

**LongLast™**

# LongLast™ T2 Spiral 15,000 hours

Compact Fluorescent Lamps Integrated  
8W, 13W, 15W, 20W and 23W

## Product information

LongLast™ T2 Spiral Compact Fluorescent Lamp (CFL) is the smallest size long life CFL lightbulb in the market. This unique GE product offers excellent light quality over its 15,000 hours lifetime and can be used in any indoor applications.

## Features

Compact Fluorescent Lamps (CFL) have an important role to play in the future of lighting, helping to protect the environment by using less energy and creating less CO<sub>2</sub> emissions. In addition, CFL lamps contribute to the reduction of maintenance costs, ensuring that financial benefits are enjoyed alongside environmental benefits.

There are a variety of performance advantages afforded by GE Lighting CFL lamps. They use almost 80% less energy and last fifteen times longer than their incandescent predecessors, are rated energy class 'A' and offer high quality light.

With continuing technological advancements and miniaturisation, today's T2 CFL lamps are even smaller than the incandescent lamps that they replace to ensure that they are discreet – yet high performing.

- 15,000 hours life
- Small dimensions
- Low mercury content <1 mg
- 'A' energy class



DATA SHEET

## Application areas

LongLast™ T2 Spiral lamps are recommended for general indoor applications such as:

- Home lighting
- Retail lighting
- Hotels
- Restaurants
- Corridors, hallways

## Product range

LongLast™ T2 Spiral lamps are available in a full range of:

- 8, 13, 15, 20 and 23 wattages
- E27, B22 caps
- Warm (2700K) and Cool (4000K) colours
- Box packs



# Compliance

## Standards

- IEC 60061-1: Lamp caps and holders together with gauges for the control of interchangeability and safety
- IEC or EN 60969: Self ballasted lamps for general lighting services – performance requirements
- IEC or EN 60968: Self-ballasted lamps for general lighting services – safety requirements
- CIE S 009/E:2002: Photobiological safety of lamps and lamp systems
- EN 61547: Requirement for general lighting purposes – EMC immunity requirement
- EN 55015 or CISPR 15: Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
- EN 61000-3-2: Electromagnetic compatibility (EMC) – Part 3-2: Limits – limits for harmonic current emissions (equipment input current up to and including 16A per phase)
- EN 61000-3-3: Electromagnetic compatibility (EMC) – Part 3-3: Limits – limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current up to 16A
- EN 62493: Assessment of lighting equipment related to human exposure to electromagnetic fields

## European Directives:

- CE mark: 93/68/EEC; LVD: 2006/95/EC; EMC: 2004/108/EC, Ecodesign 2005/32/EC, ROHS 2011/65/EU
- Energy Labelling: Directive 2010/30/EU, 874/2012/EU energy labelling of electrical lamps and luminaires
- RoHS: Directive 2011/65/EU on Restrictions of the use of certain Hazardous Substances (RoHS)
- WEEE: Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE)
- REACH: Directive 2006/1907/EC on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
- ErP ecodesign: Directive 2009/125/EC, 2009/244/EC ecodesign requirements (of Energy-related Products) for non-directional-household lamps

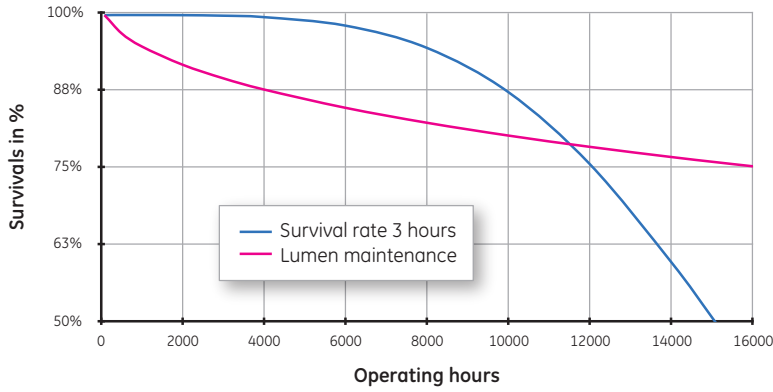
## Basic data

Rated Power* [W]	Volts [V]	Cap	Product Description	Product Code Box pack	Rated* Lumen [lm]	CCT [K]	CRI [Ra]	Rated* Life [h]	Length [mm]	Diameter [mm]	Pack Qty	EuP Inca Watt Equivalent	EEC	Energy consumption [kWh/1000h]
8	230	E27	FLE8HLX/T2/827/E27	71126	470	2700	82	15000	88	45	8	42	A	8
13	230	E27	FLE13HLX/T2/827/E27	75800	750	2700	82	15000	98.5	45	6	61	A	13
13	230	B22	FLE13HLX/T2/827/B22	75801	750	2700	82	15000	97.5	45	6	61	A	13
15	230	E27	FLE15HLX/T2/827/E27	72390	950	2700	82	15000	101.5	52	6	74	A	15
15	230	E27	FLE15HLX/T2/840/E27	71127	950	4000	82	15000	101.5	52	6	74	A	15
20	230	E27	FLE20HLX/T2/827/E27	72391	1250	2700	82	15000	110	56	6	91	A	20
23	230	E27	FLE23HLX/T2/827/E27	72392	1500	2700	82	15000	117	56	6	106	A	22

\*Rated wattage, life and lumen are equivalent to nominal values, which are indicated on product packaging

# Survival rate and lumen maintenance

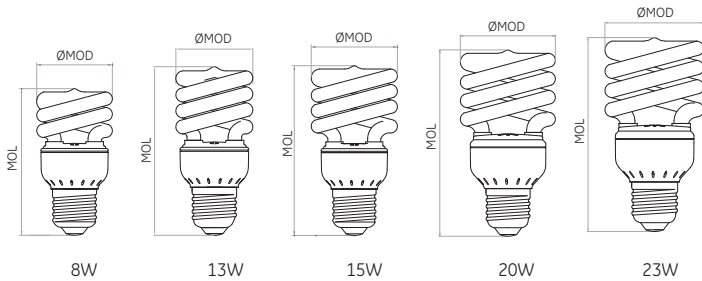
Life Expectancy and Lumen Maintenance



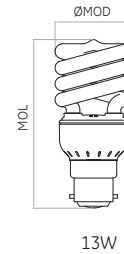
Hours	Survival rate 3 hours	Lumen maintenance
100	1.00	1.00
2,000	1.00	0.92
4,000	1.00	0.88
6,000	0.98	0.85
8,000	0.95	0.82
10,000	0.87	0.80
12,000	0.76	0.78
14,000	0.60	0.77
15,000	0.51	0.76

Test condition: 50Hz 230V 3 hours cycling - according to IEC60969

## Dimensions



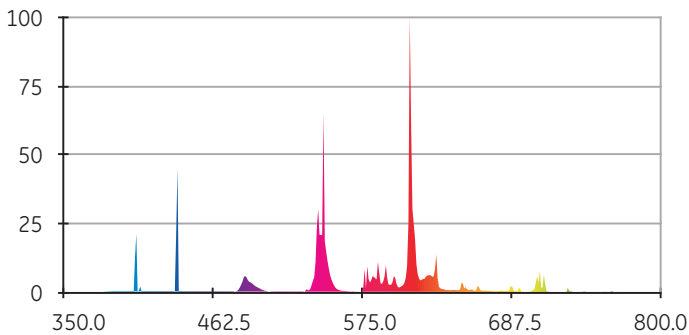
E27 cap		
	MOL [mm]	MOD [mm]
8W	88	45
13W	98,5	45
15W	101,5	52
20W	110	56
23W	117	56



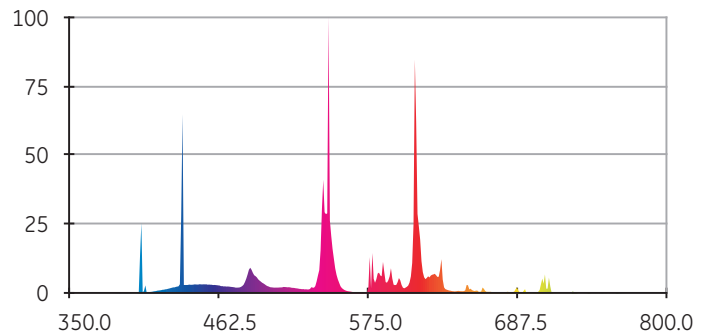
B22 cap		
	MOL [mm]	MOD [mm]
13W	97,5	45

## Spectral power distribution

Spectral Distribution 2700K

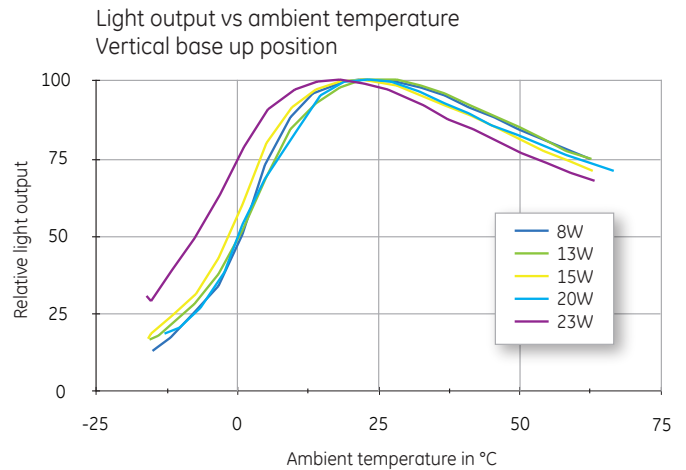


Spectral Distribution 4000K



## Influence of ambient temperature on light output

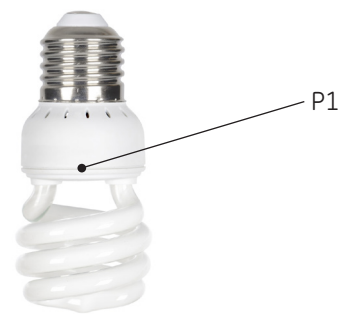
Photometrical and light parameters of a fluorescent lamp depend on the mercury vapor pressure inside the lamp. Mercury vapor pressure in turn is controlled by temperature. When installed in a luminaire, the temperature of the air surrounding the lamp cap changes and this can affect the light output of the lamp. The effects of changes in ambient temperature for a typical lamp are shown on the graph.



## Operating temperature limit

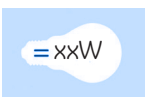
Lamp surface temperature in any application shall not exceed maximum temperature values specified.

Location	Max temperature value
P1 Between plastic housing and collar	90°C



Lamp measured in vertical base up position, between the cathodes.

## Additional information – ErP Compliance



**Incandescent watt equivalence:** select the preferred wattage to enjoy the same light output as the original incandescent bulb while at the same time achieving significant energy savings. The Basic Data table and the updated EuP packaging include the CFL-Incandescent wattage equivalences according to the new EuP luminous flux standards.



**Starting time:** the time needed for the lamp to start fully and remain alight. GE Lighting's CFL lamps are usually instant light on. Starting categories are: instant on (<0.3sec), quick (0.3-1sec), standard (1-1.5sec).  
**LongLast™ T2 Spiral 15,000 hours starting time: standard**



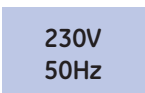
**Warm-up:** Lamp warm-up time to 60% lumens. Based on official EU standard the requirements are <40sec or <100sec for lamps containing in amalgam form.



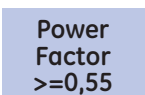
**Dimming:** not recommended to use with dimmers.



**Switching cycle:** switching endurance is minimum the lamp lifetime expressed in hours if the starting time max. 0.3 sec. If the starting time more than 0,3 sec. the switching endurance minimum 30 000 based on official EU standard – one minute on, three minutes off.



**All lamps operate** on 230 Volt (+/-10%), 50 Hertz



**Power Factor:** ratio of the measured active input power to the product of the supply voltage (r.m.s.) and the supply current (r.m.s.). measures how efficiently the current is being converted into real power. Lamps of power factor >0.9 are referred to as High Power Factor lamps, below that as Low Power Factor lamps. All CFL lamps above 25 watts sold in EU need to be High Power Factor lamp.

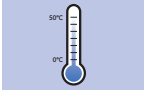
**Hg**  
0.9mg

**Mercury content:** GE Lighting's CFL lamps contain a minimised level of mercury, some of our best-in class lamps as low as 0.9mg vs. the max. 2.5mg allowed by RoHS.



**Website:** instructions on how to dispose of lamps at end of life or in the case of accidental lamp breakage are available on the GE Lighting website.

## Application information



**Ambient temperature range:** temperature at which a lighting product can be safely used and can meet the claimed rated life. Outside of this temperature range, the product might still operate, although the life could be reduced. **LongLast™ T2 Spiral 15,000 hours ambient operating temperature range: 0-50 °C**



**Minimum starting temperature:** the lowest temperature condition at which the product can reliably start at within 3sec at 230V. **LongLast™ T2 Spiral 15,000 hours minimum starting temperature: -10°C**

## Cautionary notices



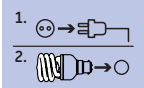
Lamp may shatter and cause injury if broken.



Usage in recessed fixtures could result in reduced life.



Do not use the lamp in enclosed fixtures.



Switch off electricity before changing the bulb.



Do not grab the tubes when install/screw-in the lamp.