent and replaceable
Nominal luminous flux	2.173 ÷ 12.998 lm
Light source efficiency	<ul style="list-style-type: none"><li>· <math>\eta_{LED} &gt; 180 \text{ lm/W}</math> (CCT &gt; 4.000 K / CRI &gt; 70)</li><li>· <math>\eta_{LED} &gt; 170 \text{ lm/W}</math> (CCT &gt; 3.000 K / CRI &gt; 70)</li><li>· <math>\eta_{LED} &gt; 160 \text{ lm/W}</math> (CCT &gt; 2.700 K / CRI &gt; 70)</li><li>· <math>\eta_{LED} &gt; 150 \text{ lm/W}</math> (CCT &gt; 2.200 K / CRI &gt; 70)</li></ul>



LORELUX - MORAVIA DATASHEET

Colour temperature	Standard CCT: 3.000K Optional CCT: 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; roto-symmetric; symmetric; pedestrian
Optical accessories	B.L.S. ( Back Light Stop) Code: KM - MORAVIA - BLS  Transparent PC diffuser Code KM-MORAVIA-DIF
Optical performance	Standard: $\eta_{OPT}$ : 79 ÷ 87 % Optional with KM - MORAVIA - BLS accessory: $\eta_{OPT}$ : 69 ÷ 81 %  Optional with KM-MORAVIA-DIF accessory: $\eta_{OPT}$ : 69 ÷ 79 %
Lighting fixture efficiency	$\eta_{FIX}$ > 130 lm/W (CCT > 4.000 K / CRI > 70)  $\eta_{FIX}$ > 125 lm/W (CCT > 3.000 K / CRI > 70)  $\eta_{FIX}$ > 115 lm/W (CCT > 2.700 K / CRI > 70)  $\eta_{FIX}$ > 105 lm/W (CCT > 2.200 K / CRI > 70)
Light intensity class	≥ G*2
Glare index	≥ D.4
ULR / ULOR	0,00%
Service life	L98 B10: > 100.000 h (TJ = 85 ° C   IF ≤ 500mA)  L90 B10: > 120.000 h (TJ = 85 ° C   IF ≤ 500mA)  L80 B10: > 270.000 h (TJ = 85 ° C   IF ≤ 500mA)  L70 B10: > 450.000 h (TJ = 85 ° C   IF ≤ 500mA)

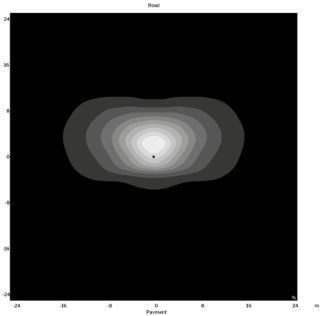
LORELUX - MORAVIA DATASHEET

CONFIGURATIONS

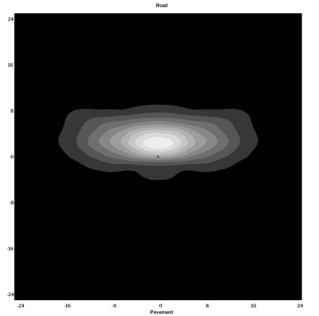
Model	Power [W]	Nominal luminous flux [lm]			
		4.000 K   CRI 70 5.000 K   CRI 70 5.700 K   CRI 70	3.000 K   CRI 70	2.700 K   CRI 70 4.000 K   CRI 80	2.200 K   CRI 70 2.700 K   CRI 80 3.000 K   CRI 80 5.700 K   CRI 90
MORAVIA 15 W	15,7	2.823	2.694	2.440	2.173
MORAVIA 20 W	20,8	3.860	3.672	3.333	2.961
MORAVIA 30 W	24,6	4.533	4.314	3.913	3.470
	30,9	5.582	5.298	4.816	4.260
MORAVIA 40 W	34,6	6.172	5.852	5.323	4.692
	39,2	6.882	6.519	5.930	5.209
MORAVIA 50 W	36,4	6.896	6.564	5.957	5.299
	40,7	7.721	7.343	6.667	5.923
	46,5	8.798	8.370	7.595	6.739
	51,3	9.591	9.120	8.279	7.341
MORAVIA 60 W	54,6	10.115	9.611	8.730	7.738
	62,0	11.426	10.842	9.858	8.713
MORAVIA 70 W	64,0	11.819	11.211	10.196	9.002
	71,4	12.998	12.319	11.209	9.857

PHOTOMETRIES

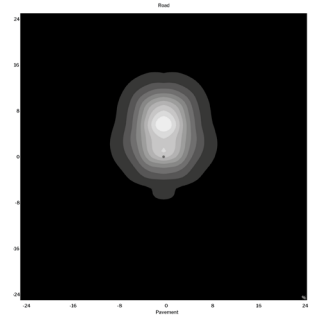
Asymmetric



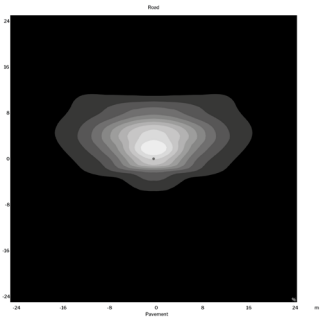
Code A1 ( $\eta = 84\% \mid G^*6$ )



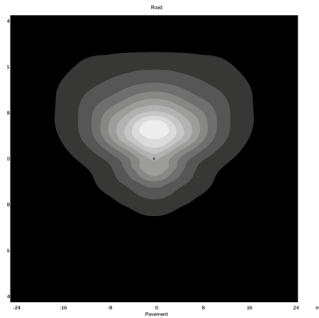
Code A2 ( $\eta = 84\% \mid G^*4$ )



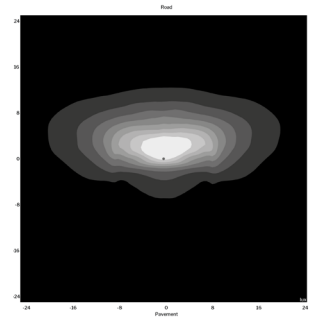
Code A3 ( $\eta = 87\% \mid G^*6$ )



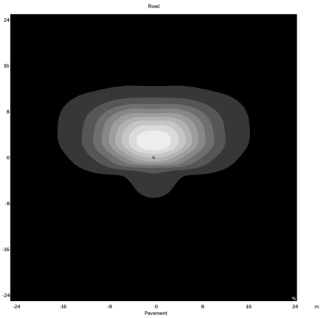
Code A4 ( $\eta = 83\% \mid G^*6$ )



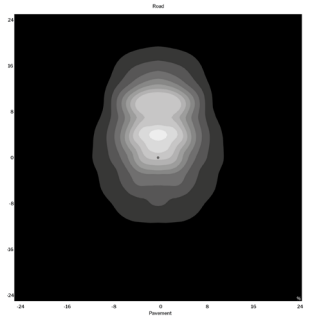
Code A7 ( $\eta = 79\% \mid G^*2$ )



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

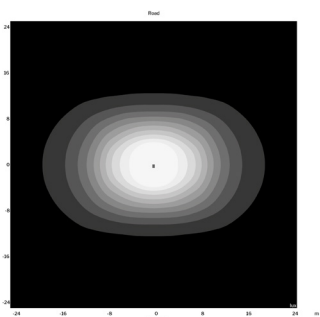


Code A9 ( $\eta = 85\% \mid G^*4$ )



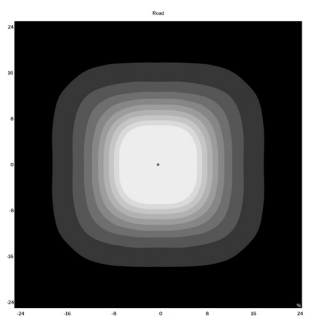
Code A13 ( $\eta = 81\% \mid G^*6$ )

Elliptic



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

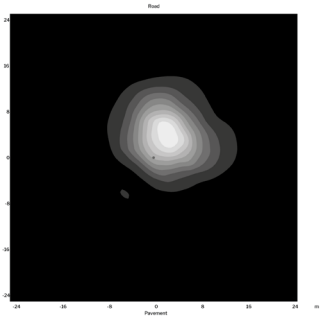
Rotosymmetric



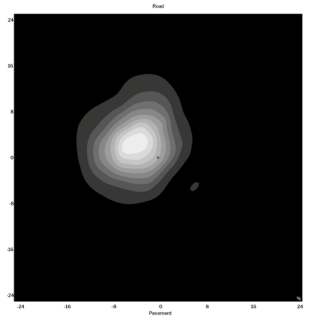
Code R1 ( $\eta = 82\% \mid G^*6$ )

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Pedestrian



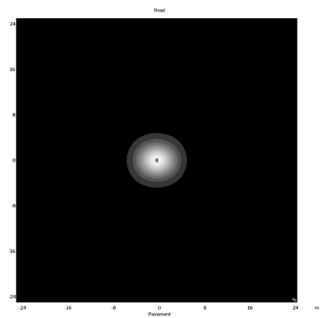
Codice PCDX ( $\eta = 85\% \mid G^*6$ )



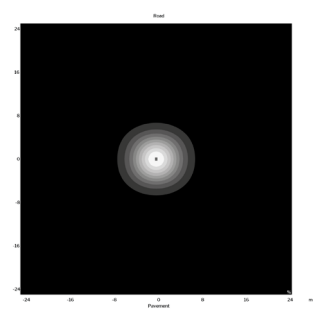
Codice PCSX ( $\eta = 85\% \mid G^*6$ )

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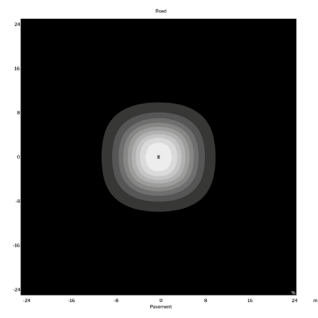
Symmetric



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



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



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

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Optional

Other photometries available on request.

OPTICAL ACCESSORIES

Code **KM-MORAVIA-BLS**

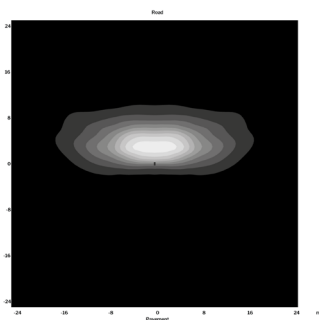


Code **KM-MORAVIA-DIF**

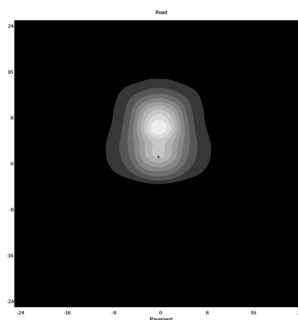


PHOTOMETRIES WITH **KM-MORAVIA-BLS** OPTICAL ACCESSORY

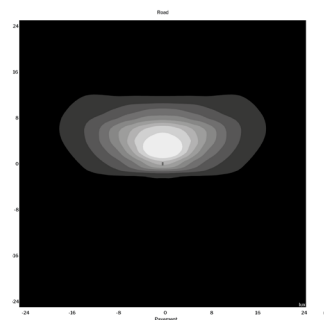
Asymmetric



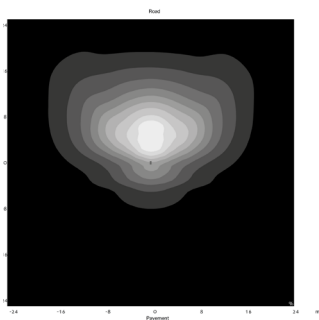
Code **BA2** ( $\eta = 79\%$  |  $G^*6$ )



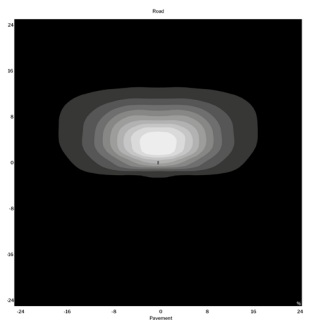
Code **BA3** ( $\eta = 81\%$  |  $G^*4$ )



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



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

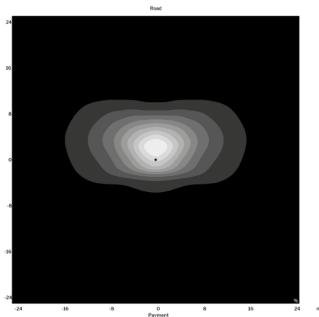


Code **BA9** ( $\eta = 81\%$  |  $G^*2$ )

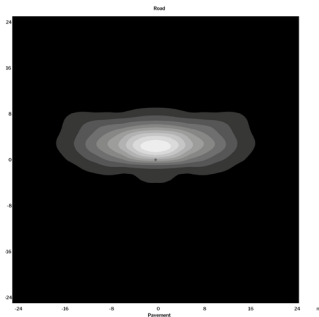
PHOTOMETRIES WITH **KM-MORAVIA-DIF** OPTICAL ACCESSORY

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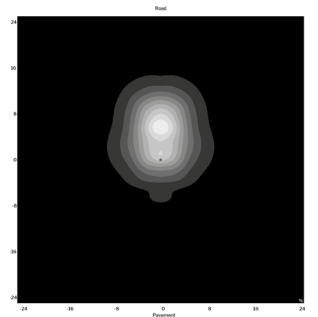
**Asymmetric**



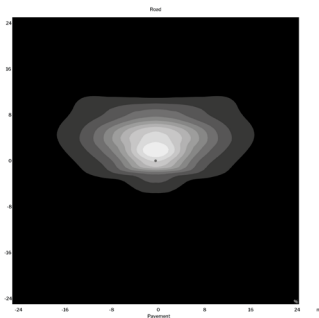
Code DA1 ( $\eta = 75\% \mid G^*6$ )



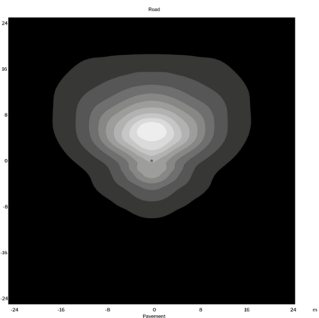
Code DA2 ( $\eta = 76\% \mid G^*4$ )



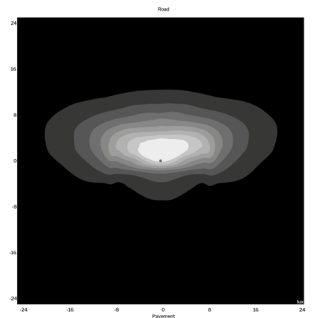
Code DA3 ( $\eta = 79\% \mid G^*6$ )



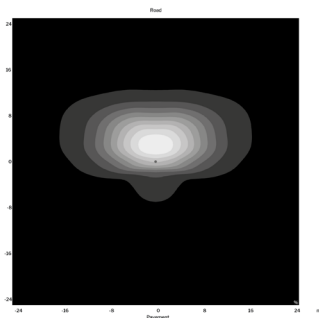
Code DA4 ( $\eta = 75\% \mid G^*6$ )



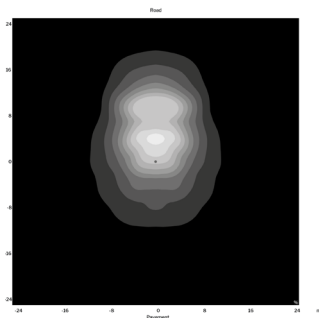
Code DA7 ( $\eta = 70\% \mid G^*2$ )



Code DA8 ( $\eta = 69\% \mid G^*1$ )

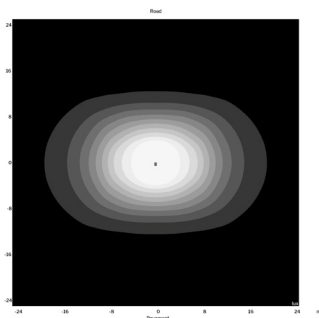


Code DA9 ( $\eta = 77\% \mid G^*4$ )



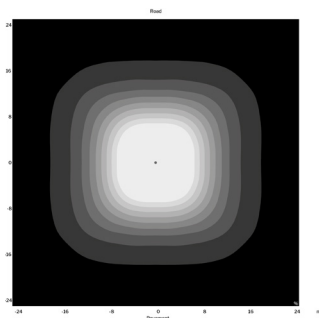
Code DA13 ( $\eta = 71\% \mid G^*6$ )

**Elliptic**



Code DE3 ( $\eta = 79\% \mid G^*6$ )

**Rotosymmetric**



Code DR1 ( $\eta = 73\% \mid G^*6$ )



ELECTRICAL FEATURES

<b>Power supply</b>	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
<b>LED power current</b>	$I_f \leq 500 \text{ mA}$
<b>Insulation class</b>	Standard: class II Optional: class I
<b>Power</b>	15 ÷ 70W
<b>Power factor</b>	PF > 0,97 (Active PFC)
<b>Electrical efficiency</b>	$\eta_{EL} : 83 \div 92 \%$
<b>Electrical connection</b>	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;
<b>Electrical protection</b>	Built-in SPD: C.M. $\leq 12 \text{ kV}$ ; D.M. $\leq 12 \text{ kV}$ ; I $\leq 10\text{kA}$

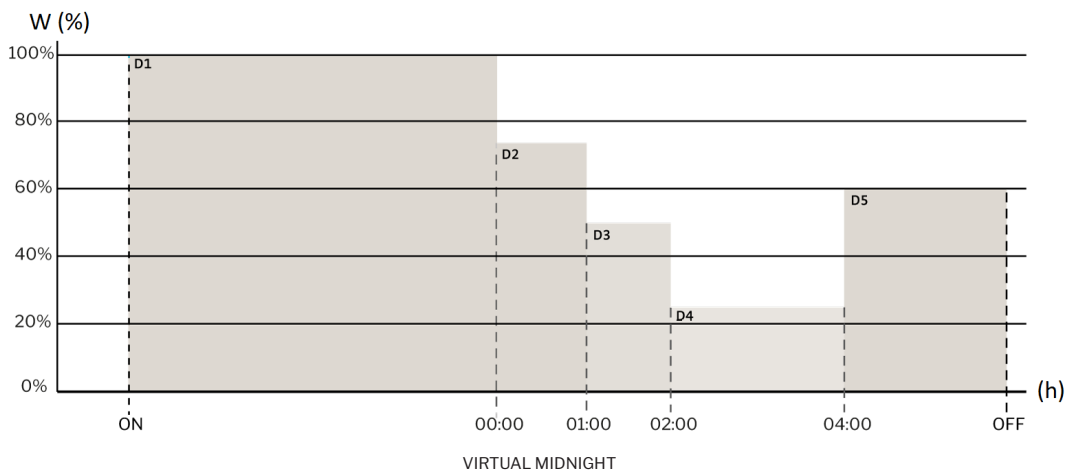


CONTROL FEATURES

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

CONTROL FUNCTIONS

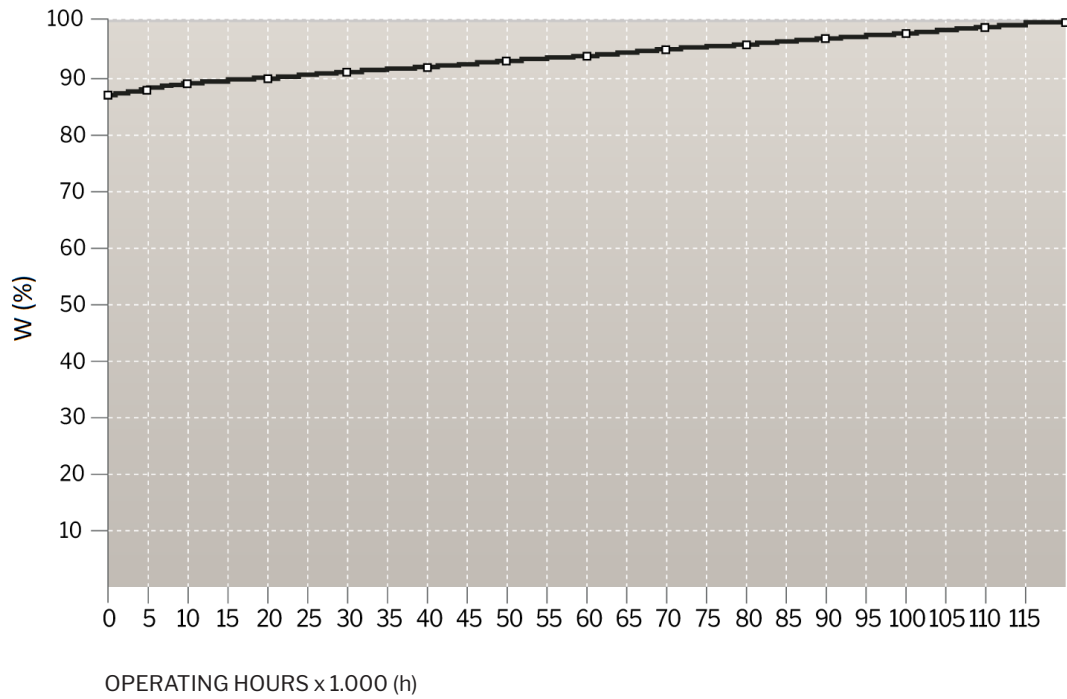
PRG5 module



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

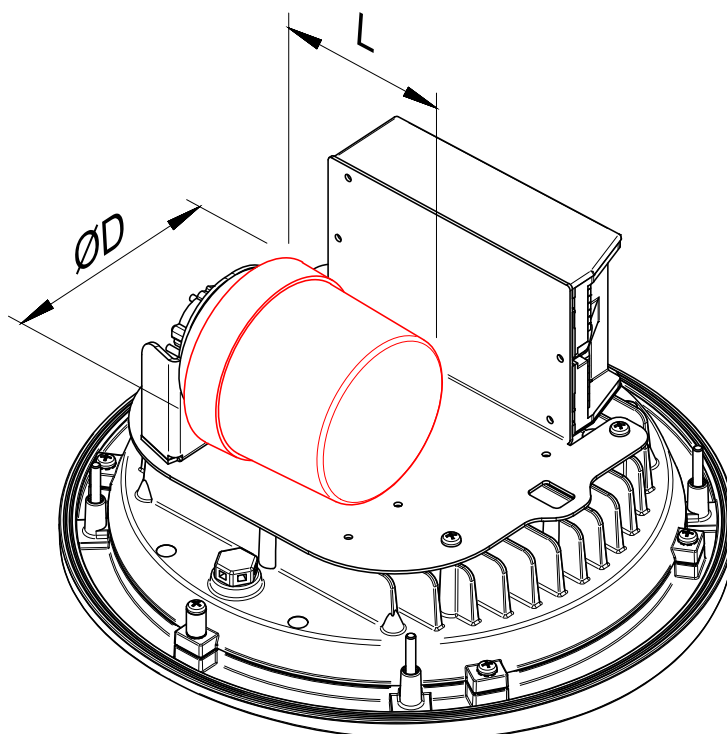
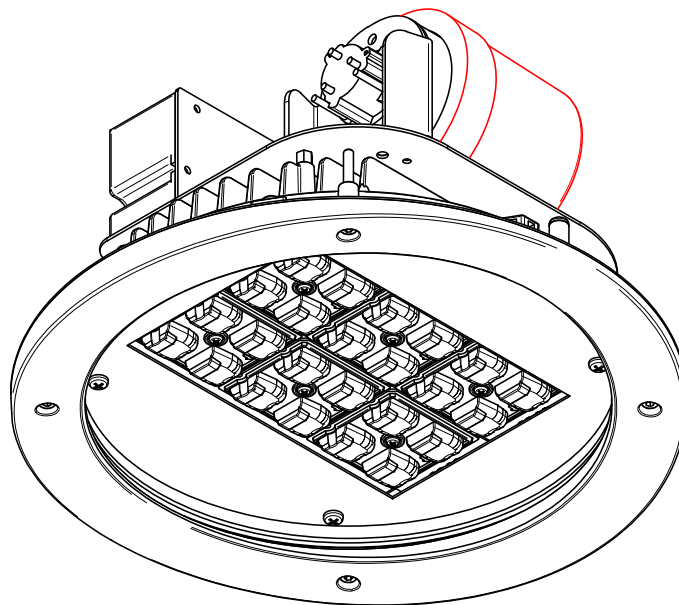


The CLO function allows to gradually increase the level of light output over time from a lower initial luminous flux up to 100%, thus compensating the luminous flux degradation of the LED module during the lighting fixture entire lifetime. It can also serve as a means to reduce energy consumption.

ELECTRIC COMPARTMENT

Maximum possible  
dimensions for  
remote-control devices:

Ø84 x h74mm





## LORELUX - MORAVIA DATASHEET

### MECHANICAL FEATURES

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<b>Materials</b>	Body: UV stabilised, self-cleaning, anti-discolouration and PSV (Plastic Second Life) certified polyethylene  Heat sink: die-cast aluminium  LED modules: aluminium  Optics: PMMA, PC  Screen: tempered flat glass, 5 mm thickness  Diffuser (optional): PC  Gaskets: silicone  Anti-condensation valves: PA (polyamide)  Accessories: stainless steel  Screws: stainless steel  Packaging: FSC cardboard
<b>Recycled plastic content</b>	Black: 98% Coloured: 50% Floral: 75%
<b>Service life</b>	Body: >50 years Components: >10 years
<b>Dimensions and weight</b>	Standard suspended: Ø 590 x h290 mm   8,20 kg  Suspended with diffuser: Ø 590 x h470 mm   9,00 kg  Suspended on catenary: Ø 590 x h365 mm   8,10 kg  On catenary with diffuser: Ø 590 x h545 mm   8,80 kg
<b>Wind exposure</b>	Base: 0,273 mq Standard lateral: 0,081 mq Lateral with diffuser: 0,122 mq

Packaging free from both polystyrene and internal cardboard inserts

Primary (standard suspended):  
W610 x L610 x H370 mm | 9,0 kg  
1 pcs / box (eco-friendly packaging)

Tertiary (standard suspended):  
W800 x L1.220 x H1.650 mm | 130,0 kg  
12 pcs / pallet (eco-friendly packaging)

Primary (suspended with diffuser):  
W610 x L610 x H500 mm | 10,0 kg  
1 pcs / box (eco-friendly packaging)

Tertiary (suspended with diffuser):  
W1.000 x L1.220 x H1.850 mm | 145,0 kg  
12 pcs / pallet (eco-friendly packaging)

Primary (on catenary):  
W610 x L610 x H500 mm | 10,0 kg  
1 pcs / box (eco-friendly packaging)

Tertiary (on catenary):  
W800 x L1.220 x H1.650 mm | 145,0 kg  
12 pcs / pallet (eco-friendly packaging)

Primary (on catenary with diffuser):  
W610 x L610 x H610 mm | 11,0 kg  
1 pcs / box (eco-friendly packaging)

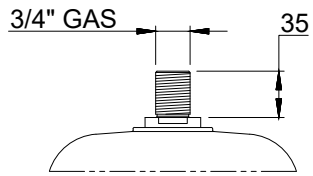
Tertiary (on catenary with diffuser):  
W1.000 x L1.500 x H2.000 mm | 90,0 kg  
6 pcs / pallet (eco-friendly packaging)

Tolerance: luminous flux +/-5%; power consumption +/- 5%;  
dimensions +/-1%; weight +/-3%

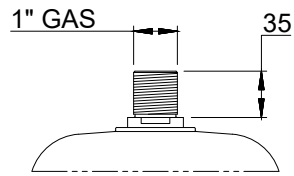
# LORELUX - MORAVIA DATASHEET

## MOUNTING ACCESSORIES

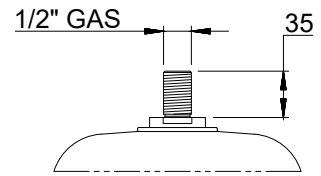
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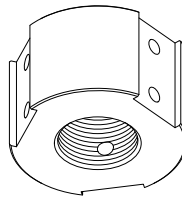
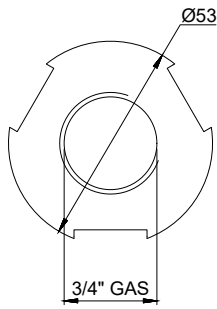
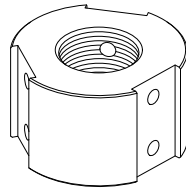
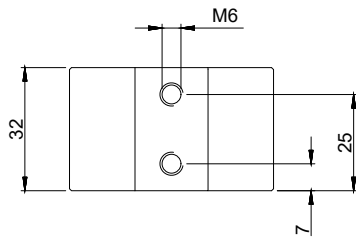
Standard:  
Code KM-MORAVIA-S



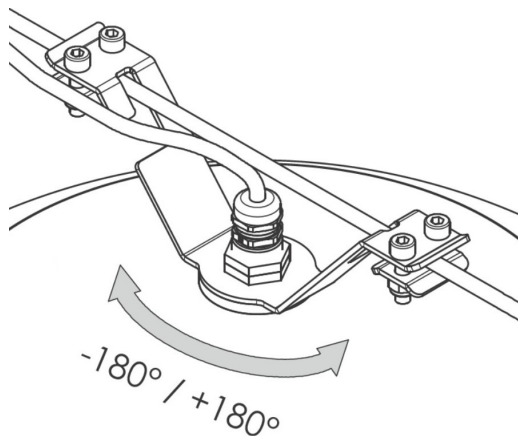
Optional:  
Code KM-MORAVIA-1-INCH



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



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



Optional:  
Code KM-MORAVIA-T



FINISHES

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Batch-dyed colours



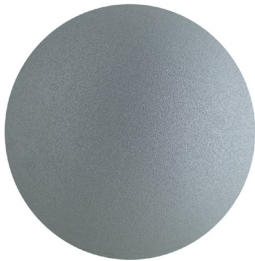
VBLK (graphite black)



VNTH (anthracite)



VBZM (metallic bronze)



VGRM (metallic grey)



VGY1 (grey)



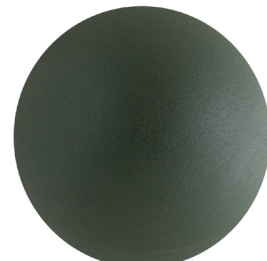
VWH1 (white)



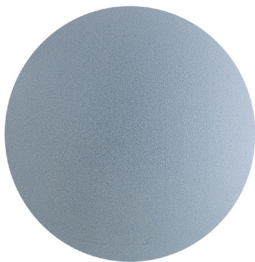
VCRT (marte)



VCRI (venere)



VGRN (green)



VTQ1 (urano)

Floral



RTTN (antares)



RBLK (callisto)

Projects

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