Philips Ecofit LEDtube T8



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Philips Ecofit 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 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.

1. AA

big labels, small p

2

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

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

Energy Efficient

- Energy savings over 60%*
- * Based on comparison between 16W Ecofit LEDtube standard and Philips TLD standard or super 80 36W (40-44W system power when working with Electro Magnetic 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% comply with IEC requirement on T8 dimension, fitting into fluorescent luminaire perfectly

Application













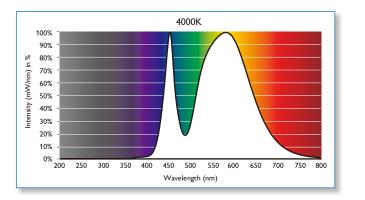


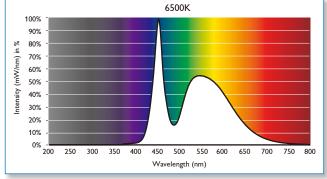




Spectral Power Distribution

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 LEDtube contains the visible light only. No harm from UV and IR.

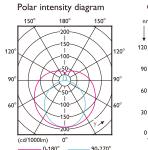




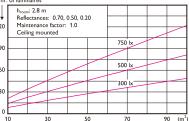
Photometric Diagrams

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.

1 x TLED 8W 4000K 240D



Quantity estimation diagram



Utilisation factor table

				cem	ng, wa	alls and	d worl	king p	lane (0	CIE)
0.80	0.80	0.70	0.70	0.70	0.70	0.50	0.50	0.30	0.30	0.00
0.50	0.50	0.50	0.50	0.50	0.30	0.30	0.10	0.30	0.10	0.00
0.30	0.10	0.30	0.20	0.10	0.10	0.10	0.10	0.10	0.10	0.00
0.40	0.38	0.38	0.37	0.36	0.29	0.27	0.22	0.25	0.21	0.17
0.50	0.47	0.47	0.46	0.44	0.37	0.34	0.29	0.31	0.27	0.22
0.58	0.53	0.54	0.53	0.51	0.43	0.40	0.35	0.36	0.32	0.27
0.65	0.60	0.62	0.59	0.57	0.50	0.46	0.41	0.42	0.38	0.31
0.72	0.65	0.67	0.65	0.62	0.55	0.50	0.45	0.46	0.42	0.35
0.81	0.72	0.76	0.72	0.69	0.63	0.57	0.53	0.52	0.49	0.41
0.87	0.77	0.82	0.78	0.74	0.68	0.62	0.58	0.57	0.54	0.46
0.92	0.81	0.86	0.81	0.77	0.72	0.66	0.62	0.60	0.57	0.49
0.98	0.85	0.92	0.86	0.81	0.77	0.71	0.67	0.65	0.62	0.53
1.02	0.88	0.96	0.90	0.84	0.80	0.74	0.71	0.68	0.65	0.56
	0.30 0.40 0.50 0.58 0.65 0.72 0.81 0.87 0.92 0.98	0.30 0.10 0.40 0.38 0.50 0.47 0.58 0.53 0.65 0.60 0.72 0.65 0.81 0.72 0.87 0.77 0.92 0.81 0.98 0.85	0.30 0.10 0.30 0.40 0.38 0.38 0.50 0.47 0.47 0.58 0.53 0.54 0.65 0.60 0.62 0.72 0.65 0.67 0.81 0.72 0.76 0.87 0.77 0.88 0.82 0.82 0.92 0.81 0.86 0.92	0.30 0.10 0.30 0.20 0.40 0.38 0.38 0.37 0.50 0.47 0.46 0.38 0.50 0.47 0.46 0.58 0.50 0.57 0.57 0.55 0.55 0.53 0.54 0.53 0.55 0.66 0.62 0.59 0.72 0.55 0.67 0.65 0.81 0.72 0.76 0.72 0.87 0.77 0.82 0.78 0.52 0.81 0.86 0.81 0.92 0.81 0.92 0.81	0.30 0.10 0.30 0.20 0.10 0.40 0.38 0.37 0.46 0.41 0.40 0.38 0.37 0.46 0.44 0.50 0.47 0.47 0.46 0.44 0.58 0.53 0.54 0.53 0.51 0.55 0.55 0.67 0.65 0.60 0.67 0.65 0.62 0.77 0.55 0.67 0.55 0.62 0.92 0.72 0.81 0.72 0.92 0.82 0.78 0.71 0.90 0.85 0.92 0.86 0.81 0.72 0.90 0.85 0.92 0.86 0.81 0.72	0.30 0.10 0.30 0.20 0.10 0.10 0.40 0.38 0.38 0.37 0.46 0.29 0.50 0.47 0.47 0.46 0.44 0.33 0.55 0.47 0.43 0.33 0.51 0.43 0.55 0.47 0.46 0.32 0.51 0.43 0.55 0.47 0.47 0.46 0.42 0.57 0.50 0.47 0.46 0.57 0.50 0.51 0.51 0.81 0.72 0.56 0.62 0.57 0.50 0.51 0.51 0.81 0.72 0.56 0.62 0.57 0.50 0.51 0.51 0.51 0.51 0.51 0.51 0.51 0.51 0.51 0.52 0.52 0.55 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0	3.33 0.10 0.30 0.20 0.10 0.10 0.40 0.38 0.37 0.45 0.40 0.41 0.40 0.38 0.71 0.45 0.42 0.37 0.45 0.42 0.59 0.47 0.47 0.44 0.41 0.31 0.44 0.41 0.41 0.45 0.40 0.42 0.57 0.57 0.54 0.44	3.33 4.10 9.30 2.00 9.10 9.10 9.10 9.10 0.40 3.80 0.70 0.40 3.40 0.70 0.21 0.21 0.40 3.80 0.77 0.46 0.44 0.47 0.34 0.24 0.24 0.50 0.47 0.47 0.46 0.45 0.55 0.51 0.40 0.34 0.24 0.24 0.24 0.25 <td>3.33 4.10 3.03 2.04 9.10 <th< td=""><td>250 630</td></th<></td>	3.33 4.10 3.03 2.04 9.10 <th< td=""><td>250 630</td></th<>	250 630

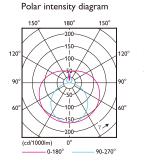
Luminance Table

Luminance Table

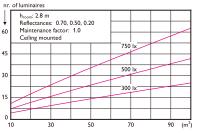
90.	75.0	60.0	45.0	30.0	15.0	0.0	Plane Cone
749	6191	5634	5442	5413	5452	5497	45.0
718	5785	5300	5171	5188	5251	5311	50.0
681	5348	4955	4919	4987	5083	5150	55.0
639	4898	4643	4706	4827	4941	5020	60.0
587	4426	4345	4513	4690	4838	4914	65.0
524	3936	4104	4372	4594	4767	4839	70.0
444	3448	3918	4304	4553	4743	4821	75.0
328	2983	3803	4287	4577	4749	4840	80.0
173	2656	3768	4332	4606	4767	4879	85.0
76	2625	3866	4399	4672	4845	4958	90.0

1 x 800 lm

1 x TLED 8W 6500K 240D



Quantity estimation diagram



Utilisation factor table

Ceiling mounted

	Re	flecta	nces (S	%) fo	r ceili	ing, w	alls an	d wor	king p	lane (CIE)
Room	0.80	0.80	0.70	0.70	0.70	0.70	0.50	0.50	0.30	0.30	0.00
Index	0.50	0.50	0.50	0.50	0.50	0.30	0.30	0.10	0.30	0.10	0.00
k	0.30	0.10	0.30	0.20	0.10	0.10	0.10	0.10	0.10	0.10	0.00
0.60	0.39	0.37	0.37	0.36	0.35	0.28	0.25	0.21	0.23	0.19	0.15
0.80	0.48	0.45	0.46	0.44	0.43	0.35	0.32	0.27	0.29	0.25	0.20
1.00	0.56	0.52	0.53	0.51	0.49	0.42	0.38	0.33	0.34	0.30	0.24
1.25	0.64	0.58	0.60	0.58	0.55	0.48	0.43	0.38	0.39	0.35	0.28
1.50	0.70	0.63	0.65	0.63	0.60	0.53	0.48	0.43	0.43	0.39	0.31
2.00	0.79	0.71	0.74	0.70	0.67	0.60	0.55	0.50	0.49	0.45	0.37
2.50	0.85	0.75	0.80	0.75	0.72	0.66	0.59	0.55	0.53	0.50	0.41
3.00	0.90	0.79	0.84	0.79	0.75	0.70	0.63	0.59	0.57	0.54	0.44
4.00	0.97	0.84	0.90	0.84	0.79	0.75	0.68	0.64	0.61	0.58	0.48
5.00	1.01	0.86	0.94	0.88	0.82	0.78	0.71	0.68	0.64	0.61	0.51

1 x 800 lm

Plane Cone	0.0	15.0	30.0	45.0	60.0	75.0	90.0
45.0	5042	4884	4888	5062	5378	5951	6914
50.0	4952	4758	4734	4888	5170	5728	6735
55.0	4883	4658	4611	4749	4975	5482	6483
60.0	4839	4579	4506	4625	4780	5212	6167
65.0	4820	4528	4432	4540	4603	4921	5754
70.0	4834	4512	4398	4499	4456	4628	5250
75.0	4906	4552	4422	4528	4356	4328	4538
80.0	5012	4629	4493	4617	4307	4030	3451
85.0	5148	4738	4602	4763	4354	3874	1914
90.0	5318	4880	4748	4964	4619	4312	1020
							(cd/m ²)

4

Polar intensity diagram 150° 180° 150° 120° 90° 60° (cd/1000im) 0° (cd/1000im) (c

Quantity estimation diagram

750 lx

500 lx

-300 l>

70

90 (m²)

h_{room}: 2.8 m Reflectances: 0.70, 0.50, 0.20 Maintenance factor: 1.0 Ceiling mounted

30

50

nr. of luminaire

. 60

45

30

15

0

10



	Re	flecta	nces (%) fo	r ceil	ing, w	alls an	d wor	king p	lane (CIE)
Room	0.80	0.80	0.70	0.70	0.70	0.70	0.50	0.50	0.30	0.30	0.00
Index	0.50	0.50	0.50	0.50	0.50	0.30	0.30	0.10	0.30	0.10	0.00
k	0.30	0.10	0.30	0.20	0.10	0.10	0.10	0.10	0.10	0.10	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
	0.50	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

Luminance Table

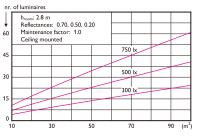
90.	75.0	60.0	45.0	30.0	15.0	0.0	Plane Cone
767	6300	5709	5497	5447	5468	5495	45.0
737	5902	5376	5228	5221	5269	5311	50.0
703	5471	5040	4979	5022	5100	5150	55.0
664	5031	4725	4765	4863	4962	5020	60.0
615	4555	4434	4578	4728	4859	4911	65.0
556	4074	4198	4441	4637	4789	4839	70.0
480	3590	4019	4378	4602	4766	4821	75.0
367	3130	3914	4362	4625	4777	4838	80.0
210	2819	3899	4416	4658	4794	4876	85.0
153	2845	4022	4500	4734	4875	4958	90.0

Ceiling mounted

1 x TLED 16W 6500K 240D

Polar intensity diagram 150° 180° 150° 120° 90° 60° 50° 90° 60° 150° 120° 90° 60° 120° 120° 120° 120° 120° 120° 120°

Quantity estimation diagram



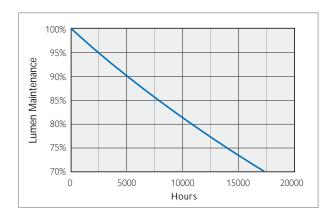
Utilisation factor table

	Re	flecta	nces (%) fo	r ceili	ing, w	alls an	d wor	king p	lane (CIE)
Room	0.80	0.80	0.70	0.70	0.70	0.70	0.50	0.50	0.30	0.30	0.00
Index	0.50	0.50	0.50	0.50	0.50	0.30	0.30	0.10	0.30	0.10	0.00
k	0.30	0.10	0.30	0.20	0.10	0.10	0.10	0.10	0.10	0.10	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	0.2
1.25	0.65	0.60	0.62	0.59	0.57	0.50	0.46	0.41	0.42	0.38	0.3
1.50	0.72	0.65	0.67	0.65	0.62	0.55	0.50	0.45	0.46	0.42	0.3
2.00	0.81	0.72	0.76	0.72	0.69	0.63	0.57	0.53	0.52	0.49	0.4
2.50	0.87	0.77	0.82	0.78	0.74	0.68	0.62	0.58	0.57	0.54	0.4
3.00	0.92	0.81	0.86	0.81	0.77	0.72	0.66	0.62	0.60	0.57	0.4
4.00	0.98	0.85	0.92	0.86	0.81	0.77	0.71	0.67	0.65	0.62	0.5
5.00	1.02	0.88	0.96	0.90	0.84	0.80	0.74	0.71	0.68	0.65	0.5

Luminance Table

90	75.0	60.0	45.0	30.0	15.0	0.0	Plane Cone
767	6300	5709	5497	5447	5468	5495	45.0
737	5902	5376	5228	5221	5269	5311	50.0
703	5471	5040	4979	5022	5100	5150	55.0
664	5031	4725	4765	4863	4962	5020	60.0
615	4555	4434	4578	4728	4859	4911	65.0
556	4074	4198	4441	4637	4789	4839	70.0
480	3590	4019	4378	4602	4766	4821	75.0
367	3130	3914	4362	4625	4777	4838	80.0
210	2819	3899	4416	4658	4794	4876	85.0
153	2845	4022	4500	4734	4875	4958	90.0

Lifetime and Lumen Maintenance



PHILIPS Ecofit 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.

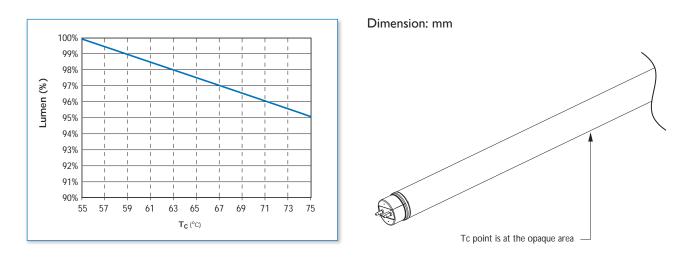
1 x 1600 lm

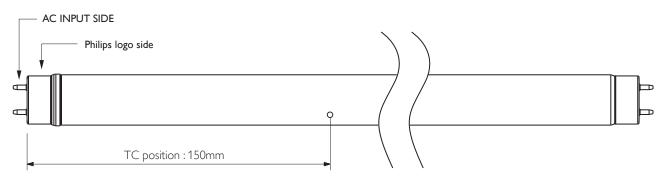
1 x 1600 lm

Temperature

Philips Ecofit 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

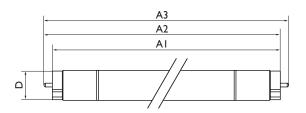




Approbation & Certificates

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





Dimensions (n	nm)			
Product	AI	A2	A3	D
600mm	588.5	595.5	602.5	28
I 200mm	1198	1205	1212	28

Technical specification

Product Description	Wattage	Voltage	Cap	Length	Beam	Lifetime	Lumen	ССТ	CRI *	Model Number
					Angle		output			
	(W)	(V)		(mm)	((hrs)	(lm)	(K)	(Typical)	
LEDtube 1200mm 16W 740 T8 AP C G	16	220-240	G13	1200	240	15,000	1600	4000	73	9290011845
LEDtube 1200mm 16W 765 T8 AP C G	16	220-240	G13	1200	240	15,000	1600	6500	73	9290011846
LEDtube 600mm 8W 740 T8 AP C G	8	220-240	G13	600	240	15,000	800	4000	73	9290011847
LEDtube 600mm 8W 765 T8 AP C G	8	220-240	G13	600	240	15,000	800	6500	73	9290011848

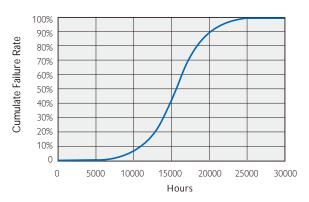
* minimum is 70

Quick Installation Guide

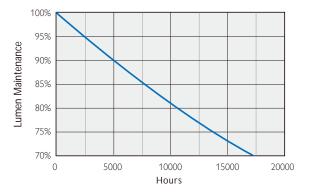
Please take the time to read quick installation guide which is showed on the product package. Philips Lighting does not accept liability for any damages for installations not performed according to this guide or not performed by a professional electrician.

OEM Guideline

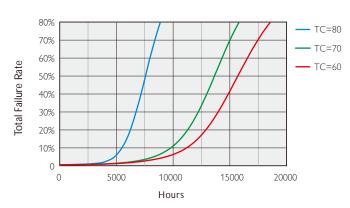




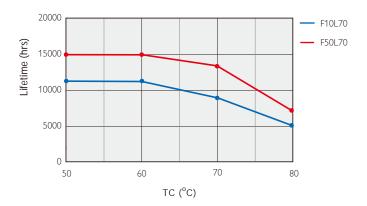
Lumen Maintenance vs. Lifetime



Failure Rate vs. Lifetime vs. Tcase



Lifetime vs. Tcase





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