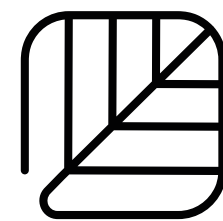




Tytan 2 LED

Ecological industrial lighting





Together **we** **save forests**

The high light efficiency of Tytan LED up to 178 lm/W
is an important factor contributing to environmental protection.

The luminaire is highly energy-saving. Compared to a regular light bulb, it is 11 times more efficient. Thanks to this, the user can save up to 86% of energy, thus reducing electricity costs. Energy savings also result in reduced CO₂ emissions during luminaire operation. It is 91.5% smaller than in the case of an incandescent bulb.

178 max.
lm/W

196 Lifespan
.000 h



Economical packaging

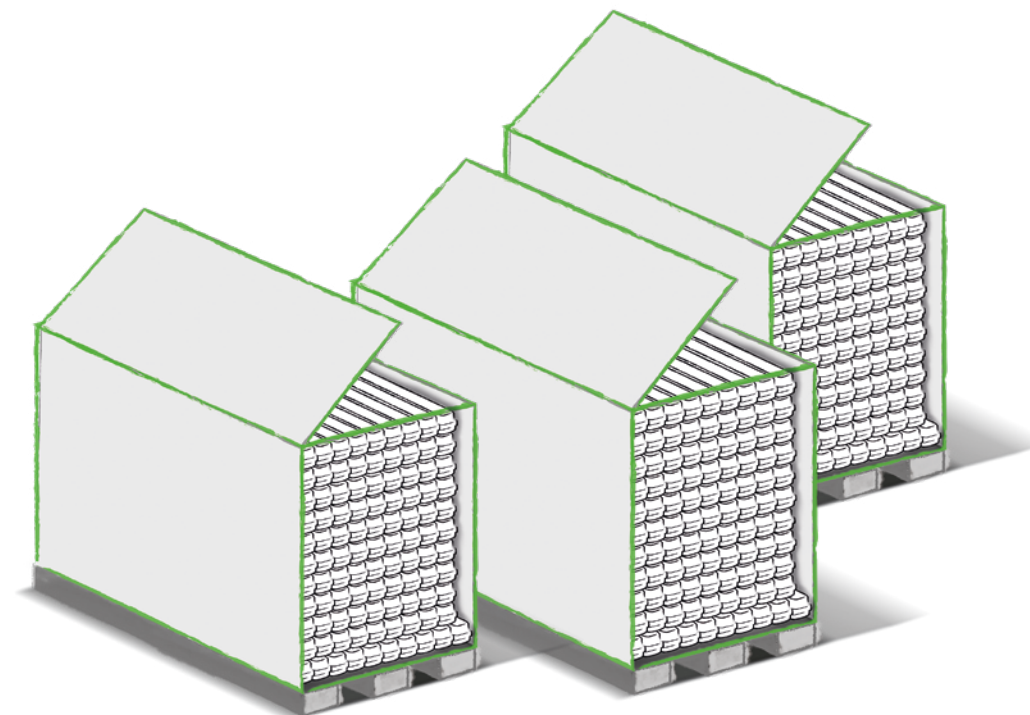
Together we can take care of our planet. Thanks to the new method of luminaire packaging, we use less paper and help save forests from being harvested. The difference is extremely important. When purchasing one pallet of Tytan LED luminaire in bulk packaging, 20 kg of paper will be saved, compared to the same quantity of luminaires packaged individually. This represents a reduction in the amount of paper used by as much as 74%.

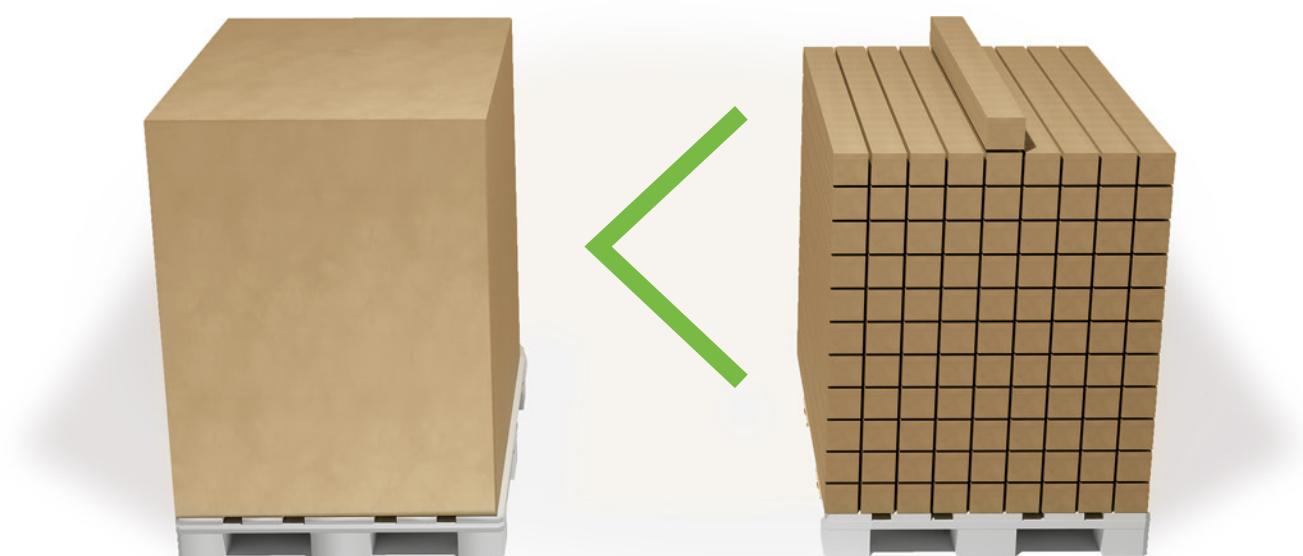
Each pallet of Tytan LED luminaires in bulk packaging equals the preservation of 1/3 of a tree. By producing 1,000 Tytan LED pallets, we ensure the protection of 333 trees from being cut down, which in the case of a mature forest means the preservation of approximately 8,000 m² of woodland. Less paper used means less CO₂ emissions associated with its production.

1

saved tree

When purchasing 300 Tytan luminaires.





Less waste

By offering Tytan LED luminaires in bulk packaging, we are not just delivering well-reputed, market-acknowledged product but we are also providing numerous benefits.

In addition to purely ecological aspects, in which we all benefit, the purchaser is also the one who benefits.

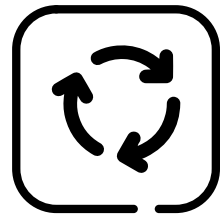
Less paper means less hassle and costs associated with the disposal of unnecessary packaging. It also means lower costs of purchasing luminaires, as the packaging costs are deducted.

74%

less packaging waste
(7.5 kg vs. 28.75 kg)
1 pallet = 100 pcs.

Less cost

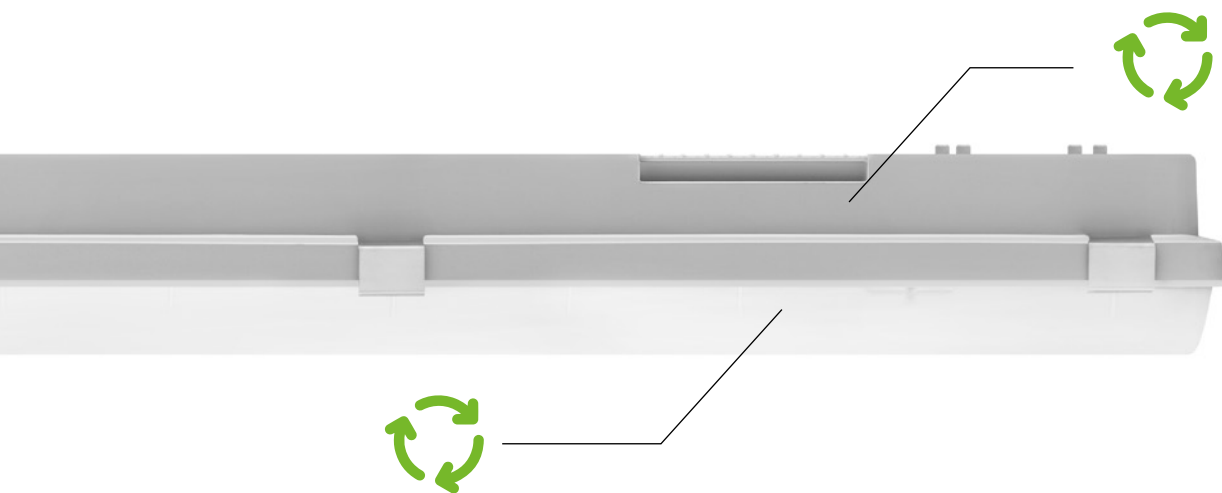
of packaging disposal
for the client, less
mess on the site

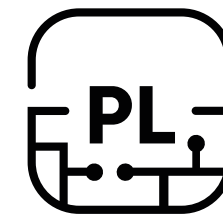


100% recycled

Tytan luminaires can undergo recycling not only at the end of their lifecycle but are also manufactured from reclaimed materials.

The base and diffuser of these products are made from 80 – 100% recycled materials, and after many years of operation and disassembly, these materials can be recycled once again.





Production in Poland

Our production facilities are located in Poland, which significantly speeds up any potential service or replacement process – with all spare parts readily accessible, minimising wait times.

The modular design of the Tytan LED luminaire allows for the replacement of the damaged part only, eliminating the need for the entire luminaire replacement, which, in turn, reduces the need for new luminaires production.

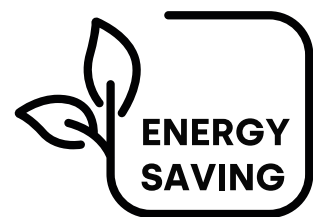
The fact that our production facilities are located in Poland, in the centre of Europe, also has a beneficial impact on our ecosystem. Shorter distances that the luminaire has to travel from the manufacturer to the purchaser result in lower greenhouse gas emissions emitted by means of transport. It also means lower transport costs.



Open modular design ensures the possibility to replace key components.



Produced in accordance with employee standards.



Electricity from **the sun**

The production of Tytan LED is in accordance with the appropriate eco-label, not only due to the use of recycled materials but also because of the production process itself. The vast majority of the energy required to produce Tytan LED luminaires comes from renewable energy sources. It is obtained from a photovoltaic farm established at the Lena Lighting production plant in Środa Wielkopolska.

With a lifespan of up to 196,000 hours, Tytan LED luminaires are designed to serve for an extended period without the need for servicing or replacement. This translates to a reduced environmental burden from the production of further luminaires. We are confident in the high quality and durability of our product, which is why we provide our clients with an extensive 8-year warranty.



During production
we use electricity
obtained from renewable
energy sources



The lifespan of Tytan LED
is up to
196,000 h



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**

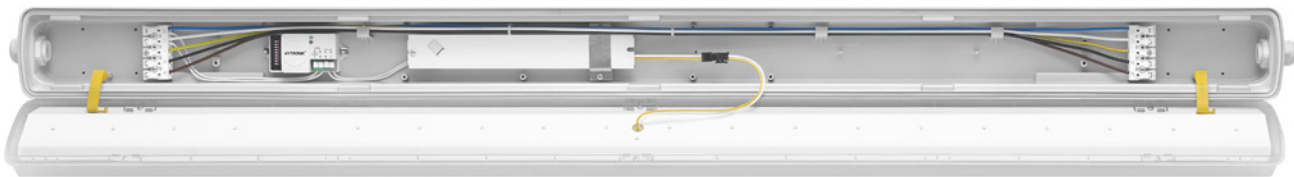
09

different versions

- 01 **Tytan LED Pro**
The highest quality and efficiency
- 02 **Tytan Multi LED**
4-step luminous flux and power control:
- 03 **Tytan 2 LED**
Versatility of applications
- 04 **Tytan 2 LED Endura**
Thermal resistance meaning
more possibilities
- 05 **Tytan 2 LED Hall**
Narrow light distribution
- 06 **Tytan 2 LED Chemo**
Chemical resistance thanks to PCT-G
- 07 **Tytan 2 LED 24-48V**
Luminaire for low voltage installations
- 08 **Tytan 2 LED Basic**
Versatility of applications
- 09 **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.

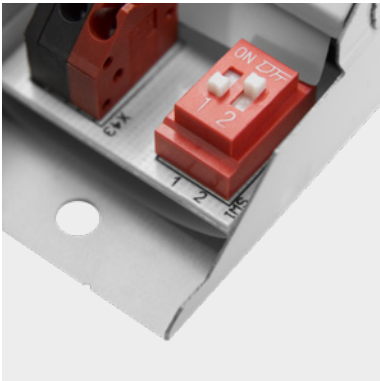
The MULTI function allows you to independently control luminaire's power and luminous flux. The dedicated microswitch allows to independently choose the level of luminous flux/luminaire power. The priority may be to obtain a sufficiently high value of the luminous flux or to save electricity. This solution 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 lighting module is facilitated. This is especially important in the case of service or efficient modernisation of luminaires over the years - changes to more modern solutions, without the need to disassemble the entire luminaires.



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.



Greater versatility

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



Mounting tolerance 100 mm

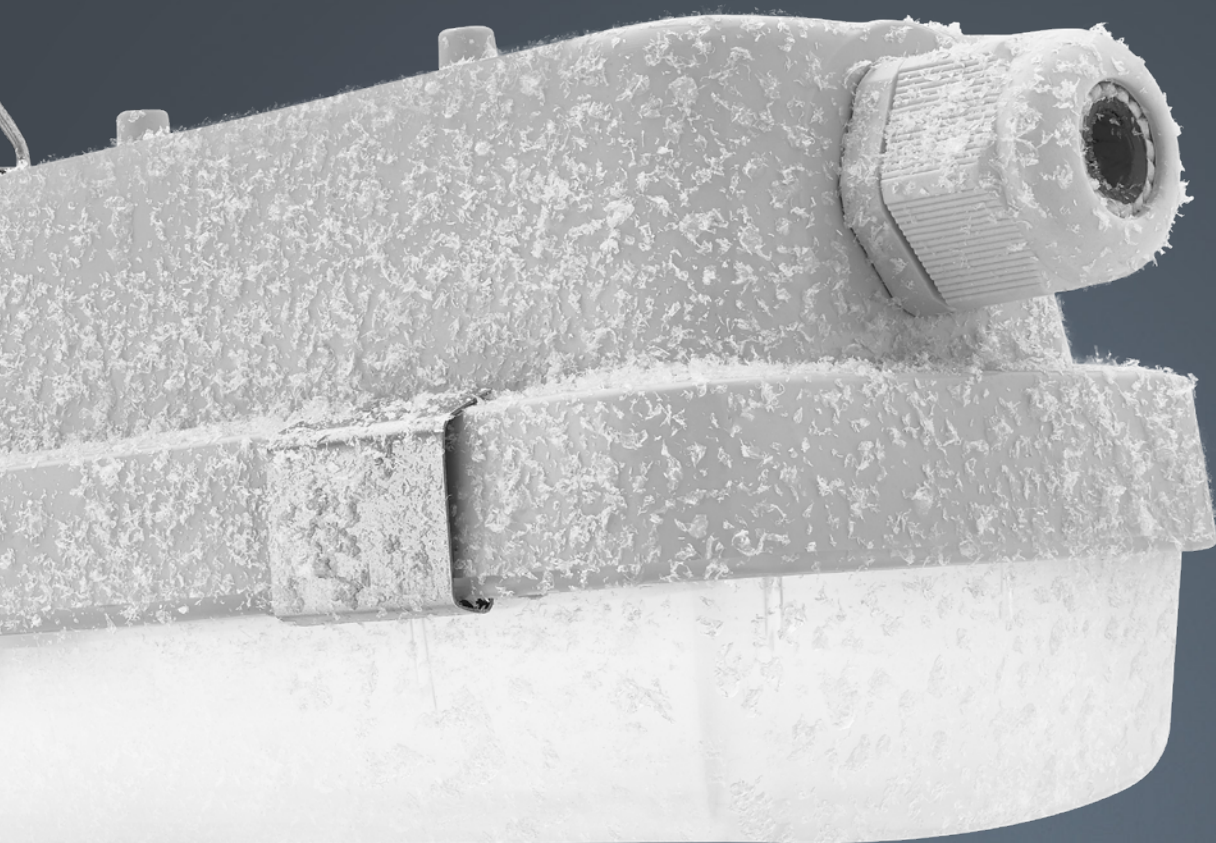
Adjustable brackets with a mounting tolerance of +/- 50 mm, facilitating and accelerating the process of surface mounting



Quick connectors

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

———— Tytan LED **family**



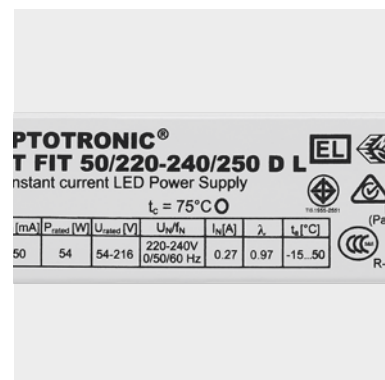
Hermetic and durable

Tytan 2 LED luminaires can be successfully used in areas with increased humidity and dust. Thanks to the implemented design solutions, they are characterised by IP66 and IP67 ingress protection (PRO and MULTI LED). The base and diffuser are made of polycarbonate, providing the luminaires with very high IK09 impact resistance.

IP66

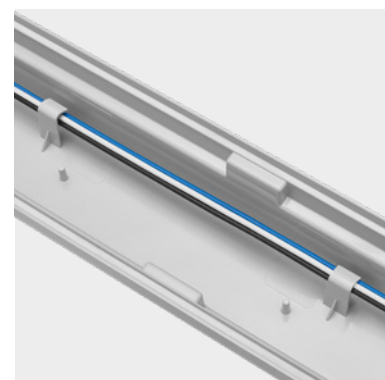
There is an option to prevent unauthorised interference with the interior of the luminaire. Thanks to the applied security measures, Tytan 2 LED luminaires can be successfully used at stadiums, parking lots and underground passages, and other places where the risk of damage is increased.

IK09



Branded components

Top-quality branded components ensure reliable operation and minimise maintenance costs.



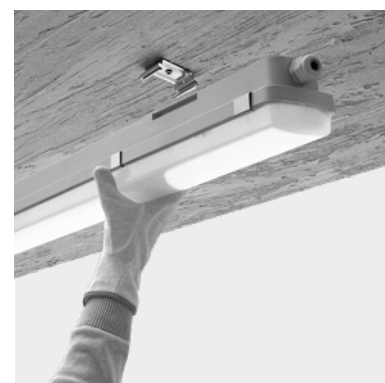
Guide rail brackets

Specially designed brackets enable leading the cables in an orderly manner.



Easy connection

The possibility of connecting the power supply from several sides makes assembly easier, even in hard-to-reach places.



Comfortable and adjustable surface mounting

The use of suspended lighting module, quick connectors and a bracket with mounting tolerance helps save time during assembly and maintenance of the luminaires.

Knowledge and experience



- 01 High energy efficiency up to 86%
- 02 Easier and faster mounting: diffuser suspension system, quick connector, RAPID-A/D
- 03 Intelligent lighting control: RCR, DIMM-DALI
- 04 Very high ingress protection and resistance to mechanical damage
- 05 Up to 5 years warranty, PZH and HACCP certified

Lighting in a production hall

The investor has modernised the lighting in the production hall.

Facility dimensions: 20 m x 30 m (600 m²), luminaire mounting height: 7 m.

Due to the functional purpose of the space, a lighting level of 300 lx on the work surface was required.

Due to the 16-hour mode of luminaire usage duration, energy efficiency was the most important criterion for their selection. Another condition for choosing the

product was its reliability, because each downtime in the production process generates unnecessary costs.

So far, the facility has been fitted with 2x58 W EVG fluorescent luminaires. Considering investor's key requirements, we proposed replacing traditional luminaires with Tytan LED Pro 40 W 4000 K 7500 lm IP66.

63.0%

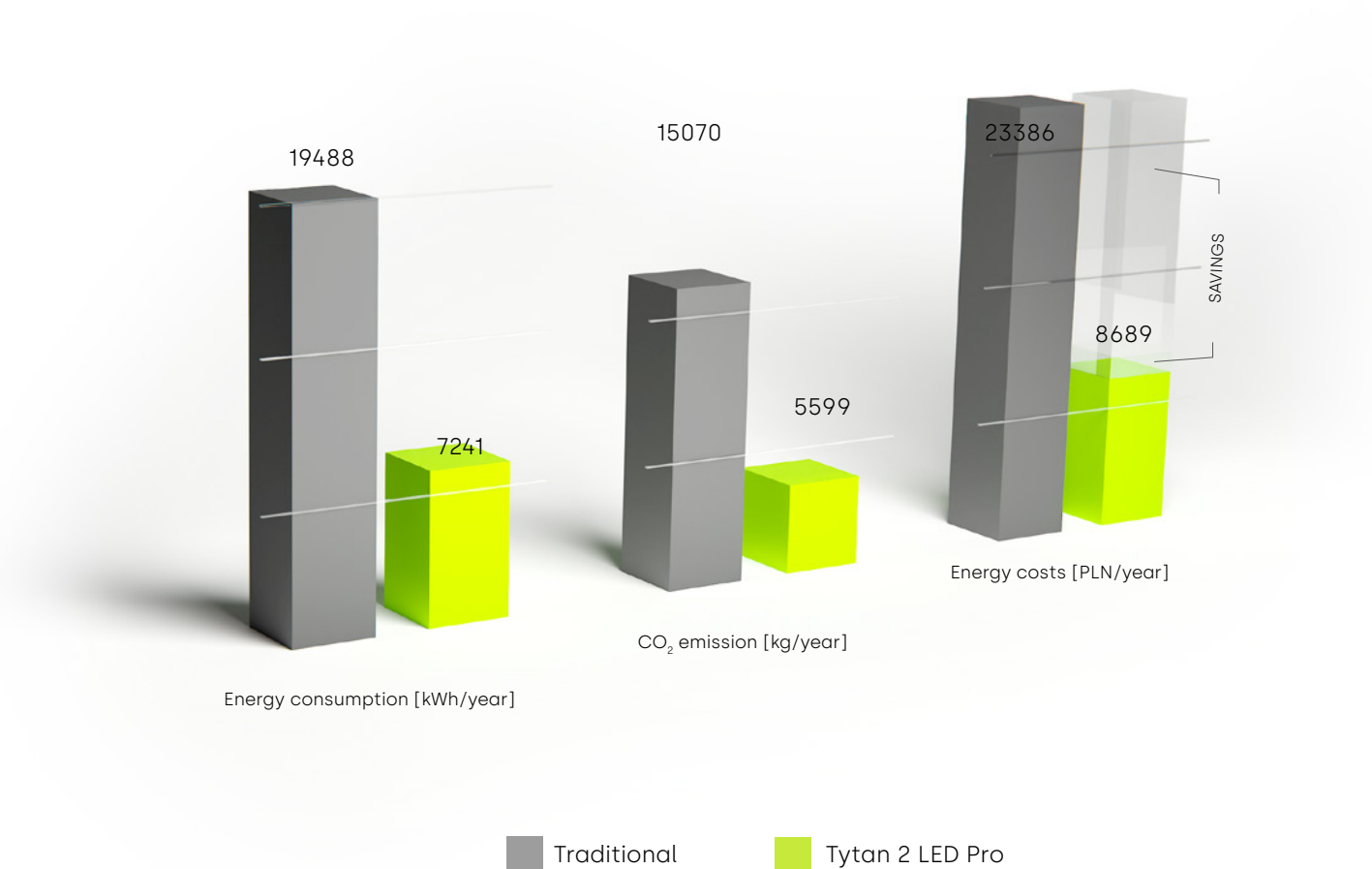
energy savings

3 years

return on investment



Comparison of energy consumption and costs



The comparative analysis has shown multiple benefits resulting from using LED luminaires. According to the proposed design, the same number of luminaires were installed, but during the use of Tytan LED PRO luminaires a significant reduction in costs has been observed.

This is due to the reduction in electricity consumption by 63% and minimisation of luminaire servicing costs (e.g. replacement of traditional sources), made possible through fitting the LEDs with modern LED light modules, characterised by a long-lasting period of operation. The cost of purchasing Tytan LED Pro luminaires is offset by a reduction in the cost of electricity and pays back in less than 3 years. After that period, the investor will experience a constant and dynamic increase in profits due to their use.

Basic assumptions:

The luminaire's lighting time is 16 hours per day; price for 1 kWh = PLN 1.20 (EUR 0.128); market cost of luminaires according to the knowledge of Lena Lighting S.A.; luminaire replacement frequency – according to the declared service life.



Tytan LED Pro

max.
178 lm/W IP66 IK09 

Rated power [W]:	14 - 75
Luminous flux [lm]:	2500 - 12000
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

Distinguishing features:

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



The use of Tytan Pro luminaires in a warehouse hall



The use of Tytan LED Multi luminaires in a warehouse hall



Tytan Multi LED

max.
175 lm/W IP66 IK09

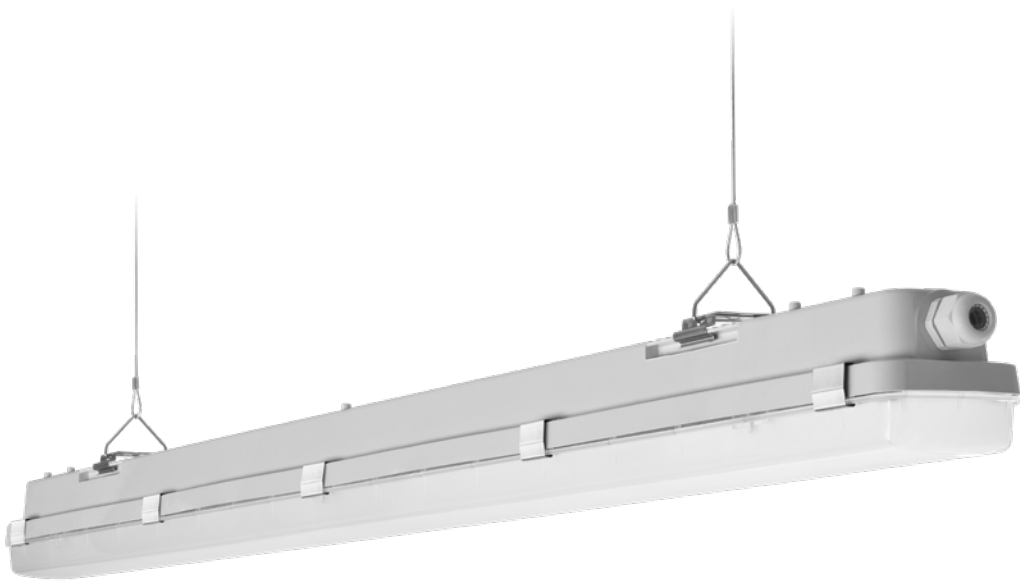
Rated power [W]:	14 - 25, 17 - 31, 28 - 50, 35 - 63
Luminous flux [lm]:	2500 - 4350, 3150 - 5450, 5000 - 8700, 6300 - 10900
Mounting method:	surface, suspended
Body material:	PC

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

Distinguishing features:

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





Tytan 2 LED

— Different variants available depending on the application

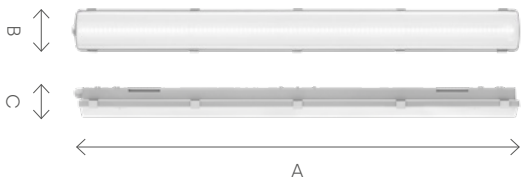
Rated power [W]:	17 - 74
Luminous flux [lm]:	2650 - 11300
Mounting method:	surface, suspended
Body material:	PC

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

max.
161 lm/W IP66 IK09  

Luminaire's distinguishing features and variants:

- Very high efficiency
- High impact resistance and ingress protection



Underground garage in Nowe Ptasia Apartament Park – Katowice.



The use of Tytan 2 LED Endura luminaires in a production hall



-40°C to +60°C

Tytan 2 LED Endura

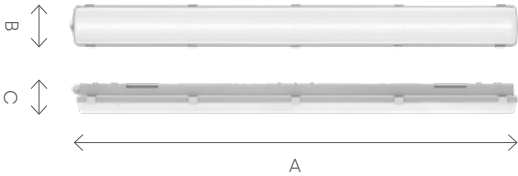
up to 155 lm/W IP66 IK09 

Rated power [W]:	32 - 76
Luminous flux [lm]:	4750 - 11300
Mounting method:	surface, suspended

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

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





Tytan 2 LED Hall

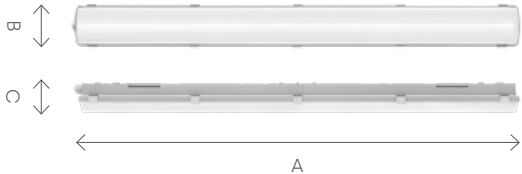
up to
144 lm/W IP66 IK09 

Rated power [W]:	58 - 72
Luminous flux [lm]:	8200-10400
Mounting method:	surface, suspended

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

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°



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



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



Tytan 2 LED Chemo

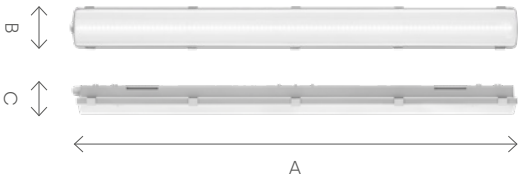
up to 155 lm/W IP66 IK09 

Rated power [W]:	30 - 74
Luminous flux [lm]:	4550 - 11300
Mounting method:	surface, suspended

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

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





Tytan 2 LED UGR

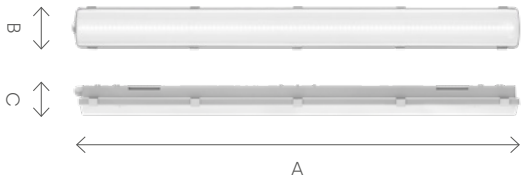
up to 132 lm/W IP66 IK09 

Rated power [W]:	31 - 45
Luminous flux [lm]:	4100 - 5300
Mounting method:	surface, suspended

Body material:	ABS
Diffuser type:	transparent
Dimensions A/B/C [mm]:	1152/85/80

Distinguishing features:

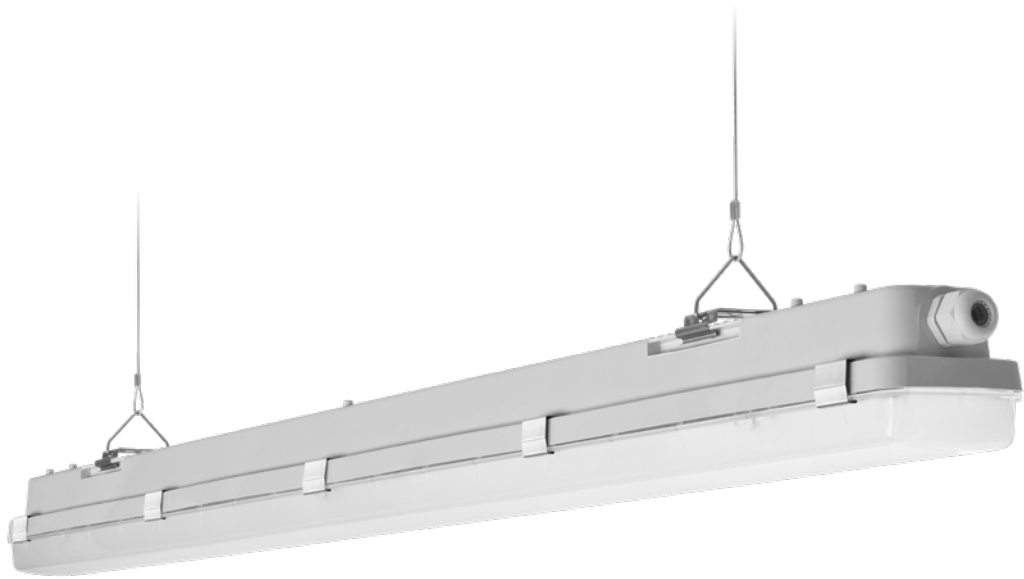
- Low UGR 9-13 guarantees high comfort of work
- Very high efficiency
- High energy efficiency
- High ingress protection



The use of Tytan 2 LED UGR luminaires in an office



The use of Tytan 2 LED 24-48V luminaires in a garage hall



Tytan 2 LED 24-48V

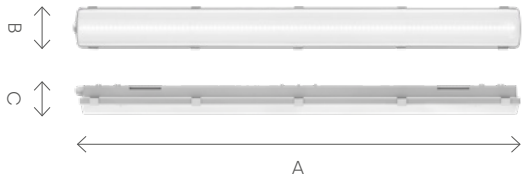
up to 115 lm/W IP66 IK09 

Rated power [W]:	24
Luminous flux [lm]:	2750
Mounting method:	surface, suspended

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

Luminaire's distinguishing features and variants:

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





Light under control

Lighting control systems are comfortable, give a sense of comfort, save time, but above all optimise processes and are energy-saving and environmentally friendly.

Clue In was created for us – people and for our planet. So you can use Clue In wherever you need light: for work, study, rest, recovery or entertainment. Light scenes created with Clue In affect well-being and concentration.

What **Clue In** offers?

energy savings

scalability – from one room to the entire integrated multi-building complex

selection of lighting dedicated for specific tasks

easily and quickly changeable light scenes depending on the type of performed work

automatic modification of lighting depending on the time of day and external conditions

adaptation of lighting to room's occupancy level

In industry and sports facilities, they will improve safety, in offices and schools, they will increase the level of perception, in hospitals they will help people recover, and in hotels they will ensure a good mood. Adaptation of lighting to weather conditions, time of day or the occupancy of rooms, brings measurable benefits in the form of optimal energy use and reduction of greenhouse gas emissions.

Web app



Smartphone app





Lena Lighting S.A.
ul. Kórnicka 52, 63-000 Środa Wielkopolska
tel. +48 612 860 300, e-mail: hello@lenalighting.pl

www.lenalighting.com