

## PRODUCT DATASHEET

### ST8U-EM 20 W/4000 K 600 mm

SubstiTUBE U-Shape | U-shaped LED tubes for electromagnetic control gears (CCG)



#### Areas of application

- Street and city lighting
- Industry

#### Product benefits

- Quick, simple and safe replacement without rewiring
- Energy savings of up to 65 % (compared to T8 fluorescent lamp on CCG)
- Operation directly on 230 V AC mains possible
- Instant-on light, therefore ideally suitable in combination with sensor technology
- Very high resistance to switching loads
- Also suitable for operation at low temperatures

#### Product features

- Double-capped LED alternative to classic T8 U-shaped fluorescent lamps in CCG luminaires
- Uniform illumination
- Mercury-free and RoHS compliant
- High luminous efficacy: up to 137 lm/W
- Lifetime up to 50,000 h
- Type of protection: IP20



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**TECHNICAL DATA****Electrical data**

Nominal wattage	20 W
Construction wattage	20.00 W
Nominal voltage	220...240 V
Operating mode	AC, Conventional control gear (CCG)
Nominal current	93 mA
Type of current	AC
Inrush current	15.0 A
Operating frequency	50...60 Hz
Mains frequency	50...60 Hz
Max. lamp number on MCB B10 A	50
Max. lamp number on MCB B10 A - CCG without compensation	85
Max. lamp number on MCB B10 A - CCG with compensation	22
Max. lamp number on MCB B16 A	50
Max. lamp number on MCB B16 A - CCG without compensation	85
Max. lamp number on MCB B16 A - CCG with compensation	35
Total harmonic distortion	25 %
Power factor $\lambda$	> 0.90

**Photometrical data**

Luminous flux	2800 lm
Luminous efficacy	140 lm/W
Lumen main.fact.at end of nom.life time	0.70
Light color (designation)	Cool White
Color temperature	4000 K
Color rendering index Ra	≥80
Light color	840
Standard deviation of color matching	≤6 sdcn
Rated LLMF at 6,000 h	0.80

**Light technical data**

Beam angle	130 °
Warm-up time (60 %)	< 0.50 s
Starting time	< 0.5 s

Dimensions & Weight



Overall length	602.00 mm
Diameter	120 mm
Maximum diameter	120 mm
Product weight	213.00 g

Temperatures & operating conditions

Ambient temperature range	-20...+45 °C
Maximum temperature at tc test point	75 °C

Lifespan

Number of switching cycles	200000
Lumen maintenance at end of service lifetime	0.70
Rated lamp survival factor at 6,000 h	≥ 0.90

Additional product data

Base (standard designation)	2G13
Mercury content	0.0 mg
Mercury-free	Yes

Capabilities

Dimmable	No
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Certificates & Standards

Energy efficiency class	A++ <sup>1)</sup>
Energy consumption	20.00 kWh/1000h
Type of protection	IP20
Standards	CE
Photobiological safety group acc. to EN62778	RG0

1) Energy efficiency class (EEC) on a scale of A++ (highest efficiency) to E (lowest efficiency)

Country-specific categorizations

Order reference	ST8-USHP0.6M 20
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### Energy labelling regulation data acc EU 2019/2015

Light source cap-type (or other electric interface)	2G13
Length	602.00 mm
Height	120 mm
Width	120 mm

### Safety advice

- Not suitable for operation with electronic control gear.
- Operation in outdoor applications in suitable damp-proof luminaires possible according to data sheet and installation instruction.

### DOWNLOAD DATA

Documents and certificates		Document name
	Declarations of conformity	EC Declaration of Conformity SubstiTUBE U_Shape_20W
Photometric and lighting design files		Document name
	IES file (IES)	AC17990_ST8-U-Shape-0,6m-20W-840-EM
	LDT file (Eulumdat)	AC17990_ST8-U-Shape-0,6m-20W-840-EM

### LOGISTICAL DATA

Product code	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Gross weight	Volume
4058075390188	Folding box 1	622 mm x 126 mm x 32 mm	381.00 g	2.51 dm <sup>3</sup>
4058075390195	Shipping box 10	647 mm x 177 mm x 285 mm	4.29 g	32.64 dm <sup>3</sup>

The mentioned product code describes the smallest quantity unit which can be ordered. One shipping unit can contain one or more single products. When placing an order, for the quantity please enter single or multiples of a shipping unit.

### Legal advice

- When used to replace a T8 fluorescent lamp the total energy efficiency and light distribution depends on the design of the lighting system.

**DISCLAIMER**

Subject to change without notice. Errors and omission excepted. Always make sure to use the most recent release.