

# PRODUCT FAMILY DATASHEET

## SubstiTUBE® U-Shape

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



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### Areas of application

- Street and city lighting
- Industry

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### 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

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### 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

Product description	Nominal wattage	Construction wattage	Nominal voltage	Claimed equiv. conventional lamp power	Nominal current
ST8U-EM 8 W/4000 K 300 mm	8 W	8.00 W	220...240 V	18 W	37 mA
ST8U-EM 8 W/4000 K 300 mm	8 W	8.00 W	220...240 V	18 W	45 mA
ST8U-EM 20 W/4000 K 600 mm	20 W	20.00 W	220...240 V	36 W	97 mA
ST8U-EM 20 W/4000 K 600 mm	20 W	20.00 W	220...240 V	36 W	93 mA

Product description	Type of current	Inrush current	Operating frequency	Mains frequency	Max. lamp no. on circuit break. 10 A (B)
ST8U-EM 8 W/4000 K 300 mm	AC	15 A	50...60 Hz	50...60 Hz	130
ST8U-EM 8 W/4000 K 300 mm	AC	20 A	50...60 Hz	50...60 Hz	170
ST8U-EM 20 W/4000 K 600 mm	AC	20 A	50...60 Hz	50...60 Hz	75
ST8U-EM 20 W/4000 K 600 mm	AC	15 A	50...60 Hz	50...60 Hz	50

Product description	Max. lamp no. on circuit break. B10 A - CCG without compensation	Max. lamp no. on circuit break. B10 A - CCG with compensation	Max. lamp no. on circuit break. 16 A (B)	Max. lamp no. on circuit break. B16 A - CCG without compensation	Max. lamp no. on circuit break. B16 A - CCG with compensation
ST8U-EM 8 W/4000 K 300 mm	130	22	210	210	35
ST8U-EM 8 W/4000 K 300 mm	170	170	270	270	270
ST8U-EM 20 W/4000 K 600 mm	75	75	120	120	120
ST8U-EM 20 W/4000 K 600 mm	85	22	50	85	35

Product description	Total harmonic distortion	Power factor $\lambda$
ST8U-EM 8 W/4000 K 300 mm	12 %	> 0.90
ST8U-EM 8 W/4000 K 300 mm	12.5 %	> 0.90
ST8U-EM 20 W/4000 K 600 mm	13 %	> 0.90
ST8U-EM 20 W/4000 K 600 mm	25 %	> 0.90

### Photometrical data

Product description	Luminous flux	Luminous efficacy	Lumen main.fact.at end of nom.life time	Light color (designation)	Color temperature
ST8U-EM 8 W/4000 K 300 mm	1100 lm	137 lm/W	0.70	Cool White	4000 K
ST8U-EM 8 W/4000 K 300 mm	1100 lm	137 lm/W	0.70	Cool White	4000 K
ST8U-EM 20 W/4000 K 600 mm	2750 lm	137 lm/W	0.70	Cool White	4000 K
ST8U-EM 20 W/4000 K 600 mm	2800 lm	140 lm/W	0.70	Cool White	4000 K



Product description	Color rendering index Ra	Light color	Standard deviation of color matching	Rated LLMF at 6,000 h
ST8U-EM 8 W/4000 K 300 mm	≥80	840	≤6 sdc	0.80
ST8U-EM 8 W/4000 K 300 mm	≥80	840	≤6 sdc	0.80
ST8U-EM 20 W/4000 K 600 mm	≥80	840	≤6 sdc	0.80
ST8U-EM 20 W/4000 K 600 mm	≥80	840	≤6 sdc	0.80

### Light technical data

Product description	Beam angle	Warm-up time (60 %)	Starting time	Rated beam angle (half peak value)
ST8U-EM 8 W/4000 K 300 mm	130 °	< 0.50 s	< 0.5 s	160.00 °
ST8U-EM 8 W/4000 K 300 mm	130 °	< 0.50 s	< 0.5 s	130.00 °
ST8U-EM 20 W/4000 K 600 mm	130 °	< 0.50 s	< 0.5 s	130.00 °
ST8U-EM 20 W/4000 K 600 mm	130 °	< 0.50 s	< 0.5 s	160.00 °

### Dimensions & Weight

Product description	Overall length	Diameter	Maximum diameter	Product weight
ST8U-EM 8 W/4000 K 300 mm	305.00 mm	120 mm	120 mm	139.00 g
ST8U-EM 8 W/4000 K 300 mm	305.00 mm	120 mm	120 mm	93.00 g
ST8U-EM 20 W/4000 K 600 mm	602.00 mm	120 mm	120 mm	173.00 g
ST8U-EM 20 W/4000 K 600 mm	602.00 mm	120 mm	120 mm	213.00 g

### Temperatures & operating conditions

Product description	Ambient temperature range	Maximum temperature at tc test point
ST8U-EM 8 W/4000 K 300 mm	-20...+45 °C	75 °C
ST8U-EM 8 W/4000 K 300 mm	-20...+50 °C	73 °C
ST8U-EM 20 W/4000 K 600 mm	-20...+50 °C	73 °C
ST8U-EM 20 W/4000 K 600 mm	-20...+45 °C	75 °C

### Lifespan

Product description	Nominal lamp life time	Number of switching cycles	Lumen maintenance at end of serv	Rated lamp survival factor at 6,000
ST8U-EM 8 W/4000 K 300 mm	50000 h	200000	0.70	≥ 0.90
ST8U-EM 8 W/4000 K 300 mm	50000 h	200000	0.70	≥ 0.90
ST8U-EM 20 W/4000 K 600 mm	50000 h	200000	0.70	≥ 0.90
ST8U-EM 20 W/4000 K 600 mm	50000 h	200000	0.70	≥ 0.90

### Additional product data



Product description	Base (standard designation)	Mercury content	Mercury-free
ST8U-EM 8 W/4000 K 300 mm	2G13	0.0 mg	Yes
ST8U-EM 8 W/4000 K 300 mm	2G13	0.0 mg	Yes
ST8U-EM 20 W/4000 K 600 mm	2G13	0.0 mg	Yes
ST8U-EM 20 W/4000 K 600 mm	2G13	0.0 mg	Yes

### Capabilities

Product description	Dimmable
ST8U-EM 8 W/4000 K 300 mm	No
ST8U-EM 8 W/4000 K 300 mm	No
ST8U-EM 20 W/4000 K 600 mm	No
ST8U-EM 20 W/4000 K 600 mm	No

### Certificates & Standards

Product description	Energy efficiency class	Energy consumption	Type of protection	Standards	Photobiological safety group acc. to EN62778
ST8U-EM 8 W/4000 K 300 mm	A++ <sup>1)</sup>	8.00 kWh/1000h	IP20	CE	RG0
ST8U-EM 8 W/4000 K 300 mm	A++ <sup>1)</sup>	8.00 kWh/1000h	IP20	CE	RG0
ST8U-EM 20 W/4000 K 600 mm	A++ <sup>1)</sup>	20.00 kWh/1000h	IP20	CE	RG0
ST8U-EM 20 W/4000 K 600 mm	A++ <sup>1)</sup>	20.00 kWh/1000h	IP20	CE	RG0

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

### Energy labelling regulation data acc EU 2019/2015

Product description	Light source cap-type (or other electric interface)	Length	Height	Width
ST8U-EM 8 W/4000 K 300 mm	2G13	305.00 mm	120 mm	120 mm
ST8U-EM 8 W/4000 K 300 mm	2G13	305.00 mm	120 mm	120 mm
ST8U-EM 20 W/4000 K 600 mm	2G13	602.00 mm	120 mm	120 mm
ST8U-EM 20 W/4000 K 600 mm	2G13	602.00 mm	120 mm	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.

**APPLICATION ADVICE**

For more detailed application information and graphics please see product datasheet.









**SALES AND TECHNICAL SUPPORT**

Sales and Technical Support [www.ledvance.com](http://www.ledvance.com)

**COUNTRY SPECIFIC INFORMATION**

Product description	Product code	METEL-Code	SEG number	STK number	UK Org
ST8U-EM 8 W/4000 K 300 mm	4058075390164	-	8295340	4930370	-
ST8U-EM 8 W/4000 K 300 mm	4058075284685	-	8294826	4731190	-
ST8U-EM 20 W/4000 K 600 mm	4058075284708	-	8294827	4731191	-
ST8U-EM 20 W/4000 K 600 mm	4058075390188	-	8295341	4930371	-

**DOWNLOAD DATA**

DOWNLOAD DATA	
	Declarations of conformity EC Declaration of Conformity Substi TUBE U_Shape_8W
	IES file (IES) AC17989_ST8-U-Shape-0,3m-8W-840-EM
	LDT file (Eulumdat) AC17989_ST8-U-Shape-0,3m-8W-840-EM
	Declarations of conformity EC Declaration of Conformity Substi TUBE U_Shape_8W
	IES file (IES) AC17989_ST8-U-Shape-0,3m-8W-840-EM
	LDT file (Eulumdat) AC17989_ST8-U-Shape-0,3m-8W-840-EM
	Declarations of conformity EC Declaration of Conformity SubstiTUBE U_Shape_20W
	IES file (IES) AC17990_ST8-U-Shape-0,6m-20W-840-EM



**DOWNLOAD DATA**



LDT file (Eulumdat)  
AC17990\_ST8-U-Shape-0,6m-20W-840-EM



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
4058075390164	Folding box 1	322 mm x 126 mm x 32 mm	232.00 g	1.30 dm <sup>3</sup>
4058075284685	Folding box 1	33 mm x 124 mm x 325 mm	130.00 g	1.33 dm <sup>3</sup>
4058075284708	Folding box 1	33 mm x 123 mm x 615 mm	240.00 g	2.50 dm <sup>3</sup>
4058075390188	Folding box 1	622 mm x 126 mm x 32 mm	381.00 g	2.51 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.

