

lightenjin #











Founded in 2006 with the objective of increasing the efficiency and quality of lighting solutions, Lightenjin, a service company, sought from day one to respond to the challenges and demands of the market.

Through lighting projects, part of them with international recognition, and since 2010, we have been developing highly efficient and innovative products.

In order to increase its capacity to respond to market challenges, in 2014 Lightenjin started its production activity, industrializing the products previously developed. This step was possible thanks to the partnership with a group of companies that guarantee its quality and competitiveness (HFA, Uartronica, Globaltronic, E4s, among others).

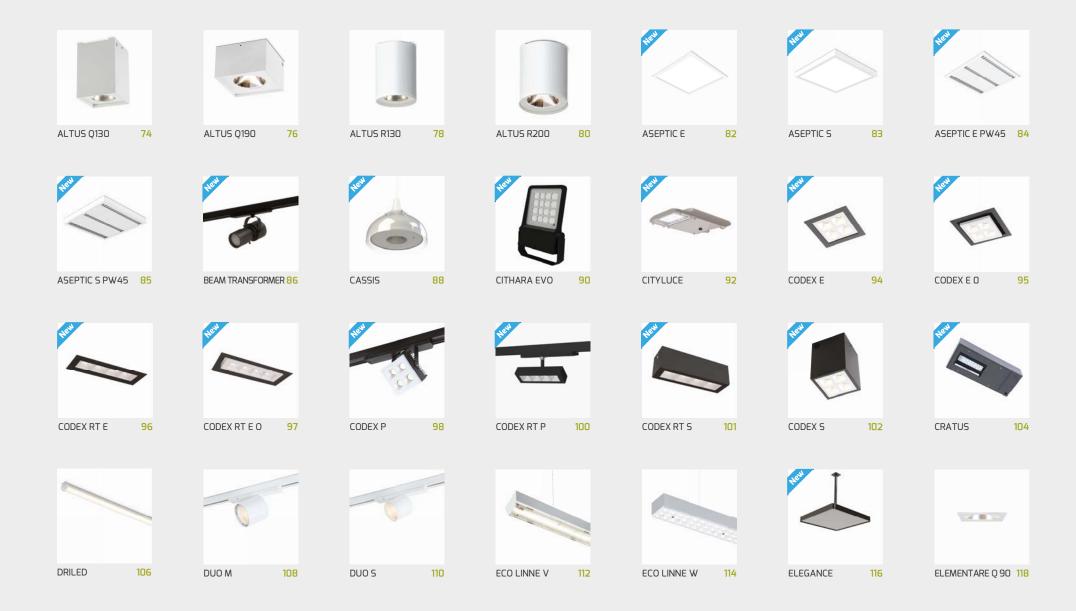
Currently certified in accordance with ISO 9001 and NP4457, Lightenjin seeks to offer its customers real-time monitoring and management systems, innovative, efficient solutions, with long lifetimes, low operating and maintenance costs, ensuring quality and traceability of its products and with a view to achieving its strategic vision of offering lighting as a service.

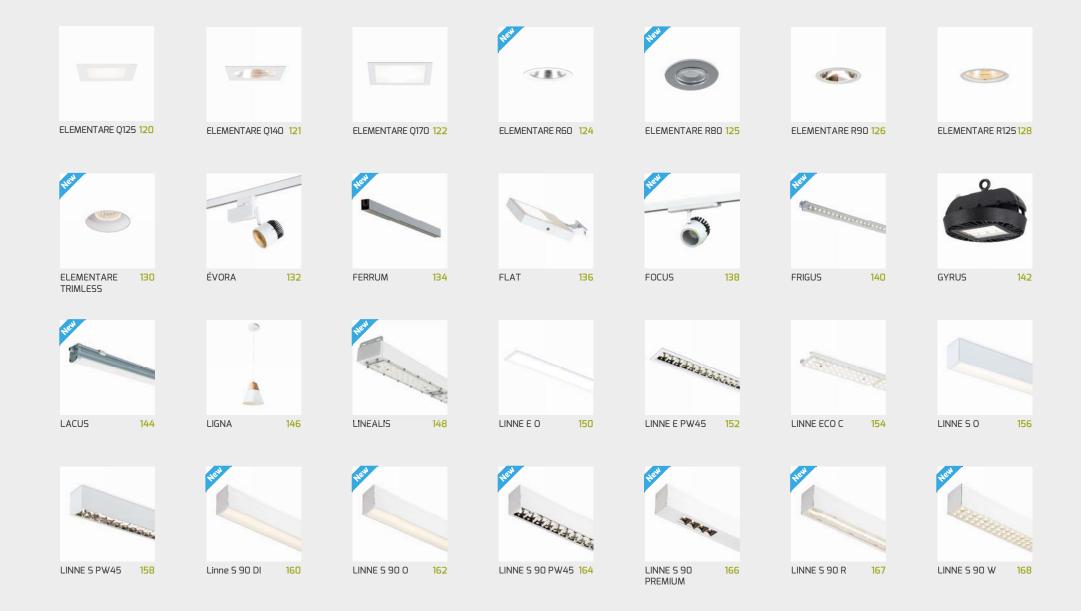
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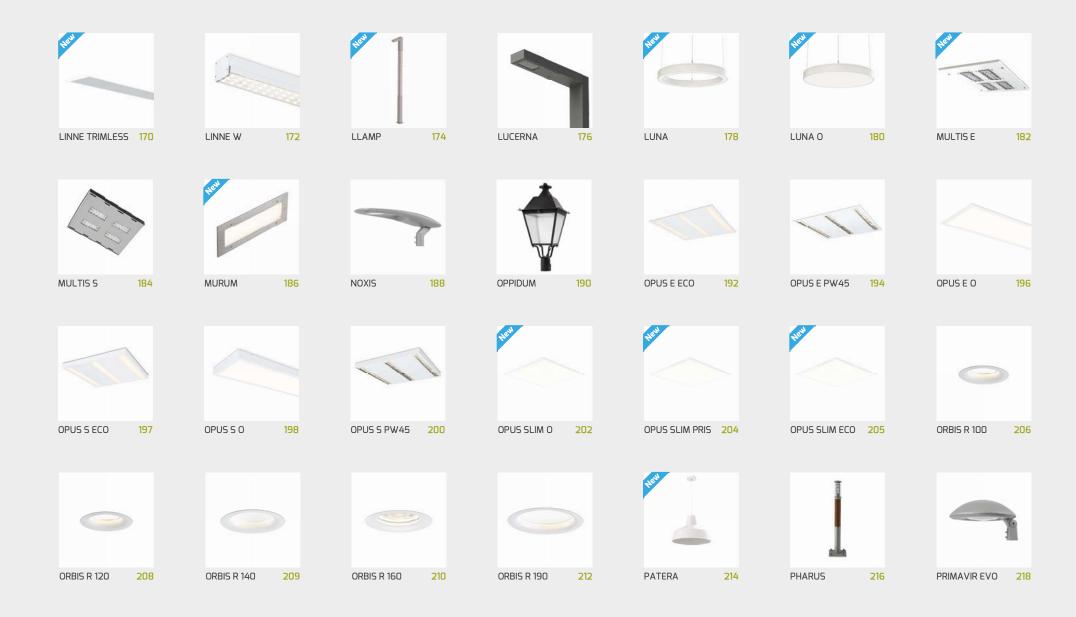
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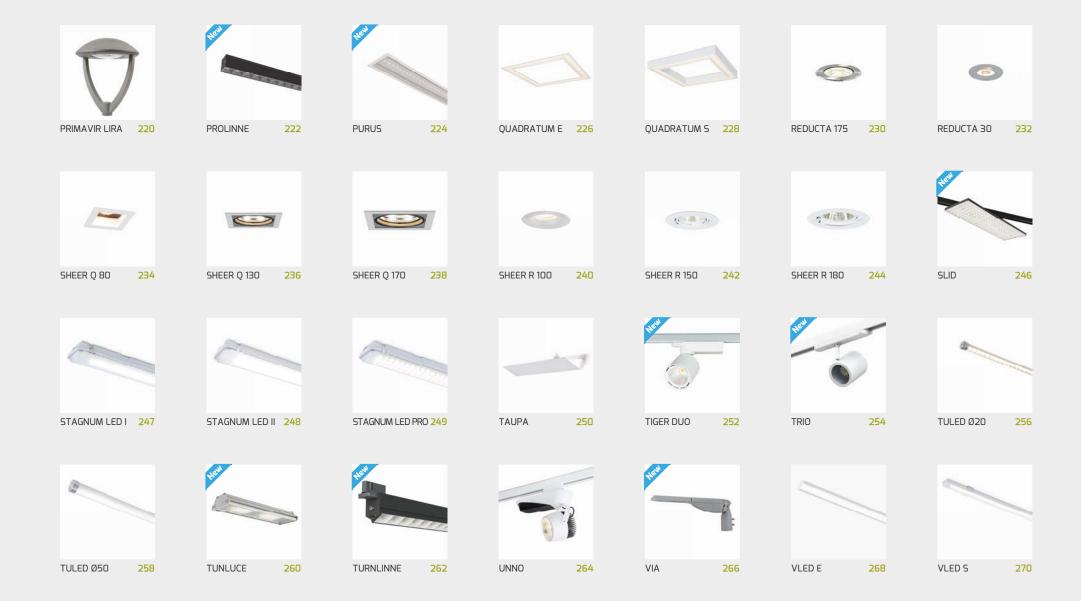
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## about **Us**



Lightenjin has a young and dynamic team of more than 50 employees spread across the purchasing, resources, development, commercial, quality, production and management departments that operate in 3 shifts that are adapted daily to allow the best workflow and a streamlined production.

It is the spirit and will of each individual to do well and do better that differentiates Lightenjin, and its products, from the competition in the global market.

Its customers and partners play an important and active role, regularly participating in events and activities organized by Lightenjin.



## about **Us**

Lightenjin has maintained over the years a strategy of sustained growth in the quality and innovation of its products, services, processes and marketing, in response to the needs of users and customers, and in line with market trends. Lightenjin has been growing exponentially in ambition and results. This growth is reflected in the historical landmarks that are presented.







2014 Landindustrialization

industrialization and trade in lighting solutions

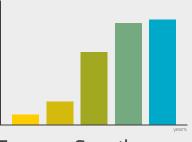
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conclusion of the construction of the new HQ that allowed all the team to be under the same roof. Also, installation of the new automatic assembly lines for public lighting.



2017 Internationalization

Start of the internationalization process that culminated with the presence in renowned fairs such as L&B 2018



Turnover Growth

The results in these charts reflect a solid and constant growth in results, customers and employees.







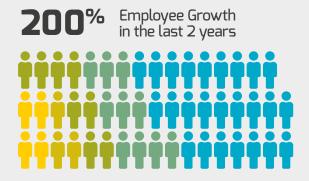


### Certification

To better respond to the challenges and needs of customers, Lightenjin has developed a quality management system integrated with the innovation management system. The first allows to reduce the number of errors and complaints while the second allows to increase the number of projects and innovators.



Comprising by: 2 PhDs, 3 Masters and 3 Graduates. We are a multidisciplinary team, capable of responding to the most demanding challenges.















## **TENDENCIES**

## **HORTICULTURE**

With the demographic growth sharply increasing in the urban environment, in the near future it will not be possible to feed the growing population and megacities using conventional agriculture!

It is necessary to find alternatives, and these involve increasing the food growth cycle, optimizing their production both quantitatively and qualitatively.



# Chlorophyll-a Chlorophyll-b B-Carotene 380 410 440 470 500 530 560 590 620 650 680 710 740 770 Wavelength (nm)

# Energy Optimization Artificial plant growth

The versatility and the targeted control of lighting will effectively ensure the fulfillment of the energy needs of plants allowing the efficient growth

of vegetables.

With the optimization of growth conditions, the product can be obtained

With the optimization of growth conditions, the product can be obtained more quickly without jeopardizing its good quality.

While the Sun provides wavelengths ranging from 250 to 2500 nm, lighting provides only the lengths that are efficiently absorbed by the plant, particularly in regions that require greater energy absorption, in order to optimize biological and physical processes that are translate into increased growth.



#### **TYPES OF APPLICATION**

Which is the most suitable?



#### **Top Lighting**

Lighting directed from the top to simulate natural lighting. Suitable for long distances between the light source and the plant, since it has a high luminous power. Taking into account the needs of the plants, this light can provide the ideal complement of both light spectrum and intensity for a natural, but optimized, growth of plants.



#### Inter Lighting



Lighting directed laterally in order to fill the shadow region caused by the leaves in the plant. An example of this are some crops that develop in height, such as cucumber or tomato.

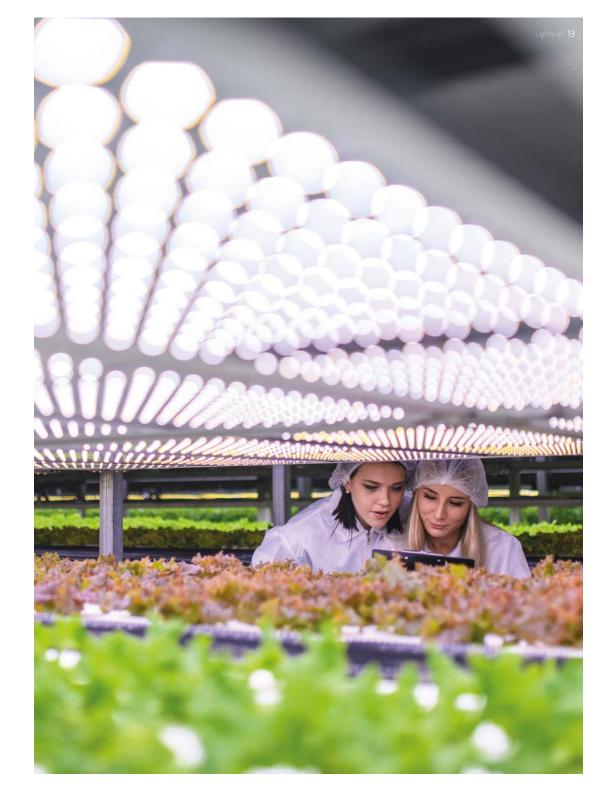
This "interlighting" option makes up for the lack of light where it is insufficient. ensuring that lower and inner leaves remain active, contributing to growth and optimizing production. It also allows production with a higher density of plants.



#### **Vertical Farming**

Top or vertical lighting in which the plant and luminaire are at a distance between 30-50 cm. Vertical Agriculture consists of a multi-layer solution in which crops are presented on shelves, one on top of the other. Optimizing space.

The compact layered mode of this method completely forgoes any natural light. Allowing complete and effective control of all stages of the process.



## **TENDENCIES**

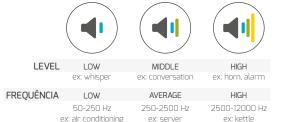
## **ACOUSTICS**

In large and / or shared spaces - such as offices, restaurants or commercial areas - noise pollution from unwanted and disturbing sounds can have a negative impact on the physical and psychological well-being of individuals. In addition to the sound environment, lighting conditions can also influence health, mood and well-being, thus playing a crucial role in creating spaces suitable for different needs.

Lighting solutions that combine lighting adequacy to spaces and, at the same time, acoustic control - for better speech intelligibility and reduction of noise levels - enable the creation of more comfortable environments and increase the user's well-being.



#### Sound Volume



#### **Acoustic Performance**





The sound energy is absorbed by the material, being converted into mechanical vibration energy and / or thermal energy



MITIGATION

Sound energy is attenuated by a barrier effect, reducing sound propagation with distance



DIFFUSION

Sound energy is distributed in a given space, propagating with the same force in all directions

# Lighting and acoustic comfort Acoustic lighting in workspaces

About 90% of our time is spent indoors, of which about 7 to 8 hours a day is spent at work. Solutions in terms of privacy, optimization of sound conditions and adequacy of lighting, will enhance the physical and psychological balance of the user.

The current open office models foster collaboration between people, but at the same time presents some acoustic challenges. Background noise, it can often become disturbing in spaces where reflective surfaces predominate.

In addition, many spaces that require acoustic treatment also require better lighting. At Lightenjin, acoustic lighting works as the perfect fit, combining acoustics and lighting, without overly domination itself into the surrounding space.

# MATERIALS Back to the roots

At Lightenjin, we daily remember our roots and give importance to the valorization of the Portuguese territory. For this reason, we propose to reinterpret traditional materials by incorporating them into new solutions in the lighting sector.

#### **BUREL**

Burel is one of these natural materials recovered from tradition, completely made of wool, from the mountainous regions of Portugal. In addition, it is a very resistant and versatile fabric, whose fiber structure repels dirt, allows quick maintenance and makes it an excellent sound absorber.

#### MOSS

Introducing natural elements to surfaces creates new dimensions in an interior space, reducing the noise level and creating a more sustainable environment. This is the premise of application in Lightenjin luminaires: compositions of real plants, preserved, that need almost no maintenance and that allow us to transpose the genuineness of nature to indoor spaces.

#### **FELT**

Felt is an efficient insulator against the propagation of sound and heat. When exposed to constant environmental conditions, the felt guarantees its resistance, elasticity and unchangeable dimensions, over a long period of time. But it is because it derives from natural products and allows the incorporation of recycled materials in its structure that the felt awakens the curiosity to our senses and impels us to present more sustainable solutions that promote it.

#### CORK

Cork is one of the most prominent materials for acoustic reduction. However, it is due to its versatility, lightness, impermeability to liquids, hypoallergenic property and the sensorial characteristics it offers - a characteristic and non-intrusive odor, a soft touch and a natural thermal comfort - that we consider that its application can transpose uniqueness to the luminaires from Lightenjin.









## **TENDENCIES**

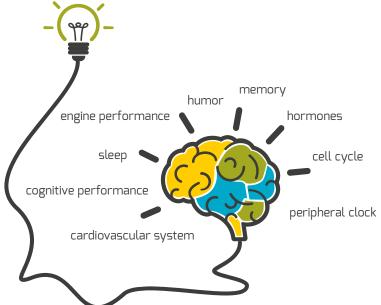
## **HEALTH & WELL-BEING**

Over the decades, the number of hours spent in outdoor spaces has been decreasing significantly. Studies show that we spend about 90% of our time in closed spaces.

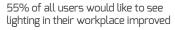
One of the problems associated with long periods of time spent in closed spaces is due to the very low levels of lighting when compared to natural lighting (whether on sunny days or rainy days) and its impact on health.

Recent studies relate the levels and quality of lighting with the rise of diseases related to problems of the cardiovascular, reproductive, gastrointestinal system, insomnia, vitamin D deficiency, obesity and even problems related to mental health.









Particularly older workers and full-time employees need better lighting



70% think the lighting in their workplace should be variable

More than half of end users want greater control over lighting at work



80% want the light at work to change color when it gets dark outside

The change in brightness and color favors professional performance and sleep quality



#### to control Circadian Rhythm

It is important to develop adequate lighting to prevent diseases and improve our health and well-being (physical and / or psychological), Light tailored to the needs and pace of life of each individual. Several strategies can be followed within this perspective:

#### CCT

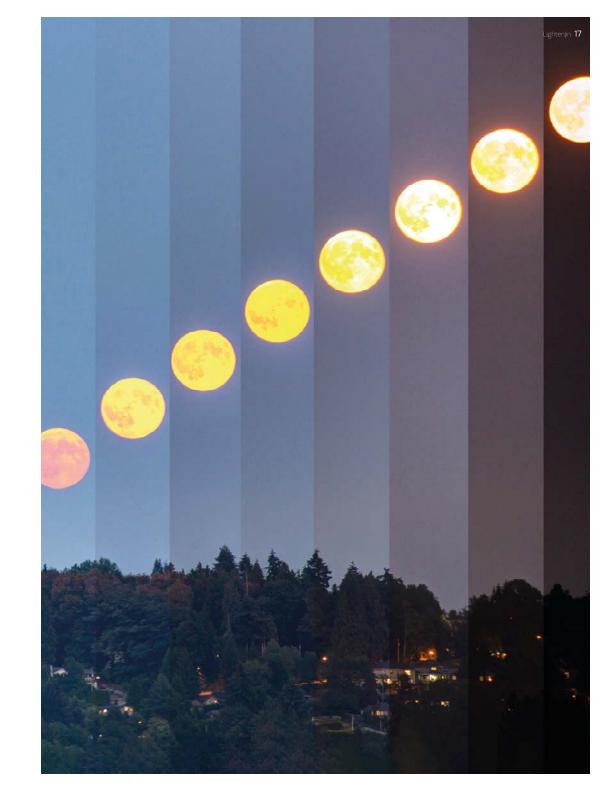
Adequacy of color temperature (CCT) and light intensity throughout the day in order to simulate natural light.

#### LIGHT QUALITY

Adequacy of the light spectrum (regulation of the blue component) in order to suppress or stimulate the production of melatonin, cortisol, body temperature, hormones responsible for activating performance and alertness.

#### LIGHTING PROJECTION

Adequacy of the projection of lighting according to the hours of deprivation to natural light in order to promote segregation or suppression of melatonin.



## **TENDENCIES**

## **SMART CITIES**

Smart Cities is a concept that aims to convey the effective integration of physical, digital and human systems in the environment in order to promote a prosperous, sustainable and inclusive future for its citizens.

Source: BSI PAS 180:2014 (The British Standards Institution)



#### Some cities with Management Systems:

Águeda Setúbal - Monte Verde

Lourinhã Guarda

Porto Açores - São Roque do Pico

Pombal Viseu Leiria Avis Alcobaça Portimão Cascais Alenquer

Sintra CIMAC (Comunidade Intermunicipal do Alentejo Central)

Oeiras ---

Lisboa Chile - Los Muermos, Curico, Aysén Vila Franca de Xira Brasil - Águas Santas - São Paulo

Porto de Mós Spain - La Coruña Mangualde Angola - Luanda

#### Our Experience

- > 24.000 Light points
- > 150 Gateway's
- > 800 Line Group
- 131 Users

#### CITIES OF THE FUTURE

#### **Digital Transformation**

An intelligent city is a platform capable of promoting digital transformation. This implies changes:

**Community** in work methods, public participation, health care and openness to the outside (tourists, students, migrants);

**Economy** through new business models, new forms of logistics, digitization, shared economy and circular economy;

**Urban Space** by regeneration and rehabilitation, by improving air quality, by reducing emissions, by energy and water efficiency, by increasing comfort and leisure spaces;

**Mobility** through collective, shared, electric, autonomous and soft transport;

**Technology** through sensors, intelligent lighting, production and energy management, big data, artificial intelligence and communications;

**Education** for the promotion of digital and artistic skills, continuous learning, retraining of people and entrepreneurship;

**Culture** through creativity, collaboration, co-creation and volunteering.



## **NEWS**

Lightenjin has invested in the development of innovative and highly efficient lighting solutions in the most diverse application sectors. We have regularly launched proposals for new products and new market trends, which means that we are currently leaders in innovative products in Portugal.

The company's certification in the scope of the research, development and innovation system in July 2019 reflects the work and constant motivation to present our customers with exclusive products, of high quality and adapted to their needs.

We achieve high performance with excellent components - ensuring a 5-year warrantya.





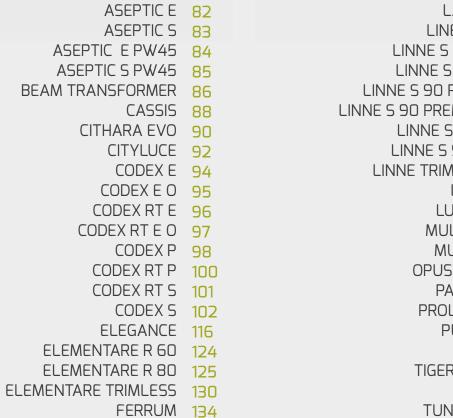












FOCUS 138

FRIGUS 140



LACUS 144 LINEALIS 148 LINNE S 90 DI 160 LINNE S 90 0 162 LINNE S 90 PW45 164 LINNE S 90 PREMIUM 166 LINNE S 90 R 167 LINNE S 90 W 168 LINNE TRIMLESS 170 **LUNA 178** LUNA 0 180 MULTIS E 182 **MURUM 186** OPUS SLIM 202 PATERA 214 PROLINNE 222 PURUS 224 **SLID 246** TIGER DUO 252 TRIO 254 TUNLUCE 260

TURNLINNE 262

VIA 266

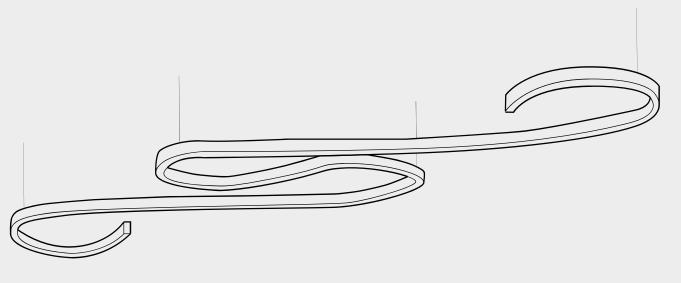
## **LINNE S 90**

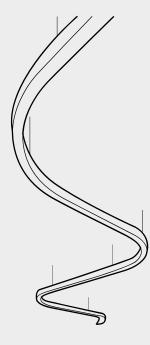
The LINNE S 90 project arose from the need to increase production capacity and to create linear models with organic shapes.

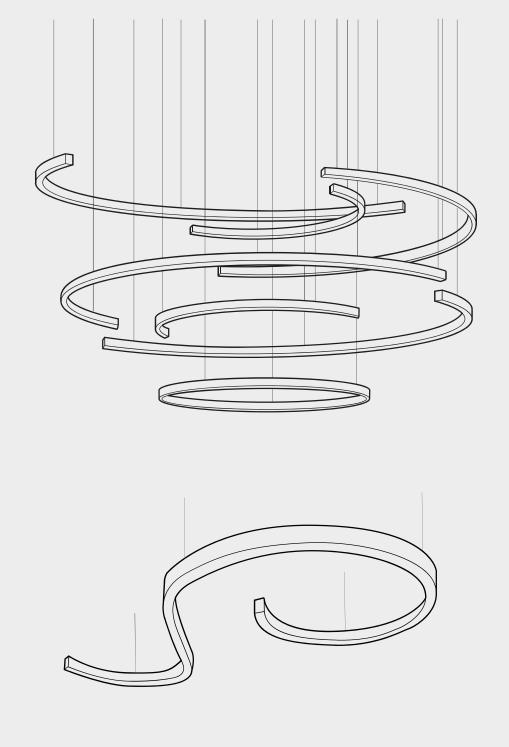
This resulted in a highly innovative product for Lightenjin from the point of view of integration and industrialization, which allows incorporating a wide range of light engines, diffusers, lenses and reflectors and creating continuous lines with curvatures.

We provide the possibility to develop projects that ensure lighting levels adequate to the space and environment and best suited lighting.







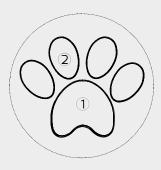




## **MORPHUS**

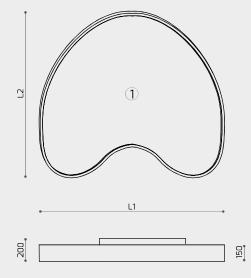
The Morphus Project arises from a challenge given to Lightenjin. The goal was the development of a lighting solution thought and developed with the ZU stores environment in mind (stores that bring together everything that dogs and cats need, in one single place).

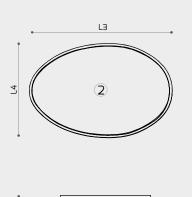
The main motivation was to correlate lighting levels appropriate to the product design. The result was a decorative paw-shaped luminaire that was used in a wide range of stores across the country and that enabled Lightenjin to develop new production techniques to respond to this challenge.



Reference		L (mm)				
	L1	L2	L3	L4		
MORPHUS M	993	1125	760	495		
MORPHUS I	1400	1640	984	738		









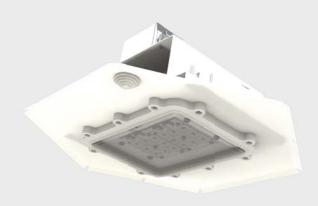


## **RETROFIT**

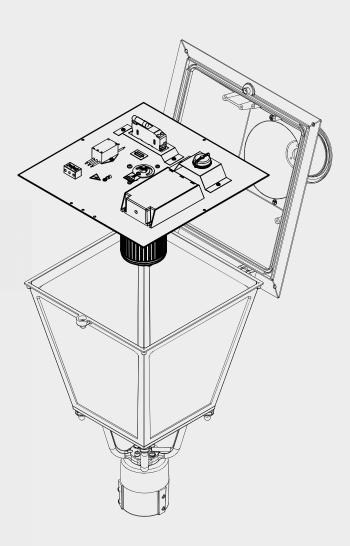
Attentive to market needs and committed to a sustainable energy transition, Lightenjin has been developing light engines based on LED technology that are applied to customers' lighting equipment. These aim to replace conventional light sources with LED and allow to increase the quality of lighting, reduce energy consumption, make lower investments and integrate management systems, without compromising the aesthetic and mechanical component.

Lightenjin presents customized retrofit solutions in order to ensure the lighting needs and the fit in the existing luminaire. Retrofits are available for overhead or underground networks and may incorporate a control system.

These solutions are part of a circular economy philosophy where it is important to reuse, repurpose, reconfigure equipment and materials that are still in a good state of conservation, thus contributing to economic and environmental sustainability.



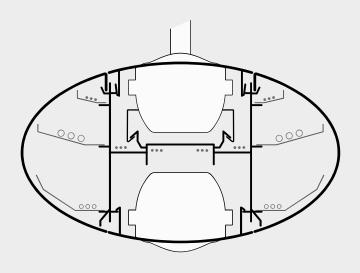








A SUB - TECHNICAL LIGHTING SOLUTIONS for RAILWAYS AND SUBWAYS - is a multifunctional structure that allows integration of various technologies necessary for the correct functioning in public spaces such as: lighting, sound, video surveil-lance system, emergency lighting, emergency aid lighting, signage and others. Thus, SUB allows spaces with large numbers of people to be more pleasant, harmonious and safe, as SUB allows you to reach the various locations without interruption by changing directions on the various planes.







## METAMORFOSE by FAHR 021.3

In context of "Metamorfose", an Oporto scenic art piece from FAHR 021.3 for Locomotiva, "Porto Light Experience" emerges to deepen the experience of light creating an unexpected landmark in the city.

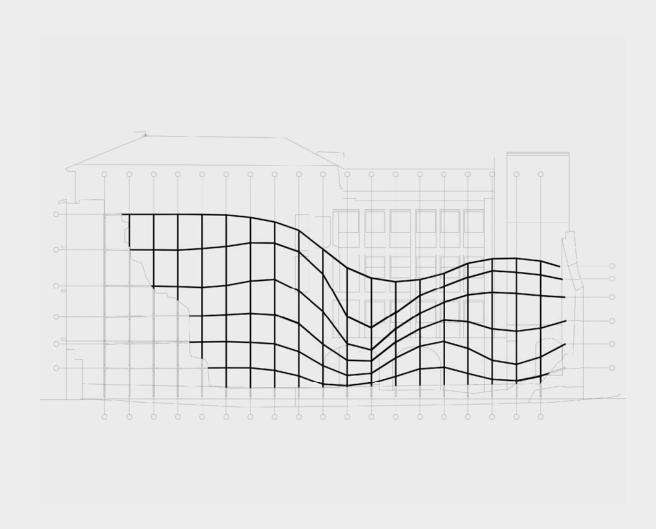
A collaboration between FAHR 021.3 and Thinklight.se - light design, integrated in 2015 International Year of Light, "Porto Light Experience" developed an overnight Led Light occupation on urban infrastructure intensifying its identity and relation with the city. As a landmark, this Led Lighting contributes to the image of the contemporary city, a city alive that interacts with people and invites encounter. The led lighting system uses the latest technologies that enables dynamic digital programming and develop the potential of interactivity with citizens, residents and visitors. Beyond this interaction, the digital programming allows other kind of animation like sound reaction through DMX cable or variation of light intensity by video signal.

Supported and developed by the Portuguese cluster Lighting Living Lab, a total of 1.300 digital rulers and more than 20.800 LEDs.

Through the joint efforts of these multidisciplinary teams, combining different areas of knowledge and creativity, the result is intended to be completely innovative ways of generate a new night experience, a dialog platform in the city.

\_authors\_ FAHR 021.3 w/ José Nuno Sampaio thinklight.se \_architecture\_ FAHR 021.3

(description by FAHR 021.3)





## Stimulus SBSR Stage by FAHR 021.3

On the 20th anniversary of SuperBock SuperRock festival, FAHR 021.3 was challenged to develop a new concept for the main stage.

The concept is divided in two perspectives: The reinvention of the festival by the displacement into urban/metropolitan space and the idea of representing music through space, geometry and light.

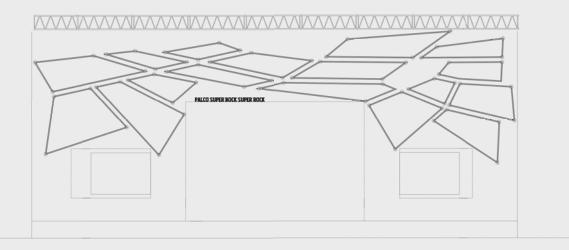
Stimulus, as the name suggests, stimulates the audience in a unique and attractive way. A frontstage drawn through light lines, which together enclose an idea of a new territory or morphology. A set of frames distorting the idea of symmetrical stage, diluting its limits.

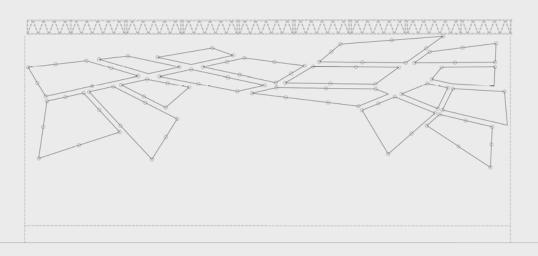
Associated with this idea is also an important work of light that will allow to create endless animations within the limits of this new morphology. For this purpose, the project has the indispensable contribution of the Lighting Living Lab cluster of companies based in Águeda, which focuses on the area of development and research in new technologies and applications in the area of lighting.

We expect a structure composed of light, lightweight, dynamic and enveloping, which transports us to the idea of bespoke music.

\_architecture\_ FAHR 021.3 \_light design\_ Thinklight.se

(description by FAHR 021.3)



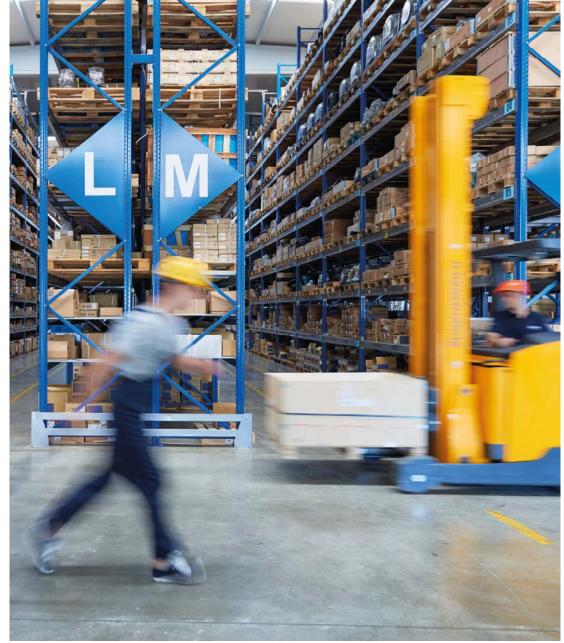








OFFICES STORES & RETAIL





INDUSTRY PUBLIC & INFRASTRUCTURES



### Lighting OFFICE

Offices have been going through great changes from their traditional layout over the past years. Spaces are now shared, meetings no longer take place exclusively in rooms, and leisure has also become a part of the workspace.

Lightings have had to evolve technologically in order to adapt to the changes in the office working methods. Lighting management resorting to a light control system and software is indispensable in order to achieve greater energy efficiency and to better fit the real use of these spaces.

Lighting is also part of a company's identity. The concept of indirect lighting or light beams (focus) were not usual in an office space but they help to create a more harmonious and relaxed working environment.

Light is now seen as an element with the ability to increase profit earning capacity and the physical and psychological well-being of employees.

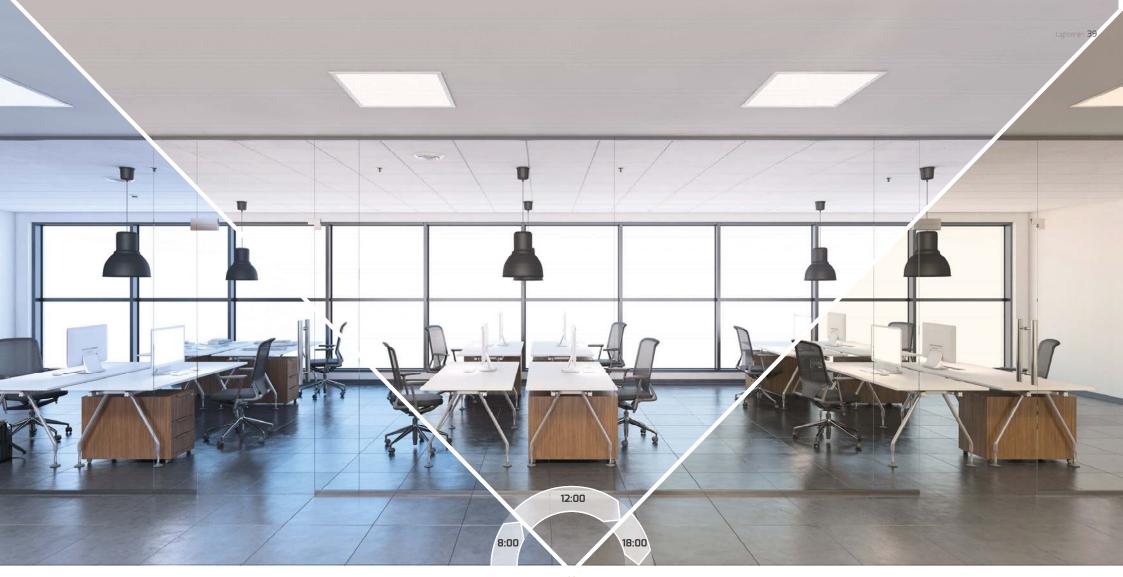




### **© CIRCADIAN RHYTHM**

The circadian rhythm is the capacity to adjust an individual's activity and resting periods. There are many factors that promote a deregulation of circadian rhythms, such as: working in shifts, changes in time zone, lack of natural light, etc. These changes may cause major problems to human health.

Since a great part of the population is limited to con-fined spaces without natural light, it is important to promote adaptable lighting, and for employees who are subjected to changes in schedule between day and night shifts is also crucial to simulate daytime during the shift to which they are subjected.





TUNABLE WHITE ()

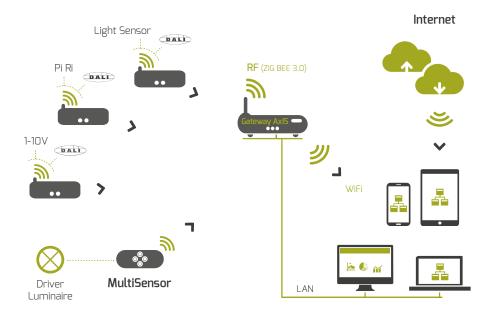
The Tunable White technology appears within this scope in order to recreate the sunlight dynamics and pattern in buildings throughout the day by combining the light's colour temperature with light intensity.

Enabling the creation of scenarios suited to the different dynamics taking place therein.

This technology places people at the centre of the lighting project . The return of investment is effective and it is measured through a decrease in energy consumption and an increase in profit earning capacity.



## Lighting OFFICE



### **CONTROL SYSTEMS DALI / AxIS**

#### AxIS - Simple and intuitive management

The AXIS software enables us to control and monitor every single point of light adapting lighting to the need of users and places. The lighting system is optimised through the monitoring and permanent diagnosis of the entire network.

This level of flexibility and control also allows for better lighting management ensuring efficiency and safety conditions in buildings.

This Lighting Management Software allows you to control: History, Data, Profiles, User profiles, Luminous flux, Blueprint, Detecting abnormalities, Telemetry. Contact us for more information.

# Case Study

# Open-Plan Offices

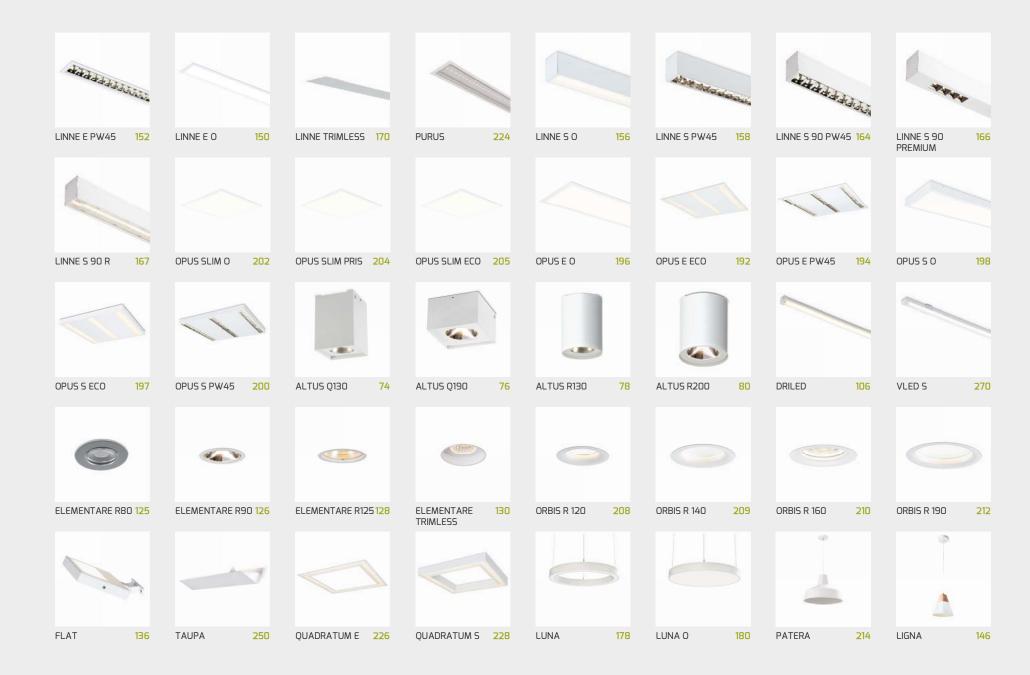


It is important for there to be consumption monitoring in existing open-plan offices. The decision between maintaining the existing lights and placing new ones is based on an analysis of consumption and photometric data of the installation in light of all possible alternatives. In this case, the existing light points were used.



_	PREVIOUS INSTALLATION	CURRENT LED SOLUTION
Light Fixtures	Fluorescent 4x18W	Opus E 600x600 UGR <19 HE
Number of Lights	55	55
Lamp Wattage	72 W	31 W
Absorbed Power of the Equipment	93,6 W	31 W
System Efficacy	52 lm/W	133 lm/W
Luminous Flux / Light Fixtures	3.639 lm	4.170 lm
Work Plan Luminance	541 lux	549 lux
Energy Consumption	13.385 kWh/year	4.433 kWh/year
Emissions	0,685 Ton CO <sub>2</sub> / kWh year	0,227 Ton CO₂/ kWh year

## Lighting OFFICE





### Lighting **RETAIL**

There are many factors to consider in an optimised lighting project, particularly high luminous fluxes associated with high efficiency and low glare. We should also consider, in addition to efficiency, intrinsic LED parameters, such as colour temperature and colour rendering index. Lower colour temperatures give rise to cosy and relaxing environments while higher colour temperatures give rise to stimulating environments that favour work environments.

The colour rendering index represents the degree of fidelity that light sources possess when compared to natural light sources (sunlight). When sunlight ema- nates from a light source, it is classified with 100.

Lighting projects are no longer solely based on Lumens per Watt (lm/W) or average illumination levels per square meter (lm/m²). It is important to have several scenarios in addition to the general lightings of a shop.

There are resources for creating environments, such as shelf lighting or accent lighting drawing attention to products. Non-even lighting and variable levels of brightness will trigger buyers, fill the shop's projects with life, and attract buyers to intended areas.













**PRODUCTS** APPEALING Products

### Lighting **RETAIL**

Fresh produce departments have more visitors in a supermarket and are essential in any shop. Visiting a supermarket rather than another is decided based on fresh produce. If we can get a customer to feel that the products look authentic and appealing, that their environment is hygienic, and if it looks thriving, then you have gained a customer.

The use of LED with a colour rendering index higher than 80 is re-commended in these departments. A LED for fresh produce areas has filters with an optimised light spectrum for delaying the colour fading that is specific to each food group.

#### **Food Filters**



#### Fish

A cold light is recommended in areas with fish kept on ice. It highlights the fish's fresh and hygienic look and makes it seem shinier and more attractive.



#### Meat

A warm white light with a subtle red glow will bring out the best in your meat. A LED with a pink filter will improve the colour of meat and give it a more natural appearance. The LED used to illuminate meat will delay its colour fading.



#### Delicatessen

The suitable light for the delicatessen area is not as warm as that used on red meat. The colour temperature used for this department highlights the redness of sausages as well as the white veins and fat of ham and smoked bacon.



#### Fruit and Vegetables

Several types of fruit and vegetables appear so that their freshness is emphasised. This type of lighting highlights the green, red, and yellow.



#### **Bread and Cheese and Pastries**

A warm light will show the bread and cheese in authentic colour highlighting the warmth of freshly baked bread and soft cheese.



TECHNOLOGY at your service

### Lighting **RETAIL**





Lightenjin is a partner of Philips Signify. There are light fixtures certified by YellowDot within the range of Lightenjin products.

The Philips Signify YellowDot programme uses the 'Visible Light Communication' technology for enabling indoor geopositioning by means of a unique identity code in each point of light.

Light fixtures with this certification will communicate with customer Smartphone cameras in the shop. Once the shop's app has been downloaded to a mobile phone, this technology will enable us to locate the customer in the shopping area, which will create an optimised shopping route based on the products on their shopping list with a 30 cm precision, among other features.

# Case Study

# Department Store

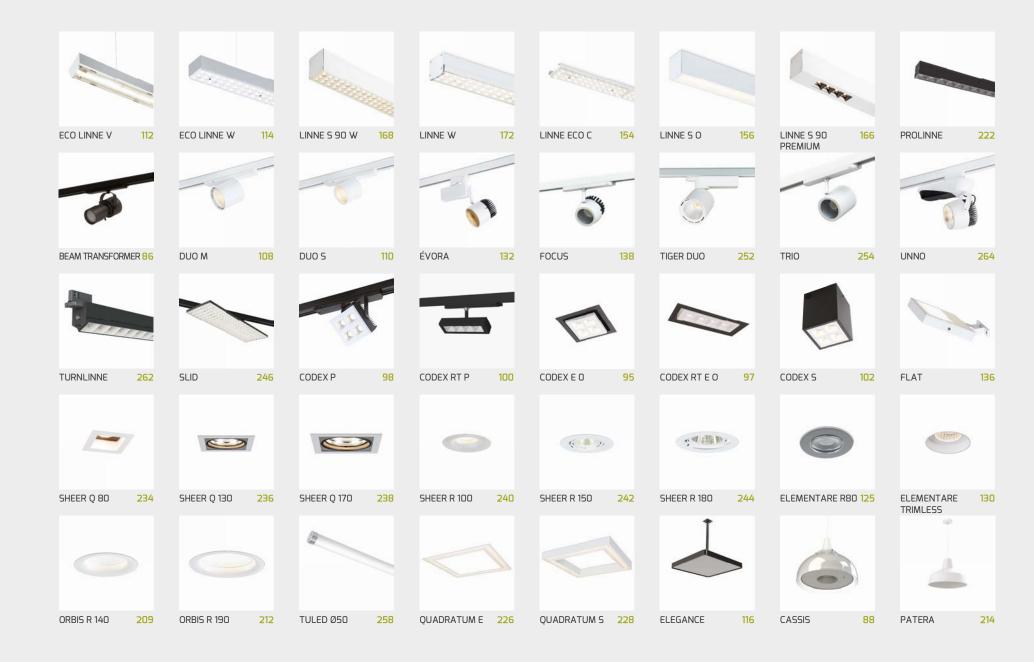


This is an example for a department store showing an existing installation of fluorescent lights and their replacement with LED technology but keeping the electrified rails installed and existing points of light.



_	PREVIOUS INSTALLATION	CURRENT LED SOLUTION
Light Fixtures	Fluorescent 2x58W	Linne W 1475 HO 840
Number of Lights	1684	1684
Lamp Wattage	2x58 W	49 W
Absorbed Power of the Equipment	120 W	49 W
System Efficacy	89 lm/W	137 lm/W
Luminous Flux / Light Fixtures	10.400 lm	6.683 lm
Work Plan Luminance	1179 lux	1674 lux
Energy Consumption	1.176.914 kWh/year	<b>480.573 kWh/</b> year
Emissions	60,26 Ton CO <sub>2</sub> / kWh year	24,61 Ton CO <sub>2</sub> / kWh year

## Lighting **RETAIL**





## Lighting INDUSTRIAL

An adequate quantity and quality of light has an immediate impact on the quality of visual conditions, but also unconsciously on each individual's biological functions, which are controlled by lighting.

Costs associated with a high number of hours of use should also be considered in addition to the quality of used lights. With LED technology, you can reduce energy consumption by over 70% and the light used also lasts longer (50.000 hours) leading to a significant decrease in maintenance costs.

Industrial working environment is extremely de-manding, being subjected to dust, humidity, heat, vibrations, and other specificities. Light fixtures used under these conditions must be robust as to comply with the regulations for the protection of sources of light under adverse conditions.

Industrial activity is one of the major contributions for national economy. Every business improvement – whether by a human, social, or equipment factor – results either directly or indirectly from an increase in productivity.











### Lighting INDUSTRIAL

### **■ Different industries**, Different requirements

#### Food Industry

Food industry illumination is subjected to strict guidelines regarding the product's design and quality:

- The product's design should prevent falling off or detaching themselves from the light fixtures (high IK);
- The hygiene guidelines stipulate that accumulated dust should be easily removed;
- The light fixtures should have a high IP as to be apt for humid, hot, and cold areas;
- Lighting levels should be suitable for inspection on each manufacturing stage.

### Chemical Industry / Pharmaceutical Industry

A laboratory is a delimited and isolated geographical area where the number of particles or germs in the air is as low as possible. The aim is to keep unwanted influences away from people and production.

As well as being very important to ensure an excellent lighting level in order to achieve a correct visual analysis, light fixtures should also comply with the following requirements:

- High chemical resistance, particularly against cleaning and disinfectants;
- Water resistant and dust proof (≥IP65);
- Very low or null particle emissions;
- Flat surface preventing the accumulation of particles and germs;
- Biologically resistant materials.

#### Auto Industry

Lighting conditions are pretty specific in the auto industry. The following should be ensured among many others:

- Additional lighting directed to the work station as well as general lighting;
- Light fixtures should be lateral to the assembly line;
- Glare control:
- Dark and light reflection areas should be eliminated as to prevent mistakes from taking place at work as well as employee fatigue;
- Specific lights for quality control with either a high amount of light (≥ 1000 lux) or separated by colour.

#### **Explosion Hazard Area**

There are potentially explosive areas in the industry.

The ATEX directive classifies the risk of an explosion in certain spaces as well as electrical equipment to be used according to the risk of an explosion in that area.

Flammable gas and vapour areas have been divided into three:

ZONE 0 (> hazardous); ZONE 1; ZONE 2 (< hazardous);

Combustible dust and fibre areas have also been divided into three: ZONE 20 (< hazardous); ZONE 21; ZONE 22 (> hazardous);

This classification results from a crossed combination of both classifications.

Industries such as petrochemical, food, sugar refinery, milling, pharmaceutical, fertiliser, textile, wood processing, paper and cellulose, among others, are likely to generate gas, vapour, combustible dust and fibre areas.

There are many risks of explosions and lighting equipment must be classified as to suit each hazardous area.

### Case Study

## Industrial Pavilion Bramp



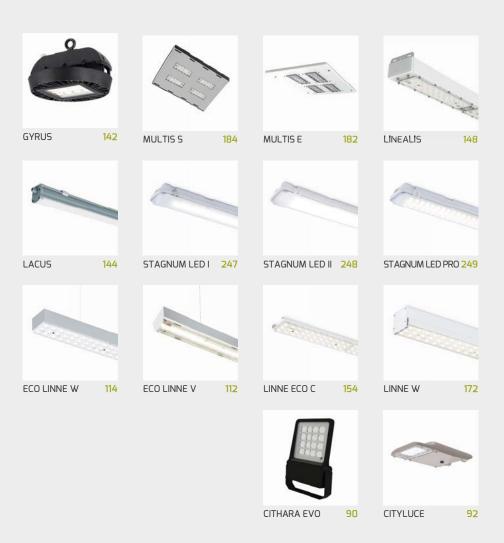
There are many factors in industry, which are subjected to a more efficient management, and lighting is one of them.

This is an example for an industrial pavilion showing an existing installation of fluorescent lights and their replacement with LED technology but keeping the electrified rails installed and existing points of light.



_	PREVIOUS INSTALLATION	<b>CURRENT LED SOLUTION</b>
Light Fixtures	Mercury Vapour 400W	GYRUS M I HO 202W
Number of Lights	64	64
Lamp Wattage	400 W	202 W
Absorbed Power of the Equipment	520 W	202 W
System Efficacy	55 lm/W	135 lm/W
Luminous Flux / Light Fixtures	22.000 lm	27.378 lm
Energy Consumption	77875 kWh/year	23811 kWh/year
Emissions	3,987 Ton CO <sub>2</sub> / kWh year	1,219 Ton CO₂/ kWh year
Yearly savings of the Light Fixtures		54.063 kWh year

# Lighting INDUSTRIAL





### Lighting PUBLIC & INFRASTRUCTURES

**Public lighting** is synonymous with: public safety for pedestrians; crime prevention; creating more value of monuments, buildings and landscapes; making road traffic simpler; route marking... In short, it acts as an instrument of citizenship, allowing inhabitants to enjoy public spaces during the night.

The improvement of quality of public lighting systems translates into greater comfort and safety of cities themselves, bolstering tourism, commerce and nightlife, expanding the culture of efficient and rational use of electric energy, thus contributing to the social and economic development of the population.

Lightenjin presents itself to the market of public lighting to serve citizens in their needs of night safety and lighting with adequate comfort, based on LED technology, energy efficiency, reduction of maintenance costs, easy implementation and effective reduction of CO<sub>2</sub> that the system managers intend.

With Lightenjin as its starting point, public lighting and infrastructures offer many opportunities for improvement in order to create smart cities.





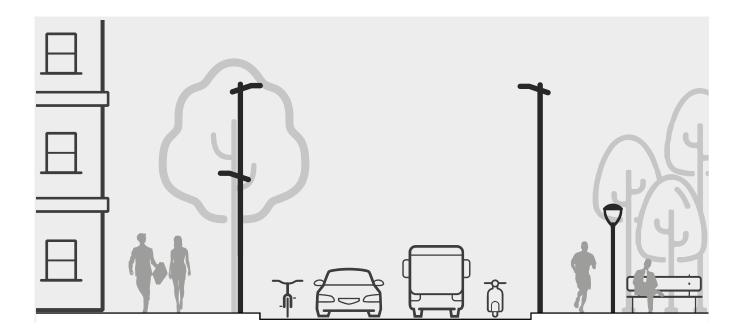


### URBAN and RURAL Lighting

Since our early days, lighting has been used for protection, locomotion and task execution. With the increase in lighting levels, less positive aspects also emerge, namely: light pollution. It is therefore essential to ensure adequate lighting levels at different locations without compromising crucial aspects of health, environment and economy.

Lightenjin acts in this scope, we use bespoke software, which allows us to check with certainty the amount of lighting appropriate to the surrounding space, according to lighting standards. We use state-of-the-art LED with proprietary technology in our luminaires, which allows us to reduce the costs and levels of light pollution (ULOR <1%) in addition to high efficiency.

### Lighting PUBLIC & INFRASTRUCTURES



In order to promote safety and harmony with the surrounding spaces, the application of luminaires in urban areas should be done at a relatively low height (8 to 10 meters), while in rural areas this should decrease (5 to 8 meters).

It is important to consider in the pedestrian zones, bicycle paths and gardens, three distinct zones of lighting levels:

Zone P1 (zones of intense nocturnal use and zones of insecurity high) that requires average levels of illumination of 15 lux,

Zone P2 (zones of moderate night use) requiring 10 lux of illumination and

Zone P3 (zones of low night use) that can have average illumination levels of 7.5 lux.

In addition to lighting levels, there are other needs to consider, such as color temperature and color rendering index (IRC).

In rural areas there are other factors that justify lower lighting levels. Artificial lighting is associated with changes in the natural behavioral pattern of plants, animals, insects and aquatic life.

It's key the preservation of the "Dark Sky". This term designates areas classified as free of artificial light pollution. The objective is the preservation of clear night skies, indispensable to astrophysical science, education, culture, technological development, nature conservation and tourism.

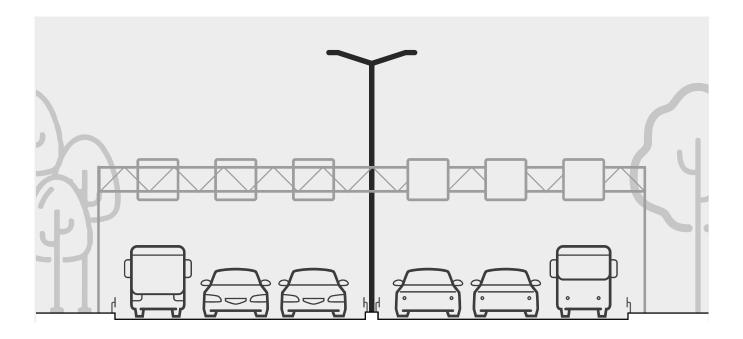
Unlike urban areas where lighting levels are a determining factor for tourism, in rural areas a clear and starry sky without light contamination is expected.



### ⚠ Lighting MOTORWAYS and intercity roads

In functional public lighting, it is essential that there is a good quality of lighting design in order to allow users to distinguish obstacles and danger situations in their path.

## Lighting PUBLIC & INFRASTRUCTURES



As a general rule, luminaires for intercity and motorway routes are positioned between 10 and 14 meters. Classification is according to the ME standard, meaning that roads are subdivided in ME1 to ME3 for motorways and ME3 to ME6 for intermunicipal routes. The factors used for this ranking are the speed allowed by the road, traffic volume, diversity of vehicles authorized for traffic, separation of lanes, parking density, parked vehicles, ambient luminance and traffic control.

The difference of these typologies is a result of the average luminance and required uniformity meant for the site to be illuminated, which requires average luminance levels of 1.0 cd/m2 (ME3), 0.75 cd/m2 (ME4), 0.5 cd/m2 (ME5) and 0.3 cd/m2 (ME6).

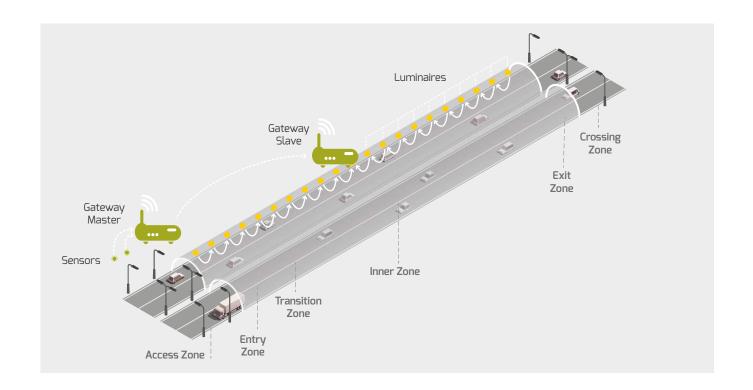
It is recommended that in high traffic areas, for example, highways, motorways, lighting should comply with a color temperature of 4000K  $\pm\,300$ K and CRI> 70.



### **↔** TUNNEL Lighting

A road tunnel is an infrastructure that restricts natural lighting, producing shadows that limit the driver's ability to see objects or road obstructions. During the daytime the outdoor lighting is very high, which can lead to not being able to see inside the tunnel - black hole effect. On the other hand, the tunnels exit can cause dazzle. During the night the inverse effect may happen, the illumination inside the tunnel being greater than the exterior, leading to dazzle at the entrance and black hole effect at the exit. This said, adequate lighting is fundamental for the safety of those who circulate in it.

### Lighting PUBLIC & INFRASTRUCTURES



The incorporation of control systems in the lighting has several advantages because, in addition to promoting energy saving, associated to output control, it allows a customized result, like adjusting the levels and color of light against the variations derived from the seasonality and climatic changes along the year. In addition, with the variety of lenses available, we can ensure adequate dispersion of light in the various areas.

As important as ensuring the lighting specifications, it's also crucial to ensure the mechanical and electrical specifications

of the luminaires. In mechanical terms, Lightenjin luminaires are developed with specific application requirements, ensuring robustness (IP≥66 and IK≥08), resistance to corrosive environments, vibration and temperature variations. We also guarantee an adequate maintenance factor, minimizing the failure rate and consequently, maintenance costs. From the electrical point of view, our luminaires are produced with state-of-the-art components of high quality which guarantees a high life time, high luminous efficiency, high luminous flux and low luminous depreciation.

# Case Study

### Municipality of Lourinhã



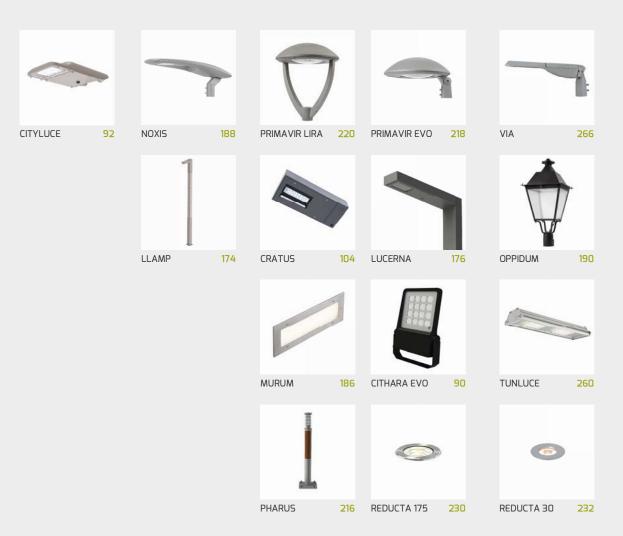
The municipality of Lourinhã had 162 units that used an inefficient technology (high pressure sodium vapor lamps and ferromagnetic ballasts) that were updated / replaced by LED technology equipped units that allowed a significant reduction in consumption and real-time management of the equipment without compromising light levels.



	PREVIOUS INSTALLATION	CURRENT LED SOLUTION
Light Fixtures	Sodium Vapor	Oppidum, Primavir, Cithara
Number of Light Fixtures	162	162
Average Power	138 W	44 W
Average System Efficacy	30 lm/W	112 lm/W
Day-time Running Hours	11 h	ECO + Relógio astronómico
Useful life span *	2 years	12 years
Yearly Power Consumption	89.735 kWh/year	19.011 kWh/year
Yearly savings of 162 Light Fixtur	es	70.724 kWh year
Yearly Savings		77% ∣ 13.129 €

<sup>\*</sup> considering 50,000 hours minimum usage (it might be more)

# Lighting PUBLIC & INFRASTRUCTURES



## **5** Reasons

# to choose **LIGHTENJIN**











### Reliable advice, Imaginative solutions



We see each project as unique and our team works to offer you creative and entrepreneurial advice you can trust. #What really distinguishes us is the fact that we are not afraid to push boundaries and to ask "what if...", in order to find innovative ways to optimize spaces through lighting.

### **Technology oriented**



We are driven by technology and are continually looking for solutions to improve the efficiency and performance of our luminaires.

### We don't work for you, We work with you



It may seem like a cliché, but it is not. Collaboration determines the success of creating a value-added lighting project.

### Customization

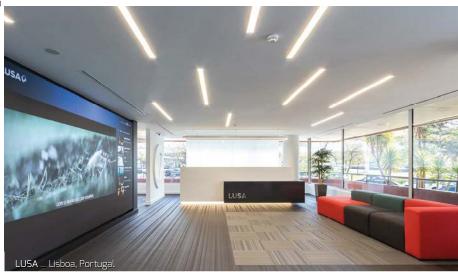


The requirements constantly vary according to the needs of the spaces and their users. At Lightenjin we always try to match the needs of your project.

### **Precision**



We are proud of our culture of precision and the thoroughness with which we perform our work.



























# **PRODUCTS**

RECESSED				SURFACE	
ASEPTIC E	82	OPUS E PW45	194	ALTUS Q 130	74
ASEPTIC E PW45	84	OPUS E O	196	ALTUS Q 190	76
CODEX E	94	OPUS SLIM O		ALTUS R 130	78
CODEX E O	95	OPUS SLIM PRIS	204	ALTUS R 200	80
CODEX RT E	96	OPUS SLIM ECO	205	ASEPTIC S	83
CODEX RT E O		ORBIS R 100	206	ASEPTIC S PW45	85
ELEMENTARE Q 90	118	ORBIS R 120	208	CODEX RT S	
ELEMENTARE Q 125		ORBIS R 140	209	CODEX S	
ELEMENTARE Q 140		ORBIS R 160		DRILED	106
ELEMENTARE Q 170		ORBIS R 190		FRIGUS	140
ELEMENTARE R 60	124	PURUS	224	LINNE ECO C	154
ELEMENTARE R 80		QUADRATUM E	226	OPUS S ECO	197
ELEMENTARE R 90	126	REDUCTA 30		OPUS S O	198
ELEMENTARE R 125	128	SHEER Q 80	234	OPUS S PW45	
ELEMENTARE TRIMLESS		SHEER Q 130	236	STAGNUM LED I	247
FERRUM	134	SHEER Q 170	238	STAGNUM LED II	248
LINNE E O	150	SHEER R 100	240	STAGNUM LED PRO	249
LINNE E PW45	152	SHEER R 150	242	VLED S	
LINNE TRIMLESS		SHEER R 180	244		
MULTIS E	182	VLED E	268		
OPUS E ECO	192				

# **PRODUCTS**

SURFACE or SUSPENSION		SUSPENSION		WALL	
CASSIS	88	ELEGANCE	116	FLAT	136
ECO LINNE V		FERRUM	134	MURUM	186
ECO LINNE W	114	LIGNA	146	TAUPA	250
GYRUS	142	LINNE S 90 DI	160		
LACUS	144	LUNA	178	OUTDOOR	
LINEALIS	148	LUNA O	180	CITHARA EVO	90
LINNE S O	156	PATERA	214	CITYLUCE	92
LINNE S PW45	158	PROLINNE		CRATUS	104
LINNE S 90 O	162			LLAMP	174
LINNE S 90 PW45	164			LUCERNA	176
LINNE S 90 PREMIUM	166	3-PHASE TRACK		MURUM	186
LINNE S 90 R	167	BEAM TRANSFORMER	86	NOXIS	188
LINNE S 90 W	168	CODEX P	98	OPPIDUM	190
LINNE W		CODEX RT P		PHARUS	216
MULTIS S	184	DUO M	108	PRIMAVIR EVO	218
OPUS SLIM O	202	DUO S		PRIMAVIR LIRA	220
OPUS SLIM PRIS	204	ÉVORA	132	REDUCTA 175	230
OPUS SLIM ECO	205	FOCUS	138	REDUCTA 30	
QUADRATUM S	228	SLID	246	TULED Ø20	256
TULED Ø20	256	TIGER DUO	252	TULED Ø50	258
TULED Ø50	258	TRIO	254	TUNLUCE	260
		TURNLINNE	262	VIA	266
		UNNO	264		

# ALTUS Q130

Materials : Color-lacquered Polished Steel Body

Options : Glass diffuser

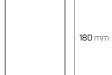
**Application**: surface or suspended

Power (W) Reference

HO

ALTUS Q130 13 19

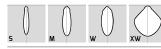
827, 830, 840, 850, 927, 930, 940 Photometric Code





130 mm

130 mm























# ALTUS Q190

Materials : Color-lacquered Polished Steel Body

Options : Glass diffuser

**Application**: surface or suspended

Reference Power (W)

ΗE ÌΗÓ

19 23 ALTUS Q190

Photometric Code : 827, 830, 840, 850, 927, 930, 940





190 mm

190 mm



























## **ALTUS R130**

Materials : Color-lacquered Polished Steel Body

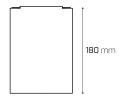
Options : Glass diffuser

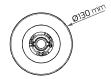
**Application**: surface or suspended

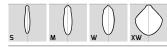
Power (W) Reference

ALTUS R130 13 19

Photometric Code : 827, 830, 840, 850, 927, 930, 940

























## ALTUS R200

Materials : Color-lacquered Polished Steel Body

Options : Glass diffuser

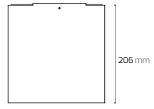
**Application**: surface or suspended

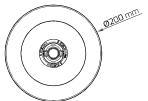
Power (W) Reference

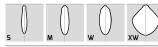
ΉÓ

ALTUS R200 19 28

Photometric Code : 827, 830, 840, 850, 927, 930, 940



































## **ASEPTIC E**

Materials : Color lacquered metal sheet body | Opal Diffuser and

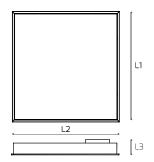
Tempered glass

**Options**: Prismatic Diffuser and Tempered glass

**Application**: recessed

Reference	<b>L1 L2 L3</b> (mm)	(mm)	<b>Powe</b> HE	er (W) HO
300x1200	297 x 1100 x 85	280 x 1085	35	62
300x1500	297 x 1497 x 85	280 x 1480	53	92
600x600	597 x 597 x 85	590 x 590	35	62

**Photometric Code** : 830, 840, 850

























## **ASEPTIC S**

Materials : Color lacquered metal sheet body | Opal Diffuser and

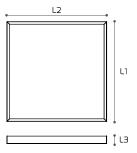
Tempered glass

**Options**: Prismatic Diffuser and Tempered glass

**Application**: surface

Reference	<b>L1 L2 L3</b> (mm)	<b>Power</b> (W) HE HO
300x1200	297 x 1100 x 85	35 62
300x1500	297 x 1497 x 85	53 92
600x600	597 x 597 x 85	35 62

**Photometric Code** : 830, 840, 850















## **ASEPTIC E PW45**

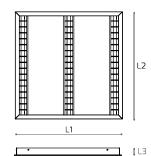
Materials : Color lacquered metal sheet body | Parabolic Alumi-

nium reflector and Tempered glass

Application: recessed

Reference	<b>L1 L2 L3</b> (mm)	(mm)	Powe HE	er (W) HO
300x1200	297 x 1157 x 40	280 x 1040	63	84
300x1500	297 x 1437 x 40	280 x1 420	77	104
600x600 *2	597 x 597 x 40	580 x 580	32	43
600x600 *3	597 x 597 x 40	580 x 580	48	65
600x600 *4	597 x 597 x 40	580 x 580	63	84

Photometric Code 830, 840, 850





















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<sup>\*2 - 2</sup> led lines

<sup>\*3 - 3</sup> led lines

<sup>\*4 - 4</sup> led lines



## **ASEPTIC S PW45**

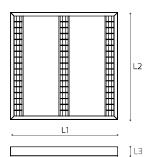
Materials : Color lacquered metal sheet body | Parabolic Alumi-

nium reflector and Tempered glass

**Application**: surface

Reference L1 L2 L3 Power (\( \text{mm} \) HE	W) HO
300x1200 297 x 1197 x 40 63	84
300x1500 297 x 1477 x 40 77 1	104
600x600 *2 597 x 597 x 40 32	43
600x600 *3 597 x 597 x 40 48	65
600x600 *4 597 x 597 x 40 63	84

Photometric Code 830, 840, 850



\*2 - 2 led lines \*3 - 3 led lines

\*4 - 4 led lines













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#### **BEAM TRANSFORMER**

Materials : Color-lacquered Aluminum Body

**Details**: With three lenses that adjust and allow different light

beam geometry

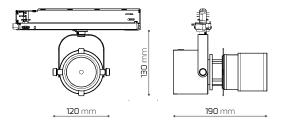
**Options** : Swiveling, on two axes | Frosted or Translucide Glass

**Application**: in 3-phase track

Reference Power (W)

BEAM TRANSFORMER 19 23

**Photometric Code** : 927, 930, 940, 95+27 ( CRI>95, CCT=2700K)



#### **Light Beam Geometry Examples**























## **CASSIS**

Materials : Powder-Coated Aluminium Rim | Clear polycarbonate

diffuser

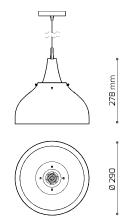
**Application**: suspended

Power (W) Reference

ΉÓ

CASSIS 28 36

Photometric Code : 827, 840, 927, 940























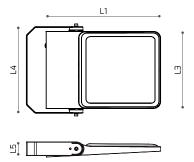
## **CITHARA EVO**

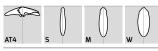
Materials : Injected Aluminium body | Tempered glass diffuser

Application: Pole, Wall, Ceiling or Floor

Reference	L1	L2	L (mm) L3	L4	L5	<b>Powe</b> HE	r (W) HO
CITHARA EVO S I	440	505	295	340	60	81	104
CITHARA EVO S II	440	505	295	340	60	108	136
CITHARA EVO M II	570	670	400	450	70	159	202
CITHARA EVO M III	570	670	400	450	70	211	271
CITHARA EVO L I	767	885	567	634	89	316	407
CITHARA EVO L II	767	885	567	634	89	422	543

**Photometric Code** : 730, 740, 750, 757

















## **CITYLUCE**

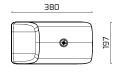
Materials : injected Aluminium body

**Options** : Air or Underground Connection | Control system

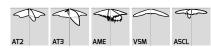
**Application**: Outdoor - Pole

Reference	<b>Pow</b> HE	ver (W) HO
CITYLUCE I 1x8	14	18
CITYLUCE II 2x8	28	36

**Photometric Code** : 730, 740, 750, 757



















#### **CODEX E**

Materials : Color-lacquered Polished Steel Body

Options : Finishing: White (RAL 9003) / Black (RAL 9005) in

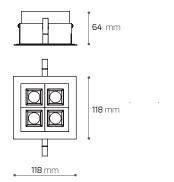
combination: White Body and Black Lens or Black Body

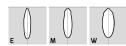
and White Lens.

Application: recessed

F  $\mathbf{Power}\left( \mathsf{W}\right)$ Reference (mm) ΉÓ 110 x 110 51 CODEX E 36

Photometric Code : 830, 840 850





















#### CODEX E O

Materials : Color-lacquered Polished Steel Body | Rotatable

**Options**: Finishing: White (RAL 9003) / Black (RAL 9005) in

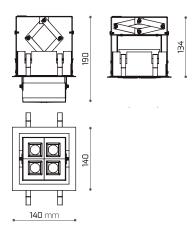
combination: White Body and Black Lens or Black Body

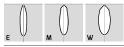
and White Lens.

Application: recessed

Power (W) Reference ΉÓ (mm) CODEX E O 131 x 131 36 51

**Photometric Code** : 830, 840 850























#### CODEX RT E

Materials : Color-lacquered Polished Steel Body

Options : Finishing: White (RAL 9003) / Black (RAL 9005) in

combination: White Body and Black Lens or Black Body

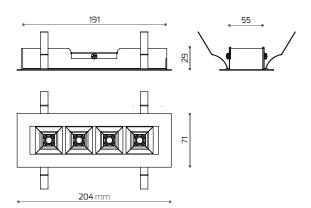
and White Lens.

Application: recessed

Reference Power (W)

CODEX RT E 55 x 191 7 10

**Photometric Code** : 830, 840 850



















#### CODEX RT E O

Materials : Color-lacquered Polished Steel Body | Rotatable

**Options**: Finishing: White (RAL 9003) / Black (RAL 9005) in

combination: White Body and Black Lens or Black Body

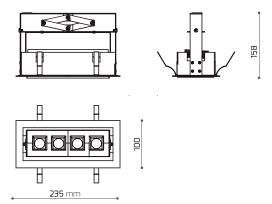
and White Lens.

Application: recessed

 Reference
 Fraction
 Power (W) HE HO

 CODEX RT E O
 90 x 225
 7
 10

**Photometric Code** : 830, 840 850

























#### **CODEX P**

Materials : Color-lacquered Polished Steel Body

**Options** : Swiveling, on two axes

Finishing: White (RAL 9003) / Black (RAL 9005) in combination: White Body and Black Lens or Black Body

and White Lens.

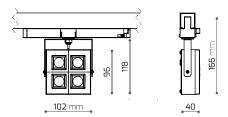
**Application**: in 3-phase track

Reference Power (W)

HE HÓ

CODEX P 36 41

**Photometric Code** : 830, 840 850



















#### CODEX RT P

Materials : Color-lacquered Polished Steel Body

**Options**: Swiveling, on two axes

Finishing: White (RAL 9003) / Black (RAL 9005) in combination: White Body and Black Lens or Black Body

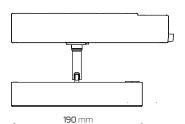
and White Lens.

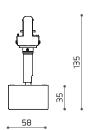
**Application**: in 3-phase track

Power (W) Reference

CODEX RT P 10

Photometric Code : 830, 840























er Pt





## CODEX RT S

Materials : Color-lacquered Polished Steel Body

**Options**: Finishing: White (RAL 9003) / Black (RAL 9005) in

combination: White Body and Black Lens or Black Body

and White Lens.

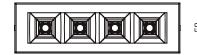
**Application**: surface

**Reference Power** (W)

CODEX RT S 10

**Photometric Code** : 830, 840 850





190 mm











## CODEX S

Materials : Color-lacquered Polished Steel Body

**Options**: Finishing: White (RAL 9003) / Black (RAL 9005) in

combination: White Body and Black Lens or Black Body

and White Lens.

**Application**: surface

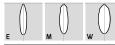
Power (W) Reference CODEX S 51 36

Photometric Code : 830, 840 850





105 mm

















#### **CRATUS**

Materials : Metal Sheet body with anti-corrosive hot dip galvanizing

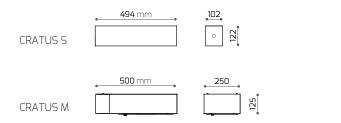
surface treatment

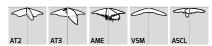
Options : Air or Underground Connection | Control system

**Application**: Outdoor - Pole or Wall

Reference	<b>Powe</b> HE	r (W) HO
CRATUS S I 1x8	14	18
CRATUS S II 2x8	28	36
CRATUS S III 4x8	55	70
CRATUS M I 1x8	14	18
CRATUS M II 2x8	28	36
CRATUS M III 4x8	55	70

**Photometric Code** : 730, 740, 750, 757

















## **DRILED**

Materials : Natural color anodized Aluminium body

**Options** : Secondary Optics with different beams | Magnetic

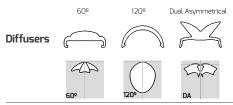
fixing system or clamp

**Application**: Surface

Reference	L (mm)	Pc HE	ower (V HO	V) ECO	
DRILED MB 560	560	9	18		
DRILED MB 1120	1120	18	35		
DRILED MB 2240	2240	35	70		
DRILED ECO 500	500			7	
DRILED ECO 1100	1100			16	
DRILED ECO 2200	2200			31	

**Photometric Code** : 830, 840, 850





















#### DUO M

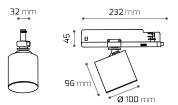
Materials : Color-lacquered Aluminium Body Options : Color filters available on request

**Application**: in 3-phase track

 $\mathbf{Power}\left( \mathbb{W}\right)$ Reference НО

DUO M 31

927, 930, 935, 940 Photometric Code



























#### DUO S

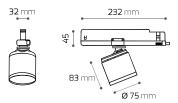
Materials : Color-lacquered Aluminium Body Options : Color filters available on request

**Application**: in 3-phase track

 $\mathbf{Power}\left( \mathbb{W}\right)$ Reference НО

DUO S 27

927, 930, 935, 940 Photometric Code





























# ECO LINNE V 🦃

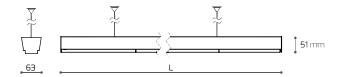
Materials : Color thermo-lacquered Aluminium profile | Acrylic

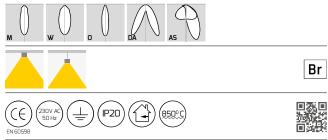
screen protection

**Application**: surface or suspended

Reference	<b>L</b> (mm)	<b>Power</b> HE	(W) HO
1x 44	578	17	22
2x 44	1135	33	44
3x 44	1695	49	65
4x 44	2270	64	85
5x 44	2832	79	106
6x 44	3396	95	126

**Photometric Code** : 830, 840 850













#### **ECO LINNE W**

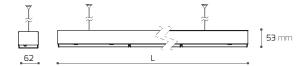
Materials : Color-lacquered Metal Sheet body | Optics with PMMA

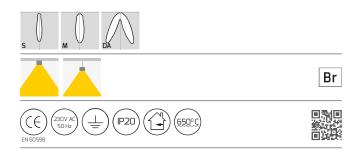
lens | Acrylic screen protection

Application: surface or suspended

Reference	L	Power (W)
	(mm)	HE HO
1718	1718	65 77
3436	3436	127 151

**Photometric Code** : 830, 840 850









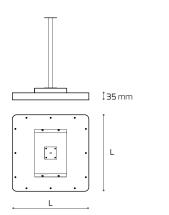


#### **ELEGANCE**

Materials : Aluminium Body | Opal Diffuser Application: suspended in tube or steel-rope

Reference	<b>L</b> (mm)	$\mathbf{Power}\left( \mathbb{W}\right)$
280x280	280	15
380x380	380	18
480x480	480	22

**Photometric Code** 827, 830, 840, 850, 927, 930, 940, 950























## **ELEMENTARE Q 90**

Materials : Color-lacquered Polished Steel Body **Options**: Transparent or matte diffuser

Application: recessed

 $\textbf{Power}\left( \mathbb{W}\right)$ Reference (mm)

91 x 91 Q 90 13 23

Photometric Code 827, 830, 840, 927, 930, 940

































# ELEMENTARE Q 125

Materials : Color-lacquered Polished Steel Body **Options**: Transparent or matte diffuser

Application: recessed

**F** (mm)  $\mathbf{Power}\left( \mathbb{W}\right)$ Reference

Q 125 125 x 125 10

**Photometric Code** 830, 840

























Br Cz







## **ELEMENTARE Q 140**

Materials : Color-lacquered Polished Steel Body **Options**: Transparent or matte diffuser

Application: recessed

(mm)  $\textbf{Power}\left( \mathbb{W}\right)$ Reference ΗE

0 140 140 x 140 28 48

**Photometric Code** : 827, 830, 840, 850, 927, 930, 940



































# ELEMENTARE Q 170<sup>♣</sup>

Materials : Color-lacquered Polished Steel Body **Options**: Transparent or matte diffuser

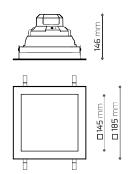
Application: recessed

**F** (mm) Reference

 $\mathbf{Power}\left( \mathbb{W}\right)$ 

0 170 170 x 170 20

**Photometric Code** 830, 840































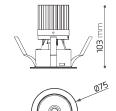
#### **ELEMENTARE R 60**

Materials : Powder-Coated Aluminium Rim Options : Transparent, Opal or matte diffuser

Application: recessed

(mm) Power (W) Reference

R 60 Ø 65 21























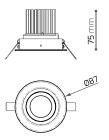
Materials : Powder-Coated Aluminium Rim

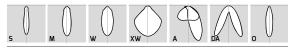
Application: recessed

 Reference
 Fraction
 Power (W) HE HO

 R 80
 Ø 80
 15
 22

**Photometric Code** : 827, 830, 840, 850, 927, 930, 940























#### **ELEMENTARE R 90**

Materials : Powder-Coated Aluminium Rim **Options**: Transparent or matte diffuser

Application: recessed

(mm) Power (W) Reference

R 90 Ø 90 13 23



































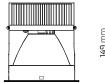
#### **ELEMENTARE R 125**

Materials : Powder-Coated Aluminium Rim **Options**: Transparent or matte diffuser

Application: recessed

(mm) Power (W) Reference

R 125 Ø 125 48























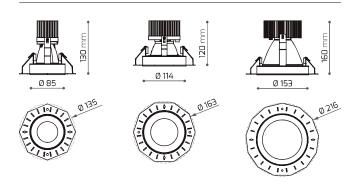


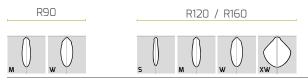
#### **ELEMENTARE TRIMLESS**

Materials : Powder-Coated Aluminium Rim **Options**: Transparent or matte diffuser

Application: recessed

Reference	(mm)	<b>Power</b> (W) HE HO
R90	Ø 90	14 21
R120	Ø 120	28 48
R160	Ø 160	28 48





























## ÉVORA

Arq. Adalberto Dias

Materials : Color-lacquered Steel Body

**Options** : Anti-Glare Grill | Swiveling on two axes

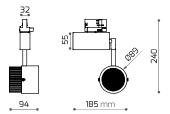
**Application**: in 3-phase track

Power (W) Reference

НО

ÉVORA 19 28

**Photometric Code** : 827, 830, 840, 927, 930, 940



























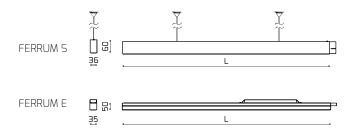
#### **FERRUM**

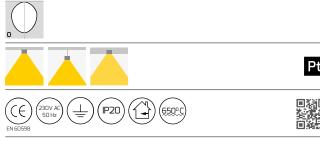
Materials : Color-lacquered Metal Sheet Profile | Opal Diffuser

Application: [5] surface | suspended or [E] recessed in Gabelex modular ceiling

Reference	<b>L</b> (mm)	<b>Powe</b> HE	r (W) HO
FERRUM 5 1x 44	572	16	22
FERRUM S 2x 44	1132	32	43
FERRUM S 3x 44	1697	47	65
FERRUM E 1x 44	572	16	22
FERRUM E 2x 44	1132	32	43
FERRUM E 3x 44	1697	47	65

**Photometric Code** : 830, 840 850









FLAT

Arq. Adalberto Dias

Materials : Color-lacquered Polished Steel Body | Satin Acrylic

Diffuser

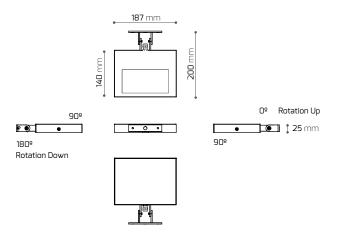
Application: wall mounted

 $\mathbf{Power}\left( \mathbb{W}\right)$ Reference

ΉÓ

FLAT 10 12

**Photometric Code** 830, 840 850































#### **FOCUS**

Materials : Color-lacquered Polished Steel Body

**Options** : Frosted or Translucide Glass;

Swiveling on two axes;

Color filters available on request

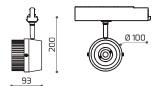
**Application**: in 3-phase track

 $\textbf{Power}\left( \mathbb{W}\right)$ Reference

ΉÓ

**FOCUS** 37 42

**Photometric Code** 927, 930, 940





















Br Pt







#### **FRIGUS**

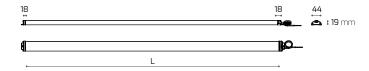
**Materials** : Polycarbonate body | Polycarbonate Tops | Polycarbo-

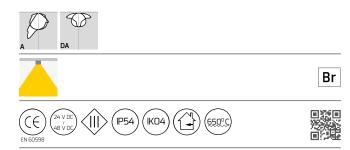
nate diffuser (transparent)

**Application**: Surface

Reference	<b>L</b> (mm)	$\mathbf{Power}\left( \mathbb{W}\right)$	
MB 560	560	9	
MB 1120	1120	17	
MB 2240	2240	34	

**Photometric Code** : 830, 840 850









#### **GYRUS**

Materials : Injected Aluminium body

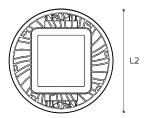
Clear tempered glass

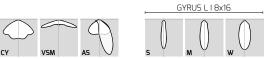
Application: surface or suspended

Reference	<b>L</b> (r L1	mm) L2	<b>Power</b> (W) HE HO
514x8	124	308	55 70
S II 4x16	124	308	108 136
M I 6x16	134	490	159 202
L I 8x16	190	530	- 270

**Photometric Code** : 730, 740, 750, 757















Pt







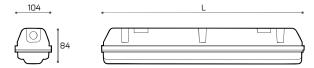
# **LACUS**

Materials : Polycarbonate housing (PC) | Waterproof polyurethane joint | Polycarbonate diffuser (PC)

**Options** : Stainless steel spring clips

**Application**: surface

Reference	<b>L</b> (mm)	<b>Power</b> HE	(W) HO
LED I 600	600	10	22
LED I 1200	1200	24	42
LED II 1200	1200	27	48
LED I 1500	1500	30	52



























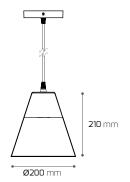
# LIGNA

Materials : Oak wood body | White Powder-Coated Aluminium

lampshade

: E27 lamp holder | Maximum Power Recommended: Details

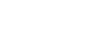
**Application**: suspended



















## **LINEALIS**

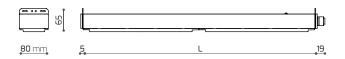
Materials : Body in color thermo-lacquered Aluminium profile |

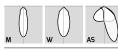
Optics with Polycarbonate lens

**Options** : Secondary Optics with different beams

**Application**: surface or suspended

Reference	L (mm)	<b>Powe</b> HE	er (W) HO
2x33	669	20	26
3x33	990	30	39
4x33	1312	39	51
5x33	1633	49	64
6x33	1954	59	71









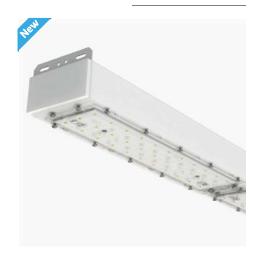














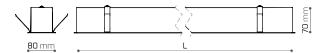
## LINNE E O

Materials : color thermo-lacquered Aluminium profile

Options : High Transmittance Opal Diffuser (PMMA or PC)

Application: recessed

Reference	(mm)	<b>L</b> (mm)	<b>Power</b> HE	(W) HO
E 0 1x44	63 x 574	564	16	22
E 0 2x44	63 x 1134	1124	32	43
E 0 3x44	63 x 1694	1684	47	65
E O 4x44	63 x 2258	2248	63	84
E O 5x44	63 x 2818	2808	79	108
E O 6x44	63 x 3378	3368	95	129



























## LINNE E PW45

Materials : color thermo-lacquered Aluminium profile | Parabolic

Aluminium reflector

Application: recessed

Reference	(mm)	<b>L</b> (mm)	<b>Powe</b> HE	r (W) HO
E PW45 1x44	63 x 585	580	16	22
E PW45 2x44	63 x 1145	1140	32	43
E PW45 3x44	63 x 1705	1700	47	65



























### LINNE ECO C

Materials : Color lacquered metal sheet profile | Optics with

PMMA lens

**Application**: surface or suspended

**L** (mm) \* Reference Power (W) L2 НО

ECO C 11 64 63

1550

\* depending on existing optical group

830, 840, 850 Photometric Code

L3

L2

















Br







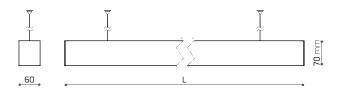
# LINNE S O

Materials : color thermo-lacquered Aluminium profile **Options**: High Transmittance Opal Diffuser (PMMA or PC)

**Application**: surface or suspended

Reference	<b>L</b> (mm)	<b>Powe</b> HE	r (W) HO
S 0 1x44	564	16	22
S 0 2x44	1124	32	43
S 0 3x44	1684	47	65
S 0 4x44	2248	63	86
S 0 5x44	2808	79	108
S O 6x44	3368	95	129

Photometric Code 830, 840, 850



























## LINNE S PW45

Materials : color thermo-lacquered Aluminium profile | Parabolic

Aluminium reflector

**Application**: surface or suspended

Reference	<b>L</b> (mm)	<b>Power</b> HE	r (W) HO
S PW45 1x44	580	16	23
S PW45 2x44	1140	32	43
S PW45 3x44	1700	47	65

**Photometric Code** 830, 840, 850

























# LINNE S90 DI

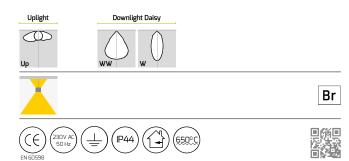
Materials : Thermo-lacquered Aluminium profile | Upward

Diffuser- Lens Linnea Up | Downward Diffuser- Lens Daisy

Application: suspended - Upward lighting

Reference	L (mm)	<b>Powe</b> l	r (W) HO
S90 DI 1x44	565	24	33
590 DI 2x44	1124	56	76
590 DI 3x44	1684	88	120
590 DI 4x44	2248	119	163
590 DI 5x44	2808	151	207
590 DI 6x44	3368	183	250















# LINNE 590 O

Materials : Thermo-lacquered Aluminium profile | Opal Diffuser

**Options**: LINNE S90 Pris - Prismatic Diffuser (UGR <16)

**Application**: surface or suspended

Reference	L (mm)	<b>Power</b> HE	· (W)
590 0 1x44	565	16	22
S90 0 2x44	1124	32	43
S90 0 3x44	1684	47	65
S90 0 4x44	2248	63	84
S90 0 5x44	2808	79	108
S90 0 6x44	3368	95	129













LINNE S90 Pris - Prismatic Diffuser (option)

LINNE S90 O - Opal Diffuser



## **LINNE 590 PW45**

Materials : Thermo-lacquered Aluminium profile | Parabolic

Aluminium reflector

**Application**: surface or suspended

Reference	<b>L</b> (mm)	<b>Power</b> HE	(W) HO
S90 PW45 1x44	563	16	22
S90 PW45 2x44	1132	32	43
590 PW45 3x44	1703	47	65
590 PW45 4x44	2264	63	86
S90 PW45 5x44	2835	79	108
590 PW45 6x44	3406	95	129

Photometric Code 830, 840, 850



















Br







Photometric Code

## LINNE 590 Premium

Materials : Thermo-lacquered Aluminium profile | Lens UGR<19
Application: surface or suspended

Reference	<b>L</b> (mm)	<b>Power</b> (W) HE HO
S90 Premium 2x4	630	13 15
S90 Premium 3x4	945	19 23
S90 Premium 4x4	1260	25 30
S90 Premium 5x4	1575	31 38
S90 Premium 6x4	1890	38 46

¥ .	<b>Y</b>	\rangle \rangl	_
67		L (without tons)	

830, 840









## LINNE S90 R

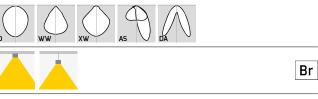
Materials : Thermo-lacquered Aluminium profile | Polycarbonate

lens UGR<19

**Application**: surface or suspended

Reference	<b>L</b> (mm)	<b>Power</b> (W) HE HO
590 R 2x44	1142	33 43
S90 R 3x44	1703	65 87









## LINNE S90 W

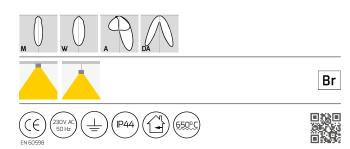
Materials : Thermo-lacquered Aluminium profile with lens

**Application**: surface or suspended

Reference	<b>L</b> (mm)	Power (W) HE HO
590 W 5x33	1437	49 64
590 W 10x33	2874	98 129
590 W 15x33	2808	147 193

**Photometric Code** : 830, 840, 850











## LINNE TRIMLESS

Materials : color thermo-lacquered Aluminium profile **Options**: High Transmittance Opal Diffuser (PMMA or PC)

**Application**: recessed (false ceiling)

Reference	(mm)	<b>L</b> (mm)	<b>Power</b> HE	· (W) HO
1x44	63 x 574	564	16	22
2x44	63 x 1134	1124	32	48
3x44	63 x 1694	1684	47	65
4x44	63 x 2258	2248	63	84
5x44	63 x 2818	2808	79	108
6x44	63 x 3378	3368	95	129

Photometric Code 830, 840, 850





















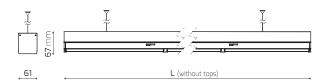


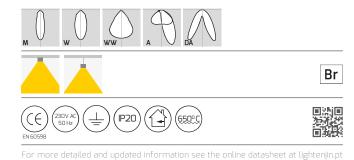
# LINNE W

**Materials** : Thermo-lacquered Aluminium profile | | Optics with PMMA lens

**Application**: surface or suspended

Reference	<b>L</b> (mm)	Power (W) HE HO
LINNE W 1x 1442	1442	49 64
LINNE W 2x 1442	2884	98 129
LINNE W 3x 1442	4326	147 193









## **LLAMP\_**Pole

**Materials**: Square Section Pole in S275JR Steel according to

EN 10025-2

**Options** : 12 solar panels (light source height >6m)

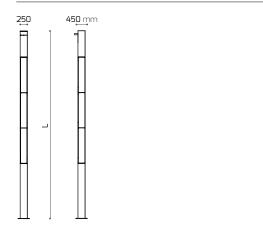
8 solar panels (light source height <5m)

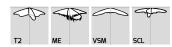
can be incorporated with this luminaires Cratus |

Primavir Evo | Via | Noxis

**Application**: Pole, applied to the floor

Reference	<b>L</b> (mm)	<b>Power</b> (W) Max.
LLAMP	6000 or 7000	18 W





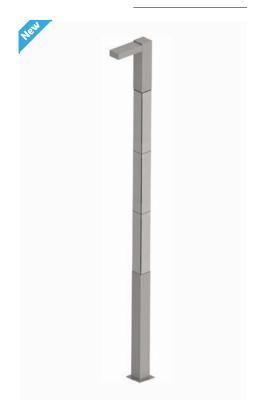














## **LUCERNA**

Materials : Metal Sheet body with anti-corrosive hot dip galvanizing

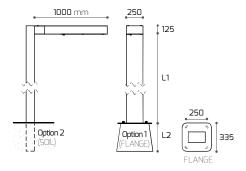
surface treatment

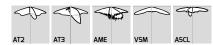
Options : Air or Underground Connection | Control system

**Application**: Outdoor - Pole (included)

Reference	<b>Power</b> HE	(W) HO				
LUCERNA I 1x8	14	18				
LUCERNA II 2x8	28	36				
LUCERNA III 4x8	55	70				
Fixation (mm)	L1	L2			L1	L2
7	4000	1000		Т	7000	1200
Option 1	5000	1000	Option 2		8000	1200
	6000	1000		1	9000	1200

**Photometric Code** : 730, 740, 750, 757















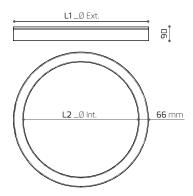


# LUNA

Materials : Thermo-lacquered Aluminium profile | Opal Diffuser **Application**: suspended

Reference	L (mm)		Powe	ower (W)	
	L1	L2	HE	НО	
LUNA Ø810	Ø810	Ø678	25	36	
LUNA Ø1520	Ø1520	Ø1388	51	73	
LUNA Ø1875	Ø1875	Ø1743	64	91	

Photometric Code 830, 840



















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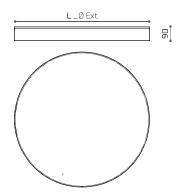


#### LUNA O

Materials : Thermo-lacquered Aluminium profile | Opal Diffuser **Application**: suspended

Reference	L (mm)	<b>Power</b> (W) HE HO
LUNA O Ø615	Ø615	34 48
LUNA 0 Ø895	Ø895	52 79
LUNA O Ø1175	Ø1175	107 160

Photometric Code 830, 840

















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#### **MULTIS E**

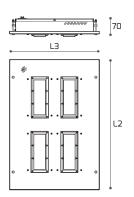
Materials : Color lacquered metal sheet body | Polycarbonate lens with IP65

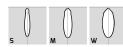
**Options**: Flow Regulation

**Application**: recessed

Reference	<b>FF</b> (mm)	<b>L</b> (mm) L2 L3	<b>Power</b> (W) HE HO
MULTIS E II	63 x 360	360 380	52 76
MULTIS E IV	63 x 530	540 370	102 148
MULTIS E VI	63 x 550	540 500	150 226
MULTIS E VIII	63 x 2258	540 630	198 295
MULTIS E IX	63 x 2818	730 500	223 332

**Photometric Code** : 740, 750, 757





















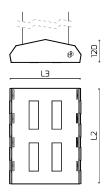
#### **MULTIS S**

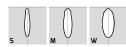
Materials : Color lacquered metal sheet body | Polycarbonate lens with IP65

**Options**: Flow Regulation **Application**: surface or suspended

Reference	<b>L</b> (n L2	nm) L3	<b>Power</b> HE	(W) HO
MULTIS S II	360	380	52	76
MULTIS S IV	540	370	102	148
MULTIS S VI	540	500	150	226
MULTIS S VIII	540	630	198	295
MULTIS S IX	730	500	223	332

**Photometric Code** : 740, 750, 757























#### **MURUM**

Materials : anodized Aluminium body | Anodized aluminum exterior

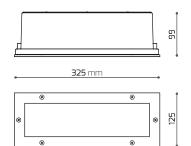
rim | ABS Recessing box

**Application**: Outdoors - recessed in the wall

(mm) Power (W) Reference

MURUM 320x120x100 14

Photometric Code : 830, 840 850



















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#### **NOXIS**

Materials : injected Aluminium body | Clear polycarbonate

diffuser (IKO9) or clear glass diffuser (IKO8)

: Luminaire arm suitable for horizontal or vertical Details

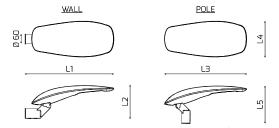
installation with tilt angle (-15° to +15°)

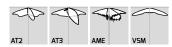
: Air or Underground Connection | Control system

**Application**: Outdoor - Pole

Reference		ι	_ (mm)	)		Powe	er (W)
	L1	L2	L3	L4	L5	HE	НО
NOXIS S I (2x16 ou 4x8)	675	249	625	273	315	55	70
NOXIS S II (4x16)	675	249	625	273	315	108	-
NOXIS M I (4x16 ou 8x8)	830	260	805	306	326	108	136
NOXIS M II (6x16)	830	260	805	306	326	159	-

Photometric Code : 730, 740, 750, 757



















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#### **OPPIDUM**

Materials : injected Aluminium body | Luminaire supplied without

side diffuser

: Tempered glass diffuser application (ensures IK10 and Options

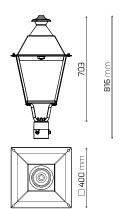
particle fall protection)

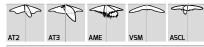
Air or Underground Connection | Control system

**Application**: Outdoor - Pole

Reference	Power	- (W)
	HE	НО
OPPIDUM I 2x8	36	46
OPPIDUM II 4x8	70	91

: 730, 740, 750, 757 Photometric Code



































#### OPUS E ECO

Materials : Color lacquered metal sheet body |

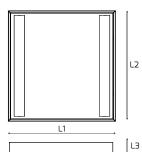
Opal Diffuser

**Options**: Prismatic Diffuser (UGR<19)

**Application**: recessed

Reference	<b>L1 L2 L3</b> (mm)	(mm)	Powe HE	er (W) HO
300x1200	297 x 1100 x 85	280 x 1085	63	84
300x1500	297 x 1497 x 85	280 x 1480	77	104
600x600 *2	597 x 597 x 85	580 x 580	33	43
600x600 *3	597 x 597 x 85	580 x 580	48	63
600x600 *4	597 x 597 x 85	580 x 580	63	84

Photometric Code 830, 840, 850

























<sup>\*2 - 2</sup> led lines

<sup>\*3 - 3</sup> led lines

<sup>\*4 - 4</sup> led lines



#### OPUS E PW45

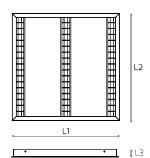
Materials : Color lacquered metal sheet body | Parabolic Alumi-

nium reflector

Application: recessed

Reference	<b>L1 L2 L3</b> (mm)	(mm)	Powe HE	er (W) HO
100x1200	110 x 1148 x 65	85 x 1130	33	43
100x1500	110 x 1430 x 65	85 x 1415	40	54
300x600	297 x 597 x 85	280 x 580	17	30
300x1200	297 x 1100 x 85	280 x 1085	31	57
300x1500	297 x 1497 x 85	280 x 1480	46	84
600x600 *2	597 x 597 x 85	580 x 580	33	43
600x600 *3	597 x 597 x 85	580 x 580	48	63
600x600 *4	597 x 597 x 85	580 x 580	63	84

**Photometric Code** 830, 840, 850























<sup>\*2 - 2</sup> led lines \*3 - 3 led lines

<sup>\*4 - 4</sup> led lines



#### OPUS E O

Materials : Color lacquered metal sheet body |

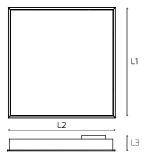
Opal Diffuser

**Options**: Prismatic Diffuser (UGR<19)

**Application**: recessed

Reference	<b>L1 L2 L3</b> (mm)	(mm)	Powe HE	er (W) HO
100x1200	110 x 1148 x 65	85 x 1130	33	43
100x1500	110 x 1430 x 65	85 x 1415	40	54
300x600	297 x 597 x 85	280 x 580	31	57
300x1200	297 x 1100 x 85	280 x 1085	36	63
300x1500	297 x 1497 x 85	280 x 1480	46	84
600x600	597 x 597 x 85	580 x 580	31	57

**Photometric Code** : 830, 840, 850













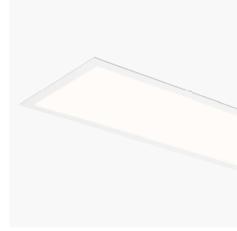






Br









#### OPUS S ECO

Materials : Color lacquered metal sheet body

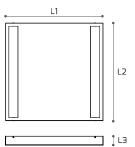
Opal Diffuser

**Options**: Prismatic Diffuser (UGR<19)

**Application**: surface

Reference	<b>L1 L2 L3</b> (mm)	Power (W) HE HO
300x1200	297 x 1197 x 45	63 87
300x1500	297 x 1477 x 45	76 108
600x600 *2	597 x 597 x 45	32 45
600x600 *3	597 x 597 x 45	47 65
600x600 *4	597 x 597 x 45	63 87

Photometric Code : 830, 840, 850















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<sup>\*2 - 2</sup> led lines \*3 - 3 led lines

<sup>\*4 - 4</sup> led lines

#### OPUS S O

Materials : Color lacquered metal sheet body |

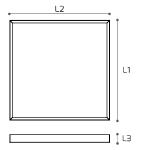
Opal Diffuser

**Options**: Prismatic Diffuser (UGR<19)

**Application**: surface

Reference	<b>L1 L2 L3</b> (mm)	<b>Power</b> HE	(W) HO
100x1200	116 x 1148 x 65	33	43
100x1500	116 x 1430 x 65	40	54
300x600	297 x 597x 55	18	31
300x1200	297 x 1100 x 55	31	57
300x1500	297 x 1497 x 55	46	84
600x600	597 x 597 x 55	31	57

Photometric Code : 830, 840, 850





























#### OPUS S PW45

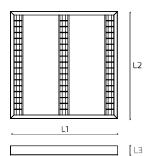
Materials : Color lacquered metal sheet body | Parabolic Alumi-

nium reflector

**Application**: surface or suspended

Reference	<b>L1 L2 L3</b> (mm)	<b>Power</b> (W) HE HO
100x1200	116 x 1148 x 65	33 43
100x1500	116 x 1430 x 65	40 54
300x600	297 x 597 x 40	33 43
300x1200	297 x 1157 x 40	63 84
300x1500	297 x 1437 x 40	77 104
600x600 *2	597 x 597 x 40	33 43
600x600 *3	597 x 597 x 40	48 63
600x600 *4	597 x 597 x 40	63 84

**Photometric Code** 830, 840, 850





















<sup>\*2 - 2</sup> led lines \*3 - 3 led lines

<sup>\*4 - 4</sup> led lines



#### OPUS SLIM O

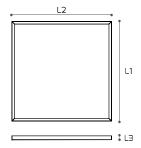
Materials : Natural color anodized Aluminium body

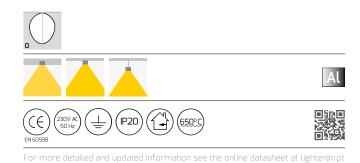
Opal Diffuser

**Application**: recessed, surface or suspended

Reference	<b>L1 L2 L3</b> (mm)	<b>Powe</b> HE	<b>r</b> (W) HO
600x600	600x600x9	28	43
620x620	620x620x9	28	43
300x1200	300x1200x9	28	43
600x1200	600x1200x10,5	31	47

**Photometric Code** : 830, 840, 865









#### **OPUS SLIM PRIS**

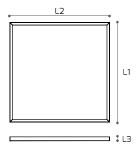
Materials : Natural color anodized Aluminium body | Prismatic

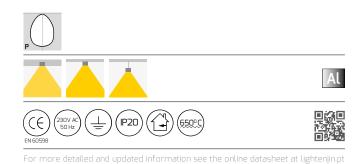
Diffuser

**Application**: recessed, surface or suspended

Reference	<b>L1 L2 L3</b> (mm)	<b>Powe</b> HE	r (W) HO
600x600	600x600x10,5	28	43
620x620	620x620x10,5	28	43
300x1200	300x1200x10,5	28	43
600x1200	600x1200x10,5	31	47

**Photometric Code** : 830, 840, 865









### OPUS SLIM ECO 🦃



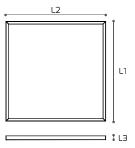
Materials : Natural color anodized Aluminium body | Prismatic

Diffuser

**Application**: recessed, surface or suspended

Reference	<b>L1 L2 L3</b> (mm)	<b>Power</b> (W	
600x600	600x600x10	28 4	13
620x620	620x620x10	28 43	13
300x1200	300x1200x10,5	28 43	13
600x1200	600x1200x10,5	31 4	+7

Photometric Code : 830, 840, 865















#### **ORBIS R 100**

Materials : Powder-Coated Aluminium Rim **Options**: Transparent or matte diffuser

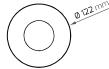
Application: recessed

 $\mathbf{Power}\left( \mathbb{W}\right)$ Reference (mm)

R 100 Ø 100 21

827, 830, 840, 850, 927, 930, 940 Photometric Code

































#### **ORBIS R 120**

Materials : Powder-Coated Aluminium Rim **Options**: Transparent or matte diffuser

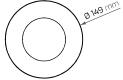
Application: recessed

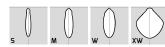
**F** (mm)  $\mathbf{Power}\left( \mathbb{W}\right)$ Reference

R 120 Ø 120 28 36

827, 830, 840, 850, 927, 930, 940 Photometric Code































## ORBIS R 140 🍀

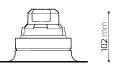
Materials : Powder-Coated Aluminium Rim **Options**: Transparent or matte diffuser

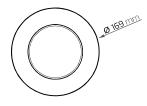
Application: recessed

(mm) Reference  $\mathbf{Power}\left( \mathbb{W}\right)$ 

R 140 Ø 140 10

Photometric Code : 830, 840



























#### **ORBIS R 160**

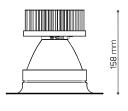
Materials : Powder-Coated Aluminium Rim **Options**: Transparent or matte diffuser

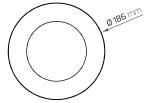
Application: recessed

(mm)  $\mathbf{Power}\left( \mathbb{W}\right)$ Reference

R 160 Ø 160 40 28

827, 830, 840, 850, 927, 930, 940 Photometric Code





















# ORBIS R 190 🍣

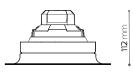
Materials : Powder-Coated Aluminium Rim **Options**: Transparent or matte diffuser

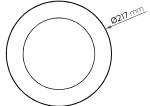
Application: recessed

(mm) Reference  $\mathbf{Power}\left( \mathbb{W}\right)$ 

R 190 Ø 190 20

Photometric Code 830, 840







































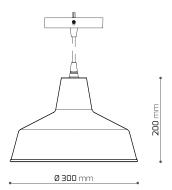
#### **PATERA**

Materials : Color-lacquered Aluminium Body

Details : E27 lamp holder

Max. Power Recommended: 60W

**Application**: suspended





















## **PHARUS**

Materials : Color-lacquered Aluminium Body | Wood thermo-lac-

quered Aluminium shaft | Transparent diffuser |

Anti-Glare Grill

**Options**: E27 lamp holder (Maximum Power Recommended:

60W)

**Application**: pavement exterior

 $\mathbf{Power}\left( \mathbb{W}\right)$ Reference НО

E27 15 LED

Photometric Code 830, 840, 850





















## PRIMAVIR EVO

Materials : Injected Aluminium body |

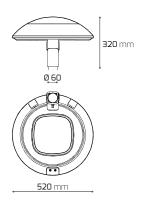
Tempered glass diffuser

**Options** : Air or Underground Connection | Control system

**Application**: Outdoor - Pole

Reference	<b>Powe</b> l	r (W) HO
EV0 I 1x8	18	23
EVO II 2x8	36	46
EVO III 2x16	55	70
EVO IV 4x16	108	-

730, 740, 750, 757 Photometric Code



























## PRIMAVIR LIRA

Materials : Injected Aluminium body |

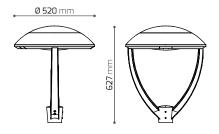
Tempered glass diffuser

**Options** : Air or Underground Connection | Control system

**Application**: Outdoor - Pole

Reference	<b>Powe</b> HE	er (W) HO
LIRA I 1x8	18	23
LIRA II 2x8	36	46
LIRA III 2x16	55	70
LIRA IV 4x16	108	136

730, 740, 750, 757 Photometric Code





























# **PROLINNE**

Materials : Aluminium profile body

**Options** : Tunable White **Application**: suspended

Reference	L (mm)	<b>Powe</b> HE	r (W) HO
PROLINNE 570	570	17	27
PROLINNE 850	850	26	39
PROLINNE 1130	1130	34	52

Photometric Code : 830, 840, 850

























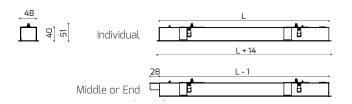


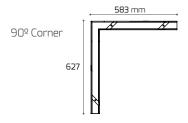
# **PURUS**

Materials : Color lacquered metal sheet body | Polycarbonate lens Application: recessed

Reference	L (mm)	(mm)	<b>Powe</b> HE	er (W) HO	
1x44	575	50x580	16	22	
2x44	1139	50x1144	33	43	
3x44	1703	50x1708	47	65	

Photometric Code 830, 840





















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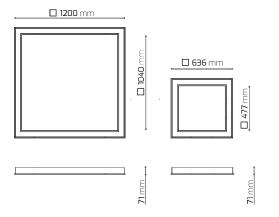
# **QUADRATUM E**

Materials : Color-lacquered Aluminium Profile | Opal Diffuser

Application: recessed

Power (W) Reference НО 600x600 622 x 622 88 1200x1200 1185 x 1185 124 176

Photometric Code 830, 840, 850



















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# **QUADRATUM S**

Materials : Color-lacquered Aluminium Profile | High Transmittan-

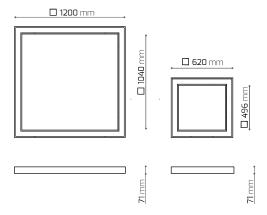
ce Opal Diḟfuser ( PMMA or PC)

**Application**: surface or suspended

 $\mathbf{Power}\left( \mathbb{W}\right)$ Reference ΉÓ

600x600 88 1200x1200 176 124

830, 840, 850 Photometric Code



















Br An





# **REDUCTA 175**

Materials : Stainless steel outer rim | Injected Aluminium body |

Tempered Glass | PVC Recessing box

**Application**: pavement exterior

(mm) Reference Power (W) НО

REDUCTA 175 Ø175 28

: 827, 830, 840, 850, 927, 930, 940 Photometric Code





180 mm





















ln











## **REDUCTA 30**

Materials : Anodized aluminum exterior rim | Anodized aluminum

body

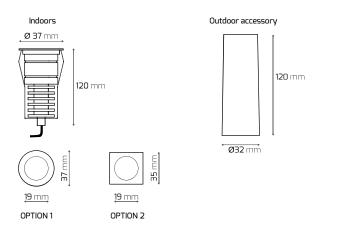
**Application**: on floor, ceiling or walls (indoor or outdoor)

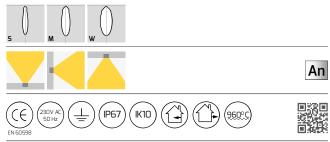
 Reference
 Power (W)

 (mm)
 HE
 HO

REDUCTA 30 Ø32 1 2

**Photometric Code** : 830, 840, 850











# SHEER Q 80 - GU10/LED

Materials : Color-lacquered Polished Steel Body

: Stainless steel Body (on request) | Opal Diffuser

For LED or GU10 lamp (Max. Power Recommended:

: Rotatable (-15° to +15°) Details

Application: recessed

Reference  $\textbf{Power}\left( \mathbb{W}\right)$ (mm) HE HO

Q 80 GU10 78x78 **Q80 LED** 78x78 21

Photometric Code : 827, 830, 840, 927, 930, 940

LED



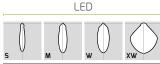


GU10

































Opal Diffuser (option)



SHEER Q 80 GU10



SHEER Q 80 LED



# SHEER Q 130

Materials : Brushed Stainless Steel Body : Polished Steel Body (on request) Options

: Rotatable Details **Application**: recessed

Reference

F (mm)

Power (W)

28

НО

19

Q 130 130 x 130

**Photometric Code** : 830, 840, 930, 940



































# SHEER Q 170

Materials : Brushed Stainless Steel Body : Polished Steel Body (on request) Options

: Rotatable Details Application: recessed

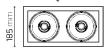
Reference	(mm)	Powe HE	er (W) HO
Q 170	170 x 170	28	40
2x Q 170	170 x 335	55	96
3x Q 170	170 x 495	83	145

Photometric Code 827, 830, 840, 850, 927, 930, 940





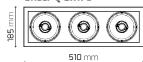
#### Sheer Q 2x170



347 mm





































# SHEER R 100 - GU10/LED

**Materials** : Color-lacquered Polished Steel Body

Options : Stainless steel Body (on request) | Opal Diffuser

For LED or GU10 lamp (Max. Power Recommended:

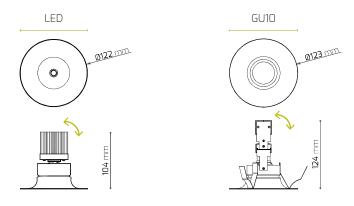
10W)

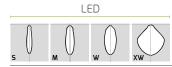
**Details**: Rotatable **Application**: recessed

 $\begin{array}{ccc} \textbf{Reference} & & & & \textbf{Power} \, (\mathbb{W}) \\ & & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ \end{array}$ 

R 100 GU10 Ø100 - - - R 100 LED Ø100 14 21

**Photometric Code** : LED - 827, 830, 840, 850, 927, 930, 940































#### SHEER R 150

Materials : Color-lacquered Polished Steel Body

Options : Clear or Frosted Glass | For LED or GU10 lamp (Max.

Power Recommended: 10W)

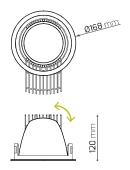
**Details**: Rotatable **Application**: recessed

 Reference
 Power (W)

 (mm)
 HE
 HO

R 150 Ø150 - 25

**Photometric Code** : 830, 840, 850, 927, 930, 940







































#### SHEER R 180

Materials : Color-lacquered Polished Steel Body

: Clear or Frosted Glass | For LED or GU10 lamp (Max.

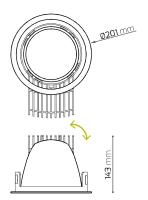
Power Recommended: 10W)

: Rotatable Details Application: recessed

F  $\mathbf{Power}\left( \mathbb{W}\right)$ Reference (mm)

R 180 Ø180 40

Photometric Code 830, 840, 850, 927, 930, 940







































#### SLID

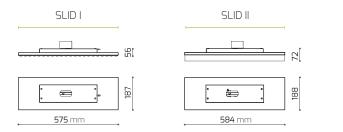
**Materials**: Color lacquered metal sheet body | Optics with PMMA

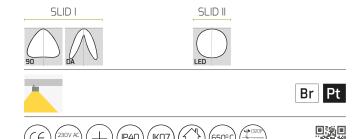
lens - SLID I | Opal Diffuser - SLID II

**Options** : Swiveling on two axes **Application**: in 3-phase track

Reference	<b>Power</b> HE	(W) HO
FIX 6x33	40	58
ORI 6x33	40	58
FIX 3x44	46	63
ORI 3x44	46	63

**Photometric Code** : 830, 840, 850





For more detailed and updated information see the online datasheet at lightenjin.pt







SLID I

SLID II





## STAGNUM LED I

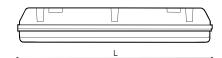
Materials : Polyester housing, glass fiber reinforced | Waterproof polyurethane joint | PMMA Diffuser

**Application**: surface

Reference	<b>L</b> (mm)	Pov HE	ver (W) HO
LED I 600	660	16	22
LED I 1200	1277	32	43
LED I 1500	1573	39	54

**Photometric Code** : 830, 840 850























## STAGNUM LED II

Materials : Polyester housing, glass fiber reinforced | Waterproof

polyurethane joint

Polycarbonate (PC) Diffuser

**Application**: surface

Reference	<b>L</b> (mm)	<b>Powe</b> HE	r (W) HO	
LED II 600	660	33	43	
LED II 1200	1277	63	85	
LED II 1500	1573	79	106	

Photometric Code : 830, 840 850





























# STAGNUM PRO LED

Materials : Polycarbonate (PC) housing | Waterproof polyure-

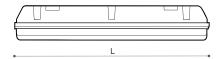
thane joint | Frost Diffuser

**Application**: surface

Reference	<b>L</b> (mm)	<b>Powe</b> HE	er (W) HO
LED PRO 600	670	20	26
LED PRO 1200	1277	39	51
_ED PRO 1500	1573	49	64

**Photometric Code** : 830, 840 850

























# **TAUPA**

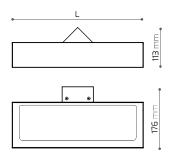
Materials : Color-lacquered Copper or steel body | Satin Acrylic

Diffuser

**Application**: wall mounted

Reference	Power	(W)
	HE	НО
TAUPA 220	9	11
TAUPA 380	21	26
TAUPA 640	41	50

**Photometric Code** : 830, 840 850



























## **TIGER DUO**

Materials : Color-lacquered Aluminium Body

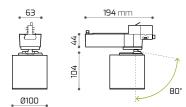
**Options** : Rotatable **Application**: in 3-phase track

Power (W) Reference

ΉÓ

TIGUER DUO 37 42

**Photometric Code** : 927, 930, 940



















Br Pt







### **TRIO**

Materials : Color-lacquered Polished Steel Body

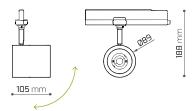
**Options** : Rotatable **Application**: in 3-phase track

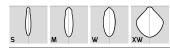
Power (W) Reference

ΉÓ

TRIO S 37 42

927, 930, 940 Photometric Code





























## TULED Ø20

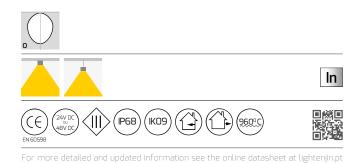
Materials : Stainless steel tops

**Options**: Transparent or Frost diffuser **Application**: surface (outdoor or indoor)

<b>Powe</b> HE	er (W) HO
9	18
18	35
26	53
	HE 9 18

**Photometric Code** : 830, 840 850











## TULED Ø50

Materials : Stainless steel tops

**Options** : Clear, Opal or matte Polycarbonate diffuser **Application**: surface or suspended (outdoor or indoor)

Reference	<b>Pow</b> er HE	er (W) HO
Ø50 620	16	22
Ø50 1180	33	43
Ø50 1460	39	54
Ø50 2020	55	74

**Photometric Code** : 830, 840 850































## **TUNLUCE**

Materials : Natural color anodized Aluminium body | Clear

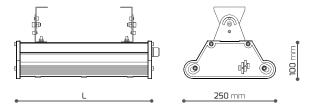
tempered glass diffuser

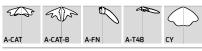
: Rotatable | Air or Underground Connection | Control Options

**Application**: Suspended or Surface - Wall / Ceiling

Reference	L	Powe	er (W)
	(mm)	HE	НО
XS III 3x12	450	64	83
XS IV 4x12	450	85	110
S III 6x12	700	125	162
5 IV 8x12	700	167	213
M III 9x12	1100	187	240
M IV 12x12	1100	249	322

**Photometric Code** : 740





















An

For more detailed and updated information see the online datasheet at lightenjin.pt









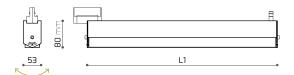
## **TURNLINNE**

Materials : Aluminium profile

**Options**: Rotatable **Application**: in 3-phase track

Reference	L	Power (V
	(mm)	HE F
570	570	17 2
850	850	26 3
1130	1130	34 E

**Photometric Code** : 830, 840, 850























Br Pt







### UNNO

**Materials**: Color injected polycarbonate body

**Options** : Frosted or Translucide Glass | Rotatable | Color filters

available on request

**Application**: in 3-phase track

Power (W) Reference

НО

UNNO 36 48

**Photometric Code** : 830, 840, 930, 940

224 mm

























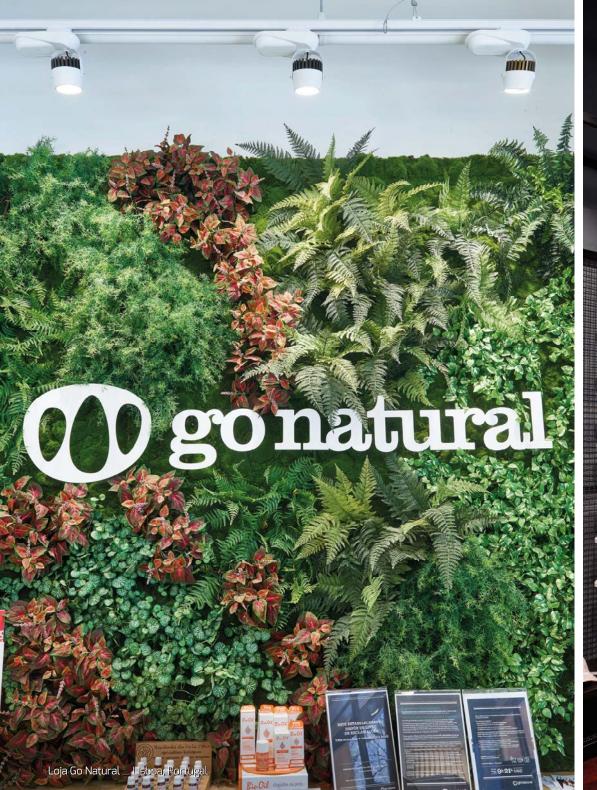


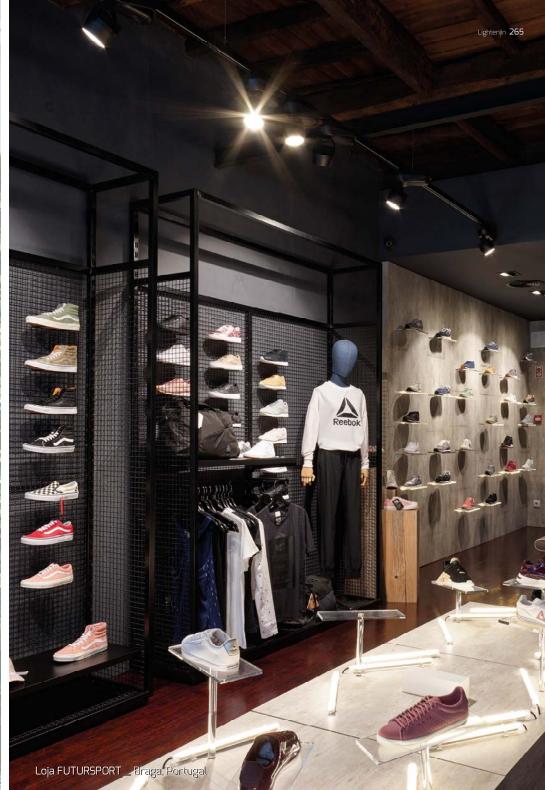












### VIA

Materials : Color-lacquered injected Aluminium body

**Options** : Clear polycarbonate diffuser (IKO9) or clear glass

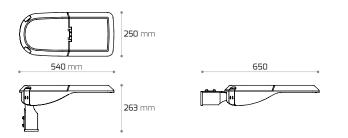
diffuser (IKO8) | Air or Underground Connection |

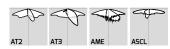
Control system

**Application**: Outdoor - Pole

Reference	<b>Powe</b> HE	r (W) HO
5 I 1x8	14	18
S I 1x16	28	36
5 II 2x8	28	36
S II 2x16	55	70
S III 3x8	41	53
S III 3x16	81	104
5 IV 4x8	55	70
S IV 4x16	108	119

**Photometric Code** : 730, 740, 750, 757



























## **VLED E**

Materials : Anodized Aluminium profile body | Opal Diffuser

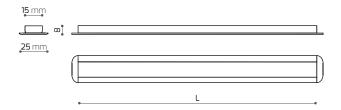
**Details** : Modular lamp (to be applied individually or continuous

lines)

Application: recessed

Reference	<b>L</b> (mm)	(mm)	HE	Power (W	) ECO	
MB E 560	560	17x565	9	18	-	
MB E 1120	1120	17x1125	18	35	-	
MB E 1960	1960	17x1965	31	61	-	
-	-	-				
E ECO 500	500	17x505			7	T
E ECO 1100	1100	17x1105			16	1
E ECO 2000	2000	17x2005			31	1

**Photometric Code** : 830, 840, 850





























## VLED S

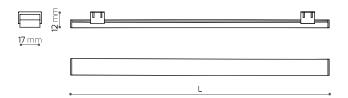
Materials : Anodized Aluminium profile body | Clear Diffuser

: Modular lamp (to be applied individually or continuous Details

**Application**: surface

Reference	<b>L</b> (mm)	HE	Power (V	W) ECO	
MB S 560	560	9	18	-	
MB S 1120	1120	18	35	-	
MB S 1960	1960	31	61	-	
-	-				
S ECO 500	500			7	T .m.
S ECO 1100	1100			16	<b>**</b>
S ECO 2000	2000			31	1

Photometric Code : 830, 840, 850



















An



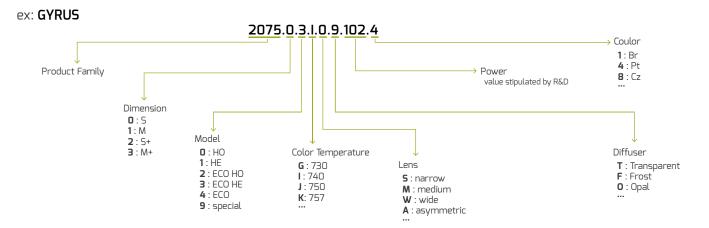








Sales Product Codes : Example



#### Iconography



Product is in compliance with the community directive 2004/108/CE relatively to the electromagnetic compatibility and with the directive 2006/95/CE for low-lension equipment



Class I - Lighting equipments with earth terminal protection are in compliance with directive 2006/95/CE for low-tension equipment that are link to all the exposed metal parts, in case od defects can be under pressure



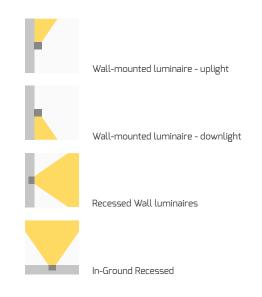
Class II - Luminaires where metal parts that may become active, are not accessible. Are typically devices with double insulation, or all metal parts isolated. Not require earth terminal protection.

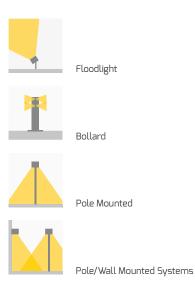


Class III - Luminaires that work in a reduced voltage equal or less than 50V . Not require earth terminal protection.

#### Mounting Type







#### Ingress Protection



Ingress Protection - Degree of protection for luminaires against the penetration of dust. The first digit classifies the protection of the luminaire against the penetration of solid bodies; The second digit classifies the protection against the penetration of liquids.



Mechanical Resistance Classes - Resistance degree for luminaires envelope against external mechanical impacts. .

IP <u>xx</u>	
first digit classifies degree protection against solid objects	second digit classifies degree protection against solid objects
O: non-protected	O: non-protected
1:50 mm diameter or more	1: vertically dripping
2: 12 mm diameter or more	2 : dripping with a body inclined up to 15°
3: 2.5 mm diameter or more	3:spraying
4:1.0 mm diameter	4 : splashing
<b>5</b> : dust protected	<b>5</b> : jetting
<b>6</b> : dust tight	<b>6</b> : powerful jetting
	7: temporary immersion
	8 : continous immersion

IK<u>xx</u>

impact energy (Joules)

00: non-protected

**01** : 0,14 Joules

**02** : 0,20 Joules

**03** : 0,35 Joules

**04** : 0,50 Joules

**05**: 0,70 Joules

**06** : 1,0 Joules

**07** : 2,0 Joules

**08** : 5,0 Joules

**09** : 10,0 Joules

**10** : 20,0 Joules

### Iconography



Luminaire not suitable for covering with thermally insulating material.



Indoor device



Outdoor device



Product complies with the European Directive 2002/95/EC named Restriction of Hazardous Substances (RoHS) that restricts the use of hazardous substances in electrical and electronic equipment.



Horizontal and vertical rotation angles

Drilling required for device installation



Without Mercury



Without UV



Without IR



Lamp holder



Lamp not included



Lamp included



Recyclable



Weight



Voltage and frequency of the luminaire



Resistance to incandescent wire.



Product for explosive atmospheres.



Optional emergency kit

Lightenjin 277

#### Iconography



Remote management system



Fish shop



Gesluce system



Butchery



Bakery



Fruit shop



Delicatessen



Clothing

#### Photometric Code



Photometric Code						
727	840					
730	850					
740	927					
750	930					
757	940					
827	950					
830						

#### Colors



White



Grev



Black



Green



Cooper



Anodized



Stainless Steel

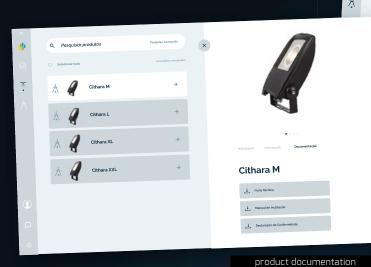


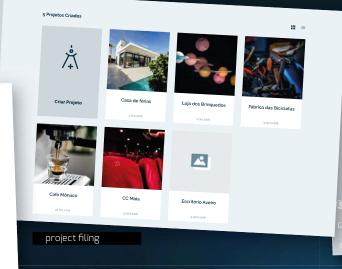
Aluminiur

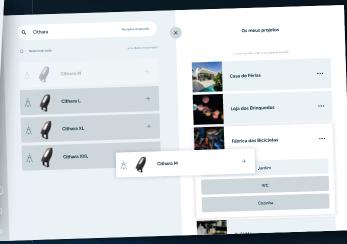


Wood

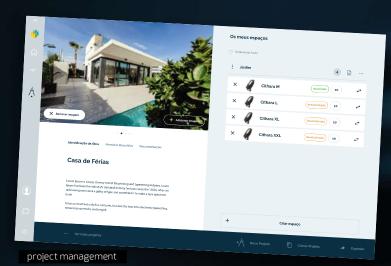








assigning a product to a project





# MY LIGHTENJIN Project

Lightenjin has developed a reserved area designated as **My Lightenjin Project** for professional clients.

Clients may access it on Lightenjin's web page, for which purpose only an e-mail address and password will be required. This tool will enable you to easily organise and compile lighting file documents.

#### **Main Features**

- Look up products and related technical information;
- Create and manage your own lighting products;
- Manage Lightenjin products to be used in each one of your projects;
- An assurance that you are using the most up-to-date information;
- Create a new project based on a previous project and adapt it to a new situation;
- Compile and access all project documentation in one place, per project:

  Technical data | Assembly instructions | Declaration of conformity;
- Organise and keep up to date the files for each lighting project:

  Cover page | Data identifying the project | Pictures of the works | Brief | Map of application places | Map of quantities | Product documentation | Annexes;
- Technical support;





(mobile version coming soon

## Lightenjin

Lightenjin manufactures professional lighting solutions to be applied in interiors and exteriors.

Lightenjin products combine technology, ergonomic design, lighting control, and energy efficiency always keeping in mind user well-being as the main goal.

If you do not find the technical solution you are looking for, please do not hesitate to contact our engineering department.













We are constantly updating our documentation. Whatever your business field, please read the related brochure, where you will find more detailed and specific information.

Documentation available on www.lightenjin.pt/en/downloads

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www.lightenjin.pt

### Lightenjin II - Indústria de Iluminação, Lda.

Parque Empresarial do Casarão, Avenida das 2 Rodas, Lote 36A 3750-041 Aguada de Cima . Portugal

gps: 40.550187, -8.396383

tel: +351.234 080 117 fax:+351.234 249 933

email: geral@lightenjin.pt









