Schréder
Experts in lightability™

DECORATIVE

PIANO GEN2

Designer : Michel Tortel

LENSO FLEX™ 4

The ideal instrument for connected urban environments

This second generation of the renowned PIANO luminaires continues the philosophy and the refinement of the range while offering the latest lighting and connected technologies. PIANO GEN2 enhances any urban environment with aesthetics and performance.

Taking advantage of state-of-the-art LED technology and control solutions, PIANO GEN2 delivers optimal lighting anywhere, at any time, enhancing your city's landscapes.

PIANO GEN2 is available in 2 different sizes, as well as side-entry and post-top fixation, so that streets, passages and wide pavements can be lit using the same luminaire design.

With its winning combination of performance, design, and flexibility, PIANO GEN2 is the perfect choice for illuminating various urban settings consistently. In short, the PIANO GEN2 range offers towns and cities a high-performance lighting solution compatible with various socket and sensor options to improve the quality of light, generate energy savings and breathe new life to your urban nights.

IP 66 | IK 08

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

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Concept

PIANO GEN2 is composed of a high-pressure, die-cast aluminium body and a glass protector.

This luminaire range incorporates 2 sizes, both equipped with the LensoFlex® photometric engines. They offer high-performance photometry specifically developed to provide safety and comfort in urban environments.

Designed for post-top (Ø60mm or Ø76mm) or side-entry (Ø42mm, Ø48mm and Ø60mm) mounting, PIANO GEN2 is the ideal tool for lighting streets, pedestrian areas, parks and bike paths.

The luminaire can be supplied with a mains cable. After installation, the luminaire can be opened for servicing or maintenance.

The PIANO GEN2 luminaires are connected-ready and can operate with a NEMA or a Zhaga socket.

Additionally, PIANO GEN2 can be equipped with a PIR sensor that adapts the lighting to the needs of the place and the moment, for more responsible use of energy resources.

This second generation offers the latest lighting technologies in the same refined and elegant design.

Benefiting from the latest LensoFlex® photometric engines, this luminaire offers high-performance lighting with low energy consumption.

TYPES OF APPLICATION

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

KEY ADVANTAGES

- Range of luminaires for various urban applications
- Maximised savings in energy and maintenance costs
- Aesthetic design and high-quality finishing
- Connected-ready
- Based on open and interoperable standards
- Compatible with the Schréder EXEDRA control platform
- LensoFlex®4 versatile solutions for high-end photometries maximising comfort and safety

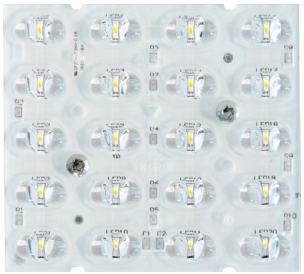
To be as open and interoperable as possible, PIANO GEN2 can be delivered with a NEMA or a Zhaga socket.

Mounting flexibility allowing aesthetic consistency all across your urban landscapes.

LensoFlex®4

LensoFlex®4 maximises the heritage of the LensoFlex® concept with a very compact yet powerful photometric engine based upon the addition principle of photometric distribution. The number of LEDs in combination with the driving current determines the intensity level of the light distribution. With optimised light distributions and very high efficiency, this fourth generation enables the products to be downsized to meet application requirements with an optimised solution in terms of investment.

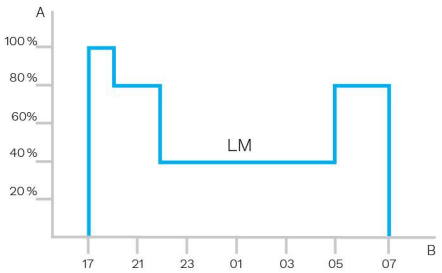
LensoFlex®4 optics can feature backlight control to prevent intrusive lighting, or a glare limiter for high visual comfort.



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.

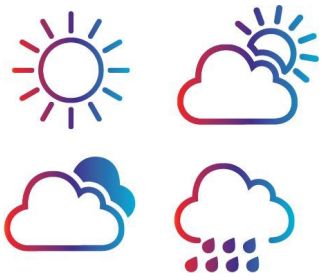
The period between switching on and switching off is used to activate the preset dimming profile. The customised dimming system generates maximum energy savings while respecting the required lighting levels and uniformity throughout the night.



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.

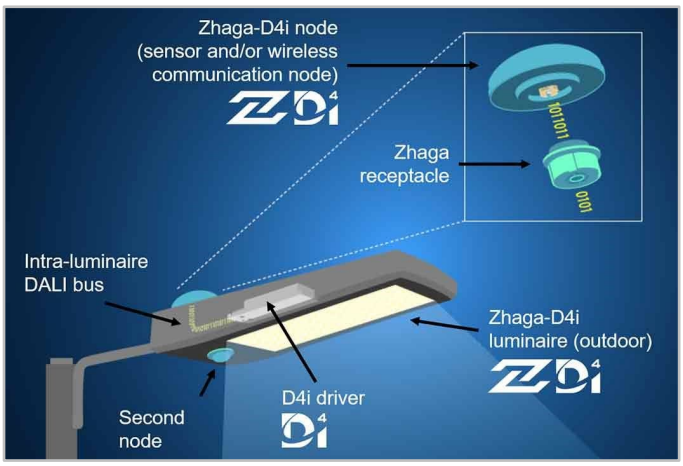


PIR sensor: motion detection

In places with little nocturnal activity, lighting can be dimmed to a minimum most of the time. By using passive infrared (PIR) sensors, the level of light can be raised as soon as a pedestrian or a slow vehicle is detected in the area.

Each luminaire level can be configured individually with several parametres such as minimum and maximum light output, delay period and ON/OFF duration time. PIR sensors can be used in an autonomous or interoperable network.

The Zhaga consortium joined forces with the DiiA and produced a single Zhaga-D4i certification that combines the Zhaga Book 18 version 2 outdoor connectivity specifications with the DiiA's D4i specifications for intra-luminaire DALI.



Standardisation for interoperable ecosystems

As a founding member of the Zhaga consortium, Schréder has participated in the creation of, and therefore supports, the Zhaga-D4i certification program and the initiative of this group to standardise an interoperable ecosystem. The D4i specifications take the best of the standard DALI2 protocol and adapt it to an intra-luminaire environment but it has certain limitations. Only luminaire mounted control devices can be combined with a Zhaga-D4i luminaire. According to the specification, control devices are limited respectively to 2W and 1W average power consumption.

Certification program

The Zhaga-D4i certification covers all the critical features including mechanical fit, digital communication, data reporting and power requirements within a single luminaire, ensuring plug-and-play interoperability of luminaires (drivers) and peripherals such as connectivity nodes.

Cost-effective solution

A Zhaga-D4i certified luminaire includes drivers offering features that had previously been in the control node, like energy metering, which has in turn simplified the control device therefore reducing the price of the control system.

2 sockets: top and bottom

The Zhaga socket is small and suited to applications where aesthetics is essential. The architecture of Zhaga-D4i also foresees the possibility of putting two sockets on one luminaire, allowing for instance, the combination of a detection sensor and a control node. This also has the added value of standardising certain detection sensor communications with the D4i protocol.

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

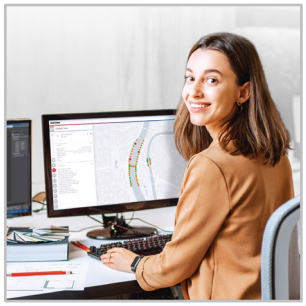
With EXEDRA, Schréder has taken a technology-agnostic approach: we rely on open standards and protocols to design an architecture able to interact seamlessly with third-party software and hardware solutions. Schréder EXEDRA is designed to unlock complete interoperability, as it offers the ability to:

- 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. OWLET IV luminaire controllers, optimised for Schréder EXEDRA, operate Schréder's luminaires and luminaires from third parties. They use both cellular and mesh radio networks, optimising geographical coverage and redundancy for continuous operation.

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

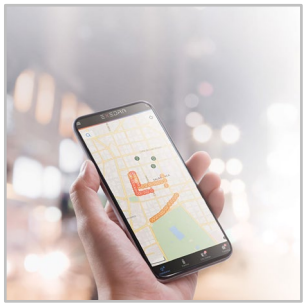
Data is gold. Schréder EXEDRA brings it with all the clarity managers need to drive decisions. The platform collects massive amounts of data from end devices and, aggregates, analyses and intuitively displays them to help end-users take the right actions.

Protected on every side

ISO 27001
BUREAU VERITAS
Certification

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. The whole platform is ISO 27001 certified. It demonstrates that Schréder EXEDRA meets the requirements for establishing, implementing, maintaining and continually improving security management.

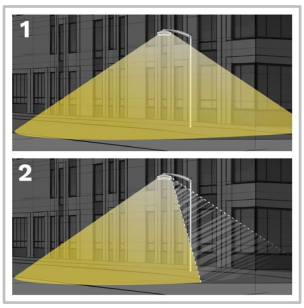
Mobile App: any time, any place, connect to your street lighting



The Schréder EXEDRA mobile application offers the essential functionalities of the desktop platform, to accompany all types of operator on site in their daily effort to maximise the potential of connected lighting. It enables real-time control and settings, and contributes to effective maintenance.

With the PureNight concept, Schréder offers the ultimate solution for restoring the night sky without switching off cities, while maintaining safety and well-being for people and preserving wildlife. The PureNight concept guarantees that your Schréder lighting solution satisfies environmental laws and requirements. Well-designed LED lighting has the potential to improve the environment in all respects.

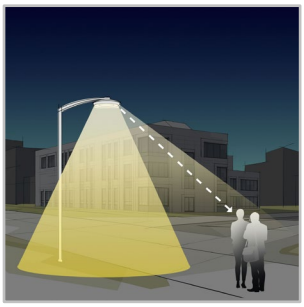
Direct the light only where it is wanted and needed



1. Without backlight
2. With backlight

Schréder is renowned for its expertise in photometry. Our optics direct light only where it is wanted and needed. However, light trespass behind the luminaire might be a key concern when it comes to protecting a sensitive wildlife habitat or avoiding intrusive lighting towards buildings. Our fully integrated backlight solutions easily address this potential risk.

Offer maximum visual comfort to people



Because of the lower installation height compared to road lighting, visual comfort is an essential aspect of urban lighting. Schréder designs lenses and accessories to minimise any type of glare (distracting, discomforting, disabling glare and blinding glare). Our design offices harness a range of possibilities to find the best solutions for each project and ensure that we provide a gentle light that delivers the best night-time experience.

Protect wildlife

If not well designed, artificial lighting can badly affect wildlife. Blue light and excessive intensity can have a damaging effect on all types of life. Blue light radiation has the ability to suppress the production of melatonin, the hormone that contributes to the regulation of the circadian rhythm. It can also alter the behavioural patterns of animals including bats and moths, as it can change their movements towards or away from light sources. Schréder favours warm white LEDs with minimal blue light, combined with advanced control systems including sensors. This enables permanent adaptation of the lighting to the real needs of the moment, minimising disturbance to the fauna and flora.

Choose a Dark Sky certified luminaire

DARKSKY APPROVED · Reduces light pollution ·
Certified by DarkSky.org

The International Dark-Sky Association (IDA) is the recognised authority on light pollution. It provides leadership, tools and resources to industries and companies willing to reduce light pollution. The IDA's Fixture Seal of Approval programme certifies outdoor lighting fixtures as being Dark Sky Friendly. All products approved by this programme must comply with the following criteria:

- The light sources shall have a maximum correlated colour temperature of 3000K;
- Uplight allowance limited to 0.5% of total output, or 50 lumens, with no more than 10 lumens in the 90-100 degree UL zone;
- The luminaires must have a dimming capability to 10% of full rating;
- The luminaires must be equipped with a fixed mounting option;
- The luminaires must have Safety Certification by an independent laboratory.

This approved Schréder range of luminaires complies with these requirements.

GENERAL INFORMATION

Recommended installation height	4m to 12m | 13' to 39'
FutureProof	Easy replacement of the photometric engine and electronic assembly on-site
Driver included	Yes
CE mark	Yes
ENEC certified	Yes
ENEC+ certified	Yes
ROHS compliant	Yes
Dark Sky friendly lighting (IDA certification)	Yes
Zhaga-D4i certified	Yes
French law of December 27th 2018 - Compliant with application type(s)	a, b, c, d, e, f, g
Testing standard	EN 60598-1 EN 60598-2-1 EN 62262 LM 79-08 (all measurements in ISO17025 accredited laboratory) IEC 62722-2-1 IEC 62493 IEC 62471

HOUSING AND FINISH

Housing	Aluminium
Optic	PMMA
Protector	Tempered glass
Housing finish	Polyester powder coating
Standard colour(s)	AKZO grey 900 sanded
Tightness level	IP 66
Impact resistance	IK 08
Vibration test	Compliant with modified IEC 68-2-6 (0.5G)
Access for maintenance	By loosening screws on the bottom cover

· Any other RAL or AKZO colour upon request

OPERATING CONDITIONS

Operating temperature range (Ta)	-30°C up to +55°C / -22°F up to 131°F with wind effect

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

ELECTRICAL INFORMATION

Electrical class	Class I EU, Class II EU
Nominal voltage	120-277V – 50-60Hz 220-240V – 50-60Hz 347-480V – 50-60Hz
Surge protection options (kV)	10 20
Electromagnetic compatibility (EMC)	EN 55015 / EN 61000-3-2 / EN 61000-3-3 / EN 61547
Control protocol(s)	1-10V, DALI
Control options	AmpDim, Bi-power, Custom dimming profile, Photocell, Remote management
Socket	Zhaga (optional) NEMA 7-pin (optional)
Associated control system(s)	Schréder EXEDRA
Sensor	PIR (optional)

OPTICAL INFORMATION

LED colour temperature	2200K (Warm White WW 722) 2700K (Warm White WW 727) 3000K (Warm White WW 730) 3000K (Warm White WW 830) 4000K (Neutral White NW 740)
Colour rendering index (CRI)	>70 (Warm White WW 722) >70 (Warm White WW 727) >70 (Warm White WW 730) >80 (Warm White WW 830) >70 (Neutral White NW 740)
ULOR	0%
ULR	0%

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

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

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

LIFETIME OF THE LEDS @ TQ 25°C

All configurations	100,000h - L95

· Lifetime may be different according to the size/configurations. Please consult us.

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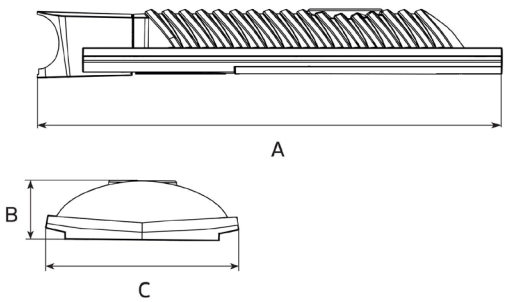
DIMENSIONS AND MOUNTING

AxBxC (mm | inch)	PIANO GEN2 MINI : 548x92x277 | 21.6x3.6x10.9 PIANO GEN2 MIDI : 680x92x277 | 26.8x3.6x10.9
Weight (kg | lbs)	PIANO GEN2 MINI : 7.0 | 15.4 PIANO GEN2 MIDI : 8.7 | 19.1
Aerodynamic resistance (CxS)	PIANO GEN2 MINI : 0.04 PIANO GEN2 MIDI : 0.06
Mounting possibilities	Side-entry slip-over – Ø42mm Side-entry slip-over – Ø48mm Side-entry slip-over – Ø60mm Post-top slip-over – Ø60mm Post-top slip-over – Ø76mm

· For more information about mounting possibilities, please consult the installation sheet.
· Dimensions given with Ø60mm spigot (side-entry mounting)



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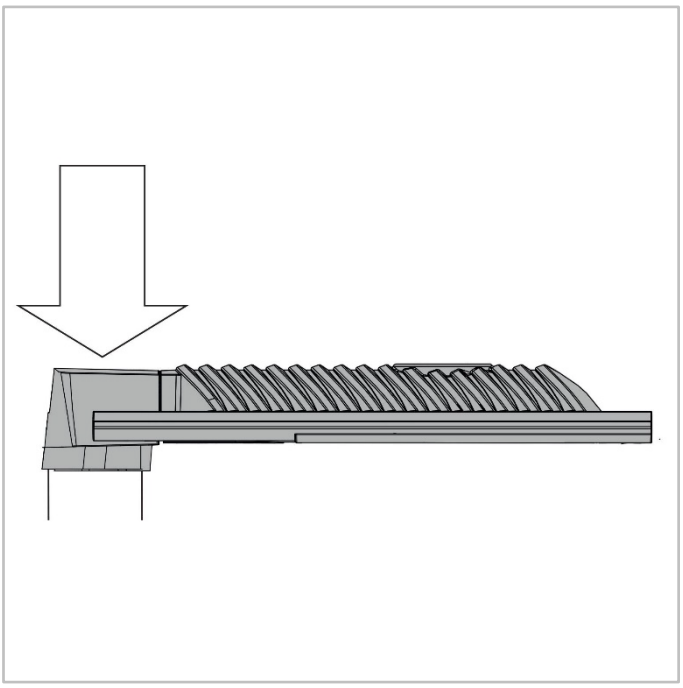
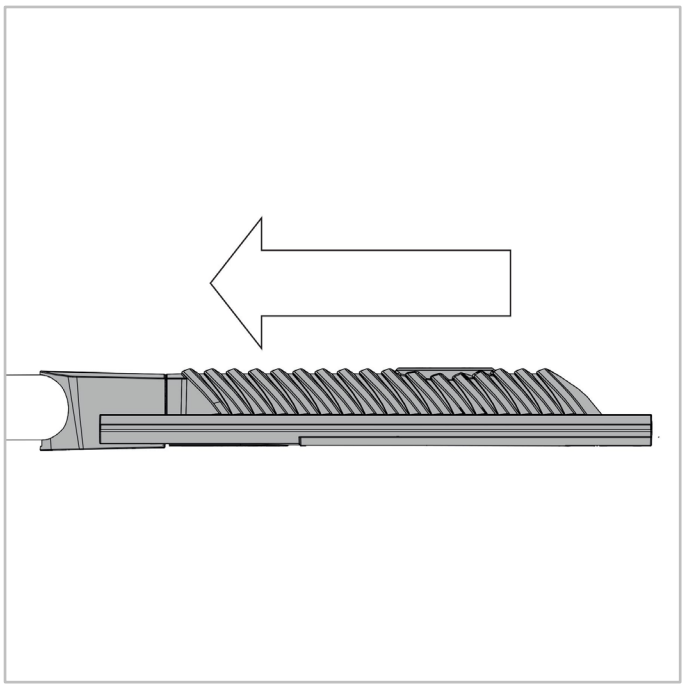
PIANO GEN2 | Post-top mounting on Ø60mm and Ø76mm spigots – 2xM8 screws



PIANO GEN2 | Side-entry mounting on Ø42mm, Ø48mm and Ø60mm spigots – 2xM8 screws



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PIANO GEN2 MINI

Photometry

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	Luminaire output flux (lm)										Power consumption (W)		Luminaire efficacy (lm/W)
	Warm White WW 722		Warm White WW 727		Warm White WW 730		Warm White WW 830		Neutral White NW 740				
Number of LEDs	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Up to
10	1000	2500	1100	2700	1200	2900	1100	2700	1300	3100	10	25	145
20	1500	5700	1500	5900	1700	6500	1600	6100	1800	6900	13	52	158

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

PIANO GEN2 MIDI

Photometry

LENSO FLEX™4

	Luminaire output flux (lm)										Power consumption (W)		Luminaire efficacy (lm/W)
	Warm White WW 722		Warm White WW 727		Warm White WW 730		Warm White WW 830		Neutral White NW 740				
Number of LEDs	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Up to
30	2200	6700	2300	7000	2500	7600	2400	7200	2700	8100	19	57	165
40	3000	8900	3100	9300	3400	10200	3200	9600	3600	10800	25	75	167
50	3700	11200	3900	11600	4200	12700	4000	12000	4500	13500	31	93	167
60	4500	13400	4600	14000	5100	15300	4800	14400	5400	16200	36	111	172

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

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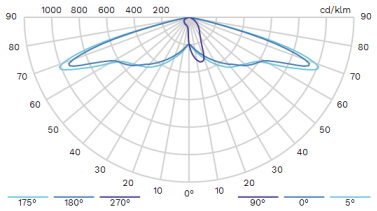
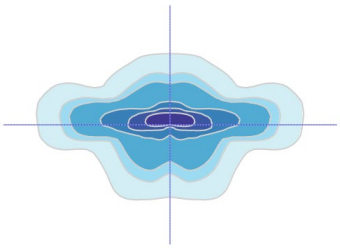
LENSO FLEX™4

5300





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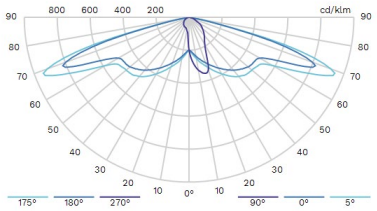

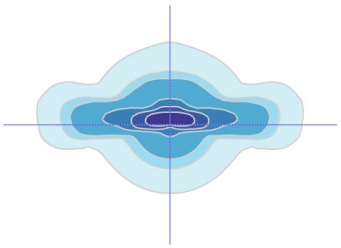

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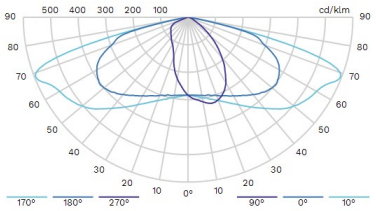

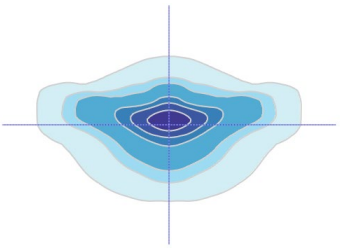

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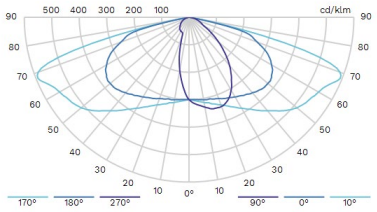

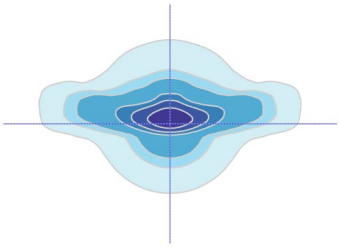

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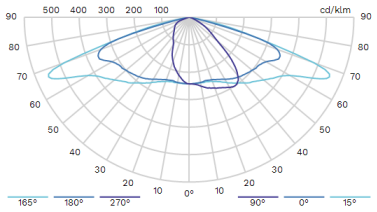

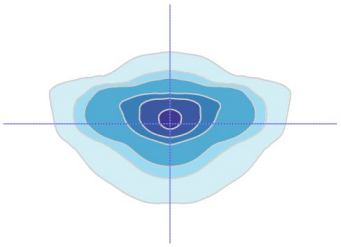

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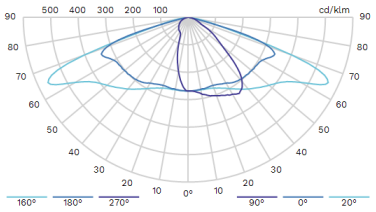

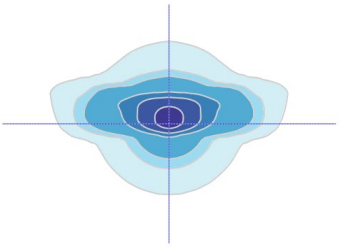

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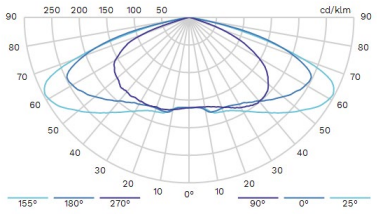

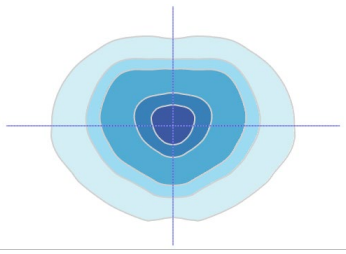

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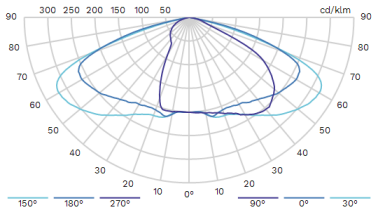

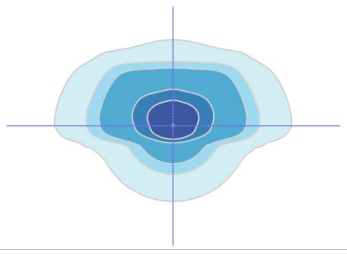

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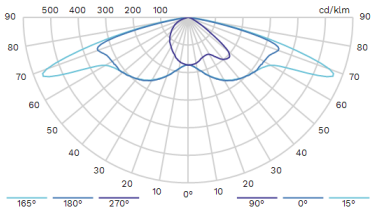

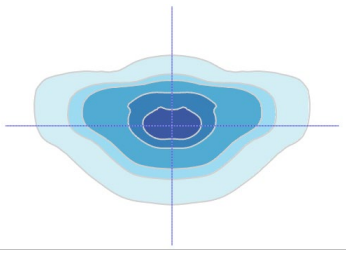

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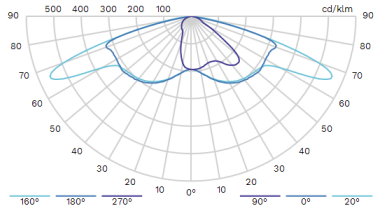
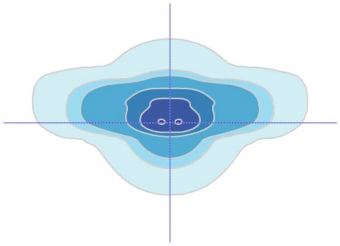
5305 BL





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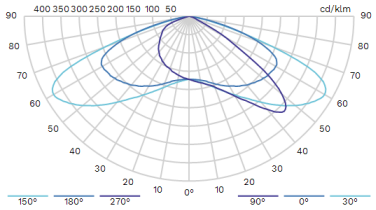

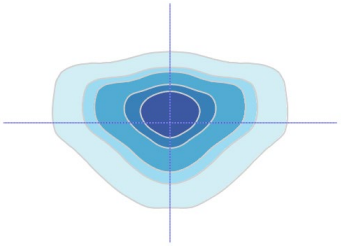

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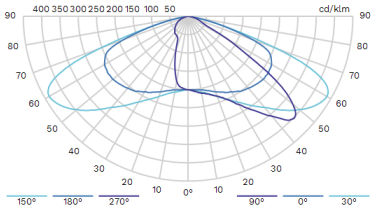

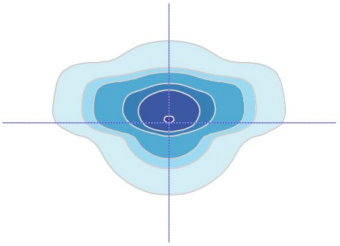

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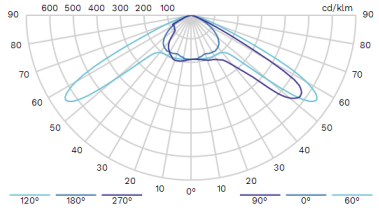

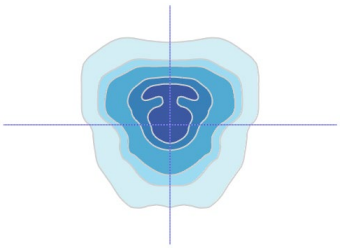

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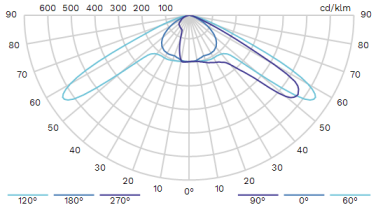

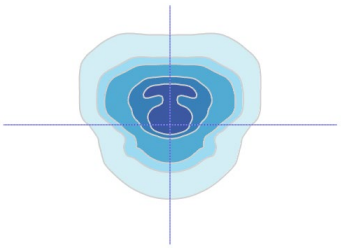

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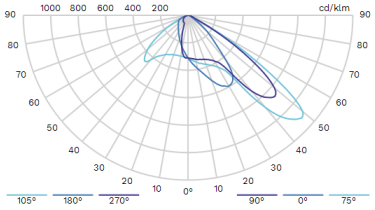

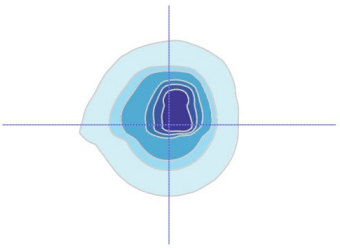

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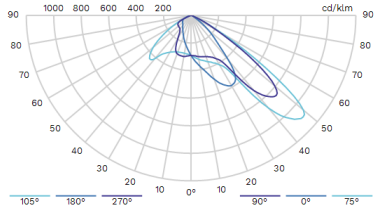

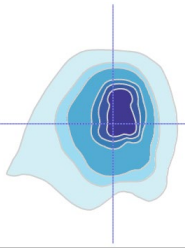

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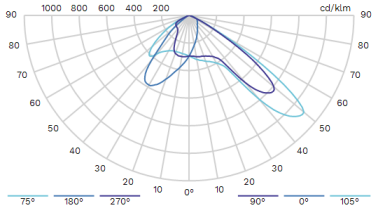

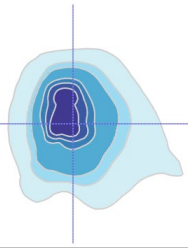

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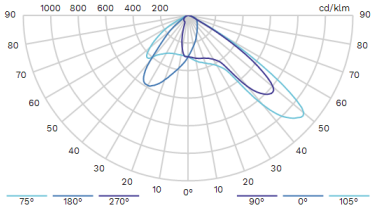
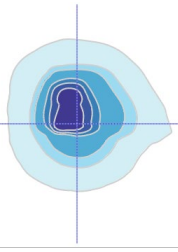
5370 ZL BL





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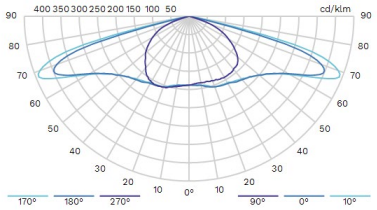

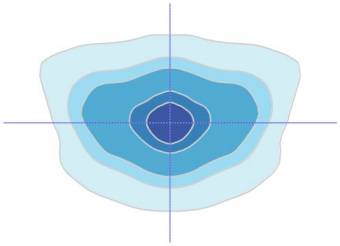

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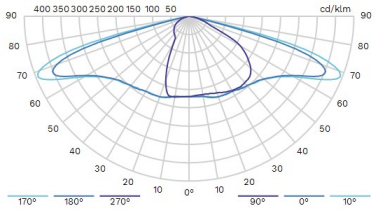

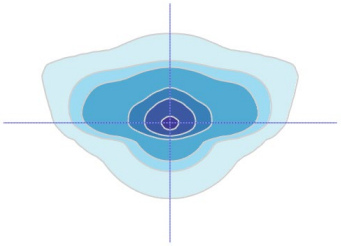

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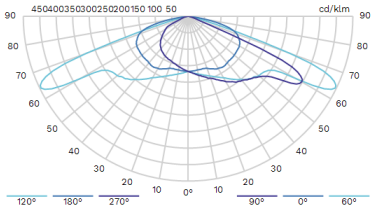

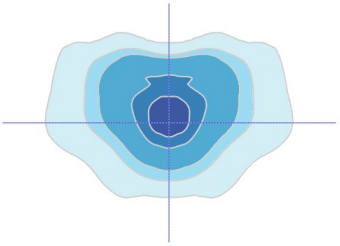

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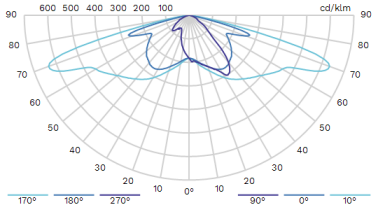

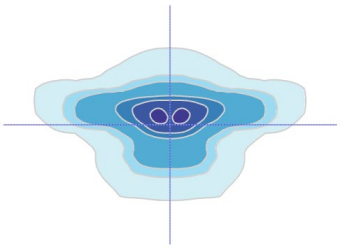

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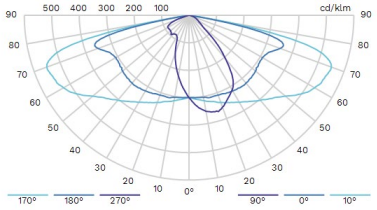

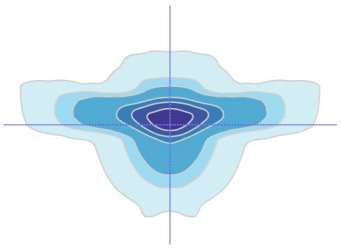

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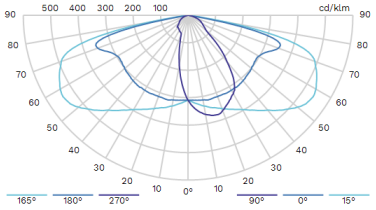

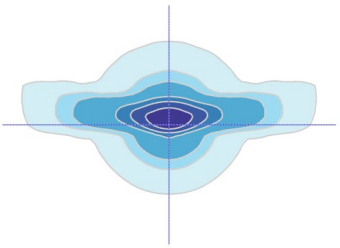

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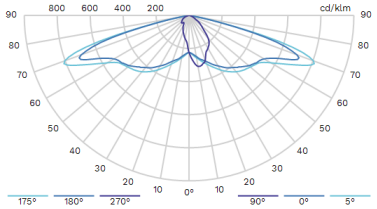

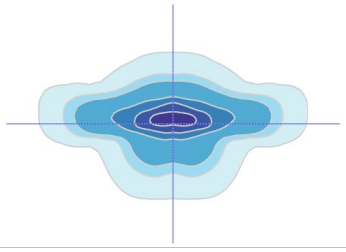

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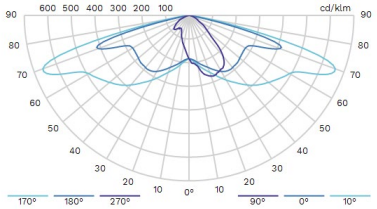

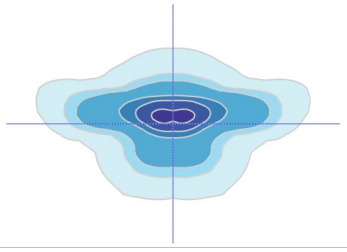

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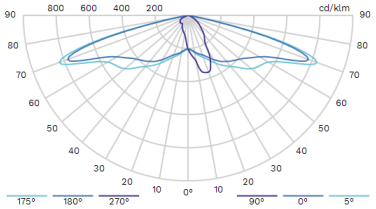

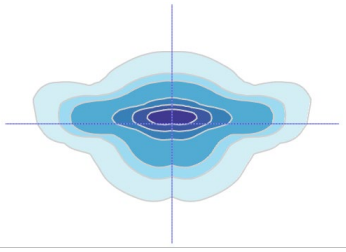

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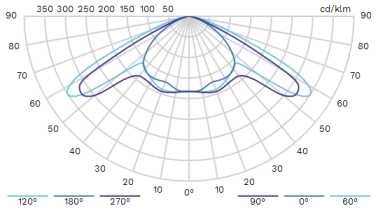

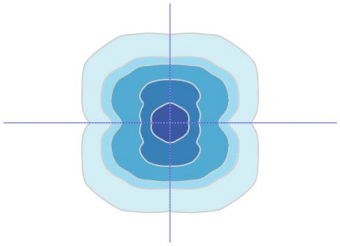

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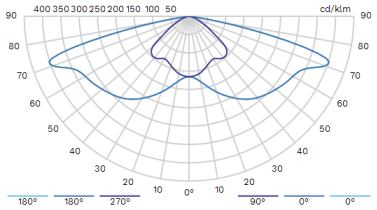

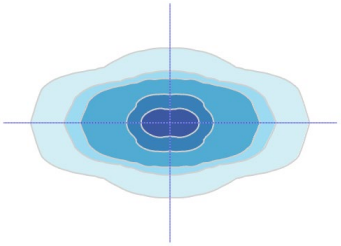

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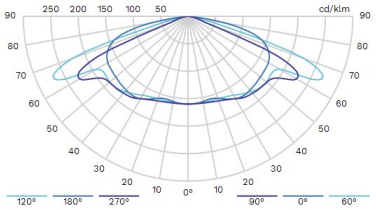

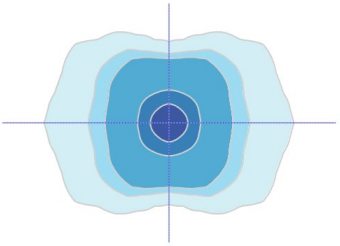

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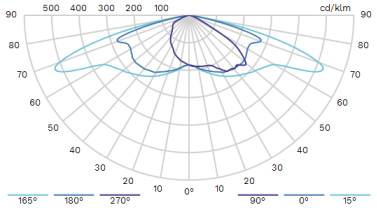

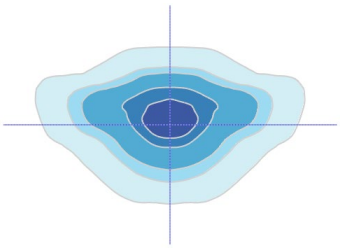

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