

OLUX® WATER-PROOF

Data Sheet



OLUX WATER-PROOF is a functional water-, dust- and impact-proof luminaire designed with the concept of flexibility, sustainability and maintainability. The addition of anti-UV ingredient into the excellent impact-resist poly carbonate material makes it ideal for both outdoor (roofed) and indoor lightings. It can be surface mounted (ceiling-mount and wall-mount) as well as suspension mounted. The excellent thermal management ensures reasonable ECG temperature for optimal operation.

BENEFITS

- **Available options**
Single and twin T5 lamps of 14W, 28W, 35W.
Single and twin T8 lamps of 18W, 36W, 58W.
- **Full protection**
IP65 ensures jet-proof features and IK08 promises good resistance to impact. Vibration test and 650°C glow-wire test passed.
- **Anti-UV**
Poly-carbonate cover with anti-UV additives, long-lasting for outdoor applications.
- **Optimum optical design**
Excellent light distribution, light output and performance.
- **Environmental friendly**
With high efficiency Electronic Control Gear.
Contains no hazardous materials.

APPLICATIONS

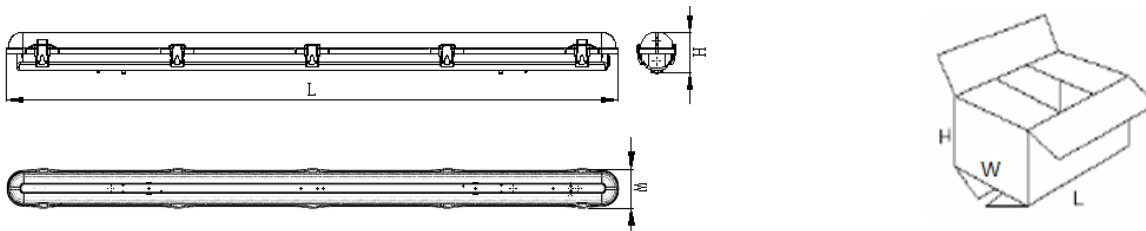
- **Roofed outdoor lighting**
Station, garden, walkway, overpass.
- **Under-ground lighting**
Underpass, pedestrian/bicycle tunnel, car parks.
- **Industrial lighting**
For various dusty/wet/dirty environments, can withstand normal corrosion.

SPECIFICATION

OLUX Water-proof		1X14W	2X14W	1X28W	2X28W	1X35W	2X35W	1X18W	2X18W	1X36W	2X36W	1X58W	2X58W
Light source*	Type	T5 Fluorescent Lamp, G5						T8 Fluorescent Lamp, G13					
	CCT	3000K, 4000K, 6500K											
	CRI	>80											
Electrical	Rated power	14W	28W	28W	56W	35W	70W	18W	36W	36W	72W	58W	116W
	Input	220-240VAC 50/60Hz											
	Power factor	0.98											
	ESD	Contact ±4kV and Air ±8kV											
Mechanical	Mounting	Surface-mount and suspension-mount											
	Maintenance	both ECG & lamp can be replaced independently											
	Ambient	-10 °C ... +50°C (Ta in free air)											
	IP/IK	IP65/IK08											
	Class	Class I luminaire											
	Cover	Anti-UV PC											
	Body material	PC											
Standard Compliance	Standard	IEC 60598-1; IEC 60598-2-1; CISPR 15; IEC 61347-1; IEC 61547; IEC 61000-3-2; IEC 61000-3-3; IEC 60695;											
	Flammability	IEC 60695											
	IK code	IEC 62262											
	Conformity	CE, CCC, CB											
	Environment	RoHS											

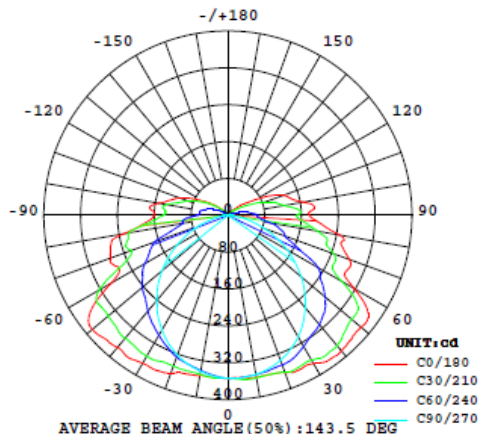
*sold without lamps, actual light source performance can be varied due to lamps used.

Dimension and weight

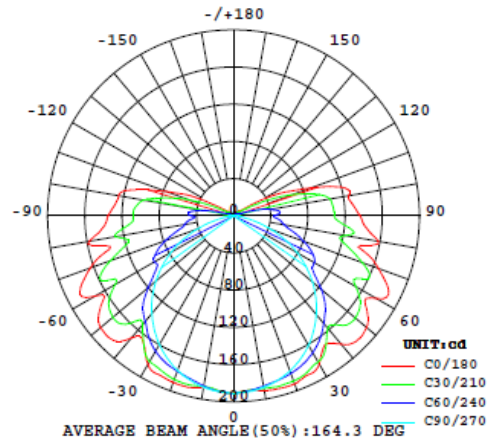


OLUX WATER-PROOF	Luminaire dimension (L/W/H, mm)	Bracket distance (X, mm)	Net weight (kg)	EAN10 dimension (L/W/H, mm)	EAN40 dimension (L/W/H, mm)	EAN40 quantity
1X14W	615X84X80	350	0.62	623X82X65	644X265X294	12
2X14W	615X113X80	350	0.82	623X109X65	644X236X360	10
1X28W	1215X84X80	740	1.1	1222X82X65	1241X265X294	12
2X28W	1215X113X80	740	1.46	1222X109X65	1241X236X294	8
1X35W	1515X84X80	920	1.4	1523X82X65	1544X265X228	9
2X35W	1515X113X80	920	1.85	1523X109X65	1544X236X294	8
1X18W	651X96X92	390	0.85	658X94X70	679X301X314	12
2X18W	651X131X89	390	1.04	658X132X70	679X282X385	10
1X36W	1260X96X92	860	1.44	1268X94X70	1289X206X314	8
2X36W	1260X131X89	860	1.77	1268X132X70	1289X282X243	6
1X58W	1560X96X92	970	1.78	1568X94X70	1589X206X314	8
2X58W	1560X131X89	1160	2.63	1568X132X70	1589X282X243	6

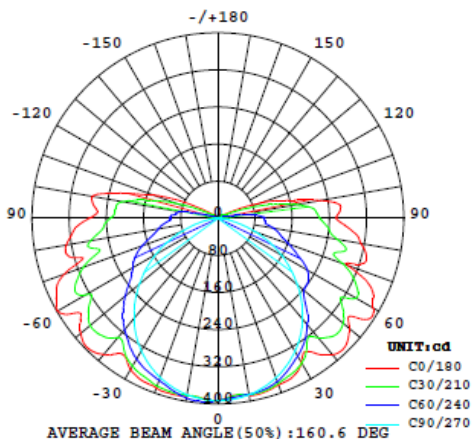
PHOTOMETRICS



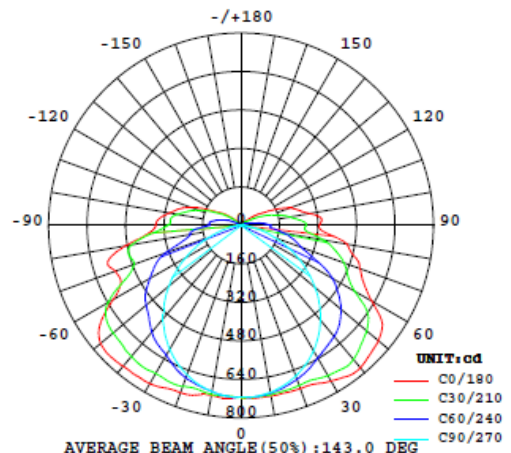
OLUX Water-proof 1X14W



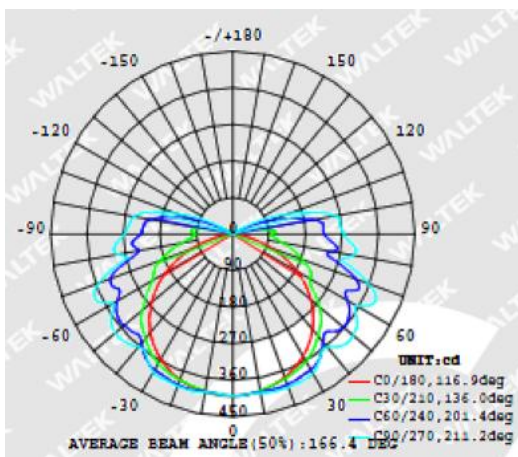
OLUX Water-proof 2X14W



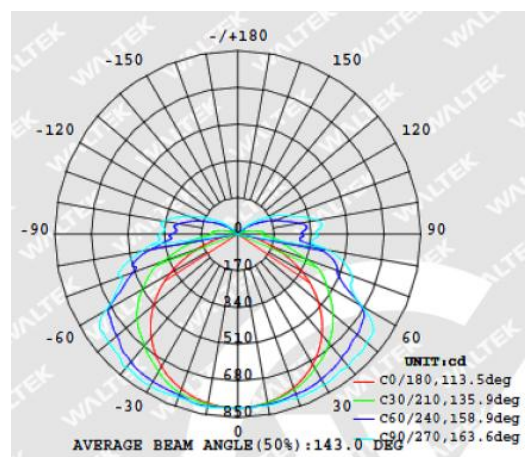
OLUX Water-proof 1X28W



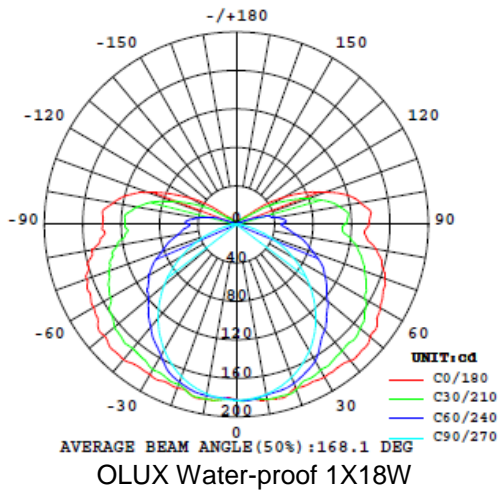
OLUX Water-proof 2X28W



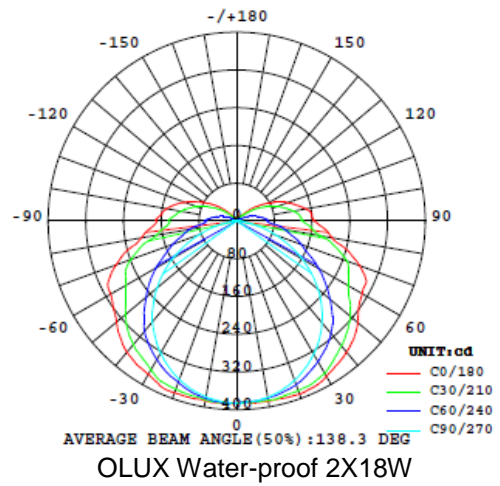
OLUX Water-proof 1X35W



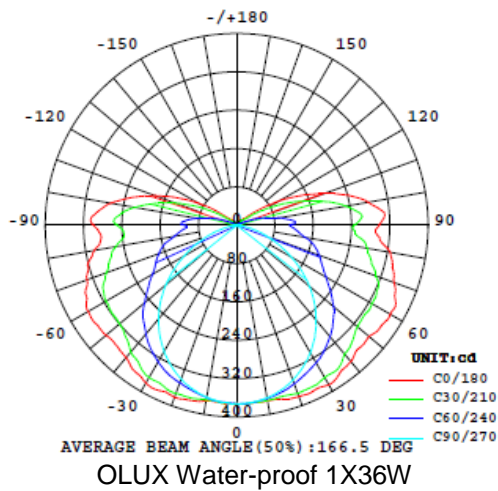
OLUX Water-proof 2X35W



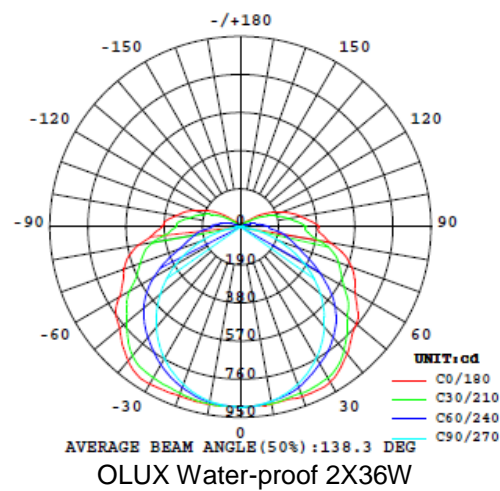
OSLUX Water-proof 1X18W



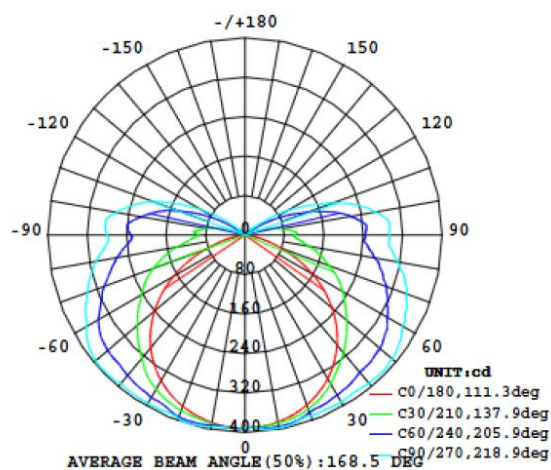
OSLUX Water-proof 2X18W



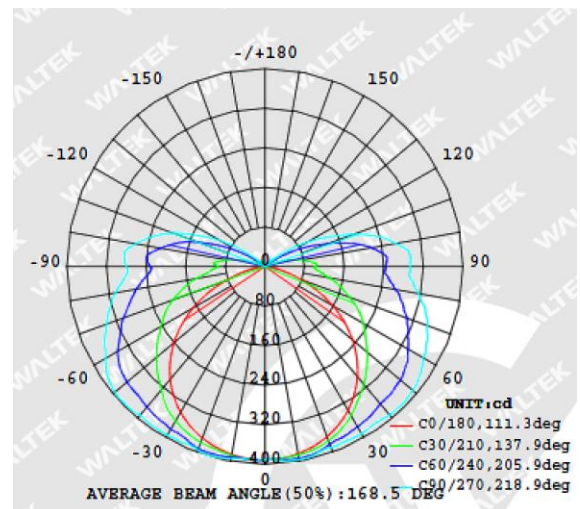
OSLUX Water-proof 1X36W



OSLUX Water-proof 2X36W



OSLUX Water-proof 1X58W



OSLUX Water-proof 2X58W

Logistic Info

APAC version (CB, CE)

Item	Short Text	IC	EAN10	EAN40
1	OLUX WATER-PROOF 1X14W 12X1 OSRAM	AA578160055	4052899027367	4052899027374
2	OLUX WATER-PROOF 2X14W 10X1 OSRAM	AA578170055	4052899027381	4052899027398
3	OLUX WATER-PROOF 1X28W 12X1 OSRAM	AA578180055	4052899027404	4052899027411
4	OLUX WATER-PROOF 2X28W 8X1 OSRAM	AA578190055	4052899027428	4052899027435
5	OLUX WATER-PROOF 1X35W 9X1 OSRAM	AA578200055	4052899027442	4052899027459
6	OLUX WATER-PROOF 2X35W 8X1 OSRAM	AA578210055	4052899027466	4052899027473
7	OLUX WATER-PROOF 1X18W 12X1 OSRAM	AA578280055	4052899027602	4052899027619
8	OLUX WATER-PROOF 2X18W 10X1 OSRAM	AA578290055	4052899027626	4052899027633
9	OLUX WATER-PROOF 1X36W 8X1 OSRAM	AA578300055	4052899027640	4052899027657
10	OLUX WATER-PROOF 2X36W 6X1 OSRAM	AA578310055	4052899027664	4052899027671
11	OLUX WATER-PROOF 1X58W 8X1 OSRAM	AA578320055	4052899027688	4052899027695
12	OLUX WATER-PROOF 2X58W 6X1 OSRAM	AA578330055	4052899027701	4052899027718

OCN version (CCC, CE)

Item	Short Text	IC	EAN10	EAN40
13	OLUX WATER-PROOF 1X14W 12X1 CN OSRAM	AA578100055	4052899027244	4052899027251
14	OLUX WATER-PROOF 2X14W 10X1 CN OSRAM	AA578110055	4052899027268	4052899027275
15	OLUX WATER-PROOF 1X28W 12X1 CN OSRAM	AA578120055	4052899027282	4052899027299
16	OLUX WATER-PROOF 2X28W 8X1 CN OSRAM	AA578130055	4052899027305	4052899027312
17	OLUX WATER-PROOF 1X35W 9X1 CN OSRAM	AA578140055	4052899027329	4052899027336
18	OLUX WATER-PROOF 2X35W 8X1 CN OSRAM	AA578150055	4052899027343	4052899027350
19	OLUX WATER-PROOF 1X18W 12X1 CN OSRAM	AA578220055	4052899027480	4052899027497
20	OLUX WATER-PROOF 2X18W 10X1 CN OSRAM	AA578230055	4052899027503	4052899027510
21	OLUX WATER-PROOF 1X36W 8X1 CN OSRAM	AA578240055	4052899027527	4052899027534
22	OLUX WATER-PROOF 2X36W 6X1 CN OSRAM	AA578250055	4052899027541	4052899027558
23	OLUX WATER-PROOF 1X58W 8X1 CN OSRAM	AA578260055	4052899027565	4052899027572
24	OLUX WATER-PROOF 2X58W 6X1 CN OSRAM	AA578270055	4052899027589	4052899027596

SALES & TECHNICAL SUPPORT

OSRAM Asia Pacific

30th Floor, China Resource Building,
26 Harbour Road, Wanchai, Hong Kong
+852 3652 5678
www.osram.com

Sales and technical support is given by the local OSRAM subsidiaries. Complete subsidiaries listing is available at OSRAM homepage.



LEDVANCE

LEDVANCE.COM



Advanced Tube

Better performance
More energy saving
ADVANCE WITH US!

Product Feature

- Advanced specification with high product quality and performance
- Single end design, comply with IEC safety standard
- 1:1 retrofit without rewiring. A simple and easy solution to upgrade to LED technology
- Up to 50,000 h lifetime, up to 50% of energy saving comparing to traditional fluorescence

Light is **OSRAM**

SubstiTUBE® Advanced EM Tube Technical Datasheet



Technical Operation Data

	Lumen flux [lm]	Power [W]	Voltage [V]	CCT [K]	Average Beam angle [°]	SDCM	Ra	Lifetime [h]
ST8A-0.6M 9W/865	1000	9	220-240	6500	>160	≤5	>83	50,000
ST8A-0.6M 9W/840	1000	9	220-240	4000	>160	≤5	>83	50,000
ST8A-1.2M 18W/865	2100	18	220-240	6500	>160	≤5	>83	50,000
ST8A-1.2M 18W/840	2100	18	220-240	4000	>160	≤5	>83	50,000
ST8A-1.5M 21W/865	2400	21	220-240	6500	>160	≤5	>83	50,000
ST8A-1.5M 21W/840	2400	21	220-240	4000	>160	≤5	>83	50,000
ST8A-1.2M 16W/865 HE	2200	16	220-240	6500	>160	≤5	>83	50,000
ST8A-1.2M 16W/840 HE	2200	16	220-240	4000	>160	≤5	>83	50,000
ST8A-1.2M 22W/865 HO	2600	22	220-240	6500	>160	≤5	>83	50,000
ST8A-1.2M 22W/840 HO	2600	22	220-240	4000	>160	≤5	>83	50,000

Technical Features

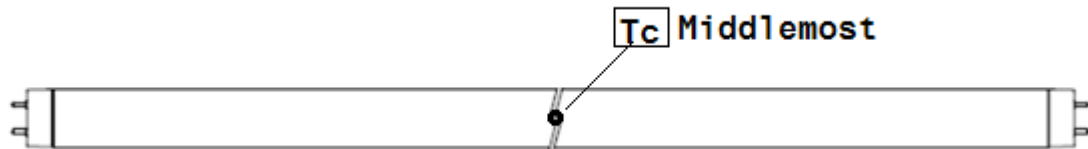
- LED lamp in T8 shape with G13 socket
- Glass body with polycarbonate end-cap
- 220V~240V, 50/60Hz input, direct retrofit for CCG luminaries
- Two CCT spec. 6500K, 4000K, Color Rendering Index (Ra)>83
- PF>0.95
- Total Harmonic Distortion <20%
- High color homogeneity, SDCM≤5
- Up to 50,000h lifetime (L70B50)
- Instant 100% light without flickering
- Not for operation with ECG, not dimmable
- RoHS-conformity, no mercury

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. The average lifetime of LED lamps is defined as the number of hours when the light output of 50% of a large group of identical lamps goes below 70% of its initial luminous flux (L70B50, IEC62612). The lifetime is estimated at room temperature (25°C), free air burning, base up burning position and at rated voltage.



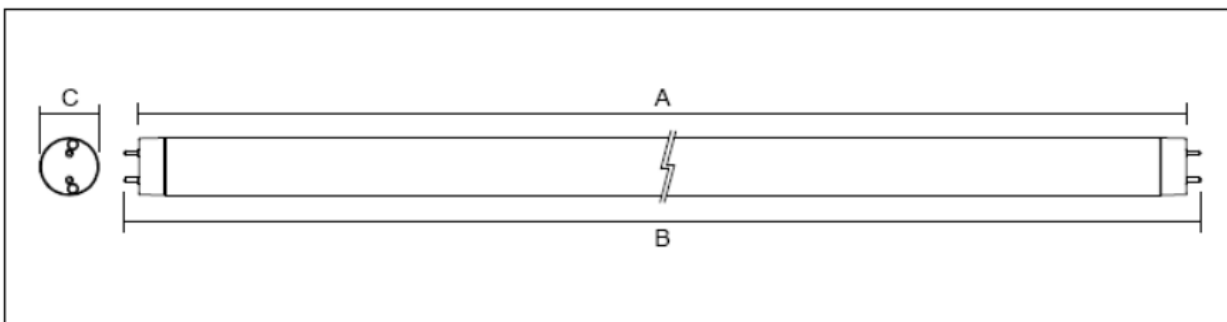
Minimum/Maximum rating

Models	Ambient temp. T_a	Storage temp. T_s	Maximum temp. T_c
ST8A-0.6M 9W	-20 ... 45° C	-20° ... 80° C	<75° C
ST8A-1.2M 18W	-20 ... 45° C	-20° ... 80° C	<75° C
ST8A-1.5M 21W	-20 ... 45° C	-20° ... 80° C	<75° C
ST8A-1.2M 16W HE	-20 ... 45° C	-20° ... 80° C	<75° C
ST8A-1.2M 22W HO	-20 ... 45° C	-20° ... 80° C	<75° C



Mechanical Specifications

Models	A	B	C	Net weight
ST8A-0.6M 9W	589±1mm	603±1mm	28mm	104g
ST8A-1.2M 18W	1198±1m	1212±1mm	28mm	200g
ST8A-1.5M 21W	1499±1mm	1513±1mm	28mm	239g
ST8A-1.2M 16W HE	1198±1m	1212±1mm	28mm	200g
ST8A-1.2M 22W HO	1198±1m	1212±1mm	28mm	200g

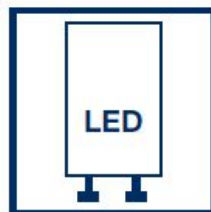


Safety and application notes

- The SubstiTUBE® Tube must be handled with care, and do not operate the product that in a damaged condition.
- When operating with CCG (magnetic ballast), SubstiTUBE® Starter has to be inserted to replace the conventional fluorescent lamp starter. If the conventional starter is not replaced, the SubstiTUBE® Tube will start blinking and be damaged!
- Do not use SubstiTUBE® Tube 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® Tube emits light at limited angle, unlike conventional fluorescent tube in 360°Omni direction.
- Due to the light distribution characteristic of the SubstiTUBE® Tube 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® Tube is protected according to IP20. Applications with external risk of moisture and dust can be served with an adequately protected luminaire.
- SubstiTUBE® 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® Tube may also be driven directly on line 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



Dimming not allowed

Lamp suitable for
50 Hz or 60 Hz
operationLED replacement
starterLamp to be used in
dry conditions or
in a luminaire that
provides protectionLamp not suitable for
emergency operation

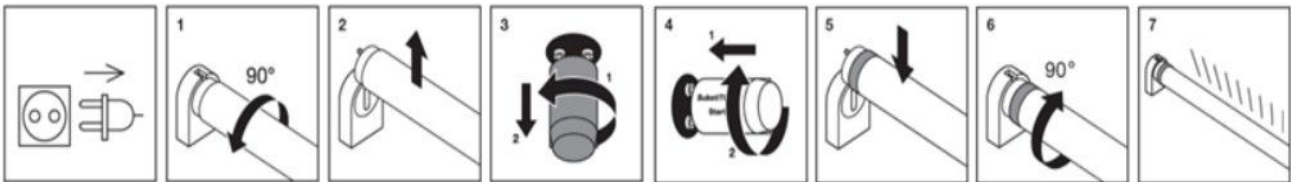
Installation Guide

1) Retrofitting a CCG luminaire accord. to EN 62776

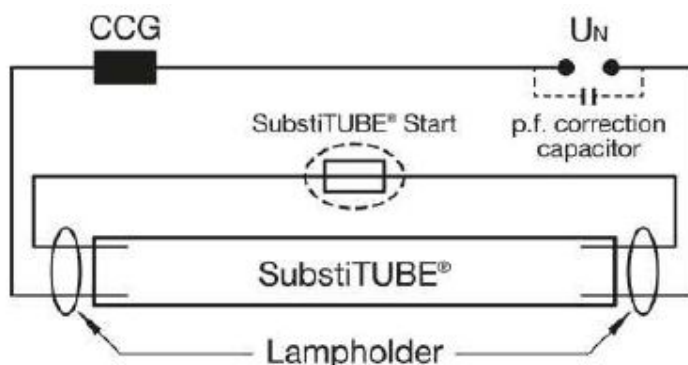
Replacing fluorescent T8-tube and installed starter by SubstiTUBE® Advanced EM tube and SubstiTUBE® Starter

Below 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® Advanced Tube 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® Advanced EM tube into socket and locate into position by turning 90°.
- Check light .emission direction



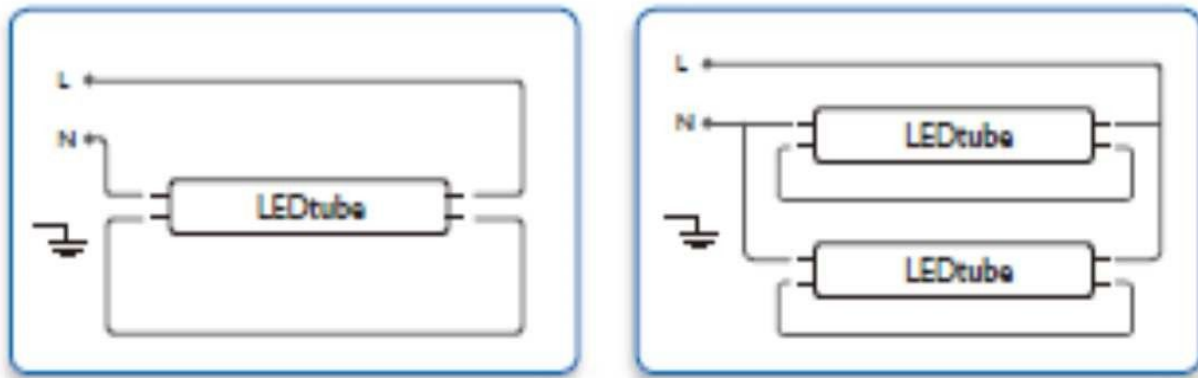
Circuit diagram of a retrofitted CCG luminaire

Installation Guide

2) Installation directly on line voltage

SubstiTUBE® Advanced EM Tube may also be driven directly on line 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 qualified Electricians and all security described should be strictly followed.

Diagram show on below is the reference rewiring for one lamp and repeat same wiring for multiple tubes



3) Installation of an ECG luminaire with EM tube

SubstiTUBE® Advanced EM is not for use with ECG (electronic control gear). Rewiring of the luminaire is necessary for replacing fluorescent tube by SubstiTUBE® in ECG luminaires. Installation must be done by qualified Electricians and all security described should be strictly followed.

Ordering Guide

Product	EAN-10*	EAN-40**	S-Unit***
ST8A-0.6M 9W/865 230V EM 25X1 G7APMOSRAM	4058075034174	4058075034181	25X1
ST8A-0.6M 9W/840 230V EM 25X1 G7APMOSRAM	4058075034198	4058075034204	25X1
ST8A-1.2M 18W/865 230V EM 25X1 G7APMOSRAM	4058075034211	4058075034228	25X1
ST8A-1.2M 18W/840 230V EM 25X1 G7APMOSRAM	4058075034235	4058075034242	25X1
ST8A-1.5M 21W/865 230V EM 25X1 G7APMOSRAM	4058075034259	4058075034266	25X1
ST8A-1.5M 21W/840 230V EM 25X1 G7APMOSRAM	4058075034273	4058075034280	25X1
ST8A-1.2M 16W/865 220VEM HE 25X1 G7OSRAM	4058075034297	4058075034303	25X1
ST8A-1.2M 16W/840 230VEM HE 25X1 G7OSRAM	4058075034310	4058075034327	25X1
ST8A-1.2M 22W/865 230VEM HO 25X1 G7OSRAM	4058075034334	4058075034341	25X1
ST8A-1.2M 22W/840 230VEM HO 25X1 G7OSRAM	4058075034358	4058075034365	25X1

* ENA-10: ordering code for single unit

** ENA-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.

WWW.ledvance.com

WWW.osram-lamps.com/substitube

LEDVANCE GmbH

Head Office:

Parkring 33, 85748
Garching/Munich
Germany

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not be informed
Please contact LEDVANCE Lighting for
detailed information