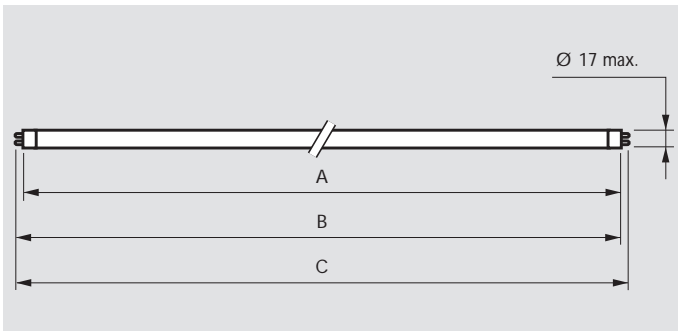
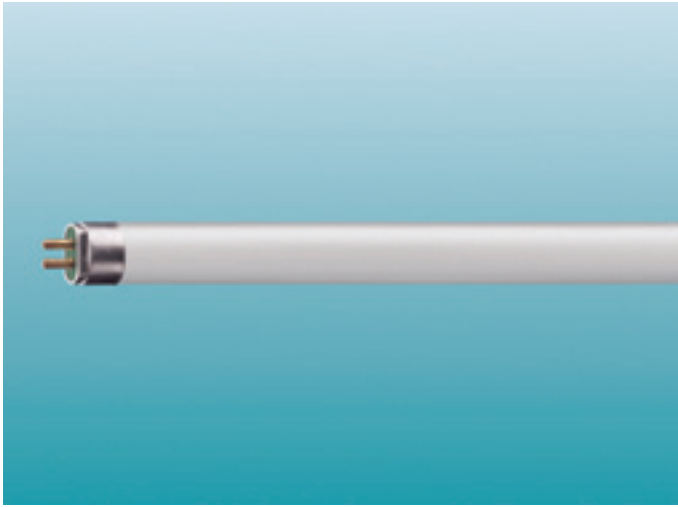


Fluorescent lamps

MASTER TL5 High Efficiency



Dimensions in mm

| Type | A max. | B min. | B max. | C max. |
|------------|-----------|-----------|-----------|-----------|
| TL5 HE 14W | 549.0 | 553.7 | 556.1 | 563.2 |
| TL5 HE 21W | 849.0 | 853.7 | 856.1 | 863.2 |
| TL5 HE 28W | 1149.0 | 1153.7 | 1156.1 | 1163.2 |
| TL5 HE 35W | 1449.0 | 1453.7 | 1456.1 | 1463.2 |

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

Definition

TL5 lamps are fluorescent lamps with a diameter of 16 mm, which is 40% thinner than the diameter of existing TL-D lamps.

Description

TL5 HE lamps are designed for highest efficacy and system miniaturization.

With the TL5 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 pre-coating 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.
- TL5 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.

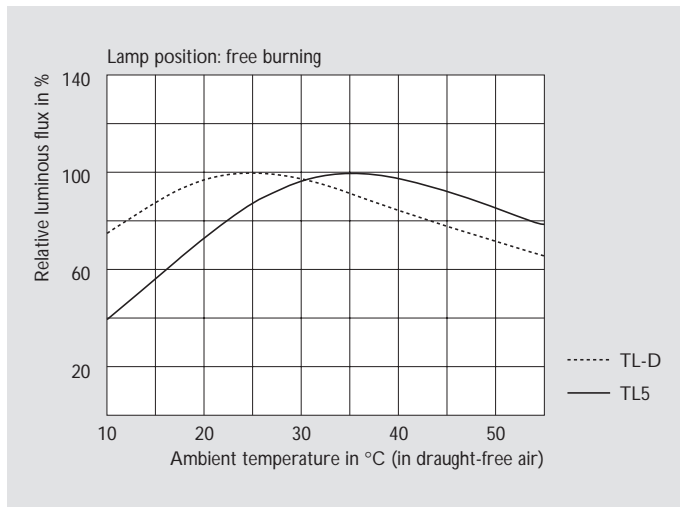
Characteristics

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 TL5 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 TL5 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.



The TL5 lamp is optimized for temperature conditions that may be expected in TL5 luminaires (35 °C). The TL-D lamp is optimized for an ambient temperature of 25 °C.

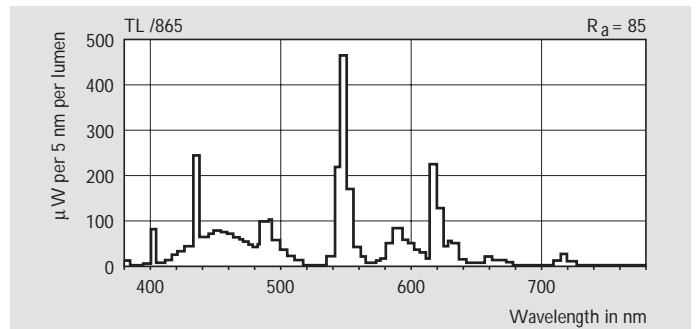
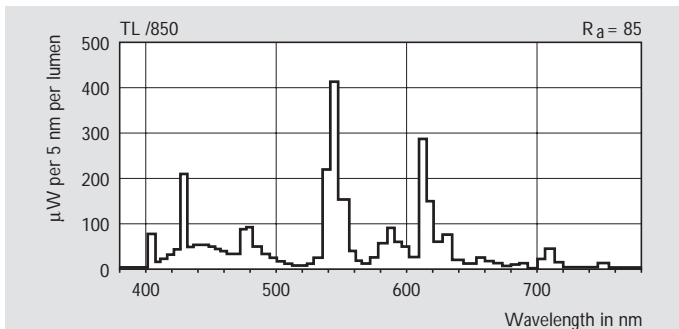
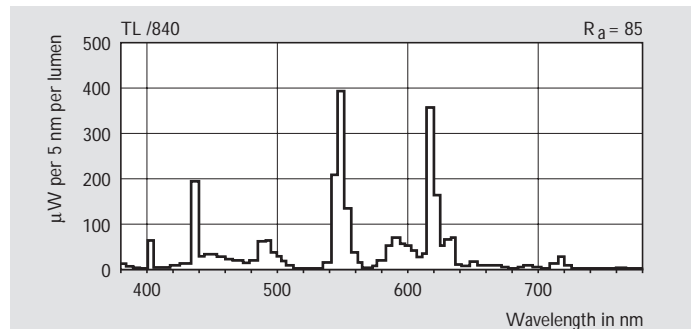
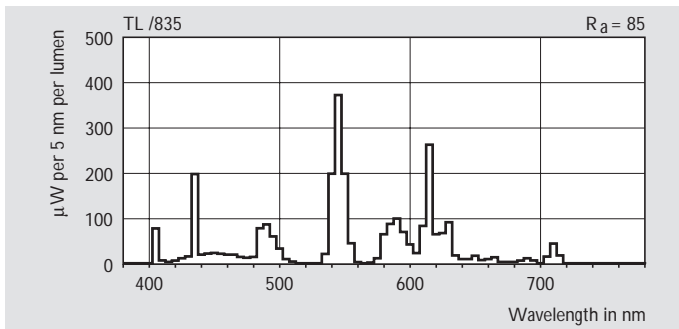
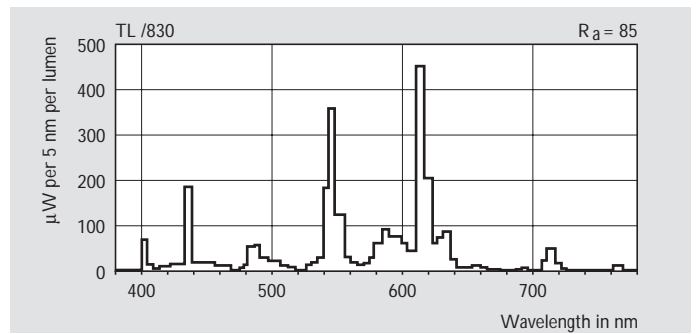
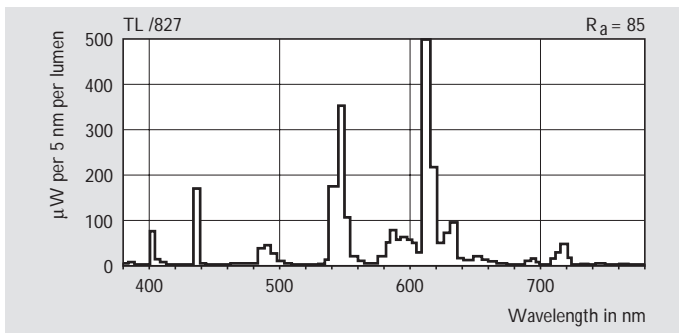
Notes:

- 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.

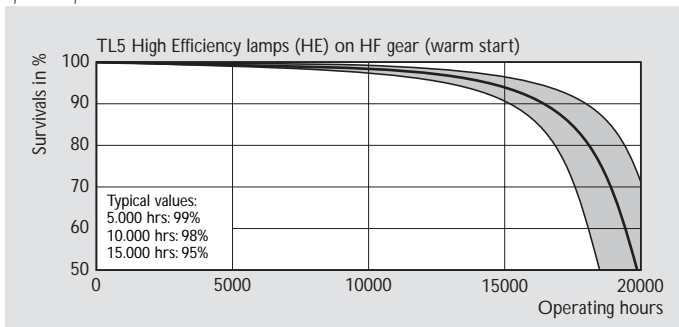
| Commercial name | Type | Cap/ base | Lamp voltage | Lamp current | Nominal lumen output (25°C) lm | Colour designation | Corr. colour temp. K | Efficacy top lumens | Average luminance at top cd/cm² | Nett weight g | EOC sleeve | EOC tray pack |
|-----------------|-----------------|-----------|--------------|--------------|-----------------------------------|--------------------|-------------------------|---------------------|------------------------------------|------------------|------------|---------------|
| | | | V | mA | | | | lm/W | | | | |
| MASTER TL5 HE | TL5 HE 14W /827 | G5 | 83 | 170 | 1200 | INCAND. WHITE | 2700 | 96 | 1.7 | 55 | 641021 | 610621 |
| MASTER TL5 HE | TL5 HE 14W /830 | G5 | 83 | 170 | 1200 | WARM WHITE | 3000 | 96 | 1.7 | 55 | 639387 | 610638 |
| MASTER TL5 HE | TL5 HE 14W /835 | G5 | 83 | 170 | 1200 | WHITE | 3500 | 96 | 1.7 | 55 | 707659 | 610654 |
| MASTER TL5 HE | TL5 HE 14W /840 | G5 | 83 | 170 | 1200 | COOL WHITE | 4000 | 96 | 1.7 | 55 | 639400 | 610669 |
| MASTER TL5 HE | TL5 HE 14W /850 | G5 | 83 | 170 | 1100 | DAYLIGHT | 5000 | 89 | 1.6 | 55 | - | 610676 |
| MASTER TL5 HE | TL5 HE 14W /865 | G5 | 83 | 170 | 1100 | COOL DAYLIGHT | 6500 | 89 | 1.6 | 55 | 710093 | 610683 |
| MASTER TL5 HE | TL5 HE 21W /827 | G5 | 125 | 170 | 1900 | INCAND. WHITE | 2700 | 100 | 1.7 | 85 | 643209 | 610690 |
| MASTER TL5 HE | TL5 HE 21W /830 | G5 | 125 | 170 | 1900 | WARM WHITE | 3000 | 100 | 1.7 | 85 | 639424 | 610706 |
| MASTER TL5 HE | TL5 HE 21W /835 | G5 | 125 | 170 | 1900 | WHITE | 3500 | 100 | 1.7 | 85 | - | 610713 |
| MASTER TL5 HE | TL5 HE 21W /840 | G5 | 125 | 170 | 1900 | COOL WHITE | 4000 | 100 | 1.7 | 85 | 639448 | 610720 |
| MASTER TL5 HE | TL5 HE 21W /865 | G5 | 125 | 170 | 1750 | COOL DAYLIGHT | 6500 | 93 | 1.6 | 85 | 710116 | 610775 |
| MASTER TL5 HE | TL5 HE 28W /827 | G5 | 166 | 170 | 2600 | INCAND. WHITE | 2700 | 104 | 1.7 | 110 | 643223 | 610782 |
| MASTER TL5 HE | TL5 HE 28W /830 | G5 | 166 | 170 | 2600 | WARM WHITE | 3000 | 104 | 1.7 | 110 | 639462 | 610812 |
| MASTER TL5 HE | TL5 HE 28W /835 | G5 | 166 | 170 | 2600 | WHITE | 3500 | 104 | 1.7 | 110 | 710048 | 610874 |
| MASTER TL5 HE | TL5 HE 28W /840 | G5 | 166 | 170 | 2600 | COOL WHITE | 4000 | 104 | 1.7 | 110 | 639486 | 610904 |
| MASTER TL5 HE | TL5 HE 28W /850 | G5 | 166 | 170 | 2400 | DAYLIGHT | 5000 | 96 | 1.6 | 110 | - | 610911 |
| MASTER TL5 HE | TL5 HE 28W /865 | G5 | 166 | 170 | 2400 | COOL DAYLIGHT | 6500 | 96 | 1.6 | 110 | 710154 | 610928 |
| MASTER TL5 HE | TL5 HE 35W /827 | G5 | 208 | 170 | 3300 | INCAND. WHITE | 2700 | 104 | 1.7 | 140 | 643247 | 610935 |
| MASTER TL5 HE | TL5 HE 35W /830 | G5 | 208 | 170 | 3300 | WARM WHITE | 3000 | 104 | 1.7 | 140 | 639509 | 611031 |
| MASTER TL5 HE | TL5 HE 35W /835 | G5 | 208 | 170 | 3300 | WHITE | 3500 | 104 | 1.7 | 140 | 710062 | 611048 |
| MASTER TL5 HE | TL5 HE 35W /840 | G5 | 208 | 170 | 3300 | COOL WHITE | 4000 | 104 | 1.7 | 140 | 639523 | 611055 |
| MASTER TL5 HE | TL5 HE 35W /865 | G5 | 208 | 170 | 3100 | COOL DAYLIGHT | 6500 | 97 | 1.6 | 140 | 710185 | 611079 |

Fluorescent lamps

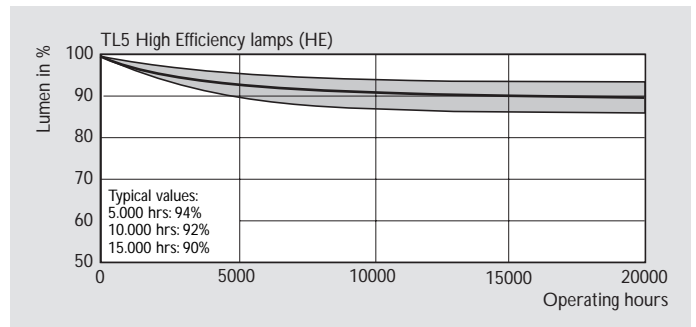
MASTER TL5 High Efficiency



Spectral power distributions



Life expectancy



Lumen maintenance