GE
Lighting

WORLDWIDE PARTNER

DATA SHEET

Spiral T2
10,000 & 8,000 hours

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

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_2 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 hours life
- NEW 10,000 hours life
- Small dimensions
- Quick light on
- Fast warm-up
- Low mercury content < 1 mg
- 'A' energy class

Application areas

Spiral T2 10,000 & 8,000 hours lamps are recommended for general indoor and outdoor (in enclosed fittings) applications such as:

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

Product range

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

- 10,000 hours: 8, 12 and 15W
- 8,000 hours: 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 interchangeablity 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
- EN 50285: Energy labelling of household lamps
- 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

European Directives:

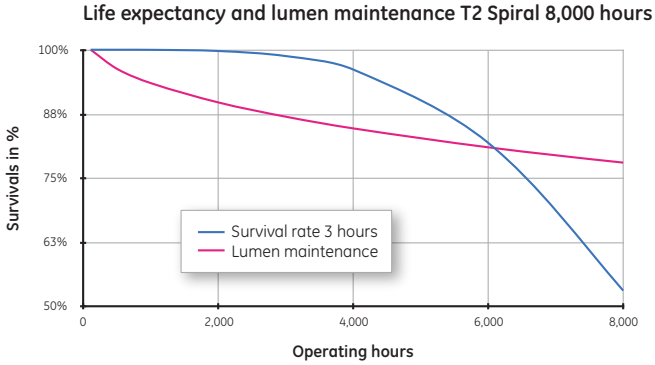
- Safety: Low Voltage (LVD) 2006/95/EC
- Electromagnetic Compatibility: (EMC) 2004/108/EC
- RoHS: Directive 2011/65/EC on Restrictions of the use of certain Hazardous Substances (RoHS)
- ErP household: Directive 2009/125/EC on ecodesign requirements (of Energy-related Products) and its Implementing Measure for non-directional Household Lamps: 244/2009/EC
- Energy Labelling: Commission Directive 98/11/EC of 27 January 1998 implementing Council Directive 92/75/EEC with regard to energy labelling of household lamps
- WEEE: Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE)
- REACH: Commission Regulation 453/2010/EC on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

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]	EEC	Pack Qty	EuP Inca Watt Equivalent
8,0	220-240	E14	FLE8HLX/T2/827/E14	72711	79315	470	2700	80	10,000	99	46	A	8	42
8,0	220-240	E27	FLE8HLX/T2/827/E27	72712	79313	470	2700	80	10,000	86.5	46	A	8	42
8,0	220-240	B22	FLE8HLX/T2/827/B22	72713	79314	470	2700	80	10,000	85.5	46	A	8	42
8,0	220-240	E14	FLE8HLX/T2/865/E14	71002		430	6500	80	10,000	99	46	A	10	40
8,0	220-240	E27	FLE8HLX/T2/865/E27	71003		430	6500	80	10,000	86.5	46	A	10	40
12,0	220-240	E14	FLE12HLX/T2/827/E14	72714	79317	715	2700	80	10,000	113	53	A	6	58
12,0	220-240	E27	FLE12HLX/T2/827/E27	72715	79316	715	2700	80	10,000	100	53	A	6	58
12,0	220-240	B22	FLE12HLX/T2/827/B22	72716		715	2700	80	10,000	99	53	A	6	58
12,0	220-240	E14	FLE12HLX/T2/865/E14	71004		665	6500	80	10,000	113	53	A	10	55
12,0	220-240	E14	FLE12HLX/T2/865/E27	71005		665	6500	80	10,000	100	53	A	10	55
15,0	220-240	E27	FLE15HLX/T2/827/E27	72717	79318	950	2700	80	10,000	100	53	A	6	74
15,0	220-240	B22	FLE15HLX/T2/827/B22	72718	79319	950	2700	80	10,000	99	53	A	6	74
15,0	220-240	E27	FLE15HLX/T2/865/E27	71006		900	6500	80	10,000	100	53	A	10	70
20,0	220-240	E27	FLE20HLX/T2/827/E27	88680	88682	1220	2700	80	8,000	105	56	A	6	90
20,0	220-240	B22	FLE20HLX/T2/827/B22	88681	88683	1220	2700	80	8,000	104	56	A	6	90
20,0	220-240	E27	FLE20HLX/T2/840/E27	88684		1200	4000	80	8,000	105	56	A	10	88
20,0	220-240	E27	FLE20HLX/T2/865/E27	88685		1200	6500	80	8,000	105	56	A	10	88
23,0	220-240	E27	FLE23HLX/T2/827/E27	88686	88688	1450	2700	80	8,000	125	56	A	6	103
23,0	220-240	B22	FLE23HLX/T2/827/B22	88687	88689	1450	2700	80	8,000	124	56	A	6	103
23,0	220-240	E27	FLE23HLX/T2/840/E27	88690		1380	4000	80	8,000	125	56	A	10	99
23,0	220-240	E27	FLE23HLX/T2/865/E27	88691		1380	6500	80	8,000	125	56	A	10	99

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

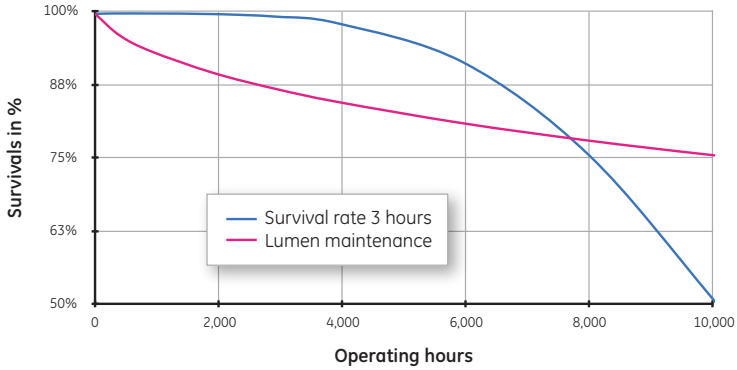
Survival rate and lumen maintenance



Hours	Survival rate 3 hours	Lumen maintenance
100	1.00	1.00
2,000	1.00	0.90
4,000	0.96	0.85
6,000	0.82	0.81
8,000	0.53	0.78

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

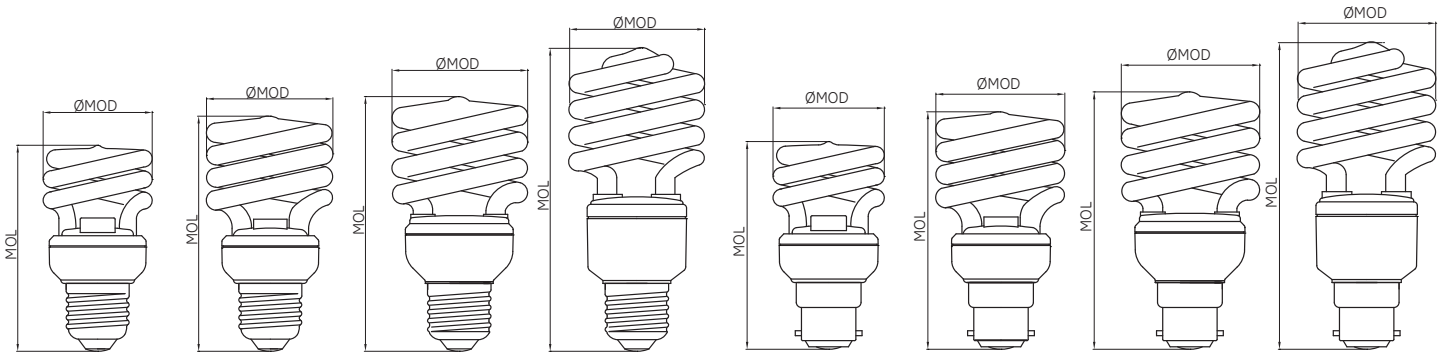
Life expectancy and lumen maintenance T2 Spiral 10,000 hours



Hours	Survival rate 3 hours	Lumen maintenance
100	1.00	1.00
2,000	1.00	0.90
4,000	0.98	0.85
6,000	0.92	0.81
8,000	0.76	0.78
10,000	0.51	0.75

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

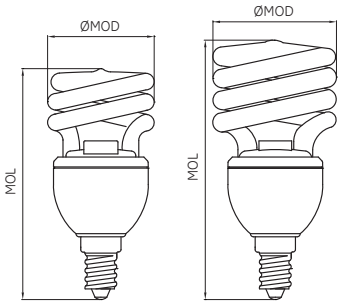
Dimensions



8W 12/15W 20W 23W 8W 12/15W 20W 23W

E27 cap		
	MOL [mm]	MOD [mm]
8W	86.5	46
12W	100	53
15W	100	53
20W	105	56
23W	125	56

B22 cap		
	MOL [mm]	MOD [mm]
8W	85.5	46
12W	99	53
15W	99	53
20W	104	56
23W	124	56

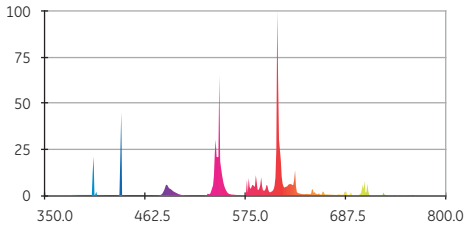


8W 12W

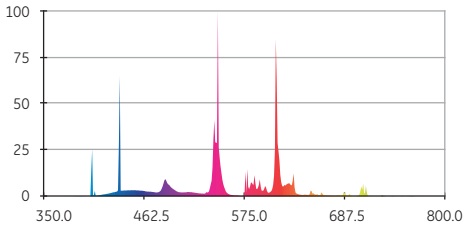
E14 cap		
	MOL [mm]	MOD [mm]
8W	99	46
12W	113	53

Spectral power distribution

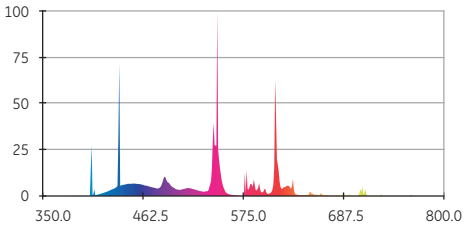
Spectral power distribution 2700K



Spectral power distribution 4000K



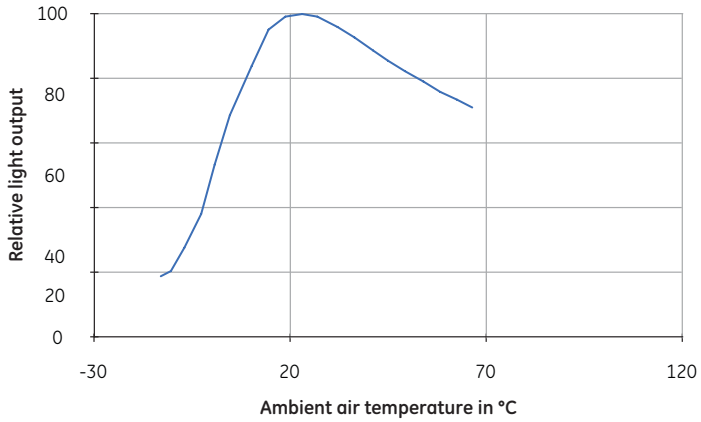
Spectral power distribution 6500K



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.

Light output vs ambient air temperature
Vertical base up position

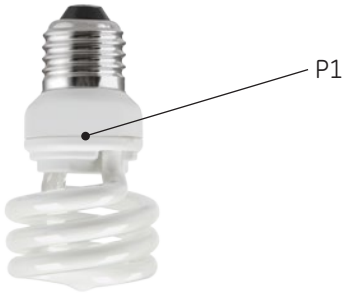


Operating temperature limit

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.



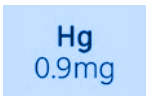
Additional information – EuP Compliance

EU Regulations: GE Lighting's CFL lamps are all compliant with WEEE (Waste Electrical and Electronic Equipment), RoHS (Reduction of Hazardous Substances) and EuP (Energy Using Products) directives and are available in compliant packaging.

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).
Spiral T2 10,000 and 8,000 hours starting time: 8-15W quick and 20-23W instant

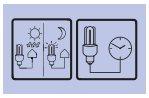
Warm-up: GE Lighting's CFL lamps are usually characterised by fast warm-up times. Warm-up categories at 60% lumen are: fast (<30sec), standard (30-60sec) and slow (60-120sec).
Spiral T2 10,000 and 8,000: fast warm-up (<30sec)



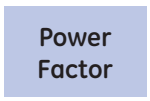
Mercury content: GE Lighting's CFL lamps contain a minimised level of mercury, some of our best-in class lamps as low as 0.9mg vs. the max. 5.0mg allowed by RoHS.
Spiral T2 10,000 and 8,000: mercury content 0.85mg

Switching cycle: switching endurance is a minimum 3000 cycles based on official EU standard – one minute on, three minutes off.
Spiral T2 10,000 and 8,000 switching cycle: 10,000
Spiral T2 20-23W 8,000 hours switching cycle: 5,000

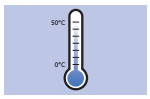
Dimming: not recommended to use with dimmers.



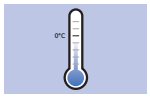
Timer, photo cell circuits: not suitable for use with electronically switched devices. Please refer to the device instructions.



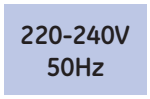
Power Factor: ratio of the measured active input power to the product of the supply voltage (r.m.s.) and the supply current (r.m.s.). measures how efficiently the current is being converted into real power. Lamps of power factor >0.9 are referred to as High Power Factor lamps, below that as Low Power Factor lamps. All CFL lamps above 25 watts sold in EU need to be High Power Factor lamp. **Spiral T2 10,000 and 8,000 hours power factor: >0.5**



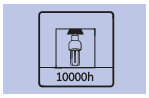
Ambient temperature range: temperature at which a lighting product can be safely used and can meet the claimed rated life. Outside of this temperature range, the product might still operate, although the life could be reduced. **Spiral T2 10,000 and 8,000 hours ambient operating temperature range: -10-50°C**



Minimum starting temperature: the lowest temperature condition at which the product can reliably start at within 3sec at 230V.
Spiral T2 10,000 and 8,000 hours minimum starting temperature: -10°C



220-240V 50Hz: all lamps operate on 220-240 Volt (-10%; +6%), 50 Hertz



Enclosed fixture: usage in enclosed fixture may reduce life. Not recommended in totally enclosed fixture.

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.