

**LUMINO-TECH KFT.**  
Kunigunda útja 18.  
1037 Budapest, Hungary  
Tel. +36 1 630 9230  
info@lumino-tech.eu  
www.luminotech.hu

**KOMBO**  
outdoor LED luminaire



HUNGARIAN  
PRODUCT



*The purpose of modern lighting is to put economical lighting in the service of the society for a more enjoyable life. The environmentally friendly and energy efficient use mean the factors that ensure sustainable development. The lamps we design allow us to consciously use energy in public lighting, in the industry and sport lighting and in the commercial and civil sphere.*

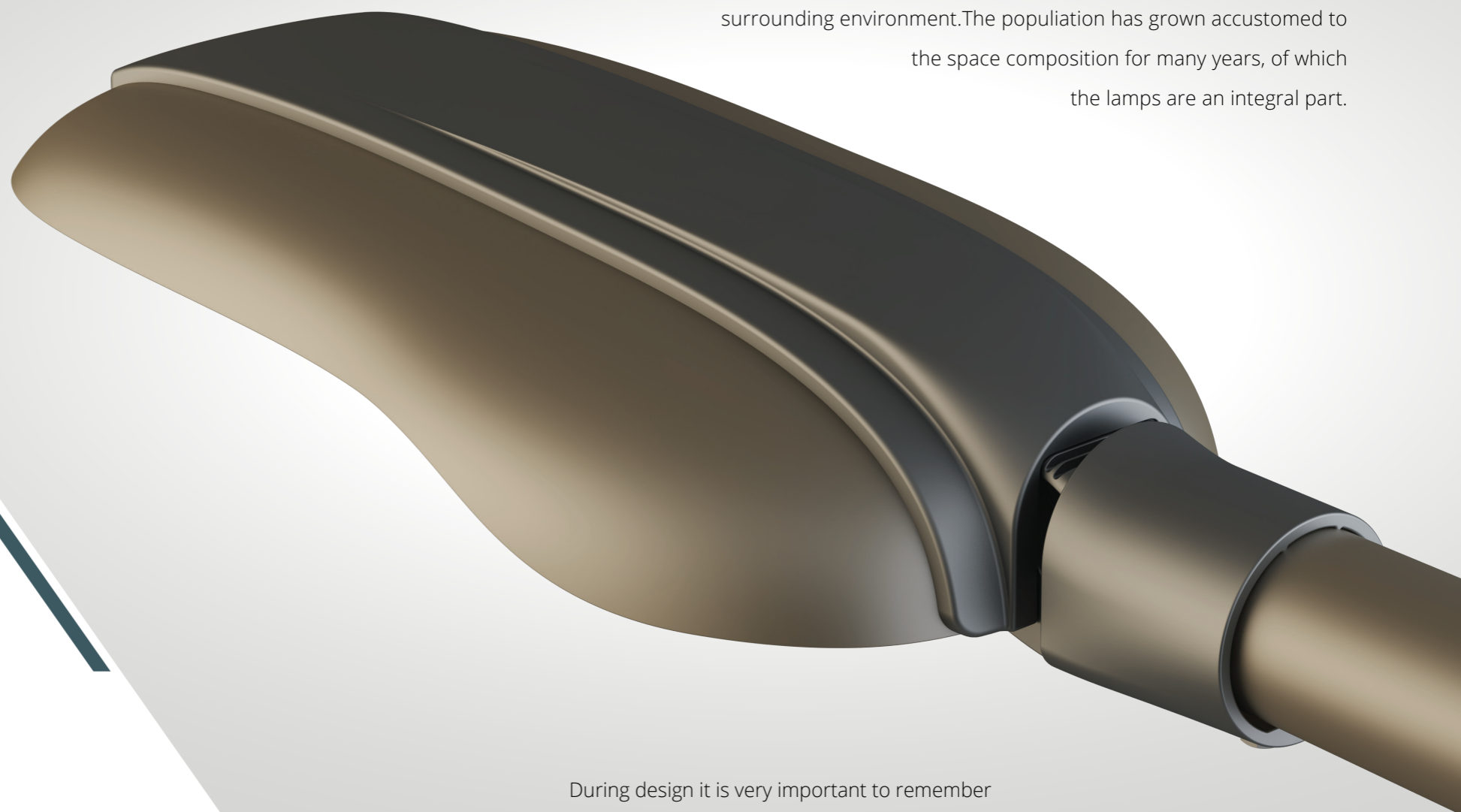
## CONCEPT

One of the basic criteria of our Product Listing Requirement was the materials used and their quantity. Outdoor lamps with LED light sources are usually made of aluminium to provide adequate heat dissipation for the chips. Cooling is achieved with predominantly high heat sinks and the lamp is more like a radiator than a luminaire. Thanks to the rapid development of the LEDs, it is no longer necessary to provide the surface of the luminaire with ribs. The flat surface of the lamp is sufficient to cool smaller output. The upper surface of KOMBO does not contain any forms that can collect impurities that effect its operation and life span. During design, it was a basic requirement to minimize the amount of aluminium used, but to maintain the relevant formal proportions we should have used an unnecessarily big quantity. To keep the ratio, we decided to include another, environmentally friendly material, as a result of which an innovative aluminium-polymer material combination was born.



Taking environmentally friendly production into consideration, polymer parts contain recycled raw material as well.

The **KOMBO** was primarily designed for the replacement of older, more than ten years old products. These existing, outdated luminaires live a full sense of secession with the surrounding environment. The population has grown accustomed to the space composition for many years, of which the lamps are an integral part.



During design it is very important to remember that the public lighting columns and luminaires are to be significant in the street image of a city or village. It is always a difficult task to modernize an existing environment, as modernization can easily have a result which can influence our visual comfort in a negative way. Though due to the technological development, the same illumination can be achieved with lamps with very small volume, as with the old, well-known luminaires, it may be disturbing if the usual bulb size on the column top or wall arm disappear. The definition of shape was preceded by a thorough research where we studied the features, dimensions and rate of traditional street light.

## GLASS PLATE

Light output is done through a high-purity tempered glass plate, which ensures the **IK08** protection. Thanks to the glass front panel the luminaire can be used in a wider range of users.

## SCREWLESS

From the point of view of the internal electronics components, the KOMBO is practically maintenance-free thanks to the LED technology. The front panel is secured by **SNAP ENGAGEMENT**.

## REFLECTOR

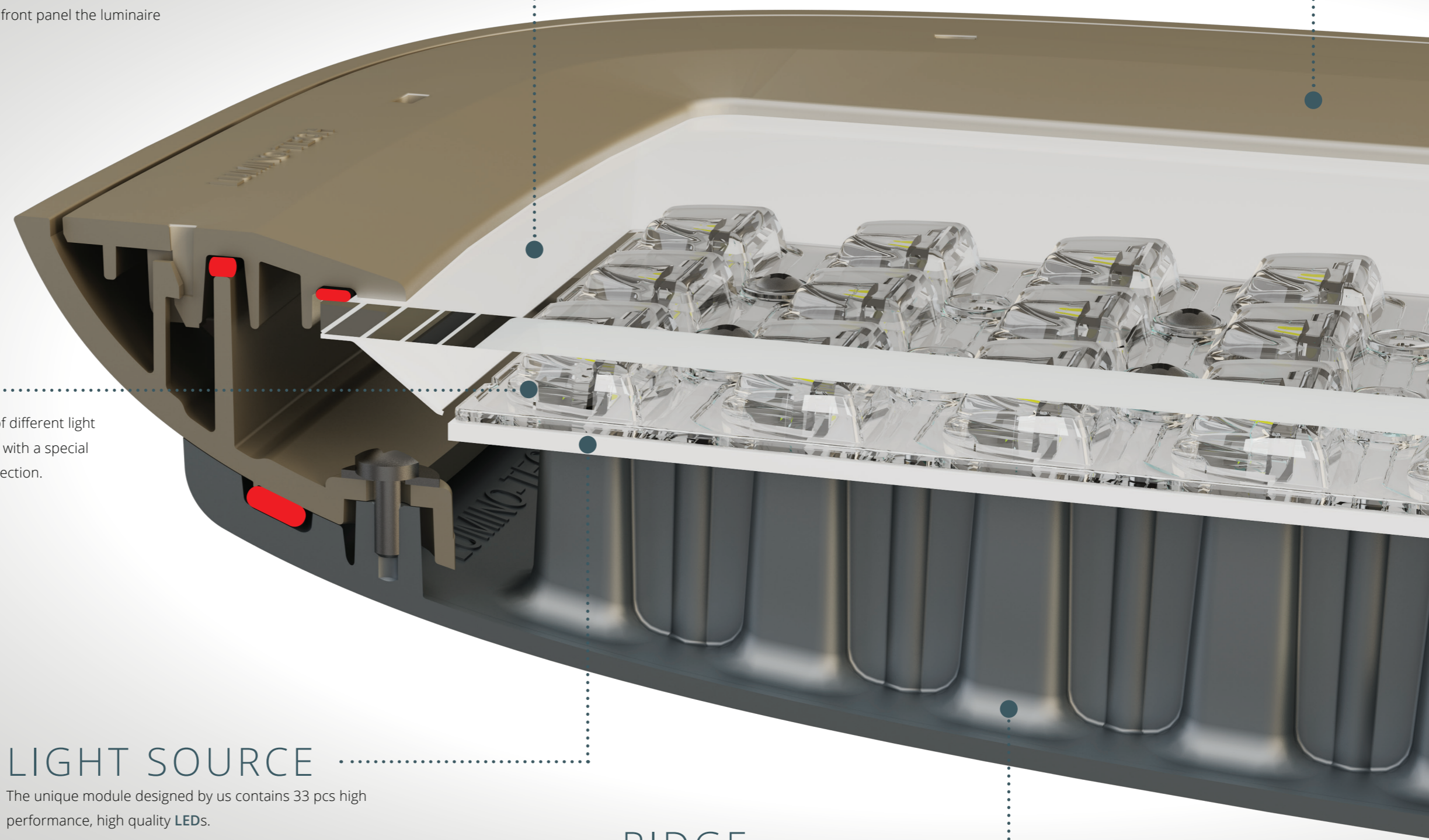
The luminaire was designed to meet the needs of different light characteristics easily. The LED panel is equipped with a special **OPTIC**, which results in a high-efficiency light reflection.

## LIGHT SOURCE

The unique module designed by us contains 33 pcs high performance, high quality **LEDs**.

## RIDGE

The ridge, forming the main component of the KOMBO is an **ALUMINIUM** component produced by high pressure die casting technology. The main function of the ridge is the cooling of the LEDs and the static fixation of the luminaire.



# WARRANTY

**5 YEARS WARRANTY** period. Lifetime of LED can be between 50.000 - 100.000 hours /L-70/. As in Public Lighting the luminaires are used 4200 hours yearly on average, lifetime of the luminaire can easily be 24 years if we take the lifetime of the LEDs into consideration.

## CASE

The shapes forming the case are molded, time-resistant **POLYMETRIC** parts. Due to the coloured material it does not require separate painting, by this leaving out a technological step during production.

## FUSE

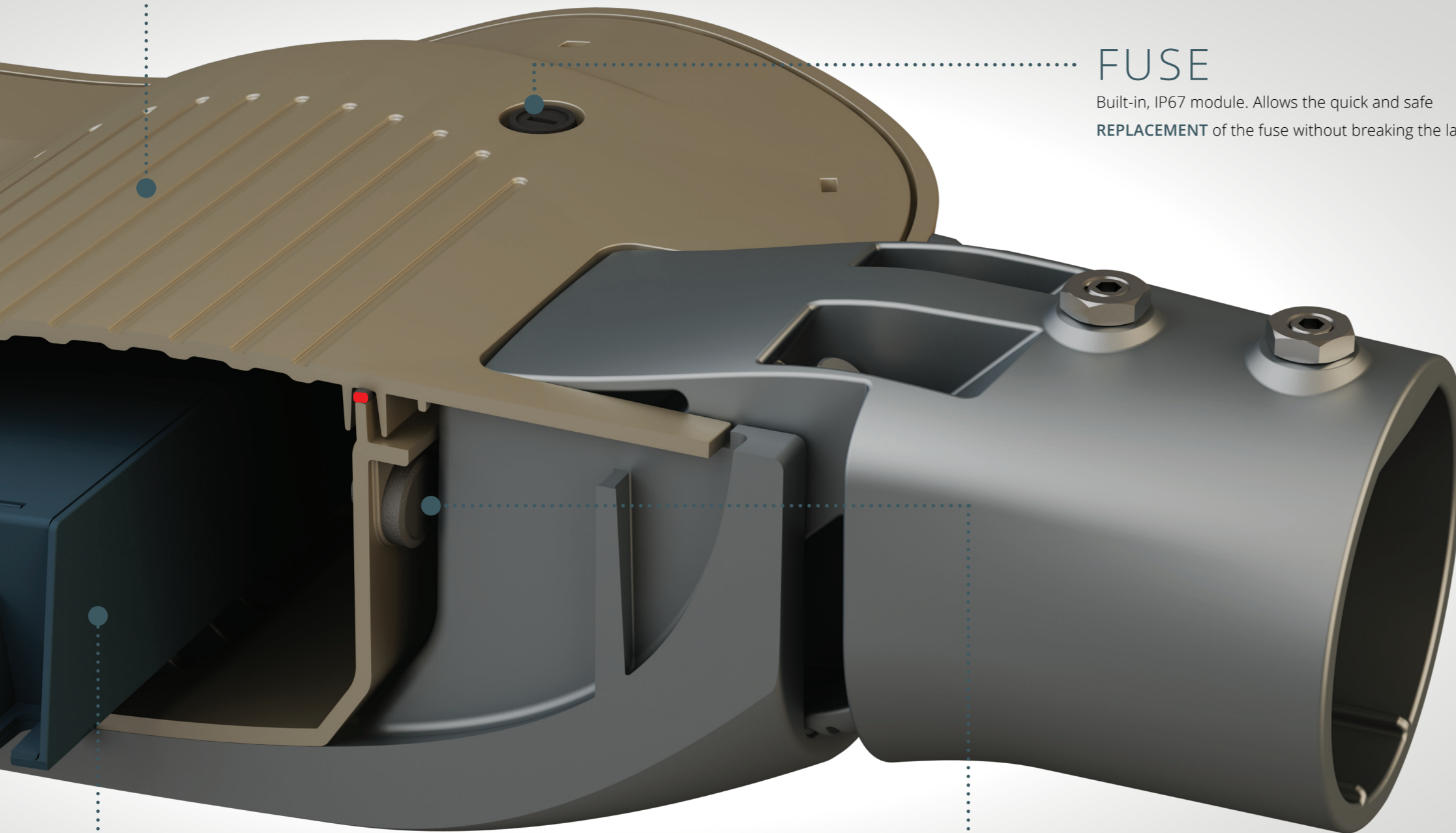
Built-in, IP67 module. Allows the quick and safe **REPLACEMENT** of the fuse without breaking the lamp.

## VALVE

In order to avoid **CONDENSATION** we inserted a special valve into the lamp. It makes possible the ventilation of the luminaire while guaranteeing the **IP66** protection

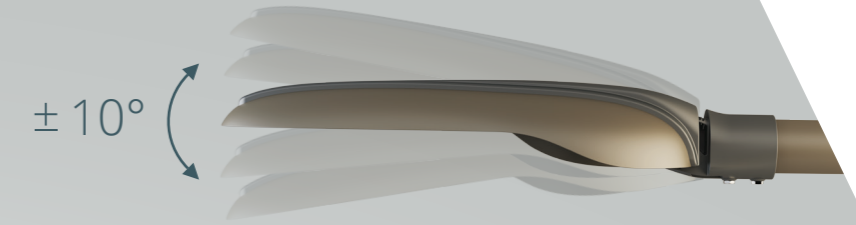
## POWER SUPPLY

Thanks to an excellent power supply, a reliable and cost-effective system is available. The power supplies, specified for a **100.000 HOURS** lifetime allow a long and maintenance-free operation of the lamp.



# OPTIC

The illuminating surface is designed to meet the needs of different light cattering features easily. The reflecting task is accomplished with good light transmittance and high-quality lenses. Thanks to the wide range of light distribution, the lamp lights up exactly where it's needed. It provides homogeneous illumination on the one hand and, on the other hand, almost completely eliminates the light emitted in the unnecessary direction, thus improving the luminaire's luminosity.

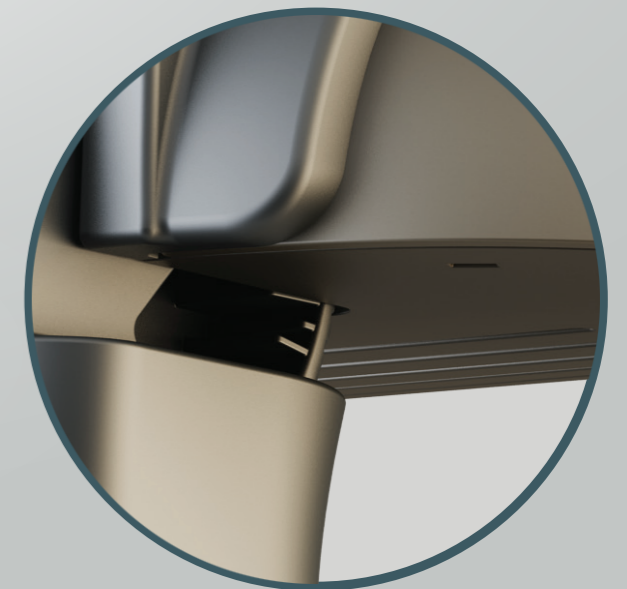


# CONSOLE

The KOMBO has a multifunctional console, so it can be fitted to both column **tops** and **wall** brackets. It does not cause any problem if the recently installed pillar of wall bracket is not at the right angle. With the help of the console one can precisely adjust the beam angle which results in a more efficient lighting system. The inclination of the luminaire can be set at 5 degrees, up to plus minus 10 degree.



contains 3x11 pcs integrated optics



In order to make local installation easier for the angle setting, an auxiliary indicator was created.



available with different light distribution

# EFFICIENCY

The electronic system designed for KOMBO has low power consumption, which means that half of the power of existing outdated systems, such as High Pressure Sodium lamp can produce the same amount of light. By the use of this LED system we can reach a significant reduction in CO2 emission. The luminaire can reach **155 lm/W** light output.

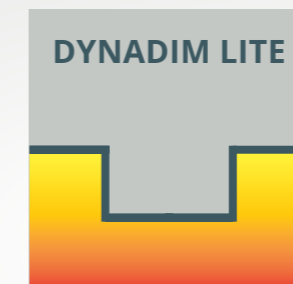
The luminaire is designed to form a fully closed system, so there is no any door or openable part which could be opened without a tool. In case of any failure it is necessary to change the complete luminaire. The fault is fixed in a repair shop, so you do not have to rent a crane truck for long hours.

## SMART LUMINAIRE

Normally KOMBO contains a simple driver which does not have a regulatory option. Optionally four different types of regulable/controllable drivers can be selected for the KOMBO.



I. 1-10V - controlled system



II. 1-10V + DynaDim LITE  
By which allows a pre-programmed control step to be inserted in the driver unit.



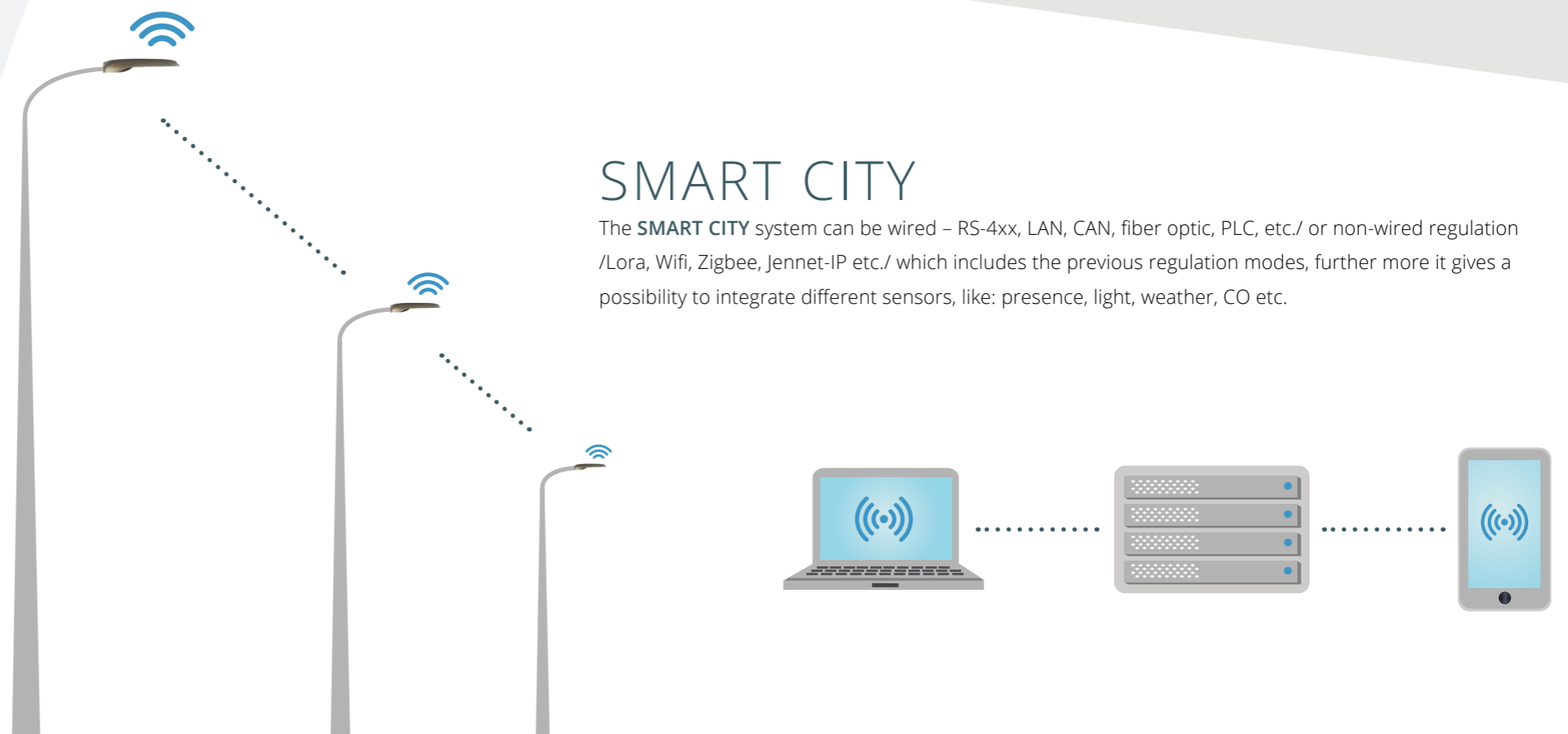
III. DynaDim  
With this function we can program multiple regulation steps in the luminaire.



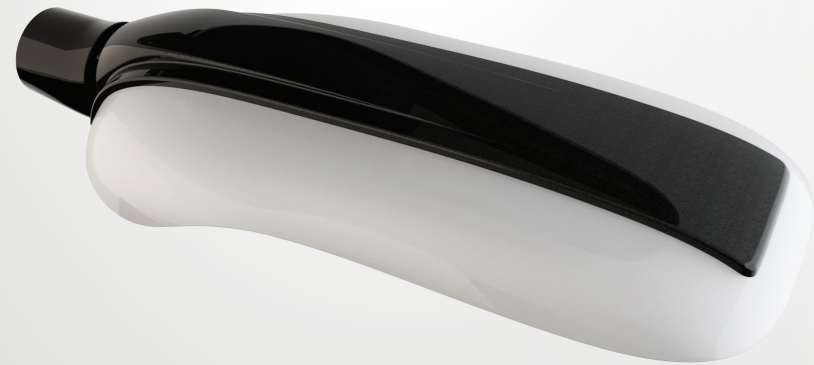
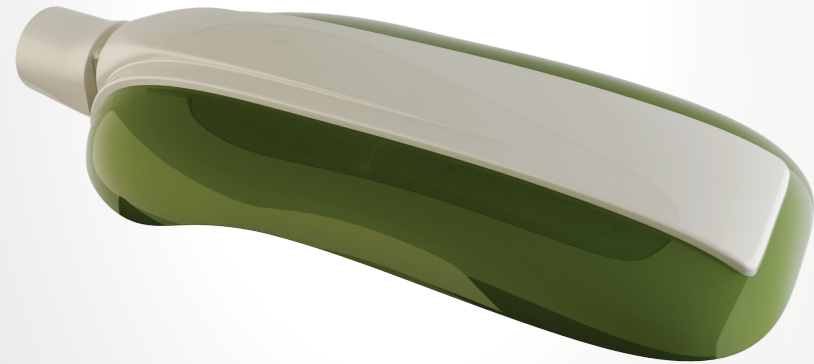
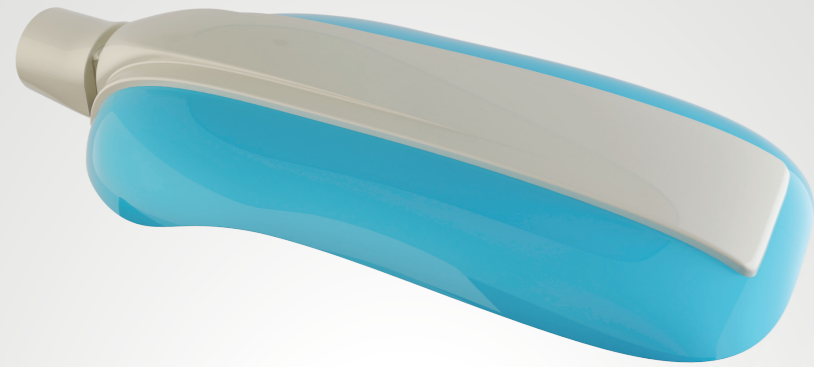
IV. DynaDim + DALI  
Multiple regulation steps and in addition a DALI regulation system becomes available.

## SMART CITY

The **SMART CITY** system can be wired – RS-4xx, LAN, CAN, fiber optic, PLC, etc./ or non-wired regulation /Lora, Wifi, Zigbee, Jennet-IP etc./ which includes the previous regulation modes, further more it gives a possibility to integrate different sensors, like: presence, light, weather, CO etc.



# DATASHEET



FEATURES	
Cooling	Passive
Certification	CE
Body Material	Die-cast aluminium and polymer
Fixing	Column top and wall: Ø42 - 60mm
Glass Plate	Tempered glass
Protection Rating	IP66, IK08
Colours	RAL colours
Power Supply	230V, 50Hz
Fuse	2A

LIGHTING SYSTEM	
Reflector	Optic lens
Light Source	LED chips
Lifetime	50.000 h (L-70)
Color Temperature	4000K (options: 3000K, 3500K)

TÍPUSOK				
Ordering code	Light output [lm]	CRI	System Power [W]	Weight [Kg]
300 763	2 324	>70	14,98	4
300 764	3 806	>70	23,99	4
300 778	5 643	>70	37,68	4,5
300 779	8 310	>70	56,55	4,5
301 017	11 236	>70	76,62	4,7
301 028	13 197	>70	95,12	4,7

APPLICATIONS	
Outdoor places	Roadways, streets
	Parking areas, industrial places
	Bike lanes, pedestrian streets

## COLOUR COMBINATION

We also realize unique ideas. As an option KOMBO can be ordered with colours chosen from the RAL colour code.

