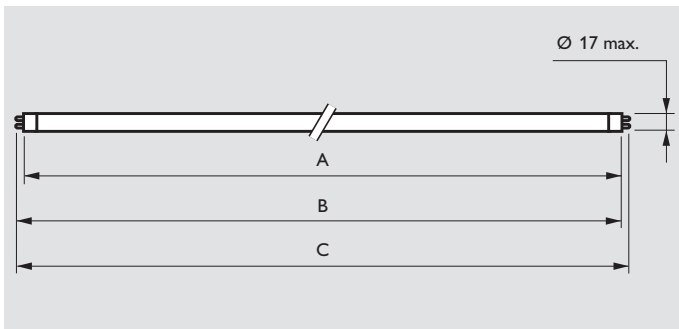
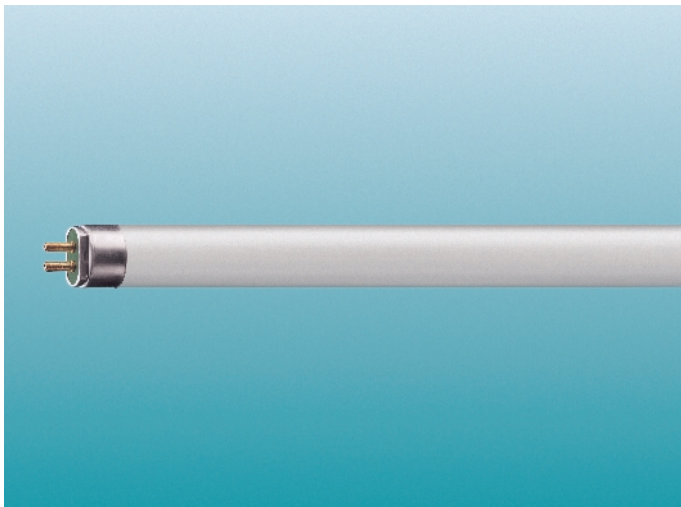


Fluorescent lamps

MASTER 'TL'5 High Efficiency



Dimensions in mm

Type	A max.	B min.	B max.	C max.
'TL'5 HE 14W	549.0	553.7	556.1	563.2
'TL'5 HE 21W	849.0	853.7	856.1	863.2
'TL'5 HE 28W	1149.0	1153.7	1156.1	1163.2
'TL'5 HE 35W	1449.0	1453.7	1456.1	1463.2

Note: The circumscription (inclusive the warp) of the lamps is 17 mm.

Definition

'TL'5 lamps are fluorescent lamps with a diameter of 16 mm, which is 40 % thinner than the diameter of existing 'TL'D lamps.

Description

'TL'5 HE lamps are designed for highest efficacy and system miniaturization.

With the 'TL'5 HE range highest efficiency will be reached with direct lighting in e.g. offices.

The latest technologies have been incorporated. The tri-phosphor layer in combination with precoating and lamp load add up to a high efficacy and offers a virtually constant lumen level during lamp life.

- If a so-called cut-off HF electronic ballast without additional electrode heating (designed on nominal lamp specs.) is used, the maximum lumen output of the lamp will be reached at approx. 35 °C in free-burning position.
- 'TL'5 HE lamps are especially designed for operation with electronic gear: Due to the high lamp voltages 50 Hz is not recommended or supported.
- The tube is 40 % thinner than existing 'TL'D lamps which have a 26 mm diameter. This smaller lamp gives luminaire designers much greater freedom in the design of their products.
- The lamp lengths have been defined for easy fitting into ceiling module systems.

Characteristics

Philips quality implies an optimum quality:

- a high lamp efficacy of up to 104 lm/W.
- a lumen maintenance of about 92 % at 10,000 burning hours.
- a colour rendering index of 85.
- a low mercury dose.
- at a 3 hours switching cycle the lamps will last 20,000 burning hours if operated on appropriate HF warm-start ballasts.
- the lamps are well-suited for dimming.
- the lamps can be ignited from -15 °C to +50 °C ambient temperature and are striation-poor even at low temperatures as compared to 'TL'D lamps.

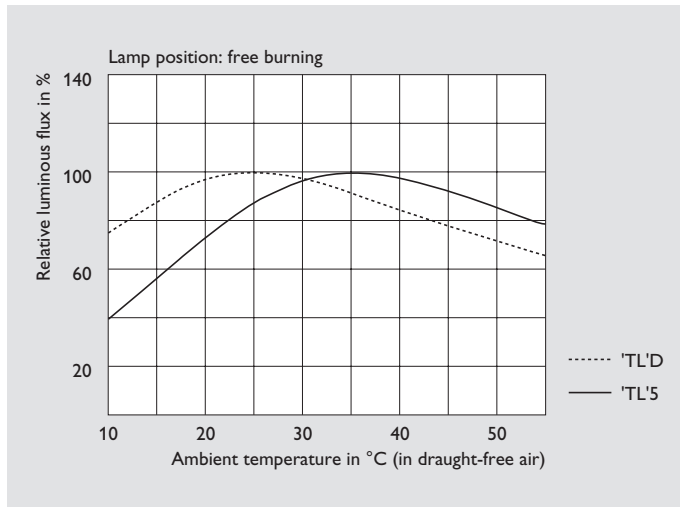
Applications

The 'TL'5 lamps allow more compact and efficient systems. The smaller lamp gives luminaire designers much greater freedom in the design of their products; the high efficacy of the lamp and electronic ballasts contribute to the environmental friendliness by energy saving. These factors make the 'TL'5 range ideally suited for recessed, surface mounted and suspended luminaires in a wide range of applications, where high quality and energy-effective lighting is required.

Applications include offices, shops, schools, hotels and industries.

Fluorescent lamps

MASTER 'TL'5 High Efficiency



The 'TL'5 lamp is optimized for temperature conditions one may expect in 'TL'5 luminaires (35°C), the 'TL'D lamp is optimized for 25°C ambient temperature.



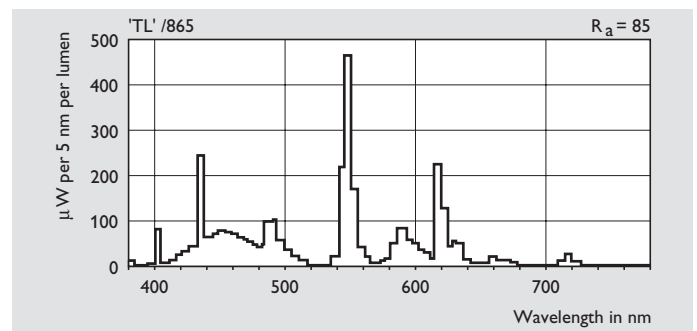
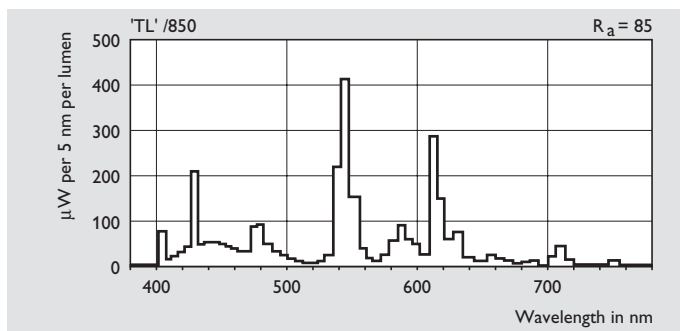
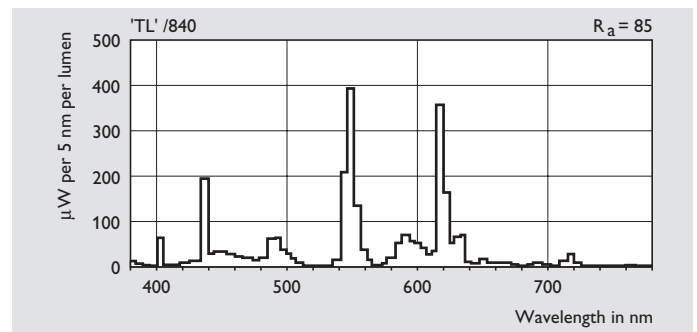
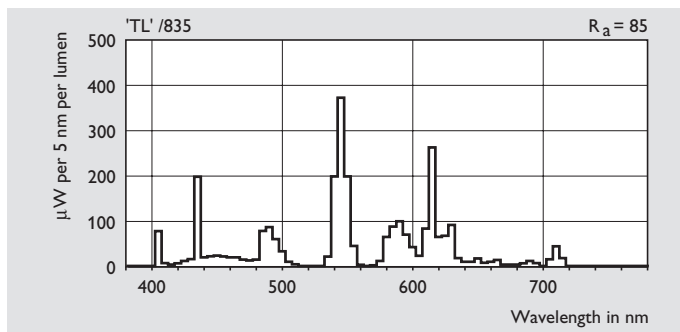
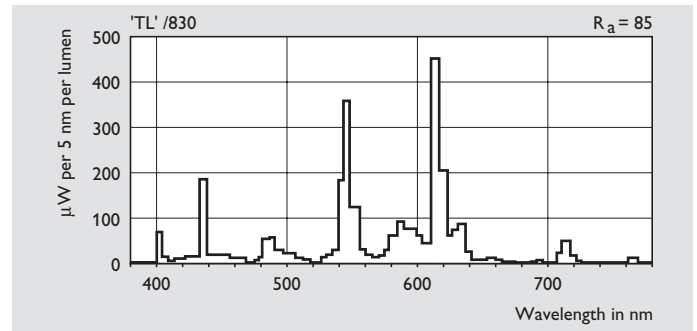
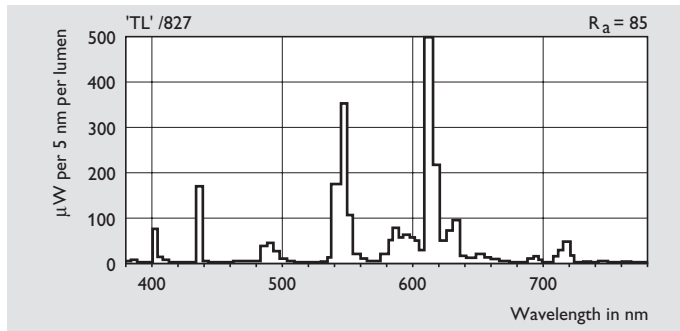
- Notes:
- Nominal luminous flux and electrical specifications defined at an ambient temperature of 25 °C in free burning position on reference ballast.
 - Efficacy (lm/W) and luminance defined at top of the lumen curve (approx. 35 °C).
 - The lamps require an end-of-life switch-off function.
 - Only 500 volt marked G5 holders to be used.
 - G5 cap contains marking dents to enable correct positioning at lamp mounting.
 - A tray pack (40 pcs) and an individually sleeved packing (30 pcs) is available.

Commercial name	Type	Cap/base	Lamp voltage	Lamp current	Nominal lumen output (25°C)	Colour designation	Corr. colour temp.	Efficacy top lumens	Average luminance at top	Nett weight	EOC sleeve	EOC tray pack
MASTER TL5 HE	'TL'5 HE 14W /827	G5	86	165	1200	INCAND. LIGHT	2700	96	1.7	55	641021	610621
MASTER TL5 HE	'TL'5 HE 14W /830	G5	86	165	1200	WARM WHITE	3000	96	1.7	55	639387	610638
MASTER TL5 HE	'TL'5 HE 14W /835	G5	86	165	1200	WHITE 3500	3500	96	1.7	55	707659	610654
MASTER TL5 HE	'TL'5 HE 14W /840	G5	86	165	1200	COOL WHITE	4000	96	1.7	55	639400	610669
MASTER TL5 HE	'TL'5 HE 14W /850	G5	86	165	1100	DAYLIGHT	5000	89	1.6	55	-	610676
MASTER TL5 HE	'TL'5 HE 14W /865	G5	86	165	1100	COOL DAYLIGHT	6500	89	1.6	55	710093	610683
MASTER TL5 HE	'TL'5 HE 21W /827	G5	129	165	1900	INCAND. LIGHT	2700	100	1.7	85	643209	610690
MASTER TL5 HE	'TL'5 HE 21W /830	G5	129	165	1900	WARM WHITE	3000	100	1.7	85	639424	610706
MASTER TL5 HE	'TL'5 HE 21W /835	G5	129	165	1900	WHITE 3500	3500	100	1.7	85	-	610713
MASTER TL5 HE	'TL'5 HE 21W /840	G5	129	165	1900	COOL WHITE	4000	100	1.7	85	639448	610720
MASTER TL5 HE	'TL'5 HE 21W /865	G5	129	165	1750	COOL DAYLIGHT	6500	93	1.6	85	710116	610775
MASTER TL5 HE	'TL'5 HE 28W /827	G5	170	170	2600	INCAND. LIGHT	2700	104	1.7	110	643223	610782
MASTER TL5 HE	'TL'5 HE 28W /830	G5	170	170	2600	WARM WHITE	3000	104	1.7	110	639462	610812
MASTER TL5 HE	'TL'5 HE 28W /835	G5	170	170	2600	WHITE 3500	3500	104	1.7	110	710048	610874
MASTER TL5 HE	'TL'5 HE 28W /840	G5	170	170	2600	COOL WHITE	4000	104	1.7	110	639486	610904
MASTER TL5 HE	'TL'5 HE 28W /850	G5	170	170	2400	DAYLIGHT	5000	96	1.6	110	-	610911
MASTER TL5 HE	'TL'5 HE 28W /865	G5	170	170	2400	COOL DAYLIGHT	6500	96	1.6	110	710154	610928
MASTER TL5 HE	'TL'5 HE 35W /827	G5	215	170	3300	INCAND. LIGHT	2700	104	1.7	140	643247	610935
MASTER TL5 HE	'TL'5 HE 35W /830	G5	215	170	3300	WARM WHITE	3000	104	1.7	140	639509	611031
MASTER TL5 HE	'TL'5 HE 35W /835	G5	215	170	3300	WHITE 3500	3500	104	1.7	140	710062	611048
MASTER TL5 HE	'TL'5 HE 35W /840	G5	215	170	3300	COOL WHITE	4000	104	1.7	140	639523	611055
MASTER TL5 HE	'TL'5 HE 35W /865	G5	215	170	3100	COOL DAYLIGHT	6500	97	1.6	140	710185	611079

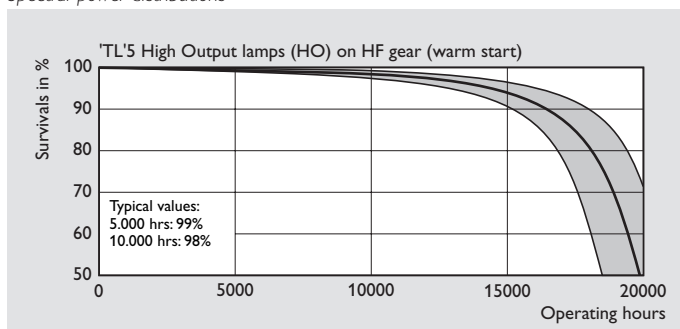


Fluorescent lamps

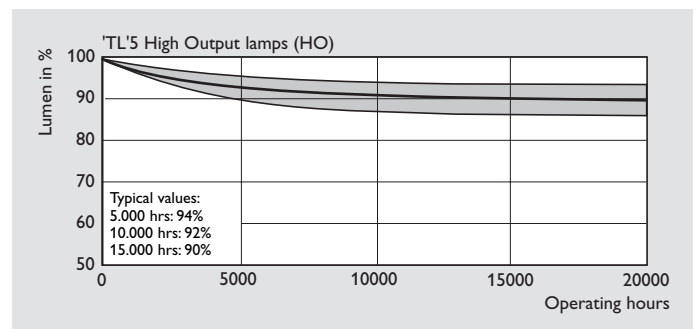
MASTER 'TL'5 High Efficiency



Spectral power distributions



Life expectancy



Lumen maintenance

