Schréder
Experts in lightability™

DECORATIVE

FRIZA

Designer : Achilles Design

LENSO FLEX™ 2

Modern classic design for cost-effective urban lighting

Designed to light various urban landscapes such as residential areas, parks, squares, bicycle paths and urban historical centres, the FRIZA luminaire combines a timeless design with the energy efficiency of LED technology.

The name FRIZA refers to Friesland, a Dutch province and one of the many regions where the original conical 'Kegel' luminaire remains very popular. This classical shape is now refreshed to provide an aesthetic continuity while generating massive energy savings.

FRIZA ensures photometric performance and comfort (low glare) to offer safety and well-being in the public space. The robust design of the FRIZA luminaire guarantees maintained performance over time.

IP 66 | IK 08 | 005 certification

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

Concept

The base section and main body of the FRIZA luminaire are made of high-pressure die-cast aluminium, with a polycarbonate protector and an injected plastic canopy.

The design of the FRIZA luminaire guarantees an IP 66 tightness level to maintain performance over time.

FRIZA is equipped with the LensoFlex®2 photometric engine. Thanks to modules of 8 LEDs (from 8 to 32) and numerous lighting distributions, FRIZA can light various landscapes such as urban and residential streets, bike paths, squares, pedestrian areas or car parks. FRIZA is available with a polycarbonate striated or clear protector. Combined with an internal diffusor, it creates a nice visual effect while considerably reducing glare. In every situation, FRIZA ensures photometric performance, safety and well-being in the public space.

Reliable, efficient and robust, the FRIZA luminaire is supplied pre-cabled for an easy installation. There is no need to open the luminaire during the installation.

FRIZA is designed for post-top mounting on Ø60mm spigots.

The canopy can be opened for maintenance by unscrewing 4 captive screws. An integrated hinge retains the canopy and prevents it from falling when opened. It gives direct access to the gear plate.

This connected-ready luminaire is compatible with standard NEMA 7-pins or Zhaga sockets, enabling easy access to the digital era of lighting with advanced lighting features that plan, monitor and control outdoor lighting networks.

FRIZA ensures high visual effect thanks to its internal diffusor combined with its clear protector.

The FRIZA luminaire provides performance and comfort with its striated protector.

FRIZA offers a slip-over mounting onto Ø60mm spigots.

As an option, this luminaire can be equipped with standard 7-pins NEMA or Zhaga sockets.

TYPES OF APPLICATION

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

KEY ADVANTAGES

- Cost effective lighting solution for creation of ambiance
- Right lighting through LensoFlex®2 offering high performance photometry, comfort and safety
- IP 66 tightness level for long lasting performance
- Supplied pre-cabled to facilitate its installation
- FutureProof: easy replacement of the photometric engine and electronic assembly
- Based on open and interoperable standards
- Compatible with the Schréder EXEDRA control platform
- Zhaga-D4i certified

FRIZA | Striated protector (with or without internal diffusor)

FRIZA | Clear protector (with internal diffusor)

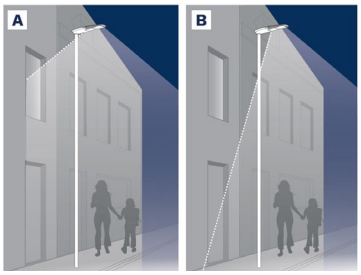
LensoFlex®2

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.

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.

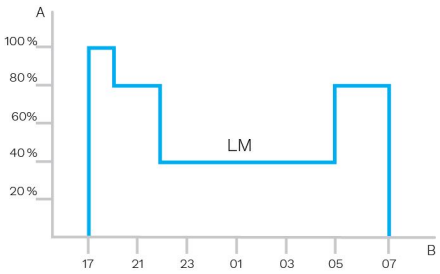


A. Without Back Light control | B. With Back Light control

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.

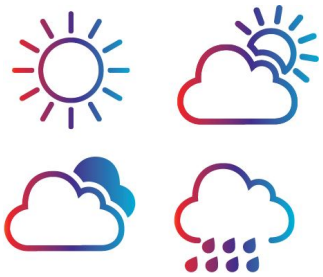
The period between switching on and switching off is used to activate the preset dimming profile. The customised dimming system generates maximum energy savings while respecting the required lighting levels and uniformity throughout the night.



A. Dimming level | B. Time

Daylight sensor / photocell

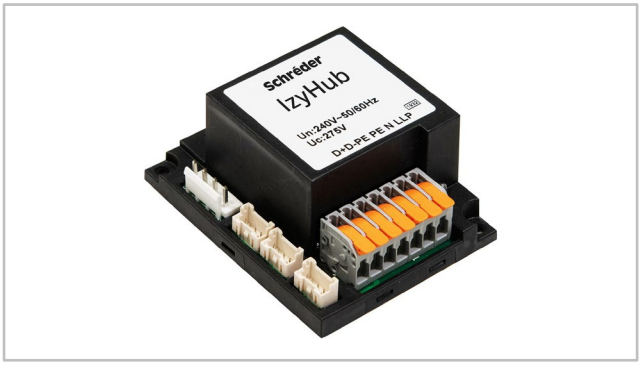
Photocell or daylight sensors switch the luminaire on as soon natural light falls to a certain level. It can be programmed to switch on during a storm, on a cloudy day (in critical areas) or only at nightfall so as to provide safety and comfort in public spaces.



IzyHub

IzyHub is an innovative device that aims to keep luminaire installation and maintenance hassle-free. This single central connection hub distributes electricity and control information to all parts of the luminaire, ensuring that all components work together and offering reliable, long-term performance.

Its compact size and error-proof connections enable smaller and lighter luminaires that are easier to maintain and upgrade.



Surge Protection

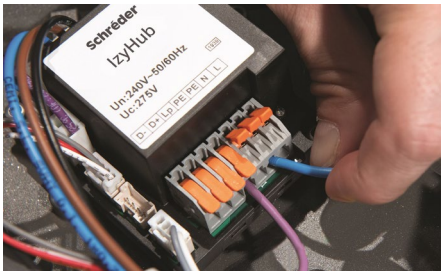
IzyHub features a built-in surge protection device. This prevents electrical surges resulting from lightning strikes and other transient voltages that originate from the mains network from damaging the luminaire, even in the most demanding conditions. The protective device also includes an end-of-life LED warning light, indicating that the luminaire is protected correctly.

User-friendly

Installing a luminaire has never been easier. IzyHub features tool-free connector as the main connection terminal. It enables 30% shorter installation times compared with standard solutions. Lever actuated spring-loaded electrical connectors provide optimal contact throughout the entire life of the product.

Easy maintenance

On the rare occasion that a component needs to be replaced in the luminaire, IzyHub makes sure that operations are carried out quickly and easily. Luminaire component connections are keyed so that mixing up electrical connections is physically impossible. Installers do not need to trace wires individually: plug it in, and it works straight away.



Versions and upgrades

IzyHub has several versions featuring different connectivity options.

IzyHub can include an SPD, can work with external dimming and operate with all type of control sockets. It is also able to provide bi-power control and to include fuse options.

These options provide flexibility for future upgrades by only having to replace the IzyHub to connect the new equipment. No complicated re-wiring needed.

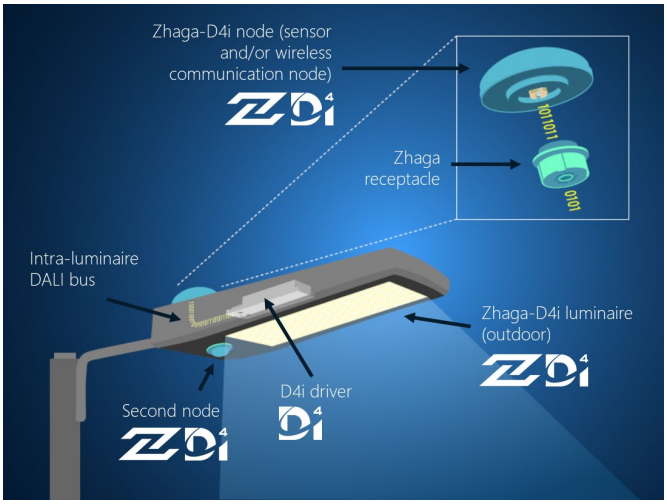
The Zhaga consortium joined forces with the DiiA and produced a single Zhaga-D4i certification that combines the Zhaga Book 18 version 2 outdoor connectivity specifications with the DiiA's D4i specifications for intra-luminaire DALI.

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.

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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	3m to 5m | 10' to 16'
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
Zhaga-D4i certified	Yes
French law of December 27th 2018 - Compliant with application type(s)	b, c, d, f, g
BE 005 certified	Yes
Testing standard	LM 79-08 (all measurements in ISO17025 accredited laboratory)

HOUSING AND FINISH

Housing	Aluminium
Optic	PMMA
Protector	Polycarbonate
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	Direct access to the gear compartment by loosening screws on the top cover By loosening screws on the top cover

· Any other RAL or AKZO colour upon request

OPERATING CONDITIONS

Operating temperature range (Ta)	-30°C up to +40°C / -22°F up to 104°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	220-240V – 50-60Hz
Power factor (at full load)	0.9
Surge protection options (kV)	10
Electromagnetic compatibility (EMC)	EN 55015 / EN 61000-3-2 / EN 61000-3-3 / EN 61547
Control protocol(s)	1-10V, DALI
Control options	Bi-power, Custom dimming profile, Remote management
Socket	Zhaga (optional) NEMA 7-pin (optional)
Associated control system(s)	Schréder EXEDRA

OPTICAL INFORMATION

LED colour temperature	2700K (WW 727) 3000K (WW 730) 3000K (WW 830) 4000K (NW 740)
Colour rendering index (CRI)	>70 (WW 727) >70 (WW 730) >80 (WW 830) >70 (NW 740)
ULOR	<5%
ULR	<5%

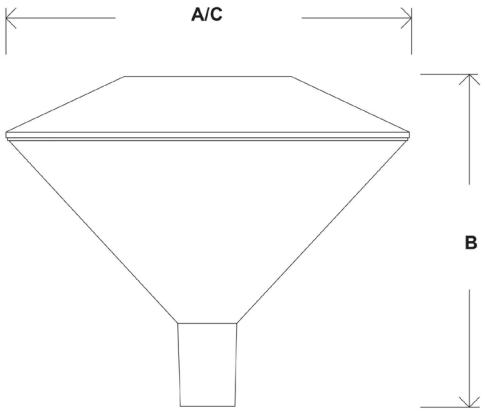
· ULOR may be different according to the configuration. Please consult us.
· ULR may be different according to the configuration. Please consult us.

LIFETIME OF THE LEDS @ TQ 25°C

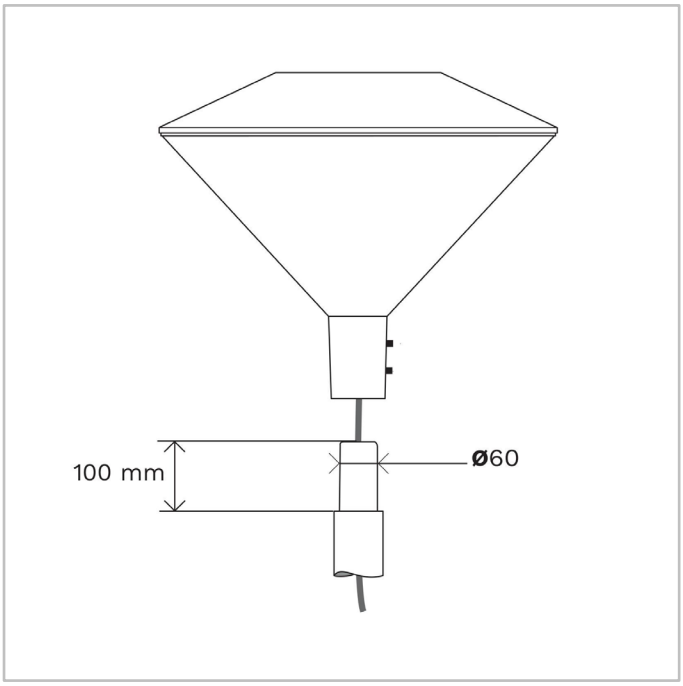
All configurations	100,000h - L90

DIMENSIONS AND MOUNTING

AxBxC (mm | inch)	564x462x564 | 22.2x18.2x22.2
Weight (kg | lbs)	9 | 19.8
Aerodynamic resistance (CxS)	0.08
Mounting possibilities	Post-top slip-over – Ø60mm



FRIZA | Slip-over mounting Ø60mm - 2XM8 screws



			Luminaire output flux (lm) Warm White 727		Luminaire output flux (lm) Warm White 730		Luminaire output flux (lm) Warm White 830		Luminaire output flux (lm) Neutral White 740		Power consumption (W)	Luminaire efficacy (lm/W)	
Luminaire	Number of LEDs	Current (mA)	Min	Max	Min	Max	Min	Max	Min	Max		Up to	Photometry
FRIZA	8	350	800	1000	900	1100	800	1000	1000	1200	10.4	115	LENSO FLEX°2
	8	500	1200	1400	1200	1500	1200	1400	1300	1600	14.3	112	LENSO FLEX°2
	8	600	1400	1700	1400	1800	1400	1700	1600	1900	17.1	111	LENSO FLEX°2
	8	700	1500	1900	1600	2000	1500	1900	1800	2200	20	110	LENSO FLEX°2
	16	350	1700	2100	1800	2200	1700	2100	2000	2400	18.3	131	LENSO FLEX°2
	16	400	1900	2400	2000	2500	1900	2400	2200	2700	20.8	130	LENSO FLEX°2
	16	500	2400	2900	2500	3000	2400	2900	2700	3300	25.9	127	LENSO FLEX°2
	16	600	2800	3400	2900	3600	2800	3400	3200	3900	31.1	125	LENSO FLEX°2
	16	700	3100	3900	3300	4100	3100	3900	3600	4400	36.4	121	LENSO FLEX°2
	32	350	3400	4200	3600	4400	3400	4200	4000	4900	34.1	144	LENSO FLEX°2
	32	400	3900	4700	4100	5000	3900	4700	4500	5500	39	141	LENSO FLEX°2
	32	500	4700	5800	5000	6100	4700	5800	5400	6600	49	135	LENSO FLEX°2

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

LENSO FLEX 2

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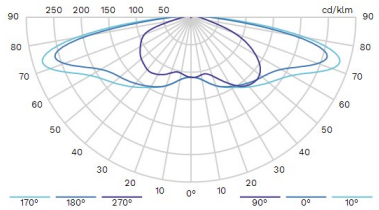

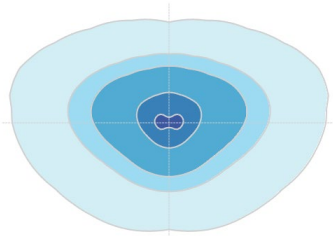

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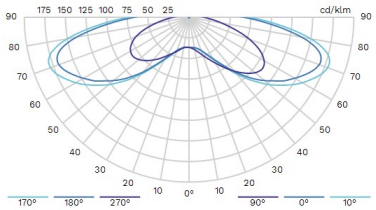

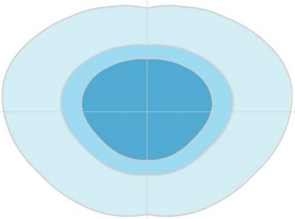

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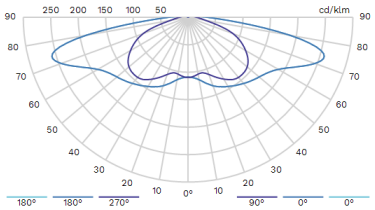

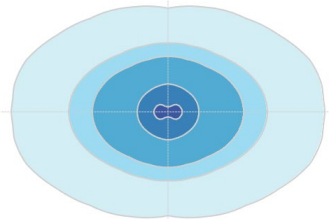

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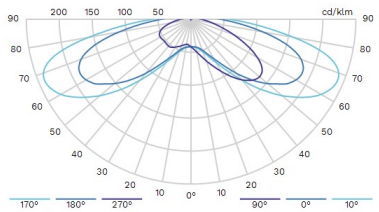

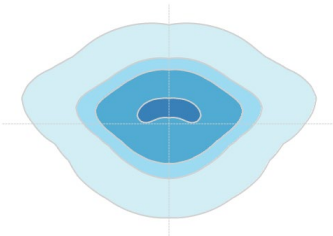

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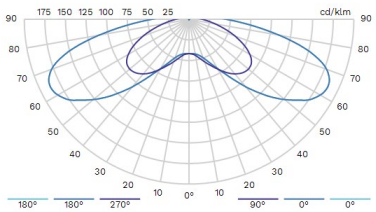

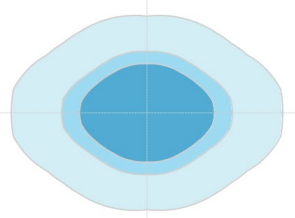

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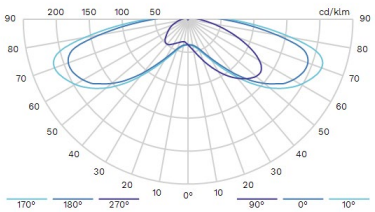

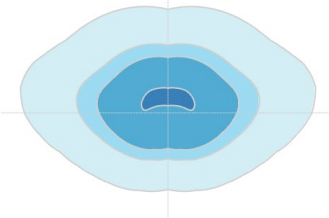

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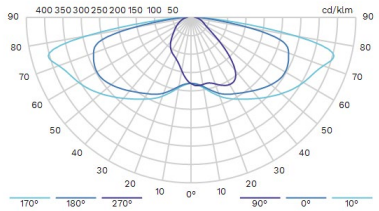

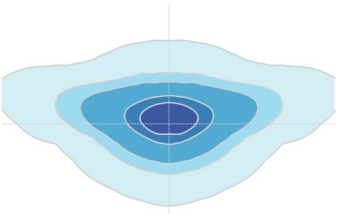

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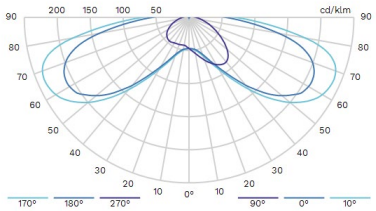

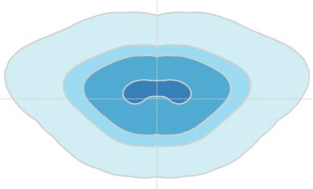

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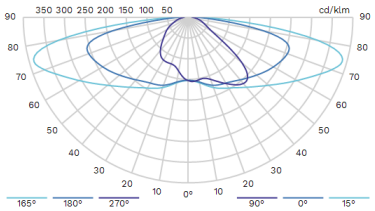

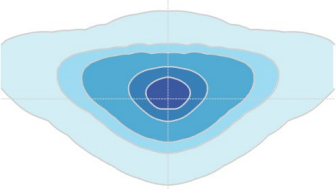

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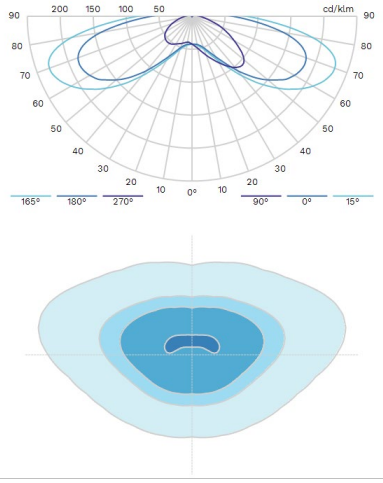

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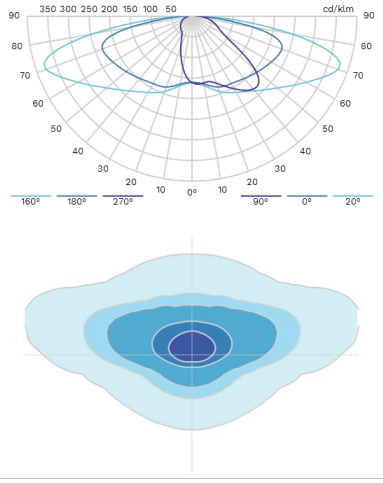

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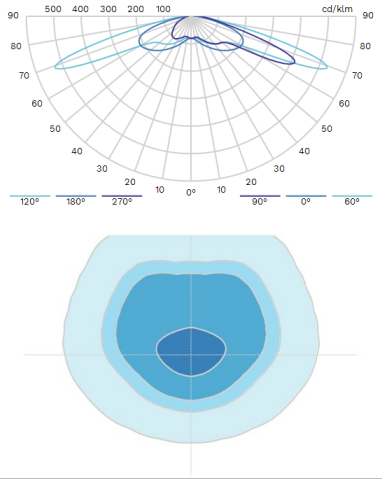

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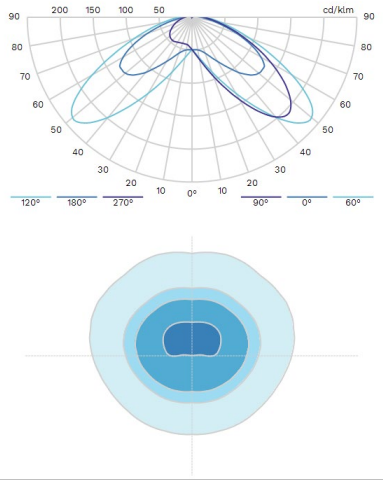

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