



LEDGEND[®]

LED luminaire for public
Roadway



An **Acuity** Brands Company



LEDGEND®

LED luminaire for public thoroughfares



We at Carandini and the companies in the Acuity Brands Lighting group are leaders in public street lighting systems and always use the market's latest technologies to achieve maximum

"Design, Functionality and Efficiency".

We present a high-performance roadway luminaire with a useful life of over 100,000 hours that promises to become a LEGEND.



Benefits

Prismatic glass optic

- Protects LEDs
- Aims light only where required
- Controls glare

Thermal management system

- The LEDs and sinks are self-ventilated
- Maximum driver performance
- Prolongation of the unit's useful life

Resulting photometry optimised for roads

- Accurate photometric distribution control
- Increases performance and efficacy
- Reduces glare

Environmentally friendly

- Total control of ULOR
- No light pollution

Complementary savings

- Optional 5% - 100% LED output regulation
- Classic bi-level dimming

Long useful life of the whole luminaire

- Over 100,000 hours with outside temperatures of 25°C
- Optional self-switching double driver for 100,000 hours of useful life

Anti-surge protector for temporary surges

- Features a lightning protector of up to 15 kA



Our presence on public thoroughfares is LEDgendary



Applications

- Avenues
- Side streets
- Residential estates
- Industrial estates
- Motorways
- Dual carriageways
- Roads
- Outdoor areas

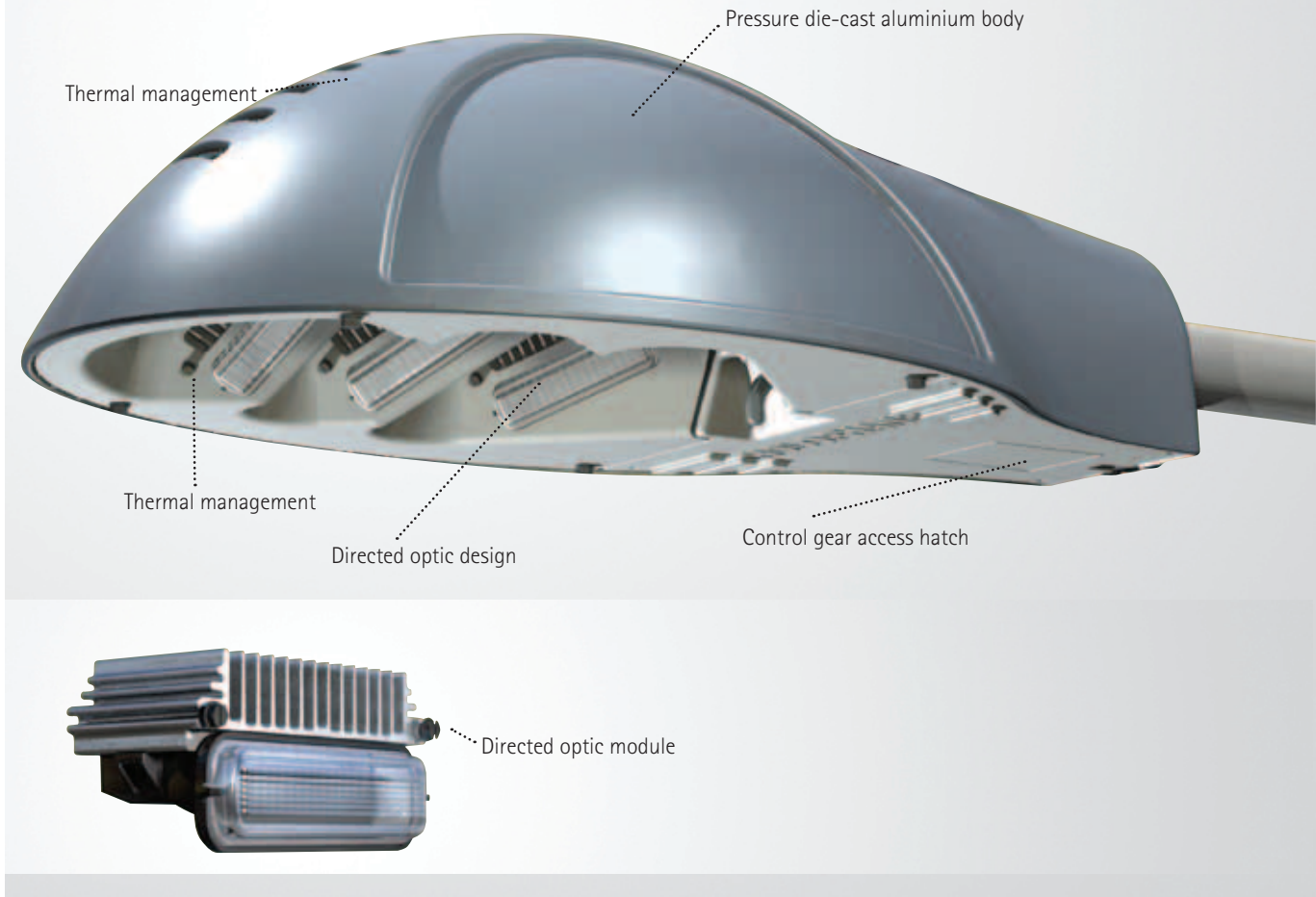
New LEDgend luminaires

We have applied all our know-how in developing an LED product that truly complies with market expectations for **"maximum output, greater photometric distribution, and maximum duration"**, to yield a quick return on investment.

We are guaranteed by our track record of over 90 years in public street lighting applications. The new LEDgend luminaires for public thoroughfares meet current requirements for sustainability and long-term performance, as they combine exceptional quality with excellent engineering. They therefore manage heat well, last longer and produce more light.

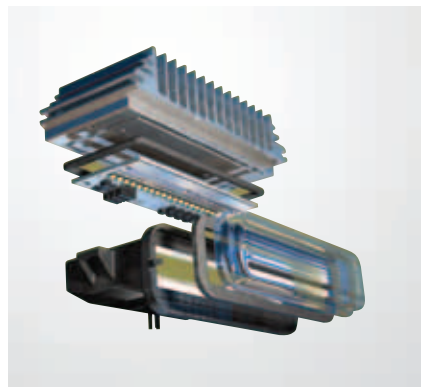
LEDgend luminaires are designed to improve visual comfort and guarantee the safety of both pedestrians and drivers. Its modular design facilitates updates in sections as LED technology advances, because modules may be replaced easily if technology improves.

LEDgendar Engineering



The die-cast body

is extremely tough and contains and protects the electronic driver, the optic and the other luminaire components.



Thermal management designed for elaborate, complex thermal dissipation that allows for convection and air conduction, and keeps the LED and the power source at a low temperature.

Directed optic design that provides accurate optical control by means of a high-performance reflector and prismatic glass refractor lenses.

The access hatch allows for tool-free access to the LED supply, to the connector strip, to the anti-surge module, and to the mounting bracket.

Thermal Management

The six directed LED modules are mounted on a white aluminium sheet plate, which is attached to the body at four points, and thus thermally insulated and protected from the sun's rays while allowing the passage of air by convection, cooling the system.



Mounting on the body



LED module mounting plate

Stainless steel protective guard that protects the internal cooling system and facilitates cooling air circulation.



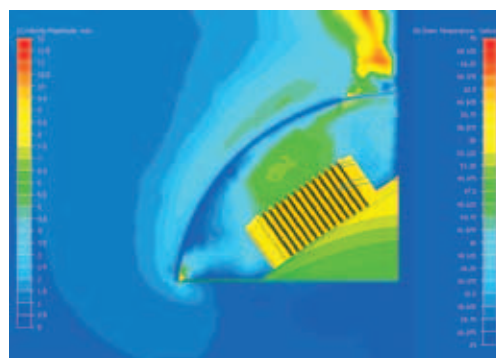
Controlled optimum thermal management reduces the temperature of the LED's gasket, thus increasing useful life and lumen output.

Electrical current that is not converted into light is transformed into heat in the semiconductor gasket. This produces an increase in temperature, which reduces performance and useful life of the LED. The temperature of the gasket is affected by the ambient temperature around the LEDs, the route taken by the heat on its way around the sink, the flow of air through the unit, and the outside ambient temperature.

work maintenance-free for at least 80,000 hours at an ambient temperature of 40°C and at 70% of the initial lumen output. If LEDgend operates at lower ambient temperatures of between 15°C and 25°C, its useful life will increase. (See technical data.)

LEDgend luminaires feature sophisticated thermal dissipation technology that provides air convection and conduction and maintains the LEDs and the driver at a low temperature. This guarantees a longer life, better performance and chromatic stability.

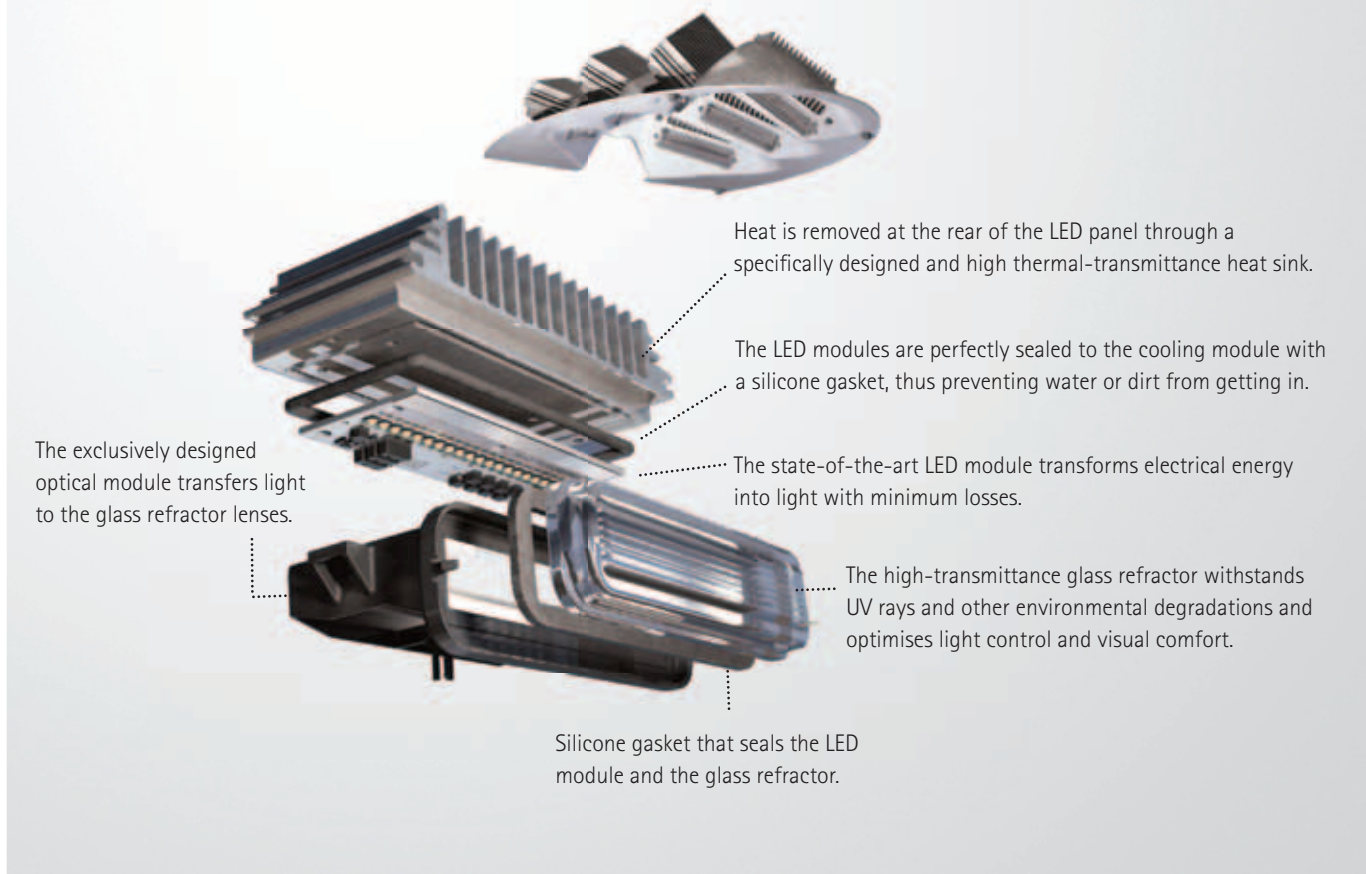
The perforated internal cover prevents the accumulation of dirt and facilitates a ventilation flow that maintains components at a low temperature. LEDgend luminaires by Carandini are designed to



The "Venturi effect" optimises the transfer of heat.

Accurate Optical Control

The LEDgend roadway luminaire has a cutting-edge optical design based on six directed, cooled, independent, and completely sealed LED modules that work together in order to light only where it is required.



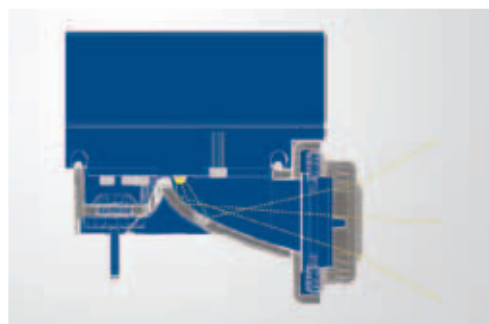
The prismatic glass refractor lens

ensures long-term operation and very low depreciation caused by dirt. The sealed optical system provides an IP66 protection rating against the penetration of water and dust, thus extending the life of components. The glass optic neither turns yellow nor loses its colour and does not shatter with time.

LEDgend luminaire optics are designed to allow for increased separation of luminaires, higher performance, reduced energy consumption, and a resulting reduction in costs.

The careful design of the LEDgend

luminaire motor restricts direct viewing of the different LEDs. As a result, the luminaire light is harmonious, and unsightly independent lighting points are not visible, thus increasing visual comfort in the field of vision.



Cross-section of an LED optical module that shows how the reflector diverts light to the glass refractor.

Accurate lighting

One of the most significant advantages of using LEDgend is that it emits the entire luminous flux (lumen output) exactly where it is required. This benefit means separation between lighting points can be greater, which prompts savings in installation, energy and maintenance, minimises intrusive and invasive light, and increases visual comfort.

Useful light output is an essential parameter for the evaluation of LED luminaires. Measurement of useful light output shows whether the lighting in a required area, uniformity, veil luminance and glare comply with current standards.

The example given compares a traditional HPS luminaire and a competitor's LED luminaire with LEDgend.

Example: three lanes in each direction; bilateral staggered arrangement next to the zone under study. The simulation shows the replacement of existing 150 W luminaires with an average lighting level of 10.5 lux with an average uniformity of 0.40.

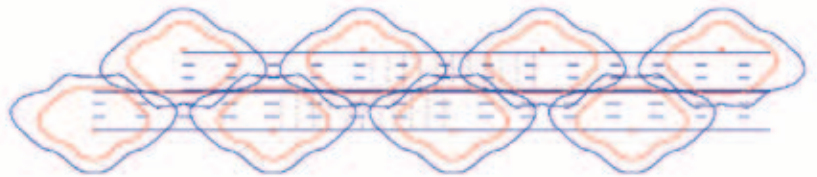
LEDgend yields the same lighting levels as traditional HPS luminaires and with a **31% saving in energy.**

In comparison with a typical competitor's LED, LEDgend lights **25% more of the area under study** and consumes **22% less energy.**

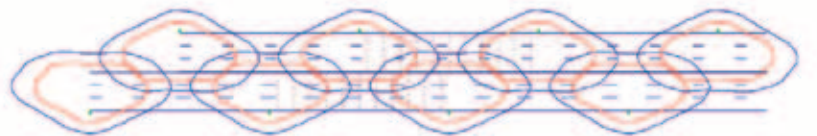
Representation of the lighting level with a spacing between lighting points of approximately 50 m.

— 5 lux — 2.7 lux

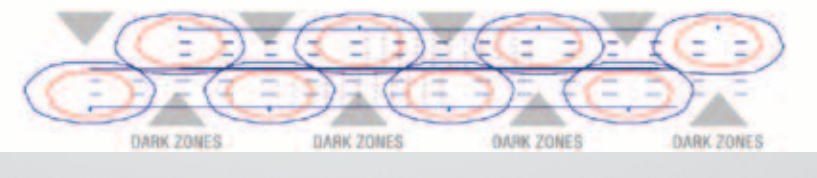
Traditional 150 W HPS luminaire



LEDgend LED for public Roadway



Competitors' LED product



System comparison

Characteristics	Traditional 150 W HPS	LEDgend	Competitor's LED
Spacing	50 m	50 m	50 m
E ave. (lux)	10.5	10.5	7.8 ⁽¹⁾
Power (W)	186	129	157
Energy saving	Reference	31%	16%

⁽¹⁾ In order to obtain an average 10.5 lux and an average uniformity of 0.4, competitors' LED luminaires must be positioned at a distance of 38.1 m.



Lighting level adjustment option

It may also come with bi-level dimming (D2N) for reducing consumption by half at times of low road use, with the resulting savings in energy costs. The luminaire may also be supplied with an adjustable driver, compatible both with the DALI protocol and with our remote management system for remote control and graded adjustment of luminous flux (lumen output) and adaptation to road traffic, with the resulting energy savings.

Surge protection

Most electronic ballasts or drivers used generally do not comply with standards for protection against surges produced by electrical disturbances, including nearby lightning strikes. LEDgend electronic circuits are protected up to a maximum discharge current of 15 kA. The nominal discharge current is 5 kA. It also features a red LED to show when the protection has reached the end of its life. It complies with the IEC-61643-1 standard.



Double driver

One of the main advantages of LED technology is its long durability, which yields savings in maintenance costs. The supply sources (drivers) on the market tend to have useful life of 50,000 hours. The optional double driver system available for LEDgend luminaires prolongs the life of the supply source to approximately 100,000 hours.

The double driver system features an electronic transfer switch that detects the current in the main supply source and, in the event of failure, switches to the auxiliary source. The auxiliary supply source is not activated until the main source fails. It also features an integrated time delay system that prevents unwanted switching arising from fluctuations in supply. The red LED indicator light confirms that the auxiliary source is operating.

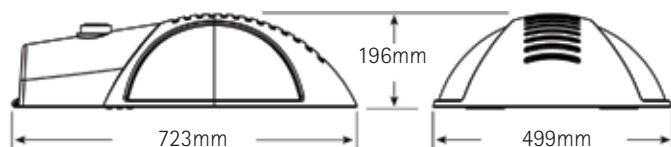
The double driver system makes travel to replace broken luminaires unnecessary. This yields a reduction in both travel and labour costs. The double driver yields savings in maintenance costs.

Remote management

LEDgend may incorporate our remote management system, which makes it possible to control and manage on/off, reductions, and graded adjustment of luminous flux, and to know whether each of our remotely controlled luminaires is working properly. Consult us for further information.

Technical data

Dimensions



Characteristics

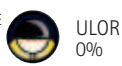
Body:	Pressure die-cast aluminium, low copper content
Control gear access:	Pressure die-cast aluminium, low copper content
LED mounting plate:	Formed aluminium plate painted white
Ventilation grid:	stainless steel
Mounting:	Ø60x130mm projecting side
Thermal control:	By means of "Venturi effect" self-ventilation system
Finishes:	RAL 7011 paint
Electrical class:	I
Electrical protection:	Eprotec (15KA)
Wind exposure area:	0.259 m ²
Operating temperature:	From -40° to +50°C

Compliance with standards

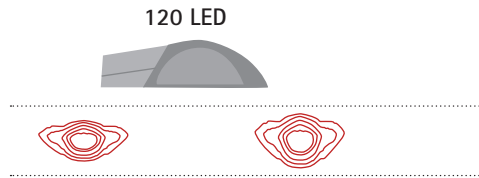
Luminaire:	UNE-EN 60.598-2-3
Module LED:	UNE-EN 62031:2009
Driver:	UNE-EN 62384:2007 UNE EN 61347-2-B:2007
Optical security:	UNE-EN 62471:2009 IEC/TR 6247-2:2009
Guarantee:	We guarantee the product for 5 years (see sales conditions)

LEDgend advantages

- Life larger than 100,000 hours at 25°C and 80,000 hours at an outside temperature of 40°C.
- Optic comprising prismatic reflector-refractor that accurately aims light where it is required.
- High output.
- 350mA operating current, lower temperature generated.
- Option 525mA operating current.
- Option of double driver for the same life as the LED system of over 100,000 hours.
- Anti-lightning protection.



Photometric distribution



	LDG-120/4-L2	LDG-120/4-L3
Code	1400010	1400110

Accessories

Description	Code
BCS-LDG/60 simple mounting bracket to column spigot Ø60mm	0200230
BCS-LDG/76 simple mounting bracket to column spigot Ø76mm	0200240

Options

Description	Code
Double driver	DD
Bi-level dimming (with control line)	D2N
Adjustable DALI driver (remote management)	DRD
Other paint colours	Indicate RAL

Operating characteristics

Model	Colour temperature K	Operating current mA	Useful light ⁽¹⁾ lm	Power ⁽²⁾ W	Performance ⁽³⁾ lm/W	L70 ⁽⁴⁾ at 25°C hours	L70 ⁽⁴⁾ at 40°C hours
LDG-120	4.000	350	9.650	129	74,8	106.000	83.000
	4.000	525	12.660	198	64	65.000	51.000

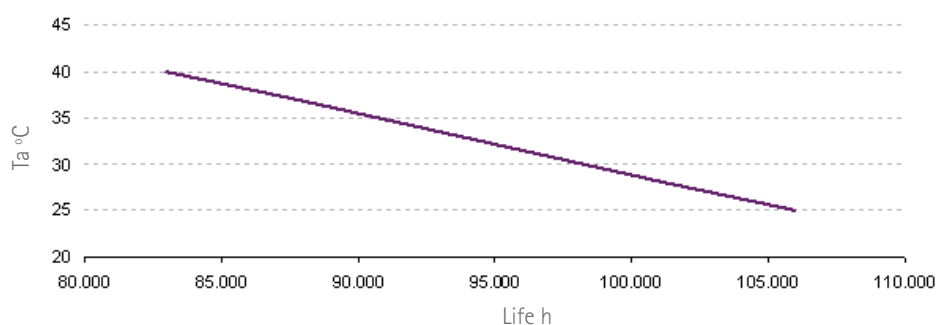
⁽¹⁾ Total lumen output of the luminaire

⁽²⁾ Power consumed by the LED + driver unit

⁽³⁾ Includes losses in the luminaire and in the driver

⁽⁴⁾ Estimated half-life in hours with 70% of useful light and with the indicated outside operating temperature

Life - ambient temperature - 350mA





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