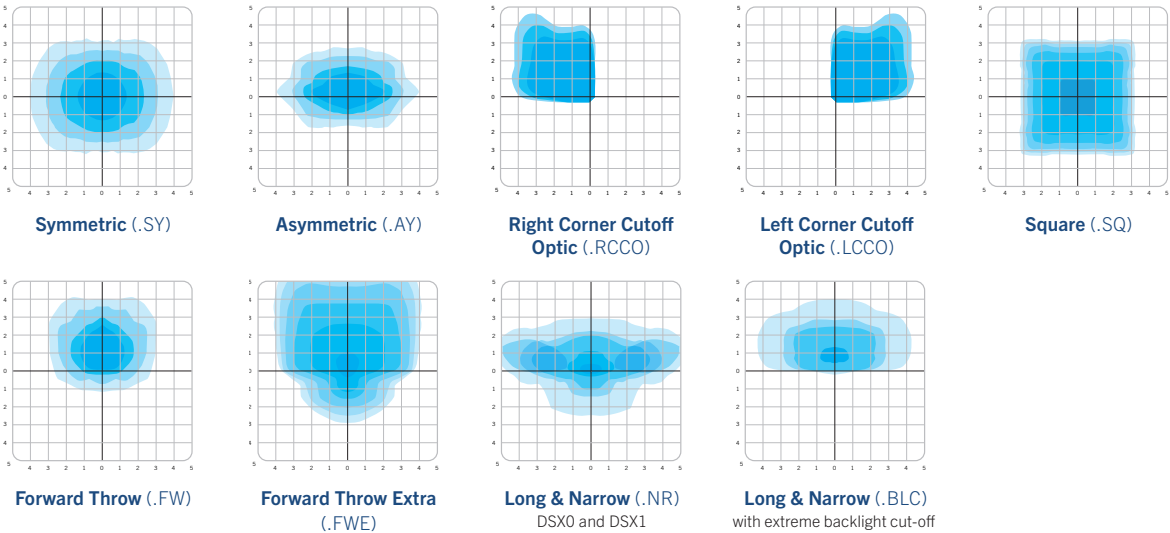


SPECIFICATION

Specification

Single-piece die-cast aluminium housing, that conforms to EN1706 AC-46500, with integral heat sink fins to optimise thermal management through conductive cooling. LED modules are IP65 with individual lenses, and high grade aluminium housing to transfer heat away from the LEDs and dissipate through the finned housing for cooling. The LED driver is mounted in direct contact with the finned housing for cooling to promote low operating temperature and long system life. Housing is completely sealed against moisture and environmental contaminants (IP65). Installation is via the integrated mounting block and integral arm that facilitate a quick and easy installation. 3000K or warmer must be selected for IDA dark sky certification.

Light Distributions



SPECIFICATION

Features and benefits

System Longevity

- The D-Series's diecast aluminium housing acts as its primary heat sink. Its longitudinal fins employ conductive cooling techniques to dissipate heat away from the key LED components and driver that extends the life of the luminaire.
- Light engine(s) consist of either 20 or 30 high efficacy LEDs (subject to chosen configuration) mounted to a metal-core circuit board to maximize heat dissipation and promote long life.

Exceptional Performance

- Offering six lumen packages ranging from 2000 lm to 50,000 lm with efficiencies of up to 143 lpw (Lumens Per Watts).

- Four optimised distributions (Symmetric, asymmetric, forward throw and long and narrow) delivered by quality LEDs and bespoke UV stabilised optics.
- LED light engines with 0% ULOR ensuring night time friendly.

Complete Light Package

- Available with ZD4i compatibility for use with range of 3rd-party sensors and devices.
- Fully integrated into Holophane standard column range.

DIMENSIONS & PERFORMANCE

Typical luminaire performance

Configuration	Delivered Lumens	Circuit Power (W)	Driver output current (mA)	Luminaire total number of LEDs	Luminaire efficacy (lm/W)
DSX0.4.LA02X	2,000	14	203	20	143
DSX0.4.LA03X	3,000	20	309	20	150
DSX0.4.LA04X	4,000	27	419	20	148
DSX0.4.LA05X	5,000	34	534	20	147
DSX0.4.LA06X	6,000	40	653	20	150
DSX0.4.LA08X	8,000	56	906	20	143
DSX0.4.LA10X	10,000	68	1181**	20	147
DSX0.4.LA11X	11,000	75	609	40	147
DSX0.4.LA13X	13,000	90	733	40	144
DSX0.4.LA15X	15,000	106	864	40	142
DSX0.4.LA16X	16,000	114	932	40	140
DSX0.4.LA18X	18,000	130	1050	40	138
DSX0.4.LA22X	22,000	169	1385	40	130
DSX1.4.LA22X	22,000	145	799	60	152
DSX1.4.LA30X	30,000	213	1150	60	141
DSX1.4.LA36X	36,000	256	1400	60	128
DSX2.4.LA30X	30,000	202	838	80	149
DSX2.4.LA36X	36,000	239	781	100	151
DSX2.4.LA40X	40,000	268	883	100	149
DSX2.4.LA45X	45,000	310	1016	100	145
DSX2.4.LA50X	50,000	351	1157	100	142

Weight (with control gear)

DSX 0	8.0 kg
DSX 1	12.2 kg
DSX 2	15.0 kg

Windage (effective projected area)

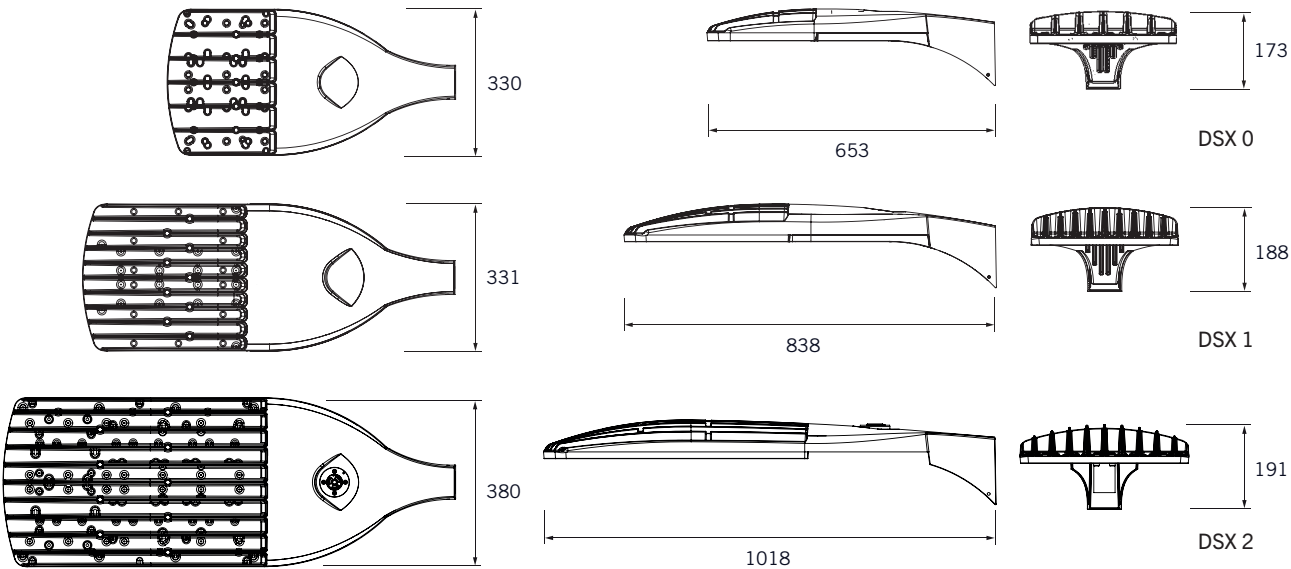
DSX 0	0.09 m²
DSX 1	0.09 m²
DSX 2	0.10 m²

TA

-40°C to 40°C

X - Denotes colour temperature (replace X with 2 for 2700K, 3 for 3000K and 4 for 4000K)

Note: Data is correct at time of print.  
\* For other life metric data in line with IEC PAS62722-2-1 and 62717 contact your Holophane Representative for details.



# LIGHTING WHERE YOU NEED IT... NOT WHERE YOU DON'T

Addressing unwanted spill light along the perimeter of your outdoor lighting design is no easy task. Whether you are trying to limit the light trespass due to concern for neighbouring properties, or simply seeking to achieve the most optimised lighting design, you need the most stringent light control available.

The D-Series Extreme Cutoff Optics, with its industry-leading optics addresses light trespass using innovative backlight control, delivering outstanding performance, long life and energy efficiency. This is accomplished through the use of specialised point-source black light engines, integrated specular reflectors with optimised optics and dedicated light-absorbing backlight shields to provide maximum control for backlight while providing superior lighting levels and luminaire efficiency.

## INNOVATIVE OPTICS THAT SUPPORT YOUR DESIGN

### Specialised, Black D-Series Light Engines

The stray-light absorbing light engines remove light scattered during refraction, ensuring light is directed exactly where it is needed - virtually eliminating spill light.



### Integrated Shield

The integrated shield design virtually eliminates light trespass, reduces glare, and maximises forward-reflected light, while maintaining high luminaire efficiency.



DSX0



DSX1



DSX2

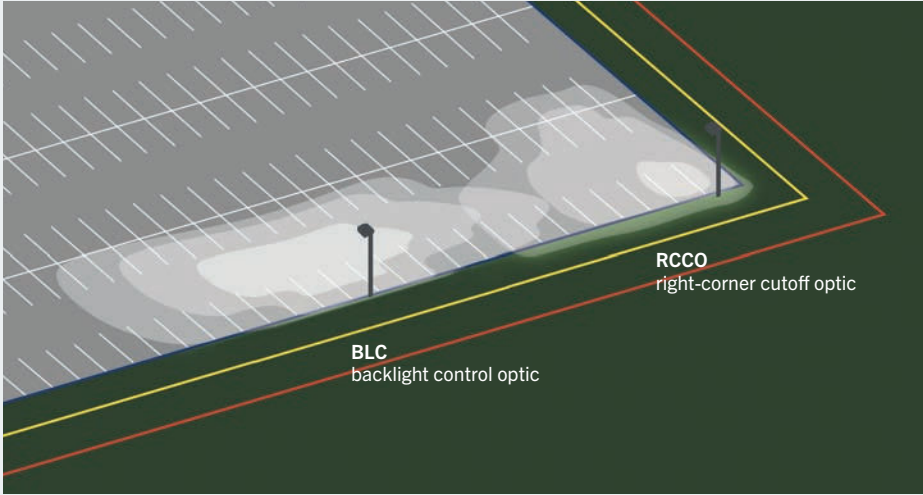
## INNOVATION IN ACTION

### Dedicated Backlight Control

The BLC optic enables significant backlight control, projecting light directly to the front and side of the task area while having as little as 0.5% of total backlight beyond the boundary line or column placement. This optic allows for optimal backlighting results when used on paths, curbs and parameter edging where backlight is not required. This is accomplished using a specialised

point-source black light engine with integral reflectors, optimised optics and light-absorbing backlight shields, providing superior lighting levels and luminaire efficiency. LEDs also can't be seen from the rear, which helps reduce glare when looking at the fitting from behind.

- Curb Line**
- Property Line**  
Virtually all light is cutoff right at that property line.
- Boundary Line**



### Corner Cutoff Control

The RCCO (right-corner cutoff optic) and LCCO (left-corner cutoff optic) apply the same principles as the BLC optic. However, this optical distribution caters to aiding perimeter lighting control to the corners of parking lots and other outside areas. The image above illustrates this optic working in harmony with the BLC optic to provide unmatched perimeter lighting while

maintaining light levels that offer high visibility to the target area. The image further illustrates how sharp the cutoff is of the light. Allowing for projects to have a column mounted in the corner without any light spill going to one side. This helps support compliance with intrusive light requirements along the perimeter area while the target area remains illuminated.



DSX2





Code	Luminaire (required)						
DSX0	D-Series 0 Luminaire						
Code	Lamp Type (required)						
.LA02X	LED light engine producing c.2,000 lm						
.LA03X	LED light engine producing c.3,000 lm						
.LA04X	LED light engine producing c.4,000 lm	Replace 'X' in lamp type code					
.LA05X	LED light engine producing c.5,000 lm	with either:					
.LA06X	LED light engine producing c.6,000 lm	2 for 2700K					
.LA08X	LED light engine producing c.8,000 lm	3 for 3000K					
.LA10X <sup>1</sup>	LED light engine producing c.10,000 lm	4 for 4000K					
.LA11X	LED light engine producing c.11,000 lm	<sup>1</sup> TZ01, TZ02 & TZ03					
.LA13X	LED light engine producing c.13,000 lm	Not available with lumen codes					
.LA15X	LED light engine producing c.15,000 lm	LA10X and LA22X					
.LA16X	LED light engine producing c.16,000 lm						
.LA18X	LED light engine producing c.18,000 lm						
.LA22X <sup>1</sup>	LED light engine producing c.22,000 lm						
Code	Distribution (required)						
.SY	Symmetric light distribution						
.AY	Asymmetric light distribution						
.FW	Forward Throw distribution						
.NR	Long and Narrow distribution						
.BLC	Long and Narrow distribution with extreme backlight cut-off						
.RCCO	Right Corner Cutoff						
.LCCO	Left Corner Cutoff						
.FWE	Forward Throw Extra						
.SQ	Square light distribution						
Code	Colour (required)						
.C1	Smooth White (RAL9016)						
.C4	Graphite (RAL 7011)						
.C6	Smooth Grey (RAL7035)						
.C7	Black (RAL9005)						
.C9	Metallic Silver (RAL9006)						
.RAL****	RAL Colour (Customer choice)						
Code	Voltage Electrical Class (option)						
.CII	Class II						
Code	Photocell (option)						
.TSZ	Complete with miniature 70 lux factory fitted photocell. (Zodion SS12)						
.T1	Complete with NEMA socket. (To accept standard NEMA Photocell, available from Holophane).						
.T5	Complete with 5-pin dimming NEMA ANSI C136.41 socket (photocell/node supplied by others) without locking top						
.T7	Complete with 7-pin dimming NEMA ANSI C136.41 socket (photocell/node supplied by others) without locking top						
.T5T	Complete with 5-pin dimming NEMA ANSI C136.41 socket (photocell/node supplied by others) with weather proof locking top						
.T7T	Complete with 7-pin dimming NEMA ANSI C136.41 socket (photocell/node supplied by others) with weather proof locking top						
.TZ01	Complete with 4-Pin Zhaga Socket - 'Top' (suitable photocell/node supplied by others) with weather proof locking cap						
.TZ02	Complete with 4-Pin Zhaga Socket - 'Bottom' (suitable photocell/node supplied by others) with weather proof locking cap						
.TZ03	Complete with 4-Pin Zhaga Socket - 'Top & bottom' (suitable photocell/node supplied by others) with weather proof locking cap						
Code	Controls (option)						
.PH1	PIR on a Zhaga socket, suitable up to 12m. Dims to 30% after 10 minutes of inactivity - switches off after further 10 minutes. Remotely re-programmable with accessory HEL.PRG (purchased separately). Requires option TZ02 or TZ03.						
.PH2	Groupable PIR on a Zhaga socket, suitable up to 12m. Dims to 30% after 10 minutes of inactivity - switches off after further 10 minutes. Remotely re-programmable with accessory HEL.PRG.G (purchased separately). Requires option TZ02 or TZ03.						
.CA	Wireless lighting node (top socket) for use with Holophane Controlux Air System. Requires option TZ01 or TZ03. (Includes subscription package for two years)						
.CAP	Wireless lighting node (top socket) & PIR (bottom socket) for use with Holophane Controlux Air System. Requires option T TZ03. (Includes subscription package for two years). Suitable up to 12m.						
Code	Control Gear (option)						
.CL7	Programmed to deliver 70% of the initial lumens over the life of the luminaire						
.CL8	Programmed to deliver 80% of the initial lumens over the life of the luminaire						
.CL9	Programmed to deliver 90% of the initial lumens over the life of the luminaire						
.CL****	Customer specified programming						
Code	Dimming outputs (option)						
.LRD	DALI						
.LRT56	pre-set to dim to 50% between 12am to 6am						
.LRT66	pre-set to dim to 60% between 12am to 6am						
.LRT76	pre-set to dim to 70% between 12am to 6am						
.LRT*****	Customer specified pre-set dimming						
Code	Paint finish (option)						
.C	Enhanced Paint Finish						
DSX0	.LA02X	.AY	.C7	.CII	.TSZ	.CL7	.LRD
Example							

**Note:** The specifications of the Holophane luminaire, all descriptions, illustrations, drawings and specifications in the Holophane catalogue and website represent only general particulars of the goods to which they apply and shall not form part of any contract. The company reserves the right to change specifications at its discretion without prior notification or public announcement.

Code	Luminaire (required)						
DSX1	D-Series 1 Luminaire						
DSX2	D-Series 2 Luminaire						
Code	Lamp Type (required)						
.LA22X*	LED light engine producing c 22,000 lumens						
.LA30X*	LED light engine producing c 30,000 lumens	With a nominal 3000K or 4000K colour temperature.					
.LA36X**	LED light engine producing c 36,000 lumens	Replace X with 2 for 2700K, 3 for 3000K, 4 for 4000K					
.LA40X*	LED light engine producing c 36,000 lumens	TZ01, TZ02 & TZ03 Not available with lumen codes LA30X & LA36X when					
.LA45X**	LED light engine producing c 45,000 lumens	configured with DSX1. Also not available with lumen codes LA45X and LA50X					
.LA50X**	LED light engine producing c 50,000 lumens						
Code	Distribution (required)						
.AY	Asymmetric						
.SY	Symmetric						
.FW	Forward throw						
.BLC	Long and Narrow distribution with extreme backlight cut-off						
.NR	Long and Narrow distribution						
.RCCO	Right Corner Cutoff						
.LCCO	Left Corner Cutoff						
.FWE	Forward Throw Extra						
.SQ	Square light distribution						
Code	Colour (required)						
.C1	Smooth White (RAL9016)						
.C4	Graphite (RAL 7011)						
.C6	Smooth Grey (RAL7035)						
.C7	Black (RAL9005)						
.C9	Metallic Silver (RAL9006)						
.RAL****	RAL Colour (Customer choice)						
Code	Photocell (option)						
.T	Mini Photocell						
.T1	Complete with NEMA socket (To accept standard NEMA Photocell, available from Holophane)						
.T5	Complete with 5-pin dimming NEMA ANSI C136.41 socket (suitable photocell/node supplied by others) without locking top						
.T7	Complete with 7-pin dimming NEMA ANSI C136.41 socket (suitable photocell/node supplied by others) without locking top						
.T5T	Complete with 5-pin dimming NEMA ANSI C136.41 socket (photocell/node supplied by others) with weather proof locking top						
.T7T	Complete with 7-pin dimming NEMA ANSI C136.41 socket (photocell/node supplied by others) with weather proof locking top						
.TZ01	Complete with 4-Pin Zhaga Socket - Top (suitable photocell/node supplied by others) with weather proof locking top <sup>+</sup>						
.TZ02	Complete with 4-Pin Zhaga Socket - Bottom (suitable node/presence detector supplied by others) with weather proof locking top <sup>+</sup>						
.TZ03	Complete with 4-Pin Zhaga Socket - 'Top & bottom' (suitable photocell/node supplied by others) with weather proof locking cap.						
Code	Control Gear (option)						
.CL7	Programmed to deliver 70% of the initial lumens over the life of the luminaire						
.CL8	Programmed to deliver 80% of the initial lumens over the life of the luminaire						
.CL9	Programmed to deliver 90% of the initial lumens over the life of the luminaire						
.CL****	Customer specified programming						
Code	Controls (option)						
.PH1	PIR on a Zhaga socket, suitable up to 12m. Dims to 30% after 10 minutes of inactivity - switches off after further 10 minutes. Remotely re-programmable with accessory HEL.PRG (purchased separately). (Requires option TZ02 or TZ03).						
.PH2	Groupable PIR on a Zhaga socket, suitable up to 12m. Dims to 30% after 10 minutes of inactivity - switches off after further 10 minutes. Remotely re-programmable with accessory HEL.PRG.G (purchased separately). (Requires option TZ02 or TZ03).						
.CA	Wireless lighting node (top socket) for use with Holophane Controlux Air System (Includes subscription package for two years). (Requires option TZ01 or TZ03).						
.CAP	Wireless lighting node (top socket) & PIR (bottom socket) for use with Holophane Controlux Air System. (Includes subscription package for two years). Suitable up to 12m. (Requires option TZ03).						
Code	Dimming outputs (option)						
.LRD	DALI						
.LRT56	Pre-set to dim to 50% between 12am to 6am						
.LRT66	Pre-set to dim to 60% between 12am to 6am						
.LRT76	Pre-set to dim to 70% between 12am to 6am						
Code	Paint finish (option)						
.C	Enhanced Paint Finish						
DSX1	.LA30X	.AY	.C7	.T1	.CL7	.PH1	.LRT56
Example							

\*DSX1 only    +DSX1 & 2    \*\*DSX2 only

Lumen data is considered to be representative of the configuration shown, and may vary, with a tolerance on flux of +/- 7% (typical of LED manufacturers data) and luminaire power of +/- 5%.

**Note:** The specifications of the Holophane luminaire, all descriptions, illustrations, drawings and specifications in the Holophane catalogue and website represent only general particulars of the goods to which they apply and shall not form part of any contract. The company reserves the right to change specifications at its discretion without prior notification or public announcement.



# SUSTAINABILITY ENVIRONMENTAL



## AN ECO DESIGN THAT IS SUSTAINABLE WITHIN.

Our products are just one part of our sustainability efforts, with the 4 pillars of our eco-design which constantly push us to create the most sustainable products that reduce our own environmental impact.

### Pillar One Sustainable we make more with less

#### How are we doing it?

- To make use of recycled materials where we can
- Reducing unnecessary materials, weight and component count
- Only using components that can be used in other luminaires
- Reduce labour time and energy usage during the manufacturing process

### Pillar Three Serviceable we ensure product longevity

#### All of our products are:

- Upgradable
- Simple in design
- Ensure easy access to internal components
- Spares are easily available to enable customer servicing and repair

### Pillar Two Scalable we tailor the product for application

#### We offer:

- Products that are scalable to accommodate new features
- Form-factor sizing for each application to help reduce material waste
- Flexible mounting options



For information on our EarthLIGHT initiative please scan the QR code

### Pillar Four Separable we are committed to global sustainability

#### Our products are:

- Environmentally friendly
- Recyclable
- Easy to disassemble, making materials used easy to separate



## CIRCULAR ECONOMY TM66

Holophane's ambitious sustainability efforts have set us on the path to obtaining several accreditations with the LIA and CIBSE's TM66 which allows us to rate our products and follow a method that designs out waste.

The traditional resource consumption model is linear, where raw material is collected to make products, then often thrown away once they have served their purpose.

CIBSE's TM66 allows us to rate our products and follow a method to design out waste, maximise value and improve maintenance so that our luminaires can be repaired, recycled and re-used.



TM66  
Assured Score

2.5 to 4.0	Excellent circularity
1.5 to 2.5	Definite/substantial progress to circularity
0.5 to 1.5	Some circular economy functionality
0 to 0.5	Very poor circular economy performance



# CONTROLS

## COMPATIBLE WITH CONTROLUX AIR

Controlux Air helps users transform their existing infrastructure into a wireless platform. With Controlux Air, you have full remote configuration or your site with an intuitive user interface which is map based and delivers accurate/update reporting.

### Wireless Controller

Wireless communication, lighting control and external sensor interface.

External antenna allowing communication with 'Motion Sensor' and 'Wireless Gateway'.

Creates a wireless mesh type network when used with the 'Wireless Gateway'.

Available with option codes .CA or .CAP



### Motion Sensor

Motion sensor and wireless communication triggering 1 to 10 luminaires (with Integral Wireless Controller) upon detection (user configurable).

Wireless communication with 'Gateway'.

Detects pedestrians, cyclists and cars range (range: 2.5 -75 mph)

Range: up to 15m on each side, 9m front and 3m behind at a mounting height of 5m (max).



### Gateway

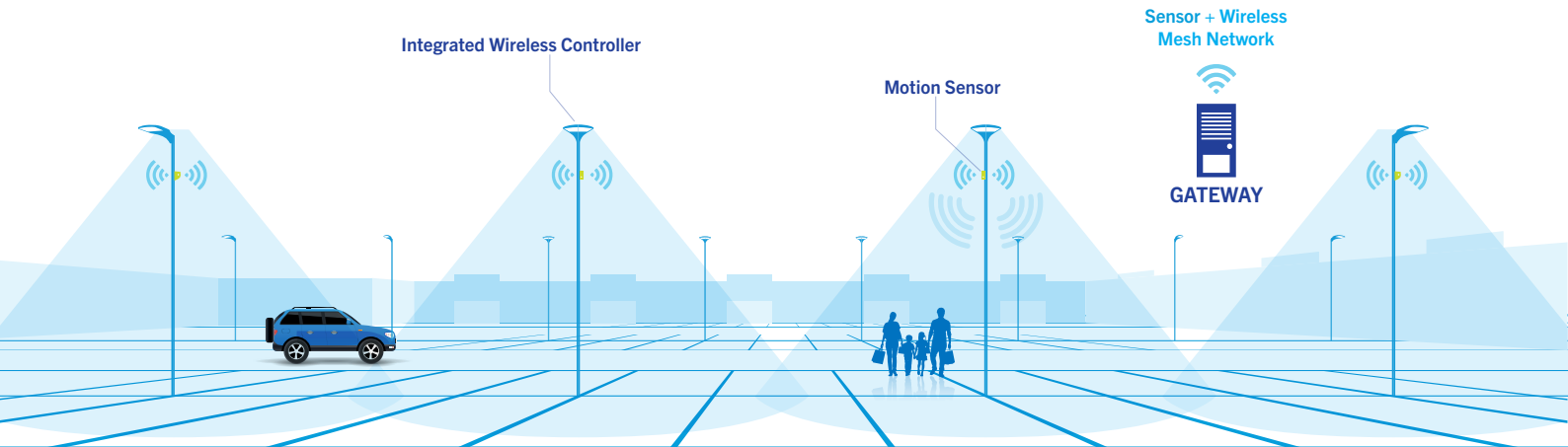
Wireless network and server communication (via SIM Card).

Suitable for pole, wall or inside cabinet mounting.

One Gateway required for up to 200 devices (Motion Sensors or Integrated Light Controllers)

with a range of up to 1km open field range.

Links all devices to web-based Customer Interface for remote management of luminaires and devices.



### Intuitive user interface

Gain in-depth insights into every single aspect of your lighting system. Smart analytics and simple charts will help you make the right decision about your lighting infrastructure.



### Automatic failure reports

Lighting-related system faults are identified, and automatic failure reports are sent in real-time. This results in optimized maintenance, better planning, reduced costs and extended luminaire life.



### Power metering

Dedicated hardware provides precise energy metering, which is converted into detailed energy usage and savings reports.



### Accurate real-time data

Generation of analytics per an individual light point or their groups. Available data includes: notifications about lighting-related faults, number of triggers per light point, generated energy savings, heatmaps, and more.



### Map-based visualizations

Outdoor lighting points are represented in a graphic interface on Google Maps, coordinated with GPS technology, which enables you to locate, monitor and control individual light points with ease.



### Continuous support

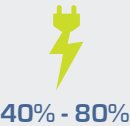
CityManager receives periodic security and feature upgrades. We do this to ensure optimum functionality and system performance.



## Financial Benefits

By installing Controlux Air controls systems, you benefit financially, thanks to energy savings and reduced energy costs.

### Energy savings of up to 80%



- By using dynamic lighting, it is possible to generate energy savings of 40-80%, depending on the usage environment
- In dense urban environments, the Controlux Air solution has the potential to generate energy savings of 40-50% (in this case, actual savings depend on the traffic intensity)

### Maintenance costs savings up to 50%



- Automatic failure reporting
- No need for expensive visual inspections
- Extended luminaire lifetime
- Excellent preventive maintenance



For more information about ControluxAir scan the QR code or visit [www.holophane.co.uk/controlux-air](http://www.holophane.co.uk/controlux-air)



D-SERIES

D-SERIES



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# EXTERNAL LUMINAIRE X3



siteco



# Floodlight **FL 21**

Reliable as always.  
Flexible and smart like never before.



Types,  
data sheets,  
configuration –  
all at a glance:

**Floodlight  
FL 21 iQ**

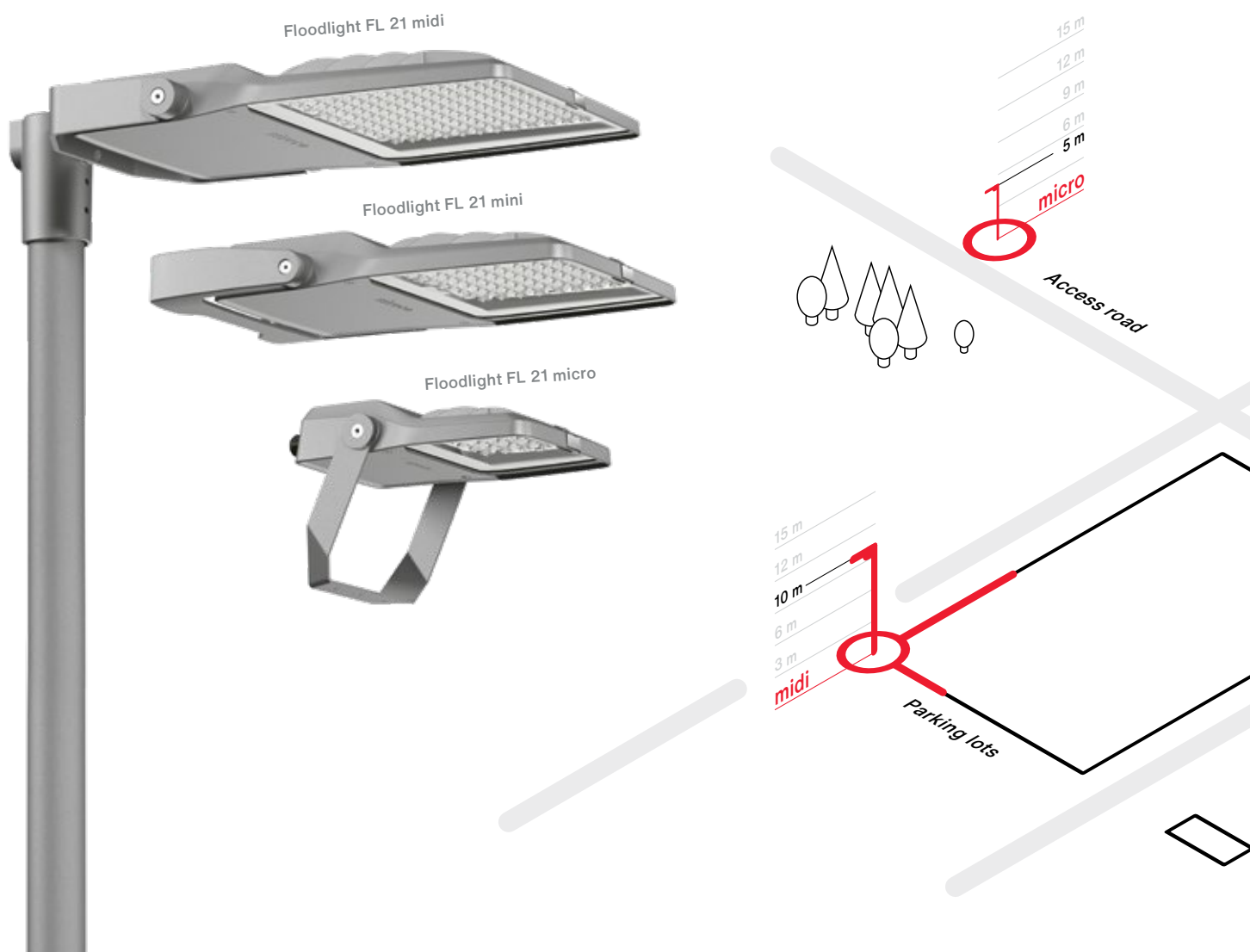


# Floodlight FL 21. A family that's flexible like never before.

Floodlight FL 21: The SITECO product family is well known for its lighting quality and reliability. And thanks to this product line's robustness, perfect for parking areas, halls, industry, sports and recreation. The latest generation is more intelligent, more flexible and more environmentally conscious than ever before.

Three sizes. One shared, consistent design. And all the details that modern lighting needs: Like, for example, abundant models for connecting and brand-new control features. This makes light not only flexible, but smart as well.

**Floodlight FL 21: the versatile multitalent with a high IQ!**





**As smart and convenient as you want it to be.**

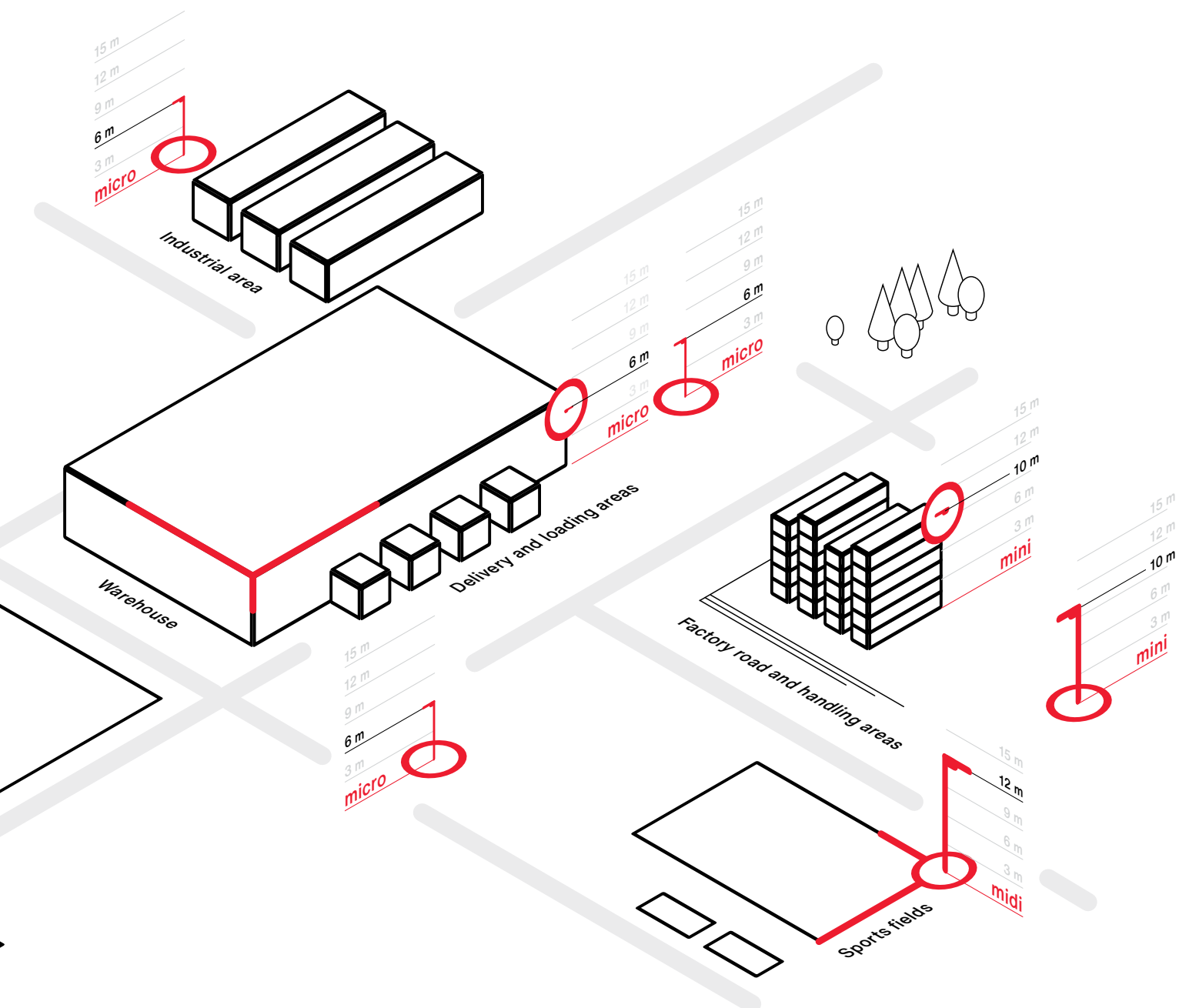
Fulfills your individual requirements: With DALI, multilumen, Smart Interface and SITECO iQ, Floodlight FL 21 is ready for every scenario. How smart would you like it to be?

**A versatile design.**

Simple support bracket or stylish design bracket? Whether your project involves mast-top mounting or mast-side mounting or even mounting two floodlights on a mast: Floodlight FL 21 flexibly meets your installation requirements as well.

**Environmentally friendly down to the smallest detail.**

“Green” lighting addresses many issues related to environmental protection: Separable materials and exchangeable components. The right kind of packaging. Floodlight FL 21 stands for all this and consequently makes a real contribution to environmental protection.





## Flexible installation? And how!

Hardly any other floodlight family boasts as much flexibility and versatility as Floodlight FL 21. No matter if mounted on a wall, crossbars or a mast. No matter if mounted low or high on canopies and facades. FL 21 masters different looks equally well: stylish using a design bracket and reserved using a support bracket as well as powerful when you mount two floodlights on a mast.

**Installing Floodlight FL 21 is also more flexible than ever before.  
And always meets your needs.**



## Bracket and mast connections as well as accessories at a glance:

### Bracket luminaire

#### Design bracket



#### Support bracket



### Mast luminaire

Used for both mast-top- and  
mast-side-mounted luminaires.

#### Mast flange



#### Mast bracket



### Single/dual connection for all sizes

- Mast flange for 76 mm, 60 mm and 42 mm
- Available for mast-top- and mast-side-mounted models





# Used everywhere. Always indestructible.

This floodlight is not made of sugar:  
Salty spray, chlorinated water, emergency  
operation: Floodlight FL 21 holds its own  
no matter how tough the environment.

The floodlight provides homogeneous  
illumination to help with quick orientation  
and safe maneuvering and loading.  
And it creates the kind of atmosphere  
where you can let off some steam and  
join in the excitement.

## Weather resistant.

Those who work hard need reliable  
support. Boasting a **C5 corrosion  
protection class** and **IP66 rating**, the  
FL 21 is a reliable floodlight even under  
extreme conditions.

## Increase safety exponentially.

Out on a parking lot in the evening hours?  
The right lighting makes the experience  
feel much safer. Floodlight FL 21 provides  
homogeneous illumination all the way into  
the most remote corners – thanks to the  
new PL64 and PL33T light distribution  
system. A further advantage: The FL 21  
is **DC capable** – and that means you can  
count on the floodlight when it's in  
emergency operation.





### **Tough as nails.**

Where sports are played and the balls come flying fast, your lighting system has got to be able to take it. That's why the FL 21 midi has been thoroughly tested to ensure it's **ballproof**.



### **Glare-free.**

In demanding environments, you need outstanding **glare-free lighting**. The solution for swimming pools is called **Mirrortec**: The floodlights disperse light through a multifaceted system, producing an **especially uniform** light distribution. A further advantage: The series version of Flood-light FL 21 is already resistant to chlorine.

# Made for extremes.

While always working  
at top efficiency.

**Absolutely exceptional:** IP66, IK08,  
CE certified, ENEC certified,  
D-mark certification, ballproof,  
suitable for swimming pools.

**Durable, exchangeable materials,**  
including non-yellowing PMMA  
lenses and glass cover.

**SITECO iQ Street Remote:** Light level can  
be suitably and conveniently adjusted over  
Bluetooth and the iQ app according to use.







● **Maximum glare control** thanks to an excellent asymmetric light distribution system.

● **High thermal stability:** up to 50 °C outdoors, 40 °C indoors.

● Exceptionally steady luminaire due to **high vibration stability**. Perfect for outdoor use in very exposed areas.

● **Extreme snow load stability** with a pressure load of 400 kg/m<sup>2</sup> – that means a snow load zone with snow depths of up to 1.5 m.

● Luminaire that preserves the natural darkness of night **with zero light pollution** and a warm white light color.



**Light. Right where  
it's needed.**  
Without disturbing  
residents or nature.

**0%**  
light pollution

# Gentle on the environment like never before.

Light has a special responsibility to assume as human settlements encroach more and more on the habitats of wildlife. And SITECO does as well.

The FL 21 luminaire family directs its light downward with maximum precision. The night sky remains dark, adjoining areas, too.

But environmental protection starts even earlier at SITECO: We don't glue materials together, which means components can be separated by type. Our deliveries come in reduced packaging free of Styrofoam.

## **Targeted with no light pollution.**

Thanks to an asymmetrical light distribution system, FL 21 floodlights direct light with targeted precision onto the respective surface – and only there. Without scattered light or light pollution to contend with, the sky remains dark and nature and the neighborhood undisturbed.

## **Environmental protection – through and through.**

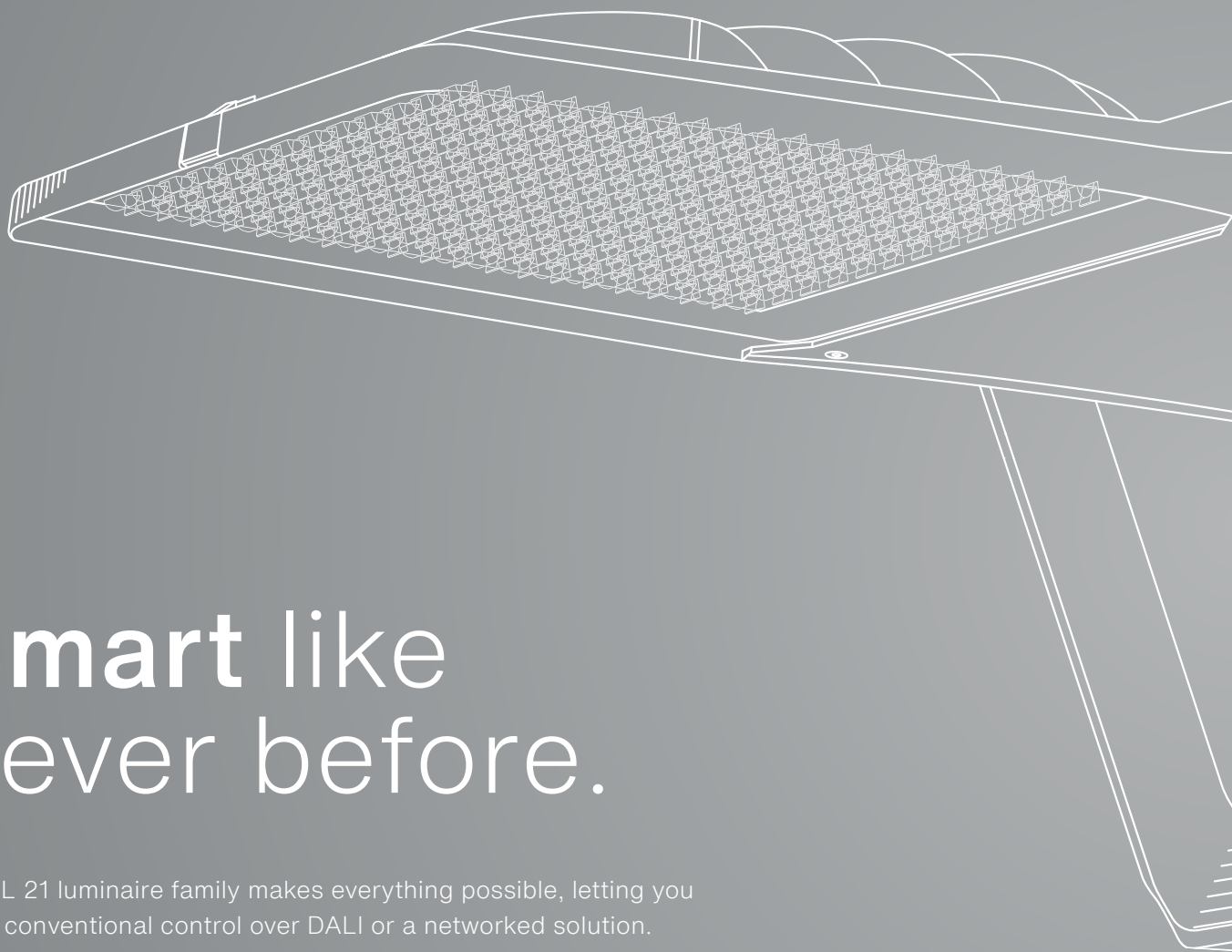
Not only does the design score points thanks to a flexible modular system.

Modular thinking also infused the FL 21's inner values: The ECG and LED module are cleanly separated, which makes replacing the components easy.

## **Securely packaged.**

The FL 21 is shipped without using Styrofoam and plastic.



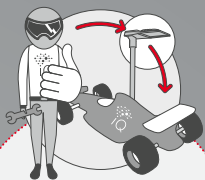


# Smart like never before.

The FL 21 luminaire family makes everything possible, letting you use a conventional control over DALI or a networked solution.

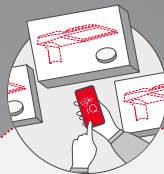
Smart Interface transforms your lighting into a future-proof control center. It communicates with many standard radio-based control systems and sensors. This is where SITECO iQ, the patented control electronics we developed in-house, delivers big by helping you unleash the full potential of intelligent control.

You can conveniently manage everything using the iQ app.



### Auto Match

Exchange ECGs in no time – without reprogramming.



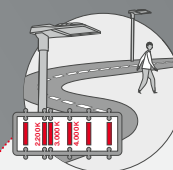
### Desk Remote

Adjust luminaires in the workshop without opening any luminaires or shipping boxes.



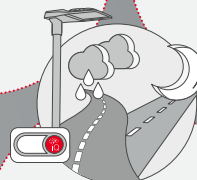
### Street Remote

Configure luminaires from the sidewalk or from a vehicle “on the fly.”



### Color Switch

Get prepared now for future environmental and animal-protection guidelines and be able to react flexibly.



### Light Switch

Boost visibility and safety for road users when the weather changes.



### Smart Wire

Dim using existing control wires and intelligently switch between dim profiles, light colors and light distributions.

### iQ app

With a smartphone, always have the full range of functions at your fingertips.

### Lumen Switch

Flexibly adapt the luminaire's luminous flux to its location as well as accommodate residents' requests.

### Night Set

Automatically adjust nighttime reduction to multiple levels and switch between two profiles. (for example, weekends and weekdays)

### Surge protection

With integrated surge protection, ensure your luminaires enjoy a long life.

### Smart Interface

Using standardized Smart Interface, intelligent functions can be combined according to Zhaga book 18.

### Light Fading

Ensure a pleasant city atmosphere with soft dimming and no irritations.

### CLO 2.0

Constant luminous flux control from SITECO takes into account ambient temperatures and dimming. This also helps to save energy.

### Temp Guard

Reliably protect luminaires against overheating and ensure a long service life even at high temperatures.

### Fuse Plus

Keep existing circuit breakers and use them for additional luminaires.





# Inherent in iQ: Two smart features in detail.

## SITECO iQ Street Remote

### **Adjusting the luminaire from walkways.**

How time-consuming do you find adjusting and checking your streetlights? Do you have to close roads, use cherry pickers or remove parked vehicles to take care of the task? With SITECO iQ Street Remote, all these issues are a thing of the past.

Simple and fast: Transmit all parameters over a stable Bluetooth connection from the sidewalk – without needing any tools or a cable connection. You can also very easily and conveniently make adjustments for events or to accommodate residents with SITECO iQ Street Remote.



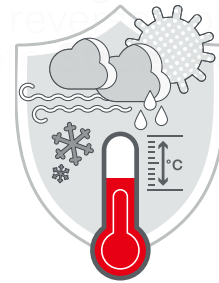
Color Switch Light Switch Smart Interface Night Set Lumen Switch  
 Light Fading **CLO 2.0** Fuse plus Temp Guard Lumident 3 plug with re-  
 verse polarity protection Surge protection Auto Match Desk Remote  
**Street Remote** Smart Wire Color Switch Light Switch Smart Interface  
 Night Set Lumen Switch Light Fading **CLO 2.0** Fuse plus Temp Guard  
 Lumident 3 plug with reverse polarity protection Surge protection Auto  
 Match Desk Remote **Street Remote** Smart Wire Color Switch Light  
 Switch Smart Interface Night Set Lumen Switch Light Fading **CLO 2.0**  
 Fuse plus Temp Guard Lumident 3 plug with reverse polarity protec-  
 tion Surge protection Auto Match Desk Remote **Street Remote** Smart

## SITECO iQ CLO 2.0

### As much light as needed – automatically.

Wind, rain and temperature impact the amount of power needed to maintain a constant luminous flux. The lower the ambient temperature, the less power LEDs have to consume to achieve a given luminous flux level. This means that at ambient temperatures below 25 °C, the luminous flux of typical LED luminaires producing a consistent intensity will be higher than planned – and more energy will be used than is necessary.

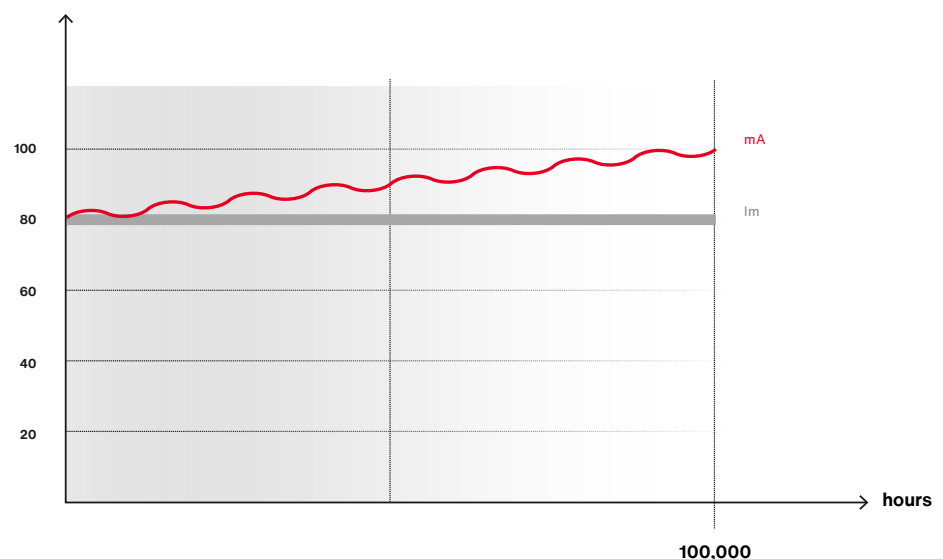
SITECO CLO 2.0 controls the current feed and accounts for outside conditions, thereby ensuring there's always exactly as much light as is really needed. In concrete terms, this means potential energy savings of 7 %!



Readjustments are made continuously depending on the surroundings and dimming behavior.

CLO 2.0 provides up to

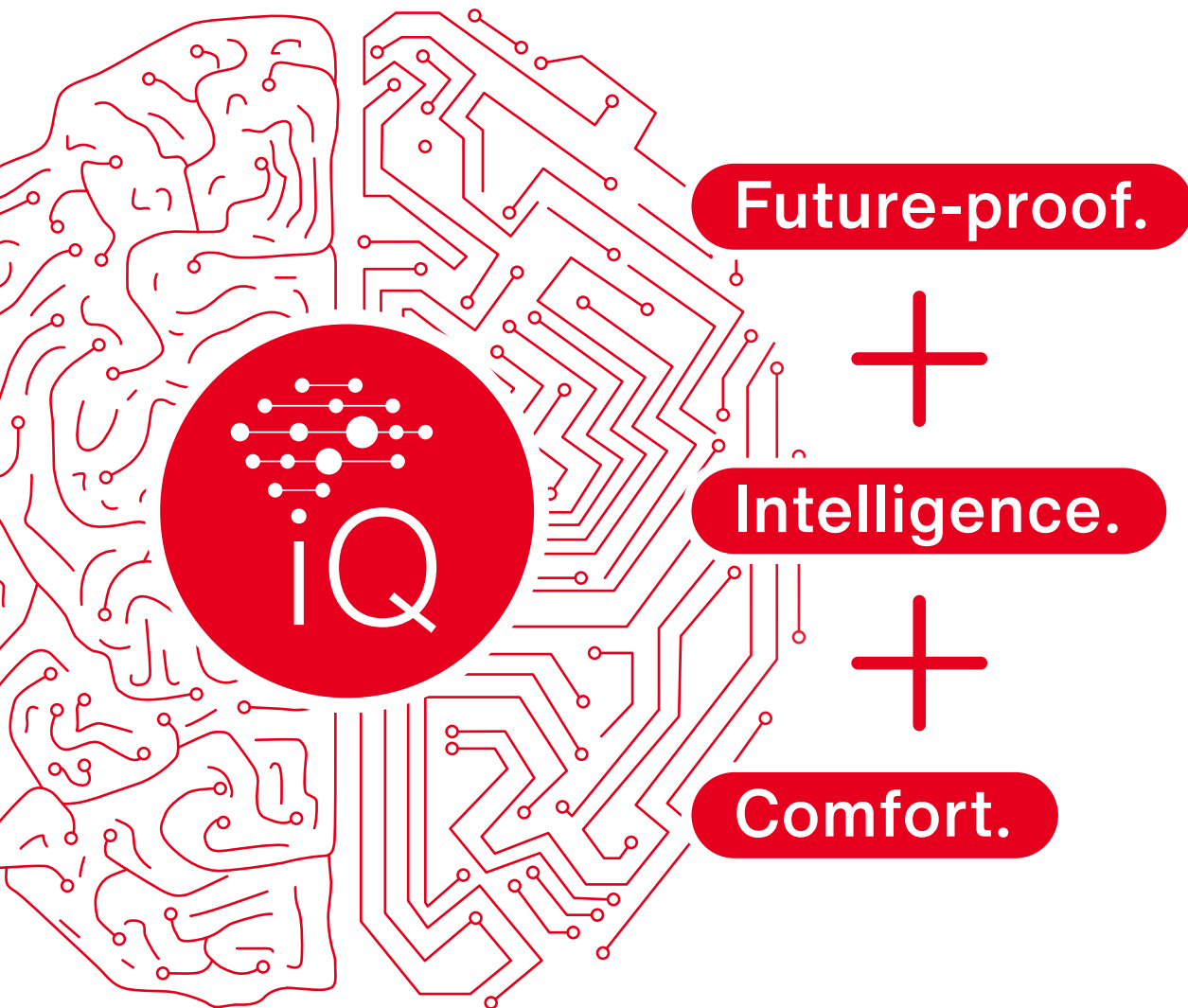
**7 %**  
energy  
savings

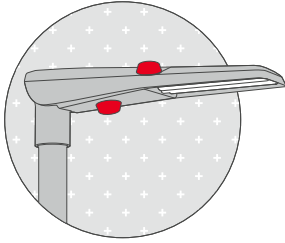




# SITECO iQ

Because we know  
what challenges you  
are facing every day.



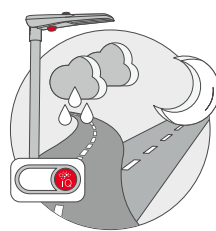


## Smart-Interface

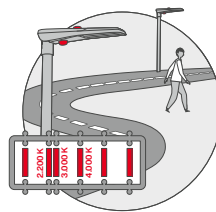
Intelligent light at its peak – for maximum future viability.



## Street-Remote

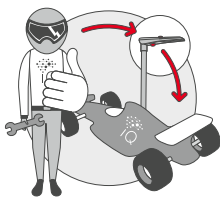


## Light-Switch

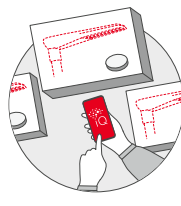


## Colour-Switch

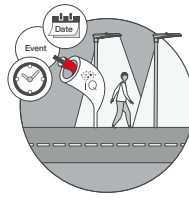
Intelligent additional features – for maximum flexibility.



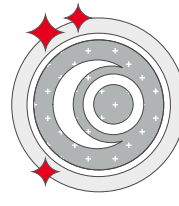
## Auto-Match



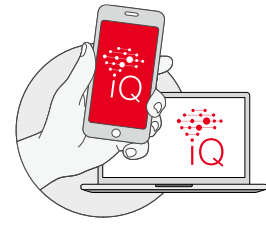
## Desk-Remote



## Smart-Wire



## Night-Set

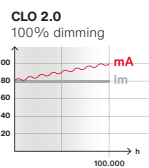


## iQ App & Webtool

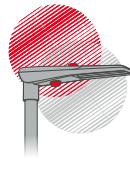
Intelligent features – for maximum convenience in everyday use.



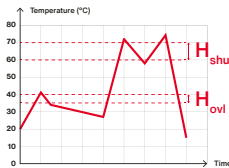
## Lumen-Switch



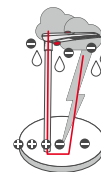
## CLO 2.0



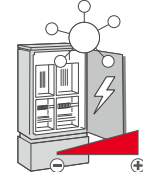
## Light-Fading



## Temp-Guard

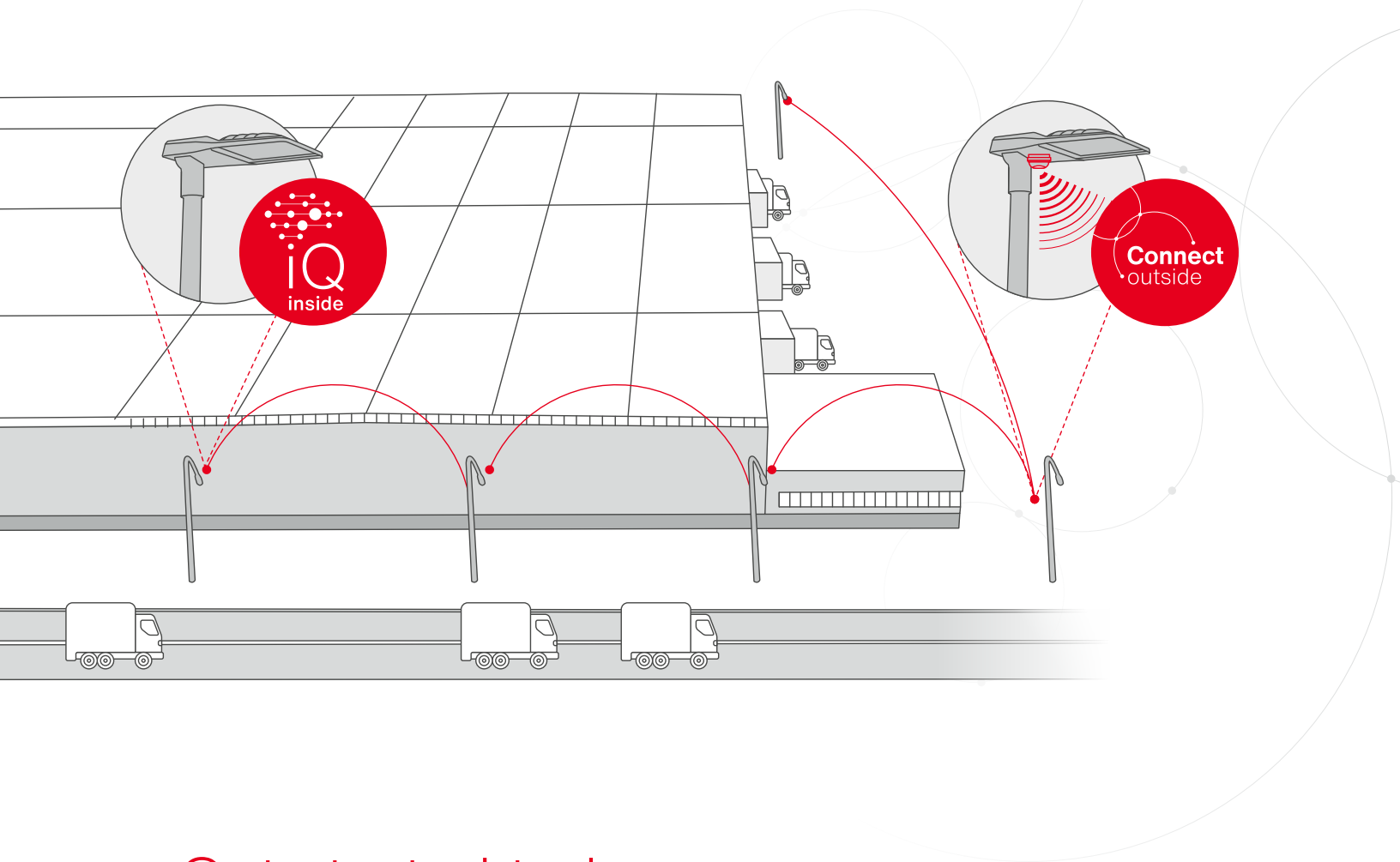


## Surge Protection



## Fuse-Plus

Intelligent foundation – for maximum efficiency.



## Get started today with SITECO Connect

### **From simple control to a connected system.**

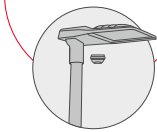
Ready when you are: You decide when and what steps you want to take to upgrade to modern control technology. Floodlight FL 21 and Smart Interface give you complete flexibility. You can gradually adopt the control technology and retrofit elements at any time.

Floodlight FL 21 lets you think in terms of planning options. Smart Interface provides standardized interfaces according to Zhaga Book 18 and D4i as well as NEMA, so that many radio-based control systems and sensors are compatible and plug & play installation is possible at any time.

This gives you independence and future-proofs your lighting systems.

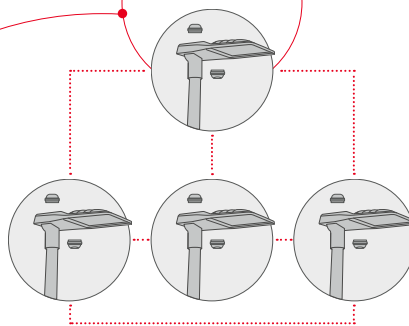


# 100% flexibility



## SITECO Connect 31: Single luminaires

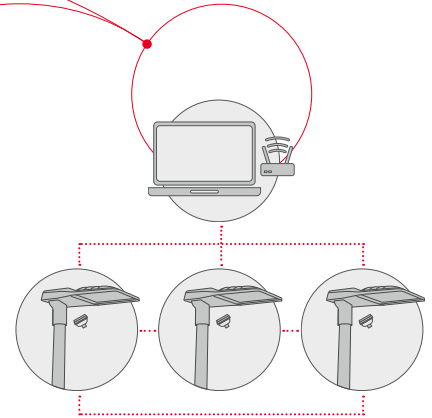
- Individual luminaires are activated or dimmed with a local motion detector.



Configure and diagnose on-site with a USB transmitter on a laptop

## SITECO Connect 21: Several luminaires connected locally

- Several luminaires are connected via radio.
- The luminaires in the network communicate and synchronize among themselves.
- The luminaires are synchronously or continuously activated and dimmed.



Collimate and diagnose using web remote access

## SITECO Connect 11: Several luminaires connected with remote access

- The luminaires are connected via radio.
- Settings can be defined from the office through the network with remote access and status messages sent automatically.
- Existing inventory and workflow systems like luxData by sixData can be used as a master.

## Modern lighting control offers many advantages



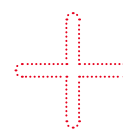
Improves traffic safety  
and protects against  
vandalism



Contributes to sustainability  
by protecting environmental  
resources and wildlife



Boosts energy  
efficiency thanks to  
needs-based dimming



Optimizes operational  
management using current  
diagnostic data and  
documented systems

# Our light distribution systems. Precise as always.

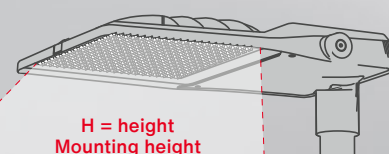
Uniform, efficient and exceptionally precise: Floodlight FL 21 delivers the latest generation of planar lighting thanks to powerful LED units and state-of-the-art lens technology. Facades and advertising spaces can also be dramatically presented. The precisely calculated light distribution options streamline work for planners, too: The name already indicates the maximum width and depth of the beam spread.

**For improved light through precise planning.**

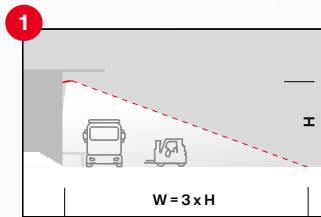
## Light distribution options

Planar lighting		
1st position in name Typical application area	2nd position in name Wide beam spread with its factor to the light point height	3rd position in name Narrow beam spread
PL = planar	4	3
	5	2
	6	1

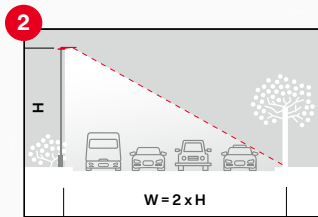
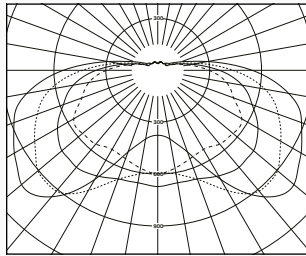
Spotlight illumination	
1st position in name Light characteristic	2nd position in name Half scattering angle specified in degrees
RS = rotationally symmetric	17



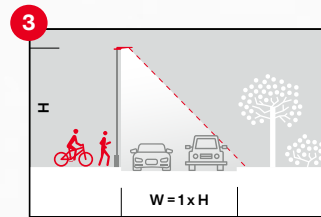
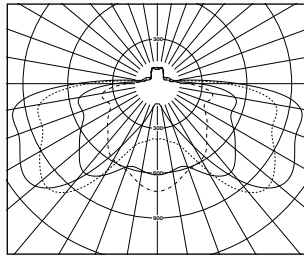
W = width  
Narrow beam spread



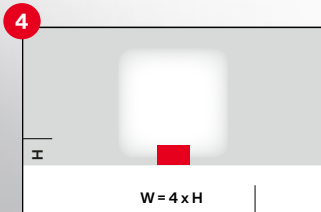
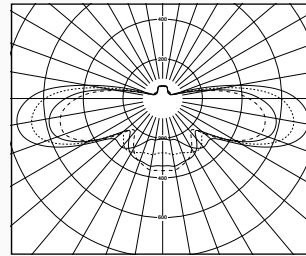
**PL43** – to illuminate areas using a narrow beam spread



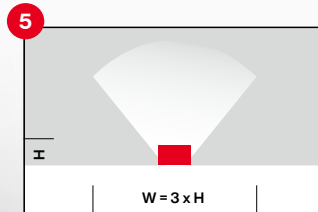
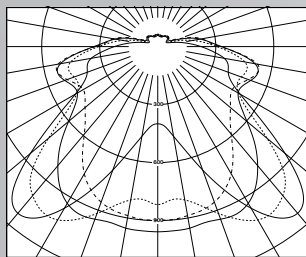
**PL52** – to illuminate wide streets and parking areas



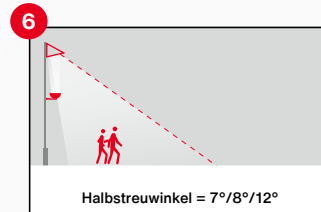
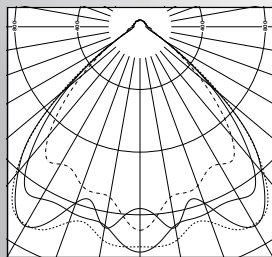
**PL61** – to illuminate streets with widely separated light points



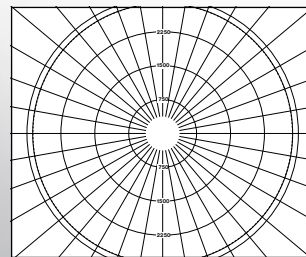
**PL64** – to illuminate areas using a narrow beam spread



**PL33T** – to illuminate corners



**RS07 | RS08 | RS12** – to use with Mirrortec applications and halls





# Floodlight FL 21

## Models at a glance



Floodlight FL 21 micro

**Technical data**

Luminous flux: 2,380 lm to 4,750 lm
Power: 23.1 W to 38.4 W
Luminous efficacy: up to 140 lm/W
Mounting heights: 3 m to 5 m

**Applications**

Factory roads, area lighting
------------------------------

**Control**

iQ Comfort, iQ Street Remote, DALI AC/DC, multilumen
--

**Light distribution**

1 2 3 4 5 6
-------------

Valid for all Floodlight FL 21 models:

**Optical concept**

precision lens technology with lenses made of non-yellowing PMMA
--

**Light colors and color rendering**

2,200 K CRI 70   3,000 K CRI 70/80   4,000 K CRI 70/80   5,700 K CRI 90
Light emission: 0 %



**Floodlight FL 21 mini**

#### Technical data

Luminous flux: 4,990 lm to 20,890 lm

Power: 45.5 W to 163.5 W

Luminous efficacy: up to 150 lm/W

Mounting heights: 5 m to 8 m

#### Applications

Parking lots, factory roads, area lighting, sports halls

#### Control

iQ Comfort, iQ Street Remote, DALI AC/DC, multilumen, Smart Interface

#### Light distribution

1 2 3 4 5 6

#### Rated service life

up to 100,000 hours

#### Ambient temperature

-40 °C to +40 °C indoors, -40 °C to +50 °C outdoors



**Floodlight FL 21 midi**

#### Technical data

Luminous flux: 21,270 lm to 39,970 lm

Power: 208.1 W to 286.6 W

Luminous efficacy: up to 142 lm/W

Mounting heights: 8 m to 12 m

#### Applications

Parking lots, logistics areas, sports halls, hangars

#### Control

iQ Comfort, iQ Street Remote, multilumen, Smart Interface

#### Light distribution

1 2 3 4 5 6

# Saving energy is teamwork.

How much work may we take off your hands?

## + Light audit

Our experts will take a look at your existing set up and define the individual requirements for the new plant with you on site. + Reduction of operating costs and CO<sub>2</sub> + Investment and payback

## + Planning

Tailored exactly to your needs, we develop a lighting concept or a customized solution – so that you can benefit from outstanding and sustainable lighting and control technology. + Lighting design + Lighting and electrical concept + Customizing solution

## + Project management

Everything from a single source – you have exactly one point of contact: your project manager. They handle the formalities and coordinate all steps – so that everything happens just in time, and everyone is well-integrated. + Project coordination and control

## + Financing

With our individual financing solutions, you save money from day one. The term is flexible and depends entirely on your needs. In addition, we prepare the efficiency proof of at least 50 % CO<sub>2</sub> savings for the funding application. + Government funding consultation + Financing

## + Service

You decide whether we handle the installation through our network of installation partners. If desired, we can also fully operate your system. + Installation and commissioning + Maintenance and servicing

Choose and combine these five service modules entirely according to your needs.

All tailored to your preferred level of service.

# Contact.

## Siteco GmbH

Georg-Simon-Ohm-Str. 50  
83301 Traunreut, Germany  
Tel. +49 8669 330  
info@siteco.com

siteco.com



## Photometric test report

**Family**  
**Floodlight FL21 micro**

**Order number: 5XA7762A1D1A**  
**EAN: 4058352669525**

**LP number**  
**59303\_23**



**Version** mounting bracket  
**Optic** asymmetric distribution PL52  
**Cover** toughened safety glass  
**Lamps** LED 2200 K | CRI ≥ 70  
**Controlgear** ECG SITECO iQ  
**Rated values** Net luminous flux = 2400 lm  
 Power consumption = 23.1 W  
 Luminous efficacy = 103.9 lm/W

**serial**  
**documentation**  
**05.07.2022**

**siteco**

**Luminous intensity in cd/klm**

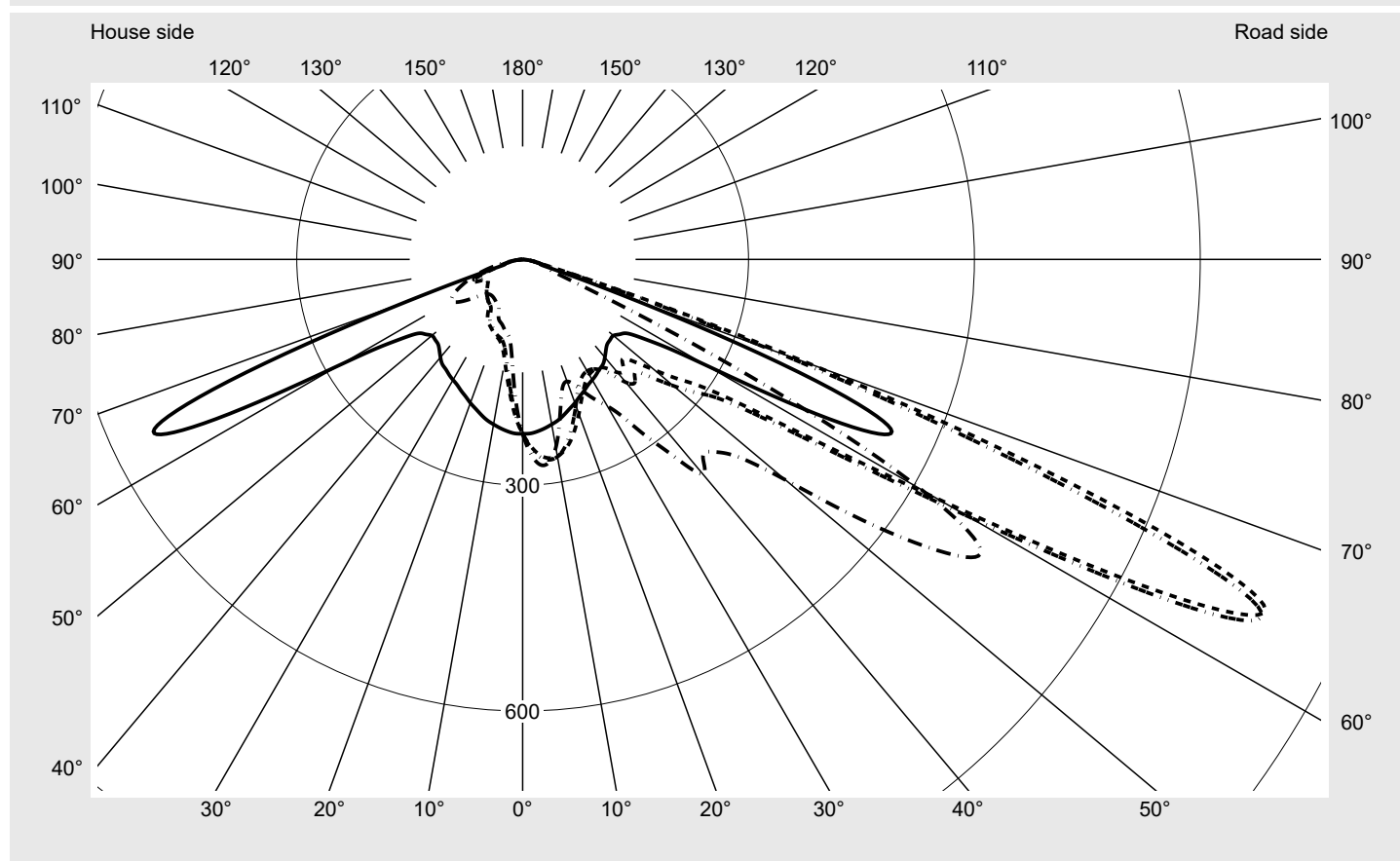
**C180-0**

**C215-35**

**C220-40**

**C270-90**

**Imax: 1086 cd/klm**



### Luminaire output ratios

Eta	100.0%
Eta 0° - 90°	100.0%
Eta 90° - 180°	0.0%

### Luminous intensity class acc. to EN13201-2

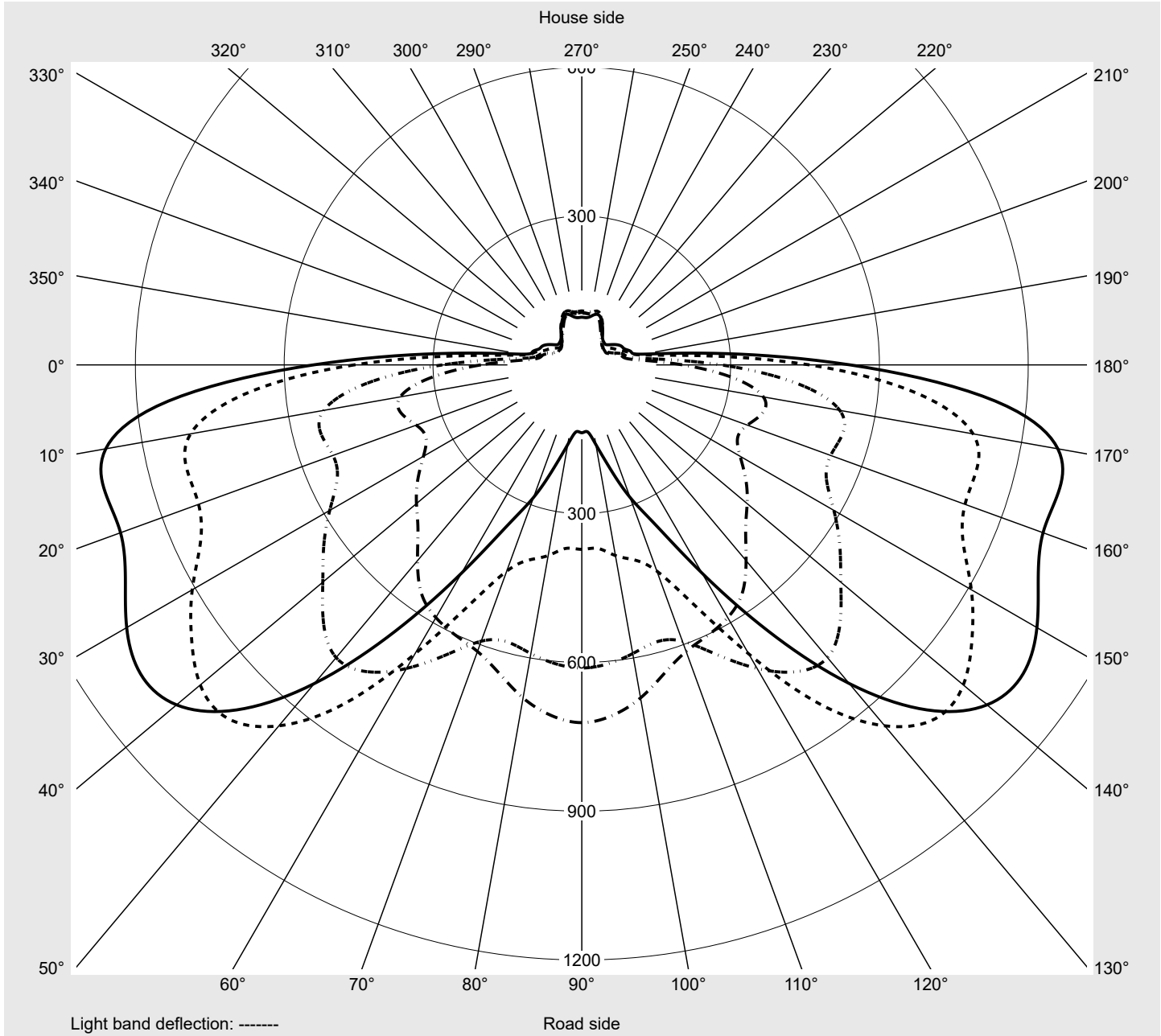
Class:	G4
Imax 70°	458.7
Imax 80°	34.3
Imax 90°	0.0
Imax >90°	0.0
Imax >95°	0.0

### Measurement conditions

DIN EN 13032 and DIN 5032

Photometric test report

<div>Family</div> <div>Floodlight FL21 micro</div>	<div>Order number: 5XA7762A1D1A</div> <div>EAN: 4058352669525</div>	<div>LP number</div> <div>59303_23</div>
Envelope curve in cd/klm	<div>KMK 65°</div> <div>KMK 62,5°</div> <div>KMK 60°</div> <div>KMK 57,5°</div>	<div>siteco</div>



Photometric test report

Family Floodlight FL21 micro		Order number: 5XA7762A1D1A EAN: 4058352669525										LP number 59303_23	
Table of values for luminous intensities										Maximum luminous intensity		siteco	
C- planes	0° 180°	5° 175°	10° 170°	15° 165°	20° 160°	25° 155°	30° 150°	35° 145°	40° 140°	45° 135°	50° 130°	55° 125°	60° 120°
γ	Luminous intensity in cd/klm												
0,0°	231.6	231.6	231.6	231.6	231.6	231.6	231.6	231.6	231.6	231.6	231.6	231.6	231.6
2,5°	231.5	234.5	237.2	239.9	242.1	244.3	246.4	248.4	250.2	251.6	253.1	254.6	255.7
5,0°	229.3	235.1	240.5	245.6	250.0	254.0	257.5	260.7	263.3	265.4	267.6	269.2	270.7
7,5°	226.2	234.9	242.4	249.0	254.6	259.4	263.2	266.3	268.6	269.8	270.8	271.5	271.7
10,0°	222.5	233.4	242.9	250.6	256.6	261.1	264.1	265.7	266.1	265.2	263.9	262.0	260.3
12,5°	218.7	231.6	242.6	250.5	256.0	259.4	260.3	259.1	256.5	252.4	247.8	242.9	238.0
15,0°	213.5	228.4	239.9	248.4	253.1	254.4	252.5	248.3	241.3	234.5	226.7	219.1	212.6
17,5°	207.9	224.8	237.0	245.2	248.3	246.8	241.7	233.7	224.0	213.8	204.3	195.8	189.0
20,0°	202.9	220.7	233.9	241.3	242.3	238.0	229.5	218.3	206.6	195.3	186.0	179.3	174.9
22,5°	197.4	217.4	230.8	237.1	235.8	228.3	216.6	203.4	190.7	180.7	174.3	171.2	170.7
25,0°	192.8	214.0	228.1	233.3	229.6	219.3	205.3	191.3	180.0	173.2	171.0	172.6	176.3
27,5°	188.1	211.9	226.4	230.2	223.9	211.1	195.6	181.8	173.4	171.3	174.7	181.5	189.2
30,0°	184.9	210.9	226.6	229.5	221.1	205.8	189.7	176.8	171.2	173.6	182.3	194.2	204.9
32,5°	181.7	210.8	227.6	229.3	218.6	201.5	185.7	174.8	172.7	179.7	193.4	209.7	223.3
35,0°	178.1	210.0	229.4	230.0	217.8	199.9	183.9	176.0	178.9	191.2	209.9	231.0	249.7
37,5°	175.4	210.6	231.6	232.2	219.4	200.9	186.3	182.3	191.3	210.3	235.9	263.9	289.1
40,0°	169.8	208.7	231.0	233.7	222.0	205.0	193.8	196.0	213.1	238.5	269.3	300.8	327.7
42,5°	163.7	204.8	228.0	230.0	216.3	199.0	190.4	198.6	220.8	245.1	271.5	296.4	317.0
45,0°	159.0	202.1	226.7	225.9	206.9	185.9	177.4	187.6	211.9	240.6	269.2	293.9	312.6
47,5°	157.8	206.0	234.1	231.9	210.9	189.3	184.8	201.3	231.8	263.5	288.6	307.1	321.7
50,0°	157.4	214.1	248.3	247.0	225.5	204.9	205.6	228.7	261.1	290.4	309.0	319.1	329.1
52,5°	163.2	228.6	268.5	268.3	246.7	228.5	234.7	261.3	291.0	312.6	324.0	330.0	348.1
55,0°	172.1	259.8	301.9	304.0	280.4	263.2	273.7	300.9	326.9	344.5	360.1	388.8	439.1
57,5°	203.4	308.5	371.7	376.8	355.2	346.7	368.6	403.7	435.1	467.2	515.3	563.4	588.4
60,0°	281.0	437.6	528.1	543.6	533.8	544.1	586.8	635.0	681.7	736.4	770.6	755.2	706.8
62,5°	459.0	683.9	801.0	823.5	822.2	848.4	906.9	960.5	1004.1	1008.6	950.1	833.7	672.9
65,0°	541.0	836.7	974.5	994.6	989.6	1015.3	1059.5	1086.1	1066.5	983.9	838.7	655.4	484.9
67,5°	421.8	721.2	884.2	915.6	892.2	875.4	867.2	831.1	750.0	630.8	494.5	376.5	281.8
70,0°	164.2	284.0	373.6	428.7	458.7	451.5	438.1	405.6	349.3	286.2	234.6	187.8	147.2
72,5°	37.8	50.0	56.7	67.7	100.8	124.5	127.5	125.3	110.6	85.4	86.9	78.5	67.8
75,0°	25.6	27.1	28.6	29.9	32.4	37.7	39.6	40.4	33.6	32.0	36.5	35.9	34.7
77,5°	18.9	19.4	20.1	20.7	21.4	22.5	22.9	23.3	22.7	23.1	24.1	24.2	25.6
80,0°	14.3	13.2	13.3	13.7	14.1	15.1	15.0	15.1	15.1	15.6	15.8	15.8	19.3
82,5°	8.4	7.6	7.8	8.1	8.3	9.0	9.0	8.9	9.1	9.3	9.4	9.2	10.5
85,0°	4.1	3.5	3.5	3.7	3.9	4.1	4.3	4.3	4.3	4.3	4.3	4.3	4.4
87,5°	1.3	1.3	1.2	1.2	1.2	1.2	1.3	1.3	1.2	1.2	1.1	1.1	1.1
90,0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Photometric test report

Family Floodlight FL21 micro		Order number: 5XA7762A1D1A EAN: 4058352669525										LP number 59303_23	
Table of values for luminous intensities										Maximum luminous intensity		siteco	
C- planes	65° 115°	70° 110°	75° 105°	80° 100°	85° 95°	90°	185° 355°	190° 350°	195° 345°	200° 340°	205° 335°	210° 330°	215° 325°
γ	Luminous intensity in cd/klm												
0,0°	231.6	231.6	231.6	231.6	231.6	231.6	231.6	231.6	231.6	231.6	231.6	231.6	231.6
2,5°	256.6	257.5	258.2	258.8	259.1	259.4	228.6	225.4	222.3	219.2	216.1	213.0	210.1
5,0°	271.7	272.4	273.1	273.6	273.9	274.0	223.0	216.4	209.6	202.9	196.2	189.6	183.4
7,5°	271.7	271.4	271.2	271.2	271.4	271.4	217.0	207.0	196.7	186.4	176.4	166.9	158.0
10,0°	257.9	256.3	254.9	254.1	254.0	253.8	210.4	197.3	183.8	170.7	158.0	146.5	136.7
12,5°	233.8	230.0	227.5	225.9	225.2	224.9	203.7	187.7	171.5	156.1	142.2	130.7	121.9
15,0°	206.9	202.4	199.3	197.4	196.4	196.3	196.1	177.5	159.4	143.0	129.7	120.2	113.7
17,5°	184.0	180.4	178.5	177.4	177.1	177.2	188.5	167.5	147.8	131.8	120.4	113.4	109.4
20,0°	172.4	171.1	171.0	171.5	172.1	172.5	180.7	157.7	137.5	122.6	113.6	109.0	106.6
22,5°	171.7	173.3	175.3	177.6	179.5	180.3	173.5	148.7	128.5	115.4	108.6	105.6	103.3
25,0°	180.4	184.0	187.5	191.1	194.0	195.2	166.1	140.4	120.9	110.1	105.1	102.4	99.8
27,5°	194.9	198.1	201.4	206.2	209.6	210.4	159.8	133.1	114.9	105.9	102.2	99.3	96.7
30,0°	211.0	213.4	216.8	223.3	225.7	225.2	153.2	125.9	109.4	102.4	99.3	96.6	93.0
32,5°	230.7	234.4	240.4	248.9	249.2	248.6	147.8	119.8	104.8	99.1	96.4	93.6	86.1
35,0°	260.3	266.9	278.0	288.2	286.9	287.5	141.1	113.3	99.9	95.7	92.6	86.8	78.5
37,5°	303.6	312.8	322.9	327.5	328.1	329.6	135.0	107.3	95.8	92.5	86.3	78.6	74.0
40,0°	343.2	350.8	360.0	365.5	369.3	372.3	127.7	101.3	91.9	89.1	78.2	72.6	71.6
42,5°	329.7	335.0	342.0	348.1	352.2	354.4	120.9	96.0	88.5	85.4	72.4	69.5	69.2
45,0°	325.0	331.5	341.4	352.4	358.7	361.7	113.7	91.1	85.4	81.8	68.4	66.7	66.9
47,5°	334.5	343.3	356.2	373.7	383.7	388.7	109.8	87.7	82.9	78.3	65.3	64.2	64.3
50,0°	344.2	365.5	393.0	427.0	447.6	455.9	106.1	84.9	80.8	74.6	62.0	61.6	61.6
52,5°	386.7	435.0	483.5	531.2	558.8	569.1	104.9	83.4	79.4	71.3	59.2	58.9	58.9
55,0°	491.9	536.5	582.5	630.2	661.6	674.9	106.0	83.1	78.7	67.9	56.9	56.2	56.5
57,5°	601.7	615.0	643.8	682.0	709.6	721.4	114.8	85.9	79.7	66.3	55.7	54.1	54.2
60,0°	644.7	592.9	578.6	591.2	605.1	611.2	140.6	94.7	85.1	70.0	59.8	55.6	53.5
62,5°	532.1	442.6	407.1	390.4	371.5	372.0	218.5	116.7	98.1	83.3	74.8	67.3	59.4
65,0°	359.7	284.4	213.4	163.1	135.7	136.8	267.6	124.6	102.7	92.8	88.5	81.4	71.2
67,5°	212.7	163.6	70.8	55.1	51.3	50.3	137.5	86.1	80.6	78.6	79.5	76.7	70.5
70,0°	116.8	92.0	45.7	40.5	39.5	39.3	53.1	45.7	45.1	46.7	49.3	52.7	53.8
72,5°	57.5	49.2	35.9	34.4	34.4	35.0	34.1	33.0	31.8	31.7	32.8	35.6	37.7
75,0°	32.7	31.8	30.6	28.9	27.7	28.0	27.3	26.2	25.0	25.1	26.1	27.7	29.9
77,5°	32.1	32.2	25.5	20.8	19.4	19.6	20.3	19.4	18.9	19.4	20.1	21.7	22.9
80,0°	34.3	31.4	17.5	13.9	12.8	12.7	15.0	13.6	13.2	13.8	14.5	15.5	16.1
82,5°	16.1	15.6	10.1	8.2	7.5	7.1	8.4	7.8	8.2	8.7	9.2	9.6	9.8
85,0°	5.2	5.1	4.4	3.6	3.2	2.9	3.6	3.8	4.0	4.3	4.5	4.6	4.7
87,5°	1.1	1.1	1.0	1.0	0.9	0.9	1.3	1.4	1.5	1.6	1.6	1.7	1.7
90,0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Photometric test report

Family Floodlight FL21 micro				Order number: 5XA7762A1D1A EAN: 4058352669525								LP number 59303_23		
Table of values for luminous intensities												Maximum luminous intensity		siteco
C- planes	220° 320°	225° 315°	230° 310°	235° 305°	240° 300°	245° 295°	250° 290°	255° 285°	260° 280°	265° 275°	270°	Phi-zone	Total Phi-zone	
γ	Luminous intensity in cd/klm											Luminous flux in lm/klm		
0,0°	231.6	231.6	231.6	231.6	231.6	231.6	231.6	231.6	231.6	231.6	231.6	0.3	0.3	
2,5°	207.5	204.9	202.7	200.5	198.6	197.1	195.7	194.7	193.7	193.2	192.8	2.7	3.1	
5,0°	177.6	172.1	167.4	163.0	159.2	156.1	153.5	151.5	149.9	148.9	148.5	5.2	8.3	
7,5°	150.1	142.9	137.0	131.9	127.9	124.9	122.4	120.5	119.1	118.3	118.1	7.5	15.8	
10,0°	128.5	122.0	117.0	113.1	110.2	108.2	106.7	105.6	104.9	104.5	104.4	9.4	25.2	
12,5°	115.4	110.6	107.3	105.0	103.3	102.3	101.4	100.8	100.3	100.0	100.0	11.0	36.2	
15,0°	109.4	106.5	104.4	102.5	100.6	98.9	97.6	96.5	95.7	95.3	95.2	12.4	48.5	
17,5°	107.0	104.7	102.2	99.6	97.2	95.1	93.4	92.2	91.3	90.8	90.7	13.5	62.0	
20,0°	104.4	101.8	99.0	96.5	94.3	92.3	90.6	89.4	88.6	88.1	87.9	14.7	76.7	
22,5°	100.7	98.3	96.1	94.1	92.0	88.8	86.1	84.6	84.0	83.8	83.7	15.9	92.6	
25,0°	97.4	95.3	93.3	90.3	85.4	80.8	77.4	75.9	75.4	75.0	74.9	17.2	109.8	
27,5°	93.6	90.0	86.6	82.2	77.4	74.3	72.6	71.2	70.2	69.5	69.2	18.7	128.5	
30,0°	86.3	81.5	78.6	76.0	74.5	73.2	71.7	70.2	69.1	68.3	68.0	20.3	148.8	
32,5°	78.4	75.9	74.9	74.2	73.3	72.0	70.3	68.7	67.5	66.6	66.3	22.3	171.0	
35,0°	74.7	74.0	73.4	72.6	71.4	70.0	68.4	67.0	65.9	65.1	64.7	24.7	195.7	
37,5°	73.1	72.5	71.7	70.5	69.5	68.4	67.2	66.0	65.0	64.2	63.7	27.7	223.4	
40,0°	71.3	70.7	69.5	68.6	68.0	67.3	66.3	65.4	64.7	63.8	63.2	31.0	254.4	
42,5°	69.2	68.5	67.9	67.4	66.9	66.4	66.0	65.6	65.0	64.1	63.5	31.7	286.1	
45,0°	66.8	66.7	66.6	66.5	66.4	66.4	66.5	66.7	66.6	65.7	65.1	32.6	318.8	
47,5°	64.7	65.2	65.7	66.1	66.6	67.3	68.3	69.4	69.8	69.3	68.8	35.2	354.0	
50,0°	62.4	63.6	64.7	66.0	67.5	69.6	72.3	74.7	75.7	75.8	75.7	39.1	393.1	
52,5°	60.1	61.7	63.7	65.9	69.0	73.4	79.0	83.4	84.7	85.3	85.7	45.1	438.2	
55,0°	57.8	60.0	62.7	66.7	72.0	79.7	88.9	94.8	95.2	95.9	96.7	53.5	491.8	
57,5°	55.6	58.3	62.2	68.2	76.3	87.4	99.9	106.1	104.6	104.6	105.7	66.2	558.0	
60,0°	53.9	56.9	62.2	70.3	81.0	94.3	107.8	112.8	108.9	107.7	108.8	82.6	640.6	
62,5°	55.4	56.9	62.5	71.8	84.2	97.4	109.3	112.3	106.3	104.1	104.5	99.5	740.1	
65,0°	63.7	63.5	66.0	72.7	84.1	95.3	105.1	105.4	98.9	95.6	96.1	99.9	840.0	
67,5°	70.1	78.4	77.3	72.4	79.6	88.2	95.1	94.0	87.3	84.7	85.0	77.4	917.4	
70,0°	61.5	83.1	81.8	70.7	72.2	78.2	82.6	81.2	75.4	72.7	73.9	40.8	958.2	
72,5°	42.3	57.4	62.9	59.5	61.2	65.1	67.5	65.8	60.5	58.3	60.0	16.1	974.3	
75,0°	31.9	36.8	42.7	46.3	49.5	52.1	53.3	51.3	47.4	45.6	47.0	9.3	983.7	
77,5°	24.7	27.9	31.7	34.9	37.5	39.4	39.8	37.3	34.2	32.7	33.7	6.9	990.6	
80,0°	17.6	19.4	21.6	23.6	25.1	26.0	25.6	23.9	22.2	21.1	21.1	4.9	995.4	
82,5°	10.4	11.4	12.7	13.8	14.8	15.6	15.4	14.5	13.4	12.7	12.6	2.9	998.3	
85,0°	4.9	5.3	5.9	6.5	7.0	7.3	7.4	7.1	6.6	6.3	6.2	1.3	999.6	
87,5°	1.7	1.8	1.9	2.0	2.2	2.2	2.2	2.1	1.9	1.8	1.7	0.4	1000.0	
90,0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1000.0	

Photometric test report

Family Floodlight FL21 micro	Order number: 5XA7762A1D1A EAN: 4058352669525	LP number 59303_23
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Dimming levels table	environmental temperature: 25°C	siteco
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Luminous flux %	Dimming level linear	Dimming level logarithmic	Luminous flux [lm]	Power consumption [W] start of lifetime	Power consumption [W] end of lifetime	Power consumption [W] average
100	254	254	2400	23.1	23.8	23.5
95	241	252	2277	21.7	22.4	22.0
90	229	250	2164	20.4	21.1	20.8
85	216	248	2041	19.1	19.7	19.4
80	203	246	1918	17.8	18.3	18.0
75	190	243	1795	16.6	17.1	16.8
70	178	241	1682	15.4	15.9	15.6
65	165	238	1559	14.3	14.7	14.5
60	152	235	1436	13.1	13.5	13.3
55	140	232	1323	12.1	12.4	12.2
50	127	229	1200	10.9	11.3	11.1
45	114	225	1077	9.9	10.2	10.0
40	102	221	964	8.9	9.2	9.0
35	89	216	841	7.9	8.1	8.0
30	76	210	718	6.9	7.1	7.0
25	63	203	595	5.9	6.1	6.0
20	51	195	482	5.1	5.2	5.2
15	39	185	369	4.2	4.3	4.2



# EXTERNAL LUMINAIRE X4

# DENVER<sup>TM</sup> iD WALL



DENVER  
**iD** WALL



  
**HOLOPHANE<sup>®</sup>**

REGISTERED EUROPEAN DESIGN  
PATENTED DESIGN

# WALL DENVER™ iD

**The Denver iD: Wall** combines a cohesive family aesthetic with an unrivalled system performance - perfect for creating the ideal design-inspired landscape.

Featuring a patented Transition Zone the Denver iD: Wall offers improved visual comfort and lower perceived glare; perfect for the unique requirements of pedestrian-friendly amenity spaces.

Coupled with the latests LED technologies, smart controls integration and class-leading optical performance the new Denver iD: Wall truly brings together form and a feature rich luminaire system.

The Denver iD: Family consists of Pole, Wall and Bollard luminaires, offering the complete solution to your next outdoor environment.

For over 125 years Holophane has enjoyed an enviable reputation throughout the world for expertise, quality and innovation in Lighting. From the earliest days, when the company pioneered its famous glass refractor, the Holophane name has been ever present as a leader in the field of luminaire and lighting design. **Denver iD: Wall** is a continuation of this proud tradition and builds on our heritage of designing luminaires with exceptional optical performance and thermal management which fused together deliver a solution that is future-proof and fully serviceable.

## Applications

- Amenity Areas
- Campuses
- Retail Parks
- Car Parks
- Landscaped Areas
- Offices
- Walkways
- Perimeter areas

## Overview

- Available with lumen ranges from 700 to 4,000 (delivered lumens).
- 5 optimised optical distributions suitable for a variety of environments.
- 2700K, 3000K & 4000K options available.
- CRI > 70.
- Available with integrated control and emergency options (c.300 lm in emergency mode).
- Ease of installation via modular design.
- Spacings of 15m to 20m at 3m mounting height with 5 lux average.

## TM66 CEAM-Make Rating

Preliminary Rating: 2.6 (Excellent circularity).

## Approvals



Complies with EN60598

IP65 and IK10

-20°C to +45°C



For further information please visit the Holophane website [www.holophane.co.uk](http://www.holophane.co.uk)



## AN ENVIABLE REPUTATION THROUGHOUT THE WORLD

125 years of   
Innovation & Excellence

When Holophane was founded in 1896 in London, headed by Pelham Trotter, it marked the start of an incredible history that has now seen Holophane become a global business revered throughout the world for its expertise, quality, innovation and excellence in lighting.

Holophane's first product was the famous patented globe in 'white' or 'rose crystal' that sold for around 2 shilling (10p). Today, Holophane continues this proud tradition with our values deeply rooted in the dedication to creating luminaires, with exceptional lighting performance, innovative patented technologies, and delivering added customer value beyond illumination.

### What does it mean for our customers?

#### A Trusted & Reliable UK Manufacturer

From Royalty all the way to small residential projects, Holophane has been a trusted manufacturer over the decades for all manner of projects. You can be sure you are in good hands and can rely on the collective knowledge and expertise we have gathered since our inception in 1896.

#### Development of Innovative Products

As part of our design philosophy, Holophane are always trying to push boundaries in the development of unique product innovations. As such many of our luminaires hold UK and International design patents.



#### Products That Deliver Added Value

In today's world, sustainability and added value are becoming increasingly important. As such our products and solutions go further than just lighting. Many of our innovations include integrated smart connected solutions to help customers achieve further energy savings and can also enable remote monitoring.

#### Delivering excellent customer service

Over our 125-year history we have always been committed to delivering the best service to our customers and supporting in a myriad of ways to ensure the best possible outcomes. This goes as far as offering a free lighting design service to one-off products/ solutions to meet customers unique needs.

## A COHESIVE FAMILY

The **Denver iD** range was designed to have a cohesive family aesthetic to give consistency across a project and achieve a luminaire identity.

From the commonality of the LED modules to the sleek and simple lines, Denver iD gives your outdoor space its own identity.

Scan the QR codes for information on **Denver iD: Pole** & **Denver iD: Bollard**.

DENVER  
iD POLE



DENVER  
iD WALL



DENVER  
iD BOLLARD





## PRODUCT FEATURES

### Class Leading Performance

**Denver iD: Wall** features the very latest LED technologies and bespoke individual PMMA optical lenses. These have been optimised to provide the best spacings possible on lighting schemes whilst ensuring low-energy consumption.



### Easily maintainable

**Denver iD: Wall** has an easily removable and replaceable LED module. This enables at anytime for the module to be replaced in case of unlikely failures or upgraded.

This helps to extend the overall system life and sustainability of the luminaire.



# WALL DENVER™ iD



### 2-part housing

**Denver iD: Wall** is constructed in two parts consisting of the Front casting combined with the LED module and back box. This design makes installation easy but also ensures easy maintenance for driver or emergency battery changes.

Cable entry and termination is via 2 x 20mm IP65 membrane cable glands.



With option  
.B, PL0, PL1 & PL2

### Connected

**Denver iD: Wall** is ZD4i compatible when specified with the 4-pin Zhaga socket options (TZ01) enabling a future proof luminaire that can be used in conjunction with Controlux Air or a expanding ecosystem of third party devices and sensors.

## TRANSITION ZONE

### Patented Transition Glare

An intermediary zone between the 'bright LEDs' and dark night sky. Individual LEDs can often give a pixelation effect and be uncomfortable to the observer. The Transition Zone's angled white surface helps give the effect of a large lit area/light source and thus creating a smoother lit effect.

This is important, especially in pedestrian-friendly amenity spaces, to stop LED dazzle and create a more visually comfortable environment.

### Patented Transition Zone - Performance

The patented Transition Zone's angled white surface helps to further reflect/control high angle light in a more precise way that may otherwise have been wasted in a luminaire not using a transition zone.

### Hydrophilic Properties

The glass in Denver iD: Pole has hydrophilic properties which attracts water particles. However, there are benefits for outdoor luminaires.

Hydrophilic glass encourages water droplets to combine together to 'sheet' and run off the surface easily, minimizing the effect on emitted light. Conversely, whilst Hydrophobic glass encourages beading of water on the surface, it does not encourage water particles to combine and run off. This can effect overall light output negatively.

### High Transparency Glass

The glass used in Denver iD: Pole is over 99% transparent ensuring that no light output is compromised. Additionally, this means that less light emitted at higher angles is not wasted and thus improves overall performance of the luminaire.

### Recessed LEDs

The LED boards in Denver iD: Pole are recessed into the LED module. This helps to prevent unnecessary up light.

# TRANSITION ZONE