



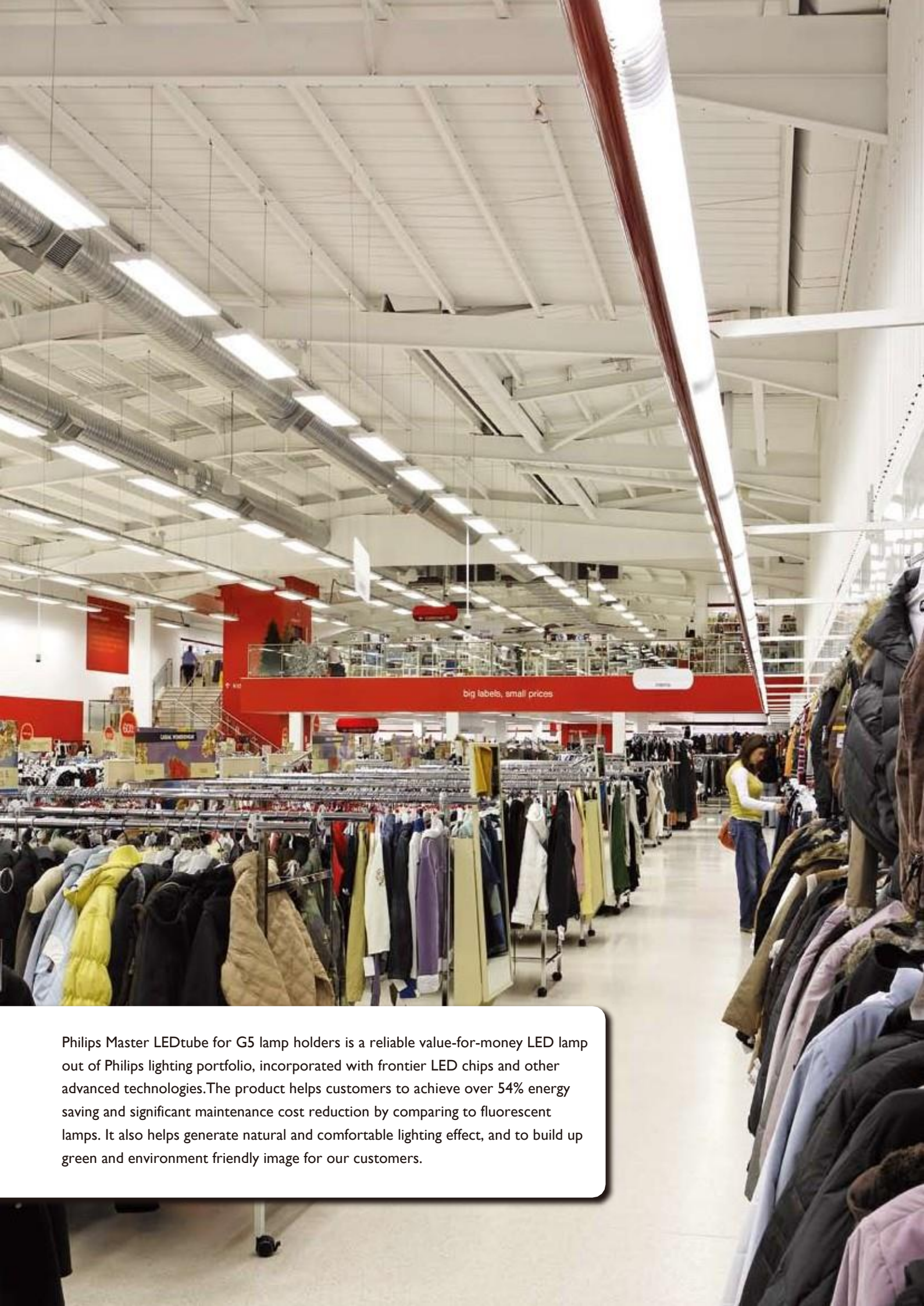
Master LEDtube  
for G5 Lamp Holders



**PHILIPS**







Philips Master LEDtube for G5 lamp holders is a reliable value-for-money LED lamp out of Philips lighting portfolio, incorporated with frontier LED chips and other advanced technologies. The product helps customers to achieve over 54% energy saving and significant maintenance cost reduction by comparing to fluorescent lamps. It also helps generate natural and comfortable lighting effect, and to build up green and environment friendly image for our customers.

## Product Features

### Maintain high performance

- Reliable operation between -20 °C to 45 °C ambient temperature
- Trustable claimed lifetime
- 50,000 switching cycles

### Easy to experience

- CRI 83
- Instant on, no flicker or buzz
- Advanced optical design ensures a uniform light output and superior optical efficiency

### Energy Efficient

- Energy savings over 54%\*

\* Based on comparison between 13W LEDtube (system 14.5W) and Philips T5 fluorescent lamps (30-32W system power when working with electronic Ballasts)

### Safe and forget

- Protection circuit inside ensuring people's safety in case of mis-use, complying with IEC safety requirements
- Pass 4KV high-pot test, insulation & safety guaranteed
- Pass 1KV surge test (vs. IEC standard 500V), avoiding the damage caused by input voltage fluctuation and lightning strike
- 100% fit into existing T5 luminaires with rotating end caps to perfectly direct the light

### Environmental Friendly

- No mercury and glass
- No breakage and pollution risk

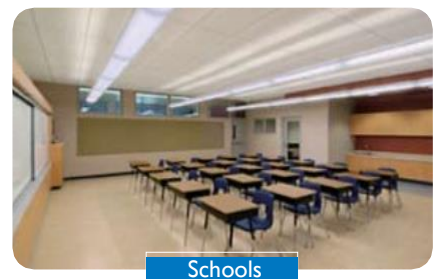
## Application



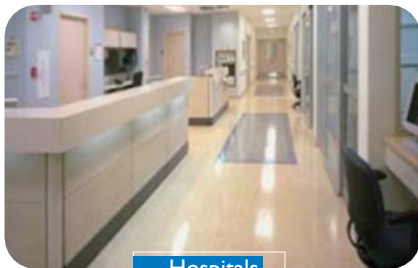
Retail



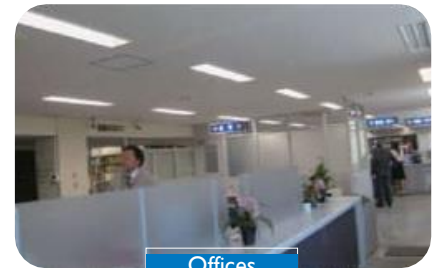
Industry



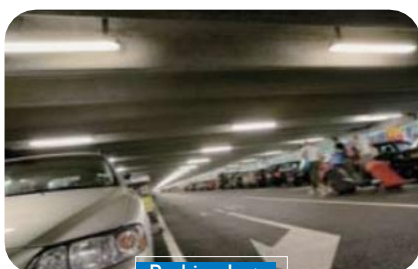
Schools



Hospitals



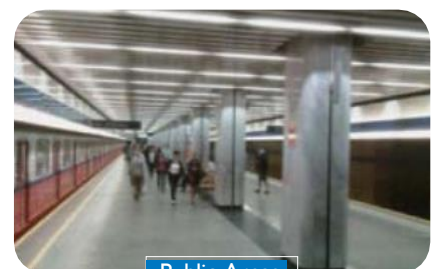
Offices



Parking Lots



Warehouses

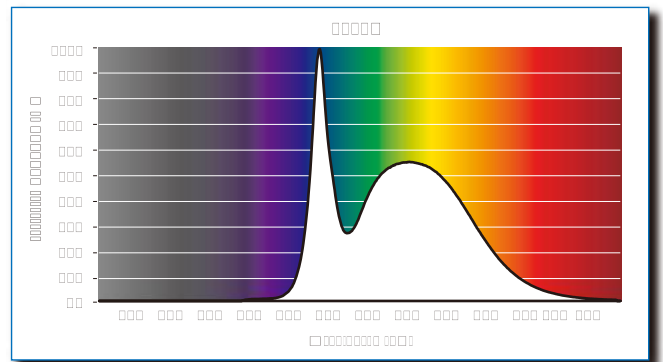
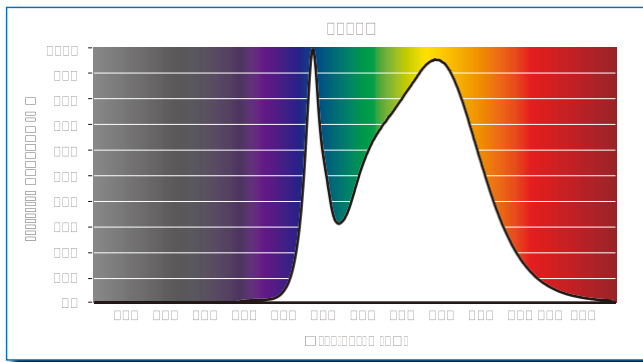


Public Areas



## Spectral Power Distribution

Light may be precisely characterized by giving the power of the light at each wavelength in the visible spectrum. The resulting spectral power distribution (SPD) shows that the LEDtube contains the visible light only. No harm from UV and IR.

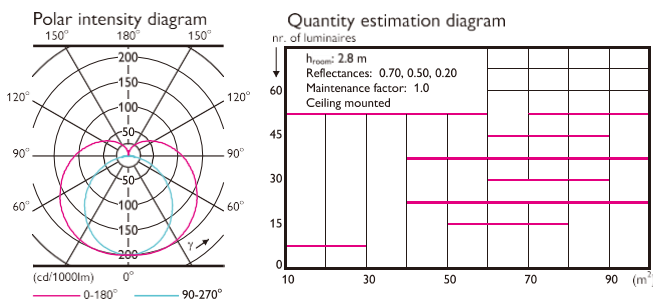


## Photometric Diagrams

The Photometric diagram depicting the top down mounted lighting fixtures in a specific area and a numerical grid of the maintained lighting levels that the fixture will produce in that specific area. Pictures below show the photometric diagrams of a typical Philips LEDtube's application.

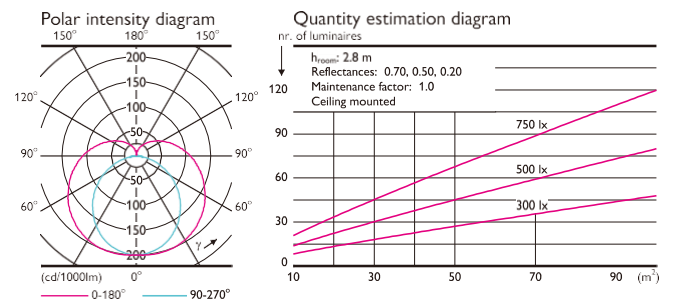
I x TLED 13W 4000K/6500K

I x 1600 lm

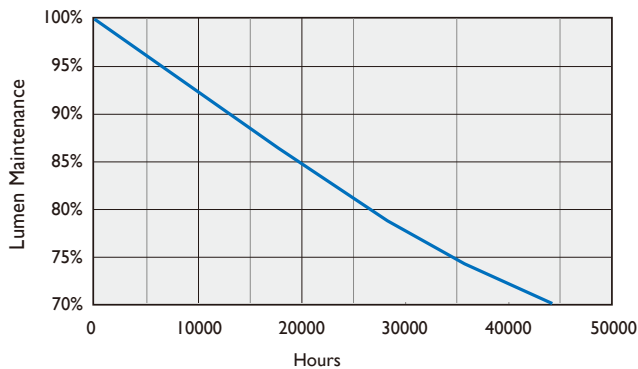


I x TLED 7.5W 4000K/6500K

I x 800 lm



## Lifetime and Lumen Maintenance



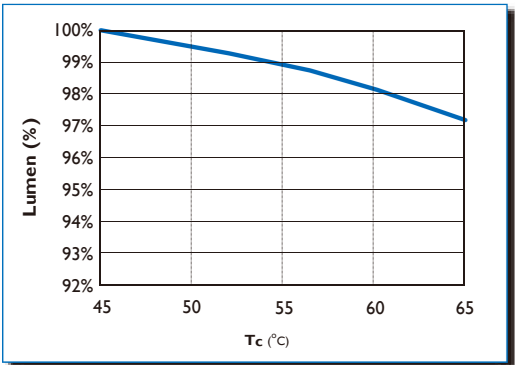
PHILIPS LEDtube has a lifetime of 40,000 hours, defined as the number of hours when 50% of a large group of identical lamps below 70% of its initial lumens.

# Temperature

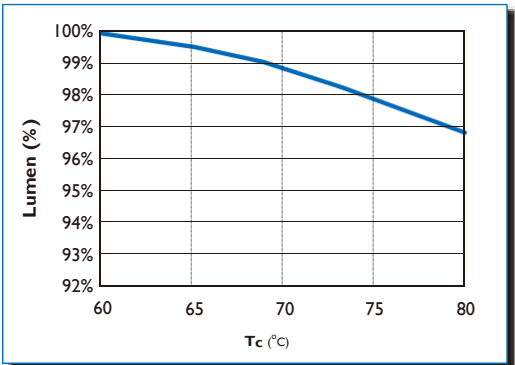
Philips LEDtube's excellent thermal design ensures low temperature during operating, which brings reliable and stable product performance throughout lifetime.

Operating temperature	T operating	min -20°C	max +45°C
Storage temperature	T storage	min -40°C	max +65°C
Maximum surface temperature of tube at Tamb.=25°C	T surface		+45°C (13W 1600lm) +60°C (7.5W 800lm)

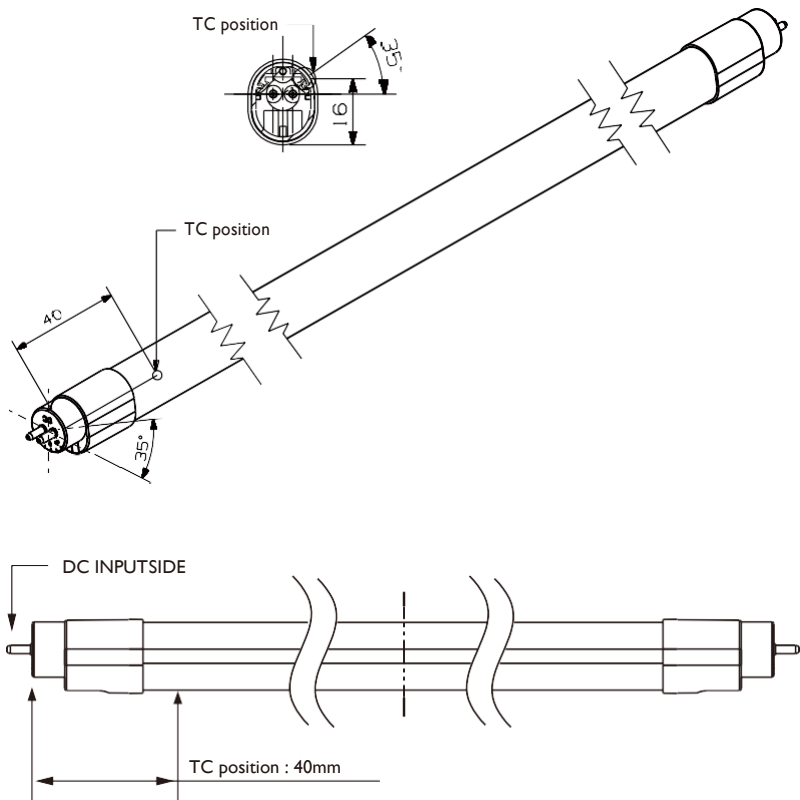
## 13W LEDtube



## 7.5W LEDtube

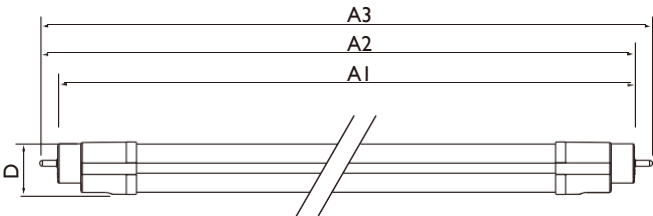


Dimension: mm



# Approbation & Certificates

Philips LEDtube is designed by strictly following applicable legislation and international standard. The product complies with **CE, KEMA, RoHS** and **REACH**.



## Dimensions (mm)

Product	A1	A2	A3	D
G5 13W	1148	1155	1162	20.7
G5 7.5W	548	555	563	20.7

## Technical specification

Product Description	Lamp Wattage ** ( W )	Driver Input Voltage*** ( V AC )	Lamp Input Voltage ( V DC )	Cap	Length ( mm )	Beam Angle	Lifetime ( hrs )	Lumen output ( lm )	CCT ( K )	CRI * ( Typical )	Model Number
MASTER LEDtube 1200mm 13W840 G5 I	13	220-240	33	G5	1162	160	40,000	1600	4000	83	929001131110
MASTER LEDtube 1200mm 13W865 G5 I	13	220-240	33	G5	1162	160	40,000	1600	6500	83	929001131210
MASTER LEDtube 600mm 7.5W840 G5 I	7.5	220-240	19	G5	563	160	40,000	800	4000	83	929001154910
MASTER LEDtube 600mm 7.5W865 G5 I	7.5	220-240	19	G5	563	160	40,000	800	6500	83	929001155010

\* minimum is 80.

\*\* Lamp wattage excludes the loss from LED drivers, please refer to the Quick Installation Guide section for system wattage information.

\*\*\* Driver Input Voltage is based on Philips approved CertaDrive 30W (9290014097) & 15W (9290014098) drivers.

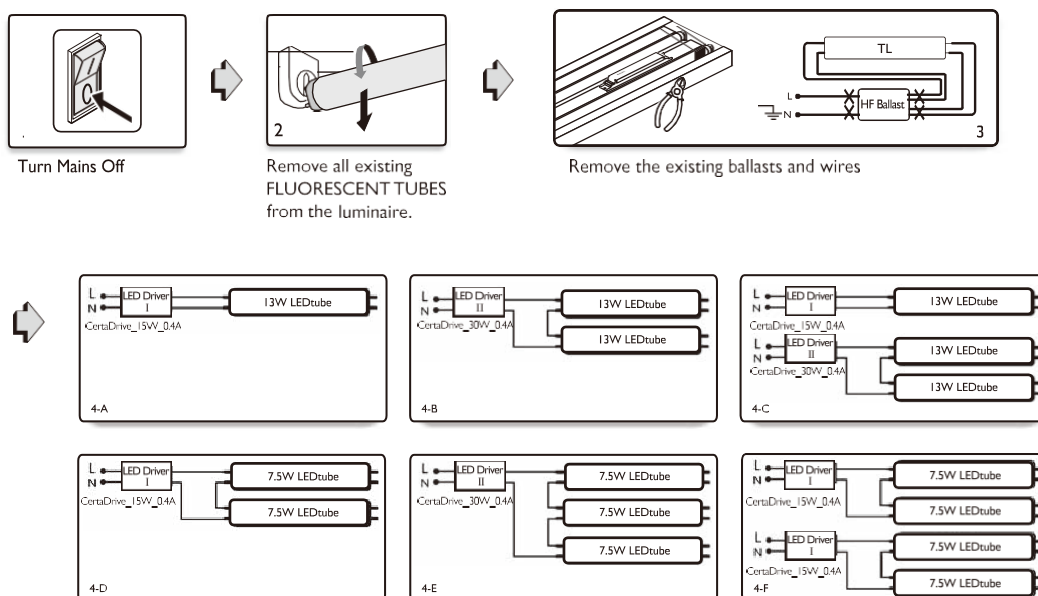
## Quick Installation Guide

Please take the time to read this quick installation guide. Philips Lighting does not accept liability for any damages for installations not performed according to this guide or not performed by a professional electrician.

## Application Notes

- Product is not dimmable.
- Product is not for use in emergency luminaires or exit lights designed for double-capped fluorescent lamps.
- Always switch off the power supply before commencing work.
- Philips MASTER LEDtube must be installed by a qualified electrician in accordance with local regulations.
- Only apply in dry indoor environments. Outdoor applications require a proper IP rated fixture.
- Operation temperature: -20°C to +45°C
- Do not change the structure or any components of the MASTER LEDtube to ensure safety.
- This Philips MASTER LEDtube is designed to fit in standard IEC compliant G5 bi-pin lampholders.

## Installation Guide



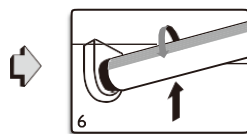
4. Install Philips LED driver which is designed to supply LED tubes in series, have to rewire according to above diagram and ensure DC end is connected to the driver output side.

\*Only applies to Philips approved driver CertaDrive 30W\_0.4A\_80V (9290014097) and CertaDrive 15W\_0.4A\_36V (9290014098)

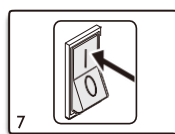
LEDtube Model Number	Lamp Wattage	Lamp Length (mm)	No. of Lamps	System Input Wattage	Driver Input Voltage	Type of Driver (in Wiring Diagram)	Related Driver Model Number	Wiring Diagram
9290011311 / 9290011312	13W	1163.2	1	15.5W	220~240V	I	9290014098 (CE, CCC, CB)	4-A
			2	29W	220~240V	II	9290014097 (CE, CCC, CB)	4-B
			3	43.5W	220~240V	I + II	I: 9290014098 (CE, CCC, CB) II: 9290014097 (CE, CCC, CB)	4-C
9290011549 / 9290011550	7.5W	563.2	2	17.5W	220~240V	I	9290014098 (CE, CCC, CB)	4-D
			3	26W	220~240V	II	9290014097 (CE, CCC, CB)	4-E
			4	35W	220~240V	I + I	9290014098 (CE, CCC, CB)	4-F



Adjust both rotation end caps to proper angle, check the 'DC input' marking on the lamp end and insert the lamp to the corresponding end.



Install the MASTER LEDtube



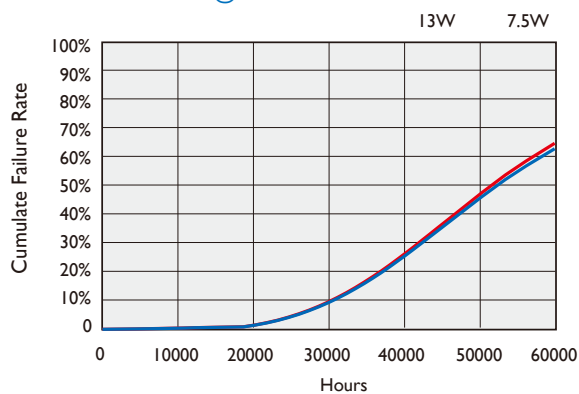
Power on.



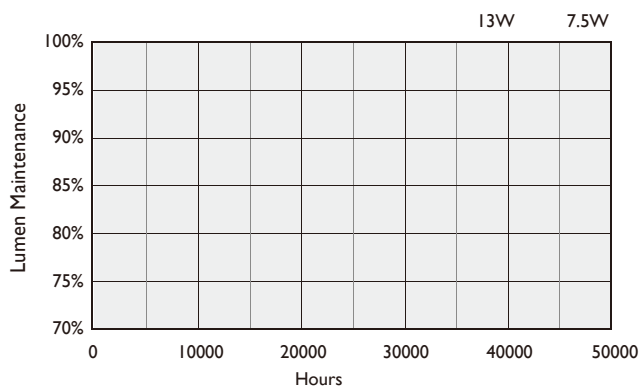
The supplied warning sticker must be placed on the luminaire and must be visible during lamp replacement.

## OEM Guideline

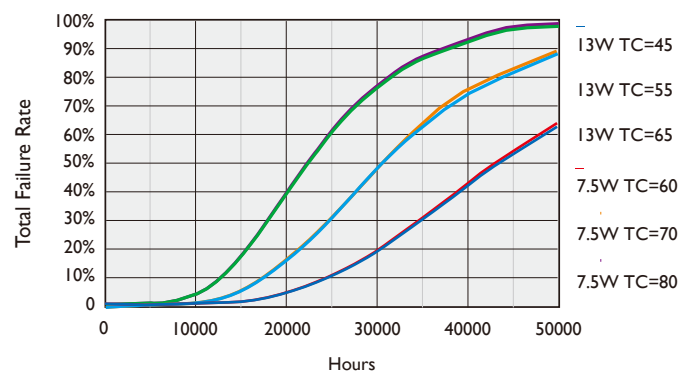
Failure rate vs. Lifetime @ Ta25 °C



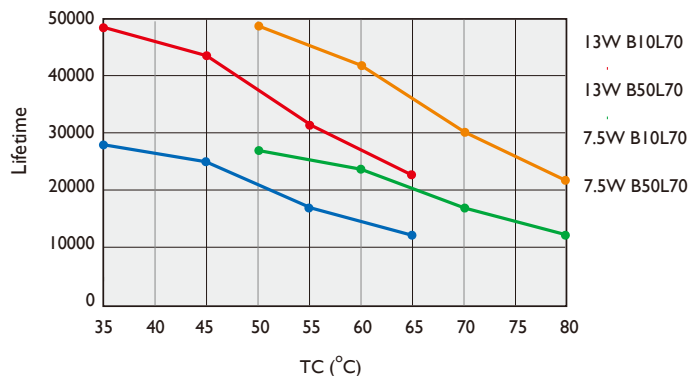
Lumen Maintenance vs. Lifetime



Failure Rate vs. Lifetime vs. Tcase



Lifetime vs. Tcase





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01/2015  
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