

T5 Circline

Fluorescent Lamps
22W, 40W and 55W

Product information

GE Lighting offers a wide selection of T5 linear fluorescent lamps, ranging from standard products to the latest models of Watt-Miser™ branded light sources consuming up to 5% less energy than other T5 similar types found on the market. These T5 circular lamps are great complement to this range, providing an alternative to conventional strip lighting. This ring-shaped fluorescent lamp enables the use of eye catching slender and shallow ceiling and wall mounted fixtures. Lighting designers favour this product for the unique shape coupled with high efficiency and excellent colour quality.

Features

- Circular shape with 16mm bulb diameter
- 2GX13 base
- Up to 83lm/W lamp efficiency
- Dimmable
- Operated with electronic ballasts only
- Suitable for recessed, pendant and wall mounted fixtures

Application areas

T5 Circline lamps are mostly recommended for indoor applications, such as:

- Retail
- Offices
- Home
- Restaurants
- Hotels



Product range

GE T5 Circline lamps are available in 3 wattages: 22W, 40W and 55W. The available colour temperatures are:

- 2700K extra warm white
- 3000K warm white
- 4000K cool white
- 6500K daylight

Compliance

The T5 Circline fluorescent lamps comply with IEC/EN 60061, IEC/EN 60901 and IEC/EN 61199.

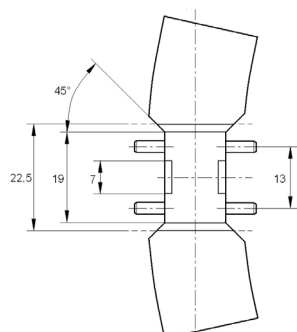
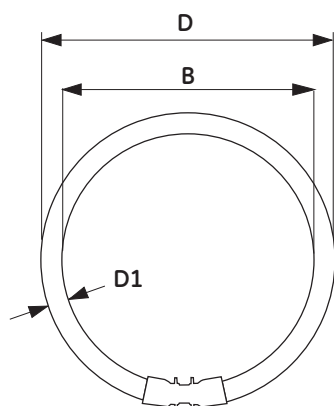


Basic data

| Lamp type | 22W | 40W | 55W |
|---|--------------------------------------|--------------------------------------|--------------------------------------|
| General | | | |
| Nominal Wattage [W] | 22 | 40 | 55 |
| Weighted energy consumption (kWh/1000h) for 827, 830, 840 | 25 | 45 | 61 |
| Weighted energy consumption (kWh/1000h) for 865 | 25 | 44 | 61 |
| Cap | 2GX13 | 2GX13 | 2GX13 |
| Operation | high frequency | high frequency | high frequency |
| Cathode | preheated | preheated | preheated |
| Design Temperature [°C] | 25 | 25 | 25 |
| Recommended Burning Position | horizontal (test position) /vertical | horizontal (test position) /vertical | horizontal (test position) /vertical |
| Energy Efficiency Class | A | A | A |
| Average Mercury Content [mg] | <3.5 | <3.5 | <3.5 |
| Ordering Information (25-way sleeve pack) | | | |
| 827 - CCT 2700K - Extra Warm White | 75707 | 75711 | 75716 |
| 830 - CCT 3000K - Warm White | 75709 | 75712 | 75717 |
| 840 - CCT 4000K - Cool White | 75720 | 75713 | 75718 |
| 865 - CCT 6500K - Daylight | 75710 | 75715 | 75719 |
| Electrical and Photometric Characteristics at 25°C | | | |
| Rated Wattage [W] | 22.3 | 39.9 | 55.0 |
| Rated Lamp Voltage [V] | 75 | 126 | 101 |
| Rated Lamp Current [A] | 0.300 | 0.320 | 0.550 |
| Operating Frequency [Khz] | >20 | >20 | >20 |
| Rated Luminous Flux [lm] | 1900 | 3300 | 4200 |
| Nominal Luminous Flux [lm] | 1900 | 3300 | 4200 |
| Rated Luminous Flux for 860 [lm] | 1800 | 3150 | 3900 |
| Nominal Luminous Flux for 865 [lm] | 1800 | 3150 | 3900 |
| Rated Efficacy [lm/W] | 85 | 83 | 76 |
| Rated Efficacy for 865 [lm/W] | 81 | 79 | 71 |
| Colour Rendering Index [Ra] | 82 | 82 | 82 |
| Optical Radiation Safety Class | Exempt | Exempt | Exempt |
| Lifetime performance | | | |
| Rated Median Life - HF, Preheat, 3 Hours Cycle [h] | 12,000 | 12,000 | 12,000 |
| Operating Mode for LSF and LLMF Data | HF, 3 Hours Cycle | HF, 3 Hours Cycle | HF, 3 Hours Cycle |
| Lamp Survival Factor | | | |
| LSF 2,000 Hours | 99% | 99% | 99% |
| LSF 4,000 Hours | 98% | 98% | 98% |
| LSF 6,000 Hours | 96% | 96% | 96% |
| LSF 8,000 Hours | 88% | 88% | 88% |
| LSF 12,000 Hours | 50% | 50% | 50% |
| Lamp Lumen Maintenance | | | |
| LLMF 2,000 Hours | 91% | 91% | 91% |
| LLMF 4,000 Hours | 86% | 86% | 86% |
| LLMF 6,000 Hours | 83% | 83% | 83% |
| LLMF 8,000 Hours | 80% | 80% | 80% |
| LLMF 12,000 Hours | 75% | 75% | 75% |
| Service Life - HF, Preheat, 3 Hours Cycle [h] | 5,500 | 5,500 | 5,500 |

Note for lamp power and lamp luminous efficacy values: power dissipated by auxiliary equipment (such as reference or commercial ballast) is not included. Lumen maintenance may vary for lamps with colour temperature $\geq 5000\text{K}$

Dimensions

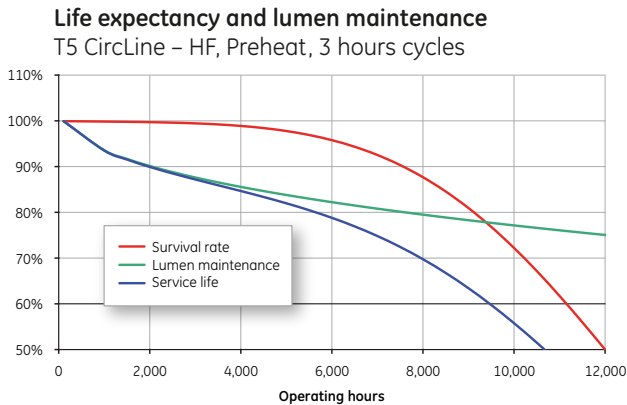


2Gx13 cap, IEC 60061

| Dimensions | 22W | | 40W | | 55W | |
|--------------------------------|------|------|------|------|------|------|
| | Min. | Max. | Min. | Max. | Min. | Max. |
| Lamp Inside Diameter - B [mm] | 187 | 197 | 260 | 272 | 260 | 272 |
| Lamp Outside Diameter - D [mm] | 220 | 230 | 293 | 305 | 293 | 305 |
| Bulb Diameter - D1 [mm] | 14 | 18 | 14 | 18 | 14 | 18 |

Lamp life and lumen maintenance

Cathodes of a fluorescent lamp lose their electron-emissivity during life due to various degradation processes like evaporation and sputtering. When the deterioration reaches a certain level, the cathode fails. Typical lifetime characteristics given below are based on GE Lighting's data. The declared lamp life is the median life defined by the time when 50% of the lamps from a large sample batch would have failed. Real lifetime figures may depend on the actual application. For instance improper cathode preheat, too high operating current, or too low operating current without additional cathode heating might reduce the expected life. The lumen maintenance graph below shows the luminous output throughout life. The main causes of the light depreciation are deterioration of phosphor coating and lamp blackening due to the deposition of evaporated emission mixture on the glass tube. These effects are unavoidable. Service life is reached when the light level in an installation drops down to 80% of the initial value. The service life curve is drawn as the product of the survival and the lumen maintenance curve.



Dimming

Dimming is achieved by the control of the discharge current. In dimming mode, the optimum cathode temperature needs to be maintained by an additional cathode heating current, supplied by the ballast. For preparation of the cathodes for dimming operation a burn-in time of around 100h at full power is recommended.

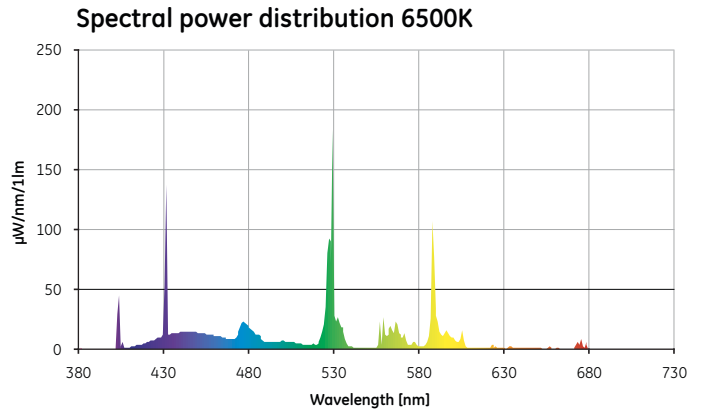
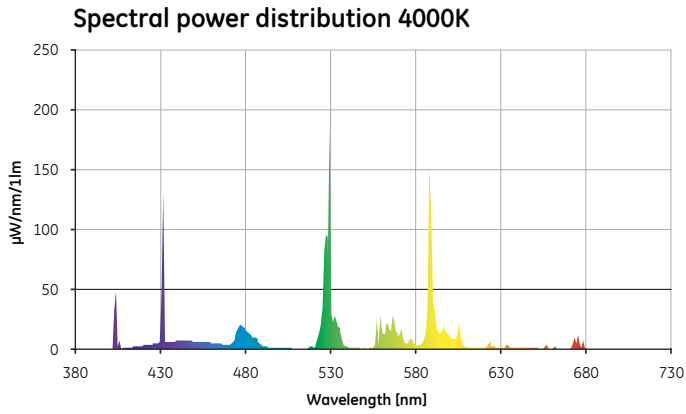
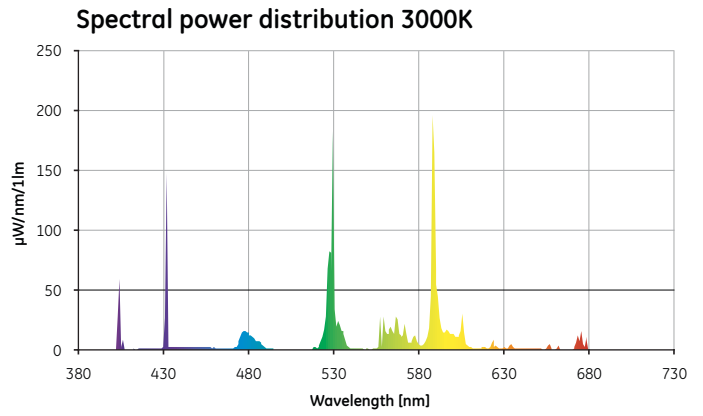
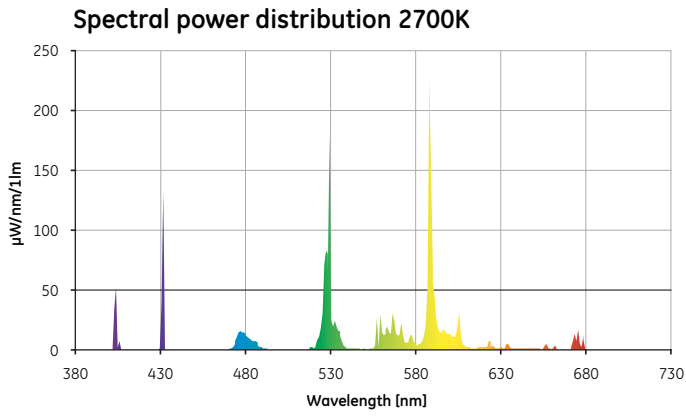
Emergency operation

In emergency operation, lamps are typically underdriven running at low power. To save battery life, emergency inverters may not apply additional cathode heating which would be necessary to maintain the proper cathode temperature. Such unfavourable conditions result in accelerated blackening and shorter life over a longer period in emergency mode. In a typical application, the emergency lighting system is tested for a short period on a regular basis. The cumulative impact on lamp life can generally be considered low.

Ballast compatibility

Ballasts produced by reputable control gear manufacturers meeting the relevant IEC standards would be considered as suitable. List of recommended ballasts available on request.

Spectral power distribution



Colour specification according to CIE 1931

| CCT [K] | X | Y | CRI [Ra] |
|---------|-------|-------|----------|
| 2700 | 0.463 | 0.420 | 82 |
| 3000 | 0.440 | 0.403 | 82 |
| 4000 | 0.380 | 0.380 | 82 |
| 6500 | 0.313 | 0.337 | 82 |