



**Philips CorePro**  
LEDtube 600, 1200 & 1500mm



**PHILIPS**





Corepro LEDtube 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 60% 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

### New Platform

- First corepro LEDtube with glass tube to inherent Philip's strong & solid fluorescent technology with unique glass coating
- Wider beam angle for diffuse light effect in basic type of luminaires like bare batten or closed luminaires
- Enhanced efficiency (from 100 to 110 lm/w)

### Maintain high performance

- Reliable operation between  $-20^{\circ}\text{C}$  to  $45^{\circ}\text{C}$  ambient temperature
- Trustable claimed lifetime
- 200,000 switching cycles

### User Comfort

- CRI 80
- Instant on, no flicker or buzz
- Advanced optical design ensures a uniform light output and superior optical efficiency

### Energy Efficient

- Energy savings over 60%\*

### Safety

- 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% comply with IEC requirement on T8 dimension, fitting into fluorescent luminaire perfectly

### Environmental Friendly

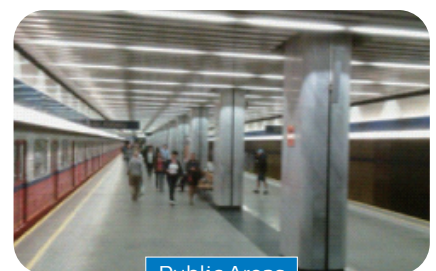
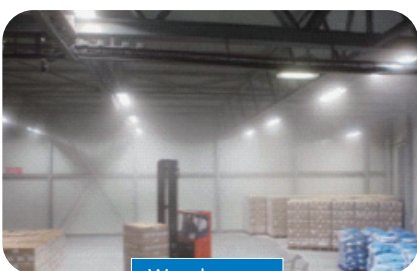
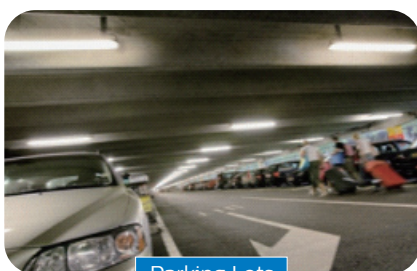
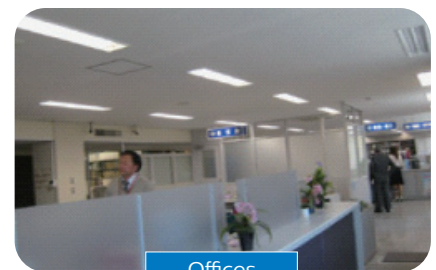
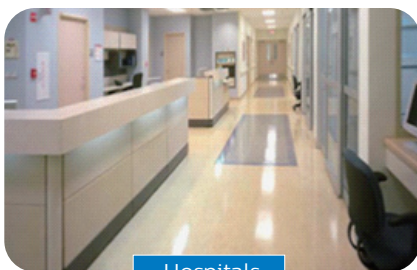
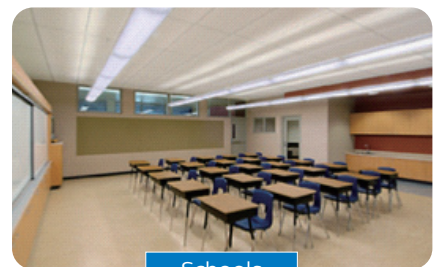
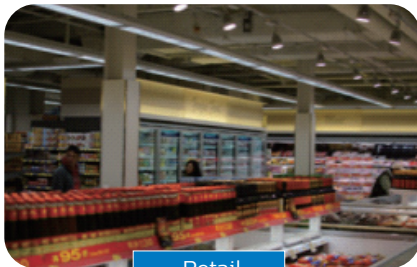
- No mercury
- No pollution risk

### Compatibility

- ICompatible with electromagnetic ballasts by replace the fluorescent starter with Philips starter, eliminating the need for rewiring and allows fixture to maintain original CE compliance

\* Based on comparison between 16W Corepro LEDtube standard and Philips TLD standard or super 80 36W (40-44W system power when working with Electro Magnetic Ballasts)

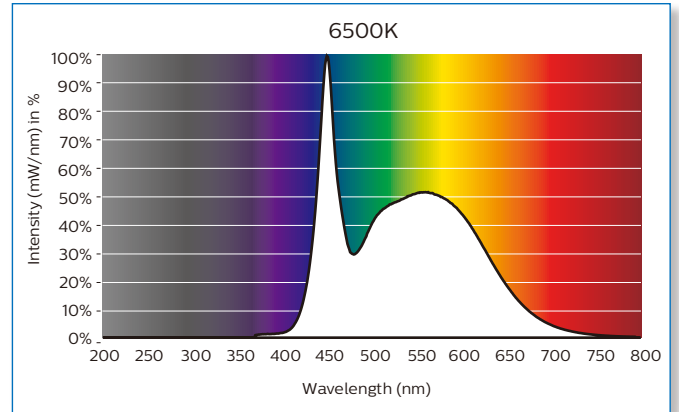
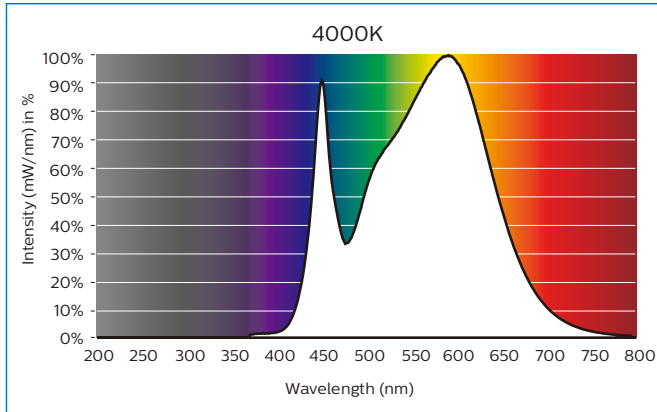
## Application



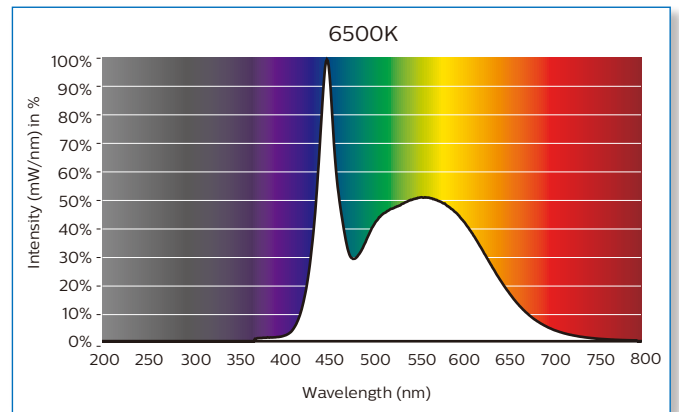
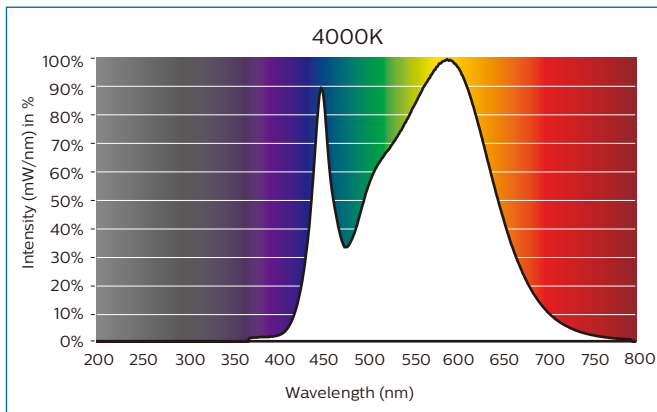
## Spectral Power Distribution

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

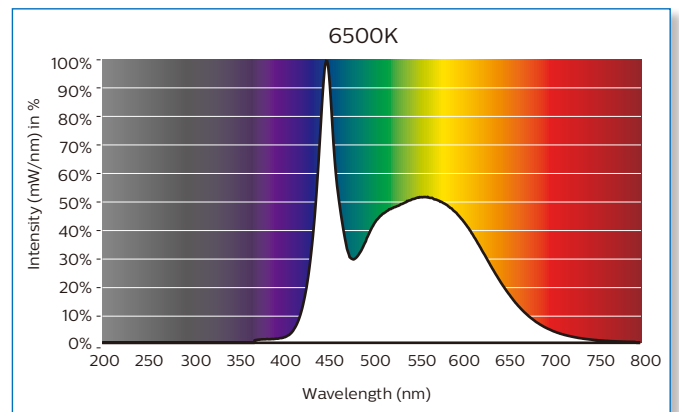
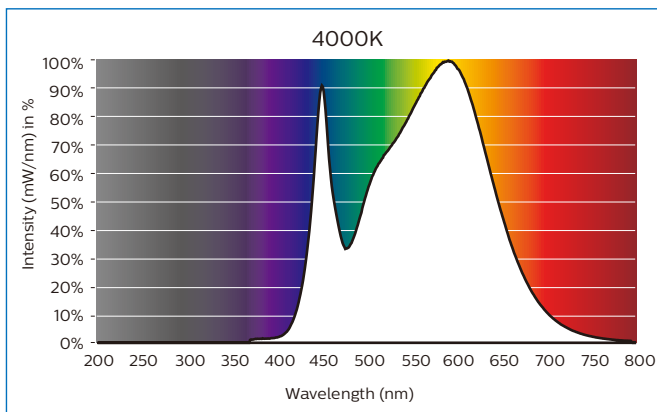
### 600mm



### 1200mm



### 1500mm



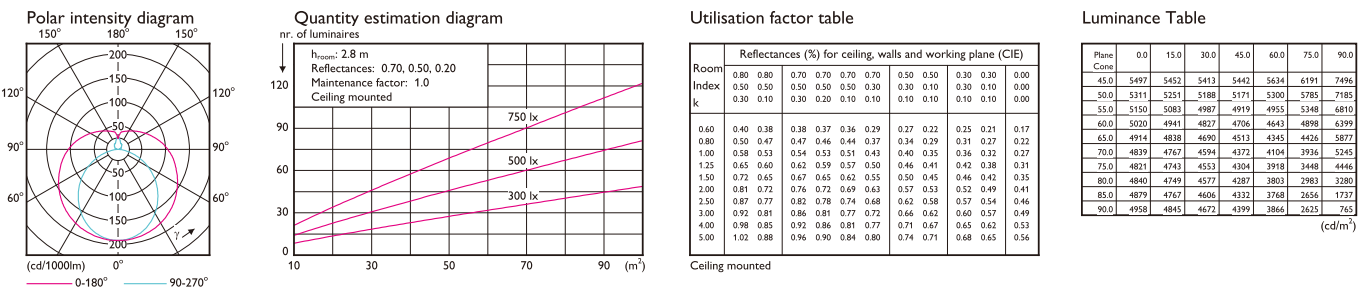


Photometric Diagrams

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 Corepro LEDtube's application.

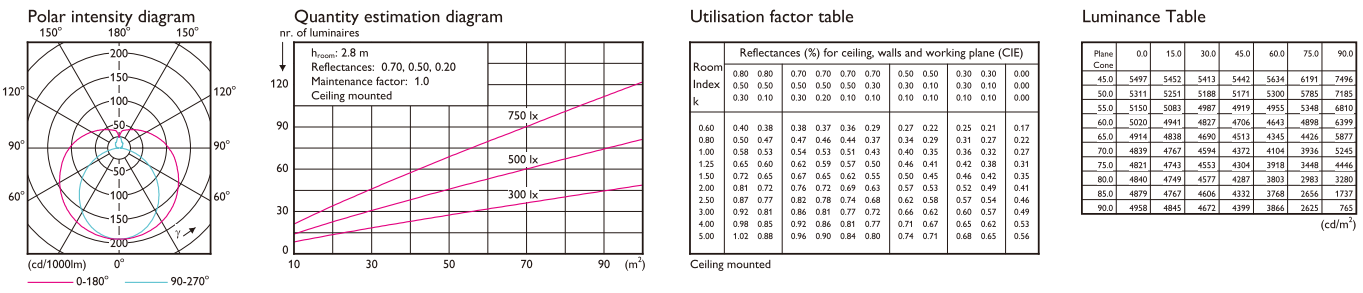
Corepro LEDtube 600mm 8W840 T8

1 x 800 lm



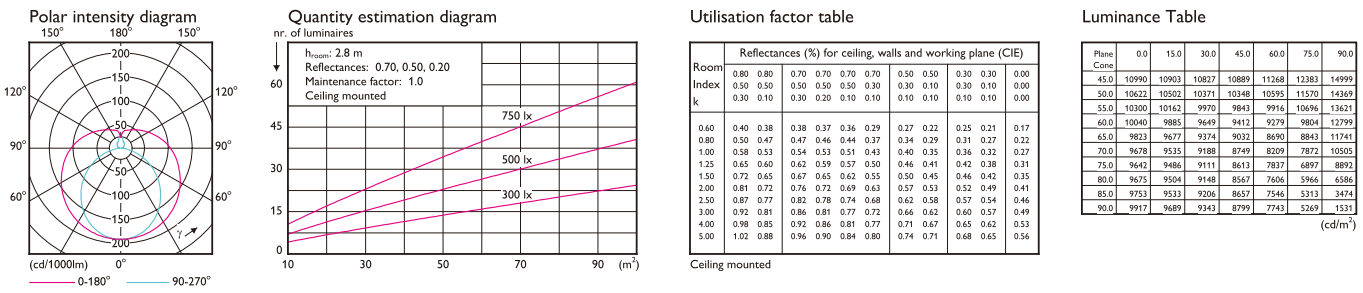
Corepro LEDtube 600mm 8W865 T8

1 x 800 lm



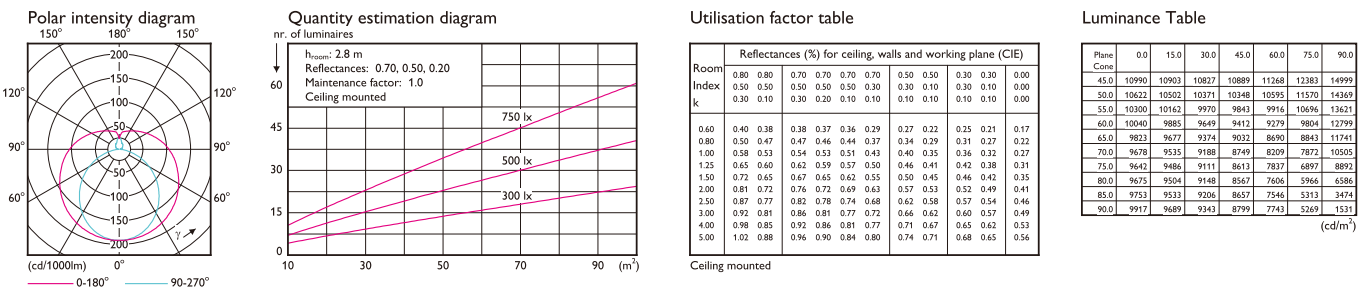
Corepro LEDtube 1200mm 14.5W840 T8

1 x 1600 lm

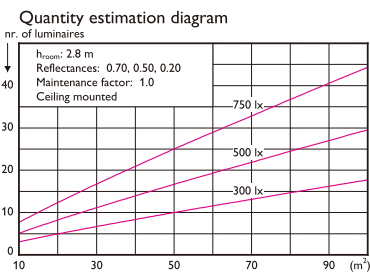
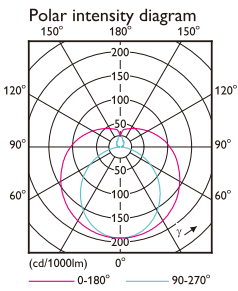


Corepro LEDtube 1200mm 14.5W865 T8

1 x 1600 lm







**Utilisation factor table**

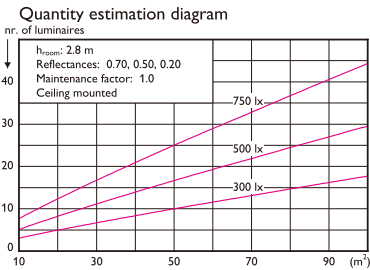
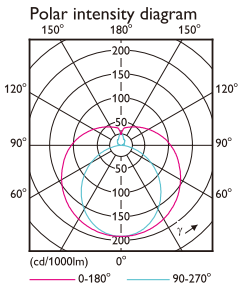
Room Index k	Reflectances (%) for ceiling, walls and working plane (CIE)															
	0.80	0.80	0.70	0.70	0.70	0.70	0.50	0.50	0.30	0.30	0.00	0.00	0.00	0.00	0.00	0.00
0.60	0.40	0.38	0.38	0.37	0.36	0.29	0.27	0.22	0.25	0.21	0.17					
0.80	0.50	0.47	0.47	0.46	0.44	0.37	0.34	0.29	0.31	0.27	0.22					
1.00	0.58	0.53	0.54	0.53	0.51	0.43	0.40	0.35	0.36	0.32	0.27					
1.25	0.65	0.60	0.62	0.59	0.57	0.50	0.46	0.41	0.42	0.38	0.31					
1.50	0.72	0.65	0.67	0.65	0.62	0.55	0.50	0.45	0.46	0.42	0.35					
2.00	0.81	0.72	0.76	0.72	0.69	0.63	0.57	0.53	0.52	0.49	0.41					
2.50	0.87	0.77	0.82	0.78	0.74	0.68	0.62	0.58	0.57	0.54	0.46					
3.00	0.92	0.81	0.86	0.81	0.77	0.72	0.66	0.62	0.60	0.57	0.49					
4.00	0.98	0.85	0.92	0.86	0.81	0.77	0.71	0.67	0.65	0.62	0.53					
5.00	1.02	0.88	0.96	0.90	0.84	0.80	0.74	0.71	0.68	0.65	0.56					

Ceiling mounted

**Luminance Table**

Plane	0.0	15.0	30.0	45.0	60.0	75.0	90.0
Cone							
45.0	6044	6018	5999	6058	6298	6957	8475
50.0	5842	5799	5750	5762	5931	6517	8164
55.0	5644	5615	5533	5488	5563	6048	7783
60.0	5522	5461	5360	5254	5219	5562	7371
65.0	5404	5349	5210	5048	4899	5041	6831
70.0	5324	5274	5109	4898	4641	4511	6198
75.0	5303	5249	5071	4831	4445	3986	5367
80.0	5321	5259	5099	4816	4333	3478	4141
85.0	5365	5278	5138	4879	4316	3142	2409
90.0	5452	5369	5220	4971	4456	3182	2168

(cd/m²)



**Utilisation factor table**

Room Index k	Reflectances (%) for ceiling, walls and working plane (CIE)															
	0.80	0.80	0.70	0.70	0.70	0.70	0.50	0.50	0.30	0.30	0.00	0.00	0.00	0.00	0.00	0.00
0.60	0.40	0.38	0.38	0.37	0.36	0.29	0.27	0.22	0.25	0.21	0.17					
0.80	0.50	0.47	0.47	0.46	0.44	0.37	0.34	0.29	0.31	0.27	0.22					
1.00	0.58	0.53	0.54	0.53	0.51	0.43	0.40	0.35	0.36	0.32	0.27					
1.25	0.65	0.60	0.62	0.59	0.57	0.50	0.46	0.41	0.42	0.38	0.31					
1.50	0.72	0.65	0.67	0.65	0.62	0.55	0.50	0.45	0.46	0.42	0.35					
2.00	0.81	0.72	0.76	0.72	0.69	0.63	0.57	0.53	0.52	0.49	0.41					
2.50	0.87	0.77	0.82	0.78	0.74	0.68	0.62	0.58	0.57	0.54	0.46					
3.00	0.92	0.81	0.86	0.81	0.77	0.72	0.66	0.62	0.60	0.57	0.49					
4.00	0.98	0.85	0.92	0.86	0.81	0.77	0.71	0.67	0.65	0.62	0.53					
5.00	1.02	0.88	0.96	0.90	0.84	0.80	0.74	0.71	0.68	0.65	0.56					

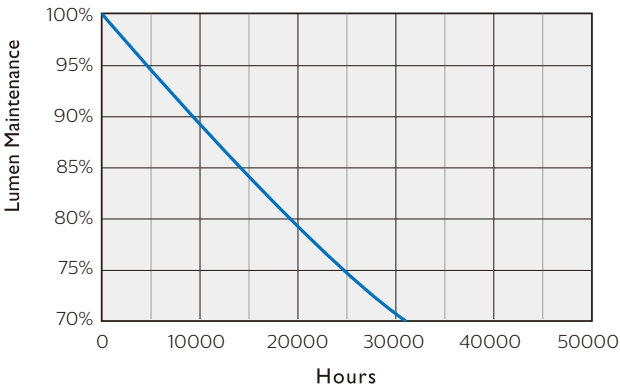
Ceiling mounted

**Luminance Table**

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85.0	5365	5278	5138	4879	4316	3142	2409
90.0	5452	5369	5220	4971	4456	3182	2168

(cd/m²)

## Lifetime and Lumen Maintenance



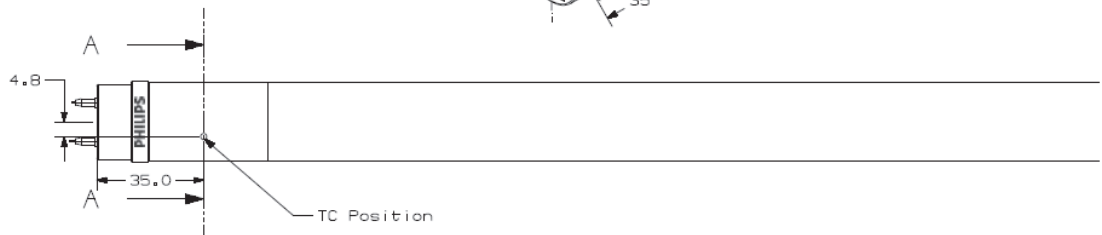
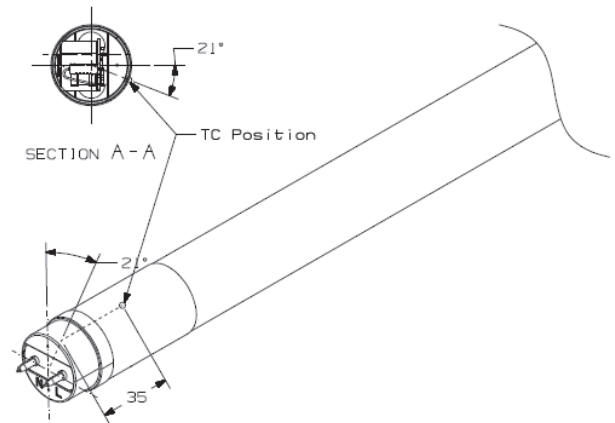
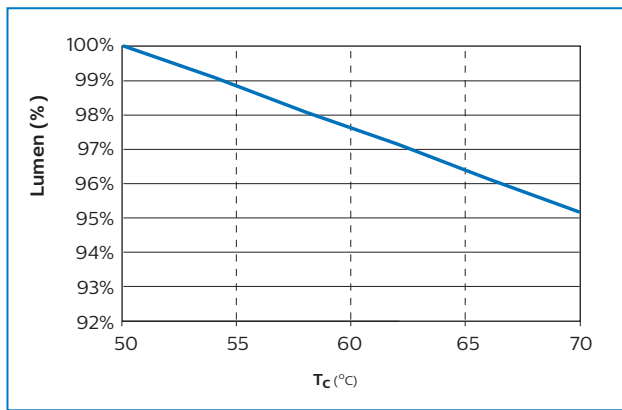
Philips CorePro InstantFit HF LEDtube has a lifetime of 30,000 hours, defined as the number of hours when 50% of a large group of identical lamps below 70% of its initial lumens.

## Temperature

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

Operating temperature	T operating	min -20°C	max +45°C
Storage temperature	T case	min -40°C	max +65°C
Maximum surface temperature for rated lifetime of tube at Tamb.=25°C	T case		+56°C

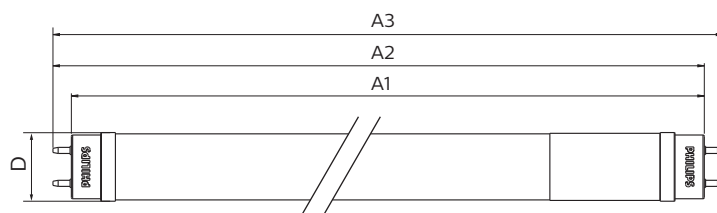
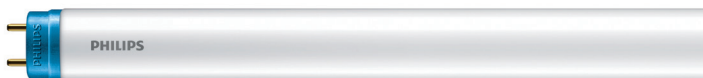




## Approbation & Certificates

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

**CE KEMA RoHS REACH**



### Dimensions (mm)

Product	A1	A2	A3	D
600mm	588.6	595.7	602.8	28
1200mm	1198.2	1205.3	1212.4	28
1500mm	1498.8	1505.9	1513.0	28

## Technical specification

Product Description	Lamp Wattage (W)	Voltage (V)	Cap	Length (mm)	Beam Angle (°)	Lifetime (hrs)	Lumen output (lm)	CCT (K)	CRI *	Pcs per	Model Number Box
Corepro LEDtube 600mm 8W840 T8	8	220-240	G13	600	240	30,000	800	4000	80	10	9290013386
Corepro LEDtube 600mm 8W865 T8	8	220-240	G13	600	240	30,000	800	6500	80	10	9290013387
Corepro LEDtube 1200mm 14.5W840 T8	14.5	220-240	G13	1200	240	30,000	1600	4000	80	10	9290013388
Corepro LEDtube 1200mm 14.5W865 T8	14.5	220-240	G13	1200	240	30,000	1600	6500	80	10	9290013389
Corepro LEDtube 1500mm 20W840 T8	20	220-240	G13	1500	240	30,000	2200	4000	80	10	9290013379
Corepro LEDtube 1500mm 20W865 T8	20	220-240	G13	1500	240	30,000	2200	6500	80	10	9290013380

\* minimum is 80



## 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.

## Installation Warning

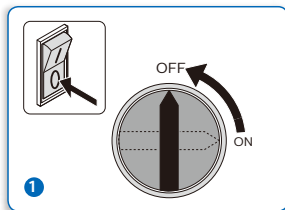
- Check whether the system is an EM (Electro Magnetic) ballast based system or an HF (High Frequency electronic) ballast based system, and follow the appropriate instructions accordingly. For new built luminaires follow section "New built luminaires".
- Product is not dimmable.
- Always switch off the power supply before commencing work.
- Do not change the structure or any components of the product.

## Application Notes

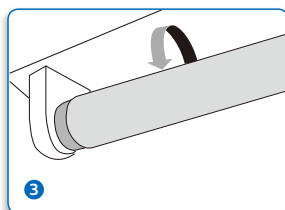
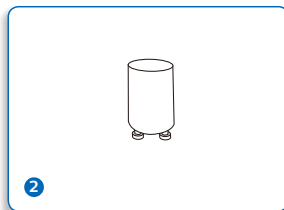
- Operation temperature range is between  $-20^{\circ}\text{C}$  and  $+45^{\circ}\text{C}$  ambience.
- Only to apply in dry indoor usage and environments.
- Not intended for use with emergency light fixtures or exit light.
- For use in fixtures which consist of IEC compliant G13 bi-pin lamp holders which can support 500 gram.

- EM ballast based system

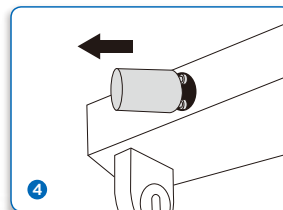
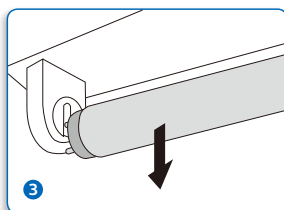
## Installation Guide



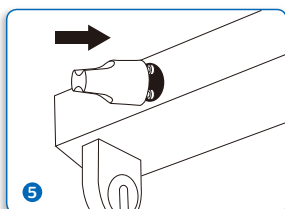
Mains Off



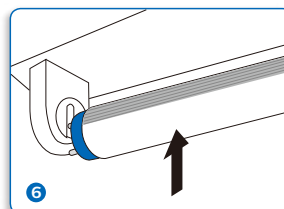
Remove all existing FLUORESCENT TUBES from luminaire



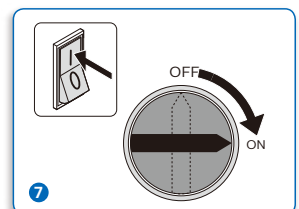
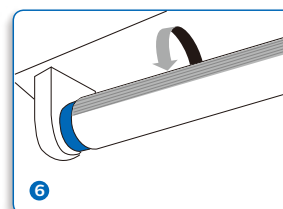
Remove all existing STARTERS from luminaire



Install EMP starter replacement only



Install the LEDtube



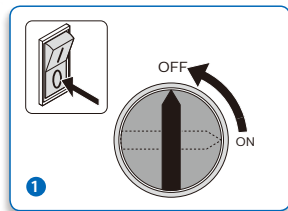
Turn on mains

For EM ballast installations please check if a Power Factor Correcting Capacitor is installed in the existing circuit. If yes, please follow the instructions below:

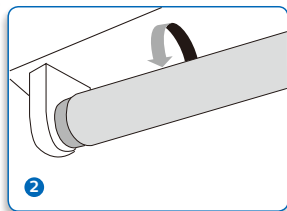
- Please simply remove the capacitor if it is in parallel with the EM Ballast
- In case of 2ft/600mm lamps, if there is only one starter in the luminaire for 2 lamps, or 2 starters for 4 lamps, then rewire according to the SAFE rewiring instructions in next section
- The lamp is made of glass material and therefore not recommended to use in food applications or installations that have to comply with HACCP standards.



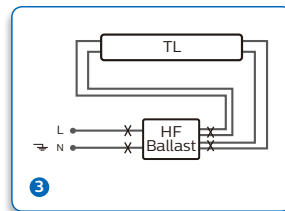
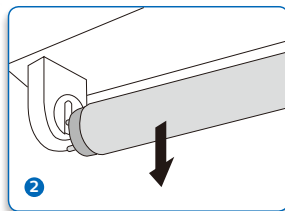
## • HF ballast based system



Mains Off



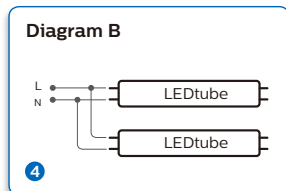
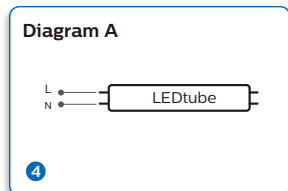
Remove all existing FLUORESCENT TUBES from luminaire



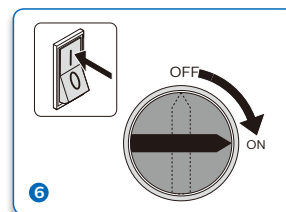
By pass HF

For 3 lamps use diagram A & B

For 4 lamps use diagram B & B



**Warning sticker**



Turn on mains

Bypass existing HF BALLAST and rewire according to the following diagrams. Please check the L/N markings on the lamp end and insert the lamp with AC mains supplied to the corresponding end. To install the lamp in the wrong direction will lead to malfunction.



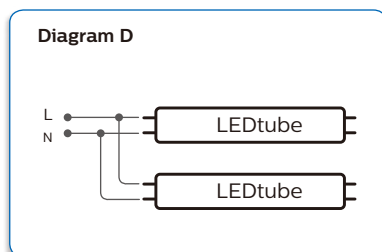
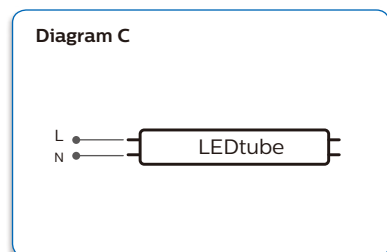
The supplied warning sticker must be placed on the luminaire and must be visible during lamp replacement

## • New built luminaires

### Number of tube Wire according to diagram

1	C
2	D
3	C+D
4	D+D

Please check the L/N markings on the lamp end and insert the lamp with AC mains supplied to the corresponding end. To install the lamp in the wrong direction will lead to malfunction.



## Maximum amount of CorePro LED tube connected on one circuit breaker

	CorePro TLED		
	600 mm	1200 mm	1500 mm
Max Mains-Current	40mA	77mA	95mA
Peak-Inrush-Current	5.2A	5.2A	7.3A
Width @ half peak	38.2µs	38.2µs	1µs

MCB B Type	Wiring Type	CorePro TLED		
		600 mm	1200 mm	1500 mm
16A	Mains	200	160	130
	EM	200	160	130
	EM + Comp. Cap.	49	25	16
10A	Mains	140	100	80
	EM	140	100	80
	EM + Comp. Cap.	30	15	10

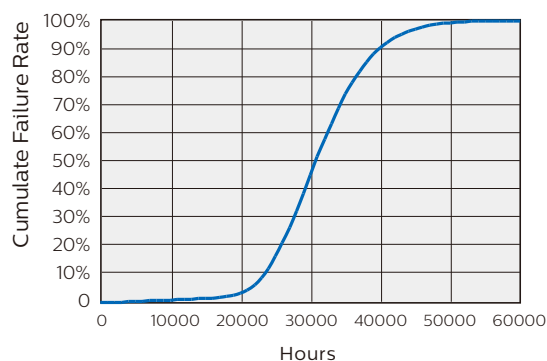
Parallel Power factor compensation capacitors are expected not to cause any problems with LED tubes, but larger Parallel Power factor compensation capacitors to correct inductive reactive power load are recommended to be removed



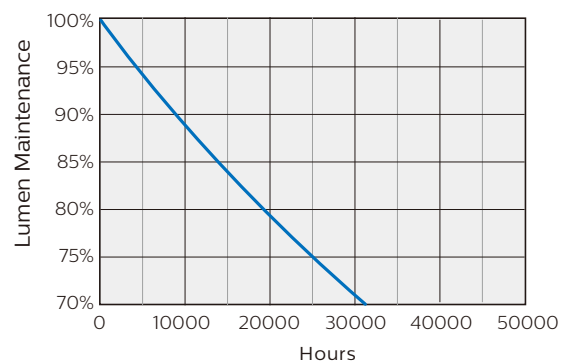
## OEM Guideline

1200mm / 1500mm

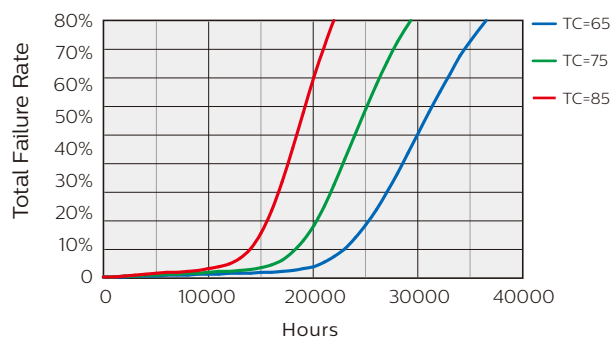
Lifetime Curve



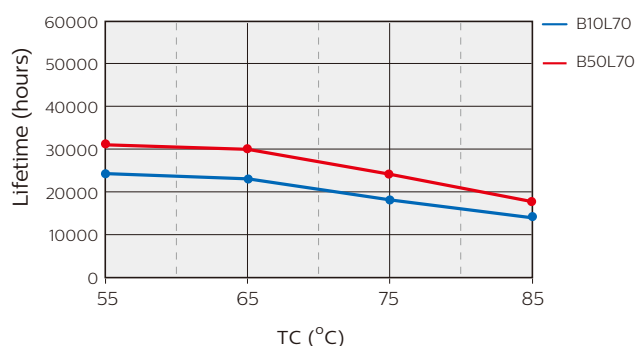
Lifetime and Lumen Maintenance



Failure Rate vs.  
Lifetime vs. Tcase



Lifetime vs. Tcase



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