

SYSTEMATIC QUALITY

StreetLED



Catalogue



GIFAS
ELECTRIC

09B

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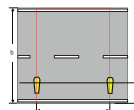
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Accessories

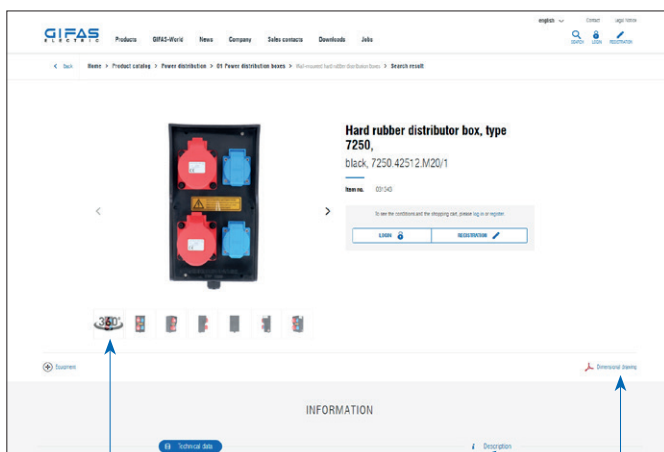


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How do I make my choice?

Here is a simplified sequence with which the lighting class can be determined.

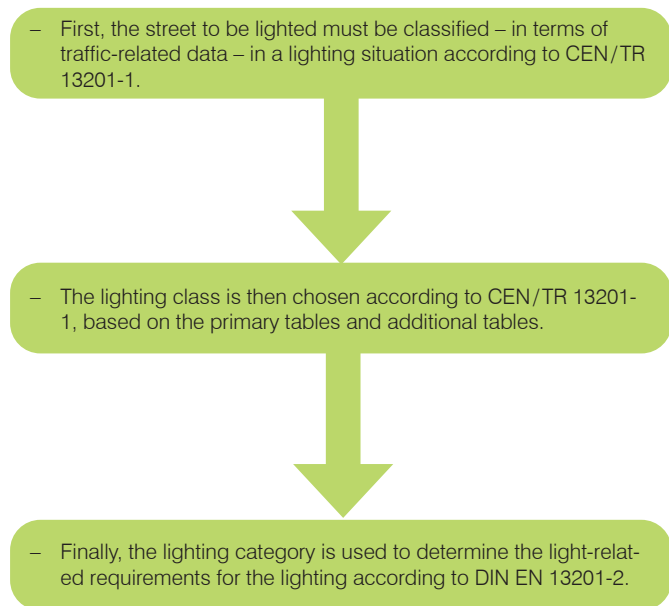
The most important classes at a glance (excerpted from DIN EN 13201-2):
<p>ME classes</p> <p>Classes ME1 to ME6 apply to roads with medium to high driving speeds. Classes MEW1 to MEW5 apply to wet roads. The quality characteristics of the lighting correspond to the luminance rating.</p> <p>Quality characteristics: \bar{L}_m, U_0, U_l, T_l, SR.</p>
<p>CE classes</p> <p>Lighting classes CE0 to CE5 are applied in the same manner as ME classes, but for roads with zones of conflict, as well as intersections, junctions, roundabouts, traffic jam areas at intersections, streets with pedestrians and cyclists, shopping and commercial streets, and subways and stairs.</p> <p>The quality characteristics of the lighting correspond to the illuminance rating.</p> <p>Quality characteristics: \bar{E}_m, U_0</p>
<p>S classes</p> <p>Lighting classes S1 to S7 are applied to pedestrian and cycling areas, breakdown lanes, road shoulders, and other areas outside of the roadways, for prestigious streets, residential streets, pedestrian zones, sidewalks, bike paths, park roads, school playgrounds, etc.</p> <p>The lighting is evaluated according to the illuminance rating.</p> <p>Die Güteermkmale sind: \bar{E}_m, E_{min}</p>
<p>Additional classes</p> <p>A class ES classes EV classes</p>

Lighting situation	Lighting class	Quality characteristics
A1, A2, A3	ME1 – ME5	\bar{L}_m , U_0 , U_l , T_l , SR
B1, B2	ME1 – ME6	\bar{L}_m , U_0 , U_l , T_l , SR
C1	S1 – S6	\bar{E}_m , E_{min}
D1, D2	CE2 – CE5	\bar{E}_m , U_0
D3, D4	S1 – S6	\bar{E}_m , E_{min}
E1	S1 – S6, CE2	\bar{E}_m , E_{min}
E2	S1 – S5, CE2	\bar{E}_m , E_{min}

Determination of light-related requirements

One of the most important tasks in planning street lighting is determining the lighting class with which the light-related system data are specified.

The procedure for determining the quality characteristics of lighting on a certain street is divided into the following steps:



- \bar{L}_m Service value of the mean luminance on the road; the actual value must never be below this value.
- \bar{E}_m Service value of the mean illuminance on the road; the actual value must never be below this value.
- U_0 Overall uniformity; ratio of the lowest luminance (or illuminance) to the mean luminance on the road surface.
- U_l Longitudinal uniformity; ratio of the lowest luminance to the highest luminance on the centre line of a lane.
- T_l Threshold value increase; a measure of the loss of visibility of a visual object due to physiological glare from lights that are too bright.
- SR Ambient illuminance ratio to improve spatial orientation so that the areas adjacent to the roadway – if they are not illuminated themselves – can also be seen.



Preface

(excerpts from the DIN EN 13201 standard)

The most important task of street lighting is to protect road users – pedestrians, cyclists and motorists – from damage to life, limb or health in the dark. A proven scientific correlation between the quality of street lighting and traffic safety exists. With good street lighting, people, obstacles and hazards on or near the road are identified in time and road users can react accordingly. Good street lighting is an effective way to reduce the number and severity of accidents in the dark, thus making them a major contribution to road safety management.

The quality characteristics for street lighting are specified in the European standard DIN EN 13201, «Street Lighting». This standard pursues the principle that the quality of street lighting must be higher when there is a higher safety risk for the road users. This is in turn determined primarily by the meeting of road users at different speeds (for example, pedestrians, cyclists, motor vehicles) and the risk of collision. The traffic volume at night – in terms of the amount and frequency – and the danger of disturbances resulting from the meeting of pedestrians and stationary traffic (parked at the side of the road) with motorists are further criteria that determine the quality characteristics of lighting.

Traffic regulations in Europe are largely uniform; there are also uniform minimum requirements for street lighting since November 2003. Nevertheless, it is possible for people in the European regions to design their street lighting according to their own conceptions of value and design.

The uniform lighting standard EN 13201-2 for street lighting is valid in 28 European countries: Belgium, Denmark, Germany, Estonia, Finland, France, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Austria, Poland, Portugal, Sweden, Switzerland, Slovakia, Slovenia, Spain, Hungary, Czech Republic, Cyprus. It was worked out by CEN TC 169 (CEN = Comité Européen de Normalisation; TC = Technical Committee).

Street lighting: light-related requirements

Light-related requirements for streetlights are described by quality characteristics. The most important are:

- luminance/illuminance and its uniformity,
- glare reduction,
- colour reproduction.

The quality characteristics of lighting apply to when it is dark. The minimum values of individual quality characteristics can change during the night and over seasons, for example due to changes in traffic density and the ambient brightness.

In addition to these quality characteristics, other features of the lighting system are critical to producing a smooth flow of traffic. In particular, this includes visual guidance. For example, lights with a higher luminous flux as well as with other light colours are positioned at intersections, drawing attention to them even from a distance. It may also be necessary to use additional lights to improve the visual alignment of the road so that, for example, drivers can recognise a winding route in time.



StreetLED CUBE



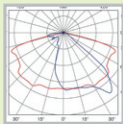
Design / Material

The simple, classic StreetLED CUBE is made of extruded aluminium. The castings are powder-painted and thermally machined. The aluminium parts are guaranteed by IK10 and IP66 classes.



LED

Cree LED chips are used, with a standard performance of at least 162lm/W at $T_j = 85^\circ\text{C}$. The colour temperature is a pleasantly neutral white with approx. 4'000 K. But street lights in warm white or pure white are also available upon request.



Optics / Light

The optical lenses of the StreetLED CUBE are manufactured according to the highest PMMA degree, with over 90% light transmission. They are UV- and ozone-resistant. By combining various quantities and positions, the lenses can satisfy the most demanding technical requirements.



Driver

The driver is designed for the entire lifetime (a minimum of 100'000 h) and with numerous interesting optional features. DALI transmitter, 1-10 V dimmer or autonomous dimming system. We can offer a wireless management system or a NEMA plug with a photocell.

StreetLED CUBE Moduar



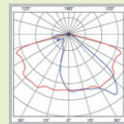
Design / Material

The simple, classic StreetLED CUBE Moduar is made of extruded aluminium. The castings are powder-painted and thermally machined. The aluminium parts are guaranteed by IK09/IK10 and IP66 classes.



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StreetLED CUBE



Type	StreetLED CUBE 12	StreetLED CUBE 24	StreetLED CUBE 48	StreetLED CUBE 72
				
Technical data				
Number LED	12	24	48	72
Height of light spot	to 5 m	5-7 m	7-12 m	7-12 m
Pole spacing	24 m (5 m)	26 m (6 m)	38 m (8 m)	38 m (10 m)
Dimmable	✓	✓	✓	✓
Light colours	4'000K	4'000K	4'000K	4'000K
System luminous efficiency	152lm/W	155lm/W	162lm/W	159lm/W
Measurements	274×273×77 mm	333×274×77 mm	503×274×77 mm	503×274×77 mm
Variability	-15° to +15° (5°-steps)	-15° to +15° (5°-steps)	-15° to +15° (5°-steps)	-15° to +15° (5°-steps)
Temperature range	-40° C to +50° C	-40° C to +50° C	-40° C to +50° C	-40° C to +50° C
Auxiliary module	internal	internal	internal	internal
for details, see	10	11	12	13

StreetLED CUBE Moduar

Type	StreetLED CUBE Moduar 12	StreetLED CUBE Moduar 24	StreetLED CUBE Moduar 36
			
Technical data			
Number LED	24	36	72
Height of light spot	5-7 m	7-12 m	7-12 m
Pole spacing	26 m (6 m)	38 m (8 m)	38 m (10 m)
Dimmable	✓	✓	✓
Light colours	4'000K	4'000K	4'000K
System luminous efficiency	118lm/W	118lm/W	132lm/W
Measurements	520×319×70 mm	520×319×70 mm	520×319×70 mm
Variability	-15° to +15° (5°-steps)	-15° to +15° (5°-steps)	-15° to +15° (5°-steps)
Temperature range	-40° C to +50° C	-40° C to +50° C	-40° C to +50° C
Auxiliary module	internal	internal	internal
for details, see	18	19	20

Square lamps 1

Square lamps 1

Type	StreetLED CUBE S48	StreetLED CUBE H72
		
Technical data		
Height of light spot	7-12 m	7-12 m
Dimmable	✓	✓
Light colours	4'000K	4'000K
System luminous efficiency	162lm/W	153lm/W
Measurements	526×274×77 mm	466×274×77 mm
Variability	-	-
Temperature range	-40° C to +50° C	-40° C to +50° C
Auxiliary module	internal	internal
Connection cable	8 m	8 m
for details, see	14	15

1

StreetLED CUBE 12
StreetLED Moduar 24



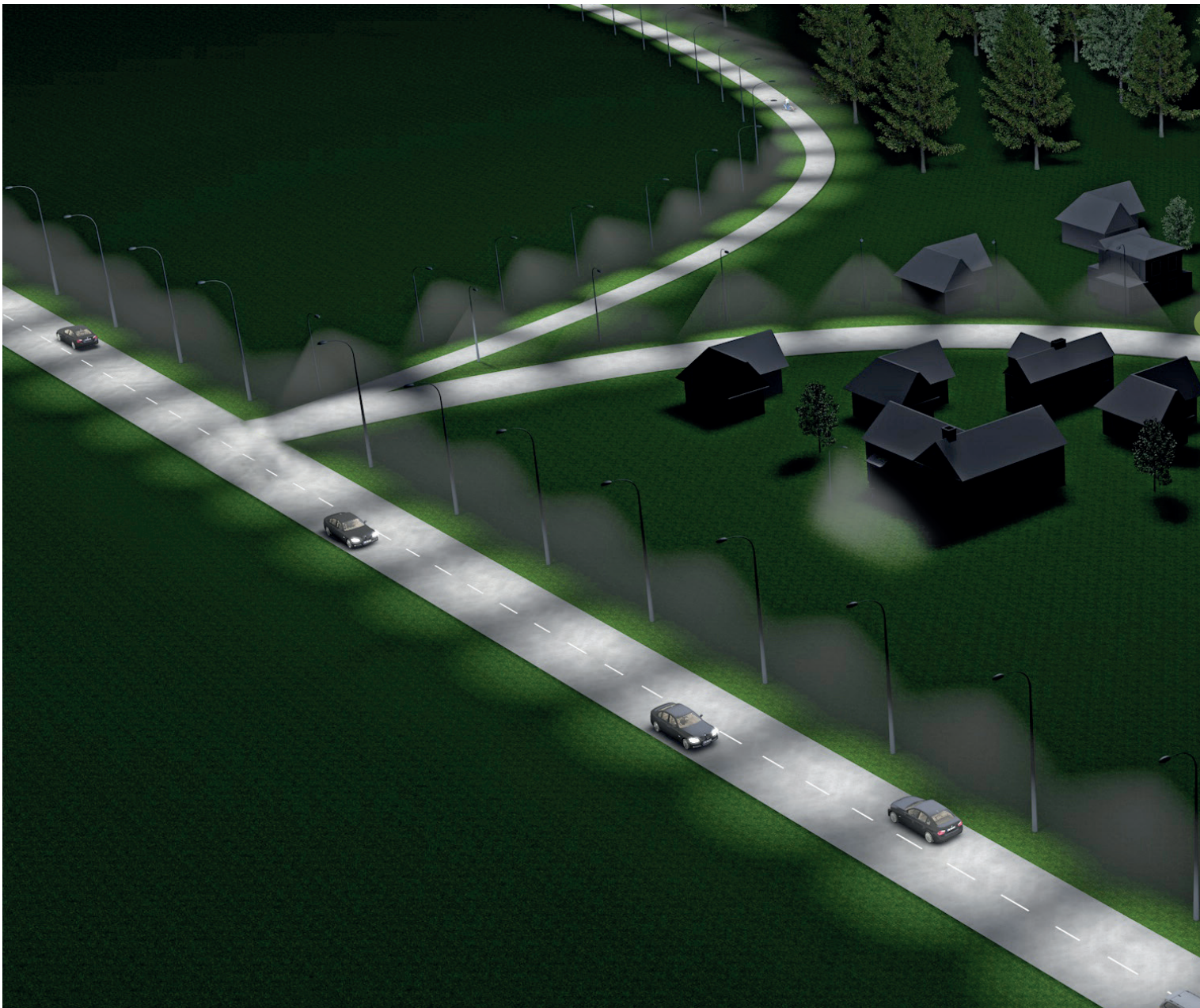
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StreetLED CUBE 24
StreetLED Moduar 36



3

StreetLED CUBE 48
StreetLED Moduar 72



4

StreetLED CUBE 72
StreetLED Moduar 36



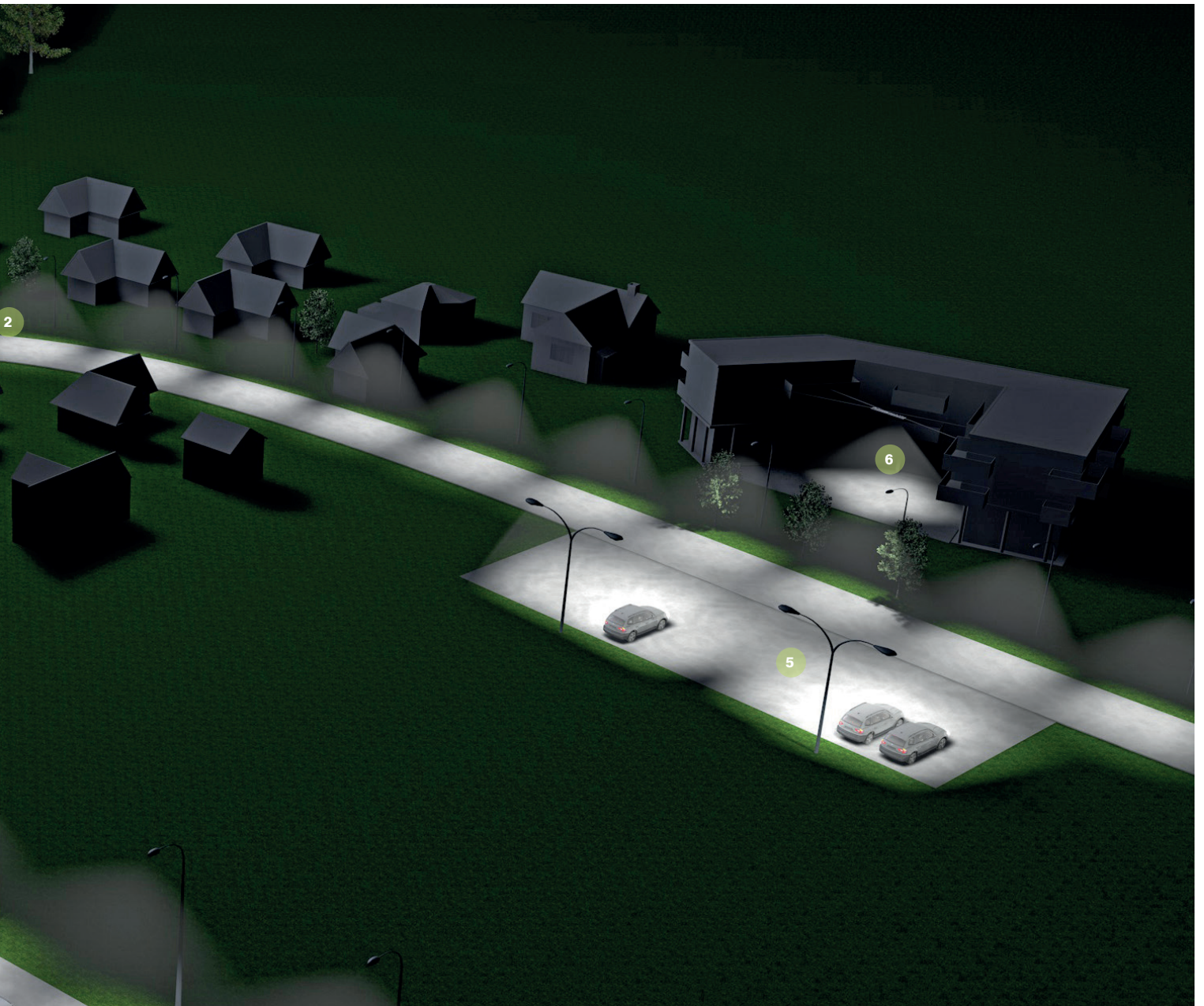
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StreetLED CUBE S48,
StreetLED Moduar 36

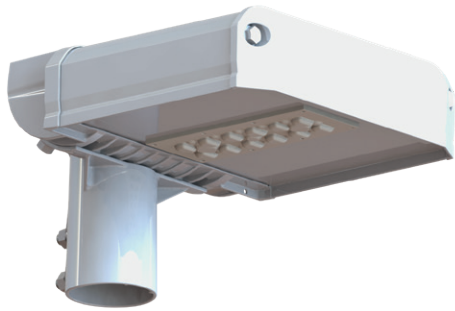


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StreetLED CUBE H72



StreetLED CUBE 12

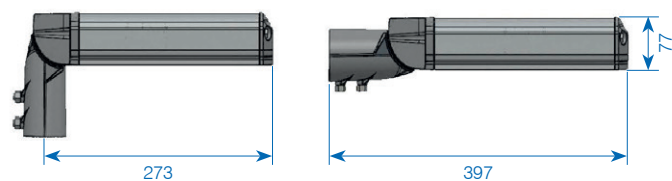
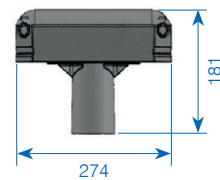
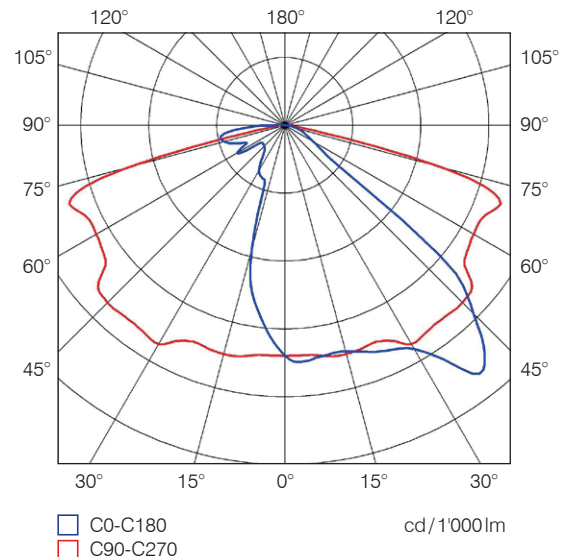


Description

The right light for needs of approx. 5lx, corresponding to lighting class S4. Classic applications of StreetLED CUBE 12 are smaller neighbourhood streets, pedestrian and cycling paths, private forecourts, alleys and car parks.

Technical data

System performance:	16W
Input voltage:	202 - 254 VAC / 47 - 63 Hz
Power factor:	> 0.95
Luminaire flux:	2'569lm
System luminous efficiency:	152lm/W
Light colour:	4'000K
Colour rendering index:	CRI ≥ 70
Lifetime ca.:	L90/B10, 100'000h
Protection rating:	IP66 and IK10
Recommended pole spacing:	to 5m
Dimensions:	273×274×77 mm
Weight:	3.9kg
Variability:	0° or 90°, -15° to +15° (5°-steps)
Temperature range:	-40°C to +55°C
With regulation:	50% control phase 230VAC (autonomous dimming p.16-17)
Overvoltage protection:	20kV/10kA
Flange Ø:	60mm (optional 76mm)
Equipment:	with mounted cable 8m, 4×1mm ²



Item no.	Designation
✓ 860936	StreetLED CUBE 12, comfort white, 16W/230VAC SK1 2'569lm 4'000K, control phase, 8m cable

Other versions as autonomous dimming or protection class on request

✓ from stock, offer subject to prior sale

StreetLED CUBE 24

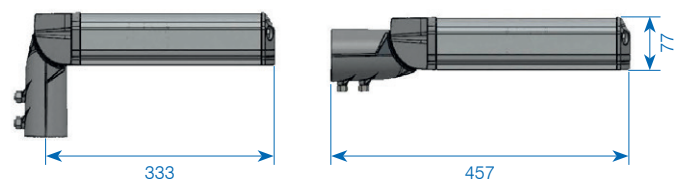
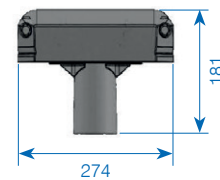
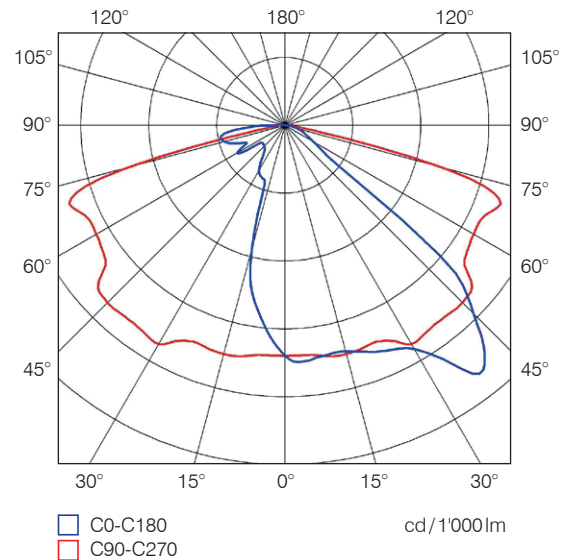


Description

The right light for needs of approx. 7.5 lx or 0.5 cd/m², corresponding to lighting classes S3 and ME5. Classic applications of StreetLED CUBE 24 are neighbourhood streets, major pedestrian and cycling paths, private areas and industrial sites.

Technical data

System performance:	31 W
Input voltage:	202 - 254 VAC / 47 - 63 Hz
Power factor:	> 0.95
Luminaire flux:	4'730 lm
System luminous efficiency:	155 lm/W
Light colour:	4'000 K
Colour rendering index:	CRI ≥ 70
Lifetime ca.:	L90/B10, 100'000 h
Protection rating:	IP66 and IK10
Recommended pole spacing:	5 - 7 m
Dimensions:	333 × 274 × 77 mm
Weight:	5.2 kg
Variability:	0° or 90°, -15° to +15° (5°-steps)
Temperature range:	-40°C to +50°C
With regulation:	50% control phase 230 VAC (autonomous dimming p.16-17)
Overvoltage protection:	20 kV / 10 kA
Flange Ø:	60 mm (optional 76 mm)
Equipment:	with mounted cable 8 m, 4 × 1 mm ²

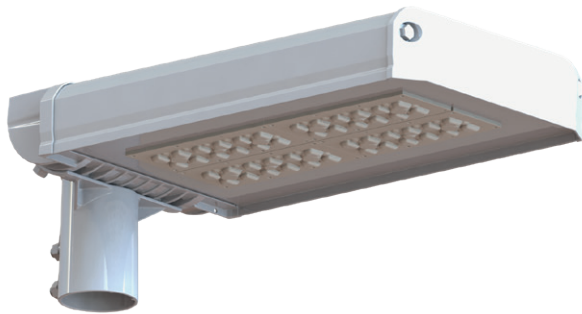


Item no.	Designation
✓ 860937	StreetLED CUBE 24, comfort white, 31 W/230 VAC SK1 4'730 lm 4'000 K, control phase, 8 m cable

Other versions as autonomous dimming or protection class on request

✓ from stock, offer subject to prior sale

StreetLED CUBE 48

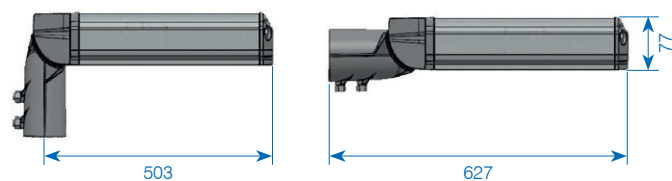
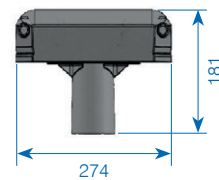
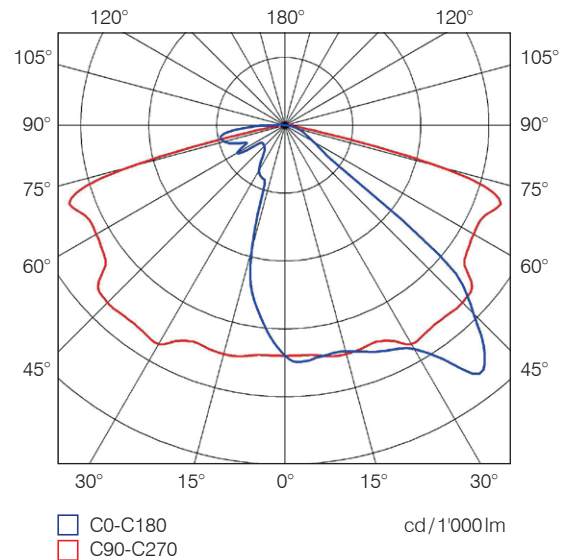


Description

The right light for lighting needs of approx. 0.75cd/m², corresponding to lighting class ME4. Typical applications of StreetLED CUBE 48 are local roads, intersections, car parks and demanding outdoor and industrial premises.

Technical data

System performance:	57W
Input voltage:	202 - 254 VAC / 47 - 63 Hz
Power factor:	> 0.95
Luminaire flux:	9'280 lm
System luminous efficiency:	162 lm/W
Light colour:	4'000 K
Colour rendering index:	CRI ≥ 70
Lifetime ca.:	L90/B10, 100'000 h
Protection rating:	IP66 and IK10
Recommended pole spacing:	7 - 12 m
Dimensions:	503 × 274 × 77 mm
Weight:	7 kg
Variability:	0° or 90°, -15° to +15° (5°-steps)
Temperature range:	-40°C to +50°C
With regulation:	50 % control phase 230 VAC (autonomous dimming p. 16-17)
Overvoltage protection:	20 kV / 10 kA
Flange Ø:	60 mm (optional 76 mm)
Equipment:	with mounted cable 12 m, 4 × 1 mm ²

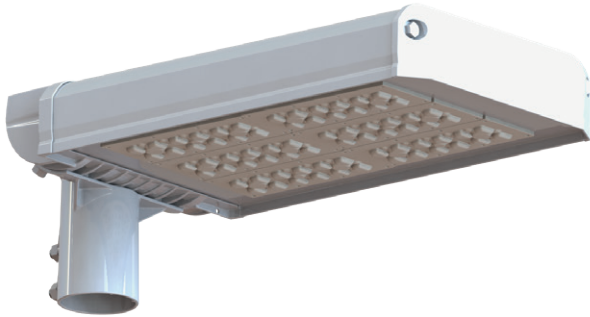


Item no.	Designation
✓ 860938	StreetLED CUBE 48, comfort white, 57W/230VAC SK1 9'280lm 4'000K, control phase, 12m cable

Other versions as autonomous dimming or protection class on request

✓ from stock, offer subject to prior sale

StreetLED CUBE 72

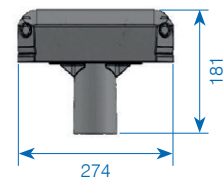
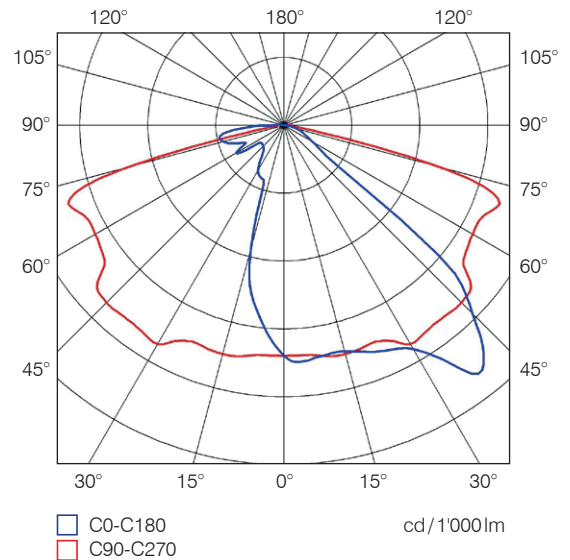


Description

The right light for lighting needs of approx. 1.0 cd/m², corresponding to lighting class ME3. Typical applications of StreetLED CUBE 72 are urban streets and squares, multiple intersections, large areas and car parks, and large outdoor and industrial premises.

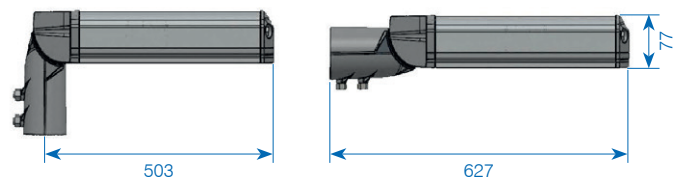
Technical data

System performance:	86W
Input voltage:	202-254 VAC / 47-63 Hz
Power factor:	> 0.95
Luminaire flux:	13'660 lm
System luminous efficiency:	159 lm/W
Light colour:	4'000 K
Colour rendering index:	CRI ≥ 70
Lifetime ca.:	L90/B10, 100'000 h
Protection rating:	IP66 and IK10
Recommended pole spacing:	7-12 m
Dimensions:	503 × 274 × 77 mm
Weight:	7 kg
Variability:	0° or 90°, -15° to +15° (5°-steps)
Temperature range:	-40°C to +50°C
With regulation:	50% control phase 230 VAC (autonomous dimming p. 16-17)
Overvoltage protection:	20 kV / 10 mA
Flange Ø:	60 mm (optional 76 mm)
Equipment:	with mounted cable 12 m, 4 × 1 mm ²



Item no.	Designation
✓ 860939	StreetLED CUBE 72, comfort white, 86W/230 VAC SK1 13'660 lm 4'000 K, control phase, 12 m cable

Other versions as autonomous dimming or protection class on request



✓ from stock, offer subject to prior sale

StreetLED CUBE S48

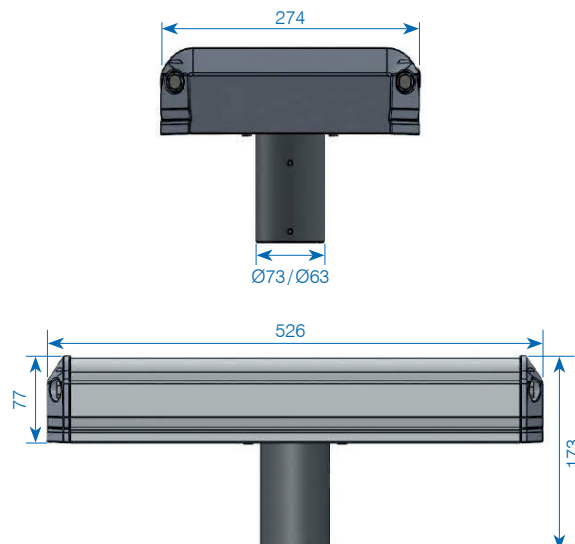
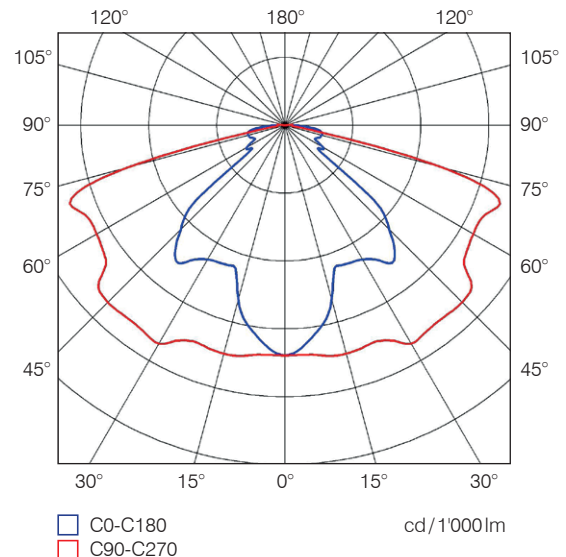


Description

The right light for needs of approx. 0.75 cd/m², corresponding to lighting class ME4. Classic applications of StreetLED CUBE S48 are municipal roads, intersections, car parks and complicated outdoor and industrial sites.

Technical data

System performance:	57W
Input voltage:	202 - 254 VAC / 47 - 63 Hz
Power factor:	> 0.95
Luminaire flux:	9'290 lm
System luminous efficiency:	162 lm/W
Light colour:	4'000K
Colour rendering index:	CRI ≥ 70
Lifetime ca.:	L90/B10, 100'000h
Protection rating:	IP66 and IK10
Recommended pole spacing:	7 - 12 m
Dimensions:	526 × 274 × 77 mm
Weight:	7.2 kg
Temperature range:	-40°C to +50°C
With regulation:	50% control phase 230VAC (autonomous dimming p. 16-17)
Overvoltage protection:	20 kV/10 kA
Flange Ø:	60 mm (optional 76 mm)
Equipment:	with mounted cable 8 m, 4 × 1 mm ²

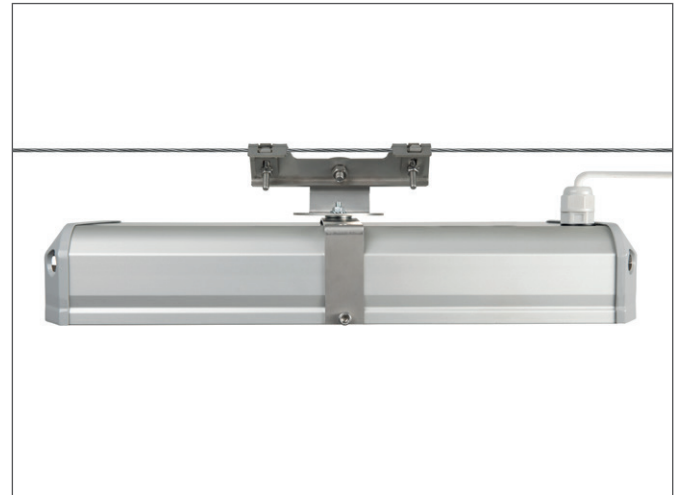


Item no.	Designation
✓ 860940	StreetLED CUBE S48, comfort white, 57 W/230 VAC SK1 9'290 lm 4'000K, control phase, 8 m cable

Other versions as autonomous dimming or protection class on request

✓ from stock, offer subject to prior sale

StreetLED CUBE H72

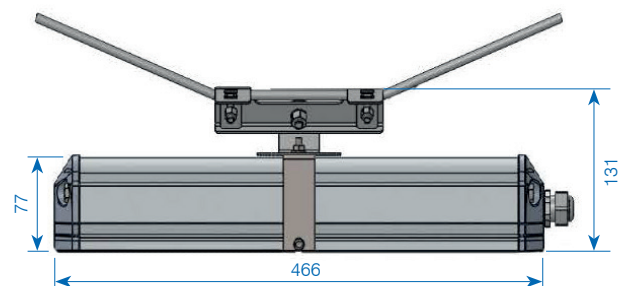
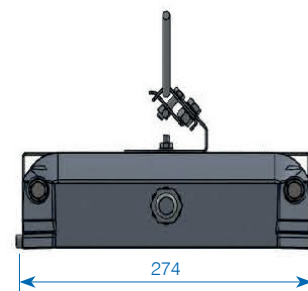
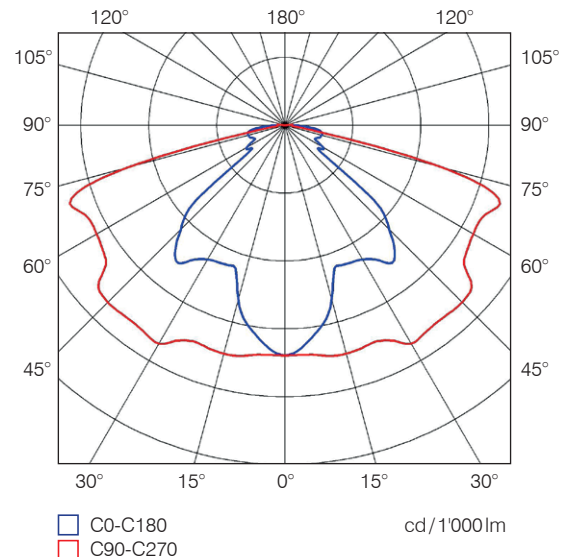


Description

The right light for needs of approx. 1.0cd/m², corresponding to lighting class ME3. Classic applications of StreetLED CUBE H72 are urban streets and squares, multiple intersections, large areas and car parks, and large outdoor and industrial sites

Technical data

System performance:	86W
Input voltage:	202 - 254 VAC / 47 - 63 Hz
Power factor:	> 0.95
Luminaire flux:	13'230lm
System luminous efficiency:	153lm/W
Light colour:	4'000K
Colour rendering index:	CRI ≥ 70
Lifetime ca.:	L90/B10, 100'000h
Protection rating:	IP66 and IK10
Recommended pole spacing:	7 - 12 m
Dimensions:	466 × 274 × 77 mm
Weight:	5.9 kg
Temperature range:	-40°C to +50°C
With regulation:	50% control phase 230 VAC (autonomous dimming p. 16-17)
Overvoltage protection:	20 kV / 10 kA
Flange Ø:	60 mm (optional 76 mm)
Equipment:	with mounted cable 8 m, 4 × 1 mm ²



Item no.	Designation
860941	StreetLED CUBE H72 comfort white, 86W/230VAC SK1 13'230lm 4'000K, control phase, 8m cable

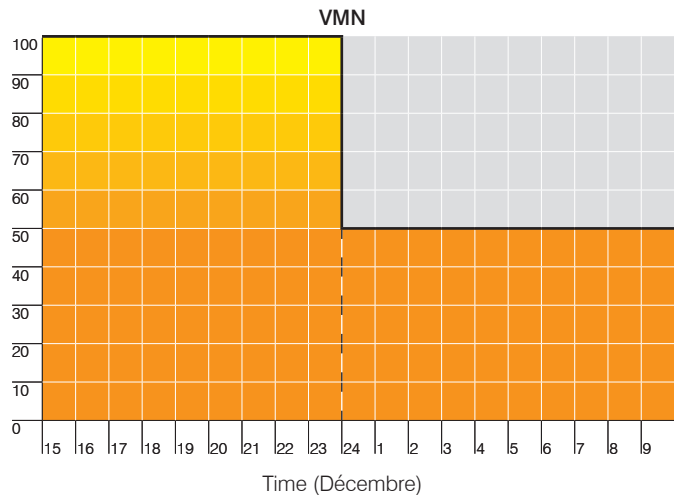
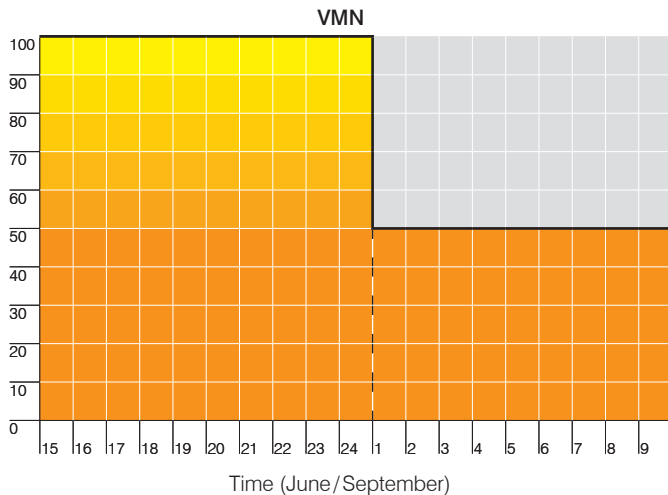
Other versions as autonomous dimming or protection class on request

Autonomous dimming StreetLED CUBE 12 and 24

The full power of street lighting is not needed when there is little traffic on the streets and in the deep of the night. Therefore, we now offer a light with autonomous dimming capabilities that reduce luminosity to 50% at these times.

All this occurs completely automatically. An integrated clock controls this automatically; therefore, no additional control is required. However, additional settings or controls can be subsequently installed.

- The driver automatically counts the hours for which the lamp is switched on. **Virtual midnight – VMN**. The middle of the entire time interval.
- The driver dims to 50% from VMN until morning.



	Switch on time *	Dimming level at midnight	Switch off time *
June** (VMN = 01:00 Uhr)	21:00	01:00	05:00
Dimming level	100%	50%	0%
Lamp type	StreetLED 24		
Consumption	38W	21W	0W
Power consumption	With autonomous dimming: 236Wh Without autonomous dimming: 304Wh		
September** (VMN = 01:00 Uhr)	19:30	01:00	06:30
Dimming level	100%	50%	0%
Lamp type	StreetLED 24		
Consumption	38W	21W	0W
Power consumption	With autonomous dimming: 324.5Wh Without autonomous dimming: 418Wh		
Décembre (VMN = 00:00 Uhr)	16:30	00:00	07:30
Dimming level	100%	50%	0%
Lamp type	StreetLED 24		
Consumption	38W	21W	0W
Power consumption	With autonomous dimming: 442.5Wh Without autonomous dimming: 570Wh		

The hours shown above are approximate!

If the duration of the night changes by more than 1 hour, the VMN has to be recalculated. It takes 3 days until the rhythm is completely correct. In this 3-day warm-up phase, autonomous dimming does not work.

* The switch-on and switch-off times are determined based on sunrise and sunset times.

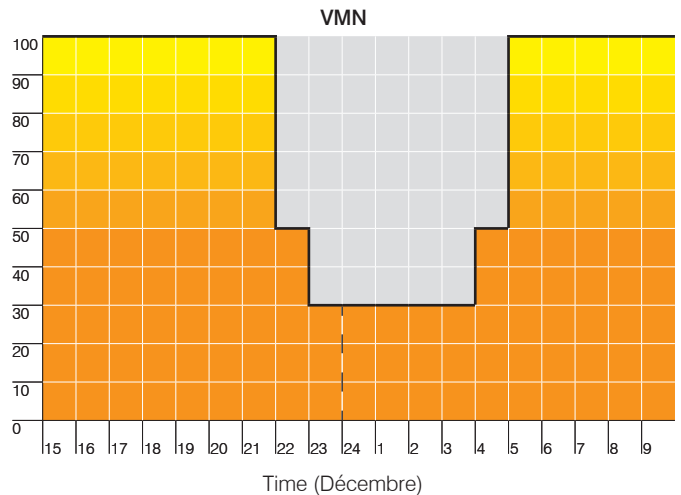
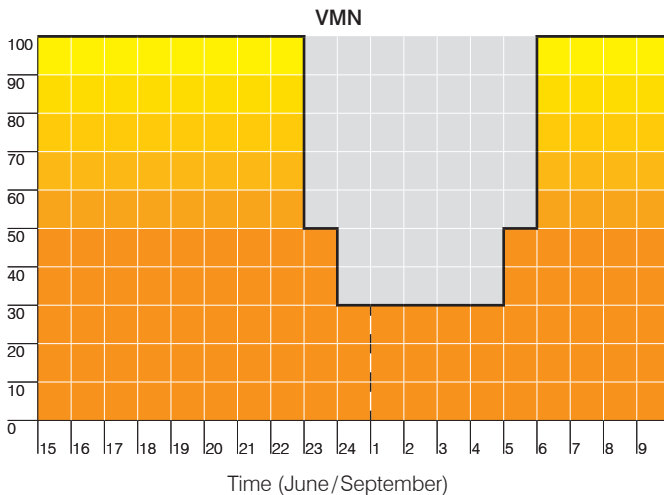
** The driver cannot detect the 1-hour time difference during summer; therefore, all dimming times are approx. 1 hour later than during winter.

Autonomous dimming StreetLED CUBE 48 and 72

The full power of street lighting is not needed when there is little traffic on the streets and in the deep of the night. Therefore, we now offer a light with autonomous dimming capabilities that reduce luminosity to 50% at these times.

All this occurs completely automatically. An integrated clock controls this automatically; therefore, no additional control is required. However, additional settings or controls can be subsequently installed.

- The driver automatically counts the hours for which the lamp is switched on. **Virtual midnight – VMN**. The middle of the entire time interval.
- The driver is programmed to be dimmed X hours before the VMN, and returns to 100% Y hours after the VMN.
- Up to 5 dimming levels can be programmed in one night.
- These settings can be programmed on customer requirements, but there are also other default settings available.



	Switch on time *	1. Dimminglevel 2 hours before midnight	2. Dimminglevel 1 hour before midnight	3. Dimminglevel 3 hours after midnight	4. Dimminglevel 5 hours after midnight	Switch off time *
June** (VMN = 01:00 Uhr)	21:00	23:00	00:00	05:00	06:00	05:00
Dimming level	100%	50%	30%	50%	100%	0%
Lamp type	StreetLED					
Consumption	118W	58W	36W	58W	118W	0W
Power consumption	With autonomous dimming: 474Wh			Without autonomous dimming: 944Wh		
September** (VMN = 01:00 Uhr)	19:30	23:00	00:00	05:00	06:00	06:30
Dimming level	100%	50%	30%	50%	100%	0%
Lamp type	StreetLED					
Consumption	118W	58W	36W	58W	118W	0W
Power consumption	With autonomous dimming: 768Wh			Without autonomous dimming: 1'298Wh		
Décembre (VMN = 00:00 Uhr)	16:30	22:00	23:00	04:00	05:00	07:30
Dimming level	100%	50%	30%	50%	100%	0%
Lamp type	StreetLED					
Consumption	118W	58W	36W	58W	118W	0W
Power consumption	With autonomous dimming: 1'240Wh			Without autonomous dimming: 1'770Wh		

The hours shown above are approximate!

If the duration of the night changes by more than 1 hour, the VMN has to be recalculated. It takes 3 days until the rhythm is completely correct. In this 3-day warm-up phase, autonomous dimming does not work.

* The switch-on and switch-off times are determined based on sunrise and sunset times.

** The driver cannot detect the 1-hour time difference during summer; therefore, all dimming times are approx. 1 hour later than during winter.

StreetLED CUBE Moduar 24

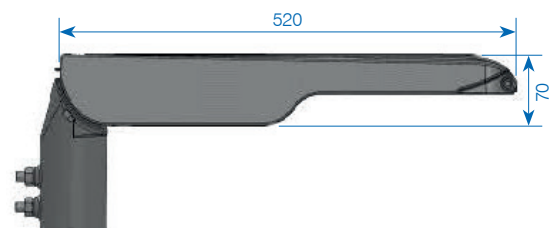
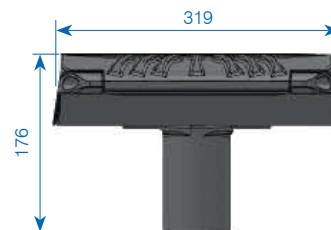
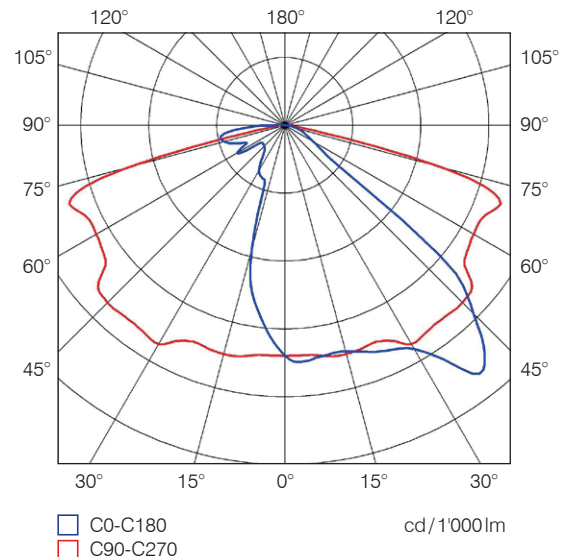


Description

Typical applications of StreetLED CUBE Moduar 24 are urban streets and squares, multiple intersections, large areas and car parks, and large outdoor and industrial premises.

Technical data

System performance:	41 W
Input voltage:	202 - 254 VAC / 47 - 63 Hz
Power factor:	> 0.95
Luminaire flux:	4700 lm
System luminous efficiency:	118 lm/W
Light colour:	4'000 K
Colour rendering index:	CRI ≥ 70
Lifetime ca.:	L90/B10, 100'000 h
Protection rating:	IP66 and IK10
Recommended pole spacing:	5 - 7 m
Dimensions:	520 × 319 × 70 mm
Weight:	7.2 kg
Variability:	0° or 90°, -15° to +15° (5°-steps)
Temperature range:	-40°C to +50°C
With regulation:	Zhaga-connection (below) with SR-driver (SR)
Overvoltage protection:	8 kV
Flange Ø:	60 mm (optional 76 mm)
Equipment:	with mounted cable 8 m, 4 × 1 mm ²



Item no.	Designation
✓ 860942	StreetLED CUBE Moduar 24, 41 W / 230 VAC SK1 4700 lm 4'000 K, Zhaga, 8 m cable

Other versions as autonomous dimming or protection class on request

✓ from stock, offer subject to prior sale

StreetLED CUBE Moduar 36



IP66 IK10   

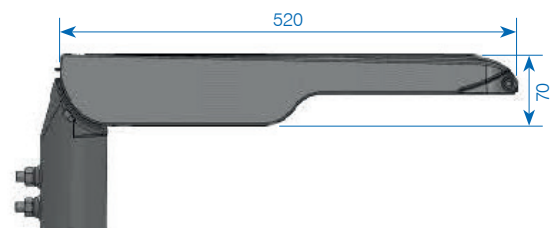
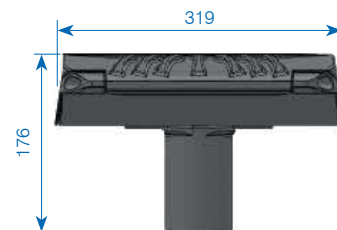
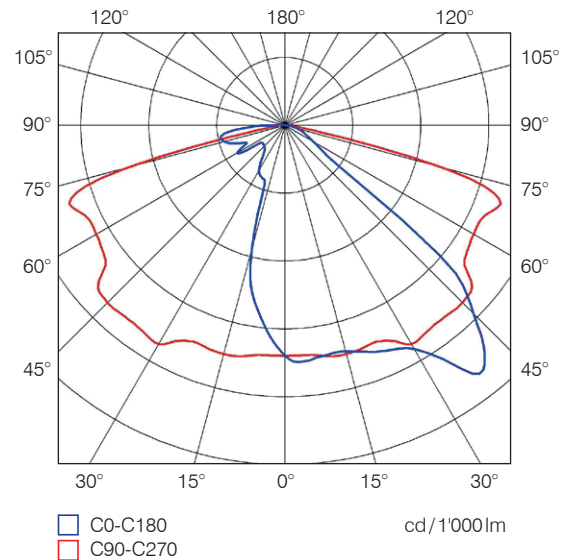


Description

Typical applications of StreetLED CUBE Moduar 36 are local roads, intersections, car parks and demanding outdoor and industrial premises.

Technical data

System performance:	78 W / 115 W
Input voltage:	202 - 254 VAC / 47 - 63 Hz
Power factor:	> 0.95
Luminaire flux:	9'330 lm / 13'590 lm
System luminous efficiency:	119 lm/W / 118 lm/W
Light colour:	4'000 K
Colour rendering index:	CRI ≥ 70
Lifetime ca.:	L90/B10, 100'000 h
Protection rating:	IP66 and IK10
Recommended pole spacing:	7 - 12 m
Dimensions:	520 × 320 × 70 mm
Weight:	7.2 kg
Variability:	0° or 90°, -15° to +15° (5°-steps)
Temperature range:	-40°C to +55°C
With regulation:	Zhaga-connection (below) with SR-driver (SR)
Overvoltage protection:	20 kV / 10 kA
Flange Ø:	60 mm (optional 76 mm)
Equipment:	with mounted cable 8 / 12 m, 4 × 1 mm ²



Item no.	Designation
✓ 860943	StreetLED CUBE Moduar 36, 78 W / 230 VAC SK1 9'330 lm 4'000 K, Zhaga, 8 m cable
✓ 860944	StreetLED CUBE Moduar 36, 110 W / 230 VAC SK1 13'590 lm 4'000 K, Zhaga, 12 m cable

Other versions as autonomous dimming or protection class on request

✓ from stock, offer subject to prior sale

StreetLED CUBE Moduar 72



IP66
IK10

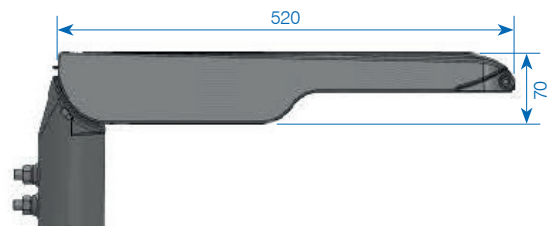
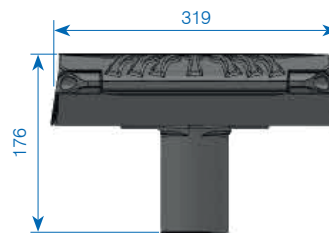
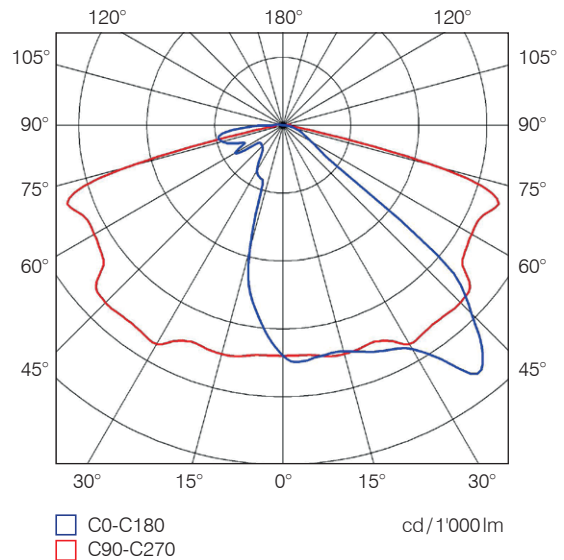


Description

Typical applications of StreetLED CUBE Moduar 72 are local roads, intersections, car parks and demanding outdoor and industrial premises.

Technical data

System performance:	174 W
Input voltage:	202 - 254 VAC / 47 - 63 Hz
Power factor:	> 0.95
Luminaire flux:	23'050 lm
System luminous efficiency:	132 lm/W
Light colour:	4'000 K
Colour rendering index:	CRI ≥ 70
Lifetime ca.:	L90/B10, 100'000 h
Protection rating:	IP66 and IK09
Recommended pole spacing:	7 - 12 m
Dimensions:	520 × 319 × 70 mm
Weight:	7.2 kg
Variability:	0° or 90°, -15° to +15° (5°-steps)
Temperature range:	-40°C to +50°C
With regulation:	Zhaga-connection (below) with SR-driver
Overvoltage protection:	20 kV / 10 kA
Flange Ø:	60 mm (optional 76 mm)
Equipment:	with mounted cable 12 m, 4 × 1 mm ²

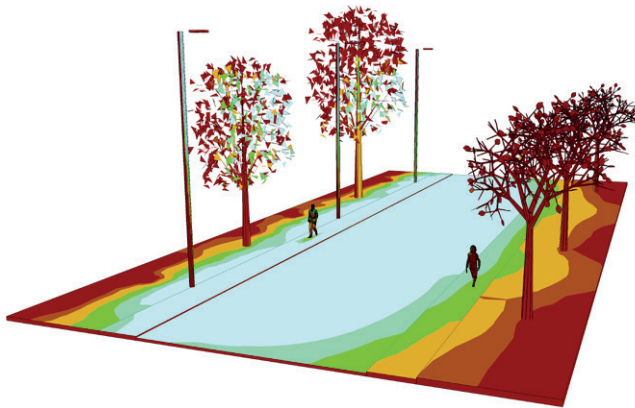


Item no.	Designation
✓ 860945	StreetLED CUBE Moduar 72, 172W/230 VAC SK1 23'050 lm 4'000 K, Zhaga, 12 m cable

Other versions as autonomous dimming or protection class on request

✓ from stock, offer subject to prior sale

View of a road lighting calculation with additional visualisation



Technical data

Make: StreetLED CUBE Moduar
 N° art.: 860943
 Luminaire name: StreetLED CUBE Moduar 36
 Equipment: 1 × LED CREE 78 W / 11600 lm

Road profile: Undivided carriageway
 Width of the roadway (b): 8.00 m
 Number of lanes: 2
 Road surface: R3
 q0: 0.08
 Right-hand traffic

Altezza punto luce: Row, right
 Light mounting height (h): 10.00 m
 Distance between luminaires (a): 15.00 m
 Luminaire overhang (u): -0.50 m
 Luminaire inclination (δ): 0.00°
 Maintenance factor: 0.75

Luminance

Viewer position 1: $x=-60.00$ m, $y=2.00$ m, $z=1.50$ m
 Middle: 1.91 cd/m² (ME3a mind. 1)
 U_o (min./medium): 0.56 (ME3a mind. 0.4)

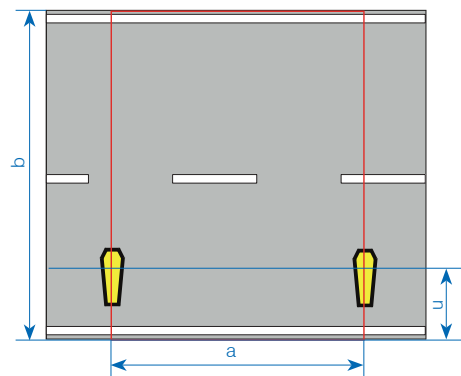
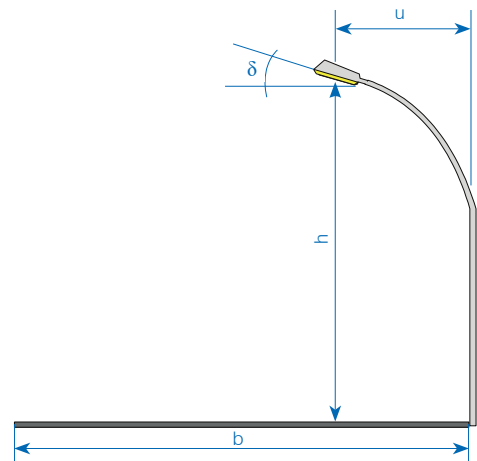
Viewer position 2: $x=-60.00$ m, $y=6.00$ m, $z=1.50$ m
 Middle: 2.12 cd/m² (ME3a min. 1)
 U_o (min./medium): 0.54 (ME3a min. 0.4)

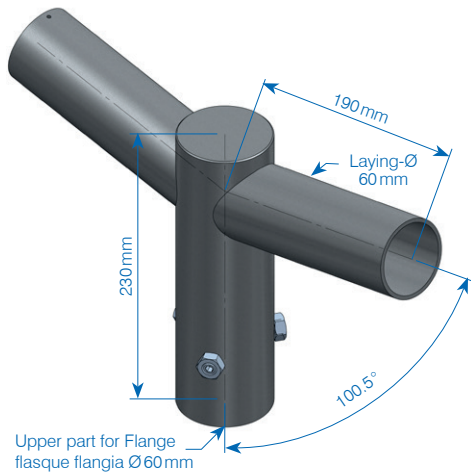
Longitudinal uniformity

UI (B1: $x=-60.00$, $y=2.00$, $z=1.50$): 0.86 (ME3a min. 0.7)
 UI (B2: $x=-60.00$, $y=6.00$, $z=1.50$): 0.88 (ME3a min. 0.7)

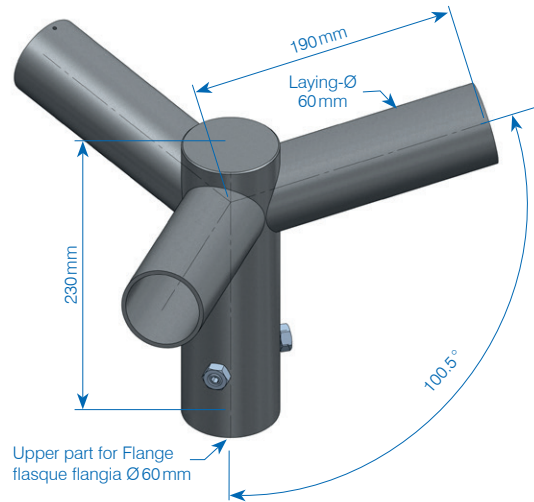
Glare/ambient brightness

TI (B1: $y=2.00$ m): 6% (ME3a max. 15)
 SR: 0.66 (ME3a min. 0.5)

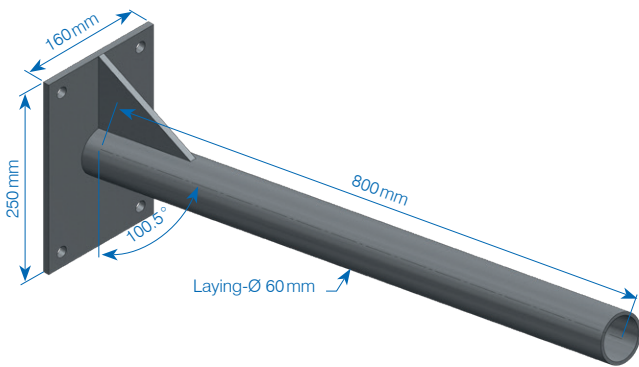




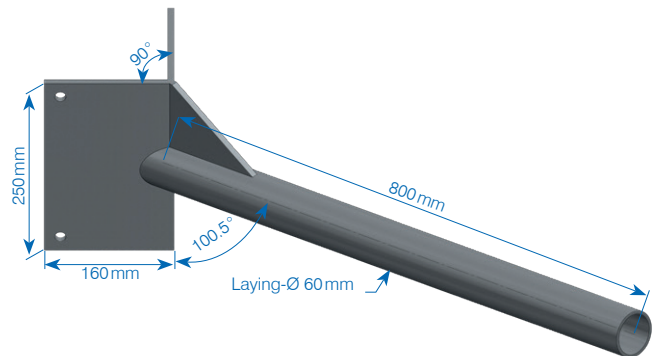
Pole adapter, 2-way boom
Upper part for Flange Ø60 mm Item no. 135699
Upper part for Ø76 mm Item no. 138136



Pole adapter, 3-way boom
Upper part for Flange Ø60 mm Item no. 135700
Upper part for Flange Ø60 mm Item no. 138137

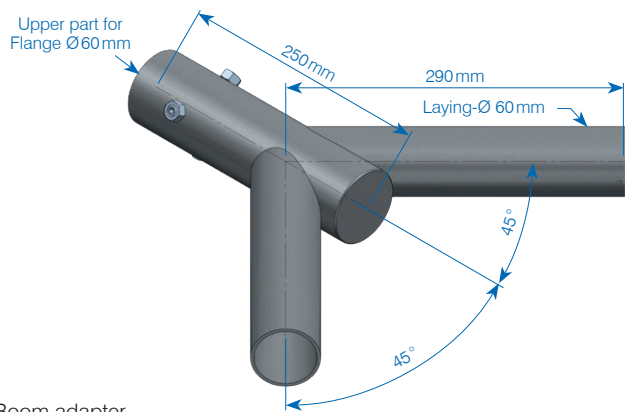


Wall boom
Item no. 136695



Corner boom
Item no. 137688

Item no.	Designation
✓ 135699	Galvanized mast adapter for 60 mm diam., with 2-way boom Flange Ø60 mm
138136	Galvanized mast adapter for Ø76 mm diam., with 2-way boom Flange Ø60 mm
✓ 135700	Galvanized mast adapter for Flange Ø60 mm diam., with 3-way boom Flange Ø60 mm
138137	Galvanized mast adapter for Ø76 mm diam., with 3-way boom Flange Ø60 mm
✓ 136695	Galvanized wall boom for 60 mm diam., boom length: 800 mm 10.5°
✓ 137688	Galvanized corner boom, for 60 mm diam., boom length: 800 mm 10.5°
✓ 137727	Galvanized boom adapter to corner boom and wall boom, flange Ø60 mm, with 3-way boom, Flange Ø60 mm
✓ 860043	Galvanized wall boom Ø76 mm to Ø60 mm



Boom adapter
Item no. 137727

We would be happy to advise you in regard to poles and candelabras.
Range and delivery conditions upon request

✓ from stock, offer subject to prior sale



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