



## Double-Ended LEDtube T8



**PHILIPS**







Philips Double-Ended LEDtube T8 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 44% 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  $-20^{\circ}\text{C}$  to  $45^{\circ}\text{C}$  ambient temperature
- Trustable claimed lifetime
- 50,000 switching cycles

### Easy to experience

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

### Energy Efficient

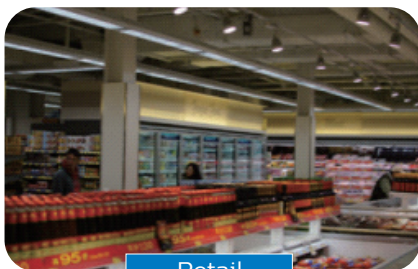
- Energy savings over 44%\*

\* Based on comparison between 18W Double-Ended LEDtube standard and Philips TLD standard or super 80 32W (40-44W system power when working with Electro Magnetic Ballasts)

### Safe and forget

- Pass 3KV high-pot test, insulation & safety guaranteed
- Pass 750V 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

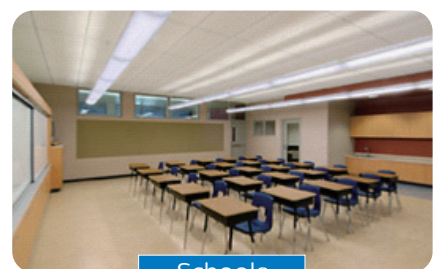
## Application



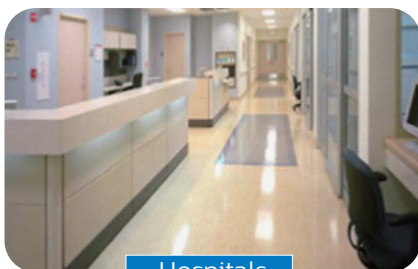
Retail



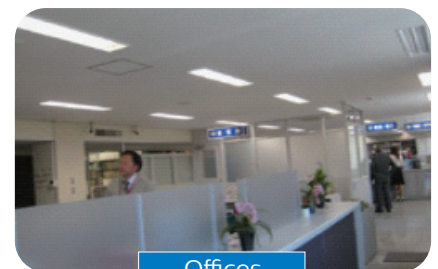
Industry



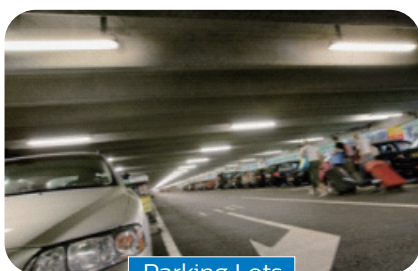
Schools



Hospitals



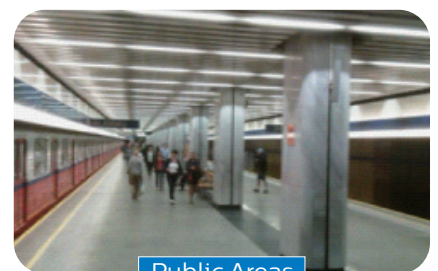
Offices



Parking Lots



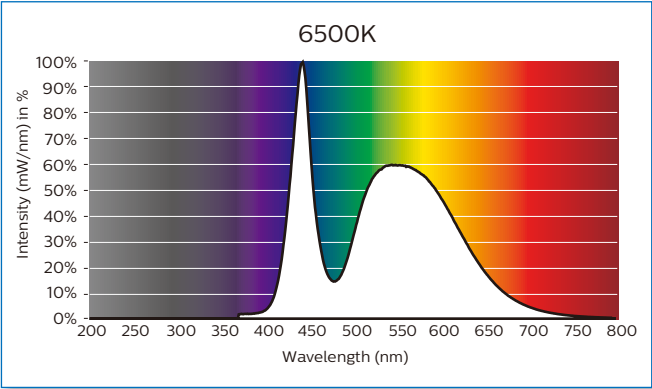
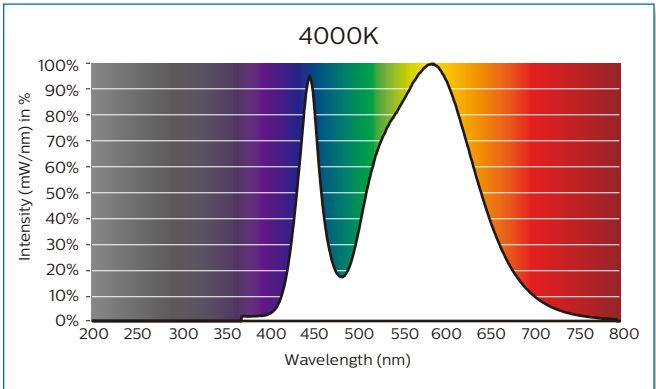
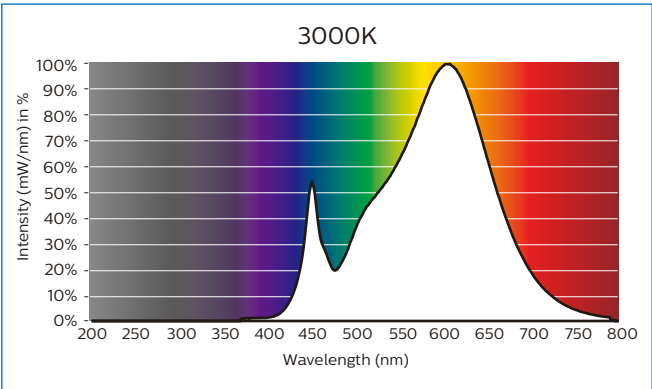
Warehouses



Public Areas

Spectral Power Distribution

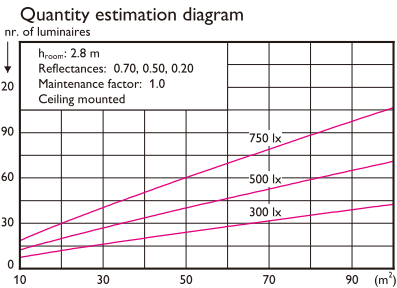
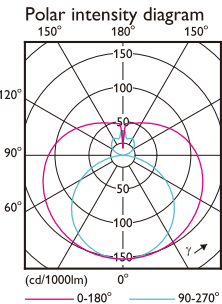
Light may be precisely characterized by giving the power of the light at each wavelength in the visible spectrum. The resulting spectralpower distribution (SPD) shows that the LEDtube contains the visible light only. No harm from UV and IR.



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.

Ledtube DE 600mm 10W 830 T8 G13 1 x 950 lm



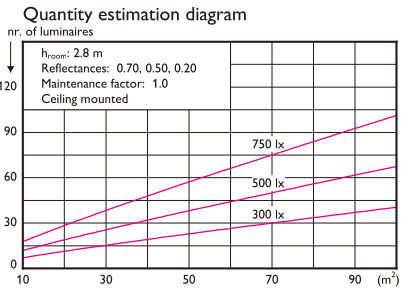
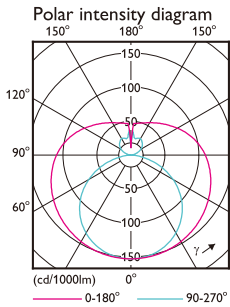
Utilisation factor table												
Room Index k	Reflectances (%) for ceiling, walls and working plane (CIE)											
	0.80	0.80	0.70	0.70	0.70	0.50	0.50	0.30	0.30	0.10	0.10	0.00
0.60	0.80	0.48	0.45	0.45	0.44	0.43	0.35	0.31	0.27	0.28	0.24	0.19
1.00	0.56	0.52	0.52	0.50	0.49	0.41	0.37	0.32	0.33	0.29	0.23	0.23
1.25	0.63	0.58	0.59	0.57	0.55	0.47	0.43	0.38	0.38	0.34	0.27	0.27
1.50	0.69	0.63	0.65	0.62	0.59	0.52	0.47	0.42	0.42	0.38	0.30	0.30
2.00	0.78	0.70	0.73	0.70	0.66	0.60	0.54	0.49	0.48	0.44	0.36	0.36
2.50	0.85	0.75	0.79	0.75	0.71	0.65	0.59	0.54	0.52	0.49	0.40	0.40
3.00	0.90	0.78	0.83	0.79	0.74	0.69	0.62	0.58	0.56	0.52	0.43	0.43
4.00	0.96	0.83	0.89	0.84	0.79	0.74	0.67	0.64	0.60	0.57	0.47	0.47
5.00	1.00	0.86	0.93	0.87	0.82	0.78	0.70	0.67	0.63	0.60	0.50	0.50

Luminance Table												
Plane	0.0	15.0	30.0	45.0	60.0	75.0	90.0					
Cone	45.0	5593	5570	5621	5749	6047	6716	8140				
	50.0	5506	5474	5502	5586	5820	6443	7992				
	55.0	5453	5408	5416	5448	5599	6131	7774				
	60.0	5433	5376	5361	5342	5390	5780	7470				
	65.0	5447	5378	5343	5267	5204	5379	7041				
	70.0	5497	5418	5364	5233	5044	4929	6440				
	75.0	5588	5499	5432	5256	4939	4461	5568				
	80.0	5725	5629	5554	5344	4919	4017	4252				
	85.0	5920	5814	5742	5522	5033	3717	2372				
	90.0	6179	6070	6011	5813	5350	3867	303				



Ledtube DE 600mm 10W 840 T8 G13

1 x 1000 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	0.80	0.80	0.70	0.70	0.70
0.60	0.38	0.37	0.36	0.35	0.35	0.27	0.25	0.20	0.22	0.18	0.14	0.38	0.37	0.36	0.35	0.27
0.80	0.48	0.45	0.45	0.44	0.43	0.35	0.31	0.27	0.28	0.24	0.19	0.48	0.45	0.45	0.44	0.35
1.00	0.56	0.52	0.52	0.50	0.49	0.41	0.37	0.32	0.33	0.29	0.23	0.56	0.52	0.52	0.50	0.41
1.25	0.63	0.58	0.59	0.57	0.55	0.47	0.43	0.38	0.38	0.34	0.27	0.63	0.58	0.59	0.57	0.47
1.50	0.69	0.63	0.65	0.62	0.59	0.52	0.47	0.42	0.42	0.38	0.30	0.69	0.63	0.65	0.62	0.52
2.00	0.78	0.70	0.73	0.70	0.66	0.60	0.54	0.49	0.48	0.44	0.36	0.78	0.70	0.73	0.70	0.60
2.50	0.85	0.75	0.79	0.75	0.71	0.65	0.59	0.54	0.52	0.49	0.40	0.85	0.75	0.79	0.75	0.65
3.00	0.90	0.78	0.83	0.79	0.74	0.69	0.62	0.58	0.56	0.52	0.43	0.90	0.78	0.83	0.79	0.69
4.00	0.96	0.83	0.89	0.84	0.79	0.74	0.67	0.64	0.60	0.57	0.47	0.96	0.83	0.89	0.84	0.74
5.00	1.00	0.86	0.93	0.87	0.82	0.78	0.70	0.67	0.63	0.60	0.50	1.00	0.86	0.93	0.87	0.78

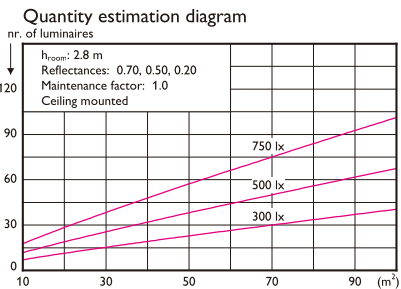
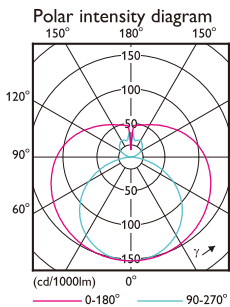
Luminance Table

Plane	0.0	15.0	30.0	45.0	60.0	75.0	90.0
Cone							
45.0	5887	5864	5917	6052	6365	7070	8568
50.0	5796	5763	5792	5880	6126	6782	8413
55.0	5740	5693	5701	5735	5894	6454	8184
60.0	5719	5659	5643	5623	5674	6084	7863
65.0	5733	5661	5625	5544	5478	5662	7411
70.0	5786	5703	5646	5509	5310	5188	6779
75.0	5882	5789	5718	5533	5199	4696	5861
80.0	6026	5926	5846	5625	5178	4229	4476
85.0	6232	6120	6044	5812	5298	3913	2497
90.0	6504	6390	6328	6119	5631	4070	319

(cd/m²)

Ledtube DE 600mm 10W 865 T8 G13

1 x 1000 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	0.80	0.80	0.70	0.70	0.70
0.60	0.38	0.37	0.36	0.35	0.35	0.27	0.25	0.20	0.22	0.18	0.14	0.38	0.37	0.36	0.35	0.27
0.80	0.48	0.45	0.45	0.44	0.43	0.35	0.31	0.27	0.28	0.24	0.19	0.48	0.45	0.45	0.44	0.35
1.00	0.56	0.52	0.52	0.50	0.49	0.41	0.37	0.32	0.33	0.29	0.23	0.56	0.52	0.52	0.50	0.41
1.25	0.63	0.58	0.59	0.57	0.55	0.47	0.43	0.38	0.38	0.34	0.27	0.63	0.58	0.59	0.57	0.47
1.50	0.69	0.63	0.65	0.62	0.59	0.52	0.47	0.42	0.42	0.38	0.30	0.69	0.63	0.65	0.62	0.52
2.00	0.78	0.70	0.73	0.70	0.66	0.60	0.54	0.49	0.48	0.44	0.36	0.78	0.70	0.73	0.70	0.60
2.50	0.85	0.75	0.79	0.75	0.71	0.65	0.59	0.54	0.52	0.49	0.40	0.85	0.75	0.79	0.75	0.65
3.00	0.90	0.78	0.83	0.79	0.74	0.69	0.62	0.58	0.56	0.52	0.43	0.90	0.78	0.83	0.79	0.69
4.00	0.96	0.83	0.89	0.84	0.79	0.74	0.67	0.64	0.60	0.57	0.47	0.96	0.83	0.89	0.84	0.74
5.00	1.00	0.86	0.93	0.87	0.82	0.78	0.70	0.67	0.63	0.60	0.50	1.00	0.86	0.93	0.87	0.78

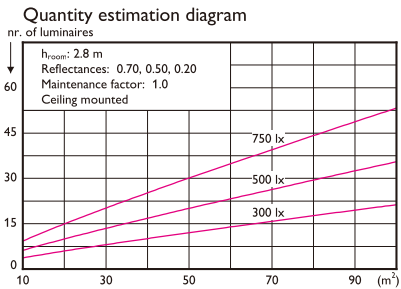
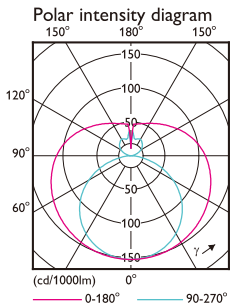
Luminance Table

Plane	0.0	15.0	30.0	45.0	60.0	75.0	90.0
Cone							
45.0	5887	5864	5917	6052	6365	7070	8568
50.0	5796	5763	5792	5880	6126	6782	8413
55.0	5740	5693	5701	5735	5894	6454	8184
60.0	5719	5659	5643	5623	5674	6084	7863
65.0	5733	5661	5625	5544	5478	5662	7411
70.0	5786	5703	5646	5509	5310	5188	6779
75.0	5882	5789	5718	5533	5199	4696	5861
80.0	6026	5926	5846	5625	5178	4229	4476
85.0	6232	6120	6044	5812	5298	3913	2497
90.0	6504	6390	6328	6119	5631	4070	319

(cd/m²)

Ledtube DE 1200mm 19W 830 T8 G13

1 x 1900 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	0.80	0.80	0.70	0.70	0.70
0.60	0.38	0.37	0.36	0.35	0.35	0.27	0.25	0.20	0.22	0.18	0.14	0.38	0.37	0.36	0.35	0.27
0.80	0.48	0.45	0.45	0.44	0.43	0.35	0.31	0.27	0.28	0.24	0.19	0.48	0.45	0.45	0.44	0.35
1.00	0.56	0.52	0.52	0.50	0.49	0.41	0.37	0.32	0.33	0.29	0.23	0.56	0.52	0.52	0.50	0.41
1.25	0.63	0.58	0.59	0.57	0.55	0.47	0.43	0.38	0.38	0.34	0.27	0.63	0.58	0.59	0.57	0.47
1.50	0.69	0.63	0.65	0.62	0.59	0.52	0.47	0.42	0.42	0.38	0.30	0.69	0.63	0.65	0.62	0.52
2.00	0.78	0.70	0.73	0.70	0.66	0.60	0.54	0.49	0.48	0.44	0.36	0.78	0.70	0.73	0.70	0.60
2.50	0.85	0.75	0.79	0.75	0.71	0.65	0.59	0.54	0.52	0.49	0.40	0.85	0.75	0.79	0.75	0.65
3.00	0.90	0.78	0.83	0.79	0.74	0.69	0.62	0.58	0.56	0.52	0.43	0.90	0.78	0.83	0.79	0.69
4.00	0.96	0.83	0.89	0.84	0.79	0.74	0.67	0.64	0.60	0.57	0.47	0.96	0.83	0.89	0.84	0.74
5.00	1.00	0.86	0.93	0.87	0.82	0.78	0.70	0.67	0.63	0.60	0.50	1.00	0.86	0.93	0.87	0.78

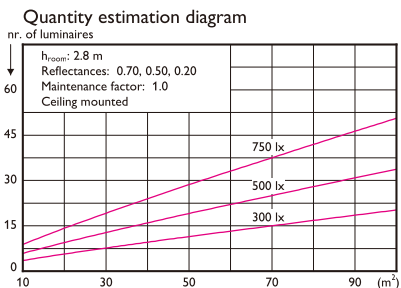
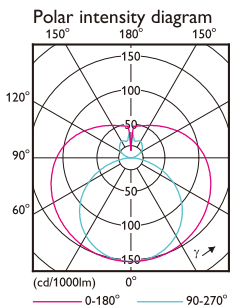
Luminance Table

Plane	0.0	15.0	30.0	45.0	60.0	75.0	90.0
Cone							
45.0	5593	5587	5656	5804	6127	6834	8325
50.0	5506	5493	5540	5645	5906	6573	8088
55.0	5453	5428	5456	5512	5692	6272	8025
60.0	5432	5397	5404	5410	5490	5923	7760
65.0	5447	5401	5390	5340	5310	5541	7376
70.0	5497	5442	5414	5313	5160	5101	6828
75.0	5588	5526	5488	5344	5066	4644	6014
80.0	5725	5659	5616	5442	5062	4215	4749
85.0	5920	5847	5811	5634	5200	3945	2872
90.0	6179	6108	6091	5946	5557	4177	606

(cd/m²)

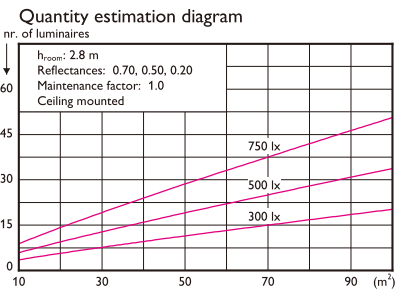
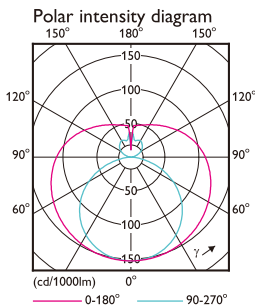
Ledtube DE 1200mm 19W 840 T8 G13

1 x 2000 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	0.50	0.50	0.30	0.30	0.00	0.80	0.80	0.70	0.70	0.70	0.00
0.60	0.30	0.10	0.30	0.20	0.10	0.10	0.10	0.10	0.10	0.00	0.30	0.10	0.30	0.20	0.10	0.00
0.80	0.38	0.37	0.36	0.35	0.35	0.27	0.25	0.20	0.22	0.18	0.38	0.37	0.36	0.35	0.35	0.14
1.00	0.48	0.45	0.45	0.44	0.43	0.35	0.31	0.27	0.28	0.24	0.48	0.45	0.45	0.44	0.43	0.19
1.25	0.56	0.52	0.52	0.50	0.49	0.41	0.37	0.32	0.33	0.29	0.56	0.52	0.52	0.50	0.49	0.23
1.50	0.63	0.58	0.59	0.57	0.55	0.47	0.43	0.38	0.38	0.34	0.63	0.58	0.59	0.57	0.55	0.27
2.00	0.69	0.63	0.65	0.62	0.59	0.52	0.47	0.42	0.42	0.38	0.69	0.63	0.65	0.62	0.59	0.30
2.50	0.78	0.70	0.73	0.70	0.66	0.60	0.54	0.49	0.48	0.44	0.78	0.70	0.73	0.70	0.66	0.36
3.00	0.85	0.75	0.79	0.75	0.71	0.65	0.59	0.54	0.52	0.49	0.85	0.75	0.79	0.75	0.71	0.40
4.00	0.90	0.78	0.83	0.78	0.74	0.69	0.62	0.58	0.56	0.52	0.90	0.78	0.83	0.78	0.74	0.43
5.00	0.95	0.83	0.89	0.84	0.79	0.74	0.67	0.64	0.60	0.57	0.95	0.83	0.89	0.84	0.79	0.47
5.00	1.00	0.86	0.93	0.87	0.82	0.78	0.70	0.67	0.63	0.60	1.00	0.86	0.93	0.87	0.82	0.50





Utilisation factor table

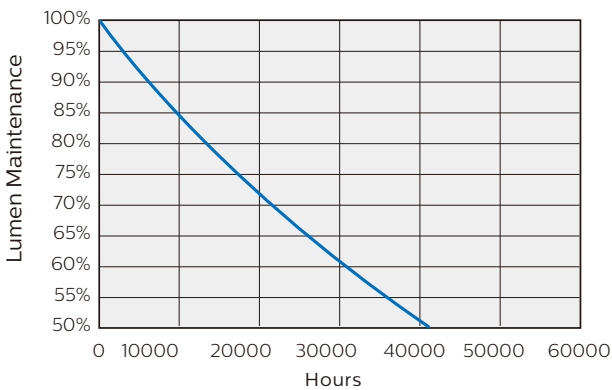
Room Index k	Reflectances (%) for ceiling, walls and working plane (CIE)															
	0.80				0.70				0.50				0.30			
	0.80	0.80	0.50	0.30	0.80	0.80	0.50	0.30	0.80	0.80	0.50	0.30	0.80	0.80	0.50	0.30
0.60	0.38	0.37	0.36	0.35	0.35	0.35	0.35	0.35	0.25	0.20	0.22	0.18	0.14			
0.80	0.48	0.45	0.45	0.44	0.43	0.43	0.43	0.43	0.31	0.27	0.28	0.24	0.19			
1.00	0.56	0.52	0.52	0.50	0.49	0.49	0.49	0.49	0.37	0.32	0.33	0.29	0.23			
1.25	0.63	0.58	0.59	0.57	0.55	0.55	0.55	0.55	0.43	0.38	0.38	0.34	0.27			
1.50	0.69	0.63	0.65	0.62	0.59	0.59	0.59	0.59	0.47	0.42	0.42	0.38	0.30			
2.00	0.78	0.70	0.73	0.70	0.66	0.66	0.66	0.66	0.54	0.49	0.48	0.44	0.36			
2.50	0.85	0.75	0.79	0.75	0.71	0.71	0.71	0.71	0.59	0.54	0.52	0.49	0.40			
3.00	0.90	0.78	0.83	0.79	0.74	0.74	0.74	0.74	0.62	0.58	0.56	0.52	0.43			
4.00	0.96	0.83	0.89	0.84	0.79	0.79	0.79	0.79	0.67	0.64	0.60	0.57	0.47			
5.00	1.00	0.86	0.93	0.87	0.82	0.82	0.82	0.82	0.70	0.67	0.63	0.60	0.50			

Luminance Table

Plane	0.0	15.0	30.0	45.0	60.0	75.0	90.0
Ceiling	5887	5881	5954	6110	6450	7194	8763
45.0	5887	5881	5954	6110	6450	7194	8763
50.0	5796	5782	5831	5942	6217	6918	8640
55.0	5740	5713	5743	5802	5991	6602	8447
60.0	5719	5681	5689	5694	5779	6244	8168
65.0	5733	5685	5673	5621	5590	5833	7765
70.0	5786	5729	5699	5592	5431	5370	7187
75.0	5882	5817	5776	5625	5332	4889	6331
80.0	6026	5957	5911	5729	5328	4437	4999
85.0	6232	6155	6117	5931	5474	4152	3023
90.0	6504	6429	6412	6259	5850	4396	638

(cd/m²)

## Lifetime and Lumen Maintenance

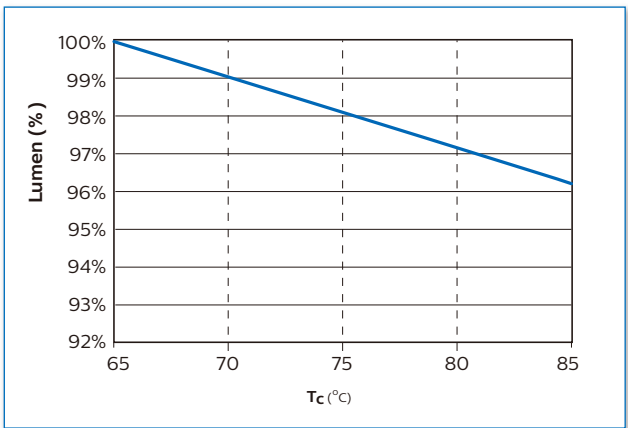


Philips Double-Ended LEDtube has a lifetime of 15,000 hours, defined as the number of hours when 50% of a large group of identical lamps below 70% of its initial lumens.

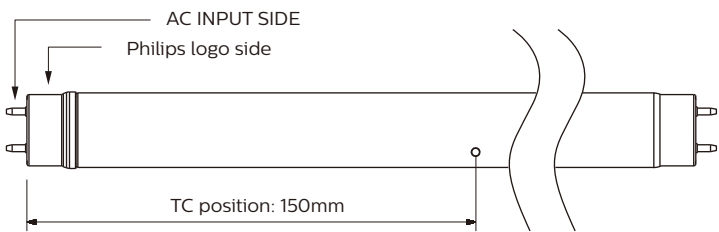
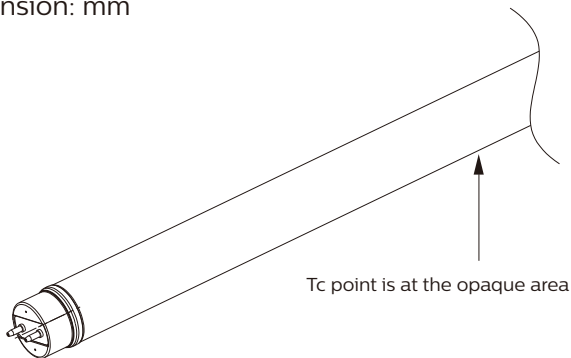
## Temperature

Philips Double-Ended 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 storage	min -40°C	max +65°C
Maximum surface temperature of tube at Tamb.=25°C	T surface		+60°C



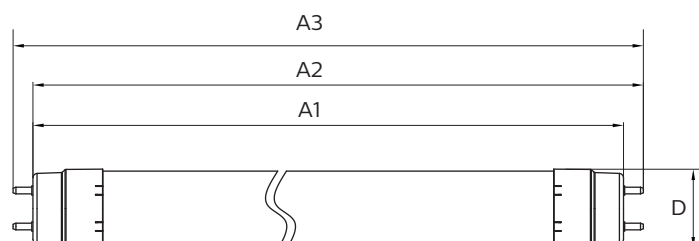
Dimension: mm





## Approbation & Certificates

Philips LEDtube is designed by strictly following applicable legislation.



Dimensions (mm)

Product	A1	A2	A3	D
600mm	588.5	595.5	602.5	28
1200mm	1198.2	1205.3	1212.4	28

## Technical specification

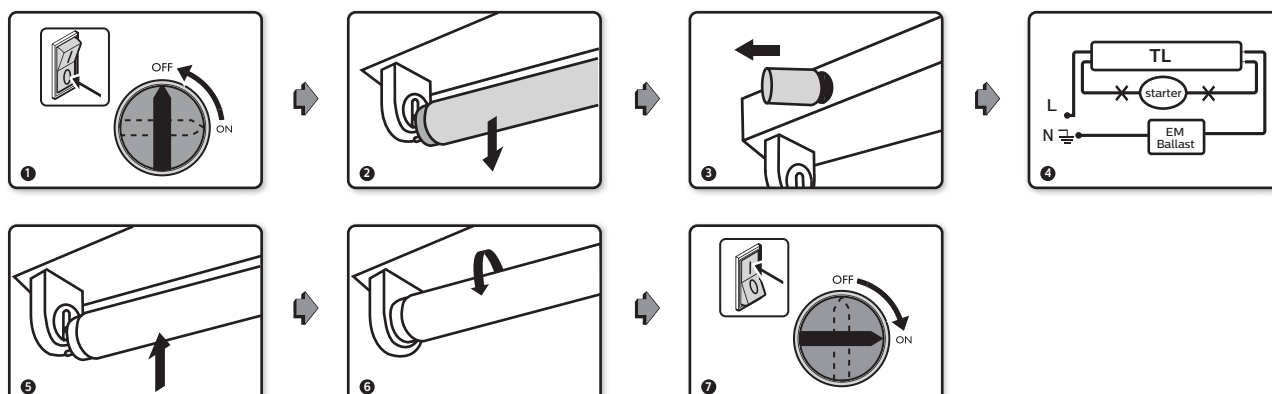
Product Description	Wattage ( W )	Voltage ( V )	Cap	Length ( mm )	Beam Angle ( ° )	Lifetime ( hrs )	Lumen output ( lm )	CCT ( K )	CRI * ( Typical )	Model Number
Ledtube DE 600mm 10W 830 T8 G13	10	220-240	G13	600	240	15,000	950	3000	80	9290024674
Ledtube DE 600mm 10W 840 T8 G13	10	220-240	G13	600	240	15,000	1000	4000	80	9290024675
Ledtube DE 600mm 10W 865 T8 G13	10	220-240	G13	600	240	15,000	1000	6500	80	9290024676
Ledtube DE 1200mm 19W 830 T8 G13	19	220-240	G13	1200	240	15,000	1900	3000	80	9290024741
Ledtube DE 1200mm 19W 840 T8 G13	19	220-240	G13	1200	240	15,000	2000	4000	80	9290024742
Ledtube DE 1200mm 19W 865 T8 G13	19	220-240	G13	1200	240	15,000	2000	6500	80	9290024743

\* minimum is 70

## Quick Installation Guide

Please take the time to read quick installation guide which is shown on the product package and below. Philips Lighting does not accept liability for any damages for installations not performed according to this guide or not performed by a professional electrician.

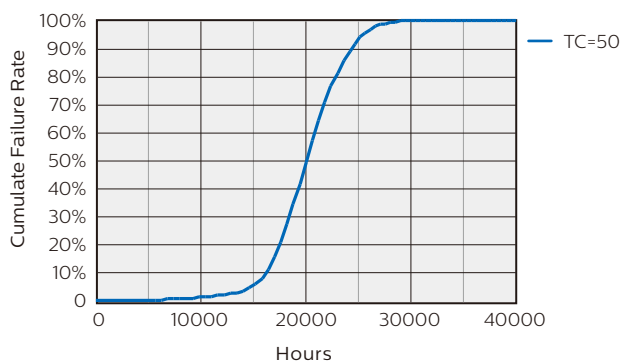
- EM ballast based system



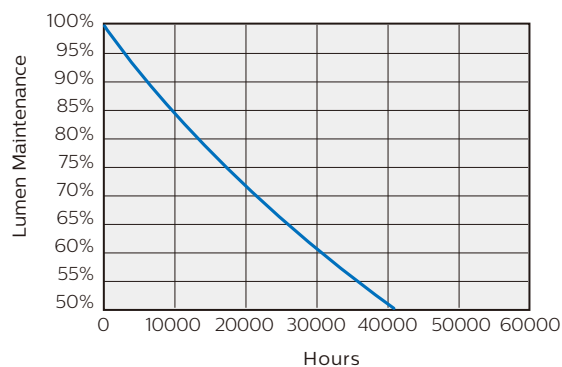


## OEM Guideline

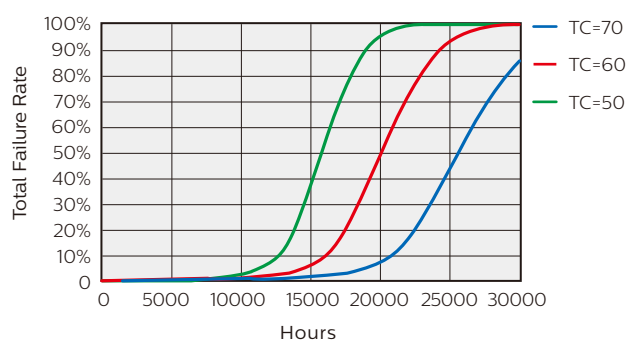
Lifetime Curve



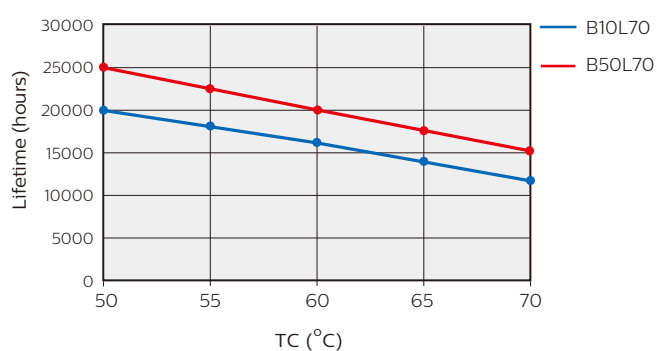
Lifetime and Lumen Maintenance



Failure Rate vs.  
Lifetime vs. Tcase



Lifetime vs. Tcase



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03/2021

[www.philips.com/lighting](http://www.philips.com/lighting)