

# Spiral T2 10,000 & 8,000 hours

Compact Fluorescent Lamps Integrated  
8W, 12W, 15W, 20W and 23W for EU

## Product information

The T2 10,000 & 8,000 hours spiral lamps are one of the most popular bulb shapes in the energy saving category. With its small size, it will fit all applications currently using incandescent bulbs. Providing more light than the original stick lamps, spiral lamps are one of the most eco-friendly energy saving solutions available today.

## 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 eight 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.

- 8,000 and 10,000 hours life
- Small dimensions
- Instant switch on feature
- 'A' energy class

## Application areas

Spiral T2 10,000 & 8,000 hours lamps are recommended for general indoor applications such as:

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

## Product range

Spiral T2 10,000 & 8,000 hours lamps are available in a full range of:

- 8,000 hours: 8W
- 10 000 hours: 12, 15, 20 and 23W
- E14, E27, B22 caps
- Warm (2700K), Cool (4000K) and Daylight (6500K) colours
- Box and blister packs



GE imagination at work

## 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:

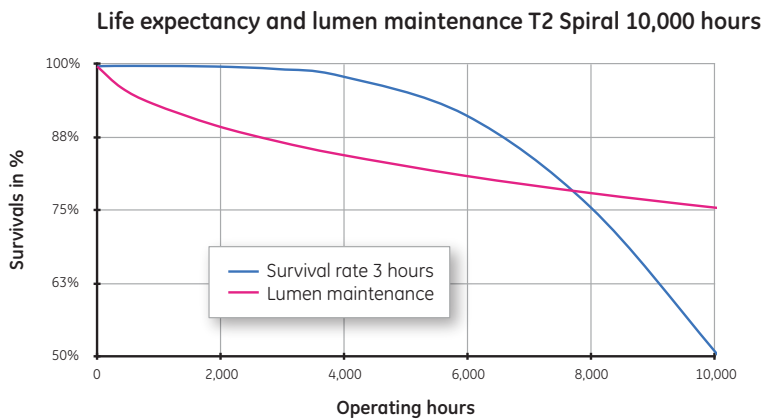
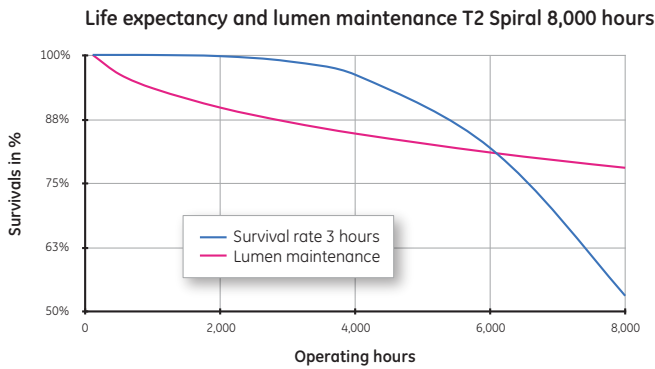
- CE mark: 93/68/EEC; LVD: 2006/95/EC; EMC: 2004/108/EC, Ecodesign 2005/32/EC, ROHS 2011/65/EU
- Energy Labelling: Directive 2010/30/EU, 874/2012/EU energy labelling of electrical lamps and luminaires
- RoHS: Directive 2011/65/EU on Restrictions of the use of certain Hazardous Substances (RoHS)
- WEEE: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

## Basic data

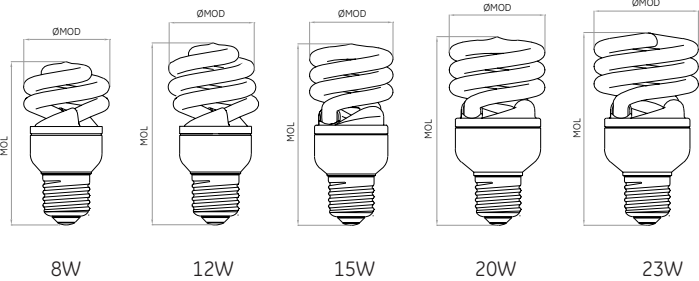
Rated* Wattage [W]	Volts [V]	Cap	Product Description	Product Code Box pack	Product Code Blister pack	Rated* Lumen [lm]	CCT [K]	CRI [Ra]	Rated* Life [h]	Length [mm]	Diameter [mm]	EuP Inca Watt Equivalent	EEC	Energy con- sumption [kWh/1000h]	Pack Qty
8	230	E14	FLE8HLX/T2/827/E14	85637		470	2700	82	8000	93	46	43	A	8.00	8
8	230	E14	FLE8HLX/T2/865/E14	85633		430	6500	82	8000	93	46	40	A	8.00	10
8	230	E27	FLE8HLX/T2/827/E27	85638		470	2700	82	8000	90	46	43	A	8.00	8
8	230	E27	FLE8HLX/T2/865/E27	85634		430	6500	82	8000	90	46	40	A	8.00	10
12	230	E14	FLE12HLX/T2/827/E14	85639	89865	715	2700	82	10000	102	46	58	A	11.13	6
12	230	E27	FLE12HLX/T2/827/E27	85640		715	2700	82	10000	100	46	58	A	11.13	6
12	230	E27	FLE12HLX/T2/865/E27	85635		665	6500	82	10000	100	46	55	A	11.23	10
12	230	B22	FLE12HLX/T2/827/B22	85641		715	2700	82	10000	99	46	58	A	11.13	6
15	230	E27	FLE15HLX/T2/827/E27	85642	89866	950	2700	82	10000	107	50	74	A	15.19	6
15	230	E27	FLE15HLX/T2/865/E27	85636		900	6500	82	10000	107	50	70	A	14.94	10
15	230	B22	FLE15HLX/T2/827/B22	85643	89867	950	2700	82	10000	106	50	74	A	15.19	6
20	230	E27	FLE20HLX/T2/827/E27	85644	89868	1220	2700	82	10000	108	55	90	A	19.00	6
20	230	E27	FLE20HLX/T2/840/E27	85646		1200	4000	82	10000	108	55	88	A	18.95	10
20	230	E27	FLE20HLX/T2/865/E27	85647		1200	6500	82	10000	108	55	88	A	19.05	10
20	230	B22	FLE20HLX/T2/827/B22	85645		1220	2700	82	10000	107	55	90	A	19.00	6
23	230	E27	FLE23HLX/T2/827/E27	85648		1450	2700	82	10000	115	60	103	A	22.30	6
23	230	E27	FLE23HLX/T2/840/E27	85650		1380	4000	82	10000	115	60	99	A	21.96	10
23	230	E27	FLE23HLX/T2/865/E27	85651		1380	6500	82	10000	115	60	99	A	22.83	10
23	230	B22	FLE23HLX/T2/827/B22	85649		1450	2700	82	10000	114	60	103	A	22.30	6

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

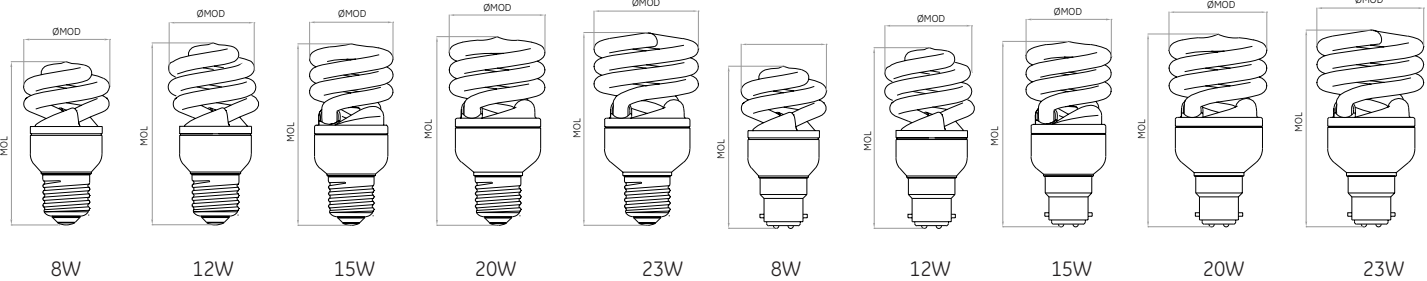
# Survival rate and lumen maintenance



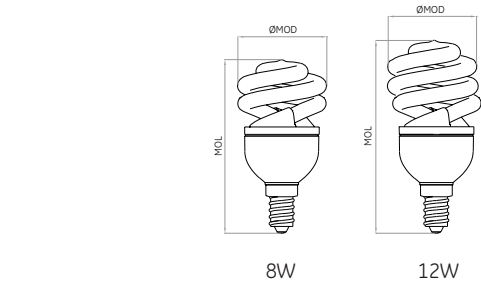
## Dimensions



E27 cap		
	MOL [mm]	MOD [mm]
8W	90	46
12W	100	46
15W	107	50
20W	108	55
23W	115	60

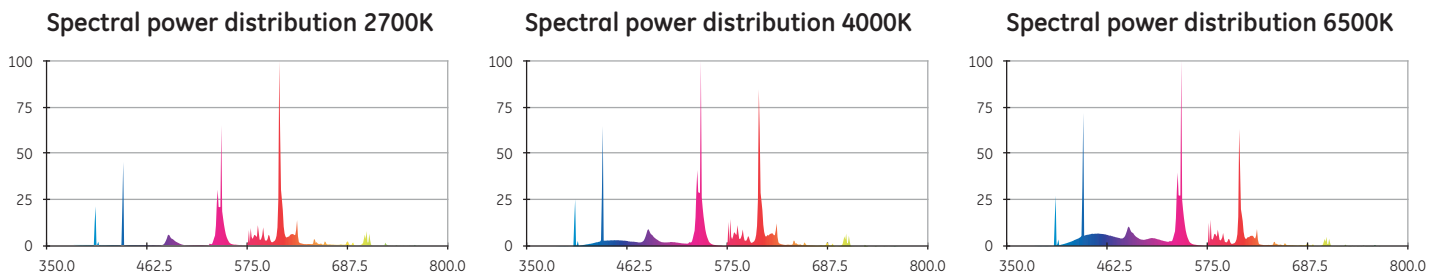


B22 cap		
	MOL [mm]	MOD [mm]
8W	89	46
12W	99	46
15W	106	50
20W	107	55
23W	114	60



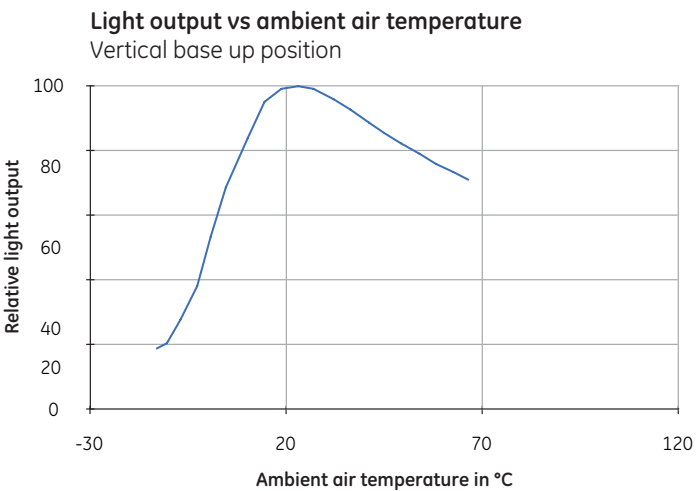
E14 cap		
	MOL [mm]	MOD [mm]
8W	93	46
12W	102	46

# Spectral power distribution



## Lumen output versus ambient temperature

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.

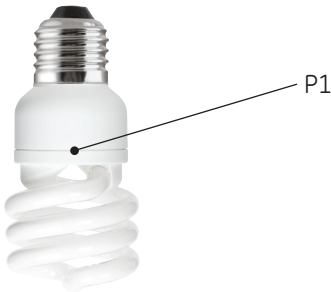


## Operating temperature limit

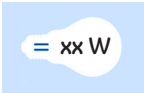
Lamp surface temperature in any application shall not exceed maximum temperature values specified.

Location		Max temperature value
P1	Between plastic housing and collar	100°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 packaging include the CFL-Incandescent wattage equivalences.



**Switching cycle:** switching endurance is minimum the lamp lifetime expressed in hours if the starting time max. 0.3 sec based on official EU standard – one minute on, three minutes off.  
**T2 Spiral 8 000 hours switching cycle: 8 000**  
**T2 Spiral 10 000 hours switching cycle: 10 000**



**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).  
**T2 Spiral 8 000 and 10 000 hours starting time: instant**



**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.

230V  
50Hz

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

**Power  
Factor  
>0,55**

**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 lamps above 25 wattage sold in EU need be High Power Factor lamp.

Hg  
x.x mg

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

**T2 Spiral 8W, 12W, 15W, 20W mercury content: 1.5mg**

**T2 Spiral 23W mercury content: 2mg**



**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. **T2 Spiral 8 000 and 10 000 hours ambient operating temperature range: 0-50 °C**



**Minimum starting temperature:** The lowest temperature condition at which the product can reliably start at within 3 sec at 230V.

**T2 Spiral 8 000 and 10 000 hours minimum starting temperature: -10°C**

## Cautionary notices



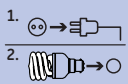
Lamp may shatter and cause injury if broken.



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.