

# 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



## TECHNICAL DATA

### Electrical data

Nominal wattage	20 W
Construction wattage	20.00 W
Nominal voltage	220...240 V
Claimed equiv. conventional lamp power	36 W
Nominal current	97 mA
Type of current	AC
Inrush current	20 A
Operating frequency	50...60 Hz
Mains frequency	50...60 Hz
Max. lamp no. on circuit break. 10 A (B)	75
Max. lamp no. on circuit break. B10 A - CCG without compensation	75
Max. lamp no. on circuit break. B10 A - CCG with compensation	75
Max. lamp no. on circuit break. 16 A (B)	120
Max. lamp no. on circuit break. B16 A - CCG without compensation	120
Max. lamp no. on circuit break. B16 A - CCG with compensation	120
Total harmonic distortion	13 %
Power factor $\lambda$	> 0.90

### Photometrical data

Luminous flux	2750 lm
Luminous efficacy	137 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	$\geq 80$
Light color	840
Standard deviation of color matching	$\leq 6$ sdc <sub>m</sub>
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

Rated beam angle (half peak value)	130.00 °
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## Dimensions & Weight



Overall length	602.00 mm
Diameter	120 mm
Maximum diameter	120 mm
Product weight	173.00 g

## Temperatures & operating conditions

Ambient temperature range	-20...+50 °C
Maximum temperature at tc test point	73 °C

## Lifespan

Nominal lamp life time	50000 h
Number of switching cycles	200000
Lumen maintenance at end of serv	0.70
Rated lamp survival factor at 6,000	≥ 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++ 1)
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




## EQUIPMENT / ACCESSORIES

- Suitable for operation with low-loss and conventional control gears

## 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

DOWNLOAD DATA	
	Declarations of conformity EC Declaration of Conformity SubstiTUBE U_Shape_20W
	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
4058075284708	Folding box 1	33 mm x 123 mm x 615 mm	240.00 g	2.50 dm <sup>3</sup>
4058075284715	Shipping box 10	616 mm x 252 mm x 180 mm	2587.00 g	27.94 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.
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### DISCLAIMER

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