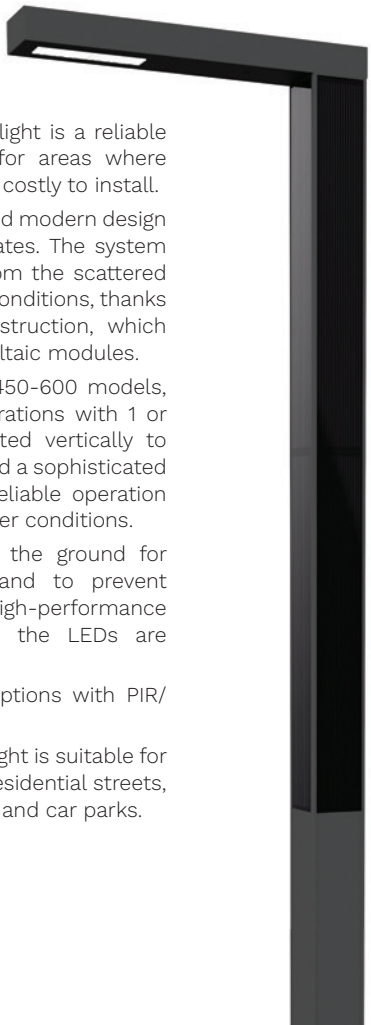
photinus Schréder
Experts in lightability™

MERKUR

Autonomous solar lighting meets cutting-edge design

KEY ADVANTAGES

- **Seamless integration of high-performance photovoltaic modules in an elegant square column pole design**
- **Versatile architecture (solar module layout) to maximise solar energy harvesting**
- **Ability to harvest energy in poor weather conditions**
- **In-ground sealed battery for optimum performance and longevity**
- **One or two (back-to-back) luminaires**
- **Numerous light distributions**
- **Optional sensors for light-on-demand scenarios**
- **Hybrid variant available**



The MERKUR solar-powered LED streetlight is a reliable and energy-efficient lighting solution for areas where electrical infrastructure is lacking or too costly to install.

MERKUR has a unique, square column and modern design and provides reliable power in all climates. The system is able to generate sufficient energy from the scattered light in even the most adverse weather conditions, thanks to its square column aluminium construction, which incorporates high-performance photovoltaic modules.

The MERKUR family includes 150-300-450-600 models, with the possibility of creating configurations with 1 or 2 luminaires. The modules are mounted vertically to prevent snow accumulation in winter, and a sophisticated energy management system ensures reliable operation over multiple nights, even in poor weather conditions.

The integrated battery is recessed in the ground for optimum temperature maintenance and to prevent theft. It is charged during the day by high-performance photovoltaic modules. As night falls, the LEDs are automatically activated.

The system offers additional control options with PIR/microwave sensors.

The MERKUR solar-powered LED streetlight is suitable for a wide range of applications, including residential streets, secondary roads, cycle paths, footpaths and car parks.

HIGHLIGHTS

High quality finish with perfect integration of vertical photovoltaic panels.

Easy installation with only 3 main components (pole, luminaire and battery) to mount and connect.

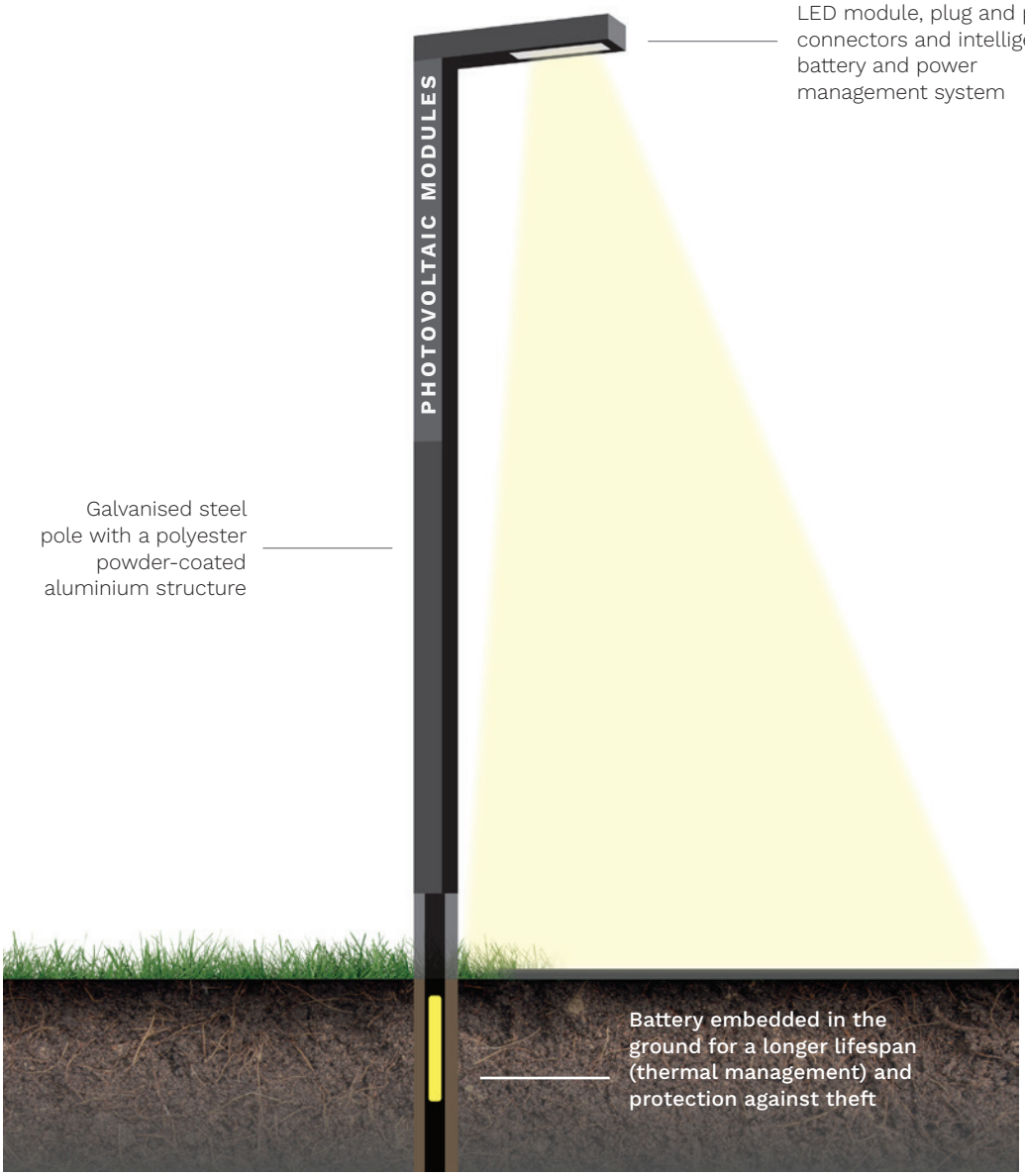
Waterproof components (LED module, power supply and cabling) make the luminaire lightweight and easy to install.

The IPX8 LiFePo4 battery offers superior water resistance and reliable performance.

Toolless coded connectors for all connections.

A hybrid version of the MERKUR is also available for continuous operation, using solar energy first and switching to the grid only in the event that the battery is empty.

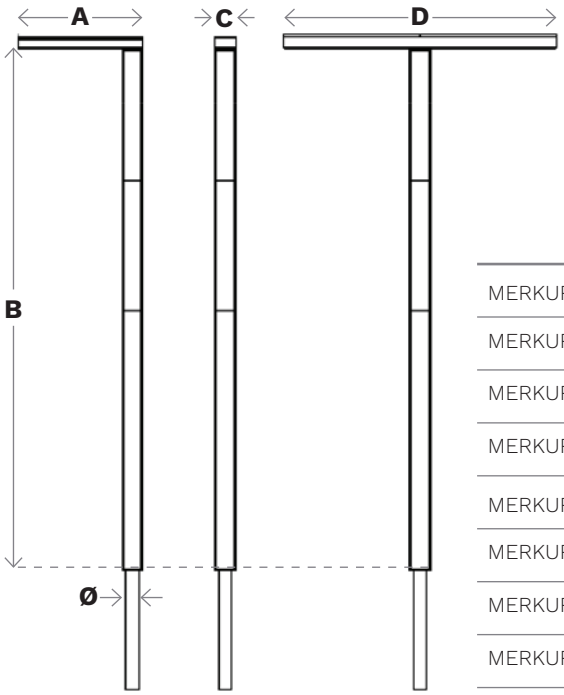
MERKUR



RANGE

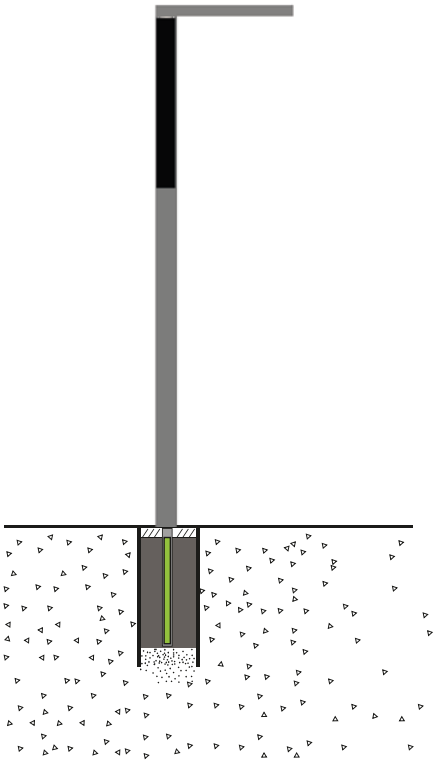
	PRODUCT	POLE HEIGHT	ENERGY HARVESTING	ENERGY STORAGE	LUMINAIRE
	MERKUR 150	4800mm | 15ft	4 photovoltaic modules	LiFePo4 battery 474Wh or 1152Wh (1 or two batteries)	1x 24-LED module
	MERKUR 300	4800/6000/8000mm 15/19/26ft	8 photovoltaic modules		
	MERKUR 450		12 photovoltaic modules		
	MERKUR 600	6000/8000mm | 19/26ft	16 photovoltaic modules		
	MERKUR 150 DUO	4800mm | 15ft	4 photovoltaic modules	LiFePo4 battery 474Wh or 1152Wh (1 or two batteries)	2x 24-LED module
	MERKUR 300 DUO	4800/6000/8000mm 15/19/26ft	8 photovoltaic modules		
	MERKUR 450 DUO		12 photovoltaic modules		
	MERKUR 600 DUO	6000/8000mm | 19/26ft	16 photovoltaic modules		

DIMENSIONS AND MOUNTING

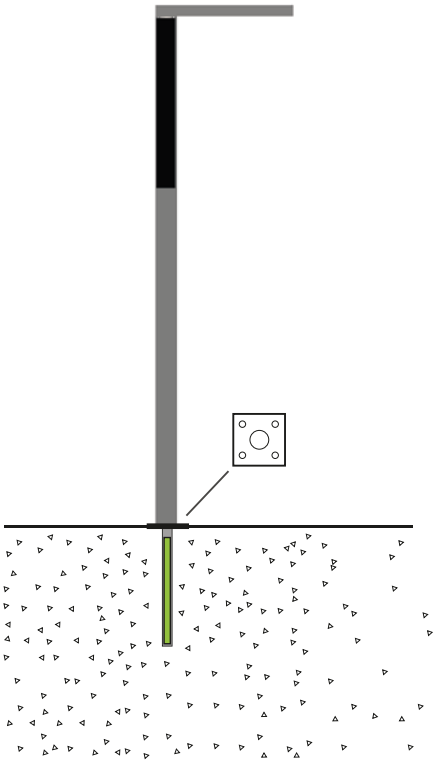


	A (mm | inch)	B (mm | ft)	C (mm | inch)	D (mm | inch)	Ø (mm | inch)
MERKUR 150	1150 | 45	480 | 15	195 | 7.7	-	121 | 4.7
MERKUR 300		4800/6000/8000 | 15/19/26			
MERKUR 450					
MERKUR 600		6000/8000 | 19/26			
MERKUR 150 DUO	-	480 | 15	195 | 7.7	2300 | 90	121 | 4.7
MERKUR 300 DUO		4800/6000/8000 | 15/19/26			
MERKUR 450 DUO					
MERKUR 600 DUO		6000/8000 | 19/26			

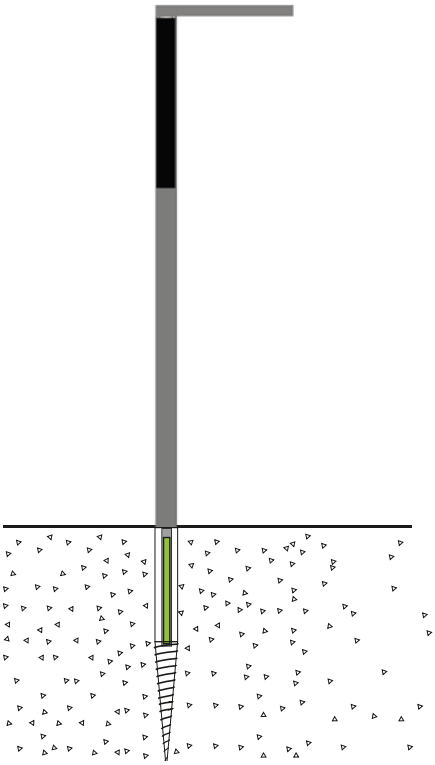
PIPE FOUNDATION



ANCHOR BASE



GROUND SCREW FOUNDATION



CHARACTERISTICS

GENERAL	
CE Mark	Yes
Electrical class	Class III EU, Class II EU (hybrid variant)
Wind speed resistance	Land category 4: 200km/h
	Land category 1: 150km/h

MATERIALS	
Pole	Galvanised steel
Metal parts	Aluminium
Finish	Polyester powder coating
Standard colour	RAL 7016M anthracite grey*
Impact resistance	IK 06

*any other RAL colour upon request

SOLAR MODULES	
Technology	Monocrystalline silicon cells (32 cells per module)
Frame	Anodised aluminium alloy
Glass	3.2mm (0.13 in) tempered glass
Power (per module)	40Wp
Module quantity	**MERKUR 150/150 DUO**: 4 modules - 160Wp
	MERKUR 300/300 DUO: 8 modules - 320Wp
	MERKUR 450/450 DUO: 12 modules - 480Wp
	MERKUR 600/600 DUO: 16 modules - 640Wp
Module layout	**MERKUR 150/150 DUO** Symmetrical: 1 on each side of the pole Optimised: 2 facing south, 1 facing west, 1 facing east
	MERKUR 300/300 DUO Symmetrical: 2 on each side of the pole
	MERKUR 450/450 DUO Symmetrical: 3 on each side of the pole
	MERKUR 600/600 DUO Symmetrical: 4 on each side of the pole
Electrical characteristics	VOC: 21.9V
	VMPP: 18.5V
	ISC: 2.16A
	IMPP: 2.16A
Lifetime expectancy	25 years

BATTERY	
Technology	LiFePo4
Voltage	12.8V
Capacity	474Wh (37Ah) or 1152Wh (90Ah)
Operating temperature	-20°C to 55°C | -4°F to 131°F
Autonomy	3 to 5 days
Tightness level	IPX8
Lifetime expectancy	>10 years

LED MODULE	
Optic/protector	PMMA/PC integrated
Tightness level	IP 67
LED colour temperature	2200K (Warm White 722) 3000K (Warm White 730) 4000K (Neutral White 740)
Colour rendering index (CRI)	>70
Upward Light Output Ratio (ULOR)	0%
Upward Light Ratio (ULR)	0%
Lifetime of the LEDs @ Tq 25°C	100,000h - L95

CONTROL	
PIR sensor	Optional
Microwave sensor	Optional
Zhaga socket	Optional

PERFORMANCE

		Luminaire output flux (lm) Warm White 722		Luminaire output flux (lm) Warm White 730		Luminaire output flux (lm) Neutral White 740		Power consumption (W)		Luminaire efficacy (lm/W)
	Number of LEDs	Min	Max	Min	Max	Min	Max	Min	Max	Up to
MERKUR	24	400	6300	500	7000	500	7400	3	51	191
MERKUR DUO	2x24	800	12600	1000	14000	1000	14800	6	102	191

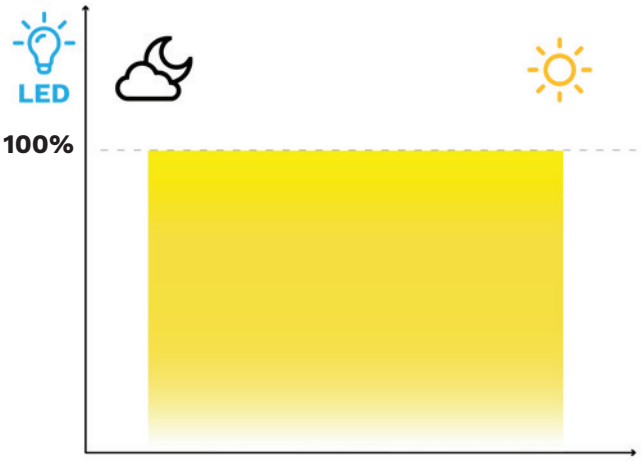
Tolerance on LED flux is ± 7% and on total luminaire power ± 5%

LIGHT ON DEMAND

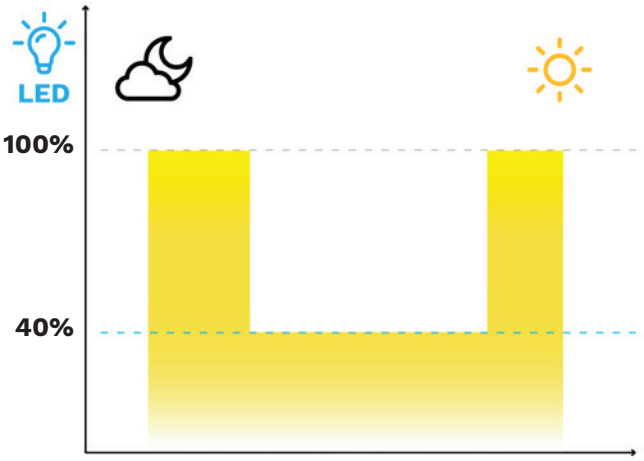
With advanced sensor technology and options for stand-alone operation or luminaire-to-luminaire local communication, light-on-demand features make a significant contribution to species conservation by actively reducing light pollution. These intelligent luminaires provide full light intensity only when needed, ensuring optimum visibility and safety. By dimming the lights during periods of low activity, they prevent over-dimensioning and eliminate the need for additional solar panels and larger batteries, making them an efficient and sustainable solution.

STANDARD DIMMING PROFILES*

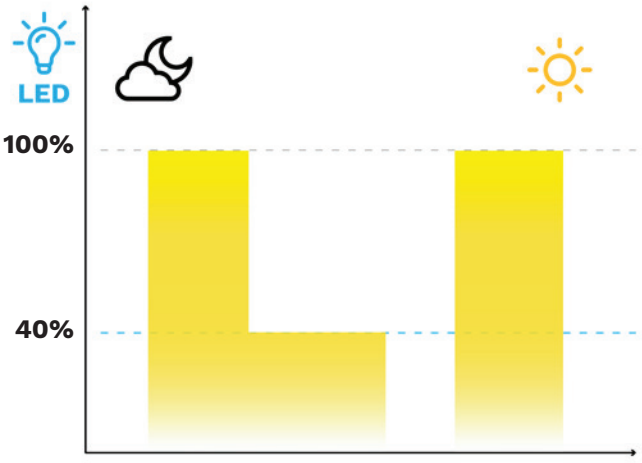
V3: all night 100%



V4: night dimming to 40%



V5: partial switch OFF



Light on demand (sensor)

*Customised dimming profiles are available as an option.

LIGHT DISTRIBUTIONS

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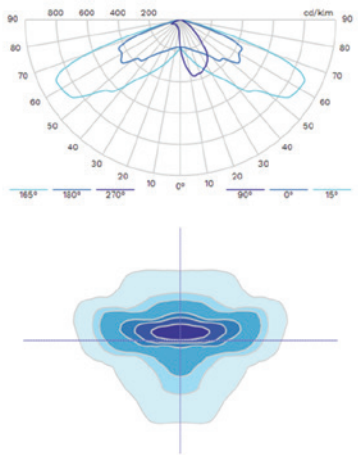

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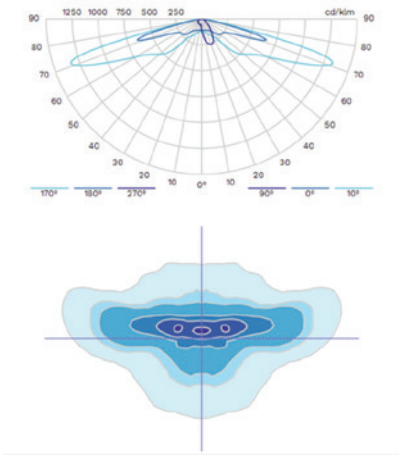

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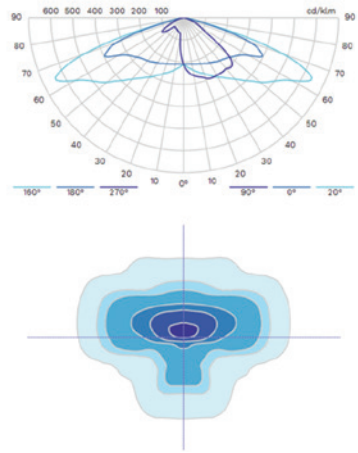

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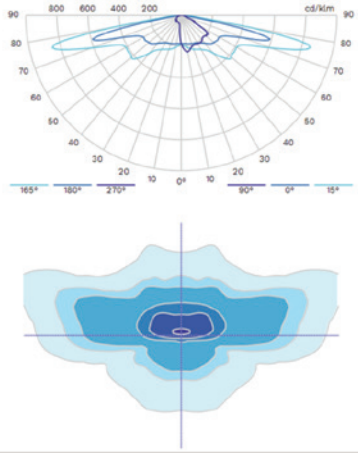

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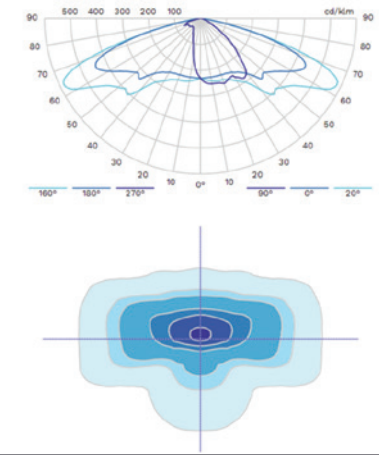

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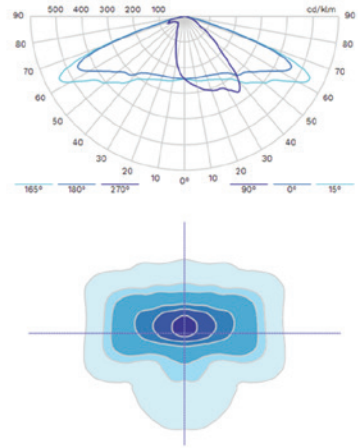

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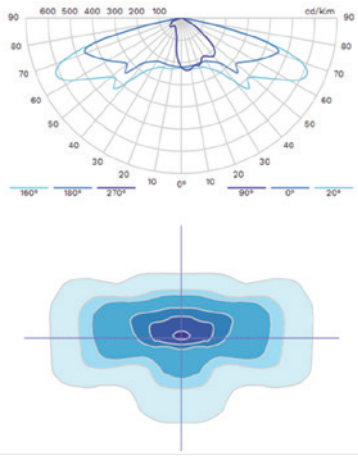

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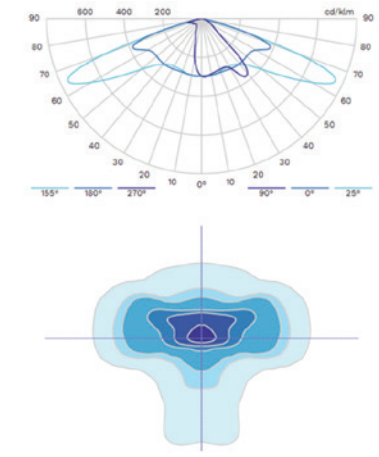

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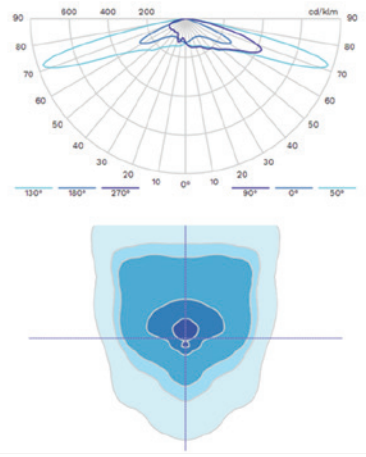

LIGHT DISTRIBUTIONS

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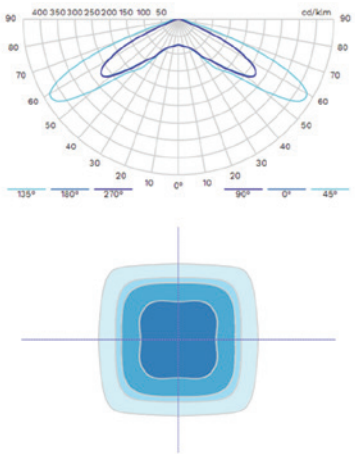

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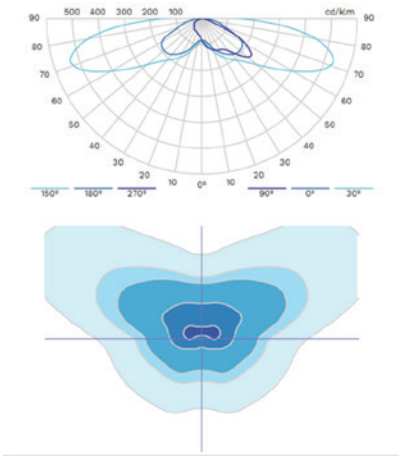

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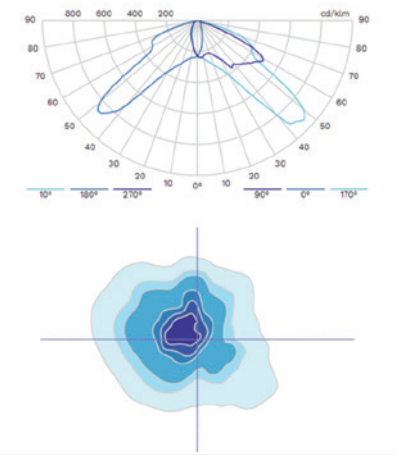

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