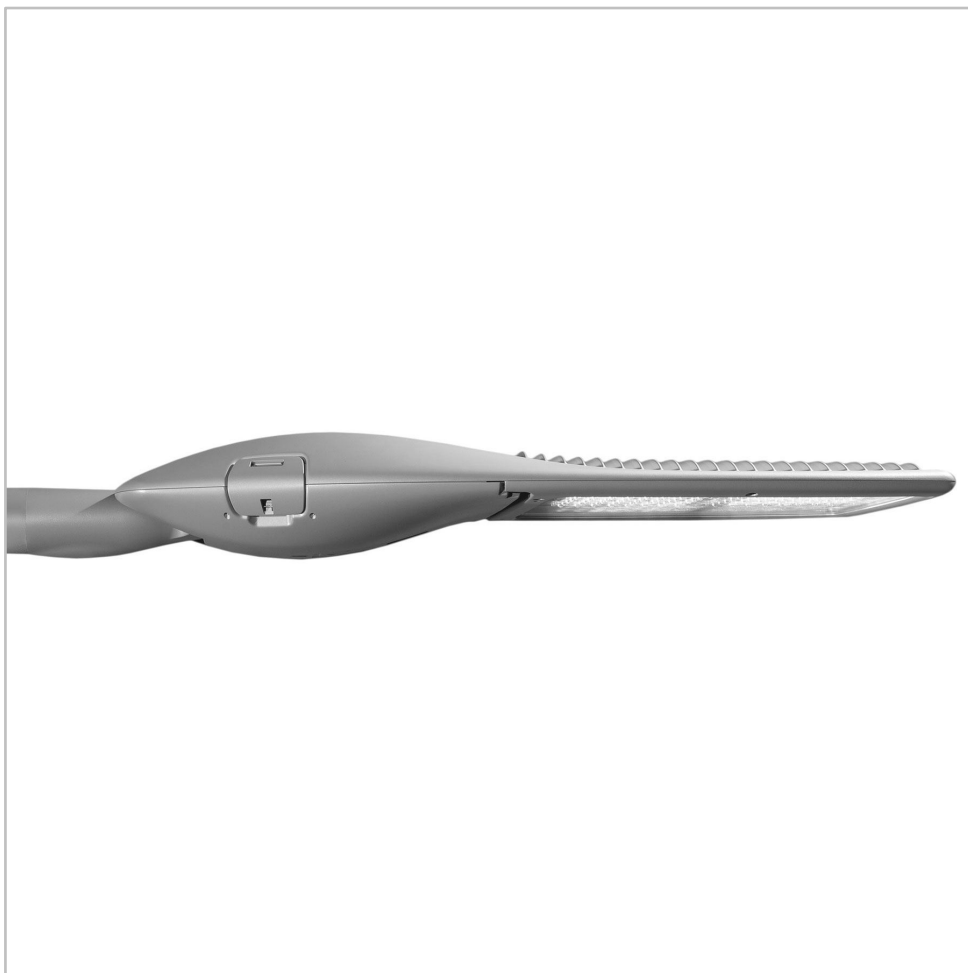


AMPERA



Designer : Thomas Coulbeaut



LED solution for an optimised return on investment

Designing the most efficient and cost-effective LED range was the driving force behind the development of the AMPERA.

The AMPERA sets a new benchmark in LED lighting with performing and flexible solutions that lead to the shortest payback time. With its long lifespan and limited maintenance requirements, the AMPERA enables you to maximise your return on investment.

AMPERA is the perfect solution for replacing luminaires fitted with mercury vapour, high-pressure sodium, metal halide and other HID lamps.

AMPERA provides significant energy savings for replacing luminaires with 150W and 250W lamps.



BRIDGES



CAR PARKS



LARGE AREAS



ROADS &
MOTORWAYS



IP 66

IK 09



005

certification

Concept

The AMPERA luminaire comes in two separate high-pressure die cast aluminium parts for an easy installation. Fixed on a pole with an universal mounting piece, the inclination angle - in the lower part - can be adjusted before installing the upper part which incorporates the gear and optical unit.

Both parts are connected by two tool free side latches. The electrical connection is automatically triggered on closing by a knife-type connector.

AMPERA is available with three different universal fixation parts adapted for post-top and side-entry mountings on various spigot diameters (Ø42- 48mm, Ø60mm and Ø76mm). The inclination angle can be adjusted on-site by 15° for both post-top and side-entry configurations.

AMPERA is FutureProof. Both the LED engine and the electronic assembly can be replaced, without any tools, to take advantage of future technological developments.



Mounting with two separated parts for easy installation.



ThermiX®: withstands high temperatures.

TYPES OF APPLICATION

- BRIDGES
- CAR PARKS
- LARGE AREAS
- ROADS & MOTORWAYS

KEY ADVANTAGES

- Cost-effective and efficient lighting solution for a fast return on investment
- IP 66 tightness level
- ThermiX®: withstands high temperatures (Ta 50°C)
- Mounting with two separated parts for easy installation and set-up (inclination angle)
- FutureProof: easy replacement of photometric engine and power supply on-site
- Connected-ready for your future Smart city requirements



On-site adjustable tilting angle for an optimised result.

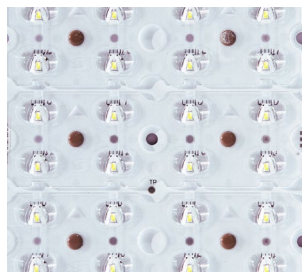


Easy access to internal components (tool-free opening).



LensoFlex®2

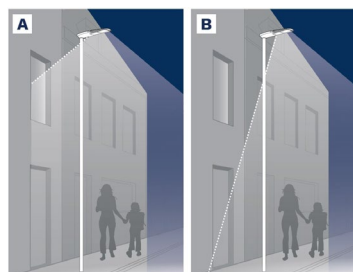
LensoFlex®2 is based upon the addition principle of photometric distribution. Each LED is associated with a specific PMMA lens that generates the complete photometric distribution of the luminaire. The number of LEDs in combination with the driving current determines the intensity level of the light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



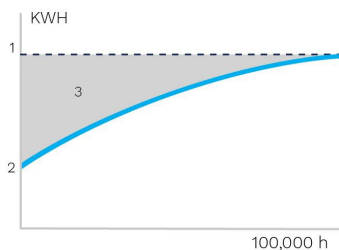
A. Without Back Light control | B. With Back Light control



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.



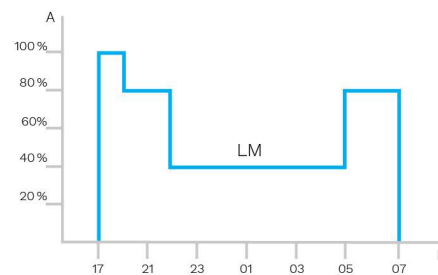
1. Standard lighting level | 2. LED lighting consumption with CLO | 3. Energy savings



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.

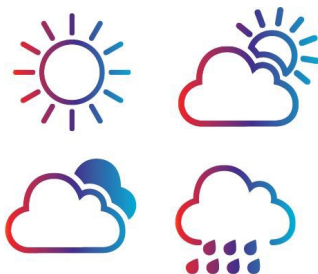


A. Dimming level | B. Time



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.



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 parameters 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.





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



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.

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.



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, Schröder 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

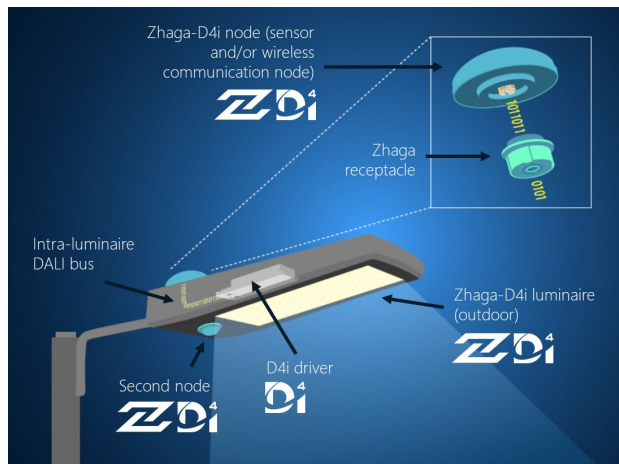
The Zhaga-D4i certification covers all the critical features including mechanical fit, digital communication, data reporting and power requirements within a single luminaire, ensuring plug-and-play interoperability of luminaires (drivers) and peripherals such as connectivity nodes.

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.



GENERAL INFORMATION

Recommended installation height	10m to 12m 33' to 39'
FutureProof	Easy replacement of the photometric engine and electronic assembly on-site
Circle Light label	Score ≥90 - The product fully meets circular economy requirements
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)	a, b, c, d, e, 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	Tempered glass
Housing finish	Polyester powder coating
Standard colour(s)	AKZO grey 900 sanded
Tightness level	IP 66
Impact resistance	IK 09
Vibration test	Compliant with modified IEC 68-2-6 (0.5G)
Access for maintenance	Tool-less access to gear compartment

· Any other RAL or AKZO colour upon request

OPERATING CONDITIONS

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

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

ELECTRICAL INFORMATION

Electrical class	Class 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 61000-4-3 / EN 61000-4-4 / EN 61000-4-5 / EN 61000-4-6 / EN 61000-4-11 / 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)	Schröder EXEDRA
Sensor	PIR (optional)

OPTICAL INFORMATION

LED colour temperature	2700K (WW 727) 3000K (WW 730) 3000K (WW 830) 4000K (NW 740) 5700K (CW 757)
Colour rendering index (CRI)	>70 (WW 727) >70 (WW 730) >80 (WW 830) >70 (NW 740) >70 (CW 757)
ULOR	0%
ULR	0%

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

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

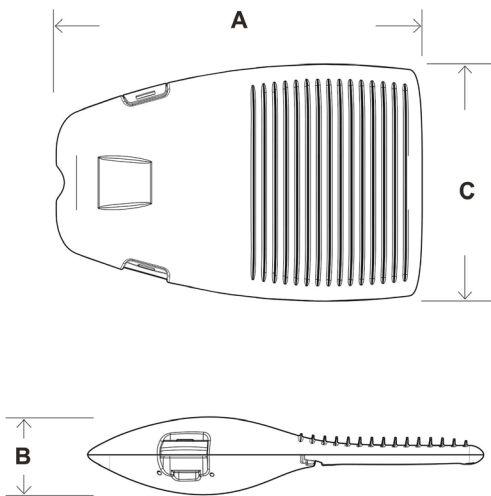
LIFETIME OF THE LEDS @ TQ 25°C

All configurations	100,000h - L90
--------------------	----------------

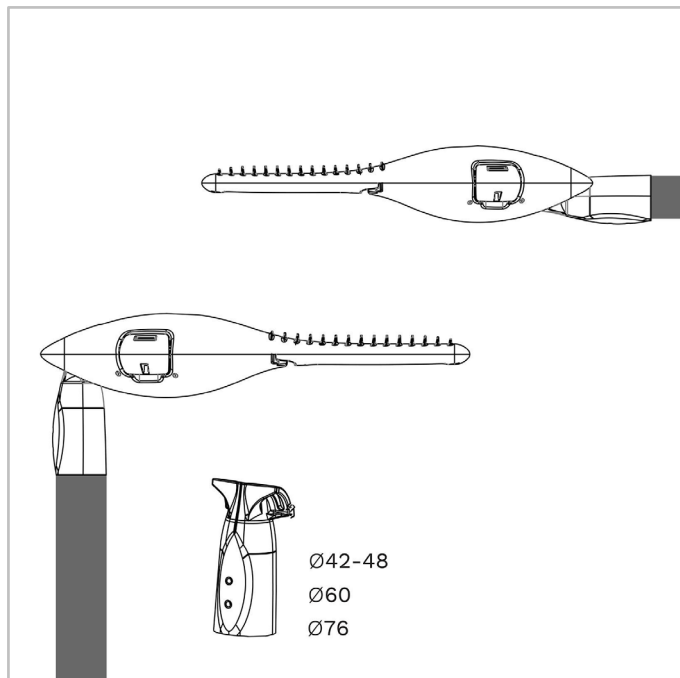
DIMENSIONS AND MOUNTING


AxBxC (mm inch)	AMPERA MAXI : 900x135x438 35.4x5.3x17.2
Weight (kg lbs)	AMPERA MAXI : 18.2 40.0
Aerodynamic resistance (CxS)	AMPERA MAXI : 0.18
Mounting possibilities	Side-entry slip-over – Ø42mm Side-entry slip-over – Ø48mm Side-entry slip-over – Ø60mm Side-entry slip-over – Ø76mm Post-top slip-over – Ø42mm Post-top slip-over – Ø48mm Post-top slip-over – Ø60mm Post-top slip-over – Ø76mm



























· For more information about mounting possibilities, please consult the installation sheet.



AMPERA | Slip-over mountings for Ø42-48,
Ø60 or Ø76mm spigots - 2xM10 screws





Luminaire	Number of LEDs	Current (mA)	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		Luminaire output flux (lm) Cool White 757		Power consumption (W)	Luminaire efficacy (lm/W)	Photometry
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max			
AMPERA MAXI	80	350	9300	11500	9800	12100	8500	10500	10400	12800	10400	12800	81	159	
	80	400	10600	13000	11100	13700	9600	11900	11800	14500	11800	14500	93	157	
	80	500	12800	15800	13400	16500	11700	14400	14300	17600	14300	17600	117	151	
	80	600	15200	18700	15900	19600	13900	17100	17000	20900	17000	20900	141	149	
	80	700	17400	21400	18200	22500	15900	19600	19400	23900	19400	23900	165	145	
	96	200	6400	7900	6800	8300	5900	7300	7200	8900	7200	8900	56	159	
	96	350	11200	13800	11700	14500	10200	12600	12500	15400	12500	15400	97	159	
	96	400	12700	15600	13300	16400	11600	14300	14200	17500	14200	17500	111	158	
	96	500	15600	19200	16300	20100	14200	17500	17400	21400	17400	21400	140	153	
	96	600	18200	22400	19100	23500	16600	20500	20300	25000	20300	25000	169	148	
	96	700	20600	25400	21600	26600	18800	23200	23000	28300	23000	28300	200	142	
	96	800	22900	28200	24000	29600	20900	25700	25500	31500	25500	31500	230	137	
	112	200	7700	9500	8100	10000	7000	8700	8600	10600	8600	10600	66.5	161	
	112	350	13100	16100	13700	16900	11900	14700	14600	18000	14600	18000	115	157	
	112	450	16400	20200	17200	21200	15000	18400	18300	22500	18300	22500	150	151	
	112	500	17900	22100	18800	23200	16400	20200	20000	24700	20000	24700	166	149	
	112	680	23100	28500	24300	29900	21200	26100	25800	31800	25800	31800	226	141	
	112	700	23700	29200	24900	30600	21700	26700	26500	32600	26500	32600	236	138	
	112	800	26200	32300	27500	33900	24000	29500	29300	36100	29300	36100	272	133	
	128	200	8800	10900	9200	11400	8100	9900	9800	12100	9800	12100	75	162	
	128	350	14900	18400	15700	19300	13700	16800	16700	20600	16700	20600	132	156	
	128	420	17600	21700	18500	22800	16100	19800	19700	24300	19700	24300	158	154	
	128	500	20500	25200	21500	26500	18700	23100	22900	28200	22900	28200	188	150	
	128	600	23900	29500	25100	30900	21900	26900	26700	32900	26700	32900	226	146	
	128	700	27100	33400	28400	35000	24800	30500	30300	37300	30300	37300	270	138	
	128	800	30000	36900	31400	38700	27400	33700	33500	41200	33500	41200	310	133	

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

