

# Street\Twilight Copenhagen

## Smart Urban Tools

Lighting innovation for people.



## Street

Smart Value

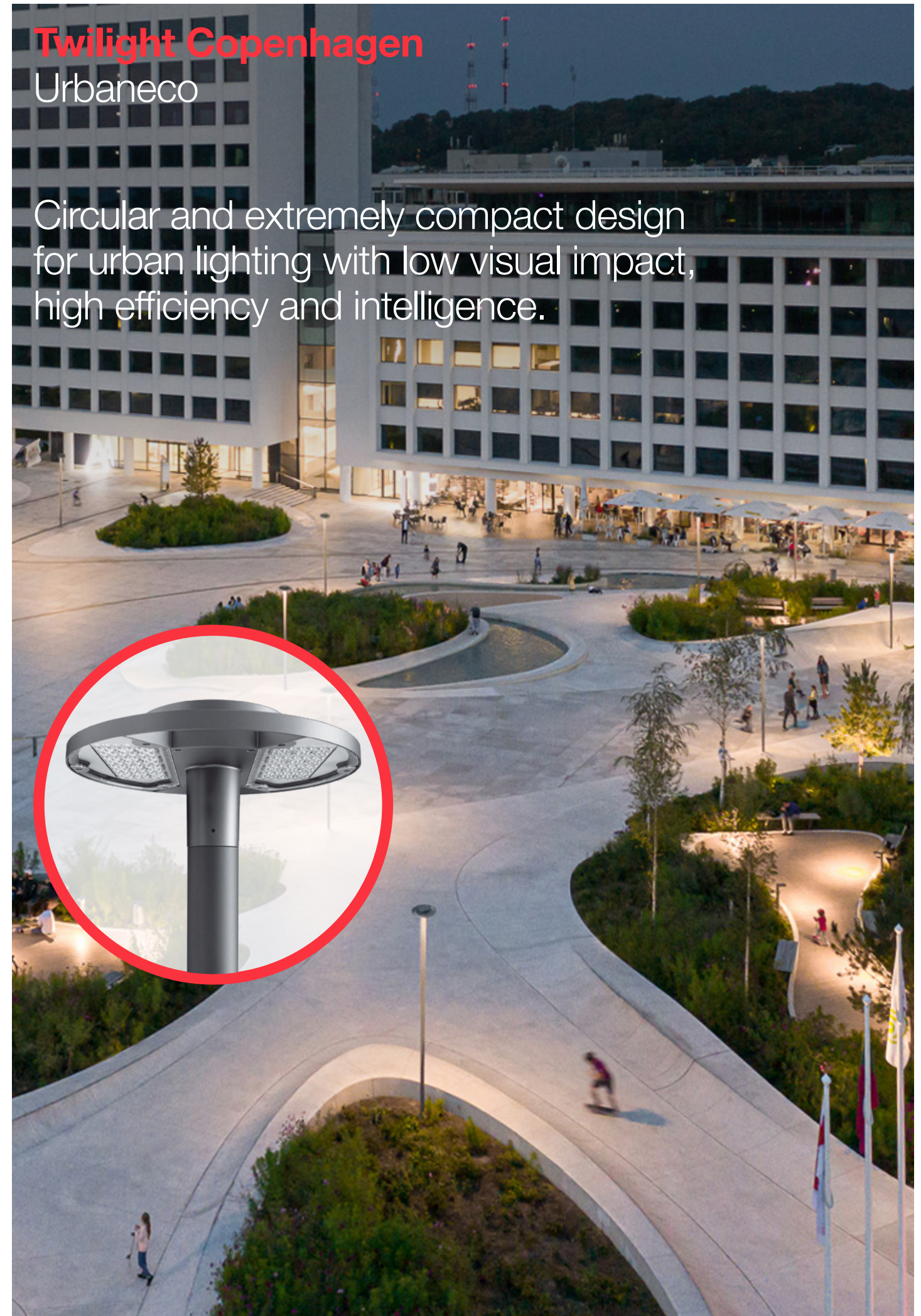
High performance and convenience for functional lighting with easy programming, installation and maintenance.



## Twilight Copenhagen

Urbaneco

Circular and extremely compact design for urban lighting with low visual impact, high efficiency and intelligence.

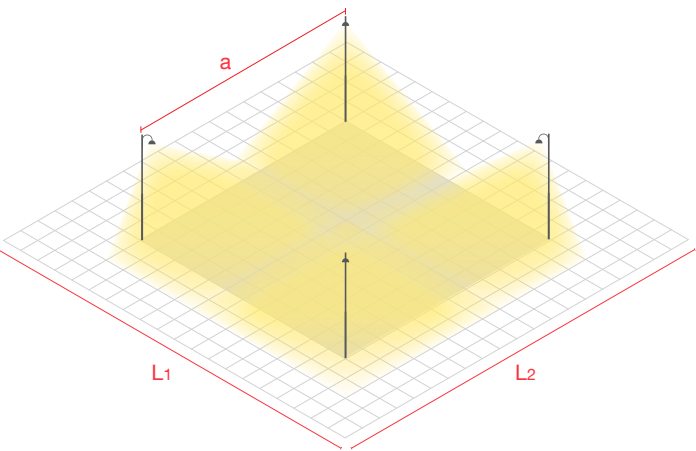




# Street Efficacy.

## From the optics to the system

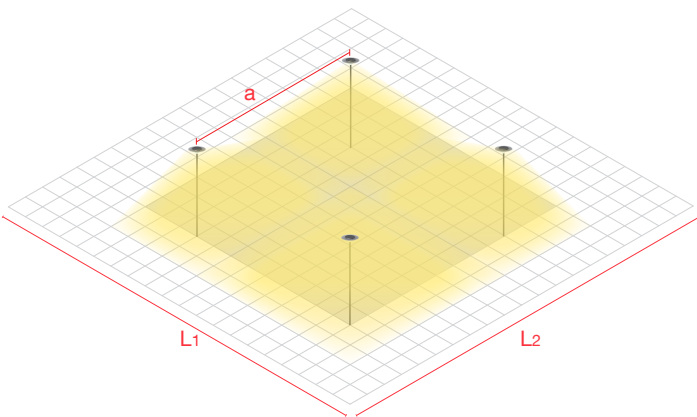
Individual efficiency plays an important role in the context of the system. We have developed optics that meet light distribution requirements in various urban settings to optimize efficiency and ensure visual comfort. The excellent distribution capacity of OptiSmart optics is evidenced by significantly higher inter-distance values than those normally calculated in urban lighting systems. This translates directly into economic and energy sustainability. Higher inter-distance values means that fewer devices can be used, with a consequent reduction in plant and operating costs.



h	a	L1 x L2	Emed	g1	W/m²
5 m	10 m	15 x 15 m	20 lux	0,3	0,97

4 x Products HST 50W E40

In old systems, on the other hand, only the optical chamber can be replaced, obtaining immediate energy savings. The effective efficiency of the device becomes the effectiveness of the system. The position at the head of the C.o.B. LED ensures excellent heat dissipation and protects the performance of the light source used, with 80% luminous flux retention after 23 years. Energy sustainability is assured by parameter B10, a mark indicating fidelity to declared lifespan and luminous flux values.



h	a	L1 x L2	Emed	g1	W/m²
5 m	10 m	15 x 15 m	18 lux	0,5	<b>0,36 (-63%)</b>
5 m	10 m	15 x 15 m	18 lux	0,3	<b>0,29 (-20% midnight, therefore - 71%)</b>

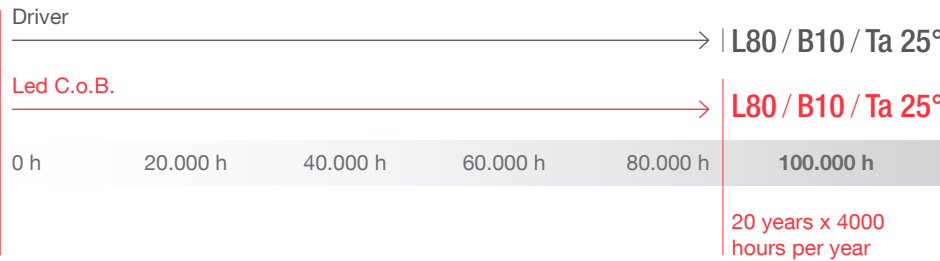
4 x Twilight Copenhagen PS 3.000lm 20W



### 100,000 hours L80 B10

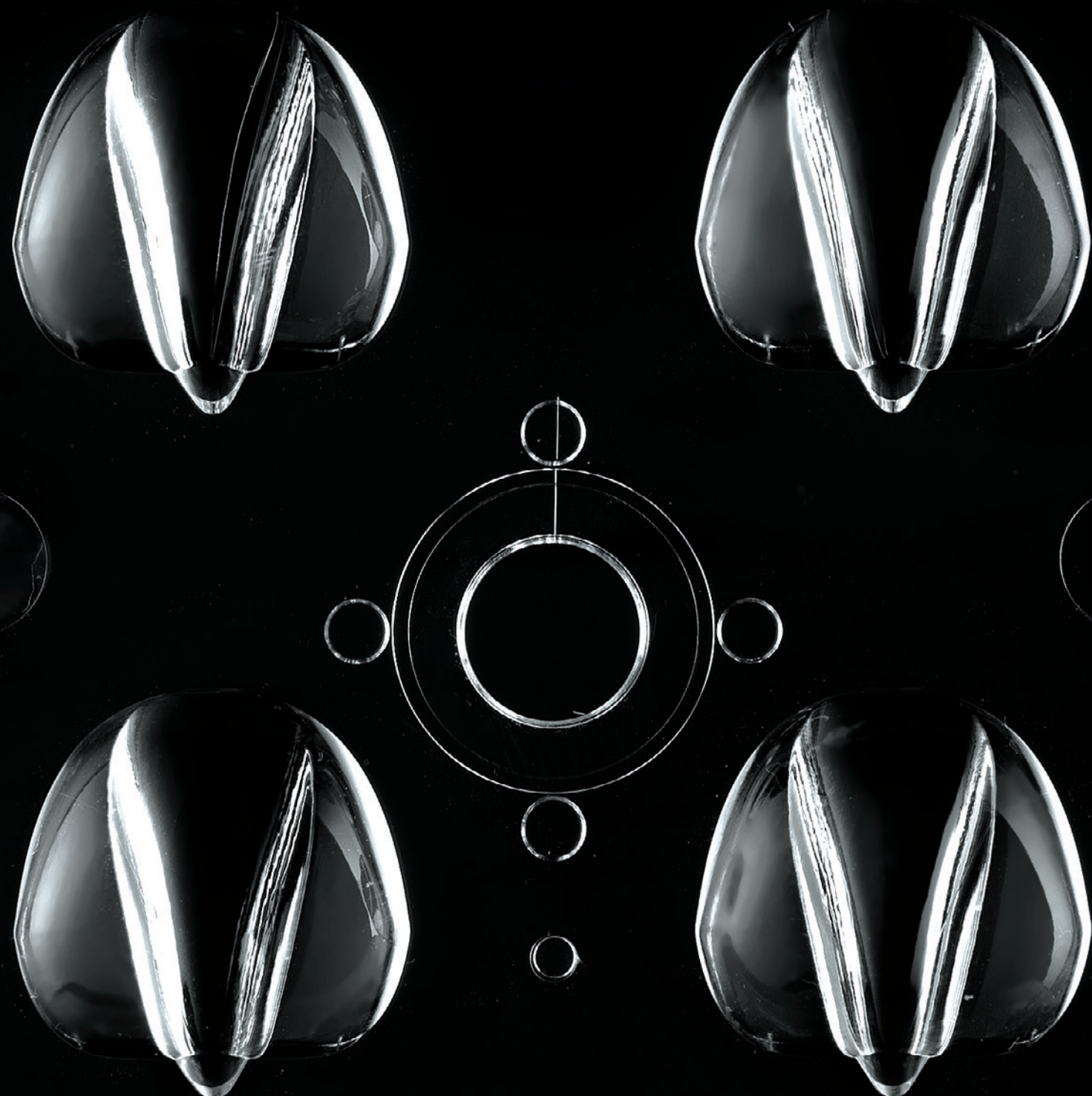
Useful life is a statistical data indicating that after 100,000H the luminous flux is equal to or greater than 80% of the initial value (L80) for at least 90% of the LEDs (B10).

100 %



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Patented Opti Smart optics adapt to any required application: “made to measure” lenses modelled with free-form technology to define optimal geometries, thereby allowing maximum use of the luminous flux as and when needed.





# A multitude of optics.

## Up to 17 tailor-made lighting combinations

Architecture is often made up of modular spaces with variable geometries and specific requirements. Light adapts to every height and every distance to illuminate details and elements without restrictions. We develop solutions - from one to one hundred thousand - each with a variety of optics, including adjustable versions, with technologies and powers that turn flexibility into effectiveness, providing the best possible light based on the application in question. Modulating light, from super-spot cones, to spot, medium, flood, wide flood, wall

washer and elliptical systems. New distributions make it possible to illuminate very wide, very narrow or specific streets for cycle paths; a square optic ideal for lighting parking areas and, lastly, a distribution created specifically for the installation of the optical compartment on a pole through the arms. Moreover, we have also developed other accessories that, combined with the available optics, can be used to design the desired light and protect the lighting source.

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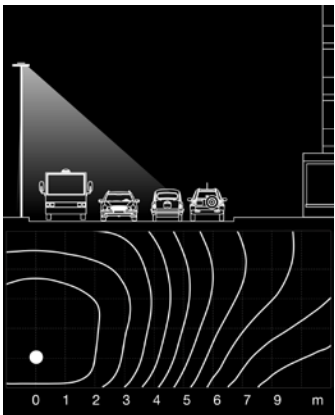
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**ST1 / Type II Short**  
Street Optic for intense vehicle traffic, urban and suburban areas.



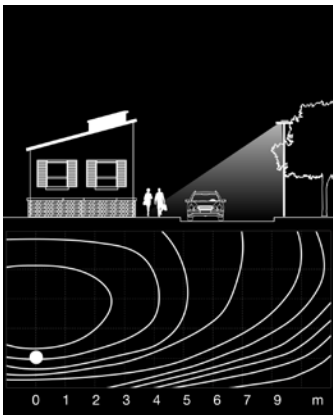
**ST1.2 / Type II Short**  
Street Optic for intense vehicle traffic, urban and suburban areas.



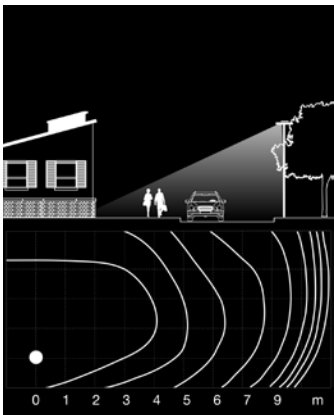
**ST1.5 / Type III Medium**  
Optic for residential streets.



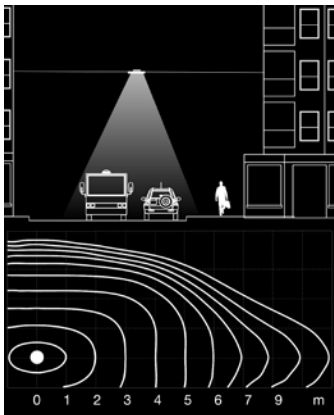
**STCy0.5 / Type I Short**  
Optic for residential streets and bicycle lanes.



**ST1U / Type III Short**  
Optic for residential streets and bicycle lanes ideal for low heights.



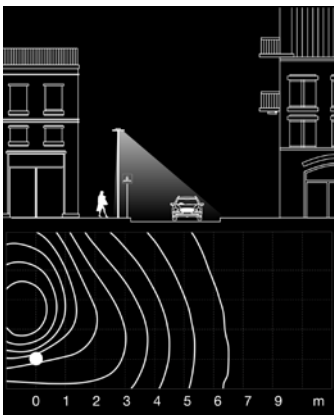
**ST1.5U / Type III Short**  
Optic for residential streets and bicycle lanes ideal for low heights.



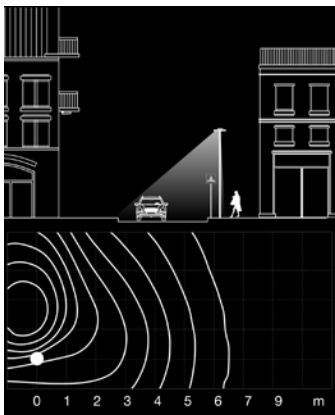
**STWrS / Type I Short\*\***  
Spot optic for suspension installation for suburban vehicular traffic.



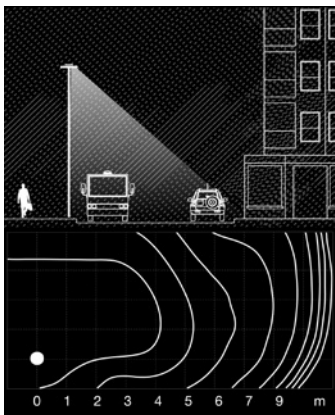
**STWrW / Type I Medium\*\***  
Optic for suspension installation for suburban vehicular traffic.



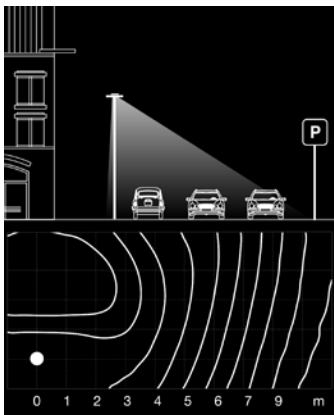
**STZI**  
Street optic for urban and suburban crosswalks.



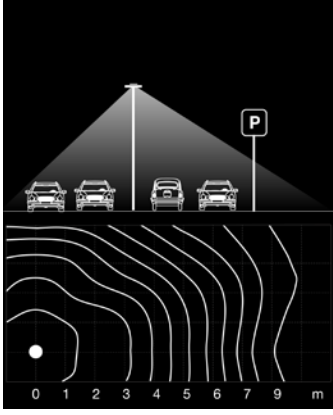
**STZr**  
Street optic for urban and suburban crosswalks.



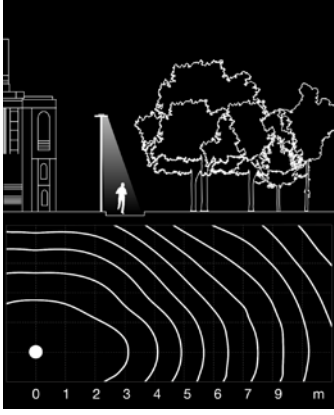
**STWt1 / Type II Short**  
**STWt1.5 / Type III Short**  
Street optic for intense vehicle traffic, urban and suburban areas for wet roads.



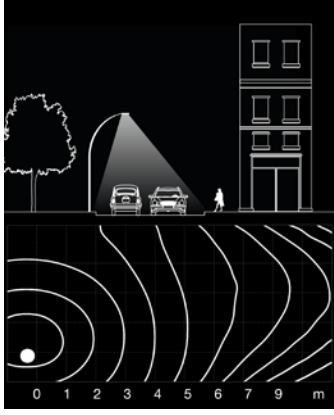
**A60 / Type III Short**  
60°Asymmetric optic for parking areas and large open spaces.



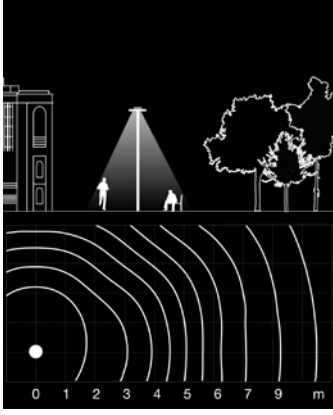
**PS / Type IV Short\*\***  
Optic specifically for lighting parking areas.



**ELL\*\***  
Elliptical optic for historic centres and pedestrian areas.



**STF1\***  
Street optic for intense vehicle traffic, urban and suburban areas for curved poles.



**SMC\*\***  
Comfort Symmetric Optic for historic centres and pedestrian areas.

\* only for Street / \*\* only for Twilight



# From the appliance to the smart city.

## Modular light to meet urban needs.

City life has many different rhythms. Neighbourhoods, parks, squares and urban streets all have different lighting needs in terms of intensity, times and specific features. Starting from the residential dimension, it is possible to reach into more complex integration requirements that centralize intelligent management of various urban networks in order to optimize the luminous flux based on demand. New digital technologies provide all kinds of possibilities for control. From simple on/off control, which ensures a first level of urban efficiency, there comes

stand-alone solutions, with automatic adjustment of the luminous flux based on the recognition of half of the night switch-on period up to management with a DALI solution, ensuring precise control of the luminaire and integration with Smart Lighting systems through wireless or Power-Line devices. Lastly, intelligence is converted into urban sustainability thanks to the Zhaga connector that transforms street luminaires into nodes in a digital network, an active element in the smart city that optimizes management and consumption.

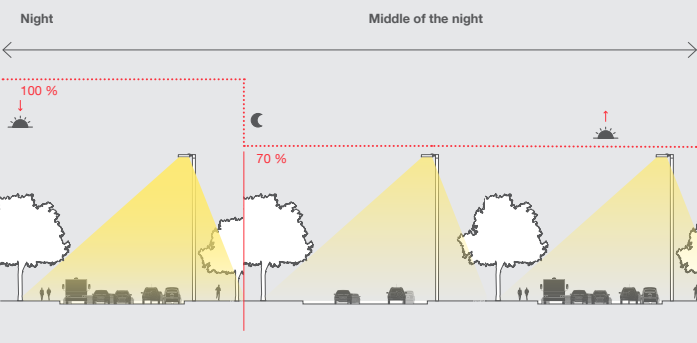
Twilight Copenhagen / Street

Each fixture can be managed with control systems that allow light to be used only when necessary, thereby optimizing consumption and promoting responsible and effective use of urban lighting.

**Middle of the Night**

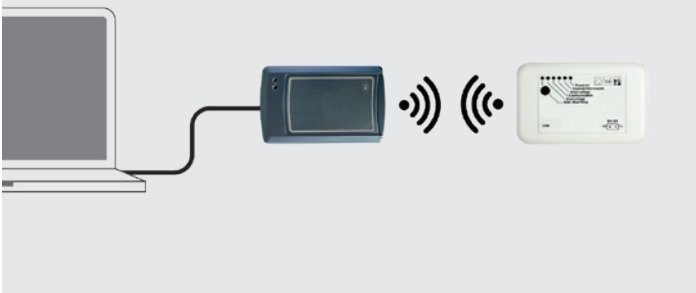
The intelligent self-learning system included in the power supply, by following an algorithm, envisages

recognition of half of the set operating period in accordance with the pre-set profile.



**Customization of the electronics**

Programming can be performed using the NFC contactless system to facilitate and accelerate the activation phase.



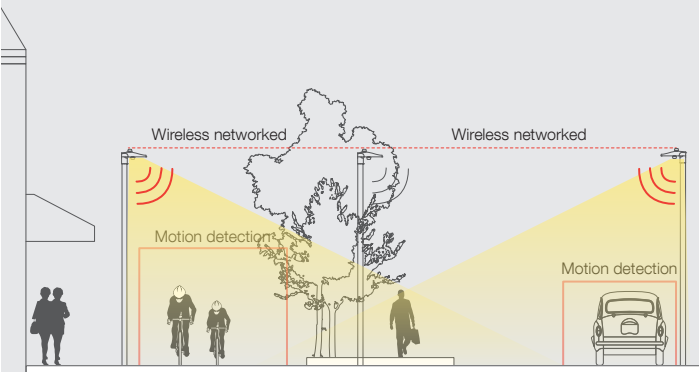
**Stand Alone - Ideal in residential areas**

Movement sensors, in the lower Zhaga connection, allow the luminous flux to be regulated up to the defined level, based on the presence of people.



**Inter-connected system - Ideal for urban and residential settings.**

The movement sensor, in the lower Zhaga connection, adjusts the luminous flux up to the defined level, while a controller in the upper Zhaga connection communicates the information to the next poles.



**DALI BLE**

The DALI power supply adjusts the luminous flux both with automatic systems and Bluetooth devices, via the BLE-DALI interface, thereby facilitating the programming and management

stage on site. The WiFi bridge also makes remote management and the creation of schedulers possible.

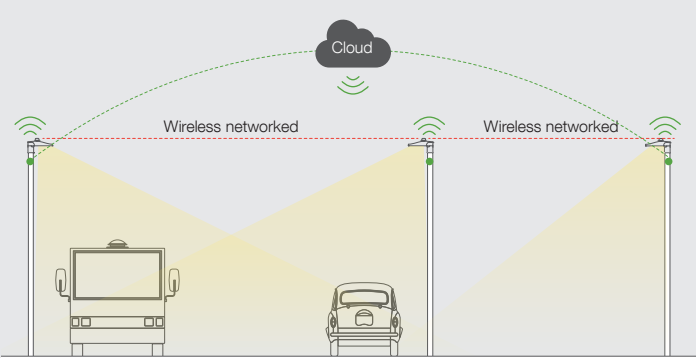
**Zhaga connection**

Integration with the Zhaga connection connects the device to the urban context, hosting other devices used for remote management or luminous flux regulation based on sensors.



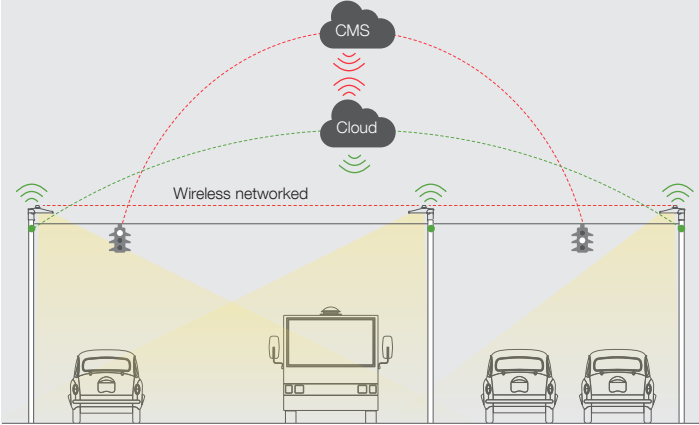
**Cloud connected system - ideal in smart cities**

By integrating a gateway into the pole or cabinet, all the data detailing the interconnected system can be sent to the Cloud for remote processing of statistics and managing the system, as well as sending an alert in the event of malfunctions.



**CMS integration - ideal for smart cities**

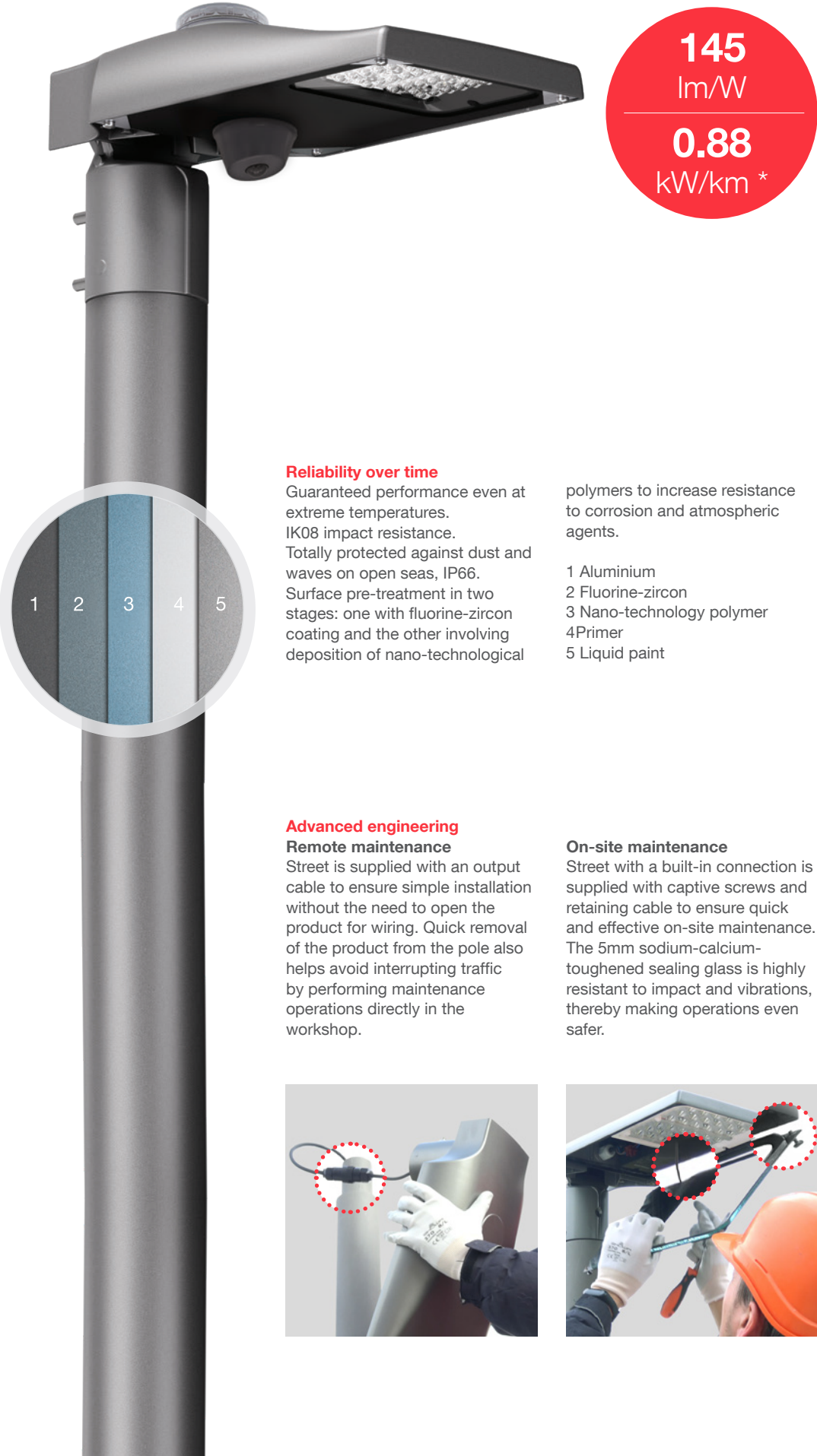
The lighting system can also be connected to the City Management System, via API (Application Programming Interface), thereby allowing all the systems to the smart city set-up to be managed with a single city control system (e.g. irrigation, traffic, pollution, etc. ...)





# Street

Smart Value



**Color Temperature**  
2200K / 3000K / 4000K - CRI70

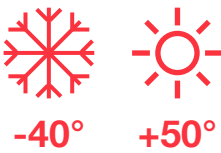
**Luminous Efficacy**  
Up to 152 lm/W

**Spike Protection**  
6kV differential mode - 10kV common mode (SPD accessory for 10kV - 10kV)

**Control**  
DALI

IP66 / IK08

**Tmax (°C)**  
-40°C +35°C up to 12.000lm  
-40°C +50°C up to 9.000lm



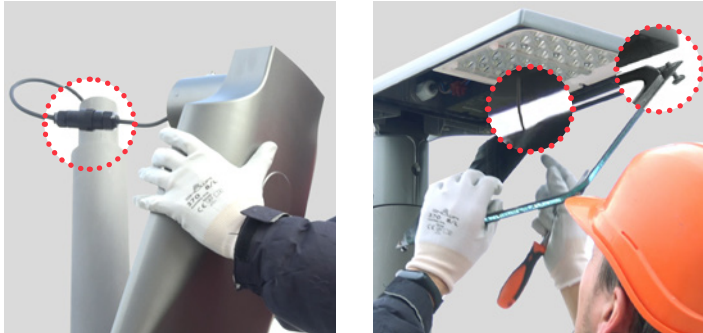
**Reliability over time**  
Guaranteed performance even at extreme temperatures. IK08 impact resistance. Totally protected against dust and waves on open seas, IP66. Surface pre-treatment in two stages: one with fluorine-zircon coating and the other involving deposition of nano-technological

polymers to increase resistance to corrosion and atmospheric agents.

1 Aluminium  
2 Fluorine-zircon  
3 Nano-technology polymer  
4 Primer  
5 Liquid paint

**Advanced engineering**  
**Remote maintenance**  
Street is supplied with an output cable to ensure simple installation without the need to open the product for wiring. Quick removal of the product from the pole also helps avoid interrupting traffic by performing maintenance operations directly in the workshop.

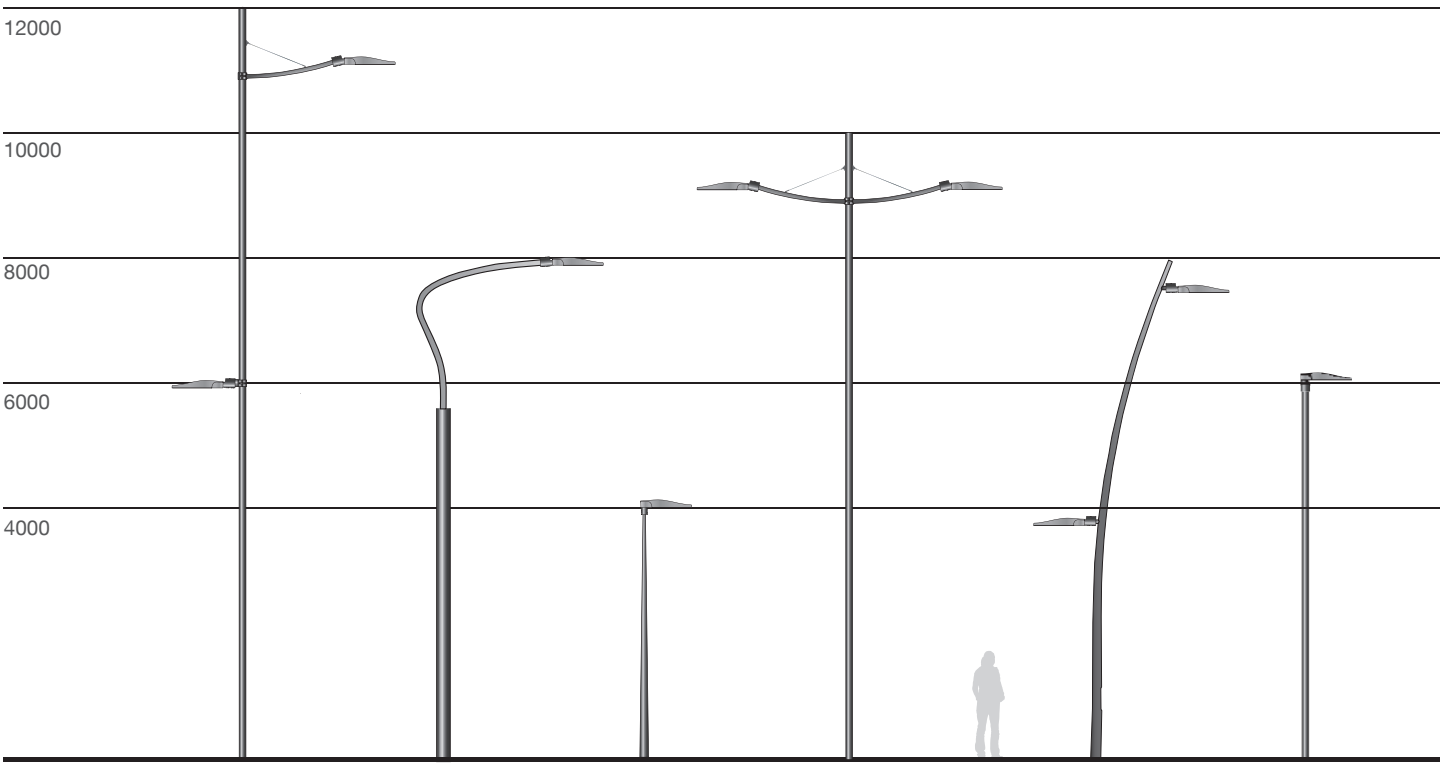
**On-site maintenance**  
Street with a built-in connection is supplied with captive screws and retaining cable to ensure quick and effective on-site maintenance. The 5mm sodium-calcium-toughened sealing glass is highly resistant to impact and vibrations, thereby making operations even safer.



\* Calculated for a road with vehicle traffic with classification M4, height 6m, ST1 4000K optic

## Street

Street translates innovation into essentiality: every component, function and detail is the maximum needed to achieve exceptional performance.





Double Zhaga connection offering every level of intelligent management, from stand-alone regulation with sensors, to wireless interconnection, Cloud-based management and integration with the Central Control System.





# Twilight Copenhagen

## Urbaneco



**Color Temperature**  
2200K / 3000K / 4000K - CRI70

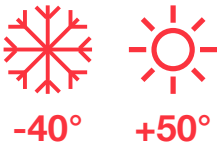
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**Spike Protection**  
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DALI

IP66 / IK08

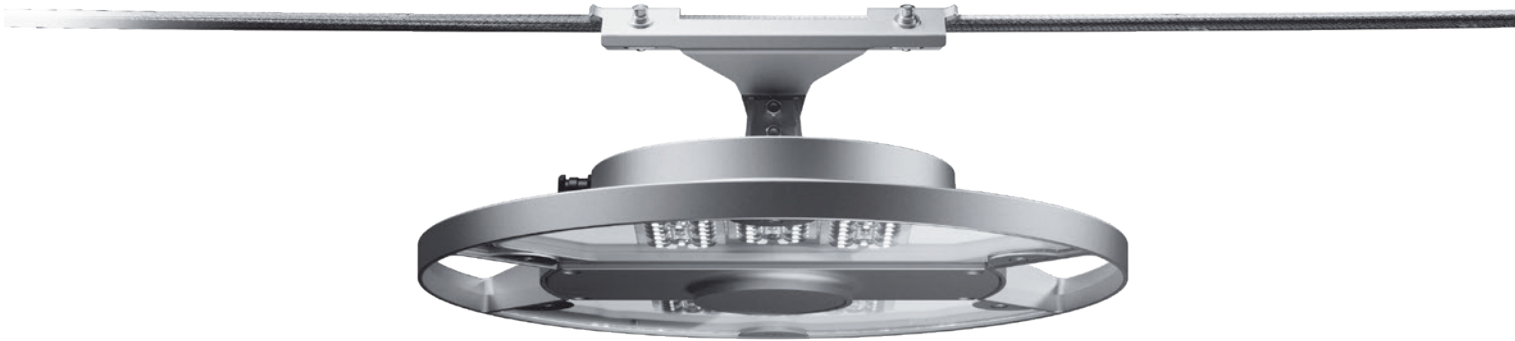
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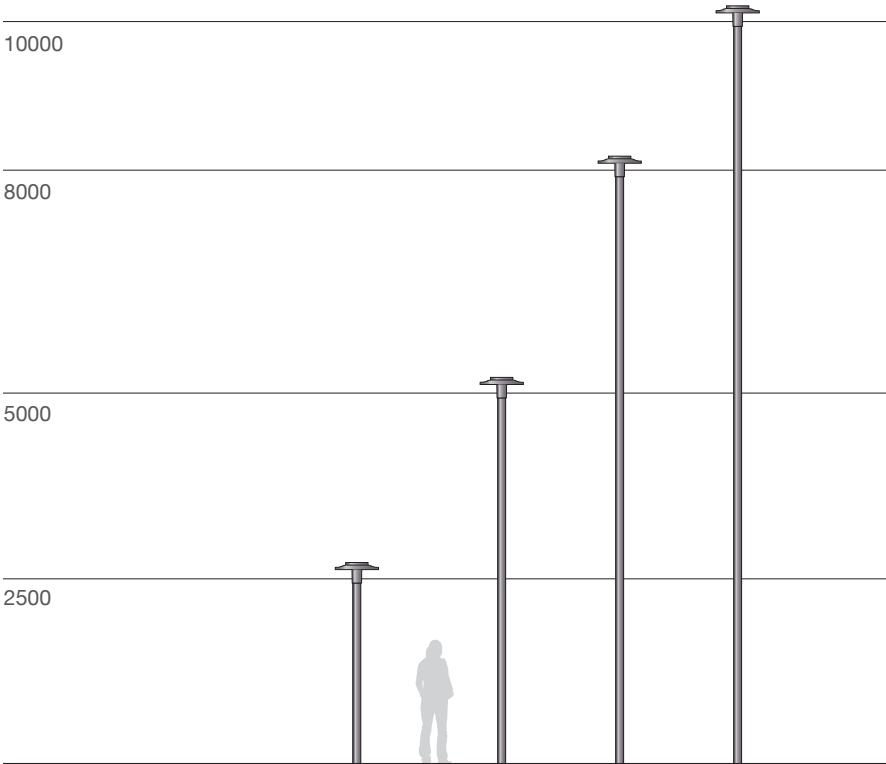
\* Calculation for P2 pathway, height 5m, optic STCy0.5 4000K

# Twilight Copenhagen

Aesthetic, functional and sustainable innovation to evolve and expand increasingly compact, efficient and intelligent urban lighting solutions.



**Advanced engineering**  
Twilight Copenhagen is supplied with an output cable to ensure simple installation without the need to open the product for wiring. The optical and component compartments are separate to ensure that maintenance operations are performed in total safety.



**Reliability over time**  
Guaranteed performance even at extreme temperatures. IK08 impact resistance. Totally protected against dust and waves on open seas, IP66. Surface pre-treatment in two stages: one with fluorine-zircon coating and the other involving deposition of nano-technological polymers to increase resistance to corrosion and atmospheric agents.

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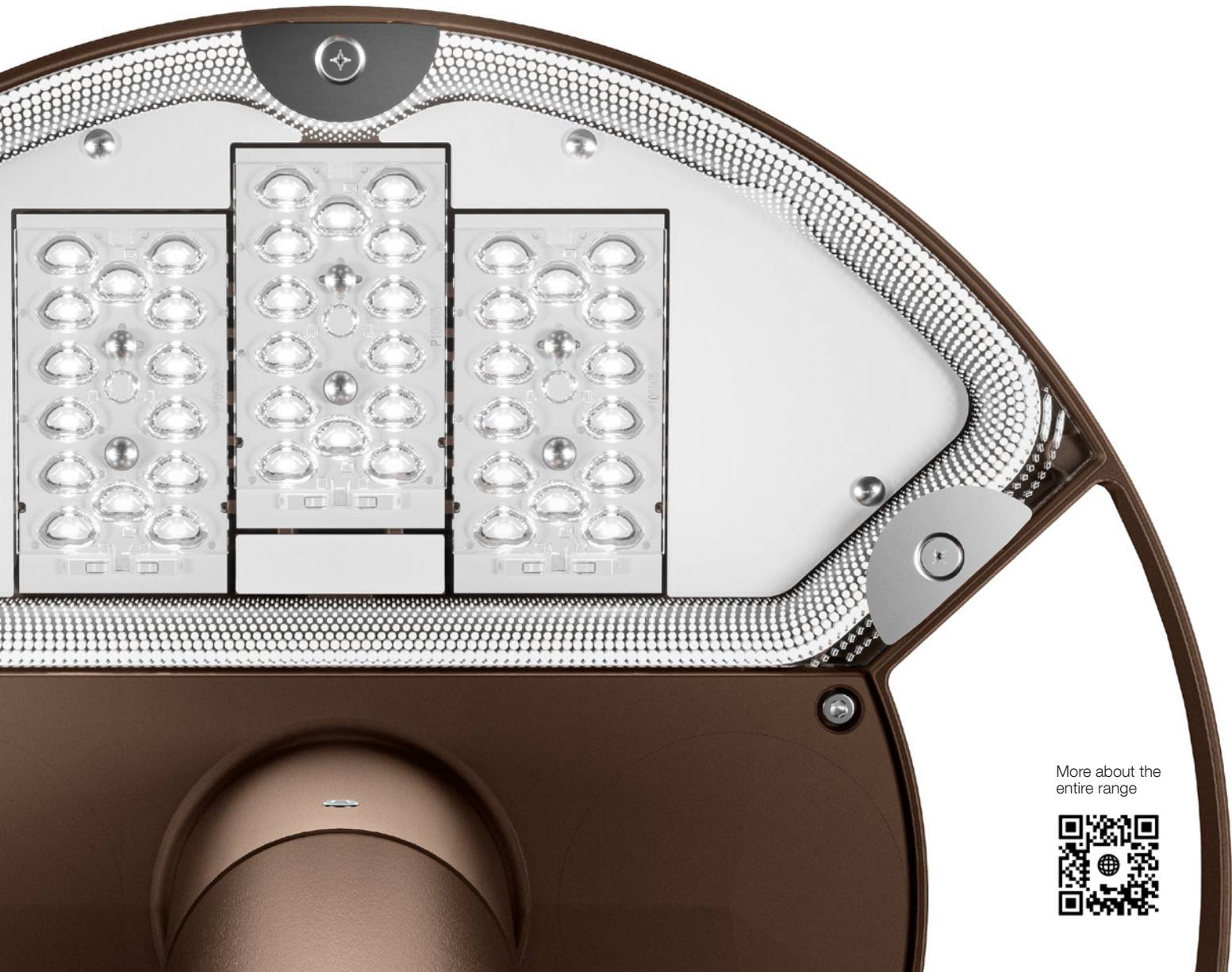
# Twilight Copenhagen

## Urbaneco



We build urban identity by putting new hats with Twilight Copenhagen. "Cortina" has a soft and compact shape which enhances visual comfort; "Kyoto" has an imposing diameter that becomes a proportional volume for significant heights. "Calgary", on the other hand, recalls traditional lanterns. The materials used are aluminium and PMMA, with 5 colours for aluminium and 4 for PMMA. The three versions - Kyoto, Cortina and Calgary - can be installed on top of poles, as appliques and taut. In addition to the light distributions available with Opti Smart Lenses, we have also integrated new road technologies to offer up to 20 light distributions for urban contexts such as parks,

squares, pedestrian and residential areas, pedestrian crossings, roads with intense, urban and suburban vehicle traffic on dry and wet asphalt. The optical system also achieves exceptional performance levels, with system values of up to 166 lm/W. Smart electronics include On-Off operation, Midnight profiles and DALI control for customized light profiles to optimize energy saving. Lastly, special electronics allow wireless systems to be used with single and double Zhaga connections for flexible and increasingly sustainable management of the system.

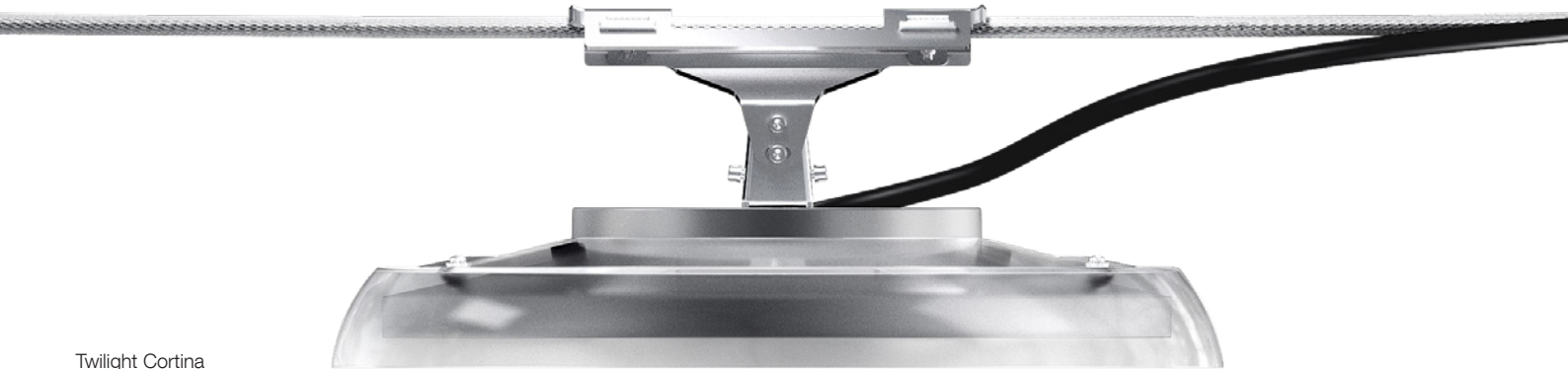


More about the entire range



# Twilight Copenhagen

Twilight Copenhagen extends its collection with three new "hat" aesthetics with different shapes and materials. We have also extended the range of multiple optics for tailor-made urban lighting.



Twilight Cortina



Twilight Kyoto



Twilight Calgary



The circular and extremely compact design is inspired by the architecture of Brøndby Garden City, Denmark - testimony to an utopian vision focusing on social well-being and Nature.





# Designed to be sustainable.

## Efficiency and recycling

90% of a luminaire's environmental impact arises from using it: consequently, this is where the greatest potential for cost savings and environmental protection can be found. Street and Twilight use highly efficient LEDs and drivers, OptiSmart optics that ensure excellent Lm/W values and large inter-distances, thereby increasing the effectiveness of the system. Yet, there's much more

management with control systems means that light is used only when necessary. Lastly, we also optimize the remaining 10% of the environmental impact through the use of recyclable and recycled materials, without affecting the efficiency of the product, as well as simplifying the complete disassembly of components and using renewable sources in production.

90% of the environmental impact derives from its use.

90%

uses **high efficiency** optics

Up to **133** lm/ W

ensures additional energy savings through **the use of control systems**

uses **long life**, and high performance LEDs and drivers that are reliable over time

**B10 L80 Ta25°**

And much more. We also optimize the remaining **10%**.

10%

using **circular materials** such as aluminium, glass, wood and paper.

Aluminium  
94% recycled  
100% recyclable

Paper  
94% recycled  
100% recyclable

by only selecting wood and paper from **sustainable forestry**.

Programme for the recognition of National Forestry certification schemes

designing easy end of life **disassembly**.

Using more than 52% of energy from **renewable sources**

**>52%**

of which >20% of energy is self-produced in the Recanati factory\*

\* with photovoltaic systems.

Twilight Copenhagen / Street

62%

recycled product

97%

recyclable product

67%

recycled product

97%

recyclable product

22



**Page 4**  
**Zhongshan Road - Ningbo, China**  
Client: City of Ningbo  
Lighting Project: Hua Zhan Wu Yun Lighting Design  
Photo: Flatmind

**Page 14**  
**Porto Recanati - Macerata, Italy**  
Relamping Porto Recanati  
Client: Municipality of Porto Recanati Architectural  
Lighting project: CPM Gestioni Termiche  
Photo: Studio F16 Giuseppe Saluzzi

**Simulation**  
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**Credits**  
**Publishing coordination**  
iGuzzini illuminazione

The sales network is available at  
[www.iguzzini.com](http://www.iguzzini.com)

**Cover design**  
xycomm – Milan

**Rendering**  
Gelfo Design  
iGuzzini illuminazione



