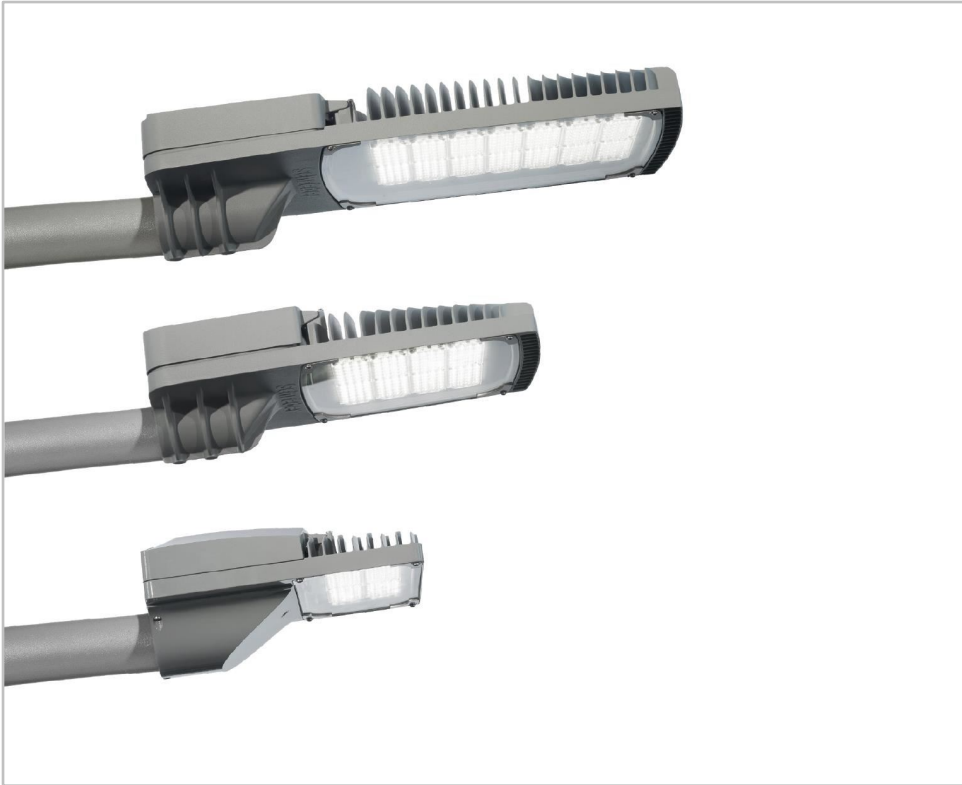


# Avento



## The budget-friendly high efficacy solution

Compact yet powerful, light yet robust, affordable yet highly efficient, the Avento provides the fastest return on investment for road and area lighting. The 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.

The Avento is available in three 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. The 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 10	IK 09



## Concept

The Avento range combines the energy efficiency of LED technology with the photometric performance of the MidFlex™ concept developed by Schröder. This photometric engine provides the highest efficiency in a very compact optical compartment. 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. 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 1 and Avento 2 are delivered with a covered mounting part while Avento S is available with an optional black polypropylene accessory to cover the mounting part.

The Avento is designed for side-entry mounting with a universal fixation for spigots from Ø42 to Ø60mm (1.5" to 2"). The Avento S can also be adjusted on-site in 5° angles (-10° to +5°). To ease maintenance operations, Avento 1 and Avento 2 offer a tool free access to the gear compartment.

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



Avento 1 and Avento 2 provide a 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
- BRIDGES
- 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
- 3 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
- IoT ready: optional 7-pin NEMA socket



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



The 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.

The proven LensoFlex®2 concept includes a glass protector to seal the LEDs and lenses into the luminaire body.



## MidFlex™

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.

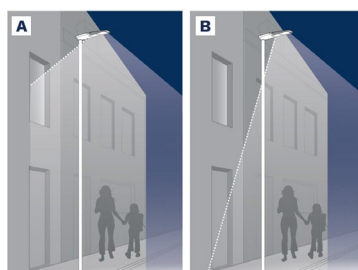
The MidFlex™ photometric engines offers excellent efficiency for a sustainable performance.



## Back Light control

As an option, the LensoFlex®2 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.



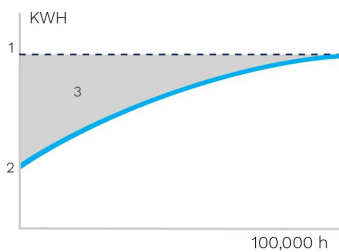
A. Without Back Light control | B. With Back Light control



### 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.



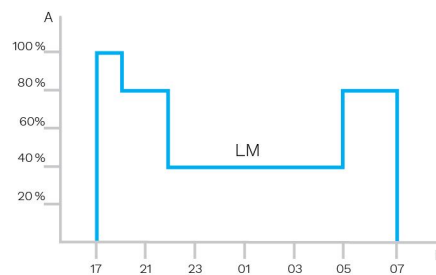
1. Standard lighting level | 2. LED lighting consumption with CLO | 3. Energy savings



### 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.

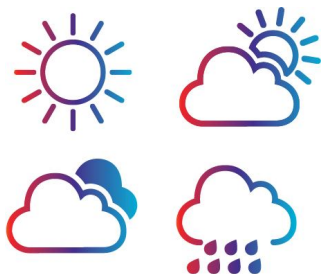


A. Performance | B. Time



### 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.



# Owlet IoT

Owlet IoT remotely controls luminaires in a lighting network, creating opportunities for improved efficiency, accurate real-time data and energy savings of up to 85%.



## ALL-IN-ONE

The LUCO P7 CM controller includes the most advanced features for optimised asset management. It also provides an integrated photocell and operates with an astronomical clock for seasonal dimming profile adaptations.

## EASY TO DEPLOY

Thanks to wireless communication, no cabling is needed. The network is not subject to physical constraints or limitations. From a single control unit to an unlimited network, you can expand your lighting scheme at any time. With real-time geolocation and automatic detection of luminaire features, commissioning is quick and easy.

## USER-FRIENDLY

Once a controller is installed on a luminaire, the luminaire automatically appears with its GPS coordinates on a web-based map.

An easy-to-use dashboard enables each user to organise and customise screens, statistics and reports. Users can gain relevant, real-time insights.

The Owlet IoT web application can be accessed at all times from anywhere in the world with a device connected to the Internet. The application adapts to the device to offer an intuitive and user-friendly experience.

Real-time notifications can be pre-programmed to monitor the most important elements of the lighting scheme.



Plugging the LUCO P7 CM controller onto the 7-pin NEMA socket

## SECURE

The Owlet IoT system uses a local wireless mesh communication networks to control the on-site luminaires combined with a remote control system utilising the cloud to ensure smooth data transfers to and from the central management system.

The system uses encrypted IP V6 communication to protect data transmission in both directions. Using a secure APN, Owlet IoT ensures a high level of protection.

In the exceptional case of a communication failure, the built-in astronomical clock and photocell will take over to switch the luminaires on and off, thus avoiding a complete blackout at night.

## EFFICIENT

Thanks to sensors and/or pre-programmed settings, lighting scenarios can be easily adapted to cope with live events, providing the right lighting levels at the right time and in the right place.

The integrated utility grade meter offers the highest accuracy available on the market today, enabling decisions based on real figures.

Accurate real-time feedback and clear reporting ensures that the network operates efficiently and maintenance is optimised.

When LED luminaires are switched on, the inrush current can create problems for the electricity grid. Owlet IoT incorporates an algorithm to preserve the grid at all times.

## OPEN

The LUCO P7 CM controller can be plugged onto the standard 7 pin NEMA socket and operates through either a DALI or 1-10V interface to control the luminaire.

Owlet IoT is based on the IPv6 protocol. This method for addressing devices can generate an almost unlimited number of unique combinations to connect non-traditional components to the Internet or computer network.

Through open APIs, Owlet IoT can be integrated into existing or future global management systems.

## GENERAL INFORMATION

Recommended installation height	4m to 12m   13' to 39'
Driver included	Yes
CE Mark	Yes
ENEC+ certified	Yes
ROHS compliant	Yes
Testing standard	LM 79-08 (all measurements in ISO17025 accredited laboratory)

## 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, IK 10
Vibration test	Compliant with modified IEC 68-2-6 (0.5G)
Access for maintenance	Toolless access to gear compartment

- Any other RAL or AKZO colour upon request
- Avento S: access to the gear compartment by unscrewing 2 screws
- IK may be different according to the size/configurations. Please consult us.

## OPERATING CONDITIONS

Operating temperature range (Ta)	-40 °C up to +55 °C / -40 ° F up to 131 °F
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- 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 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 option(s)	NEMA 3-pin (optional) NEMA 7-pin (optional)
Associated control system(s)	Owlet IoT

## OPTICAL INFORMATION

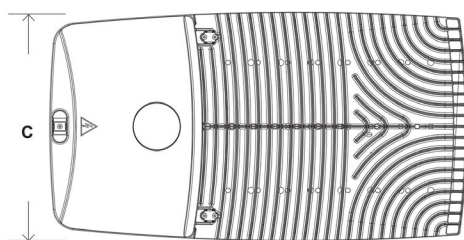
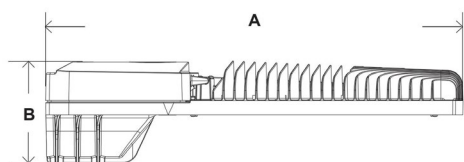
LED colour temperature	2700K (Warm White 727) 3000K (Warm White 730) 4000K (Neutral White 740)
Colour rendering index (CRI)	>70 (Warm White 727) >70 (Warm White 730) >70 (Neutral White 740)
Upward Light Output Ratio (ULOR)	0%

## LIFETIME OF THE LEDS @ TQ 25°C

All configurations	100,000h - L85
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## DIMENSIONS AND MOUNTING

AxBxC (mm   inch)	AVENTO S - 335x85x308   13.2x3.3x12.1 AVENTO 1 - 485x114x310   19.1x4.5x12.2 AVENTO 2 - 655x159x359   25.8x6.3x14.1
Weight (kg   lbs)	AVENTO S - 5   11.0 AVENTO 1 - 8.1   17.8 AVENTO 2 - 11.7   25.7
Aerodynamic resistance (CxS)	AVENTO S - 0.06 AVENTO 1 - 0.04 AVENTO 2 - 0.06
Mounting possibilities	Side-entry slip-over - $\varnothing$ 42mm Side-entry slip-over - $\varnothing$ 48mm Side-entry slip-over - $\varnothing$ 60mm





Luminaire	Number of LEDs	Current (mA)	Luminaire output flux (lm) Warm White 727		Luminaire output flux (lm) Warm White 730		Luminaire output flux (lm) Neutral White 740		Power consumption (W)	Luminaire efficacy (lm/W)	Photometry
			Min	Max	Min	Max	Min	Max			
AVENTO S	16	500	2400	2900	2600	3000	2800	3300	26.3	125	
	16	600	2900	3400	3000	3600	3300	3900	31.2	125	
	16	700	3300	3900	3400	4100	3800	4400	36.4	121	
	16	800	3600	4300	3800	4500	4200	5000	41.5	120	
	16	900	4000	4700	4200	5000	4600	5400	47	115	
	16	1000	4300	5100	4500	5400	5000	5900	52	113	
	24	350	2700	3200	2800	3300	3100	3700	26.5	140	
	24	400	3000	3600	3200	3800	3500	4100	30.3	135	
	24	500	3700	4400	3900	4600	4200	5000	38.1	131	
	24	600	4300	5100	4500	5400	5000	5900	45.5	130	
	24	700	4900	5800	5200	6100	5700	6700	53.5	125	
	24	800	5500	6500	5700	6800	6300	7500	61.5	122	
	24	900	6000	7100	6300	7500	6900	8200	69.5	118	
	24	1000	6500	7700	6800	8100	7500	8900	78	114	
	48	83	-	-	3100	3200	3200	3300	26.5	125	
	48	100	-	-	3600	3700	3800	3900	31.7	123	
	48	117	-	-	4100	4200	4300	4400	37	119	
	48	133	-	-	4500	4700	4700	4900	42.5	115	
	48	143	-	-	4800	4900	5000	5200	44.5	117	
	48	150	-	-	4900	5100	5200	5300	48	110	
	96	83	-	-	6200	6400	6500	6700	50	134	
96	100	-	-	7200	7500	7600	7800	61	128		
96	117	-	-	8200	8500	8600	8900	71	125		

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





Luminaire	Number of LEDs	Current (mA)	Luminaire output flux (lm) Warm White 727		Luminaire output flux (lm) Warm White 730		Luminaire output flux (lm) Neutral White 740		Power consumption (W)	Luminaire efficacy (lm/W)	Photometry
			Min	Max	Min	Max	Min	Max			
AVENTO 1	96	116	-	-	8300	8600	8700	9000	73	127	
	144	116	-	-	12500	13100	13100	13700	110	132	
	192	116	-	-	16700	17400	17500	18200	143	131	

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



Luminaire	Number of LEDs	Current (mA)	Luminaire output flux (lm) Warm White 727		Luminaire output flux (lm) Warm White 730		Luminaire output flux (lm) Neutral White 740		Power consumption (W)	Luminaire efficacy (lm/W)	Photometry
			Min	Max	Min	Max	Min	Max			
AVENTO 2	240	116	-	-	20900	22000	21800	23100	178	136	
	288	116	-	-	25100	26400	26200	27600	211	131	
	336	116	-	-	29200	30600	30600	32000	244	131	

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

