Lighting for
streets and roads

LENA
LIGHTING

Wherever
you go...

Street and road luminaires of the Polish manufacturer Lena Lighting represent modern solutions, energy efficiency, durability and safety. They provide both effective and eye-catching lighting.

Our luminaires are characterised by:

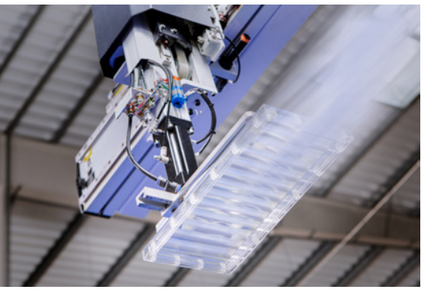
- Excellent quality at a competitive price
- Design developed by our own R&D department
- Polish production and branded components
- Efficiency up to 160 lm/W
- Power range from 15 to 228 W
- Luminous flux range from 1,900 to 27,300 lm
- Very high IP66 ingress protection
- SP10kV protection as standard
- IK07-IK09 impact resistance
- Wide range of light distribution
- ULOR = 0.0%

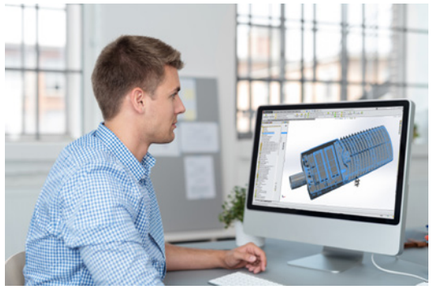
PL

100%
made in Poland

Lena Lighting SA is a leading Polish manufacturer of high quality lighting fixtures, listed since 2005 on the main market of the Warsaw Stock Exchange in Warsaw, Poland. We design, develop and manufacture professional lighting solutions.

Our products are present on both the domestic and foreign markets. We are a leading Polish exporter in lighting industry, present at ca. 70 markets worldwide. Since 32 years, we respond to the needs of our demanding customers at home and abroad with unflagging passion and commitment. We provide technologically advanced solutions in the field of Architectural Lighting and Workplace Lighting systems. Our Workplace Lighting systems are especially appreciated in Western Europe and Scandinavia, where they are considered professional and high-quality products. Lena Lighting S.A. grants to the Buyer the Basic Guarantee for luminaires sold, for the period of two years following the date of sale to the Buyer. Upon Customer's request, following thorough analysis of given order, Lena Lighting S.A. can grant Extended Guarantee, for the period of three years, or Non-standard Guarantee, for the period of five years.





A modern production line for LED modules

Środa Wielkopolska, Poland

TIARA LED FAMILY

A wide range of light distribution means flexibility of use

TIARA LED and TIARA LED PRO are the newest and most flexible items in Lena Lighting's offer of road luminaires.

These luminaires can be used on motorways, expressways and express roads, as well as on national, municipal, local and residential roads. They can also be successfully used to illuminate pedestrian crossings, pavements and bicycle paths.

TECHNICAL PARAMETERS

- Luminaire power [W]: 15 – 228
- Luminous flux [lm]: 1900 – 27300
- Luminous efficacy up to 160 lm/W
- Colour temperature [K]: 3000; 4000; 5700
- Mounting: to the pole (-5° +15°), on the bracket (-15° +5°)
- Body: powder coated aluminium
- Diffuser: tempered glass
- Impact resistance class: IK09
- Ingress protection: IP66
- Energy efficiency class: C, D (PRO)
- Dimensions A/B/C/ø [mm]: 870/122/262/60 (76) (L version); 665/122/262/60 (76) (M version)

CHARACTERISTICS

- A very wide range of light distribution
- Very high luminous efficiency of up to 160 lm/W.
- Very high degree of IP66 ingress protection and IK09 impact protection.
- Surge protection of up to 10 kV
- Compatible with the modern control system (additional NEMA and ZHAGA connectors),
- Protection against accidental overheating of the LED-NTC lamp.
- Tool-free access to the electrical equipment compartment.
- Easy and quick disassembly of the optical-electrical component without the need to demount the luminaire from the pole.
- Long LED lifetime – 100,000 h L90B10.
- The luminaire is ENEC+ and CE certified.

OPTIONS

- RCR motion sensor
- Fully programmable DALI driver with many additional functions.

10 years
max. warranty period

PL

CORONA STREET LED EVO 2 FAMILY

Wide range of power and luminous flux values.

The CORONA STREET LED EVO family consists of universal road luminaires designed for various applications

The luminaires can illuminate motorways, expressways and express roads. They will also prove perfect for lighting residential and local roads, intersections and parking lots.

TECHNICAL PARAMETERS

- Luminaire power [W]: 18 – 155
- Luminous flux [lm]: 2200 – 18550
- Luminous efficacy up to 149 lm/W
- Colour temperature [K]: 3000; 4000; 5700
- Mounting: to the pole, on the bracket
- Body: powder coated aluminium
- Diffuser: glass
- Impact resistance class: IK08
- Ingress protection: IP66
- Energy efficiency class: C, D
- Dimensions A/B/C/ø [mm]: 648/128/262/60 (76)

CHARACTERISTICS

- Flexibility in the selection of power and luminous flux.
- High luminous efficiency.
- Solid body made of die-cast aluminium.
- Diffuser made of tempered glass.
- Very high degree of IP66 ingress protection and IK08
- impact protection.
- SP10kV surge protection as standard
- Long LED lifetime – 100,000 h L90B10.
- Integrated handle enables adjustment in the range of: 0° to + 15° (top, to the pole); -15° to +0° (side, on the bracket)
- Many additional options.
- The luminaire is ENEC and CE certified.

OPTIONS

- Light distribution - Road Medium (RM1, RM3, RM6, RM7).
- Light distribution - Road Wide (RW1, RW5).
- I lor II insulation class.
- DALI and LineSwitch signal control.
- Programmable 5-stage power reduction.
- CLO - maintaining the luminous flux over time.
- Mounting bracket with a 76 mm diameter.

149 lm/W

PL

ASTRA LED

Excellent parameters for illuminating local roads

ASTRA LED is a road lamp with high luminous efficiency and a modern and energy-saving, integrated LED light module. Thanks to the use of a tight quick connector and a power cable connected to the lamp, it allows for quick installation.

Recommended for use in open areas to illuminate: streets, local roads, bicycle paths, alleys, sidewalks, parking lots and squares.

TECHNICAL PARAMETERS

- Luminaire power [W]: 17 – 103
- Luminous flux [lm]: 2100 – 12800
- Luminous efficacy up to 153 lm/W
- Colour temperature [K]: 3000; 4000; 5700
- Mounting: to the pole, on the bracket
- Body: PP + FG
- Diffuser: PC
- Impact resistance class: IK08
- Ingress protection: IP66
- Energy efficiency class: C, D
- Dimensions A/B/C/ø [mm]: 640/233/113/60 (76)

CHARACTERISTICS

- High luminous efficiency of up to 153 lm/W.
- Very high degree of IP66 ingress protection and IK08 impact protection.
- Compact dimensions & lightweight
- Self-cleaning body made of polypropylene with fibreglass.
- SP10kV surge protection as standard.
- H07RN-F cable, 0.7 m long, and IP66 quick connector.
- Integrated handle, adjustable in 5-degree increments, enables adjustment in the range of: -5° to +15° (top, to the pole); -15° to +5° (side, on the bracket).
- The luminaire is CE certified.

OPTIONS

- RCR motion sensor
- Mounting bracket with a 76 mm diameter.
- 12-24V version dedicated to power supply from photovoltaic panels of wind turbines or other sources with an output voltage of 12-24V DC.

153 lm/W

PL

CORONA 2 LED BASIC

Quality and reliability at a favourable price.

Very good lighting and technical parameters of the CORONA 2 LED BASIC lamp make it suitable for use in difficult working conditions. The smooth body made of polypropylene with glass fiber (FG) makes it easy to keep the lamp clean.

The lamp is perfect for lighting local and housing estate roads, bicycle paths, alleys and sidewalks as well as parking lots and squares.

TECHNICAL PARAMETERS

- Luminaire power [W]: 32 – 80
- Luminous flux [lm]: 4400 – 8500
- Luminous efficacy up to 106 lm/W
- Colour temperature [K]: 4000; 5700
- Mounting: to the pole, on the bracket
- Body: PP + FG
- Diffuser: PC
- Impact resistance class: IK08
- Ingress protection: IP66
- Energy efficiency class: C, D
- Dimensions A/B/C/ø [mm]: 640/233/113/60 (76)

CHARACTERISTICS

- Integrated handle, adjustable in 5-degree increments, enables adjustment in the range of: -5° to +15° (top, to the pole); -5° to +15° (side, on the bracket).
- Energy efficiency class: A++ / A+.
- SP10kV surge protection as standard.
- Very low weight: ~ 2.3 – 2.45 kg
- Very high degree of IP66 ingress protection and IK08 impact protection,
- Self-cleaning body made of polypropylene with fibreglass.
- H07RN-F cable, 0.2 m long.
- The luminaire is CE certified.

OPTIONS

- RCR motion sensor
- Mounting bracket with a 76 mm diameter.

budget line

PL

MITRA LED FAMILY

Parks and alleys in perfect light

MITRA LED is a LED luminaire designed for lighting roads and squares, characterised by high luminous efficiency.

It allows for designing lighting for parks and walking paths. It is also perfect for illuminating pavements and bicycle paths. Budget version of the **MITRA LED BASIC** luminaire characterised by an excellent price-quality ratio, it is equipped with a frosted-glass diffuser ensuring general light distribution.

TECHNICAL PARAMETERS

- Luminaire power [W]: 13 – 62
- Luminous flux [lm]: 1600 – 7250
- Luminous efficacy up to 106 lm/W
- Colour temperature [K]: 3000; 4000
- Mounting: top, to the pole
- Body: PP + FG
- Diffuser: PC
- Ingress protection: IP66
- Energy efficiency class: C, D
- Dimensions A/B [mm]: 398/174/76

CHARACTERISTICS

- Two types of diffuser – opalescent and transparent.
- Very high degree of IP66 ingress protection.
- IK07 mechanical impact protection.
- Surge protection (SP10kV).
- H07RN-F cable, 0.6 m long, and IP66 quick connector.
- Smooth, dirt-resistant surface.
- The luminaire is CE certified.

OPTIONS

- General G1 – with a frozen diffuser
- Road RM1 – with a transparent diffuser and directional lens matrices made of PMMA.
- DALI driver
- I lor II insulation class.

132 lm/W

PL

Środa Wielkopolska

in a new light

Local investment, global standards.

Środa Wielkopolska has shone with new, better quality light. Thanks to the investment made by the commune authorities, the CLUE CITY system – consisting of over 170 modern TIARA LED road luminaires and an integrated, technologically advanced management system – has been implemented.

As a result, the light is delivered in optimal amount, only when it is needed. The beneficiaries of this investment are both the commune authorities and the residents themselves. The former, thanks to the very high energy efficiency of the installed road luminaires, additionally supported by a wireless control system, save on electricity consumption and maintenance costs. Thus, the residents can benefit from light that provides better visibility and supports the safety of road users and adjacent pavements. They can also be sure that the response time of service personnel is reduced to a minimum, as the intelligent system informs them on an ongoing basis about the need for any intervention.

We want to develop a network of intelligent lighting

We came to the conclusion that we must invest with modern lighting in Środa Wielkopolska. It is a hybrid set, i.e. luminaires and controls. I think that the residents will be satisfied with this investment, at least for aesthetic reasons, as it is not sodium-vapour lighting, which we have dealt with in previous years – but LED technology. Firstly, it is efficient, secondly, it gives a very nice, friendly light, and thirdly, it gives measurable savings. We have to look at it in the perspective of several or a dozen of years, and these are very measurable savings, reaching hundreds of thousands or even millions of Polish zlotys.

Piotr Mieloch
Mayor of Środa Wielkopolska

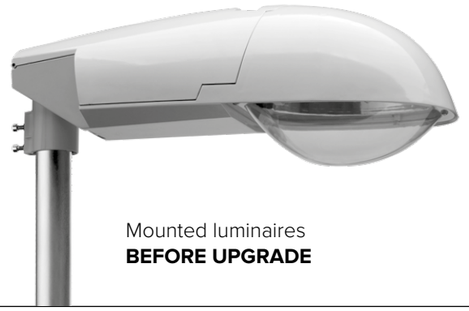
50%

ENERGY SAVING

TIARA LED CLUE

Case **study**

Replacing sodium vapour road lamps with **modern LED lamps with a control system** is not only a matter of aesthetics, ecology and comfort, but above all – **savings**. Thanks to this investment, the city will use over **50% less electricity annually** and will save almost 8400 EUR a year. Over the period of 30 years (i.e. the service life of the new lighting), the investment will bring savings of over **252 222 EUR!**



Mounted luminaires
BEFORE UPGRADE

168 W sodium vapour lamp – 161 pieces
279 W sodium vapour lamp – 13 pieces

Mounted luminaires
AFTER UPGRADE

TIARA LED M CLUE 78 W – 161 PIECES
TIARA LED L CLUE 184 W – 13 PIECES

CLUE CITY

TWO PRIORITY CRITERIA DETERMINING THE CHOICE OF AN OFFER BY THE INVESTOR:

- reduced power consumption
- the possibility of using a modern control system with theCLUE CITY system

Replacing the lamps has resulted in **better lighting parameters** and power consumption reduced by more than 50% (from 30,675 W to 14,950 W).

WHY DID THE INVESTOR CHOOSE CLUE CITY?

- Reduced operating costs.
- Efficient use of lighting and thus reducing power consumption.
- Providing light whenever and wherever needed.
- Convenient and intuitive management of the entire lighting from a web browser, allowing for the assignment of proper access levels to individual administrators.
- Immediate on-line information about possible failures and needs for intervention.
- Reduced CO_2 emission.
- Increasing the safety of the town's transport.
- Willingness to invest in modern and reputable solutions.

Of course, the existing, intuitive and easy-to-use interface is upgradable. If the town decides to upgrade the system (even over the next few years), it will be able to use such Smart City functionalities as e.g. **traffic volume measurement or air quality measurement.**

Light under control

Save and optimise with CLUE CITY

See how it works:
lenalighting.pl/cluecity-en

CLUE CITY is a technologically advanced system that remotely manages and controls road luminaires. Optimises energy efficiency and monitors the status of each luminaire.

Is intuitive, reliable and secure. Provides accurate real-time control of street lighting infrastructure. The cloud-based interface is available to the administrator 24/7 from any device connected to the Internet.

CLUE CITY enables:

- Remote luminaire management.
- Creating a luminaire working schedule and adjusting the light level in selected hourly intervals.
- Creating groups of luminaires, which facilitates the management of lighting in selected areas.
- Geolocation and visualisation of street luminaires on the map.
- Accurate measurement of energy consumption and its recording and archiving.
- Monitoring the working conditions of the light source and the driver.
- Monitoring the wear of LED components. The obtained data will keep the system administrator informed about a possible need to replace a luminaire, which translates into lower maintenance costs and significantly shortens the response time.
- Multi-level management of system users.

CLUE CITY operating diagram. Two-way communication and lighting management.

LENA
LIGHTING

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