Schréder
Experts in lightability™

ROAD

AVENTO

MID FLEX™ LENSO FLEX™2

The budget-friendly high efficacy solution

Compact yet powerful, light yet robust, affordable yet highly efficient, AVENTO provides the fastest return on investment for road and area lighting. AVENTO offers a superior lumen/watt ratio to deliver a high-performing, energy efficient, lighting solution at an affordable price for various landscapes including pedestrian areas, streets, roads, car parks and motorways.

AVENTO is available in four sizes to provide a consistent solution in terms of the right lumen package and light distribution for a broad range of environments. It ensures that the lighting meets the real needs of the place to be lit. AVENTO is the ideal tool to shorten the payback time of an LED lighting installation and to provide the best return on investment.

IP 66 IK 09

RoHS

UL 1598
CSA C22.2
No. 250.0

CE

URBAN & RESIDENTIAL STREETS
BIKE & PEDESTRIAN PATHS
RAILWAY STATIONS & METROS
CAR PARKS
LARGE AREAS
SQUARES & PEDESTRIAN AREAS
ROADS & MOTORWAYS

Concept

The AVENTO range combines the energy efficiency of LED technology with the photometric performance of the MidFlex™ and LensoFlex® concepts developed by Schréder. These photometric engines provide the highest efficiency. It offers scalable lumen packages with modular quantities of LEDs and various driving currents.

The AVENTO luminaires are composed of two parts in painted die-cast aluminium. An optional highly anti-corrosive aluminium (compliant with EN AC-44300) is available for seaside and harsh environments.

The luminaire is equipped with two silicone gaskets, one for the gear compartment and one for the optical unit, to ensure a high tightness level and maintain performance over time.

AVENTO is designed for side-entry mounting with a universal fixation for spigots from Ø42 to Ø60mm (1.5” to 2”). To ease maintenance operations, AVENTO offers a tool-free access to the gear compartment.

As an option, AVENTO can be equipped with a standard NEMA 7-pin receptacle or a standard Zhaga socket, enabling easy entry to the digital era of lighting with advanced lighting features that plan, monitor and control outdoor lighting networks.

AVENTO provides tool-free access to the gear compartment.

AVENTO includes a universal Ø42-60mm fixation part for side entry-mounting.

TYPES OF APPLICATION

- URBAN & RESIDENTIAL STREETS
- BIKE & PEDESTRIAN PATHS
- RAILWAY STATIONS & METROS
- CAR PARKS
- LARGE AREAS
- SQUARES & PEDESTRIAN AREAS
- ROADS & MOTORWAYS

KEY ADVANTAGES

- Cost-effective and efficient lighting solution
- Superior efficacy
- Accelerated return on investment
- 4 sizes for flexibility and consistency when lighting P1 to P6 and M1 to M6 applications in accordance with CIE 115
- Easy and fast installation
- Wide temperature operating range
- Dark sky compliant: ULOR = 0%, no up-light
- Connected-ready for your future Smart city requirements

To ensure an optimal thermal management in hot conditions, AVENTO incorporates large cooling fins.

AVENTO can be delivered with a shorting cap to add IoT features at any time in the future.

LensoFlex®2

LensoFlex®2 is based upon the addition principle of photometric distribution. Each LED is associated with a specific PMMA lens that generates the complete photometric distribution of the luminaire. The number of LEDs in combination with the driving current determines the intensity level of the light distribution.

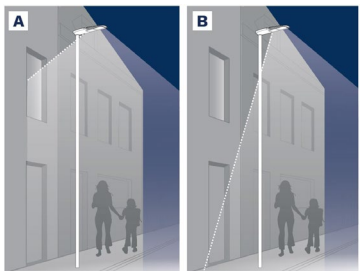
MidFlex™

The MidFlex™ photometric engine is based on the same principle as LensoFlex®2: each LED is associated with a specific lens that generates the complete photometric distribution of the luminaire. MidFlex™ takes advantage of the maturity of mid-power LEDs for professional applications. The MidFlex™ photometric engines are based on the combination of several modules of 48 mid-power LEDs tightly positioned to maximise the LED density. This concept provides high lumen packages with a limited product footprint. The MidFlex™ photometric engines offers excellent efficiency for a sustainable performance.

Back Light control

As an option, the LensoFlex®2 and LensoFlex®4 modules can be equipped with a Back Light control system.

This additional feature minimises light spill from the back of the luminaire to avoid intrusive light towards buildings.

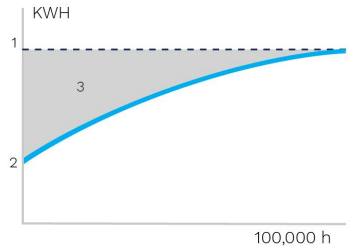


A. Without Back Light control | B. With Back Light control

Constant Light Output (CLO)

This system compensates for the depreciation of luminous flux to avoid excess lighting at the beginning of the installation's service life. Luminous depreciation over time must be taken into account to ensure a predefined lighting level during the luminaire's useful life.

Without a CLO feature, this simply means increasing the initial power upon installation in order to make up for luminous depreciation. By precisely controlling the luminous flux, the energy needed to reach the required level can be maintained throughout the luminaire's life.

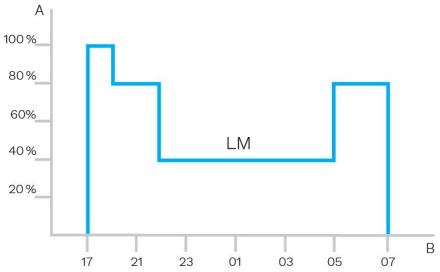


1. Standard lighting level | 2. LED lighting consumption with CLO | 3. Energy savings

Custom dimming profile

Intelligent luminaire drivers can be programmed with complex dimming profiles. Up to five combinations of time intervals and light levels are possible. This feature does not require any extra wiring.

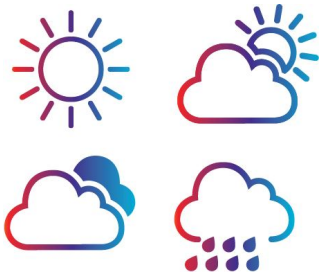
The period between switching on and switching off is used to activate the preset dimming profile. The customised dimming system generates maximum energy savings while respecting the required lighting levels and uniformity throughout the night.



A. Dimming level | B. Time

Daylight sensor / photocell

Photocell or daylight sensors switch the luminaire on as soon natural light falls to a certain level. It can be programmed to switch on during a storm, on a cloudy day (in critical areas) or only at nightfall so as to provide safety and comfort in public spaces.



Schréder EXEDRA is the most advanced lighting management system on the market for controlling, monitoring and analysing streetlights in a user-friendly way.

Standardisation for interoperable ecosystems

Schréder plays a key role in driving standardisation with alliances and partners such as uCIFI, TALQ or Zhaga. Our joint commitment is to provide solutions designed for vertical and horizontal IoT integration. From the body (hardware) to the language (data model) and the intelligence (algorithms), the complete Schréder EXEDRA system relies on shared and open technologies.

Schréder EXEDRA also relies on Microsoft™ Azure for cloud services, provided with the highest levels of trust, transparency, standards conformance and regulatory compliance.

Breaking the silos

With EXEDRA, Schréder has taken a technology-agnostic approach: we rely on open standards and protocols to design an architecture able to interact seamlessly with third-party software and hardware solutions. Schréder EXEDRA is designed to unlock complete interoperability, as it offers the ability to:

- control devices (luminaires) from other brands
- manage controllers and to integrate sensors from other brands
- connect with third-party devices and platforms

A plug-and-play solution

As a gateway-less system using the cellular network, an intelligent automated commissioning process recognises, verifies and retrieves luminaire data into the user interface. The self-healing mesh between luminaire controllers enables real-time adaptive lighting to be configured directly via the user interface.

Tailored experience

Schréder EXEDRA includes all advanced features needed for smart device management, real-time and scheduled control, dynamic and automated lighting scenarios, maintenance and field operation planning, energy consumption management and third-party connected hardware integration. It is fully configurable and includes tools for user management and multi-tenant policy that enables contractors, utilities or big cities to segregate projects.

A powerful tool for efficiency, rationalisation and decision making

Data is gold. Schréder EXEDRA brings it with all the clarity managers need to drive decisions. The platform collects massive amounts of data from end devices and, aggregates, analyses and intuitively displays them to help end-users take the right actions.

Protected on every side

Schréder EXEDRA provides state-of-the-art data security with encryption, hashing, tokenisation, and key management practices that protect data across the whole system and its associated services.

GENERAL INFORMATION

Recommended installation height	4m to 45m | 13' to 148'
Circle Light label	Score between 60 and 90 - The product meets most of circular economy requirements
Driver included	Yes
CE mark	Yes
CB mark	Yes
ENEC certified	Yes
ENEC+ certified	Yes
UL certified	Yes
ROHS compliant	Yes
French law of December 27th 2018 - Compliant with application type(s)	a, b, c, d, e, f, g
Testing standard	LM 79-08 (all measurements in ISO17025 accredited laboratory) EN 60598-1:2015+A1:2018 EN 60598-2-3:2003/A1:2011
RCM mark	Yes

HOUSING AND FINISH

Housing	Aluminium
Optic	PMMA
Protector	Tempered glass
Housing finish	Polyester powder coating
Standard colour(s)	RAL 7040 window grey
Tightness level	IP 66
Impact resistance	IK 09
Vibration test	Compliant with ANSI 1.5G and 3G and modified IEC 68-2-6 (0.5G)
Access for maintenance	Tool-less access to gear compartment

· Any other RAL or AKZO colour upon request

· Optional high anti-corrosive aluminium (compliant with EN AC-44300)

OPERATING CONDITIONS

Operating temperature range (Ta)	-40 °C to +55 °C / -40 ° F to 131 °F

· Depending on the luminaire configuration. For more details, please contact us.

ELECTRICAL INFORMATION

Electrical class	Class 1US, Class I EU, Class II EU
Nominal voltage	120-277V – 50-60Hz 220-240V – 50-60Hz 347-480V – 50-60Hz
Power factor (at full load)	0.9
Surge protection options (kV)	6 8 10 20
Electromagnetic compatibility (EMC)	EN 55015 / EN 61000-3-2 / EN 61000-3-3 / EN 61547 EN 61547 / EN 61000-4-2, -3, -4, -5, -6, -8, -11
Control protocol(s)	1-10V, DALI
Control options	Custom dimming profile, Remote management
Socket	Zhaga (optional) NEMA 3-pin (optional) NEMA 7-pin (optional)
Associated control system(s)	Schréder EXEDRA

OPTICAL INFORMATION

LED colour temperature	3000K (WW 730) 3000K (WW 830) 4000K (NW 740)
Colour rendering index (CRI)	>70 (WW 730) >80 (WW 830) >70 (NW 740)
ULOR	0%
ULR	0%

· ULOR/ULR may be different according to the configuration. Please consult us.

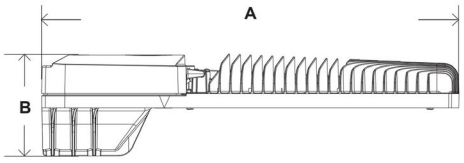
· Meets Dark Sky requirements when fitted with LEDs of 3000K or less.

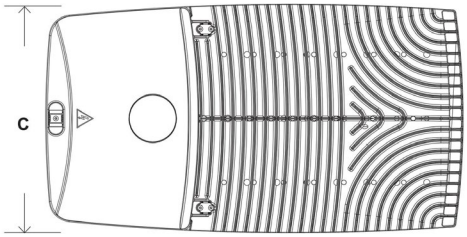
LIFETIME OF THE LEDS @ TQ 25°C

All configurations	100,000h - L90

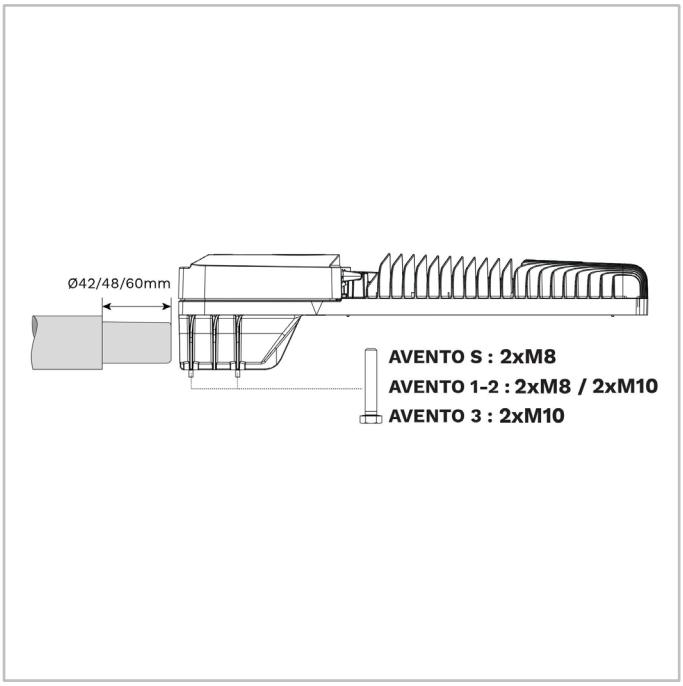
DIMENSIONS AND MOUNTING

AxBxC (mm | inch)	AVENTO GEN2 S - 335x85x308 | 13.2x3.3x12.1 AVENTO 1 - 485x114x310 | 19.1x4.5x12.2 AVENTO 2 - 655x159x359 | 25.8x6.3x14.1 AVENTO 3 - 655x158x578 | 25.8x6.2x22.8
Weight (kg | lbs)	AVENTO GEN2 S - 5.8 | 12.8 AVENTO 1 - 8.1 | 17.8 AVENTO 2 - 11.7 | 25.7 AVENTO 3 - 18.6 | 40.9
Aerodynamic resistance (CxS)	AVENTO GEN2 S - 0.04 AVENTO 1 - 0.04 AVENTO 2 - 0.06 AVENTO 3 - 0.06
Mounting possibilities	Side-entry slip-over – Ø42mm Side-entry slip-over – Ø48mm Side-entry slip-over – Ø60mm





AVENTO | Side-entry mounting from Ø42 to Ø60mm spigots



			Luminaire output flux (lm) Warm White 730		Luminaire output flux (lm) Neutral White 740		Luminaire output flux (lm) Warm White 830		Power consumption (W)	Luminaire efficacy (lm/W)	
Luminaire	Number of LEDs	Current (mA)	Min	Max	Min	Max	Min	Max		Up to	Photometry
AVENTO GEN2 S	48	116	2400	2500	2400	2600	-	-	18.2	143	MID FLEX™
	48	166	3300	3500	3400	3600	-	-	26.2	137	MID FLEX™
	48	233	4400	4700	4600	4800	-	-	37.9	127	MID FLEX™
	96	116	4800	5100	5000	5300	-	-	34.6	153	MID FLEX™
	96	166	6700	7100	6900	7300	-	-	50.5	145	MID FLEX™
	96	233	8900	9500	9200	9700	-	-	74	131	MID FLEX™

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

			Luminaire output flux (lm) Warm White 730		Luminaire output flux (lm) Neutral White 740		Luminaire output flux (lm) Warm White 830		Power consumption (W)	Luminaire efficacy (lm/W)	
Luminaire	Number of LEDs	Current (mA)	Min	Max	Min	Max	Min	Max		Up to	Photometry
AVENTO 1	96	233	9000	9400	9300	9600	-	-	71	135	MID FLEX™
	144	233	13600	14100	14000	14400	-	-	106	136	MID FLEX™
	192	233	18100	18800	18600	19300	-	-	141	137	MID FLEX™

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			Luminaire output flux (lm) Warm White 730		Luminaire output flux (lm) Neutral White 740		Luminaire output flux (lm) Warm White 830		Power consumption (W)	Luminaire efficacy (lm/W)	
Luminaire	Number of LEDs	Current (mA)	Min	Max	Min	Max	Min	Max		Up to	Photometry
AVENTO 2	240	233	22900	23500	23500	24100	-	-	186	139	MID FLEX™
	288	233	27500	28200	28200	29000	-	-	222	134	MID FLEX™
	336	233	32100	32900	33000	33800	-	-	250	135	MID FLEX™

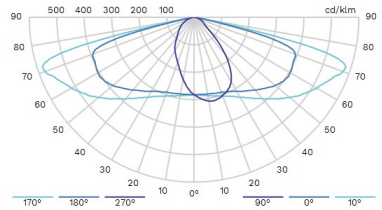
Tolerance on LED flux is ± 7% and on total luminaire power ± 5 %

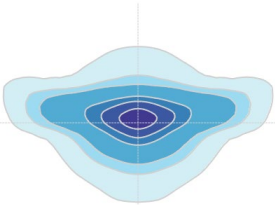
Luminaire	Number of LEDs	Current (mA)	Luminaire output flux (lm) Warm White 730 Min	Luminaire output flux (lm) Warm White 730 Max	Luminaire output flux (lm) Neutral White 740 Min	Luminaire output flux (lm) Neutral White 740 Max	Luminaire output flux (lm) Warm White 830 Min	Luminaire output flux (lm) Warm White 830 Max	Power consumption (W)	Luminaire efficacy (lm/W) Up to	Photometry
AVENTO 3	144	500	24600	28900	26700	31300	21800	25600	218	144	LENSO FLEX 2
	144	700	32400	38000	35100	41200	28700	33700	308	134	LENSO FLEX 2
	192	500	32800	38500	35600	41700	29100	34200	284	147	LENSO FLEX 2
	192	700	43200	50700	46800	54900	38300	44900	402	137	LENSO FLEX 2
	384	166	27100	28200	27900	29000	-	-	202	144	MID FLEX
	384	233	36000	37400	36900	38400	-	-	290	132	MID FLEX
	480	166	33900	35300	34800	36200	-	-	246	147	MID FLEX
	480	233	45000	46800	46200	48000	-	-	356	135	MID FLEX
	576	166	40700	42400	41800	43500	-	-	292	149	MID FLEX
	576	233	54000	56200	55400	57600	-	-	422	136	MID FLEX
	672	166	47900	49800	49100	51100	-	-	342	149	MID FLEX
	672	233	63000	65500	64600	67200	-	-	490	137	MID FLEX

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

LENSO FLEX 2

5102





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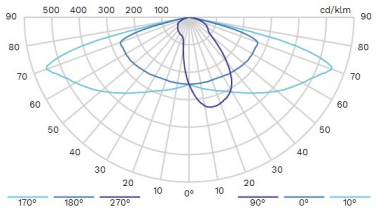

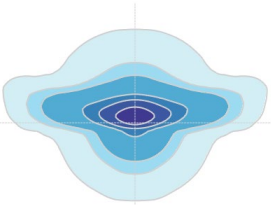

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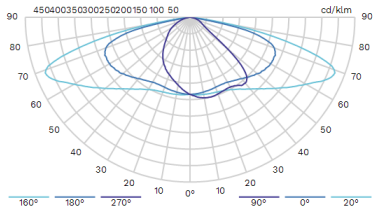

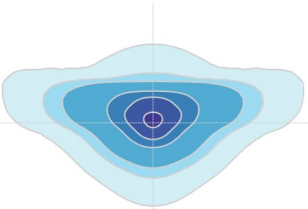

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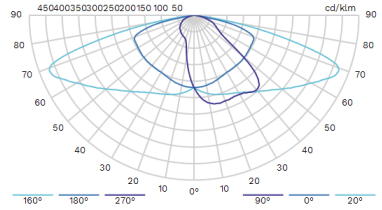

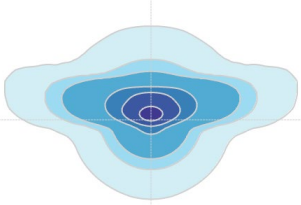

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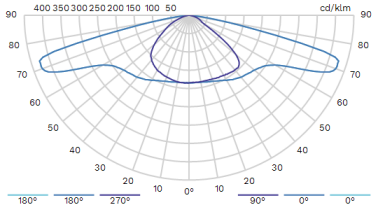

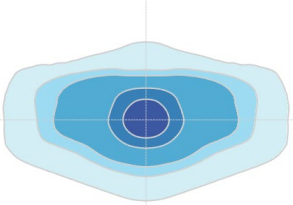

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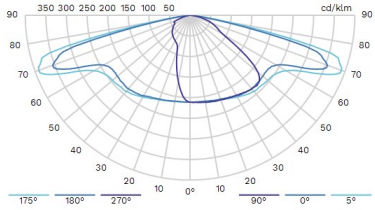

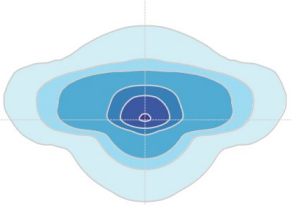

LENSO FLEX 2

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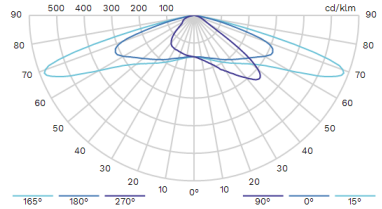

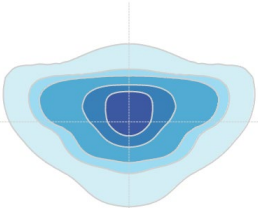

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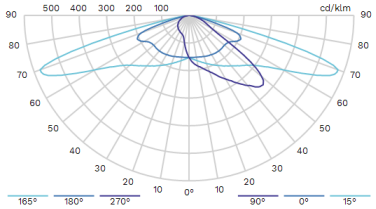

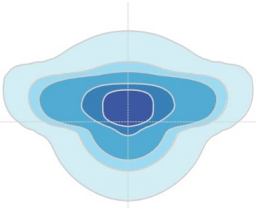

LENSO FLEX 2

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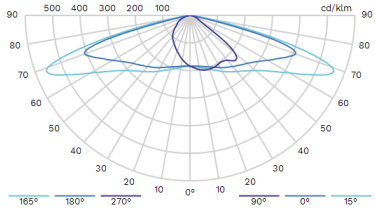

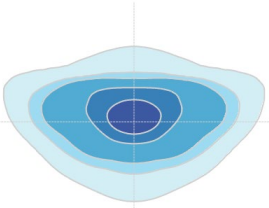

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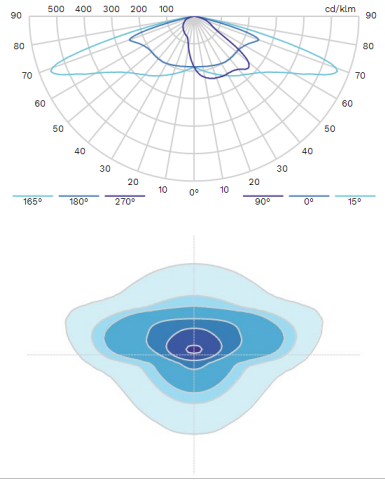

LENSO FLEX 2

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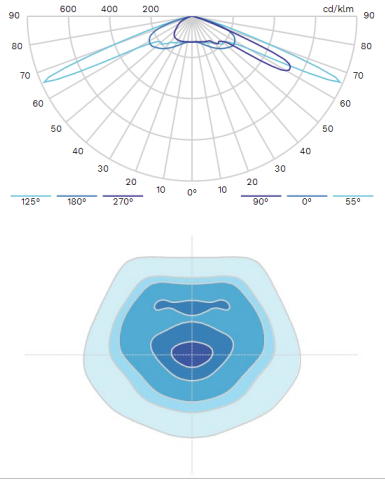

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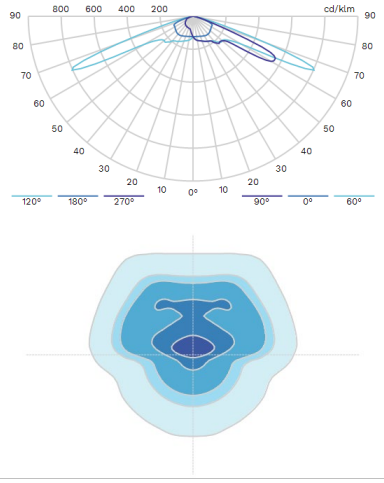

LENSO FLEX 2

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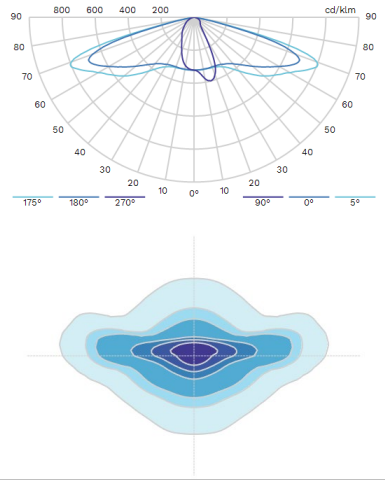
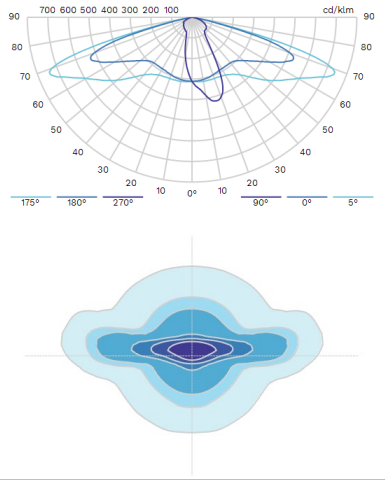


LENSO FLEX 2

5136 BL



LENSO FLEX 2

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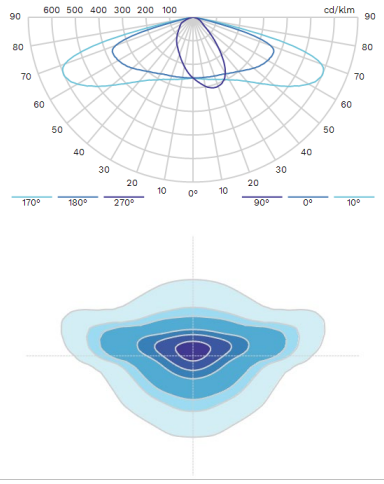

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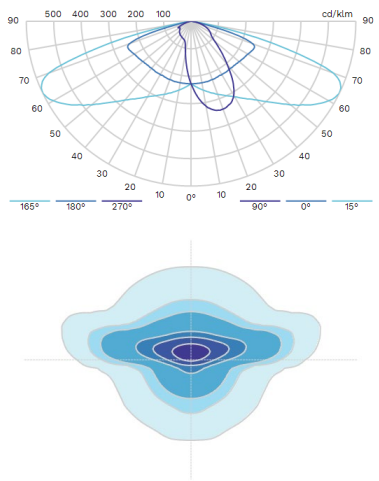

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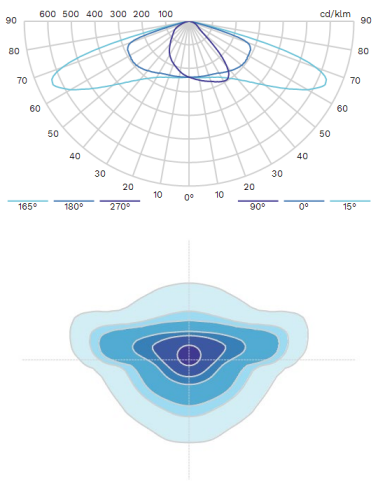

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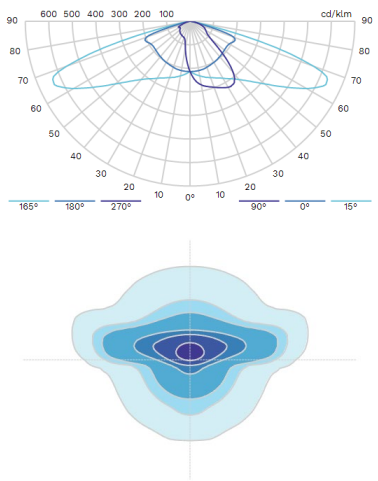

LENSO FLEX™2

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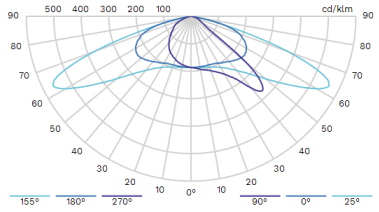

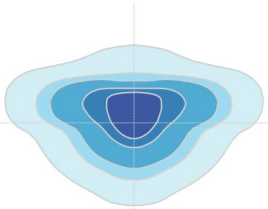

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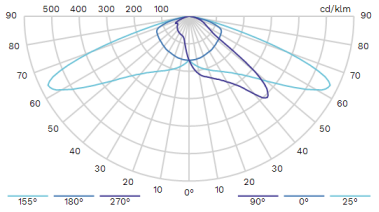

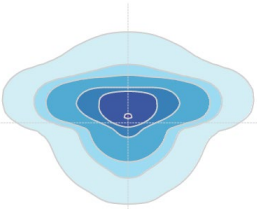

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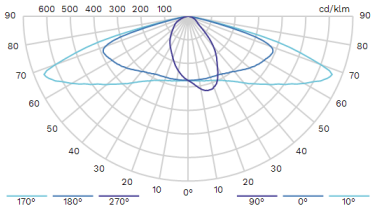

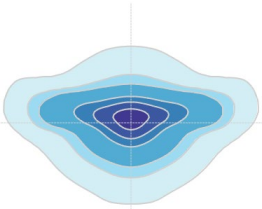

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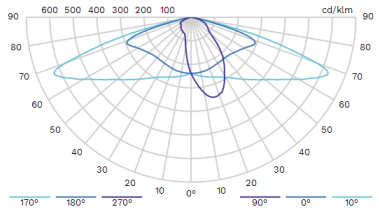

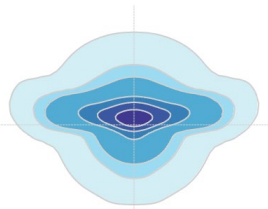

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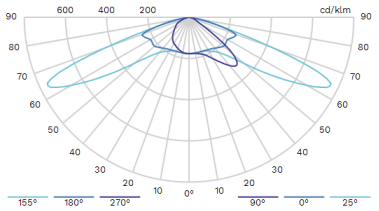

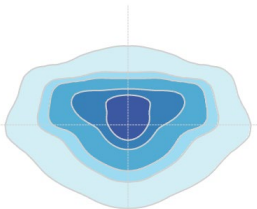

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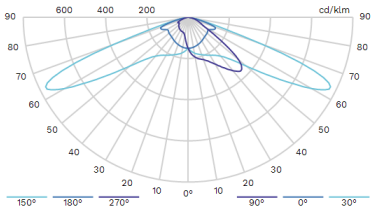

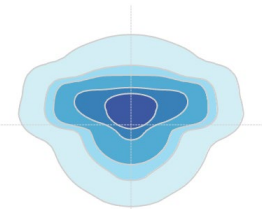

MID FLEX™

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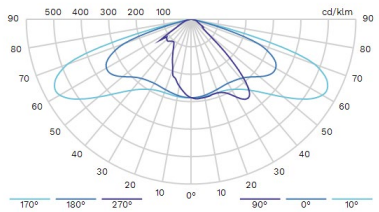

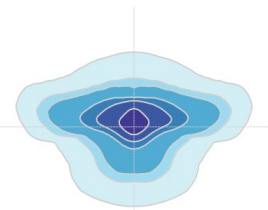

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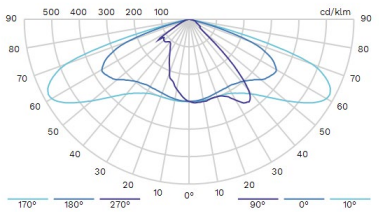

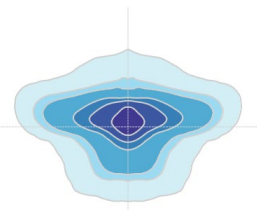

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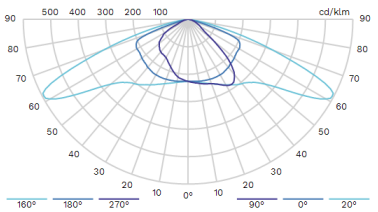

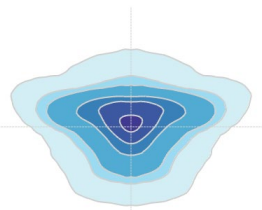

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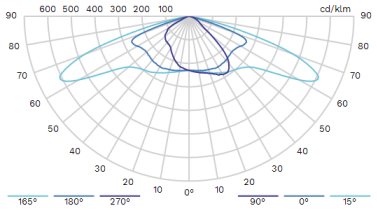

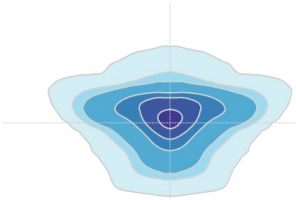

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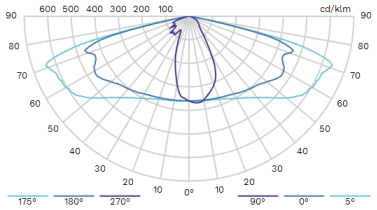

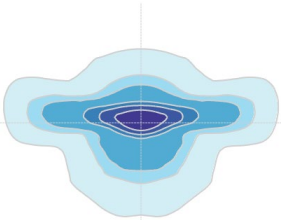

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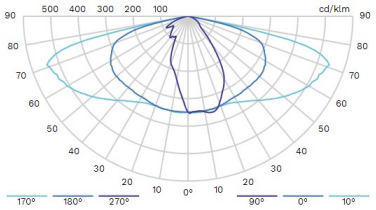

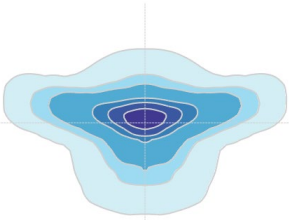

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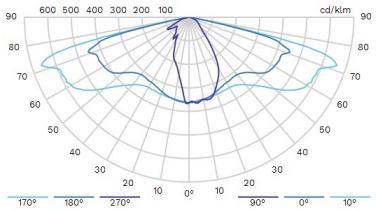

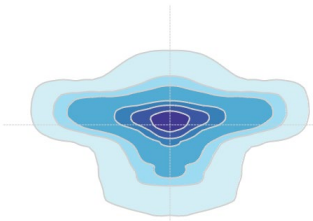

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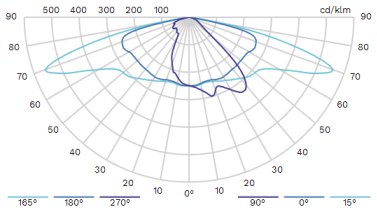

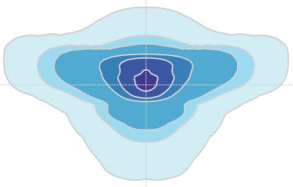

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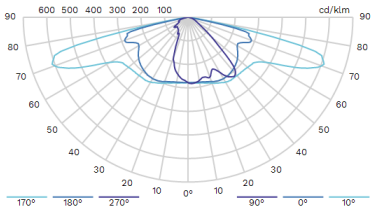

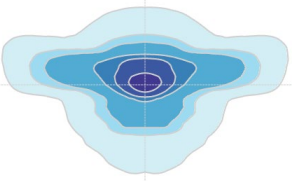

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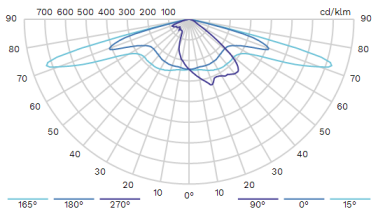

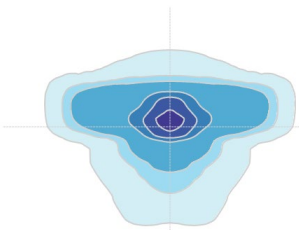

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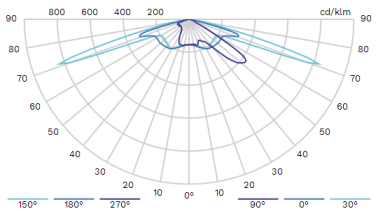

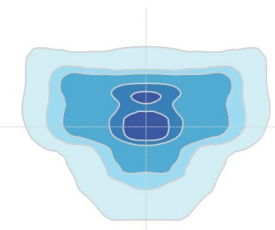

MID FLEX™

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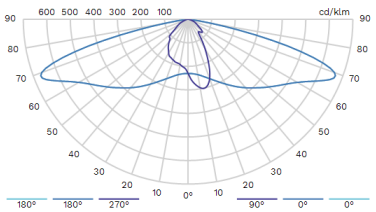
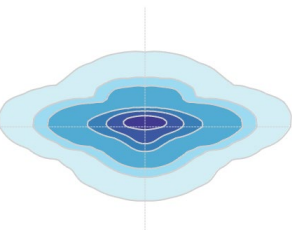
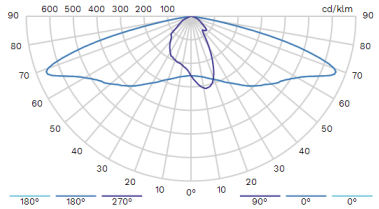
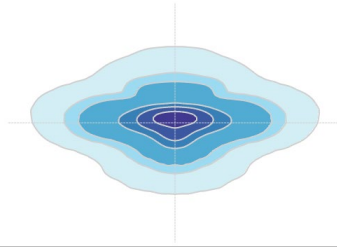




MID FLEX™

5256 LE





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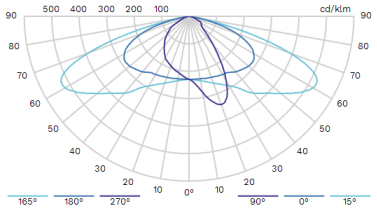

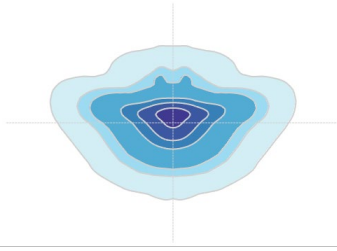

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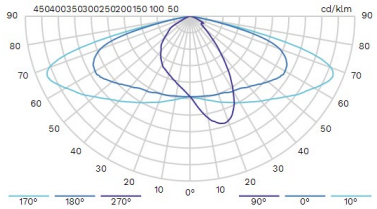

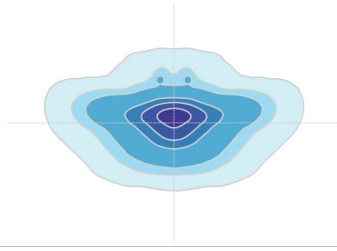

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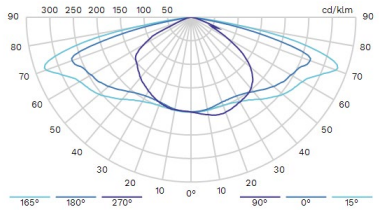

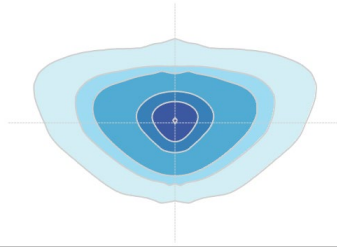

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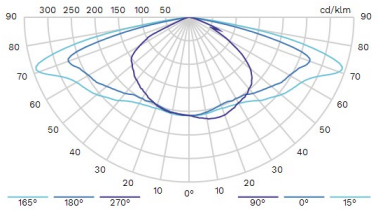

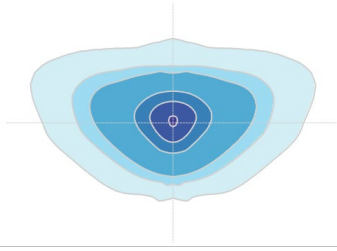

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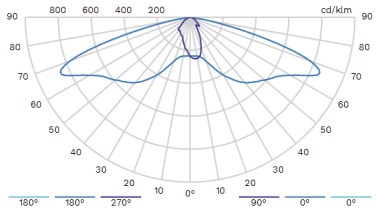

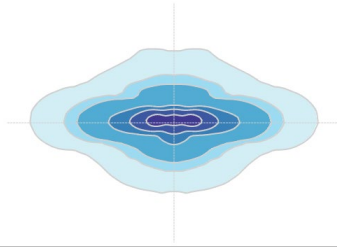

MID FLEX™

5325 LE