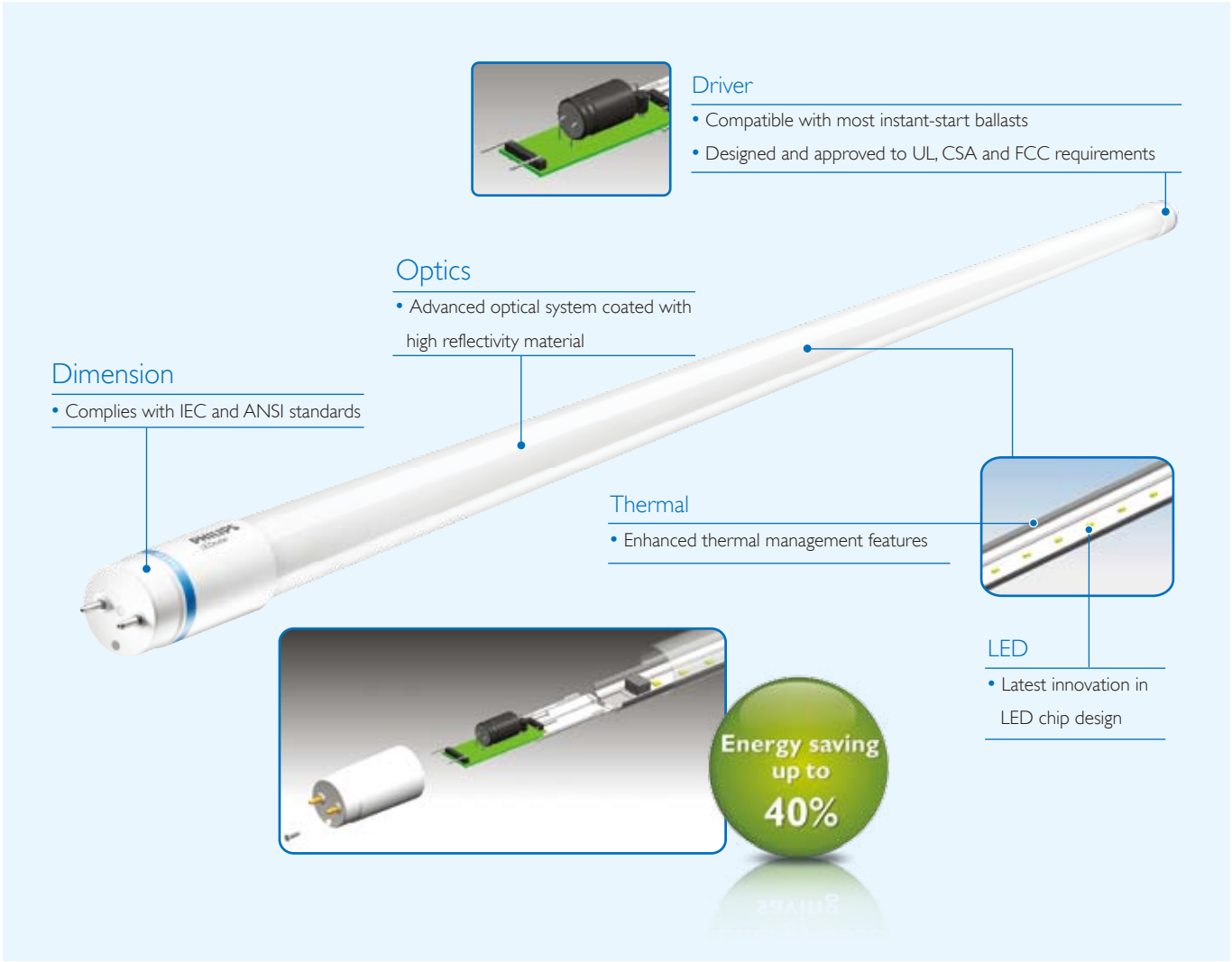
Philips LED T8 InstantFit Lamp

PHILIPS

sense and simplicity

The Philips LED T8 InstantFit lamp is a technology breakthrough out of our LEDtube portfolio. This product is compatible with instant start ballasts and is the easiest way to replace fluorescent tubes with LED tubes. The InstantFit lamp is a true plug-and-play LED solution that realizes an energy savings of up to 40%.



Product Features

Compatibility

- Innovative driver design that enables a "plug-and-play" LED solution to replace existing fluorescent lamps
- Quick and easy installation

Reliability

- Reliable operation between -20 C and 45 C ambient temperature
- Tested to B50 L70 requirement. For systems using a low (0.78) or normal (0.88 or less) ballast factor, InstantFit lamps are rated for 50,000 hours. For systems using a high ballast factor (greater than 0.88), InstantFit products are rated for 40,000 hours.
- 50,000 switching cycles

User Comfort

- CRI 82
- Advanced optical design ensures a uniform light output and superior optical efficiency

Energy Savings

- Energy savings of up to 40%*

Safety

- Over voltage and over temperature protection.
- Complies with UL and CSA safety requirements.
- Shatterproof polycarbonate (PC) material.

Environment

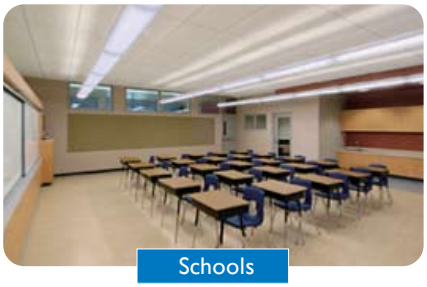
- No Mercury.
- Low Carbon Footprint.

** Based on comparison between 2 x 8.5W LED InstantFit T8 (2-lamp system power =22W) vs. 2 x 17W T8 TL System (2-lamp system power =35W), both lighting systems including lamps and reference instant start ballasts with BF 0.88*

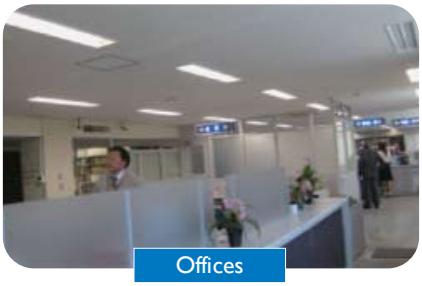
Application

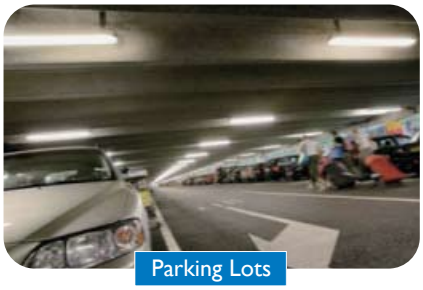

Retail


Industry


Schools


Hospitals

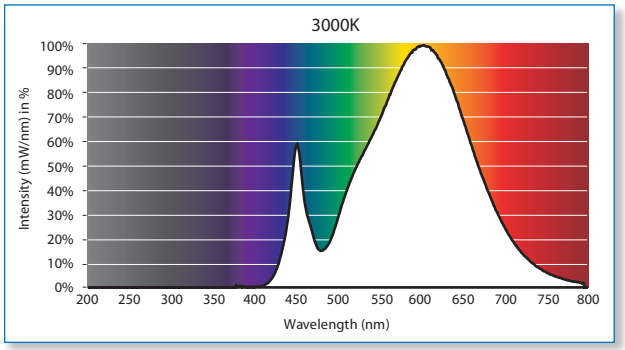

Offices

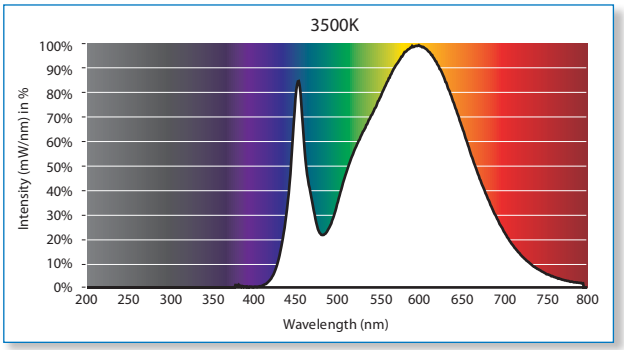

Parking Lots

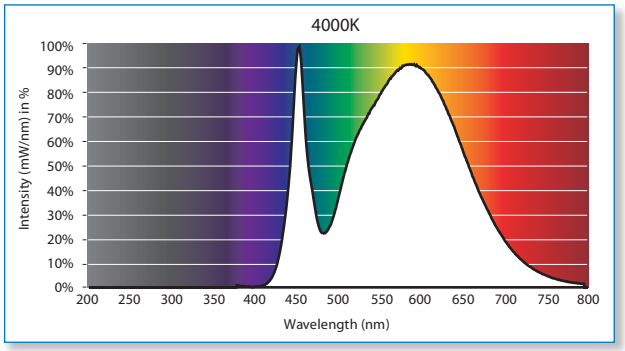

Warehouses

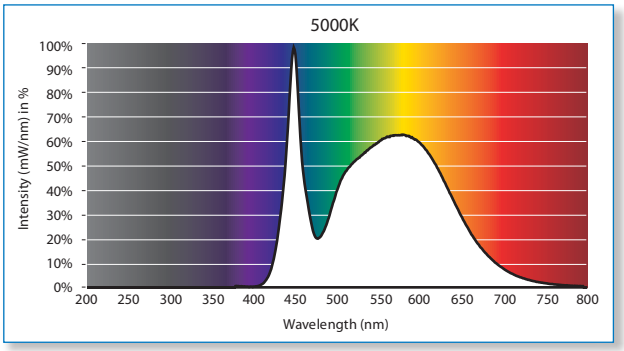

Public Areas

Spectral Power Distribution







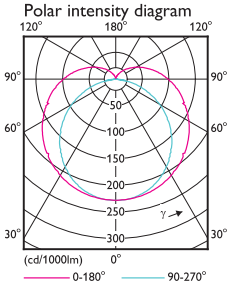


Photometric Diagrams

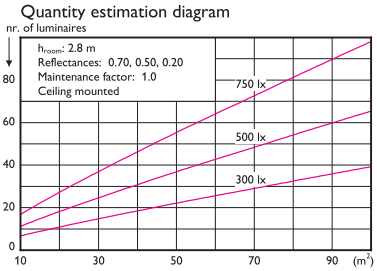
1 x Philips LED T8 InstantFit Lamp 8. 5W 3000K

1 x 950 lm

Polar intensity diagram



Quantity estimation diagram



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
	0.50	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
0.60	0.42	0.40	0.40	0.40	0.39	0.31	0.30	0.25	0.28	0.24	0.21
0.80	0.52	0.48	0.50	0.48	0.47	0.39	0.37	0.32	0.35	0.30	0.27
1.00	0.60	0.55	0.57	0.55	0.54	0.46	0.43	0.38	0.41	0.36	0.32
1.25	0.68	0.62	0.65	0.62	0.60	0.52	0.50	0.44	0.47	0.42	0.38
1.50	0.74	0.67	0.71	0.68	0.65	0.58	0.54	0.49	0.51	0.47	0.42
2.00	0.83	0.75	0.80	0.76	0.72	0.66	0.62	0.57	0.59	0.55	0.49
2.50	0.90	0.80	0.86	0.81	0.77	0.71	0.67	0.63	0.64	0.60	0.54
3.00	0.95	0.83	0.90	0.85	0.81	0.75	0.71	0.67	0.67	0.64	0.58
4.00	1.01	0.88	0.96	0.90	0.85	0.81	0.76	0.73	0.72	0.69	0.63
5.00	1.06	0.91	1.00	0.94	0.88	0.84	0.79	0.77	0.75	0.73	0.66

Ceiling mounted

Luminance Table

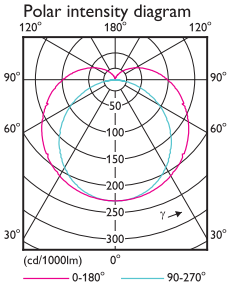
Plane Cone	0.0	15.0	30.0	45.0	60.0	75.0	90.0
45.0	3732	3660	3712	3901	4247	4831	5788
50.0	3570	3480	3519	3698	4026	4611	5634
55.0	3421	3311	3332	3496	3794	4363	5439
60.0	3284	3156	3161	3312	3566	4099	5205
65.0	3159	3013	3001	3138	3333	3801	4894
70.0	2962	2825	2825	2981	3102	3476	4502
75.0	2970	2786	2745	2859	2887	3124	3972
80.0	2901	2706	2659	2777	2400	1845	86
85.0	2838	2622	2559	2665	2492	2350	1979
90.0	2784	2546	2467	2564	2388	2236	676

(cd/m²)

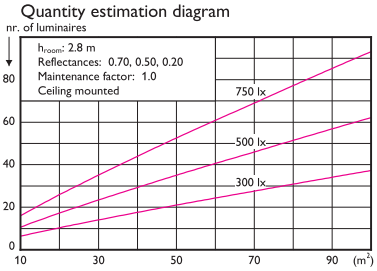
1 x Philips LED T8 InstantFit Lamp 8.5W 3500K

1 x 1000 lm

Polar intensity diagram



Quantity estimation diagram



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
	0.50	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
0.60	0.42	0.40	0.40	0.40	0.39	0.31	0.30	0.25	0.28	0.24	0.21
0.80	0.52	0.48	0.50	0.48	0.47	0.39	0.37	0.32	0.35	0.30	0.27
1.00	0.60	0.55	0.57	0.55	0.54	0.46	0.43	0.38	0.41	0.36	0.32
1.25	0.68	0.62	0.65	0.62	0.60	0.52	0.50	0.44	0.47	0.42	0.38
1.50	0.74	0.67	0.71	0.68	0.65	0.58	0.54	0.49	0.51	0.47	0.42
2.00	0.83	0.75	0.80	0.76	0.72	0.66	0.62	0.57	0.59	0.55	0.49
2.50	0.90	0.80	0.86	0.81	0.77	0.71	0.67	0.63	0.64	0.60	0.54
3.00	0.95	0.83	0.90	0.85	0.81	0.75	0.71	0.67	0.67	0.64	0.58
4.00	1.01	0.88	0.96	0.90	0.85	0.81	0.76	0.73	0.72	0.69	0.63
5.00	1.06	0.91	1.00	0.94	0.88	0.84	0.79	0.77	0.75	0.73	0.66

Ceiling mounted

Luminance Table

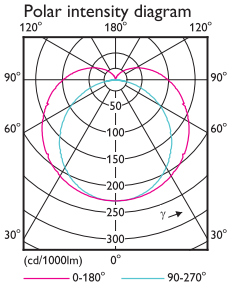
Plane Cone	0.0	15.0	30.0	45.0	60.0	75.0	90.0
45.0	3928	3853	3908	4106	4471	5085	6093
50.0	3758	3664	3704	3893	4238	4853	5931
55.0	3601	3485	3507	3680	3994	4593	5725
60.0	3457	3322	3327	3486	3754	4315	5479
65.0	3325	3171	3159	3303	3509	4002	5151
70.0	3118	2974	2974	3138	3265	3659	4739
75.0	3126	2933	2889	3009	3039	3289	4181
80.0	3053	2849	2800	2923	2526	1943	92
85.0	2987	2760	2694	2805	2623	2473	2081
90.0	2931	2680	2597	2700	2514	2354	714

(cd/m²)

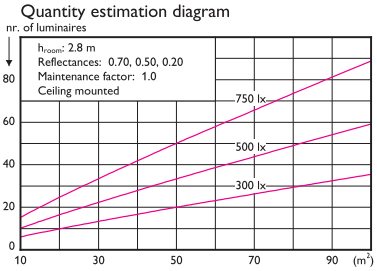
1 x Philips LED T8 InstantFit Lamp 8.5W 4000K

1 x 1050 lm

Polar intensity diagram



Quantity estimation diagram



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
	0.50	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
0.60	0.42	0.40	0.40	0.40	0.39	0.31	0.30	0.25	0.28	0.24	0.21
0.80	0.52	0.48	0.50	0.48	0.47	0.39	0.37	0.32	0.35	0.30	0.27
1.00	0.60	0.55	0.57	0.55	0.54	0.46	0.43	0.38	0.41	0.36	0.32
1.25	0.68	0.62	0.65	0.62	0.60	0.52	0.50	0.44	0.47	0.42	0.38
1.50	0.74	0.67	0.71	0.68	0.65	0.58	0.54	0.49	0.51	0.47	0.42
2.00	0.83	0.75	0.80	0.76	0.72	0.66	0.62	0.57	0.59	0.55	0.49
2.50	0.90	0.80	0.86	0.81	0.77	0.71	0.67	0.63	0.64	0.60	0.54
3.00	0.95	0.83	0.90	0.85	0.81	0.75	0.71	0.67	0.67	0.64	0.58
4.00	1.01	0.88	0.96	0.90	0.85	0.81	0.76	0.73	0.72	0.69	0.63
5.00	1.06	0.91	1.00	0.94	0.88	0.84	0.79	0.77	0.75	0.73	0.66

Ceiling mounted

Luminance Table

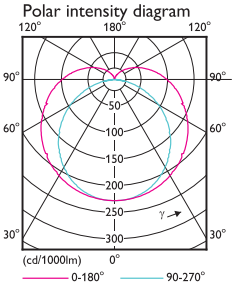
Plane Cone	0.0	15.0	30.0	45.0	60.0	75.0	90.0
45.0	4125	4045	4103	4312	4695	5340	6398
50.0	3945	3847	3889	4088	4450	5096	6228
55.0	3781	3659	3682	3864	4193	4822	6011
60.0	3630	3488	3493	3660	3941	4531	5752
65.0	3491	3330	3317	3468	3684	4202	5409
70.0	3274	3123	3123	3295	3428	3842	4976
75.0	3282	3080	3034	3159	3191	3453	4390
80.0	3206	2991	2939	3069	2653	2040	97
85.0	3137	2898	2828	2946	2754	2597	2186
90.0	3077	2814	2727	2835	2640	2472	753

(cd/m²)

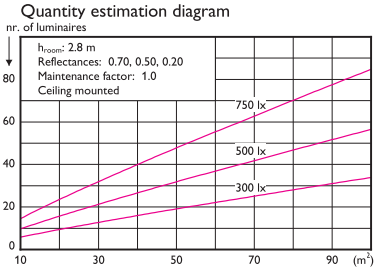
1 x Philips LED T8 InstantFit Lamp 8.5W 5000K

1 x 1100 lm

Polar intensity diagram



Quantity estimation diagram



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
	0.50	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
0.60	0.42	0.40	0.40	0.40	0.39	0.31	0.30	0.25	0.28	0.24	0.21
0.80	0.52	0.48	0.50	0.48	0.47	0.39	0.37	0.32	0.35	0.30	0.27
1.00	0.60	0.55	0.57	0.55	0.54	0.46	0.43	0.38	0.41	0.36	0.32
1.25	0.68	0.62	0.65	0.62	0.60	0.52	0.50	0.44	0.47	0.42	0.38
1.50	0.74	0.67	0.71	0.68	0.65	0.58	0.54	0.49	0.51	0.47	0.42
2.00	0.83	0.75	0.80	0.76	0.72	0.66	0.62	0.57	0.59	0.55	0.49
2.50	0.90	0.80	0.86	0.81	0.77	0.71	0.67	0.63	0.64	0.60	0.54
3.00	0.95	0.83	0.90	0.85	0.81	0.75	0.71	0.67	0.67	0.64	0.58
4.00	1.01	0.88	0.96	0.90	0.85	0.81	0.76	0.73	0.72	0.69	0.63
5.00	1.06	0.91	1.00	0.94	0.88	0.84	0.79	0.77	0.75	0.73	0.66

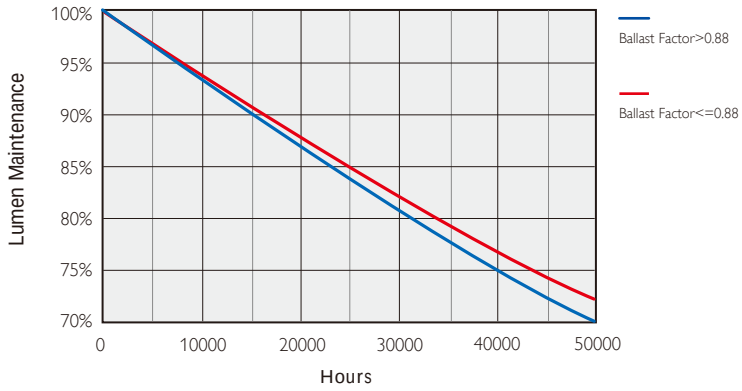
Ceiling mounted

Luminance Table

Plane Cone	0.0	15.0	30.0	45.0	60.0	75.0	90.0
45.0	4321	4238	4299	4517	4918	5594	6703
50.0	4133	4030	4075	4282	4662	5339	6524
55.0	3961	3834	3858	4048	4393	5052	6297
60.0	3803	3654	3660	3834	4129	4747	6026
65.0	3658	3488	3475	3633	3859	4402	5666
70.0	3430	3271	3272	3452	3592	4025	5213
75.0	3439	3227	3178	3310	3343	3618	4599
80.0	3358	3133	3079	3215	2779	2137	101
85.0	3286	3036	2963	3086	2885	2720	2289
90.0	3224	2948	2857	2970	2766	2589	791

(cd/m²)

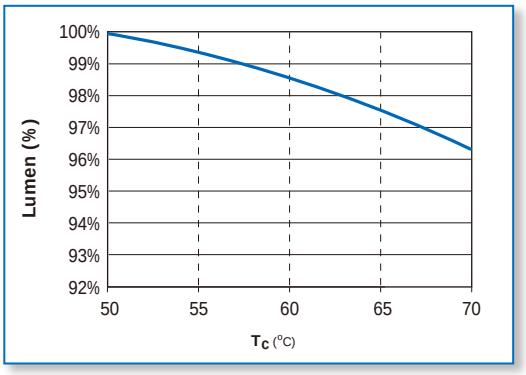
Lifetime and Lumen Maintenance

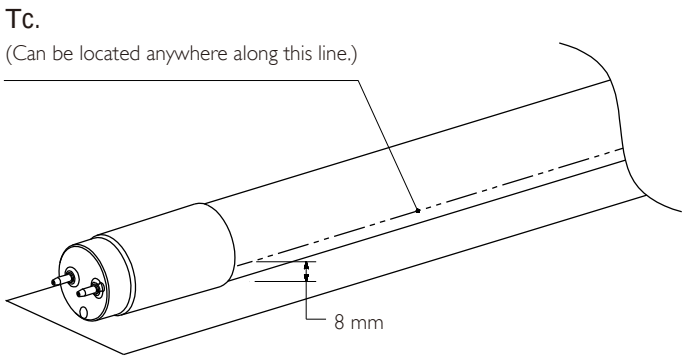


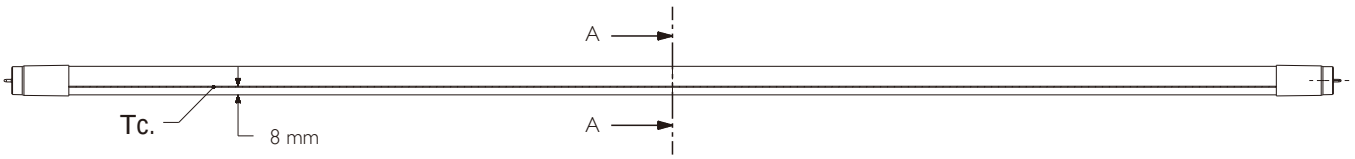
Philips LED T8 InstantFit Lamp has a lifetime of 50,000 hours for low and normal ballast factors and 40,000 for high ballast factors. This is defined as the number of hours when 50% of a large group of identical lamps drops below 70% of its initial lumens.

Temperature

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}		+50°C

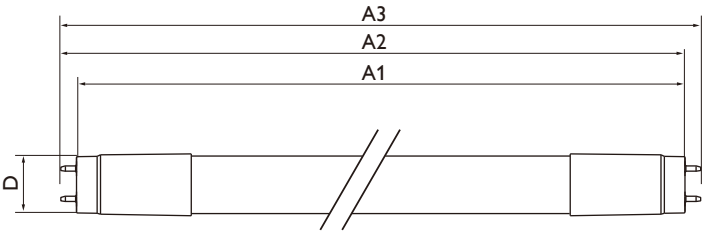






Approbation & Certificates

The product complies with **UL, NSF, RoHS, CSA**.



Dimensions (mm)

Product	A1	A2	A3	D
600mm	588.6	595.7	620.8	27.8

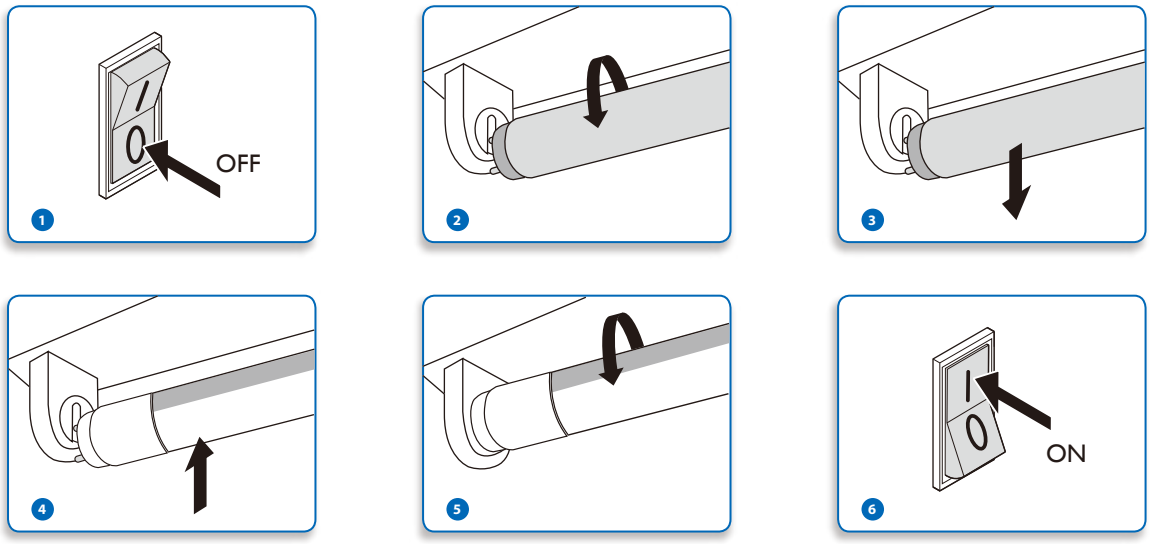
Technical specification

Product Description	Bare Lamp Wattage (W)			Average System (W)			Inital Lumens			Rated Avg. Life	Base	Length	Bulb Type	Product No.
	Low Ballast Factor (0.78)	Normal Ballast Factor (0.88)	High Ballast Factor (1.18)	Low Ballast Factor (0.78)	Normal Ballast Factor (0.88)	High Ballast Factor (1.18)	Low Ballast Factor (0.78)	Normal Ballast Factor (0.88)	High Ballast Factor (1.18)	* (hrs)		(In.)		
8.5T8/48-3000 IF 10/1	7.5	8.5	10.5	10	11	14.5	860	950	1110	50,000	G13	24	T8	452011
8.5T8/48-3500 IF 10/1	7.5	8.5	10.5	10	11	14.5	900	1000	1170	50,000	G13	24	T8	452029
8.5T8/48-4000 IF 10/1	7.5	8.5	10.5	10	11	14.5	930	1050	1200	50,000	G13	24	T8	452037
8.5T8/48-5000 IF 10/1	7.5	8.5	10.5	10	11	14.5	1000	1100	1290	50,000	G13	24	T8	452045

* Tested to B50 L70 requirement. For systems using a low (0.78) or normal (0.88 or less) ballast factor, InstantFit lamps are rated for 50,000 hours. For systems using a high ballast factor (greater than 0.88), InstantFit products are rated for 40,000 hours.

Installation Guide

The Philips LED T8 InstantFit lamp automatically adjust its light output that corresponds to the ballast factor that it is connected to Installation Guide.



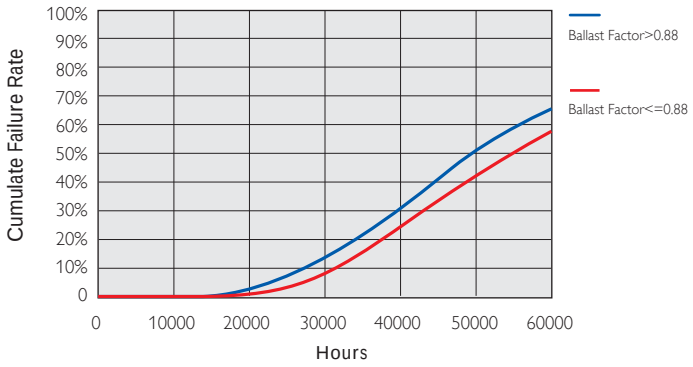
Please refer to www.philips.com/tled for the latest ballast compatibility guide.

Application Notes

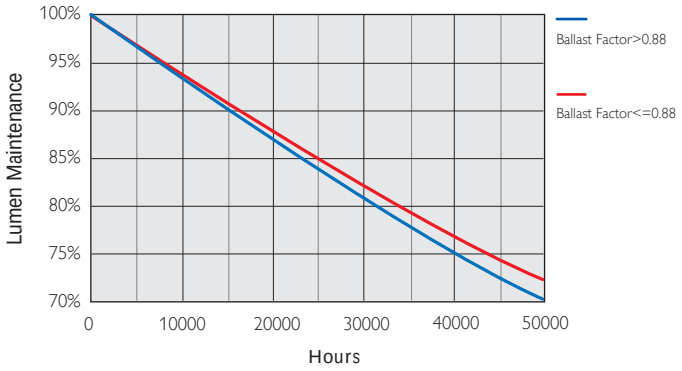
- Product is not dimmable.
- Suitable for dry & damp locations.
- Operating fixture ambient is -20°C and +45°C.
- Always switch off power to the luminaire before commencing work.
- Compatible only with instant-start ballasts. Please refer to www.philips.com/tled for the latest ballast compatibility guide.
- Luminaires must have shunted lamp holders. Ensure that the Philips LED T8 InstantFit lamp pins are firmly seated in their lampholders.
- Philips LED T8 InstantFit lamps are not compatible with luminaires that use a remote starter.
- Philips LED T8 InstantFit lamps are intended to retrofit, UL Listed surface mount, or type IC or non-IC recessed mount fluorescent luminaries with or without diffuser that use straight tubular lamps.
- Pre-Heat Luminaire and Caution stating "CAUTION – RISK OF FIRE. DO NOT INSTALL IN A PRE-HEAT LUMINIRE". Some older fluorescent luminaires contain a starter that heats the filaments for several seconds before starting the lamp. These luminaires are called Pre-Heat luminaires. They employ a starter which is typically housed in a small cylindrical metal can. The risk of fire hazard could possibly be due to zero impedance across the ballast when the filament is not present and the pins are shorted. This can cause higher currents through the circuit than when starting a fluorescent lamp, causing the ballast to overheat. The pins of the InstantFit TLED are not interenally shorted and therefore there is no current going through the circuit. InstantFit TLEDs have been tested to ensure there is no hazard when accidently installed in a pre-heat luminaire, however Philips does not guarantee proper operation.

OEM Guideline

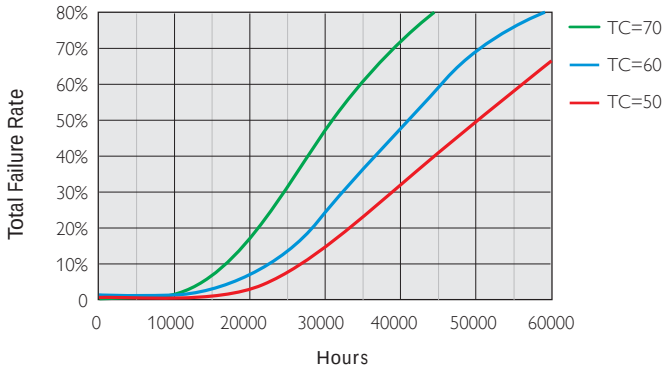
Failure rate vs. Lifetime @ Ta 25 °C



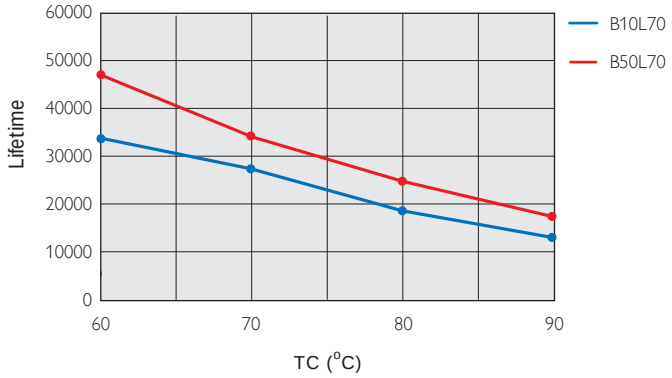
Lumen Maintenance vs. Lifetime



Failure Rate vs. Lifetime vs. Tcase



Lifetime vs. Tcase



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