

AVENTO



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



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 Schröder. 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

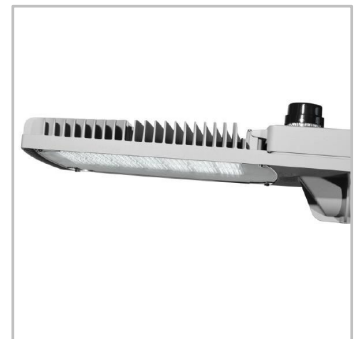
- URBAN & RESIDENTIAL STREETS
- BIKE & PEDESTRIAN PATHS
- RAILWAY STATIONS & METROS
- CAR PARKS
- LARGE AREAS
- SQUARES & PEDESTRIAN AREAS
- ROADS & MOTORWAYS

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.

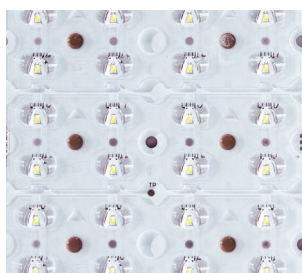


AVENTO can be delivered with a shorting cap to add IoT features at any time in the future.



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.

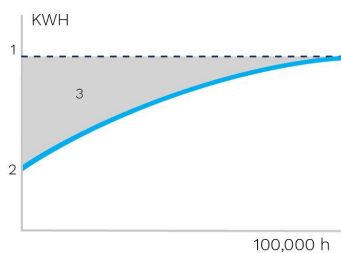




Constant Light Output (CLO)

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.



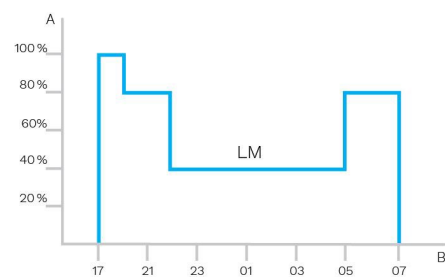
1. Standard lighting level | 2. LED lighting consumption with CLO | 3. Energy savings



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.

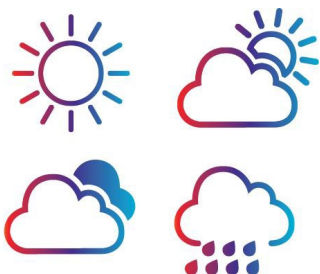


A. Dimming level | B. Time



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.



Schröder 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

Schröder 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 Schröder EXEDRA system relies on shared and open technologies. Schröder 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

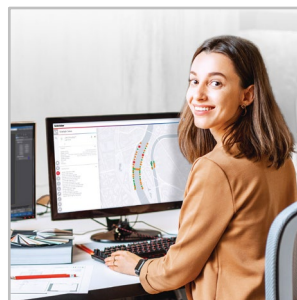
With EXEDRA, Schröder has taken a technology-agnostic approach: we rely on open standards and protocols to design an architecture able to interact seamlessly with third-party software and hardware solutions. Schröder EXEDRA is designed to unlock complete interoperability, as it offers the ability to:

- 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 Schröder EXEDRA, operate Schröder'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

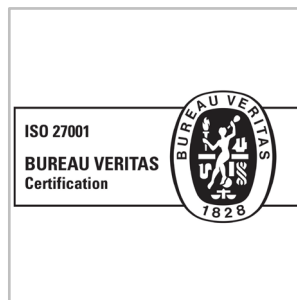


Schröder EXEDRA includes all advanced features needed for smart device management, real-time and scheduled control, dynamic and automated lighting scenarios, maintenance and field operation planning, energy consumption management and third-party connected hardware integration. It is fully configurable 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

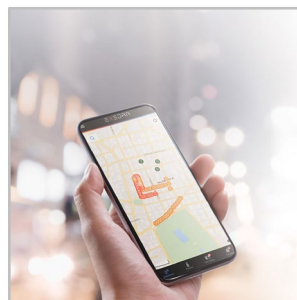
Data is gold. Schröder EXEDRA brings it with all the clarity managers need to drive decisions. The platform collects massive amounts of data from end devices and, aggregates, analyses and intuitively displays them to help end-users take the right actions.

Protected on every side



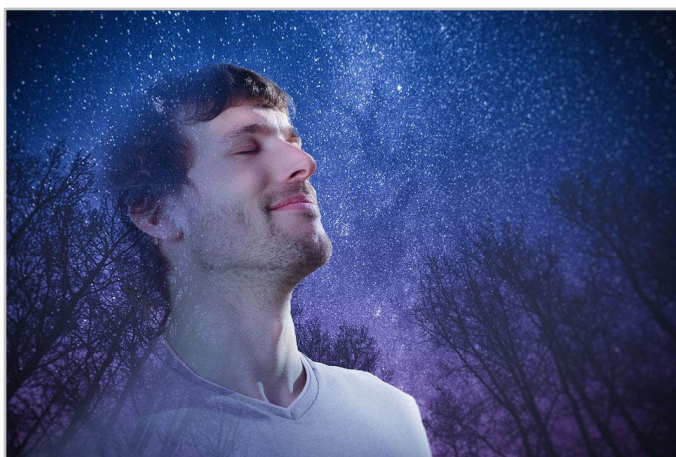
Schröder EXEDRA provides state-of-the-art data security with encryption, hashing, tokenisation, and key management practices that protect data across the whole system and its associated services. The whole platform is ISO 27001 certified. It demonstrates that Schröder EXEDRA meets the requirements for establishing, implementing, maintaining and continually improving security management.

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

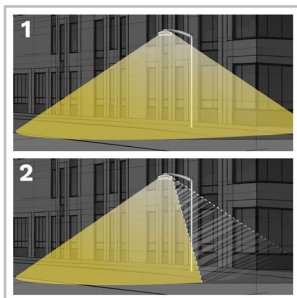


The Schröder EXEDRA mobile application offers the essential functionalities of the desktop platform, to accompany all types of operator on site in their daily effort to maximise the potential of connected lighting. It enables real-time control and settings, and contributes to effective maintenance.

With the PureNight concept, Schröder 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 Schröder lighting solution satisfies environmental laws and requirements. Well-designed LED lighting has the potential to improve the environment in all respects.



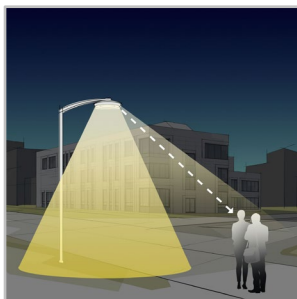
Direct the light only where it is wanted and needed



Schröder 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.

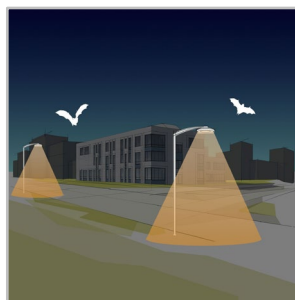
1. Without backlight
2. With backlight

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. Schröder 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. Schröder 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



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 Schröder range of luminaires complies with these requirements.

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
Dark Sky friendly lighting (IDA certification)	Yes
French law of December 27th 2018 - Compliant with application type(s)	a, b, c, d, e, f, g
RCM mark	Yes
Testing standard	EN 60598-1 LM 79-08 (all measurements in ISO17025 accredited laboratory) EN 60598-2-3:2003/A1:2011

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

ELECTRICAL INFORMATION

Electrical class	Class 1 US, 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)	Schröder 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%

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

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

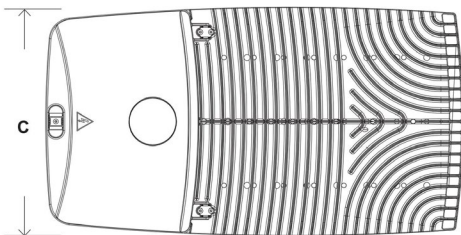
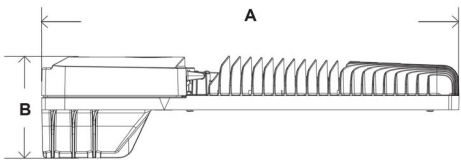
· ULR may be different according to the configuration. Please consult us.

LIFETIME OF THE LEDS @ TQ 25°C

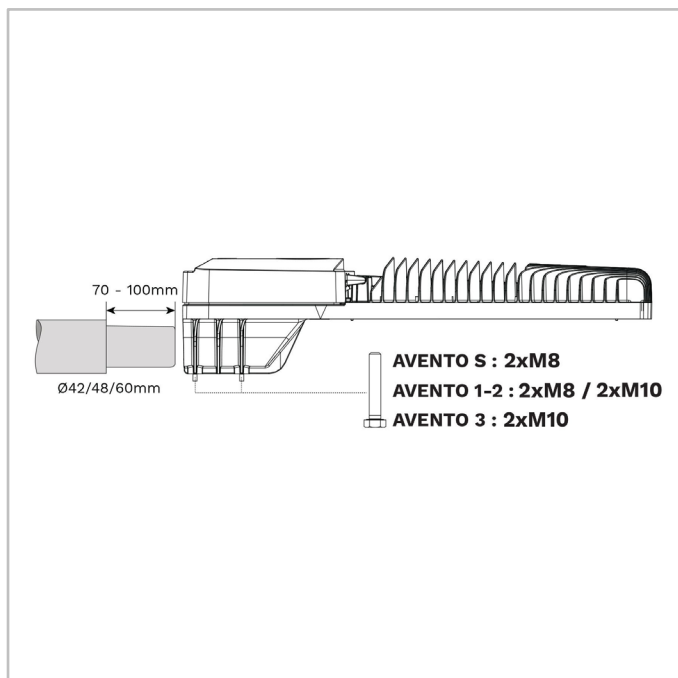
All configurations	100,000h - L90
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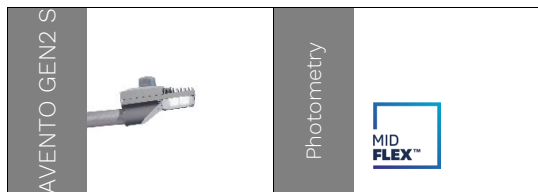
DIMENSIONS AND MOUNTING

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)					Power consumption (W)		Luminaire efficacy (lm/W)
Warm White 730			Neutral White 740				
Number of LEDs	Min	Max	Min	Max	Min	Max	Up to
48	2400	4700	2400	4800	18	38	145
96	4800	9500	5000	9700	35	74	153

Tolerance on LED flux is $\pm 7\%$ and on total luminaire power $\pm 5\%$



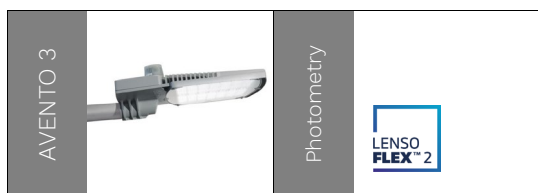
	Luminaire output flux (lm)				Power consumption (W)		Luminaire efficacy (lm/W)
	Warm White 730		Neutral White 740				
Number of LEDs	Min	Max	Min	Max	Min	Max	Up to
96	9000	9400	9300	9600	71	71	136
144	13600	14100	14000	14400	106	106	137
192	18100	18800	18600	19300	141	141	137

Tolerance on LED flux is $\pm 7\%$ and on total luminaire power $\pm 5\%$



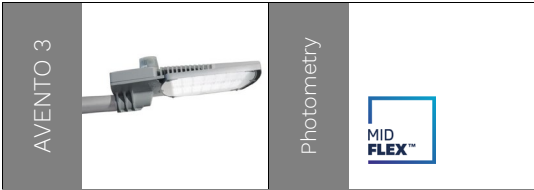
Luminaire output flux (lm)					Power consumption (W)		Luminaire efficacy (lm/W)
Warm White 730		Neutral White 740					
Number of LEDs	Min	Max	Min	Max	Min	Max	Up to
240	22900	23500	23500	24100	174	174	139
288	27500	28200	28200	29000	216	222	134
336	32100	32900	33000	33800	250	250	135

Tolerance on LED flux is $\pm 7\%$ and on total luminaire power $\pm 5\%$



		Luminaire output flux (lm)						Power consumption (W)		Luminaire efficacy (lm/W)
		Warm White 730		Warm White 830		Neutral White 740				
Number of LEDs	Min	Max	Min	Max	Min	Max	Min	Max	Up to	
144	24600	38000	21800	33700	26700	41200	218	308	144	
192	32800	50700	29100	44900	35600	54900	284	402	147	

Tolerance on LED flux is $\pm 7\%$ and on total luminaire power $\pm 5\%$



Luminaire output flux (lm)					Power consumption (W)		Luminaire efficacy (lm/W)
Warm White 730		Neutral White 740					
Number of LEDs	Min	Max	Min	Max	Min	Max	Up to
384	27100	37400	27900	38400	202	290	144
480	33900	46800	34800	48000	246	356	147
576	40700	56200	41800	57600	292	422	149
672	47900	65500	49100	67200	342	490	150

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

