

## Industrial and warehouse lighting



100%

### **Made in Poland**

We are a lighting manufacturer with 34 years of presence on the market, which is why we know everything about luminaires and lighting systems: we design, comprehensively test and manufacture them. We combine practice with modernity.

We have technologically advanced manufacturing facilities at our command, which guarantees a high level of flexibility and operational efficiency. We produce over 4 million luminaires annually, and each product leaving the Lena Lighting production line strengthens our position of the leader in the market of luminaires in the country and in the world – every day.

When designing new luminaires, we take advantage of the latest achievements in technology. For years, we have cooperated with leading international manufacturers of electrotechnical components, who, in addition to providing us with their solutions, also implement individual projects of our Engineers at the Research and Development Department of Lena Lighting S.A., allowing for a significant reduction in energy consumption, while improving the quality of lighting. We are constantly enhancing our know-how using the latest global solutions in LED technology and lighting control.



years of experience



Modern LED production line

Środa Wielkopolska

## It really matters

In recent years, we have continued and deepened our growing commitment to promoting an eco-friendly attitude towards business. Being aware of the importance of environmental protection behaviours and future generations inspires us to put maximum effort into offering the highest quality, energy-efficient products; and to make sure that the entire process and technology of their production do not have a negative impact on the ecosystem.

Our efforts and their effectiveness have been confirmed by the ISO 14001 certificate. This means that Lena Lighting has successfully implemented an environmental management system. The overall goal of this system is to create conditions for the functioning of the enterprise in order to minimise the negative impact on the natural environment. We have already succeeded, but we are going to continue our journey and invest in technology and knowledge aimed at care for the natural environment.







Design perfectly Create consistently **Offer** comprehensively Hit precisely

It is worth choosing products supplied by renowned manufacturers, employing both highly-skilled engineering staff with many years of experience in designing lighting systems, as well as having properly equipped laboratories allowing for constant quality control of manufactured products.

Considering the professional R&D facilities and the state-of-the-art laboratory operated by specialists, as well as the constantly controlled production process, Lena Lighting is able to provide its customers, with full responsibility, with a 5-year warranty on each luminaire it manufactures.



We are responsible

## for the highest quality of lighting

# Industrial and warehouse **lighting**



01 / 02

## **Your best** choice for industry

The Tytan 2 LED family represents the latest generation of hermetic industrial luminaires, characterised by exceptionally high luminous efficiency, the highest energy efficiency and excellent technical parameters.

The luminaire's heart is a high-performance LED light module with a lifetime of over 196,000 hours. Tytan LED Pro is distinguished by a high energy class and efficiency reaching 178 lm/W. It emits light of high homogeneity (SDCM ≤3) and is characterised by IK09 mechanical impact resistance and IP66 ingress protection.





#### Tytan LED family



- 1 Tytan LED Pro The highest quality and efficiency
- 02 Tytan Multi LED 4-step luminous flux and power control:
- Tytan 2 LED 03 Versatility of applications
- Tytan 2 LED Endura more possibilities
- Tytan 2 LED Hall Narrow light distribution
- Tytan 2 LED Chemo Chemical resistance thanks to PCT-G
- Tytan 2 LED 24-48V Luminaire for low voltage installations
- Tytan 2 LED Basic Versatility of applications
- Tytan 2 LED Basic Multi 4-step luminous flux and power control:

## Even better use of the luminaire's capabilities thanks to non-standard solutions.

Efficiency and innovation



The possibility to adjust the luminaire to the dedicated space is the result of thinking and design focused on the satisfaction and benefits of the investor, contractor and consumer.

The MULTI function allows you to independently control luminaire's power and luminous flux. The dedicated microswitch allows to independently choose the level of luminous flux/luminaire power. The priority may be to obtain a sufficiently high value of the luminous flux or to save electricity. This solution is particularly useful in places, where the use of the illuminated space changes, and along with it, the standards and lighting needs change as well.

The Tytan 2 LED family uses an innovative solution consisting in integrating the diffuser with the LED module. As a result, the assembly and quick replacement of the entire light module is facilitated. This is especially important in the case of service or efficient modernisation of lamps over the years - changes to more modern solutions, without the need to disassemble the entire lamps.



#### Easy to replace LED module

For time savings and the convenience of installers and service personnel, diffuser suspension system integrated with the mounting panel has been used.



#### Mounting tolerance 100 mm

Adjustable brackets with a mounting tolerance of +/- 50 mm, facilitating and accelerating the process of surface mounting



combinations



**Greater versatility** 

Thanks to a dedicated microswitch, the MULTI function allows you to independently control luminaire's power and luminous flux.



#### **Quick connectors**

Rapid-A or Rapid-D quick connectors make connecting power supply extremely quick and easy without the need to open the luminaire.



Body material:



#### Tytan LED Pro

max.	IP66	IK09	
178 lm/W	1200	INUY	
1/0 111/ 1			•

#### Tytan Multi LED

Light source:	LED module
Rated power [W]:	14 - 75
Luminous flux [lm]:	2500 - 12000
Colour temperature [K]:	4000
Mounting method:	surface, suspended

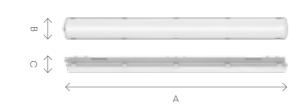
## Body colour:greyDiffuser material:PCDiffuser type:MATTDimensions A/B/C [mm]:1152/85/80, 1432/85/80

PC

may

#### Distinguishing features:

- Very high efficiency (>170lm/W)
- High impact resistance and ingress protection
- Easy and simple installation
- Replaceable light module
- Branded components, INOX clips
- Large range of mounting tolerance +/- 50 mm



Light source:	LED module
Rated power [W]:	14 - 25, 17 - 31, 28 - 50, 35 - 63
Luminous flux [lm]:	2500 - 4350, 3150 - 5450, 5000 - 8700, 6300 - 10900
Colour temperature [K]:	4000
Mounting method:	surface, suspended

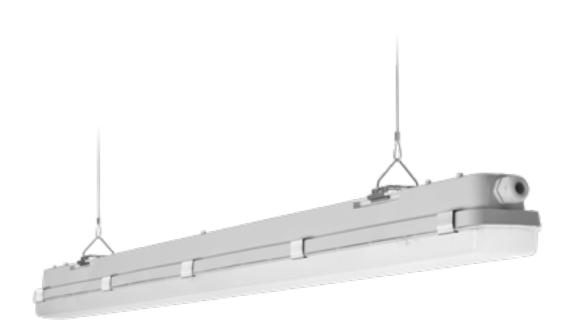
#### Distinguishing features:

- Possibility to adjust power and luminous flux
- Very high efficiency (>170lm/W)
- High energy efficiency
- High ingress protection
- Replaceable light module

max. 175 lm/W IP67 IK09 |

Body material:	PC
Body colour:	grey
Diffuser material:	PC
Diffuser type:	MATT
Dimensions A/B/C [mm]:	1152/85/80, 1432/85/80





#### Tytan 2 LED

<sup>max.</sup> IP66 IK09 **|, ||** 161 lm/W

----- Different variants available depending on the application

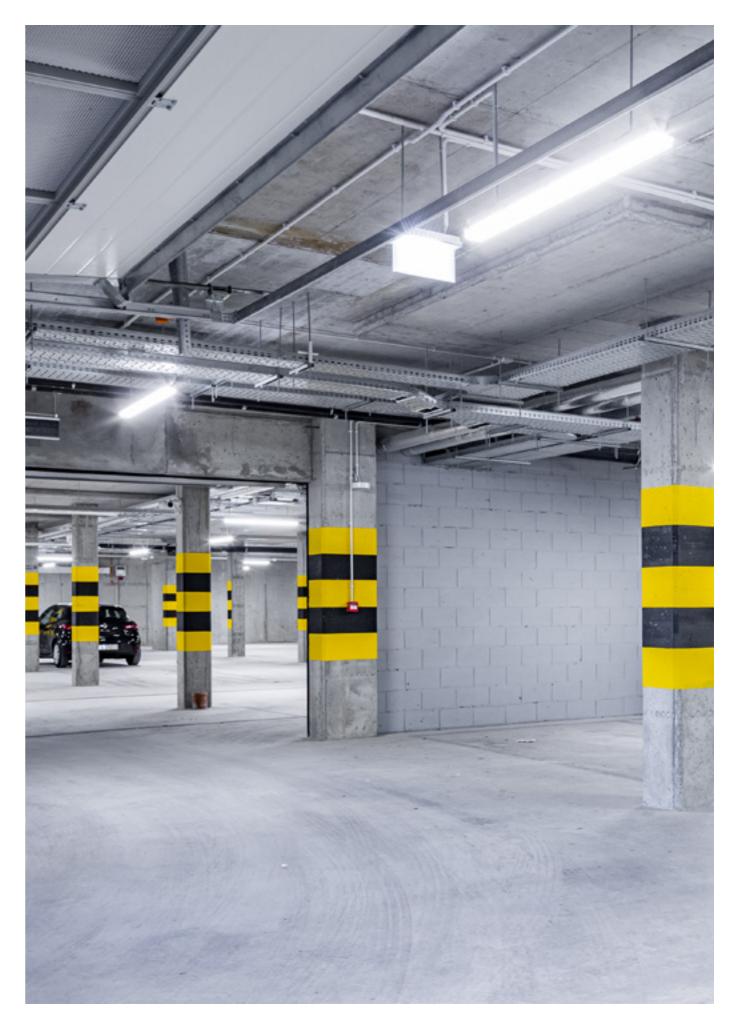
Light source:	LED module
Rated power [W]:	17 - 74
Luminous flux [lm]:	2650 - 11300
Colour temperature [K]:	3000, 4000, 5000
Mounting method:	surface, suspended

Body material:	PC
Body colour:	grey
Diffuser material:	PC
Diffuser type:	MATT
Dimensions A/B/C [mm]:	1152/85/80, 1432/85/80

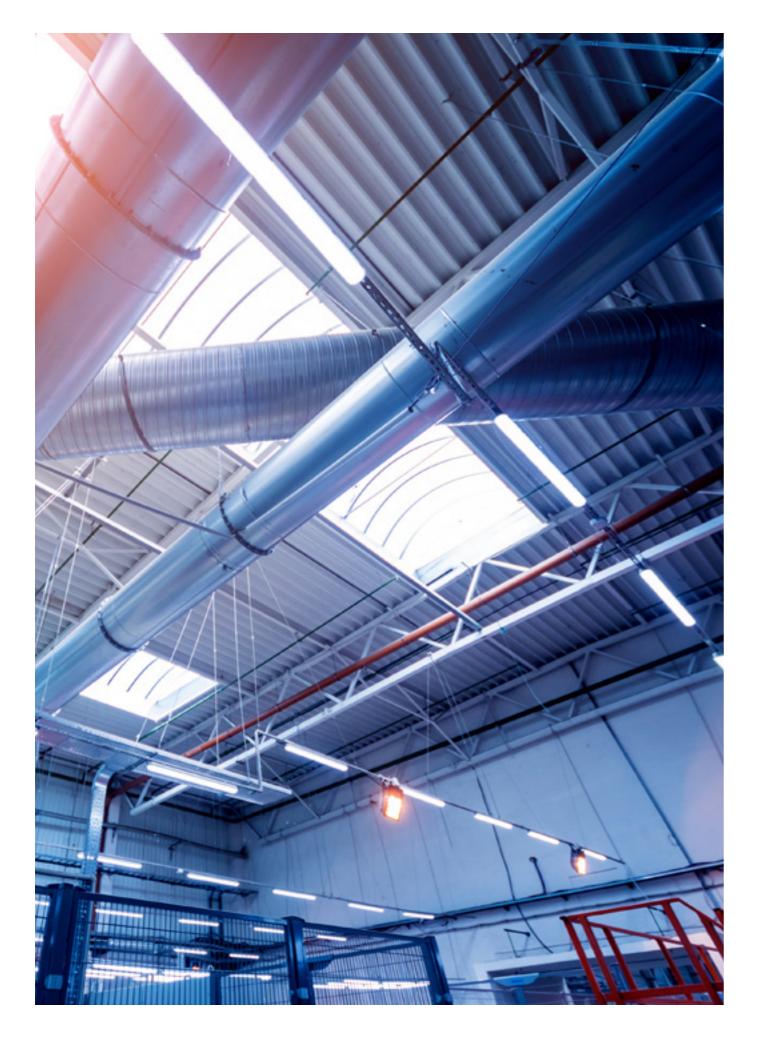
#### Luminaire's distinguishing features and variants:

- Very high efficiency
- High impact resistance and ingress protection





Underground garage in Nowe Ptasie Apartament Park – Katowice.





#### Tytan 2 LED Endura

Light source:	LED module
Rated power [W]:	32 - 76
Luminous flux [lm]:	4750 - 11300
Colour temperature [K]:	4000
Mounting method:	surface, suspended

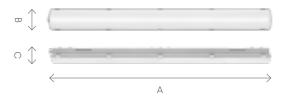
#### Distinguishing features:

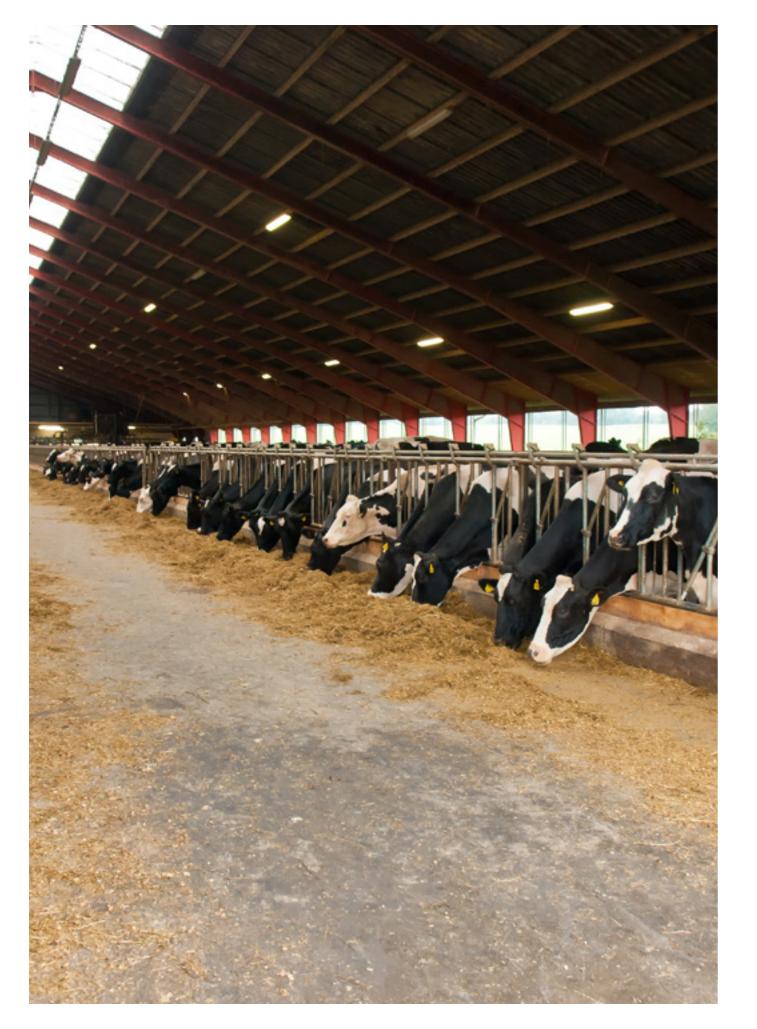
- Resistance to a wide range of temperatures
- It features new solutions improving light distribution and temperature balance
- High luminous efficiency: 155 lm/W
- High energy efficiency
- The luminaire body and diffuser are resistant to UV radiation

#### -40°C to +60°C

max. 155 lm/W IP66 IK09 |

Body material:	PC
Body colour:	grey
Diffuser material:	PC
Diffuser type:	MATT
Dimensions A/B/C [mm]:	1152/85/80, 1432/85/80





The use of Tytan 2 LED Chemo luminaires in a warehouse hall

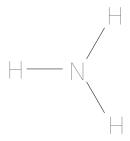


#### Tytan 2 LED Chemo

Light source:	LED module
Rated power [W]:	30 - 74
Luminous flux [lm]:	4550 - 11300
Colour temperature [K]:	4000
Mounting method:	surface, suspended

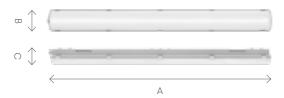
#### Distinguishing features:

- Body resistant to ammonia recommended for use
  in animal husbandry
- The diffuser material is GREENGUARD certified
- Very high efficiency
- High energy efficiency
- High ingress protection

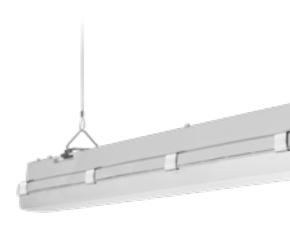


max.	IP66	IK09	1
155 lm/W	IFUU	INU 7	1

Body material:	ABS
Body colour:	grey
Diffuser material:	PCT-G
Diffuser type:	MATT
Dimensions A/B/C [mm]:	1152/85/80, 1432/85/80







#### Tytan 2 LED Hall

Light source:	LED module
Rated power [W]:	58 - 72
Luminous flux [lm]:	8200-10400
Colour temperature [K]:	3000; 4000
Mounting method:	surface, suspended

#### Luminaire's distinguishing features and variants:

- Dedicated to high-bay warehouses (up to 12 m)
- High energy efficiency
- Colour rendering index: Ra> 80
- SDCM ≤ 3
- 3 dedicated optics: 60°, 70° and 90°

max. IP66 IK09 |

#### Tytan 2 LED 24-48V

Body material:	PC
Body colour:	grey
Diffuser material:	PC
Diffuser type:	transparent
Dimensions A/B/C [mm]:	1152/85/80, 1432/85/80

#### 

Light source:	LED module
Rated power [W]:	24
Luminous flux [lm]:	2750
Colour temperature [K]:	4000
Mounting method:	surface, suspended

#### Luminaire's distinguishing features and variants:

- Dedicated to low-voltage 24-48V AC/DC installations
- High impact resistance and ingress protection

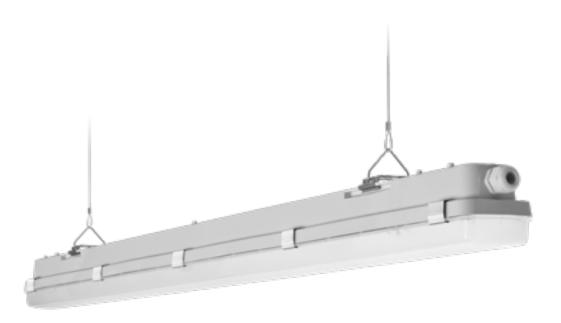


AC/DC

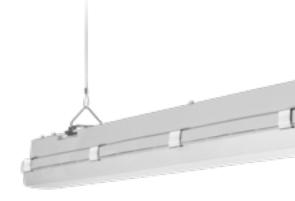
max. 115 lm/W	IP66	IK09	
115 (11)/ W			

Body material:	PC
Body colour:	grey
Diffuser material:	PC
Diffuser type:	MATT
Dimensions A/B/C [mm]:	1152/85/80





Body material:



#### Tytan 2 LED Basic

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max.	IP66	IK09	1
143 lm/W	11 00	11(07	1

#### Tytan 2 LED Basic Multi

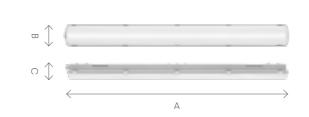
Light source:	LED module
Rated power [W]:	31 - 74
Luminous flux [lm]:	4300 - 10600
Colour temperature [K]:	4000
Mounting method:	surface, suspended

Body colour:	grey
Diffuser material:	PC
Diffuser type:	MATT
Dimensions A/B/C [mm]:	1152/85/80, 1432/85/80

PC

#### Luminaire's distinguishing features and variants:

- Recommended for lighting public utility, commercial
   and service-providing facilities
- High energy efficiency
- The luminaire body and diffuser are resistant to UV radiation



Light source:	LED module
Rated power [W]:	18 - 58
Luminous flux [lm]:	2700 - 8250
Colour temperature [K]:	4000
Mounting method:	surface, suspended

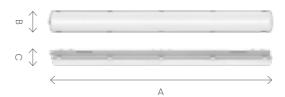
#### Luminaire's distinguishing features and variants:

- 16 combinations/versions of power and luminous flux
- Very high efficiency
- Colour rendering index: Ra> 80
- High impact resistance and ingress protection



max. 158 lm/W IP66 IK09

Body material:	PC
Body colour:	grey
Diffuser material:	PC
Diffuser type:	MATT
Dimensions A/B/C [mm]:	1152/85/80, 1432/85/80







Compact length

Smaller sizes bring additional savings resulting from logistics and warehouse issues.

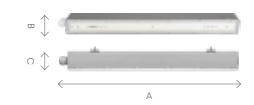
#### **Industry Slim LED**

Light source:	LED module
Rated power [W]:	23 - 117
Luminous flux [lm]:	2500 - 17500
Colour temperature [K]:	4000
Mounting method:	surface, suspended

Body material:	aluminium
Body colour:	grey
Diffuser material:	PC
Diffuser type:	transparent
Dimensions A/B/C [mm]:	621/50/75, 651/50/75, 1177/50/75

#### Distinguishing features:

- Aluminium body
- Very high IP66 ingress protection
- Easy and fast installation
- 5 variants of light distribution

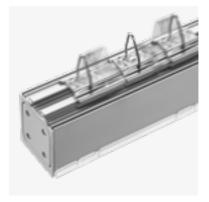


max. 164 lm/W IP66



#### Fast mounting

Thanks to the well-thought-out design, the installer can easily access the board with the connection cube and the driver. This significantly improves the installation process.



Aluminium body

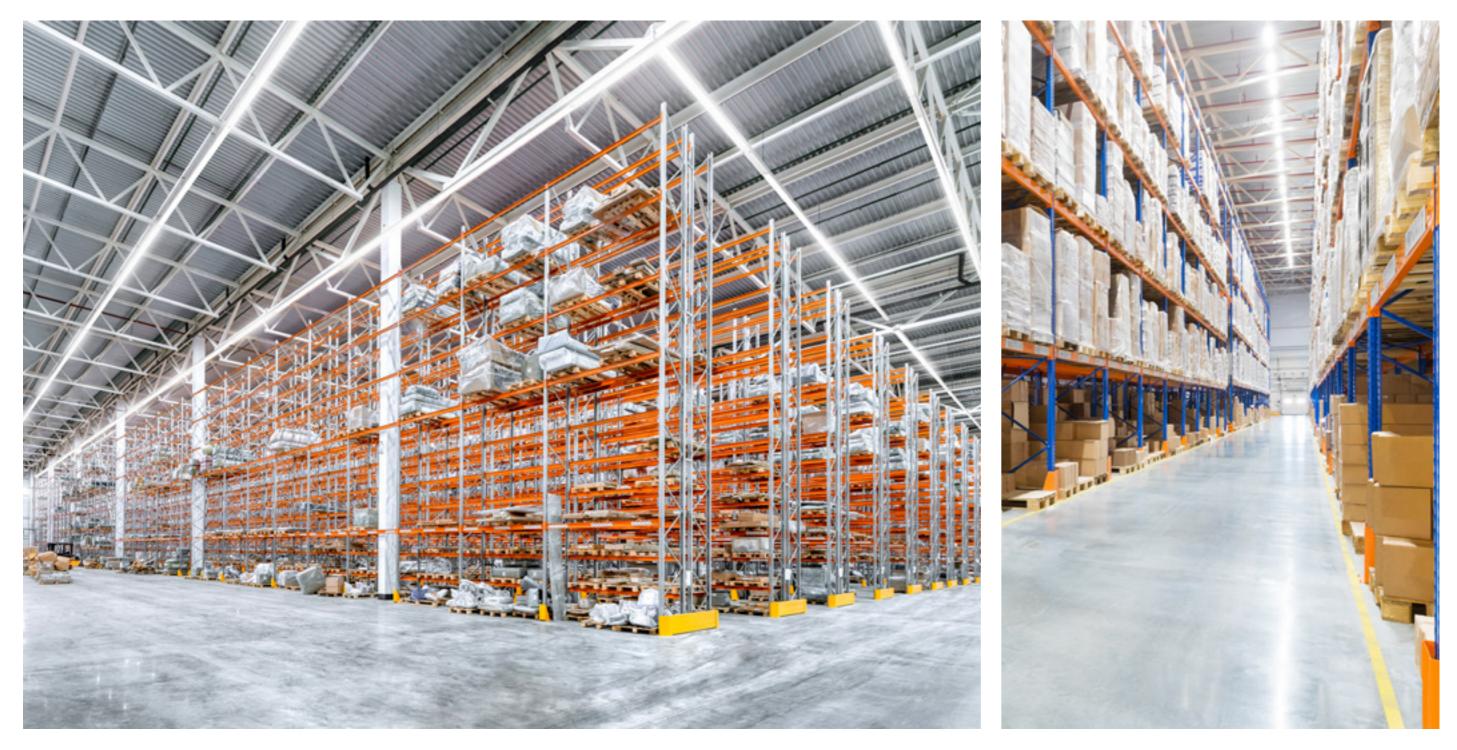
A robust luminaire body made of aluminium, which allows for good heat dissipation and significant weight reduction.



#### Five types of light distribution

In order to be able to adjust the luminaire to the purpose of a given object and different needs for lighting, the designer designed several types of light distributions.

#### Industry Slim LED



The use of Industry Slim LED luminaires in a warehouse hall



Body material:



Light source:	LED module
Rated power [W]:	55 - 69
Luminous flux [lm]:	8400 - 11400
Colour temperature [K]:	4000
Mounting method:	surface, suspended

-	
Body colour:	grey
Diffuser material:	PC
Diffuser type:	transparent
Dimensions A/B/C [mm]:	1177/50/75

aluminium

max. 165 lm/W

IP66

#### Distinguishing features:

- Wide range of working temperature from -40° to +60°C
- Aluminium body
- Very high IP66 ingress protection •
- Easy and fast installation •
- 5 variants of light distribution

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#### Industry IP66 LED

Light source:	LED module
Rated power [W]:	14 - 212
Luminous flux [lm]:	2150 - 34000
Colour temperature [K]:	4000
Mounting method:	surface, suspended

#### Distinguishing features:

- Aluminium body and diffuser made of tempered glass
- Quick connector for safe and quick mounting
- Mounting bracket on the entire length •
- Slim luminaire does not collect dirt
- Dedicated to heavy duty industrial conditions •
- 3 light distributions dedicated to high rooms



max. 163 lm/W IP66 IK08 - I

Body material:	aluminium
Body colour:	grey
Diffuser material:	tempered glass
Diffuser type:	transparent
Dimensions A/B/C [mm]:	570/63/55, 1150/55/55, 1250/135/104, 1450/55/55, 1450/63/55, 1450/104/135





Body material:



#### Industry IP66 LED Endura

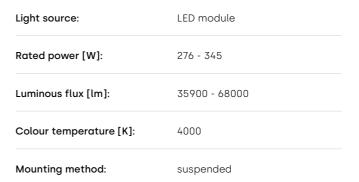
max.		11/00	
161 lm/W	IP66	IK08	1

#### Industry IP66 LED MR

Light source:	LED module
Rated power [W]:	55; 64
Luminous flux [lm]:	8900; 10500
Colour temperature [K]:	4000
Mounting method:	surface, suspended

-	
Body colour:	grey
Diffuser material:	tempered glass
Diffuser type:	transparent
Dimensions A/B/C [mm]:	1150/63/55, 1450/63/55

aluminium



#### Distinguishing features:

- Aluminium body and diffuser made of tempered glass
- Quick connector for safe and quick mounting
- Mounting bracket on the entire length
- Slim luminaire does not collect dirt
- Dedicated to rooms with increased temperature, up to +60°C

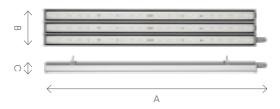


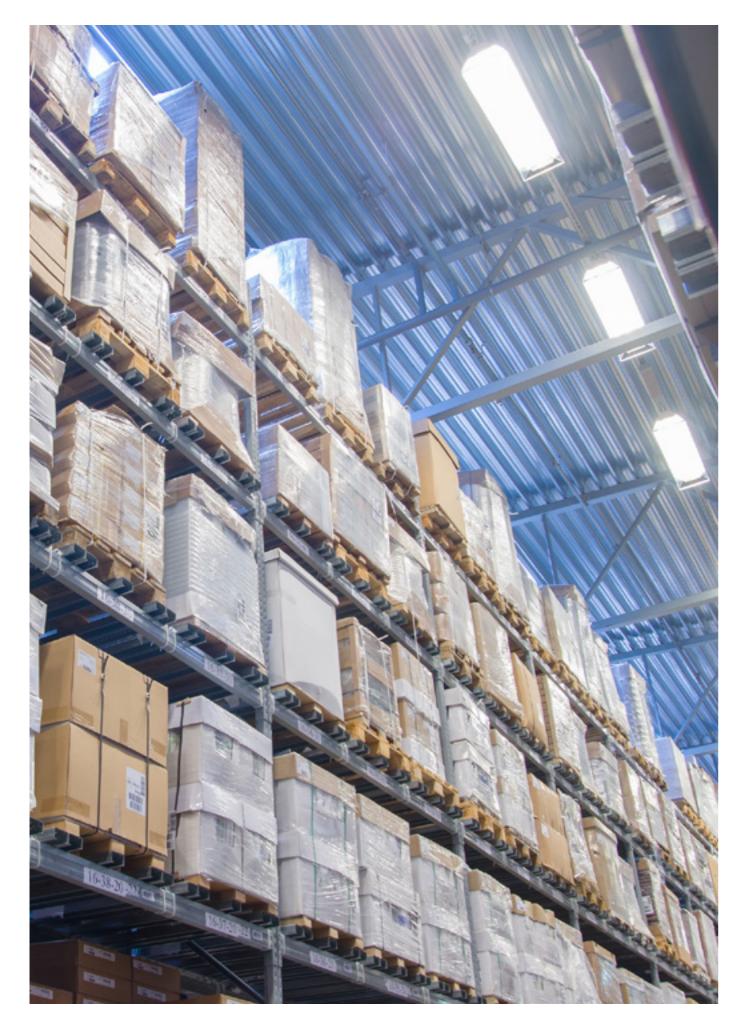
#### Distinguishing features:

- Aluminium body and diffuser made of tempered glass
- High impact resistance
- Dedicated to heavy duty industrial conditions
- High luminous flux up to 68000 lm
- 3 light distributions dedicated to high rooms

max. 148 lm/W IP66 IK08 |

Body material:	aluminium
Body colour:	grey
Diffuser material:	tempered glass
Diffuser type:	transparent
Dimensions A/B/C [mm]:	1173/205/125, 1473/205/125, 1473/273/170





Application of the Industry 2 LED luminaire in a warehouse hall.



#### Industry 2 LED

Light source:	LED module
Rated power [W]:	45 - 147
Luminous flux [lm]:	6800 - 23600
Colour temperature [K]:	4000
Mounting method:	surface, suspended

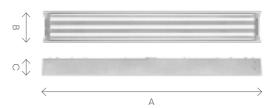
#### Distinguishing features:

- Wide range of luminous flux from 6800 to 24000 lm
- High ergonomics and easy mounting
- 3 types of light distribution to choose from
- High luminous efficiency
- Suspended mounting panel
- Body made of galvanized sheet resistant to environmental conditions



max. IP23 IK07 |

Body material:	galvanized steel sheet
Body colour:	grey
Diffuser material:	PC
Diffuser type:	MATT
Dimensions A/B/C [mm]:	1210/137/70, 1490/137/70, 1490/190/70







#### Mimo 2 LED

max.	IP66	IK06	П
150 lm/W	IFUU	INUO	11

#### **Tores LED PC**

Light source:	LED module
Rated power [W]:	15 - 32
Luminous flux [lm]:	2050 - 5000
Colour temperature [K]:	3000; 4000
Mounting method:	surface, suspended

Body material:	PC
Body colour:	white
Diffuser material:	PC
Diffuser type:	MATT
Dimensions A/B/C [mm]:	1230/45/50, 1510/45/50, 670/45/50

#### Distinguishing features:

- Very high ingress protection
- Low weight does not weight down the ceiling ٠
- Mounting bracket on the entire length .
- Through-wiring versions ٠
- Tool-free connection of cables in just 19 seconds. •



Light source:	LED module
Rated power [W]:	36 - 70
Luminous flux [lm]:	5000 - 10100
Colour temperature [K]:	4000
Mounting method:	surface, suspended

#### Distinguishing features:

- Very good technical parameters
- It features new solutions improving light distribution and temperature balance
- Adjustable brackets allowing for mounting tolerance +/-60 mm
- Luminaire body and diffuser are resistant to UV radiation



max. 147 lm/W IP65 IK06 - 1

Body material:	PC
Body colour:	grey
Diffuser material:	PC
Diffuser type:	frosted
Dimensions A/B/C [mm]:	1200/85/80, 1500/85/80





Body material:



#### Industry IP40 LED

max. 148 lm/W	IP40	IK06	Ι
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#### Arena LED

Light source:	LED module
Rated power [W]:	52 - 118
Luminous flux [lm]:	7600 - 17450
Colour temperature [K]:	4000
Mounting method:	surface, suspended

Body colour:	grey
Diffuser material:	PC
Diffuser type:	MATT
Dimensions A/B/C [mm]:	1680/52/42

aluminium

Light source:	LED module	
Rated power [W]:	70 - 141	
Luminous flux [lm]:	8950 - 18400	
Colour temperature [K]:	3000; 4000	
Mounting method:	surface, suspended	

#### Distinguishing features:

- High efficiency
- Aluminium body
- Fast mounting
- Quality at a good price

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#### Distinguishing features:

- Very low UGR <22
- High luminous efficiency
- Very high ingress protection
- High impact resistance
- Robust steel body



max. 131 lm/W IP65 IK09 |

Body material:	steel
Body colour:	white
Diffuser material:	PC
Diffuser type:	transparent

Dimensions A/B/C [mm]:

811/195/95, 1205/195/95





#### Linea S LED

max. 172 lm/W IP40 IK03 |

Light source:	LED module	Body material:
Rated power [W]:	14 - 146	Body colour:
Luminous flux [lm]:	2100 - 23100	Diffuser mater
Colour temperature [K]:	4000	Diffuser type:
Mounting method:	suspended, surface-mounted	Dimensions A/I

Body material:	steel
Body colour:	white
Diffuser material:	PC
Diffuser type:	MATTE, transparent
Dimensions A/B/C [mm]:	1176/67/50; 1764/67/50

#### Distinguishing features:

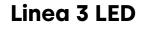
- Very high luminous efficiency
- Quick joining of modules into lines
- 11-core cables available .
- Variety of light modules •
- Tool-free module clipping •
- Wide range of optics available





Visualisation of the application of the Linea S LED luminaire with Expo Adjust modules in a bookshop.





max. 144 lm/W	IP40	IK06	Ι
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#### Linea 2 LED

Light source:	LED module	Body material:
Rated power [W]:	15 -155	Body colour:
Luminous flux [lm]:	2150 - 21000	Diffuser materic
Colour temperature [K]:	4000	Diffuser type:
Mounting method:	suspended, surface-mounted	Dimensions A/B

-	
Body colour:	grey
Diffuser material:	PC
Diffuser type:	MATT
Dimensions A/B/C [mm]:	1680/52/41; 3360/52/41

aluminium

#### Distinguishing features:

- Product for creating light lines
- It shines along the entire length of the luminaire
- 3 types of light distribution
- Wide luminous flux range
- Tool-free mounting
- Replaceable light module

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Light source:	LED module
Rated power [W]:	15 - 153
Luminous flux [lm]:	2250 - 22100
Colour temperature [K]:	4000
Mounting method:	surface, suspended

#### Distinguishing features:

- Product for creating light lines
- It shines along the entire length of the luminaire
- 3 types of light distribution
- Wide luminous flux range
- Easy and quick mounting
- Robust aluminium body



max. 157 lm/W IP20 IK06 |

Body material:	aluminium	
Body colour:	grey	
Diffuser material:	PC	
Diffuser type:	MATT	
Dimensions A/B/C [mm]:	1680/52/42; 3360/52/42	



## **Efficient and modern** High-Bay

Let us introduce a state-of-the-art HIGH-BAY, constituting a new generation of luminaires dedicated to LED technology. Thanks to the use of high-performance diodes, the luminaire is distinguished by very high luminous flux of up to 49,200 lm and luminous efficiency of up to 176 lm/W. Its undoubted, noteworthy advantages include: energy efficiency,

durability and suitability to work in high temperatures up to  $60^{\circ}$ C and up to  $75^{\circ}$ C (Endura version).

The luminaire uses a modern optical system. It is available in two versions. One with a glass diffuser and the other with a diffuser made of polycarbonate. The polycarbonate version can have a transparent diffuser or a diffuser with an integrated linear lens array.

**176** max. lm/W





#### Oculus LED family

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different versions

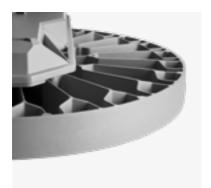
- 01 **Oculus LED** Very high luminous flux
- 02 Oculus LED UGR Drastically reduced glare effect
- OZ Oculus LED Endura High ambient temperature environment
- Oculus LED Mini Compact size (diameter 32 cm)
- 05 **Oculus LED Mini UGR** Reduced glare effect
- 06 Oculus LED P1 Mounted to the pole
- 07 Oculus LED P2 Fastened to the frame and to the bar

#### Well-thought-out and effective heat dissipation management.

When designing the Oculus LED luminaire, we were inspired by nature.

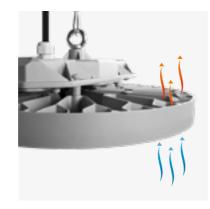


The luminaire structure and materials used for its construction ensure excellent heat management. Thanks to the conduction and convection effects as well as the designed shapes and surface finish, heat is effectively removed from the luminaire, guaranteeing optimal thermal conditions for the operation of the power supply system.



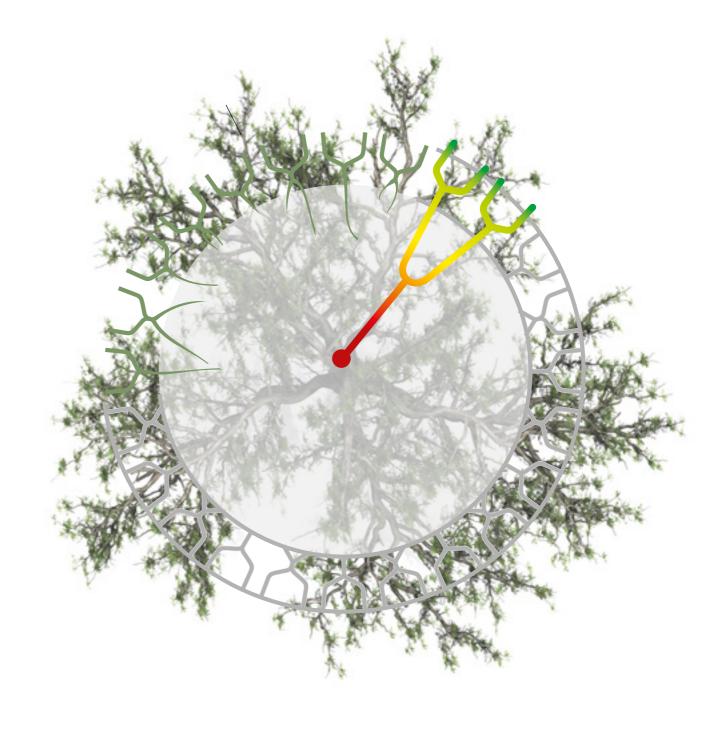
#### Refined shape of the body

The shape of the body with an integrated, effective heat sink and high-quality materials ensure maximum heat dissipation from the LED module.



#### Separated power system

The driver's external compartment, separated from the body, guarantees optimal thermal working conditions for the power supply system.



01/02 -----

Heat sink branched architecture effectively dissipates heat

02 / 02 — Heat sink design inspired by the shape of a tree





#### **Oculus LED**

max.		IK09	
176 lm/W	IP66	IK07	I

#### **Oculus LED Mini**

Light source:	LED module	Bod
Rated power [W]:	75 - 316	Bod
Luminous flux [lm]:	12200 - 49200	Diff
Colour temperature [K]:	3000, 4000, 5700	Diff
Mounting method:	suspended, surface-mounted	Dim

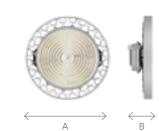
Body material:	powder-coated aluminium	
Body colour:	grey	
Diffuser material:	PC, tempered glass	
Diffuser type:	transparent	
Dimensions A/B [mm]:	Ø371/125	

Light source:	LED module
Rated power [W]:	72 - 148
Luminous flux [lm]:	11400 - 23800
Colour temperature [K]:	3000, 4000, 5700
Mounting method:	suspended, surface-mounted

#### Distinguishing features:

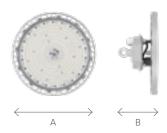
- Very high working temperature up to 55°C
- High luminous flux value
- Robust aluminium body, designed for effective heat dissipation
- Very high ingress protection
- Quick connector mounting is faster and cheaper

- Distinguishing features:
- Very high working temperature up to 60°C
- High luminous flux up to 49200 lm
- Robust aluminium body, designed for effective heat dissipation
- 4 light distributions and a version with a tempered glass diffuser
- Quick connector mounting is faster and cheaper
- Ra 70 and Ra 80 colour rendering as standard; Ra 90 available on request



max. 167 lm/W IP66 IK09 |

Body material:	powder-coated aluminium	
Body colour:	grey	
Diffuser material:	PC	
Diffuser type:	transparent	
Dimensions A/B [mm]:	Ø320/107	





+75°C



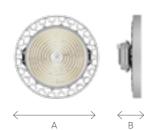
#### **Oculus LED Endura**

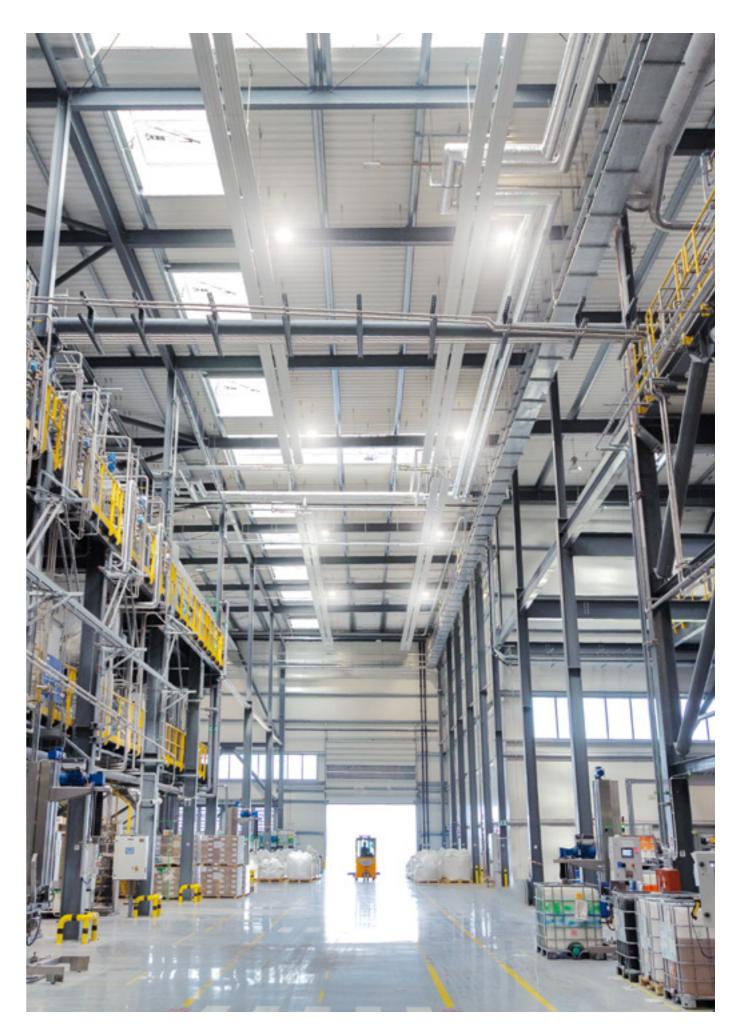
max.	IP66	IK09	
174 lm/W	IPOO	IKU9	

Light source:	LED module	Body material:	powder-coated aluminium
Rated power [W]:	109-203	Body colour:	grey
Luminous flux [lm]:	18300-28300	Diffuser material:	PC, tempered glass
Colour temperature [K]:	3000, 4000, 5700	Diffuser type:	transparent
Mounting method:	suspended, surface-mounted	Dimensions A/B [mm]:	Ø371/106

#### Distinguishing features:

- Robust aluminium body, designed for effective heat dissipation
- The driver's compartment, separated from the body and connected to the luminaire with a 10 m cable, guarantees optimal thermal working conditions for the power supply system.
- The luminaire can work in ambient temperature up to +75°C, and the power supply system up to +45°C.





The use of Oculus LED Endura luminaires in a warehouse hall.





#### **Oculus LED UGR**

max.	IP66	IK09	
153 lm/W	IPOO	IKU9	Ι

#### **Oculus LED Mini UGR**

Light source:	LED module	Body material:	powder-coated aluminium
Rated power [W]:	74-218	Body colour:	grey
Luminous flux [lm]:	11300-28800	Diffuser material:	PC
Colour temperature [K]:	3000, 4000, 5700	Diffuser type:	transparent
Mounting method:	suspended, surface-mounted	Dimensions A/B [mm]:	Ø371/125

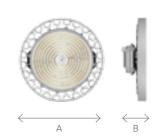
Light source:	LED module
Rated power [W]:	74 - 151
Luminous flux [lm]:	11300 - 21500
Colour temperature [K]:	3000, 4000, 5700
Mounting method:	suspended, surface-mounted

#### Distinguishing features:

- Very high working temperature up to 55°C
- Robust aluminium body, designed for effective heat dissipation
- With the UGR value of 19 22, it minimises the glare effect, increasing people's well-being and reducing their fatigue and the number of errors they make

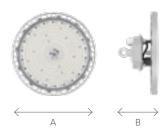
#### Distinguishing features:

- Robust aluminium body, designed for effective heat dissipation
- LEDs from a reputable manufacturer and new LED panels enable very high luminous efficiency
- With the UGR value of 19 22, it minimises the glare effect, increasing people's well-being and reducing their fatigue and the number of errors they make



max. 153 lm/W IP66 IK09 |

Body material:	powder-coated aluminium
Body colour:	grey
Diffuser material:	PC
Diffuser type:	transparent
Dimensions A/B [mm]:	Ø371/106







#### **Oculus LED P1**

max.	IP66	IK09	1
167 lm/W	IFUU	11/0 7	I

#### **Oculus LED P2**

Light source:	LED module	Body material:	powder-coated aluminium
Rated power [W]:	109-316	Body colour:	grey
Luminous flux [lm]:	18300-47500	Diffuser material:	PC
Colour temperature [K]:	3000, 4000, 5700	Diffuser type:	transparent
Mounting method:	mounted to the pole	Dimensions A/B [mm]:	Ø371/125 (556 – width with the bracket)

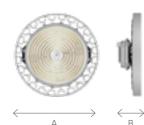
Light source:	LED module
Rated power [W]:	109-316
Luminous flux [lm]:	18300-47500
Colour temperature [K]:	3000, 4000, 5700
Mounting method:	mounted to the pole, to the bar

#### Distinguishing features:

- Adapted for mounting to a lighting pole, a mast – to the bar, surface-mounted
- Robust aluminium body, designed for effective heat dissipation
- LEDs from a reputable manufacturer and new LED panels enable very high luminous efficiency

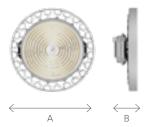
#### Distinguishing features:

- Adapted for mounting to a lighting pole, mast Ø 60-120 mm
- Robust aluminium body, designed for effective heat dissipation
- LEDs from a reputable manufacturer and new LED panels enable very high luminous efficiency



max. 167 lm/W IP66 IK09 |

Body material:	powder-coated aluminium	
Body colour:	grey	
Diffuser material:	PC	
Diffuser type:	transparent	
Dimensions A/B [mm]:	Ø371/125 (422 – width with the bracket)	



#### Quest 2 LED family

Let us introduce the Quest 2 LED family – a line of floodlights and High-Bay luminaires. Versatility and multitude of applications is their greatest advantage – as per the designer's vision, which assumed differentiation of individual variants so that they could be dedicated to a number of places and objects.

Examples of application:

- industrial halls and warehouses;
- ramps, infrastructure around the halls;
- internal roads, parking lots;
- exhibition, entertainment and sports halls;
- sports grounds and stadiums;
- façades of architectural objects;
- historic buildings, monuments, billboards;
- temporary lighting of the construction site;
- temporary lighting of service workplaces

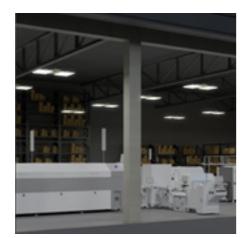
Quest 2 LED luminaires are characterised by high energy efficiency, which translates into the reduction in the emission of  $CO_2$  and allows for up to 65% savings compared to luminaires equipped with traditional light sources.



## WILL IL UMINATE ANY SPACE



Floodlight



High-Bay





The application of Quest 2 LED luminaires to illuminate the unloading ramps.



#### Quest 2 LED

Light source:	LED module
Rated power [W]:	27 - 243
Luminous flux [lm]:	3600 - 30900
Colour temperature [K]:	3000, 4000, 5700
Mounting method:	surface mounted

#### Distinguishing features:

- Very high ingress protection
- Durable aluminium body
- 5 types of light distribution
- Quick connector mounting is faster and cheaper
- Very high efficiency
- Slim aluminium body without heat sink fins not collecting dirt and easy to clean

max. 158 lm/W IP66 IK09 |

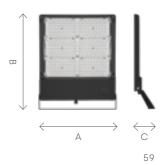
 Body material:
 powder-coated aluminium

 Body colour:
 anthracite grey

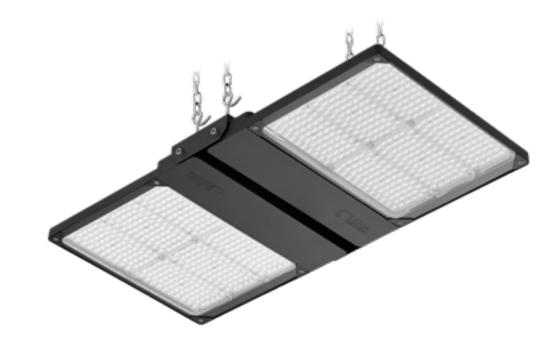
 Diffuser material:
 tempered glass

 Diffuser type:
 transparent

 Dimensions A/B/C [mm]:
 436/472/79, 437/378/79







#### **Quest 2 LED Resist**

max.	IP66	IK09	1
138 lm/W	IPOO	IKU9	I

#### **Quest 2 LED HB**

------ Endura version with thermal resistance available

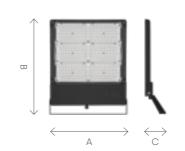
Light source:	LED module	Body material:
Rated power [W]:	54 - 145	Body colour:
Luminous flux [lm]:	6600 - 19550	Diffuser materi
Colour temperature [K]:	4000	Diffuser type:
Mounting method:	surface mounted	Dimensions A/E

Body material:	powder-coated aluminium
Body colour:	anthracite grey
Diffuser material:	tempered glass
Diffuser type:	transparent
Dimensions A/B/C [mm]:	321/424/37, 415/424/37

Light source:	LED module
Rated power [W]:	108 - 290
Luminous flux [lm]:	14000 - 61800
Colour temperature [K]:	4000, 5700
Mounting method:	suspended, surface-mounted

#### Distinguishing features:

- Increased resistance to chemicals
- Dedicated for use in swimming pools, educational and administrative facilities, halls, garages, passages, warehouses, shops, food industry and commercial and service-providing facilities related to food products
- Very high ingress protection



#### Distinguishing features:

- Quick connector mounting is faster and cheaper
- Durable aluminium body ٠
- 5 types of light distribution •
- High impact resistance ٠
- Versions designed for work in low and high • temperatures from -40°C to +60°C available

max. 140 lm/W IP66 IK09 |

Body material:

aluminium

Body colour:

anthracite grey

tempered glass

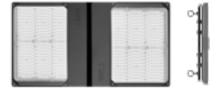
Diffuser type:

Diffuser material:

Dimensions:

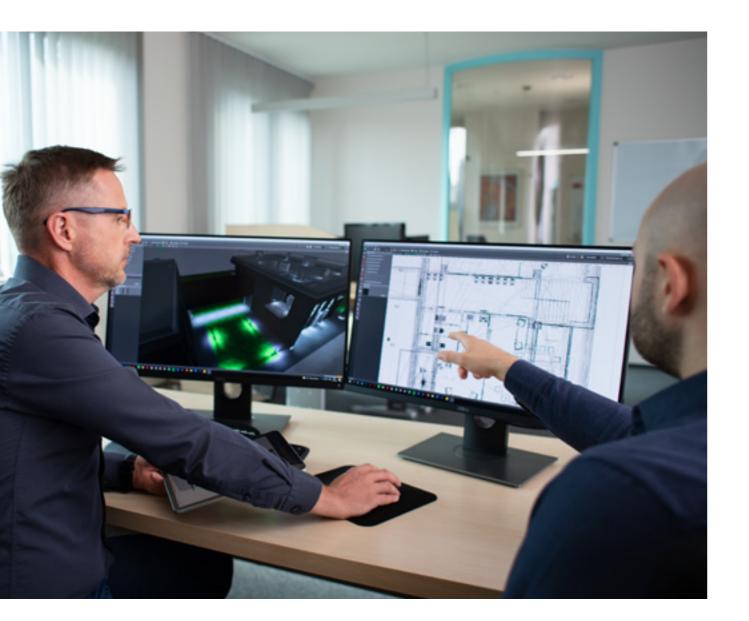
transparent

on the detail sheet



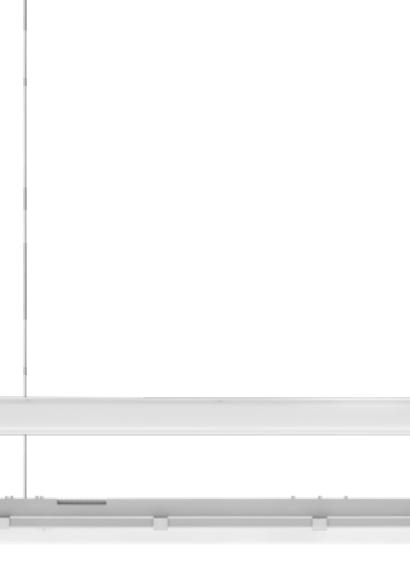
#### Entrust lighting design to professionals

Office: Środa Wielkopolska



Our customers can take advantage of our experts' professional advice at any time during the implementation of the investment. We will support you in choosing the lighting concept and the products. We will make visualisations and comprehensive lighting projects using the latest computer software. We make calculations of profitability and energy efficiency of lighting.

We invite you

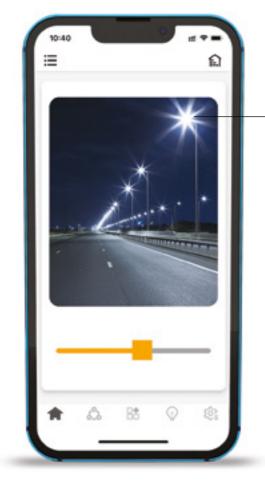


## to cooperate with us

## Intelligent lighting control system

02 / 02





## Light under control

Clue is a technologically advanced system that remotely manages and controls road luminaires. It helps optimise 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.

Web app

Smartphone app







#### Clue enables:

Remote luminaire management

Creating a luminaire operation schedule and adjusting the preferred 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.



#### Adapt the light to current needs, while optimising the use of energy.

This is one of the main goals of the Clue system

Properly selected light improves the comfort of life, efficiency and safety of employees, as well as the cognitive abilities of students. From work and education, through relaxation and fun.

Clue

System's scalability allows Clue to be used regardless of the size of the facility. It will prove perfect in one room, as well as in the entire building complex.

There is no need for renovation, forging walls or throughwiring. Easy access from a smartphone app allows you to see the world in a better light.

Clue will be used in offices as well as industrial and warehouse halls.



Human Centric Lighting

#### DALI / DALI 2

DALI (Digital Addressable Lighting Interface) is a fully digital communication protocol enabling communication between the installation's end components (luminaires) and the control system, regardless of the applied technological solutions. It allows to build complete lighting systems based on components from any manufacturer.

#### Internet of things – IoT

Uniquely identifiable items can directly or indirectly collect, process or exchange data via an electrical installation or intelligent KNX, or a computer network, or a dedicated DALI network. The system enables remote control via mobile devices and is compatible with existing BMS systems, such as KNX. It is also possible to control larger facilities/installations using an enhanced interface via the PC Platform. Thanks to this solution, it is possible to control the peripherals of building automation.

#### **Corridor function**

The basis for the operation of a dual-beam luminaire (equipped with the so-called corridor function) is the use of a two-circuit track or a dimmable driver in combination with a motion sensor. In both cases the luminaire works, for example, in a 10/100 system. When the luminaire is at rest, it constantly emits 10% of the nominal flux value, and when it detects movement, it smoothly switches into 100% mode. The corridor solution is especially useful in places, where constant minimal illumination of the monitored surface is required.

#### **DIMM 1-10V**

Most LED luminaires can be equipped with a dimmable DIMM 1-10 V power supply. The wide possibilities offered by modern LED modules can be exploited to their full capacity, if the luminaires are connected to the 1-10V CONTROL analogue lighting control system. This solution allows you to control each individual luminaire or a group of luminaires and maximise savings without any adverse effects on LED modules' durability.

#### **PIR sensor**

Directional, passive infrared sensor allowing precise control of lighting. Works in a specific area minimising the number of false alarms (excitations). The sensor allows to adjust illuminance (day-night identification), length of working time (switch off delay) and effective range of operation (distance from the sensor and detection area). In addition, it allows you to indicate the monitored direction of detection. It allows to adjust the luminaire's operation mode to save up to 90% of the energy consumed.

#### — Tunable White

Tunable White (Human Centric Lighting) is a technology that allows the user to control the colour (colour temperature) and luminous flux of a single or group of luminaires, reflecting the natural light whose colour and intensity changes over the day. The Human Centric Lighting system, which uses Tunable White luminaires, also allows luminaires to adapt to current needs and activities, regardless of the time of day. There are two types of LEDs in the luminaire and the DALI bus, prompted via the touch panel or application, controls the colour and luminous flux. Manual control is possible or scenes can be pre-set.

#### – RCR sensor

Active microwave sensor invisible from the outside, allowing more efficient use of lighting – it reduces energy consumption and the corresponding costs of energy. It provides intelligent lighting control and allows you to maintain high luminaire tightness (installation inside the luminaire). Using the sensor does not affect the lifespan of the LED panels. The sensor allows to adjust illuminance (day-night identification), length of working time (switch off delay) and effective range of operation (detection field radius). It allows to adjust the luminaire's operation mode to save up to 90% of the energy consumed. RCR sensors are also available in the Bluetooth version and are used in corridor systems, offering smooth brightening after motion detection and the daylight harvest function. It is possible to purchase the sensor in a standalone version or as a component.

#### Lighting management system

It allows you to reduce energy consumption by using daylight and automatic switching the light off in the absence of people. The system includes three highly advanced miniature sensors linked to a controller using a set of predefined modes. The lighting control system uses the DALI protocol, developed with the purpose of simplicity of use and providing energy efficiency up to 75%. The light sensor works in the band of visible light (perceived by the human eye), automatically adjusting the level of artificial lighting to the intensity of daylight without causing any visual discomfort for the people remaining inside the room. The motion sensor precisely detects the movement of people. It works in conjunction with the delay function to ensure optimal lighting performance in offices.





Incligation Incligation

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