GE
Lighting

WORLDWIDE PARTNER

DATA SHEET

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.

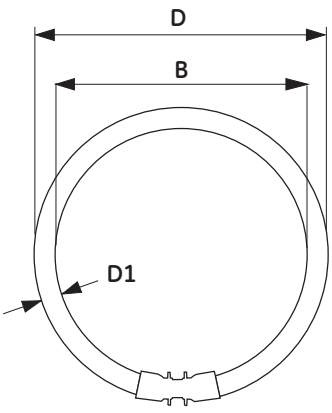
GE imagination at work

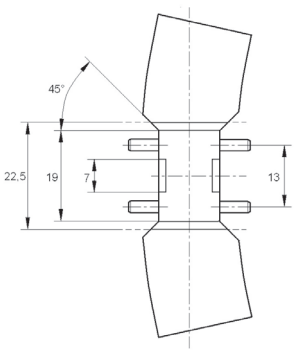
Basic data

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 [Kkz]	>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 maintanence may vary for lamps with colour temperature ≥ 5000K

Dimensions





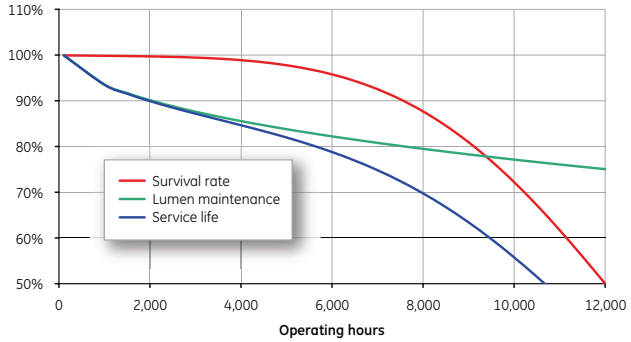
2Gx13 cap, IEC 60061

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.

Life expectancy and lumen maintenance
T5 CircLine – HF, Preheat, 3 hours cycles



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

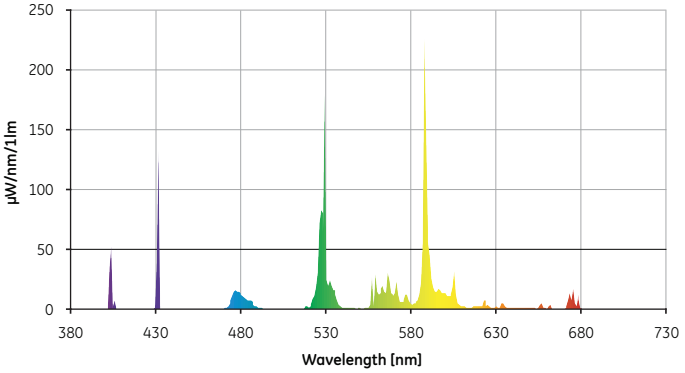
In emergency operation, lamps are typically underdriven running at low power. To save battery life, emergency inverters may not apply additional cathode heating which would be necessary to maintain the proper cathode temperature. Such unfavourable conditions result in accelerated blackening and shorter 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 cummulative impact on lamp life can generally be considered low.

Ballast compatibility

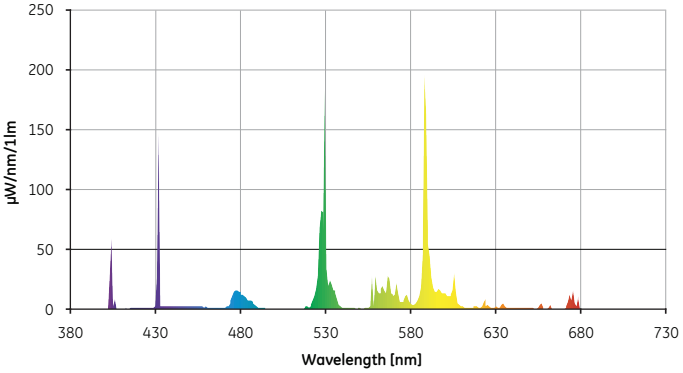
Ballasts produced by reputable control gear manufacturers meeting the relevant IEC standards would be considered as suitable. List of recommended ballasts available on request.

Spectral power distribution

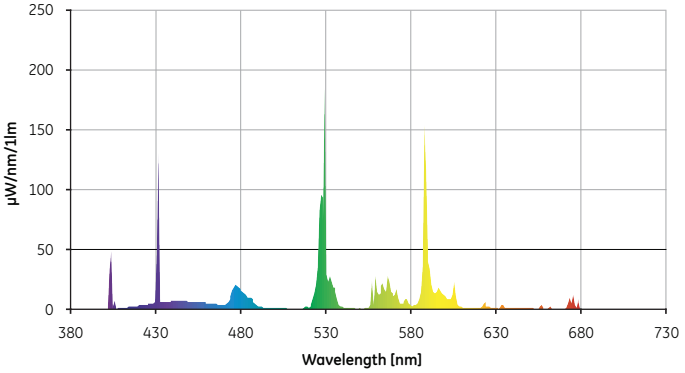
Spectral power distribution 2700K



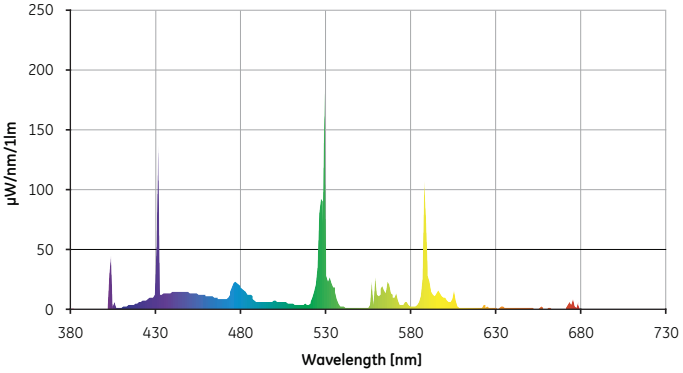
Spectral power distribution 3000K



Spectral power distribution 4000K



Spectral power distribution 6500K



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