OSRAM SubstiTUBE Eco EM T8

ST8E-0.6M
ST8E-1.2M
ST8E-1.5M

Technical Features

- T8 LED tube made of glass with G13 base
- Weight: <500g
- Replace for fluorescent T8 tube
- Up to 15.000 h lifetime (L70B50)
- CCT: 3000K, 4000K, 6500K
- Length: 2FT (0.6m) / 4FT(1.2m) / 5FT(1.5m)

Benefit:

Quick, simple and safe replacement to fluorescent T8 without rewiring

Excellent color fidelity for a true lighting effect (Ra≥80)

SDCM ≤6, provides excellent light quality

Lower maintenance cost thanks to longer lifetime than traditional Fluorescent.

Quick, simple and safe replacement. Correct operation temperature --20° … +45°C

Application:

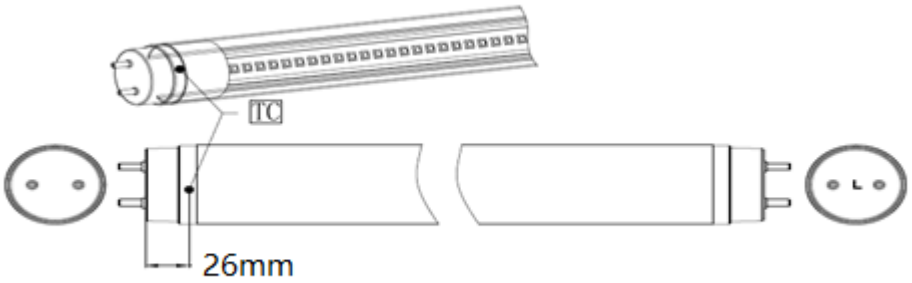
- Train Station
- Underground subway
- Supermarket, retail store
- Parking lot
- Office

Electrical and photometric data (rated value)

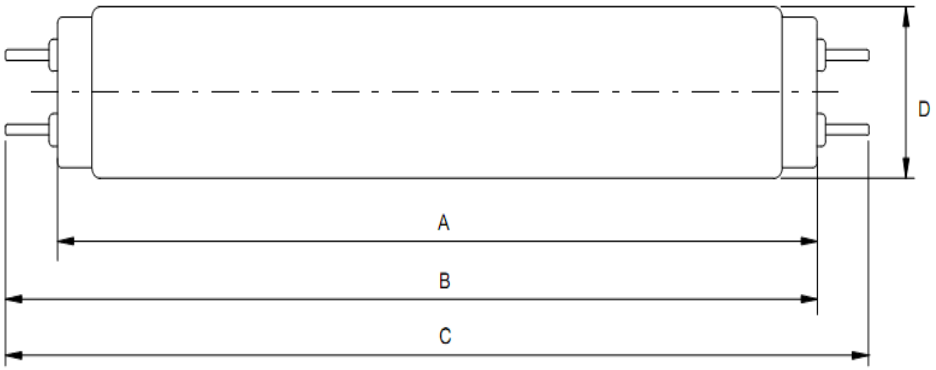
	Voltage [V]	Frequency [Hz]	Power (100%) [W]	Lumen Flux(100%) [lm]	CCT [K]	PF	CRI (Ra)	Beam Angle (C0/180)
ST8E-0.6M 9W/830	220-240	50/60	9	855	3000	>0.5	≥80	>160°
ST8E-0.6M 9W/840	220-240	50/60	9	900	4000	>0.5	≥80	>160°
ST8E-0.6M 9W/865	220-240	50/60	9	900	6500	>0.5	≥80	>160°
ST8E-1.2M 18W/830	220-240	50/60	18	1710	3000	>0.5	≥80	>160°
ST8E-1.2M 18W/840	220-240	50/60	18	1800	4000	>0.5	≥80	>160°
ST8E-1.2M 18W/865	220-240	50/60	18	1800	6500	>0.5	≥80	>160°
ST8E-1.5M 20W/830	220-240	50/60	18	1900	3000	>0.5	≥80	>160°
ST8E-1.5M 20W/840	220-240	50/60	20	2000	4000	>0.5	≥80	>160°
ST8E-1.5M 20W/865	220-240	50/60	20	2000	6500	>0.5	≥80	>160°

1. All technical parameters apply to the entire lamp. Because of the complex manufacturing process for light-emitting diodes (LEDs), the specified typical values for LED technical parameters represent only purely statistical variables. They do not necessarily correspond to the actual technical parameters for each individual product which can deviate from the typical value. For parameter of Lumen and Watt, production control tolerance with ±10% in delivery.
2. L70B50 is the average operating life of the LED Lamp during which the luminous flux is greater than or equal to 70% of the initial luminous flux, for 50% of the population. The lifetime is estimated at room temperature (25deg C), free air burning, base up position.

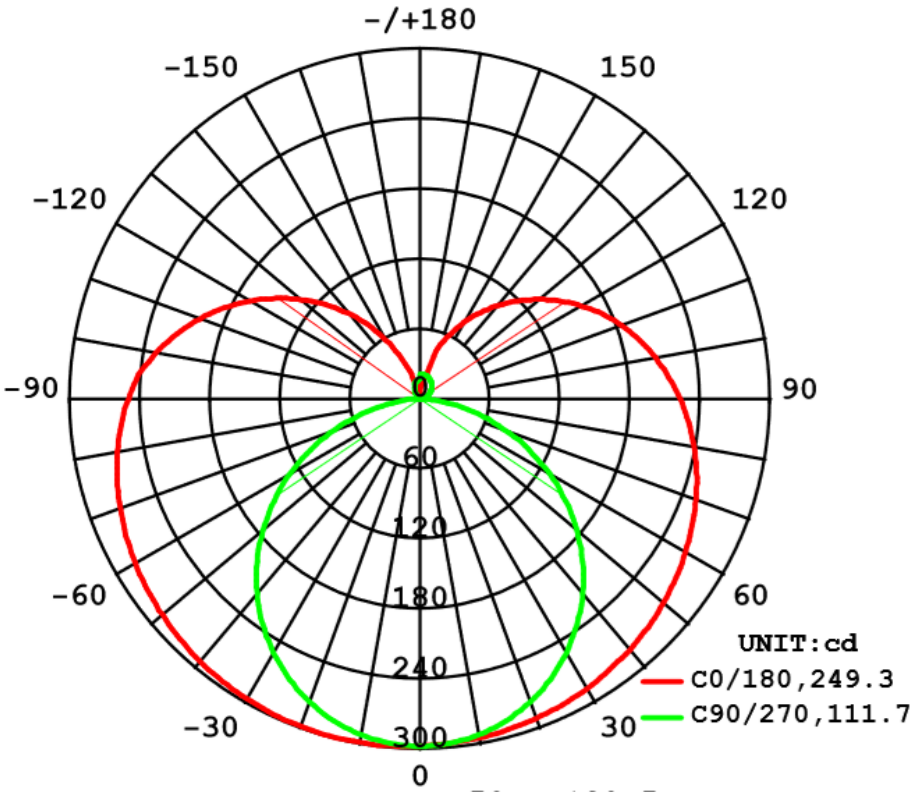
Minimum / Maximum ratings	Ambient temperature Ta	Maximum temperature Tc	Storage temperature Ts [C°]
ST8E-0.6M 9W	-20~45°C	<75 °C	-20°… 80°C
ST8E-1.2M 18W	-20~45°C	<75 °C	-20°… 80°C
ST8E-1.5M 20W	-20~45°C	<75 °C	-20°… 80°C



Models	A (mm)	B (mm)	C (mm)	D (mm)	Net Weight (g)
ST8E-0.6M 9W	≤589.8	≤596.9	≤604	≤28	<500
ST8E-1.2M 18W	≤1199.4	≤1206.5	≤1213.6	≤28	<500
ST8E-1.5M 20W	≤1500	≤1507.1	≤1514.2	≤28	<500



Light Distribution

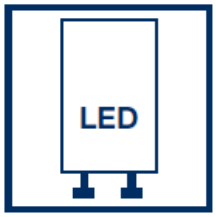


Safety and application notes

- The SubstiTUBE Eco EM T8 must be handled with care. Do not operate product in a damaged condition.
- When operating with double side input wiring, SubstiTUBE® Starter has to be inserted to replace the conventional fluorescent lamp starter. If the conventional starter is not replaced, the SubstiTUBE Eco EM T8 will start blinking and be damaged!
- Do not use SubstiTUBE Eco EM T8 in luminaires which do not have any conventional starter or whereby the conventional starter cannot be replaced. Otherwise, rewiring is needed.
- Not suitable for luminaires with serial lamp connection i.e. more than one tube at one magnetic ballast.
- The SubstiTUBE Eco EM T8 emits light at a limited angle, unlike conventional fluorescent tubes in 360° omni-direction.
- Due to the light distribution characteristic of the SubstiTUBE Eco EM T8 the resulting luminaires light characteristic is likely to change. It is not guaranteed that e.g. standards for lighting at working places will be complied with after replacement. A photometric check of the installation is highly recommended.
- The effective energy savings depend on the efficiency of the luminaire setup to be replaced and should be considered individually in each case. Particularly magnetic ballast losses are reduced to ohmic losses and are normally only about 1W.
- The SubstiTUBE Eco EM T8 is protected according to IP20. Applications with external risk of moisture and dust can be served with an adequately protected luminaire.
- SubstiTUBE Eco EM T8 products differ in their diameters and geometries from fluorescent lamps. Their use in open batten luminaires with gaskets is possible if no excessive force is expended during the fixing. Obtaining the necessary IP protection in open batten luminaires with gaskets cannot be ensured.
- SubstiTUBE Eco EM T8 can be driven directly online voltage. In order to grant a safe operation mode please refer to the installation instructions for further information.
- Photobiological Safety of lamps and lamp systems according to IEC 62471. Risk Group: Exempt
- This lamp may not be suitable for use in all applications where a traditional fluorescent lamp has been used. The temperature range of this lamp is more restricted. In cases of doubt regarding the suitability of the application the manufacturer of this lamp should be consulted.
- This lamp is not suitable to be used in emergency luminaires designed for double-capped fluorescent lamp(s).

Dimming not allowed

Lamp suitable for 50 Hz or 60 Hz operation



LED replacement starter

Lamp to be used in dry conditions or in a luminaire that provides protection

Lamp not suitable for emergency operation

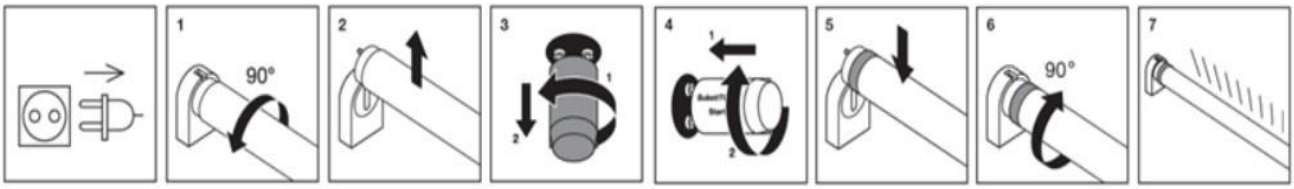
Installation Guide

1) Retrofitting a CCG luminaire accord. to EN 62776

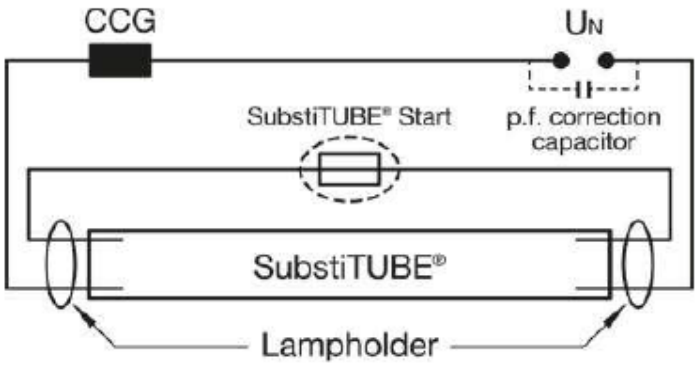
Replacing fluorescent T8 tube and installed starter by SubstiTUBE Eco EM T8 and SubstiTUBE® Starter

Below is an example for typical lamp holder types

- ✓ Please ensure that the voltage supply is disconnected.
- ✓ Carefully remove the fluorescent tube and conventional starter according to the lamp holder type
- ✓ Insert SubstiTUBE Eco EM T8 and SubstiTUBE® Starter properly.



- ✓ Turn the conventional lamp 90° and take it out of the socket.
- ✓ Remove the conventional starter by turning it.
- ✓ Insert and latch the SubstiTUBE® Starter into starter socket.
- ✓ Insert SubstiTUBE Eco EM T8 into socket and locate into position by turning 90°.
- ✓ Check light the emission direction



Circuit diagram of a retrofitted CCG luminaire

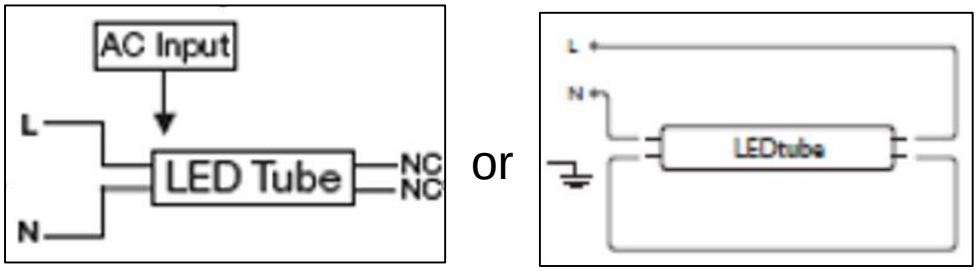
NOTE: If a luminaire contains a power factor correction capacitor, it is recommended to remove it from the circuit to maintain power factor >0.9. This should only be carried out by a licensed electrician.

Installation Guide

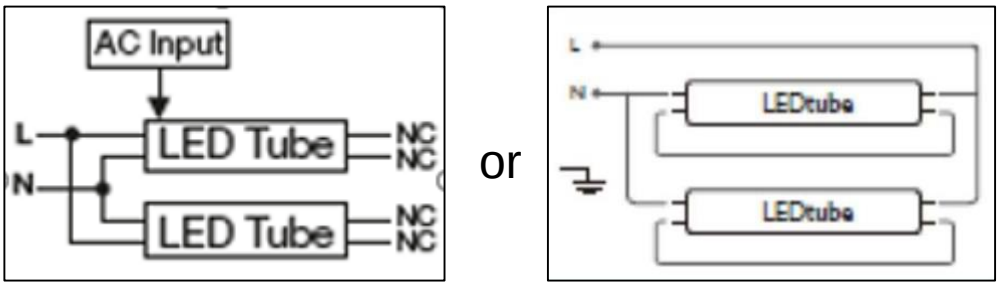
2) Installation directly online voltage

SubstiTUBE Eco EM T8 may also be driven directly online voltage. **Please check the L/N markings on the LED tube**. In order to grant a safe operation mode please refer to the installation instructions for further information. Installation must be done by licensed electricians.

2.1) Two different wiring configurations for single tube



2.2) Two different wiring configurations for equal or more than two tubes.



3) Installation of an ECG luminaire with EM tube

WARNING: SubstiTUBE Eco EM T8 is not compatible for use with electronic control gear (ECG). If there is an existing ECG, bypass the ballast and re-wire* according to “2) Installation directly online voltage” and diagrams above.

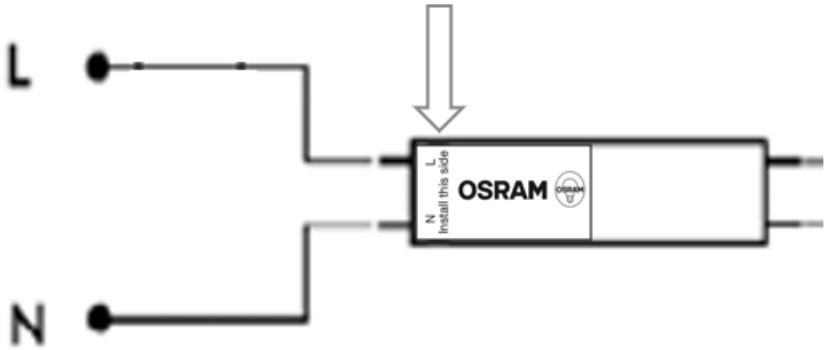
***WARNING:** Modifications to the wiring of an existing luminaire must be carried out by qualified personnel only. Any modifications made to the original luminaire will alter the safety aspects of the original luminaire; hence compliance certification of the original luminaire will no longer be applicable to the modified luminaire.

Installation Guide

CAUTIONS: Installation Instructions for SubstiTUBE Eco EM T8

Connect both line (L) and neutral (N) power to one lampholder as below diagram.

Tube side with the marking “AC input” around the cap should be facing the lampholder with mains connection otherwise the lamps will not be functionally ON, and AC line in might short circuit.



Ordering Guide

Product	EAN-10*	EAN-40**	S-Unit***
ST8E-0.6M 9W/830 230V EM 25X1 G10APMOSRAM	4058075429420	4058075429437	25X1
ST8E-0.6M 9W/840 230V EM 25X1 G10APMOSRAM	4058075429444	4058075429451	25X1
ST8E-0.6M 9W/865 230V EM 25X1 G10APMOSRAM	4058075429468	4058075429475	25X1
ST8E-1.2M 18W/830 230V EM 25X1G10APMOSRAM	4058075429482	4058075429499	25X1
ST8E-1.2M 18W/840 230V EM 25X1G10APMOSRAM	4058075429505	4058075429512	25X1
ST8E-1.2M 18W/865 230V EM 25X1G10APMOSRAM	4058075429529	4058075429536	25X1
ST8E-1.5M 20W/830 230V EM 25X1G10APMOSRAM	4058075429543	4058075429550	25X1
ST8E-1.5M 20W/840 230V EM 25X1G10APMOSRAM	4058075437340	4058075437357	25X1
ST8E-1.5M 20W/865 230V EM 25X1G10APMOSRAM	4058075437364	4058075437371	25X1

* EAN-10: ordering code for single unit
** EAN-40: ordering code for shipping unit
*** S-Unit: Lamps per shipping unit

Sales and Technical Support

Sales and technical support is given by the local LEDVANCE subsidiaries.
On our worldwide homepage all LEDVANCE subsidiaries are listed with complete address and phone numbers.

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