

# Big on economy, small in size and consumption.

## The changeover made easy: OSRAM DULUX® EL CLASSIC.

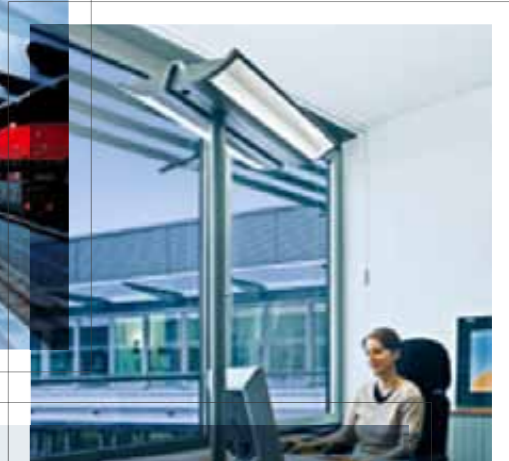
The environment needs us! We therefore offer the OSRAM DULUX® EL CLASSIC A so you can keep the shape you like best and still save up to 80% energy.



You can work out exactly how much you can save with the easy-to-use CFL ENERGY SAVER analysis tool. A concrete example is used to show the calculations. [www.osram.com/cfl-energy-saver](http://www.osram.com/cfl-energy-saver)



This thermographic comparison reveals that an incandescent lamp converts 95% of its electrical energy into heat and only 5% into light. OSRAM DULUX® EL produces the same amount of light from 80% less electricity.



## Compact: pin-base lamps.

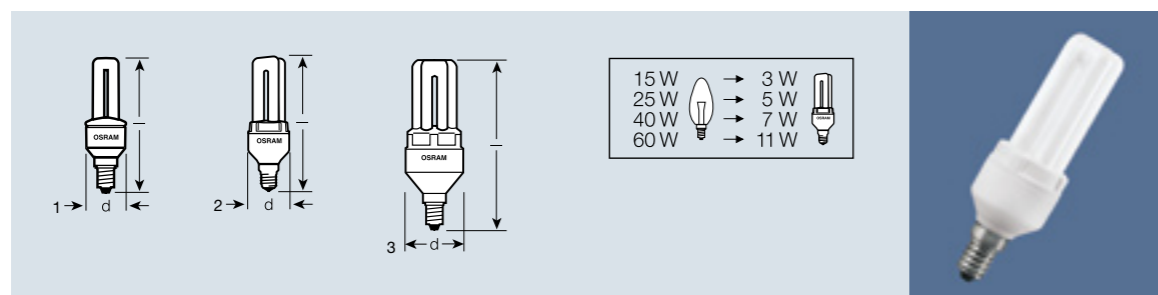
Pin-base lamps cover a wide range of applications, both indoors and outdoors. Indoor lighting systems often include luminaires in which high ambient temperatures occur (narrow downlights, for example). To overcome this problem OSRAM has developed the OSRAM DULUX® T/E IN PLUS. Its maximum luminous flux has been set so that it produces 90% of this maximum between 10 °C and 70 °C. For outdoor lighting we offer the OSRAM DULUX® L SP for example, which is designed for an outdoor temperature of 5 °C.

## For new areas of application.

Thanks to new amalgam technology, we can now offer a new family of lamps – the CONSTANT series. These innovative compact fluorescent lamps – OSRAM DULUX® 120 W HO CONSTANT and OSRAM DULUX® L CONSTANT – offer high luminous flux over a wide range of temperatures. 90% is achieved between +5 °C and +70 °C. They can therefore be used in outdoor applications and also in high-intensity downlights.

## Long life: the ENDURA® system.

The ENDURA® system has been developed specifically for places where relamping involves extremely high costs, such as in tunnels or factories. OSRAM ENDURA® has a system life of 60,000 hours and is available in 70/100/150 W versions. At 80 lm/W its luminous efficacy is extremely high. Its low height means that it can be used in low-profile luminaires.



Product reference	Product number	W	V	Hz		
<b>OSRAM DULUX® EL LONGLIFE</b>						
DULUX EL LL 3 W/827 E14	4050300502953	3	220-240	50 ... 60	30	LUMILUX Warm White
DULUX EL LL 5 W/827 E14	4050300314747	5	220-240	50 ... 60	40	LUMILUX Warm White
DULUX EL LL 7 W/827 E14	4050300315157	7	220-240	50 ... 60	55	LUMILUX Warm White
DULUX EL LL 11 W/827 E14 <sup>1)</sup>	4050300811451	11	220-240	50 ... 60	90	LUMILUX Warm White

Product reference	R <sub>a</sub>	Im		d [mm]	l [mm]		No.
DULUX EL LL 3 W/827 E14	1B	100	E14	30	115 ± 3	10	1
DULUX EL LL 5 W/827 E14	1B	240	E14	36	119 ± 3	10	2
DULUX EL LL 7 W/827 E14	1B	400	E14	36	119 ± 3	10	2
DULUX EL LL 11 W/827 E14 <sup>1)</sup>	1B	660	E14	45	126 ± 3	10	3

OSRAM DULUX® EL LONGLIFE E14 lamps are not suitable for use with dimmers or electronic switches. Use outdoors only in enclosed and ventilated luminaires.

Average life is 15,000 hours, corresponding to around 15 years at about 2.7 hours per day. They are ideal for small luminaires. A total of four wattages are available for the large range of E14 applications.

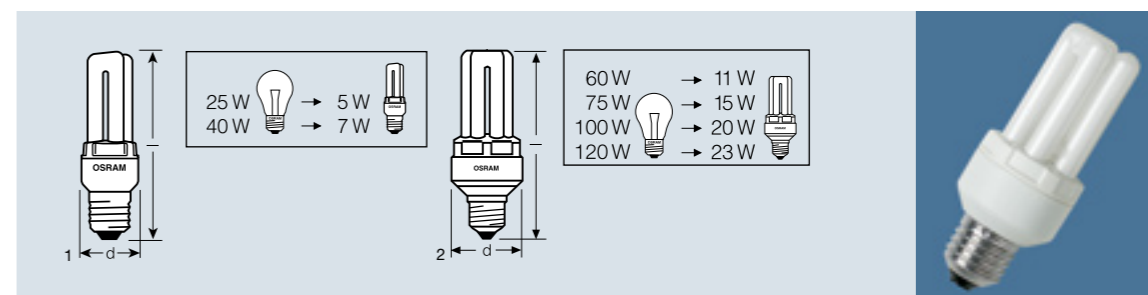
- Luminaires restricted to 40 W incandescent lamps can be made brighter with OSRAM DULUX® EL LONGLIFE E14 11 W lamps.
- Very low weight.

#### Commercial applications:

Restaurants, hotels, foyers, corridors and offices. Major advantage: much longer relamping intervals.

#### Domestic applications:

Small luminaires, in particular low-profile wall and ceiling luminaires, floor-standing lights and table lights for all rooms, especially where the lamps need to last a long time or have to withstand frequent on/off switching (500,000 switching operations<sup>2)</sup>).



Product reference	Product number	W	V	Hz		
<b>OSRAM DULUX® EL LONGLIFE</b>						
DULUX EL LL 5 W/827 E27	4050300357430	5	220-240	50 ... 60	40	LUMILUX Warm White
DULUX EL LL 7 W/827 E27	4050300288819	7	220-240	50 ... 60	55	LUMILUX Warm White <sup>1)</sup>
DULUX EL LL 11 W/827 E27	4050300811598	11	220-240	50 ... 60	90	LUMILUX Warm White <sup>1)2)</sup>
DULUX EL LL 15 W/827 E27	4050300811635	15	220-240	50 ... 60	120	LUMILUX Warm White <sup>1)2)</sup>
DULUX EL LL 20 W/827 E27	4050300811673	20	220-240	50 ... 60	160	LUMILUX Warm White <sup>1)2)</sup>
DULUX EL LL 23 W/827 E27	4050300028965	23	220-240	50 ... 60	185	LUMILUX Warm White <sup>1)2)</sup>

Product reference	R <sub>a</sub>	Im		d [mm]	l [mm]		No.
DULUX EL LL 5 W/827 E27	1B	240	E27	36	113 ± 3	10	1
DULUX EL LL 7 W/827 E27	1B	400	E27	36	113 ± 3	10	1
DULUX EL LL 11 W/827 E27	1B	660	E27	45	117 ± 3	10	2
DULUX EL LL 15 W/827 E27	1B	900	E27	45	128 ± 3	10	2
DULUX EL LL 20 W/827 E27	1B	1230	E27	45	145 ± 3	10	2
DULUX EL LL 23 W/827 E27	1B	1500	E27	58	173 ± 3	10	2

OSRAM DULUX® EL LONGLIFE lamps with B22d base available on request.

OSRAM DULUX® EL LONGLIFE lamps are not suitable for use with dimmers or electronic switches. Use outdoors only in enclosed and ventilated luminaires.

These compact fluorescent lamps offer high luminous efficacy with up to 80% savings in electricity costs. The E27 base means they can be easily fitted instead of ordinary light bulbs. These lamps also have excellent color rendering and excellent light distribution.

- Extremely compact dimensions.
- Average life is 15,000 hours, corresponding to around 15 years at about 2.7 hours per day.
- Universal burning position.
- Low weight.
- Flicker-free starting and flicker-free operation.
- Reliable starting down to -30 °C (30 W down to -10 °C).
- More light without temperature problems in luminaires designed for ordinary light bulbs.
- OSRAM DULUX® EL 15 W and 20 W lamps are also available in 110 to 130 V versions (some of the technical data is different).

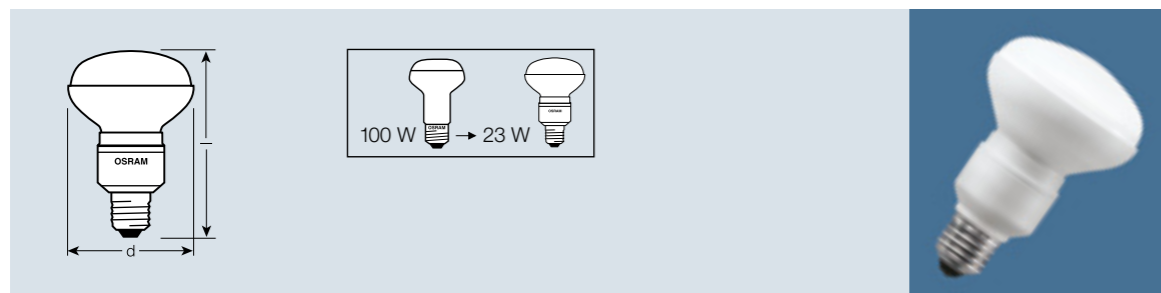
#### Commercial applications:

Restaurants, hotels, foyers, ticket offices, corridors, doctors' surgeries and offices. Major advantage: much longer relamping intervals; meets the highest demands in terms of frequent on/off switching.

#### Domestic applications:

All rooms, especially where the lamps need to last a long time or have to withstand frequent on/off switching (500,000 switching operations<sup>3)</sup>).

**OSRAM DULUX® EL CONCENTRA® R80 E27 ELECTRODE-LESS**  
**OSRAM DULUX® EL LONGLIFE CLASSIC A E27 ELECTRODE-LESS**



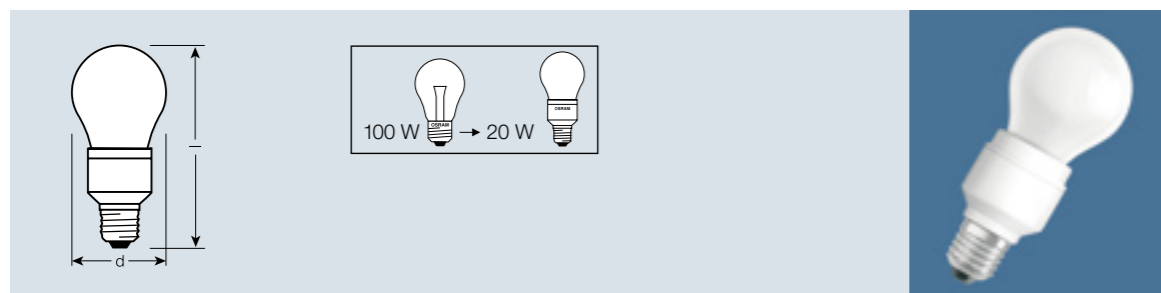
Product reference	Product number	W	V	Hz		
<b>OSRAM DULUX® EL CONCENTRA® R80 E27</b>						
DULUX EL C R80 23 W/827	4008321067401	23	220-240	50 ... 60	170	LUMILUX Warm White

Product reference	R <sub>a</sub>	cd		d [mm]	l [mm]	
DULUX EL C R80 23 W/827	1B	500	E27	80	125 ± 3	10

**Innovative and particularly bright:**  
**OSRAM DULUX® EL CONCENTRA® R80 23 W + CL A 20 W**

Electrode-less OSRAM DULUX® EL lamps are new high-intensity electrode-less compact fluorescent lamp as an economical replacement for Concentra R80 lamps and incandescent lamps.

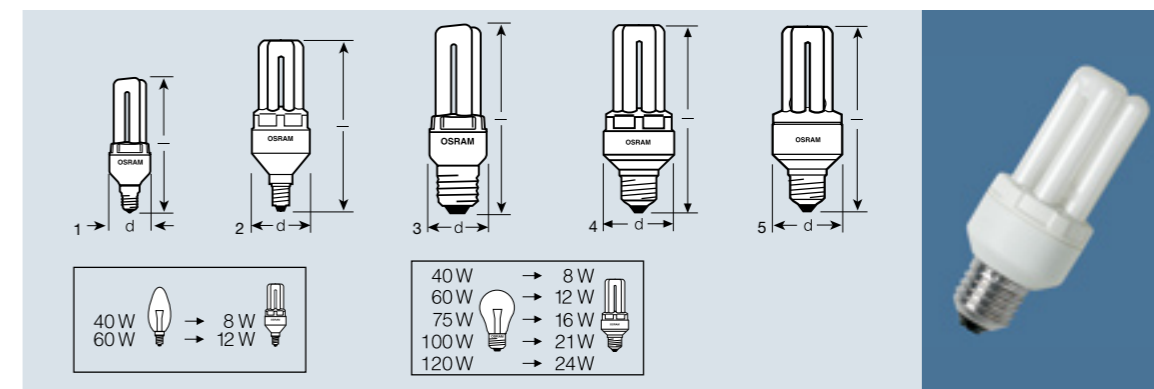
- Extremely rapid starting (QUICK START) thanks to innovative, electrode-less technology
- Very high luminous intensity/luminous flux
- Long average life of 15,000 hours
- Around 500,000 switching cycles<sup>1)</sup>



Product reference	Product number	W	V	Hz		
<b>OSRAM DULUX® EL LONGLIFE CLASSIC A E27</b>						
DULUX EL LL CL A 20 W/827 E27	4008321924261 <sup>2)</sup>	20	220-240	50 ... 60	160	LUMILUX Warm White

Product reference	R <sub>a</sub>	lm		d [mm]	l [mm]	
DULUX EL LL CL A 20 W/827 E27	1B	1250	E27	60	135 ± 3	10

**OSRAM DULUX® EL**



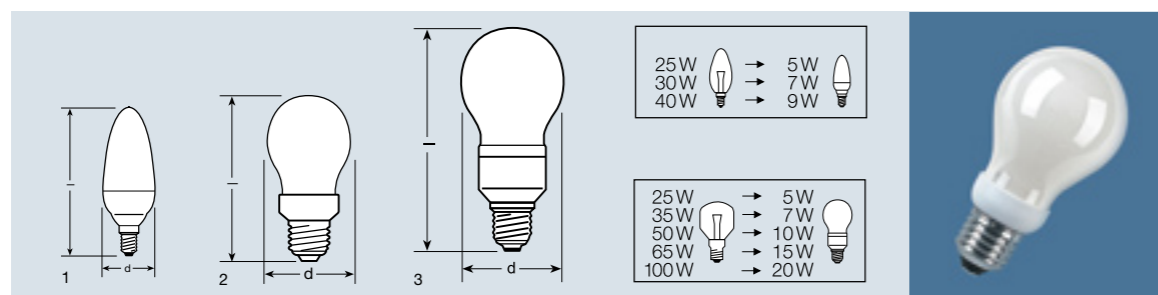
Product reference	Product number	W	V	Hz		
<b>OSRAM DULUX® EL</b>						
DULUX EL 8 W/827 E14	4008321068309	8	220-240	50 ... 60	65	LUMILUX Warm White
DULUX EL 8 W/827 E27	4008321068521	8	220-240	50 ... 60	65	LUMILUX Warm White
DULUX EL 12 W/827 E14	4008321068569	12	220-240	50 ... 60	100	LUMILUX Warm White <sup>1)</sup>
DULUX EL 12 W/827 E27	4008321068583	12	220-240	50 ... 60	100	LUMILUX Warm White <sup>1)2)</sup>
DULUX EL 16 W/827 E27	4008321068989	16	220-240	50 ... 60	130	LUMILUX Warm White <sup>1)2)</sup>
DULUX EL 21 W/827 E27	4008321069214	21	220-240	50 ... 60	170	LUMILUX Warm White <sup>1)2)</sup>
DULUX EL 24 W/827 E27	4008321069290	24	220-240	50 ... 60	195	LUMILUX Warm White <sup>1)2)</sup>

Product reference	R <sub>a</sub>	lm		d [mm]	l [mm]		No.
DULUX EL 8 W/827 E14	1B	400	E14	36	119 ± 3	10	1
DULUX EL 8 W/827 E27	1B	400	E27	36	113 ± 3	10	3
DULUX EL 12 W/827 E14	1B	660	E14	45	126 ± 3	10	2
DULUX EL 12 W/827 E27	1B	660	E27	45	117 ± 3	10	4
DULUX EL 16 W/827 E27	1B	900	E27	45	128 ± 3	10	4
DULUX EL 21 W/827 E27	1B	1230	E27	45	145 ± 3	10	4
DULUX EL 24 W/827 E27	1B	1500	E27	52	173 ± 3	10	5

OSRAM DULUX® EL 12, 16 and 21 W lamps with B22d base available on request.  
 OSRAM DULUX® EL lamps are not suitable for use with dc supplies, dimmers or electronic switches.  
 Use outdoors only in enclosed and ventilated luminaires.

- With around 10,000 switching cycles<sup>3)</sup> and an average life of 10,000 hours.
- Excellent color rendering.
- Low weight.
- Same instant flicker-free starting as ordinary light bulbs and flicker-free operation.
- Straightforward range with two E14 wattages and five E27 wattages.

## OSRAM DULUX® EL CLASSIC



Product reference	Product number	W	V	Hz		
<b>OSRAM DULUX® EL CLASSIC A</b>						
DULUX EL CL A 5 W/827 E27	4008321065797	5	220-240	50 ... 60	45	LUMILUX Warm White
DULUX EL CL A 7 W/827 E27	4008321065773	7	220-240	50 ... 60	55	LUMILUX Warm White
DULUX EL CL A 10 W/827 E27	4008321096364	10	220-240	50 ... 60	80	LUMILUX Warm White
DULUX EL CL A 15 W/827 E27	4008321066176	15	220-240	50 ... 60	120	LUMILUX Warm White
DULUX EL CL A 20 W/827 E27	4008321065933	20	220-240	50 ... 60	160	LUMILUX Warm White
<b>OSRAM DULUX® EL CLASSIC B</b>						
DULUX EL CL B 5 W/827 E14	4008321066299	5	220-240	50 ... 60	40	LUMILUX Warm White
DULUX EL CL B 7 W/827 E14	4008321066 329	7	220-240	50 ... 60	60	LUMILUX Warm White
DULUX EL CL B 9 W/827 E14	4008321066350	9	220-240	50 ... 60	75	LUMILUX Warm White

Product reference	R <sub>a</sub>	l <sub>m</sub>		d [mm]	l [mm]		No.
<b>OSRAM DULUX® EL CLASSIC A</b>							
DULUX EL CL A 5 W/827 E27	1B	150	E27	60	111 ± 3	10	2
DULUX EL CL A 7 W/827 E27	1B	350	E27	60	111 ± 3	10	2
DULUX EL CL A 10 W/827 E27	1B	500	E27	60	113 ± 3	10	2
DULUX EL CL A 15 W/827 E27	1B	800	E27	65	142 ± 3	10	3
DULUX EL CL A 20 W/827 E27	1B	1160	E27	70	152 ± 3	10	3
<b>OSRAM DULUX® EL CLASSIC B</b>							
DULUX EL CL B 5 W/827 E14	1B	160	E14	37	100 ± 3	10	1
DULUX EL CL B 7 W/827 E14	1B	280	E14	42,5	116 ± 3	10	1
DULUX EL CL B 9 W/827 E14	1B	340	E14	42,5	116 ± 3	10	1

OSRAM DULUX® EL CLASSIC lamps with B22d base available on request.  
OSRAM DULUX® EL CLASSIC lamps are not suitable for use with dc supplies, dimmers or electronic switches.  
Use outdoors only in enclosed and ventilated luminaires.

This compact fluorescent lamp is ideal for decorative and free-burning applications. The opal outer bulb provides a particularly soft light. Average life is 10,000 hours, corresponding to around 10 years at about 2.7 hours per day. Because the dimensions are the same, ordinary light bulbs can be replaced by OSRAM DULUX® EL CLASSIC lamps without any problem at all.

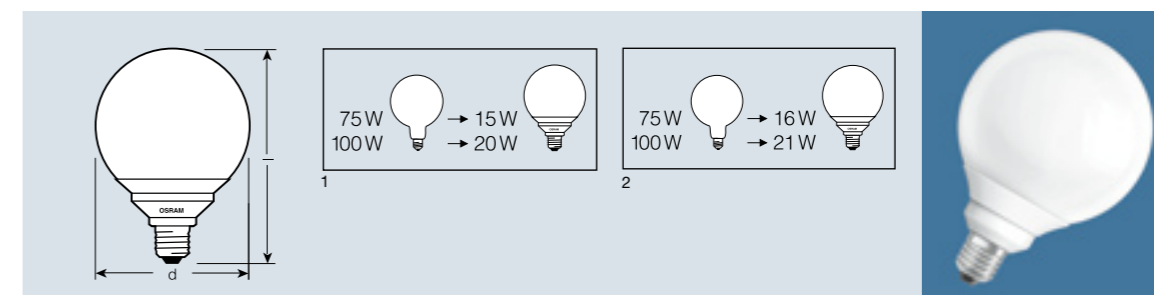
### Domestic applications:

All rooms, especially where the lamps are visible, need to last a long time or have to withstand frequent on/off switching (10,000 switching operations<sup>1)</sup>).

### Commercial applications:

Restaurants, hotels and similar prestige applications. Also suitable for use in enclosed and ventilated outdoor luminaires, even at low ambient temperatures.

## OSRAM DULUX® EL LL GLOBE OSRAM DULUX® EL GLOBE



Product reference	Product number	W	V	Hz		
<b>OSRAM DULUX® EL LL GLOBE</b>						
DULUX EL LL GL 15 W/827 E27	4050300276175	15	220-240	50 ... 60	120	LUMILUX Warm White <sup>1)</sup>
DULUX EL LL GL 20 W/827 E27	4050300276274	20	220-240	50 ... 60	160	LUMILUX Warm White <sup>1)</sup>
<b>Product reference</b>						
	R <sub>a</sub>	l <sub>m</sub>		d [mm]	l [mm]	
DULUX EL LL GL 15 W/827 E27	1B	870	E27	120	167 ± 3	10 1
DULUX EL LL GL 20 W/827 E27	1B	1100	E27	120	167 ± 3	10 1
OSRAM DULUX® EL LONGLIFE GLOBE lamps with B22d base available on request. OSRAM DULUX® EL LONGLIFE GLOBE lamps are not suitable for use with dc supplies, dimmers or electronic switches. Use outdoors only in enclosed and ventilated luminaires.						

OSRAM DULUX® EL LONGLIFE GLOBE offers pleasant glare-free light. The plastic outer bulb with its new latching mechanism reduces the overall weight and improves impact resistance. The OSRAM DULUX® EL LONGLIFE GLOBE offers the same comfort and economy as other OSRAM DULUX® EL LONGLIFE lamps.

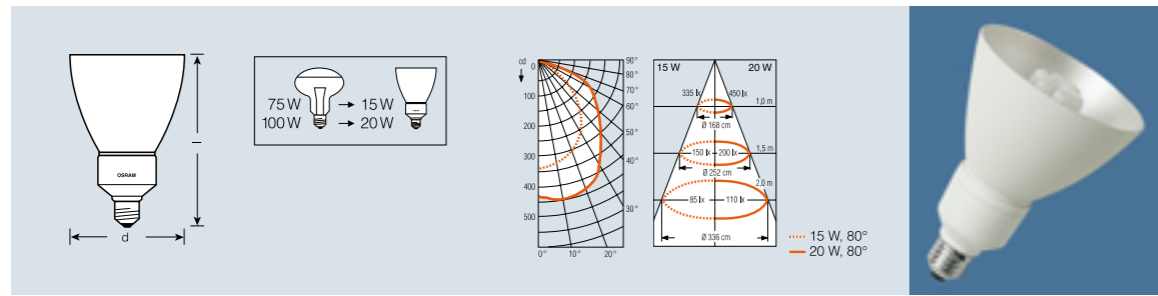
- Average life is 15,000 hours, corresponding to around 15 years at about 2.7 hours per day.
- Also suitable for use in enclosed and ventilated outdoor luminaires, even at low ambient temperatures.
- With more than 500,000 switching cycles<sup>2)</sup> and an average life of 15,000 hours.

Product reference	Product number	W	V	Hz		
<b>OSRAM DULUX® EL GLOBE</b>						
DULUX EL GL 16 W/827	4008321066039	16	220-240	50 ... 60	130	LUMILUX Warm White
DULUX EL GL 21 W/827	4008321066053	21	220-240	50 ... 60	170	LUMILUX Warm White
<b>Product reference</b>						
	R <sub>a</sub>	l <sub>m</sub>		d [mm]	l [mm]	
DULUX EL GL 16 W/827	1B	870	E27	120	167 ± 3	10 2
DULUX EL GL 21 W/827	1B	1100	E27	120	167 ± 3	10 2
OSRAM DULUX® EL GLOBE lamps are not suitable for use with dc supplies, dimmers or electronic switches. Use outdoors only in enclosed and ventilated luminaires.						

OSRAM DULUX® EL GLOBE offers pleasant glare-free light.

- They have the same comfort and economy features as the other OSRAM DULUX® EL lamps.
- Average life is 15,000 hours, corresponding to around 15 years at about 2.7 hours per day.
- With more than 500,000 switching cycles<sup>2)</sup> and an average life of 15,000 hours.

## OSRAM DULUX® EL REFLECTOR



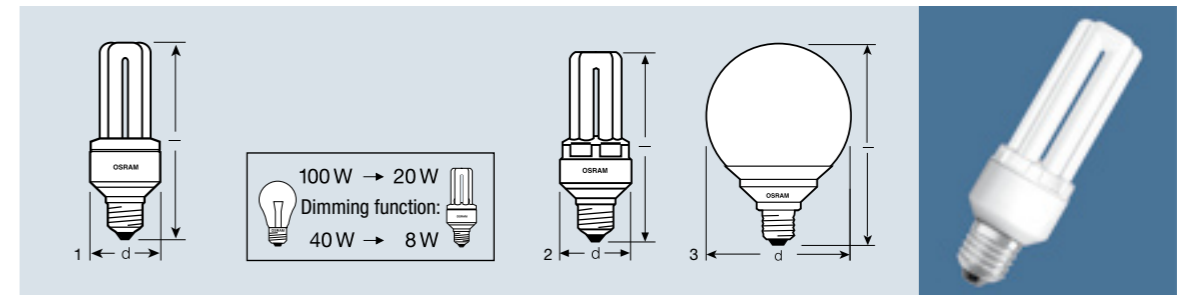
Product reference	Product number	W	V	Hz				
<b>OSRAM DULUX® EL REFLECTOR</b>								
DULUX EL REFL 15 W/827 E27	4050300306094	15	220-240	50 ... 60	120	LUMILUX Warm White		
DULUX EL REFL 20 W/827 E27	4050300291703	20	220-240	50 ... 60	160	LUMILUX Warm White		
Product reference		R <sub>a</sub>	cd			d [mm]	l [mm]	
DULUX EL REFL 15 W/827 E27		1B	335	E27	80	102	143 ± 3	10
DULUX EL REFL 20 W/827 E27		1B	450	E27	80	117,5	157 ± 3	10

OSRAM DULUX® EL REFLECTOR lamps are not suitable for use with dc supplies, dimmers or electronic switches. Use outdoors only in enclosed and ventilated luminaires.

OSRAM DULUX® EL REFLECTOR lamps replace conventional incandescent reflector lamps. They are ideal for spotlights and downlights.

- With around 500,000 switching cycles<sup>1)</sup> and an average life of 15,000 hours.

## OSRAM DULUX® EL VARIO OSRAM DULUX® EL DIM



Product reference	Product number	W	V	Hz			
<b>OSRAM DULUX® EL VARIO</b>							
DULUX EL VARIO 20W/827 E27	4008321132727	20	220-240	50 ... 60	160	LUMILUX Warm White	
<b>OSRAM DULUX® EL DIM</b>							
DULUX EL DIM 20W/827 E27	4008321080370	20	220-240	50 ... 60	125	LUMILUX Warm White	
DULUX EL DIM GL 15W/827 E27	4008321924209	15	220-240	50 ... 60	155	LUMILUX Warm White	
Product reference		Im		d [mm]	l [mm]		No.
<b>OSRAM DULUX® EL VARIO</b>							
DULUX EL VARIO 20W/827 E27		1230	E27	45	145 ± 3	10	2
<b>OSRAM DULUX® EL DIM</b>							
DULUX EL DIM 20W/827 E27		1230	E27	58	158 ± 3	10	1
DULUX EL DIM GL 15W/827 E27		850	E27	120	166 ± 2	10	3

OSRAM DULUX® EL VARIO lamps with B22d base available on request.  
OSRAM DULUX® EL VARIO lamps are not suitable for use with dc supplies, external dimmers or electronic switches. Use outdoors only in enclosed and ventilated luminaires. Permissible temperature range 15 to 50 °C.

With OSRAM DULUX® EL VARIO, energy-saving light can be varied without the need for dimmers. Simply switching the lamp off and on again within three seconds reduces its brightness by about a half. Power consumption is also reduced by more than half. This provides additional energy savings.

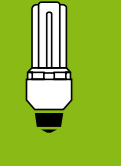
**Domestic applications:**  
Wherever the lighting level is to be varied.

**Commercial applications:**  
Hotels, restaurants.

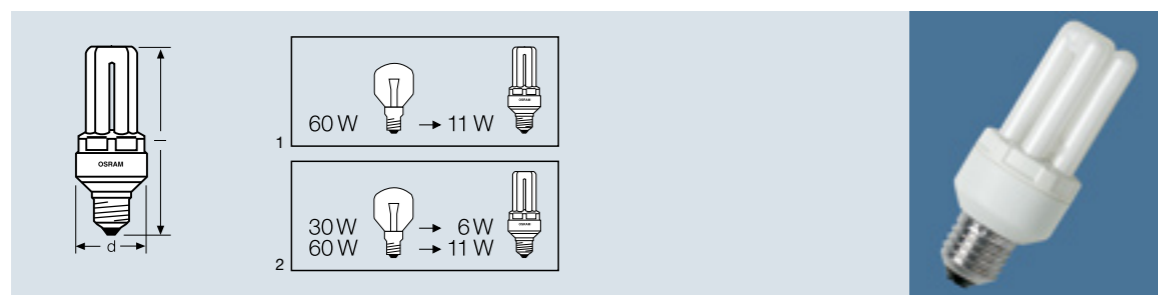
OSRAM DULUX® EL 20 W is now available in an infinitely **dimable** version. The new OSRAM DULUX® EL DIM can be used in **all** applications with suitable leading-edge phase dimmers.

- The OSRAM DULUX® EL VARIO can be switched any number of times; there is no need to leave the lamp off for a certain time before switching it on again.
- Like all OSRAM DULUX® EL lamps, the OSRAM DULUX® EL VARIO is not suitable for operation with existing dimmer switches but does offer its own “built-in” dimming option in all other applications.
- Average life is 15,000 hours, corresponding to around 15 years at about 2.7 hours per day.

- E27 base.
- Extra long average life of 15,000 hours.
- Around 500,000 switching cycles<sup>1)</sup>.



## OSRAM DULUX® EL SOLAR 12 V DC OSRAM DULUX® EL SOLAR 12 V DC VARIO



Product reference	Product number	W	V <sup>2)</sup>	Hz		
<b>OSRAM DULUX® EL SOLAR 12 V DC</b>						
DULUX EL 12V DC	4008321118370	11	12	–	1000	LUMILUX Warm White

<b>OSRAM DULUX® EL SOLAR 12 V DC VARIO</b>						
DULUX EL 12V DC VARIO	4008321118417	11	12	–	1000	LUMILUX Warm White

Product reference	lm		d [mm]	l [mm]		No.
<b>OSRAM DULUX® EL SOLAR 12 V DC</b>						
DULUX EL 12V DC	600	E27	45	127 ± 3	10	1
<b>OSRAM DULUX® EL SOLAR 12 V DC VARIO</b>						
DULUX EL 12V DC VARIO	600	E27	45	127 ± 3	10	2

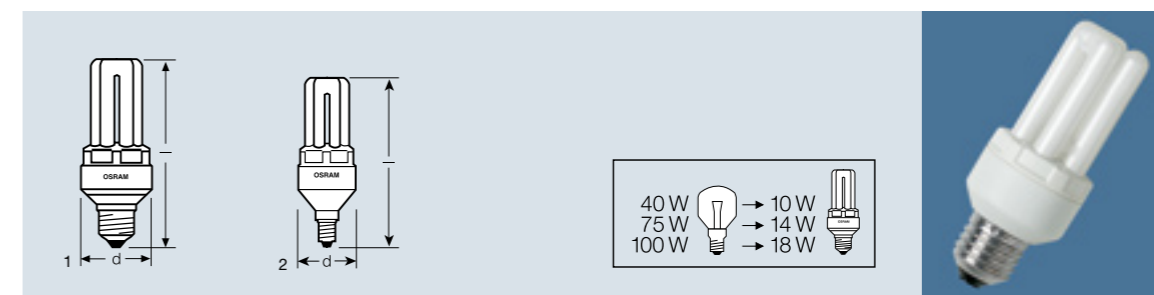
### Battery and solar power: OSRAM DULUX® EL SOLAR 12 V DC, 12 V DC VARIO

New energy-saving lamp for 12 V dc voltage, developed primarily for use with solar power systems. The OSRAM DULUX® EL 12 V DC is also ideal for mobile use with batteries, for example when camping.

- Luminous flux of 600 lm
- E27 base
- Long average life of 10,000 hours<sup>1)</sup>
- No limits to on/off switching

OSRAM DULUX® EL SOLAR VARIO lamps can be dimmed without dimmers. Simply switching the lamp off and on again within three seconds reduces its brightness by about a half. Power consumption is also reduced by more than half. This means that additional energy savings are possible or generator capacity can be released so that other electronic equipment can be connected at the same time.

## OSRAM DULUX® EL FACILITY



Product reference	Product number	W	V	Hz		
<b>OSRAM DULUX® EL FACILITY</b>						
DULUX EL FCY 10 W/827 E14	4008321126276	10	220-240	50 ... 60	80	LUMILUX Warm White
DULUX EL FCY 10 W/827 E27	4008321126290	10	220-240	50 ... 60	80	LUMILUX Warm White
DULUX EL FCY 14 W/827 E27	4050300631905	14	220-240	50 ... 60	110	LUMILUX Warm White
DULUX EL FCY 18 W/827 E27	4008321118356	18	220-240	50 ... 60	145	LUMILUX Warm White

Product reference	Ra	lm		d [mm]	l [mm]		No.
DULUX EL FCY 10 W/827 E14	1B	530	E14	45	126 ± 3	10	2
DULUX EL FCY 10 W/827 E27	1B	530	E27	45	117 ± 3	10	1
DULUX EL FCY 14 W/827 E27	1B	800	E27	45	123 ± 3	10	1
DULUX EL FCY 18 W/827 E27	1B	1100	E27	45	137 ± 3	10	1

OSRAM DULUX® EL Facility lamps with B22d base available on request.  
OSRAM DULUX® EL Facility lamps are not suitable for use with external dimmers or electronic switches.  
Use outdoors only in enclosed and ventilated luminaires.

This professional energy-saving lamp is ideal for use in conjunction with automatic disconnection circuits and motion detectors and in stairwells. It can be switched on and off an enormous number of times throughout its life.

- **Can be used for dc applications without restrictions and in emergency systems (176 to 310 V).**
- Average life according to IEC: 15,000 h.
- Rapid increase in luminous flux thanks to **Powerboost** circuit.
- No need to worry about switching cycles.

### Domestic applications:

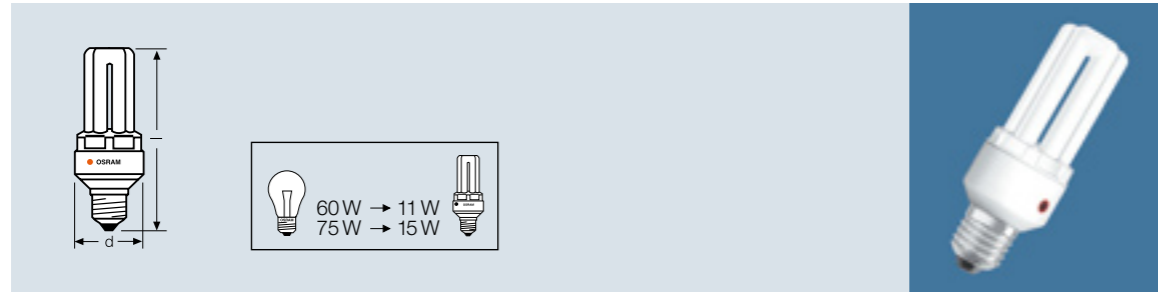
Wherever energy-saving lamps need to be switched on and off frequently.

### Commercial applications:

Hotels, restaurants, facility management. Because it can be switched on and off an enormous number of times the OSRAM DULUX® EL Facility is perfect for stairwell lighting with automatic disconnection circuits.



## OSRAM DULUX® EL SENSOR



Product reference	Product number	W	V	Hz		
<b>OSRAM DULUX® EL SENSOR</b>						
DULUX EL SENSOR 11 W/827 E27	4008321102300	11	220-240	50 ... 60	90	LUMILUX Warm White
DULUX EL SENSOR 15 W/827 E27	4050300451299	15	220-240	50 ... 60	120	LUMILUX Warm White

Product reference	R <sub>a</sub>	Im		d [mm]	l [mm]	
DULUX EL SENSOR 11 W/827 E27	1B	630	E27	45	122 ± 3	10
DULUX EL SENSOR 15 W/827 E27	1B	900	E27	45	129 ± 3	10

OSRAM DULUX® EL SENSOR lamps are not suitable for use with dimmers, dc supplies or electronic switches. Use outdoors only in enclosed and ventilated luminaires.

OSRAM DULUX® EL SENSOR automatically switches on at dusk and off again at dawn. The light sensors detect daylight on the basis of the spectral distribution.

- Intelligent microprocessor technology.
- Unaffected by interference light.
- Average life according to IEC: 15,000 h.

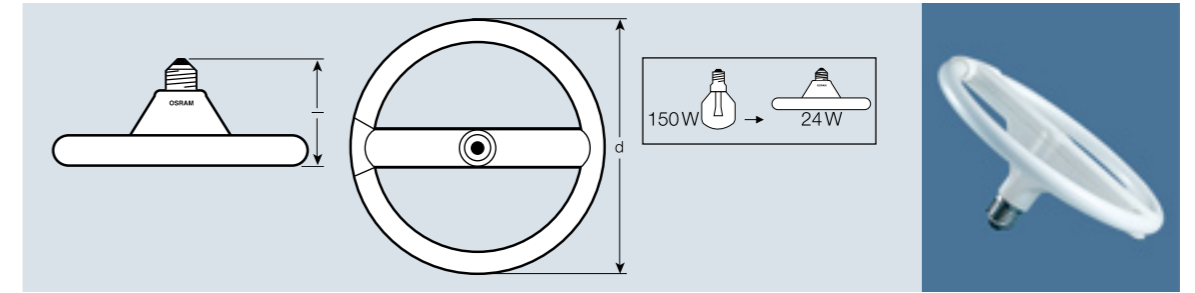


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## OSRAM CIRCOLUX® EL



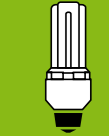
Product reference	Product number	W	V	Hz		
<b>OSRAM CIRCOLUX® EL</b>						
CIRCOLUX EL 24 W/827 E27	4050300626628	24	220-240	50 ... 60	190	LUMILUX Warm White

Product reference	R <sub>a</sub>	Im		d [mm]	l [mm]	
CIRCOLUX EL 24 W/827 E27	1B	1700	E27	225	99 ± 3	4

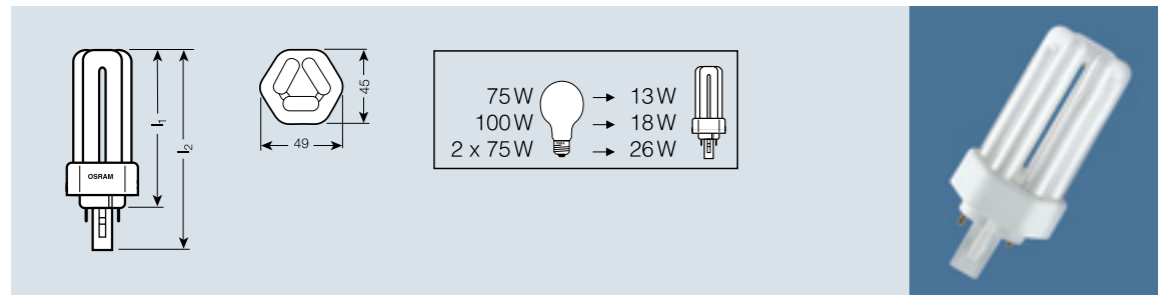
CIRCOLUX® EL lamps are not suitable for use with dimmers or electronic switches. Use outdoors only in enclosed luminaires.

OSRAM CIRCOLUX® EL is the high-output energy-saving lamp. It emits a warm and pleasant light similar to that from an ordinary light bulb. It also offers excellent color rendering and ideal light distribution for general lighting. Thanks to its round low-profile design, OSRAM CIRCOLUX® EL is perfect for pendant luminaires.



- Low weight.
- Same comfort and economy as OSRAM DULUX® EL Longlife lamps.
- Up to 15 year life (if used for an average of around 2.7 hours a day).
- With around 500,000 switching cycles<sup>1)</sup> and a long average life of 15,000 hours.



## OSRAM DULUX® T PLUS for conventional control gear (CCG)



Product reference	Product number	W		Ra
<b>OSRAM DULUX® T PLUS for conventional control gear (CCG)</b>				
DULUX T 13 W/827 PLUS	4050300446943	13	LUMILUX INTERNA	1B
DULUX T 13 W/830 PLUS	4050300446929	13	LUMILUX Warm White	1B
DULUX T 13 W/840 PLUS	4050300446905	13	LUMILUX Cool White	1B
DULUX T 18 W/827 PLUS	4050300333502	18	LUMILUX INTERNA	1B
DULUX T 18 W/830 PLUS	4050300333489	18	LUMILUX Warm White	1B
DULUX T 18 W/840 PLUS	4050300333465	18	LUMILUX Cool White	1B
DULUX T 26 W/827 PLUS	4050300342085	26	LUMILUX INTERNA	1B
DULUX T 26 W/830 PLUS	4050300342061	26	LUMILUX Warm White	1B
DULUX T 26 W/840 PLUS	4050300342047	26	LUMILUX Cool White	1B

Product reference	lm		$l_1$ max. [mm]	$l_2$ max. [mm]	IEC I1 [mm]	
DULUX T 13 W/827 PLUS	900	GX24d-1	90	113	90	10
DULUX T 13 W/830 PLUS	900	GX24d-1	90	113	90	10
DULUX T 13 W/840 PLUS	900	GX24d-1	90	113	90	10
DULUX T 18 W/827 PLUS	1200	GX24d-2	100	123	110	10
DULUX T 18 W/830 PLUS	1200	GX24d-2	100	123	110	10
DULUX T 18 W/840 PLUS	1200	GX24d-2	100	123	110	10
DULUX T 26 W/827 PLUS	1800	GX24d-3	115	138	130	10
DULUX T 26 W/830 PLUS	1800	GX24d-3	115	138	130	10
DULUX T 26 W/840 PLUS	1800	GX24d-3	115	138	130	10

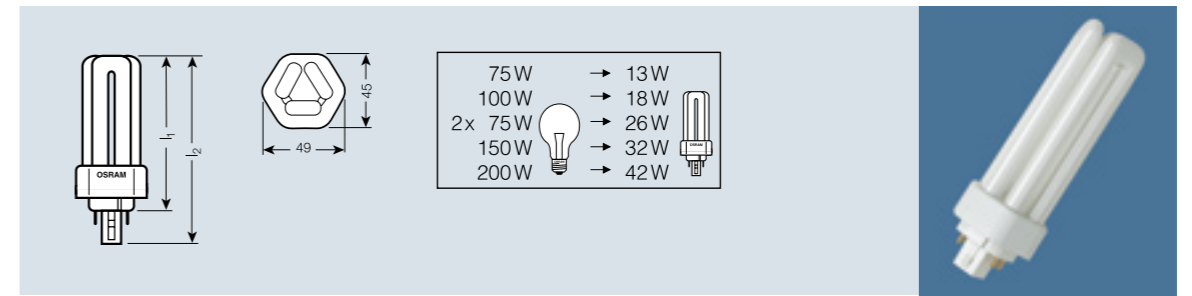
All the lamps in the successful OSRAM DULUX® T, T/E and T/E IN series have the following positive properties:

- Improved maintenance
- Longer lamp life and service life
- Mercury content reduced from 4.5 to 3 mg
- Improved start-up behavior
- Integrated ignition assistance for faster starting



OSRAM DULUX® T 18 W PLUS lamps are suitable only for operating with 0.22 A control gear. This compact fluorescent lamp is an even shorter and more compact pin-base lamp with triple-turn tubes. It is ideal for miniaturized unconventional luminaires and downlights with shallow mounting depths and for new lighting systems.

- Approx. two thirds the length of an OSRAM DULUX® D of the same wattage.
- Only 20 to 25% of the power consumption of light bulbs of comparable brightness.
- The same rotationally symmetrical luminous intensity distribution as ordinary light bulbs.
- Pleasant warm light, excellent color rendering.
- Eight times the life of light bulbs of comparable brightness for long relamping intervals.
- Single-ended plug-in base with integrated starter and RF suppression capacitor.

## OSRAM DULUX® T/E PLUS for electronic control gear (ECG)



Product reference	Product number	W		Ra
<b>OSRAM DULUX® T/E PLUS for electronic control gear (ECG)</b>				
DULUX T/E 13 W/827 PLUS	4050300447001	13	LUMILUX INTERNA	1B
DULUX T/E 13 W/830 PLUS	4050300446981	13	LUMILUX Warm White	1B
DULUX T/E 13 W/840 PLUS	4050300446967	13	LUMILUX Cool White	1B
DULUX T/E 18 W/827 PLUS	4050300342269	18	LUMILUX INTERNA	1B
DULUX T/E 18 W/830 PLUS	4050300342245	18	LUMILUX Warm White	1B
DULUX T/E 18 W/840 PLUS	4050300342221	18	LUMILUX Cool White	1B
DULUX T/E 26 W/827 PLUS	4050300342320	26	LUMILUX INTERNA	1B
DULUX T/E 26 W/830 PLUS	4050300342306	26	LUMILUX Warm White	1B
DULUX T/E 26 W/840 PLUS	4050300342283	26	LUMILUX Cool White	1B

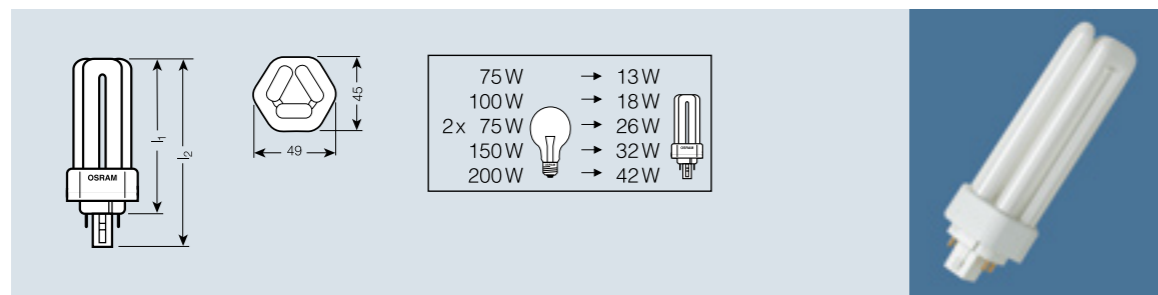
Product reference	lm		$l_1$ max. [mm]	$l_2$ max. [mm]	IEC I1 [mm]	
DULUX T/E 13 W/827 PLUS	900	GX24q-1	90	106	90	10
DULUX T/E 13 W/830 PLUS	900	GX24q-1	90	106	90	10
DULUX T/E 13 W/840 PLUS	900	GX24q-1	90	106	90	10
DULUX T/E 18 W/827 PLUS	1200	GX24q-2	100	116	110	10
DULUX T/E 18 W/830 PLUS	1200	GX24q-2	100	116	110	10
DULUX T/E 18 W/840 PLUS	1200	GX24q-2	100	116	110	10
DULUX T/E 26 W/827 PLUS	1800	GX24q-3	115	131	130	10
DULUX T/E 26 W/830 PLUS	1800	GX24q-3	115	131	130	10
DULUX T/E 26 W/840 PLUS	1800	GX24q-3	115	131	130	10

For circuit diagrams see page 3.37

For QUICKTRONIC® electronic control gear see Section 9



## OSRAM DULUX® T/E PLUS for electronic control gear (ECG)

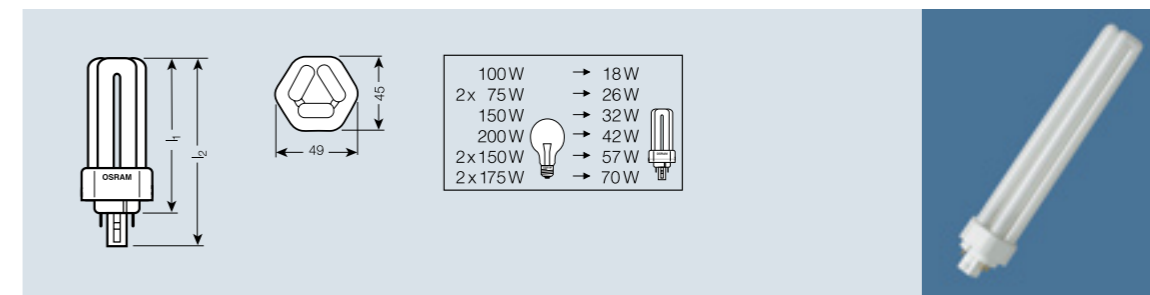


Product reference	Product number	W		R <sub>a</sub>		
<b>OSRAM DULUX® T/E PLUS for electronic control gear (ECG)</b>						
DULUX T/E 32 W/827 PLUS	4050300348605	32	LUMILUX INTERNA	1B		
DULUX T/E 32 W/830 PLUS	4050300348582	32	LUMILUX Warm White	1B		
DULUX T/E 32 W/840 PLUS	4050300348568	32	LUMILUX Cool White	1B		
DULUX T/E 42 W/827 PLUS	4050300425665	42	LUMILUX INTERNA	1B		
DULUX T/E 42 W/830 PLUS	4050300425641	42	LUMILUX Warm White	1B		
DULUX T/E 42 W/840 PLUS	4050300425627	42	LUMILUX Cool White	1B		
Product reference	lm					
DULUX T/E 32 W/827 PLUS	2400	GX24q-3	131	147	145	10
DULUX T/E 32 W/830 PLUS	2400	GX24q-3	131	147	145	10
DULUX T/E 32 W/840 PLUS	2400	GX24q-3	131	147	145	10
DULUX T/E 42 W/827 PLUS	3200	GX24q-4	152	168	155	10
DULUX T/E 42 W/830 PLUS	3200	GX24q-4	152	168	155	10
DULUX T/E 42 W/840 PLUS	3200	GX24q-4	152	168	155	10
For circuit diagrams see page 3.37		For QUICKTRONIC® electronic control gear see Section 9				

When operated on an ECG, the lamp has ten times the life of a light bulb of the same brightness. OSRAM DULUX® T/E PLUS are compact fluorescent lamps for HF control gear and for dimmer systems. These innovative energy-saving lamps are designed for operation on batteries, solar cells and ac power supply. They are suitable for high and low voltage and can be fully dimmed. Their dimensions and wattages are identical to those of the standard OSRAM DULUX® T PLUS models.

- Approx. two thirds the length of an OSRAM DULUX® D/E of the same wattage.
- Luminous flux values from 1200 to 3200 lm.
- The same rotationally symmetrical luminous intensity distribution as ordinary light bulbs.
- Single-ended four-pin plug-in GX24q base with shortened base casing to prevent two-pin lamps being fitted in T/E PLUS holders.

## OSRAM DULUX® T/E IN PLUS for electronic control gear (ECG)

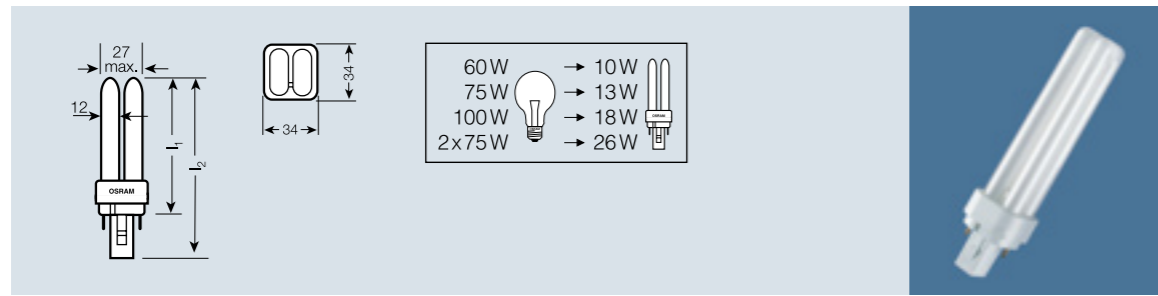


Product reference	Product number	W		R <sub>a</sub>		
<b>OSRAM DULUX® T/E IN PLUS for electronic control gear (ECG)</b>						
DULUX T/E 26 W/830 IN PLUS <sup>1)</sup>	4050300425467	26	LUMILUX Warm White	1B		
DULUX T/E 26 W/840 IN PLUS <sup>1)</sup>	4050300425443	26	LUMILUX Cool White	1B		
DULUX T/E 32 W/827 IN PLUS	4050300425542	32	LUMILUX INTERNA	1B		
DULUX T/E 32 W/830 IN PLUS	4050300425528	32	LUMILUX Warm White	1B		
DULUX T/E 32 W/840 IN PLUS	4050300425504	32	LUMILUX Cool White	1B		
DULUX T/E 42 W/827 IN PLUS	4050300425603	42	LUMILUX INTERNA	1B		
DULUX T/E 42 W/830 IN PLUS	4050300425580	42	LUMILUX Warm White	1B		
DULUX T/E 42 W/840 IN PLUS	4050300425566	42	LUMILUX Cool White	1B		
DULUX T/E 57 W/830 IN PLUS	4050300622699	57	LUMILUX Warm White	1B		
DULUX T/E 57 W/840 IN PLUS	4050300622675	57	LUMILUX Cool White	1B		
DULUX T/E 70 W/840 IN PLUS	4050300800394	70	LUMILUX Cool White	1B		
Product reference	lm					
DULUX T/E 26 W/830 IN PLUS	1800	GX24q-3	110	126	130	10
DULUX T/E 26 W/840 IN PLUS	1800	GX24q-3	110	126	130	10
DULUX T/E 32 W/827 IN PLUS	2400	GX24q-3	126	142	145	10
DULUX T/E 32 W/830 IN PLUS	2400	GX24q-3	126	142	145	10
DULUX T/E 32 W/840 IN PLUS	2400	GX24q-3	126	142	145	10
DULUX T/E 42 W/827 IN PLUS	3200	GX24q-4	147	163	155	10
DULUX T/E 42 W/830 IN PLUS	3200	GX24q-4	147	163	155	10
DULUX T/E 42 W/840 IN PLUS	3200	GX24q-4	147	163	155	10
DULUX T/E 57 W/830 IN PLUS	4300	GX24q-5	179	195	179	10
DULUX T/E 57 W/840 IN PLUS	4300	GX24q-5	179	195	179	10
DULUX T/E 70 W/840 IN PLUS	5200	GX24q-6	219	235	219	10
For circuit diagrams see page 3.37		For QUICKTRONIC® electronic control gear see Section 9				



OSRAM DULUX® T/E IN PLUS lamps are OSRAM DULUX® T/E PLUS versions for high ambient temperatures. 90 percent of the luminous flux is achieved at ambient temperatures between 10 and 70 °C. They can be used in almost all burning positions. They can be dimmed with an appropriate ECG.

- Same base as OSRAM DULUX® T/E PLUS.
- All the benefits of OSRAM DULUX® T/E PLUS.

## OSRAM DULUX® D for conventional control gear (CCG)



Product reference	Product number	W		Ra
<b>OSRAM DULUX® D for conventional control gear (CCG)<sup>1)</sup></b>				
DULUX D 10 W/827	4050300008110	10	LUMILUX INTERNA	1B
DULUX D 10 W/830	4050300025681	10	LUMILUX Warm White	1B
DULUX D 10 W/840	4050300010595	10	LUMILUX Cool White	1B
DULUX D 13 W/827	4050300008127	13	LUMILUX INTERNA	1B
DULUX D 13 W/830	4050300025698	13	LUMILUX Warm White	1B
DULUX D 13 W/840	4050300010625	13	LUMILUX Cool White	1B
DULUX D 18 W/827	4050300011462	18	LUMILUX INTERNA	1B
DULUX D 18 W/830	4050300025704	18	LUMILUX Warm White	1B
DULUX D 18 W/840	4050300012056	18	LUMILUX Cool White	1B
DULUX D 26 W/827	4050300011912	26	LUMILUX INTERNA	1B
DULUX D 26 W/830	4050300025711	26	LUMILUX Warm White	1B
DULUX D 26 W/840	4050300012049	26	LUMILUX Cool White	1B

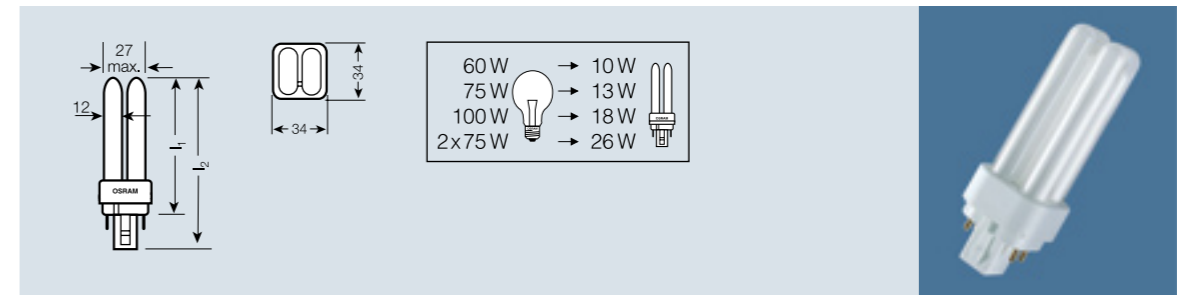
Product reference	lm	 <sup>2)</sup>	$l_1$ max. [mm]	$l_2$ max. [mm]	IEC I <sub>1</sub> [mm]	
DULUX D 10 W/827	600	G24d-1	87	110	95	10
DULUX D 10 W/830	600	G24d-1	87	110	95	10
DULUX D 10 W/840	600	G24d-1	87	110	95	10
DULUX D 13 W/827	900	G24d-1	115	138	130	10
DULUX D 13 W/830	900	G24d-1	115	138	130	10
DULUX D 13 W/840	900	G24d-1	115	138	130	10
DULUX D 18 W/827	1200	G24d-2	130	153	140	10
DULUX D 18 W/830	1200	G24d-2	130	153	140	10
DULUX D 18 W/840	1200	G24d-2	130	153	140	10
DULUX D 26 W/827	1800	G24d-3	149	172	160	10
DULUX D 26 W/830	1800	G24d-3	149	172	160	10
DULUX D 26 W/840	1800	G24d-3	149	172	160	10

These compact fluorescent lamps are ideal for miniature luminaires and downlights for shallow recesses. They have twice the luminous flux and the same length as OSRAM DULUX® S lamps. The lamps consume only 20 to 25% of the power of ordinary light bulbs of comparable brightness. They provide a pleasant warm light and excellent color rendering.



- No bigger than ordinary light bulbs for shallow luminaires.
- The same rotationally symmetrical luminous intensity distribution as ordinary light bulbs.
- Eight times the life of light bulbs of comparable brightness for long relamping intervals.
- Single-ended plug-in base with integrated starter and RF suppression capacitor.

<sup>1)</sup> For circuit diagrams 1 and 2 see page 3.37  
OSRAM DULUX® D 18 W suitable only for operation with 0.22 A control gear  
<sup>2)</sup> See page 3.36

## OSRAM DULUX® D/E for electronic control gear (ECG) and dimming systems



Product reference	Product number	W		Ra
<b>OSRAM DULUX® D/E for electronic control gear (ECG) and dimming systems<sup>1)</sup></b>				
DULUX D/E 10 W/827	4050300012124	10	LUMILUX INTERNA	1B
DULUX D/E 10 W/830	4050300419435	10	LUMILUX Warm White	1B
DULUX D/E 10 W/840	4050300017587	10	LUMILUX Cool White	1B
DULUX D/E 13 W/827	4050300012131	13	LUMILUX INTERNA	1B
DULUX D/E 13 W/830	4050300389059	13	LUMILUX Warm White	1B
DULUX D/E 13 W/840	4050300017594	13	LUMILUX Cool White	1B
DULUX D/E 18 W/827	4050300012148	18	LUMILUX INTERNA	1B
DULUX D/E 18 W/830	4050300327211	18	LUMILUX Warm White	1B
DULUX D/E 18 W/840	4050300017617	18	LUMILUX Cool White	1B
DULUX D/E 26 W/827	4050300012230	26	LUMILUX INTERNA	1B
DULUX D/E 26 W/830	4050300327235	26	LUMILUX Warm White	1B
DULUX D/E 26 W/840	4050300020303	26	LUMILUX Cool White	1B

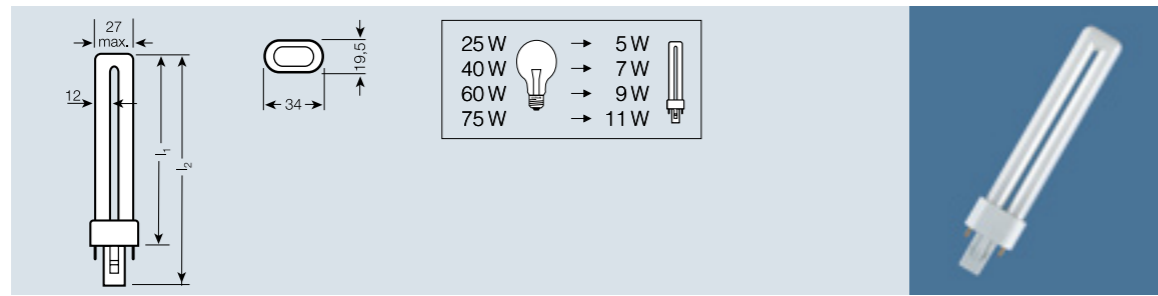
Product reference	lm	 <sup>2)</sup>	$l_1$ max. [mm]	$l_2$ max. [mm]	IEC I <sub>1</sub> [mm]	
DULUX D/E 10 W/827	600	G24q-1	87	103	95	10
DULUX D/E 10 W/830	600	G24q-1	87	103	95	10
DULUX D/E 10 W/840	600	G24q-1	87	103	95	10
DULUX D/E 13 W/827	900	G24q-1	115	131	130	10
DULUX D/E 13 W/830	900	G24q-1	115	131	130	10
DULUX D/E 13 W/840	900	G24q-1	115	131	130	10
DULUX D/E 18 W/827	1200	G24q-2	130	146	140	10
DULUX D/E 18 W/830	1200	G24q-2	130	146	140	10
DULUX D/E 18 W/840	1200	G24q-2	130	146	140	10
DULUX D/E 26 W/827	1800	G24q-3	149	165	160	10
DULUX D/E 26 W/830	1800	G24q-3	149	165	160	10
DULUX D/E 26 W/840	1800	G24q-3	149	165	160	10

These compact fluorescent lamps can be operated on battery, solar or ac power. They are suitable for high and low voltage (e.g. with ACCUTRONIC®). They can also be fully dimmed. Their dimensions and wattages are identical to those of the successful standard OSRAM DULUX® D models. The fact that they can be used with separate control gear means they can be connected to almost any type of power supply, including ac, batteries and solar cells. Major applications include dimming and battery-powered emergency lighting in department stores, office buildings and so on.

- Ten times the life of ordinary light bulbs of the same brightness in ECG operation.
- Comfortable light in ECG operation.
- Shortened base casing to prevent two-pin lamps being fitted in new D/E holders, but still fits in old D/E holders.
- Twice the luminous flux and the same length as OSRAM DULUX® S/E.
- Luminous flux values from 600 to 1800 lm.
- Same dimensions as OSRAM DULUX® D to enable luminaires for emergency lighting systems to conform to a uniform design.
- Single-ended four-pin plug-in G24q base.

<sup>1)</sup> For circuit diagrams see page 3.37  
For QUICKTRONIC® electronic control gear for high voltages and ACCUTRONIC® for low voltages see Section 9  
<sup>2)</sup> See page 3.36

## OSRAM DULUX® S for conventional control gear (CCG)



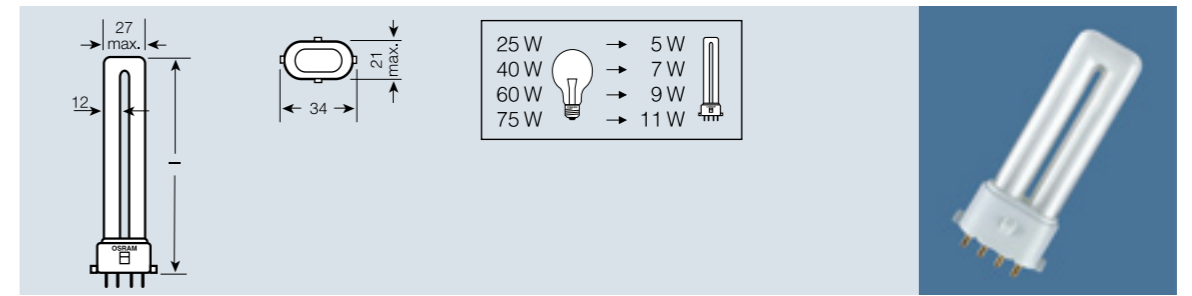
Product reference	Product number	W		Ra	Im		l1 max. [mm]	l2 max. [mm]	IEC l max. [mm]	
<b>OSRAM DULUX® S for conventional control gear (CCG)</b>										
DULUX S 5 W/827	4050300006130	5	LUMILUX INTERNA	1B	250	G23	85	108	85	10
DULUX S 5 W/830	4050300025728	5	LUMILUX Warm White	1B	250	G23	85	108	85	10
DULUX S 5 W/840	4050300010564	5	LUMILUX Cool White	1B	250	G23	85	108	85	10
DULUX S 7 W/827	4050300005997	7	LUMILUX INTERNA	1B	400	G23	114	137	115	10
DULUX S 7 W/830	4050300025735	7	LUMILUX Warm White	1B	400	G23	114	137	115	10
DULUX S 7 W/840	4050300010571	7	LUMILUX Cool White	1B	400	G23	114	137	115	10
DULUX S 7 W/865	4050300355306	7	LUMILUX Cool Daylight	1B	375	G23	114	137	115	50
DULUX S 9 W/827	4050300006000	9	LUMILUX INTERNA	1B	600	G23	144	167	145	10
DULUX S 9 W/830	4050300025742	9	LUMILUX Warm White	1B	600	G23	144	167	145	10
DULUX S 9 W/840	4050300010588	9	LUMILUX Cool White	1B	600	G23	144	167	145	10
DULUX S 9 W/865	4050300355320	9	LUMILUX Cool Daylight	1B	600	G23	144	167	145	50
DULUX S 11 W/827	4050300006017	11	LUMILUX INTERNA	1B	900	G23	214	237	215	10
DULUX S 11 W/830	4050300025759	11	LUMILUX Warm White	1B	900	G23	214	237	215	10
DULUX S 11 W/840	4050300010618	11	LUMILUX Cool White	1B	900	G23	214	237	215	10
DULUX S 11 W/865	4050300112374	11	LUMILUX Cool Daylight	1B	850	G23	214	237	215	50
DULUX S 9 W/60	4050300015927	9	Red		400	G23	144	167	145	10
DULUX S 9 W/66	4050300015934	9	Green		800	G23	144	167	145	10
DULUX S 9 W/67	4050300015941	9	Blue		200	G23	144	167	145	10

For circuit diagrams 1 to 3 see page 3.37.

Their small dimensions and slim design make OSRAM DULUX® S lamps ideal for creative lighting.

- Eight times the life and only 1/4 to 1/3 of the power consumption of ordinary light bulbs of comparable brightness.
- Single-ended plug-in base G23 with integrated starter and RF suppression capacitor.
- The colored version is ideal for creative illumination and decoration.

## OSRAM DULUX® S/E for electronic control gear (ECG) and dimming systems



Product reference	Product number	W		Ra	Im	
<b>OSRAM DULUX® S/E for electronic control gear (ECG) and dimming systems</b>						
DULUX S/E 5 W/827	4050300017624	5	LUMILUX INTERNA	1B	250	2G7
DULUX S/E 5 W/840	4050300020150	5	LUMILUX Cool White	1B	250	2G7
DULUX S/E 7 W/827	4050300017648	7	LUMILUX INTERNA	1B	400	2G7
DULUX S/E 7 W/830	40503000591988	7	LUMILUX Warm White	1B	400	2G7
DULUX S/E 7 W/840	4050300020167	7	LUMILUX Cool White	1B	400	2G7
DULUX S/E 9 W/827	4050300017655	9	LUMILUX INTERNA	1B	600	2G7
DULUX S/E 9 W/830	40503000589398	9	LUMILUX Warm White	1B	600	2G7
DULUX S/E 9 W/840	4050300020174	9	LUMILUX Cool White	1B	600	2G7
DULUX S/E 11 W/827	4050300017662	11	LUMILUX INTERNA	1B	900	2G7
DULUX S/E 11 W/830	40503000589374	11	LUMILUX Warm White	1B	900	2G7
DULUX S/E 11 W/840	4050300020181	11	LUMILUX Cool White	1B	900	2G7

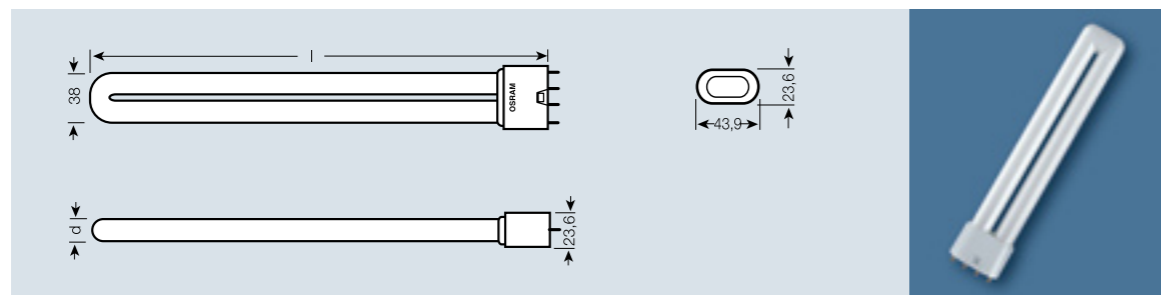
Product reference	l1 max. [mm]	l2 max. [mm]	IEC l max. [mm]	
DULUX S/E 5 W/827	85	94	85	10
DULUX S/E 5 W/840	85	94	85	10
DULUX S/E 7 W/827	114	124	115	10
DULUX S/E 7 W/830	114	124	115	10
DULUX S/E 7 W/840	114	124	115	10
DULUX S/E 9 W/827	144	150	145	10
DULUX S/E 9 W/830	144	150	145	10
DULUX S/E 9 W/840	144	150	145	10
DULUX S/E 11 W/827	214	220	215	10
DULUX S/E 11 W/830	214	220	215	10
DULUX S/E 11 W/840	214	220	215	10

For circuit diagrams see page 3.37.  
For QUICKTRONIC® electronic control gear for high voltages and ACCUTRONIC® for low voltages see Section 9.

These innovative energy-saving lamps can be operated on battery, solar or ac power. They are suitable for high and low voltage (e.g. with ACCUTRONIC®). They can also be fully dimmed. Their dimensions and wattages are identical to those of the successful standard OSRAM DULUX® S models.

- Ten times the life of ordinary light bulbs of the same brightness in ECG operation.
- Comfortable light in ECG operation.
- Small dimensions, extremely slim.
- Smallest lamp suitable for solar or battery-powered systems (emergency power).
- Low power consumption (5 W, 7 W, 9 W, 11 W).
- Luminous flux values from 250 to 900 lm.
- Single-ended four-pin plug-in 2G7 base.

## OSRAM DULUX® L LUMILUX



Product reference	Product number	W		Ra	Im		TUBE d [mm]	l max. [mm]	IEC T max. [mm]	
<b>OSRAM DULUX® L LUMILUX</b>										
DULUX L 18 W/827	4050300010748	18	LUMILUX INTERNA	1B	1200	2G11	17,5	217	225	10
DULUX L 18 W/830	4050300010731	18	LUMILUX Warm White	1B	1200	2G11	17,5	217	225	10
DULUX L 18 W/840	4050300010724	18	LUMILUX Cool White	1B	1200	2G11	17,5	217	225	10
DULUX L 24 W/827	4050300010779	24	LUMILUX INTERNA	1B	1800	2G11	17,5	317	320	10
DULUX L 24 W/830	4050300010762	24	LUMILUX Warm White	1B	1800	2G11	17,5	317	320	10
DULUX L 24 W/840	4050300010755	24	LUMILUX Cool White	1B	1800	2G11	17,5	317	320	10
DULUX L 36 W/827	4050300010809	36	LUMILUX INTERNA	1B	2900	2G11	17,5	411	415	10
DULUX L 36 W/830	4050300010793	36	LUMILUX Warm White	1B	2900	2G11	17,5	411	415	10
DULUX L 36 W/840	4050300010786	36	LUMILUX Cool White	1B	2900	2G11	17,5	411	415	10
DULUX L 36 W/880	4008321185891	36	LUMILUX SKYWHITE	1B	2600	2G11	17,5	411	415	10
DULUX L 36 W/865	4050300328263	36	LUMILUX Cool Daylight	1B	2750	2G11	17,5	411	415	10
DULUX L 40 W/827 <sup>1)</sup>	4050300322285	40	LUMILUX INTERNA	1B	3500	2G11	17,5	533	535	10
DULUX L 40 W/830 <sup>1)</sup>	4050300298894	40	LUMILUX Warm White	1B	3500	2G11	17,5	533	535	10
DULUX L 40 W/840 <sup>1)</sup>	4050300279909	40	LUMILUX Cool White	1B	3500	2G11	17,5	533	535	10
DULUX L 40 W/880 <sup>1)</sup>	4008321185914	40	LUMILUX SKYWHITE	1B	3000	2G11	17,5	533	535	10
DULUX L 40 W/865 <sup>1)</sup>	4050300592008	40	LUMILUX Cool Daylight	1B	3325	2G11	17,5	533	535	10
DULUX L 55 W/827 <sup>1)</sup>	4050300315881	55	LUMILUX INTERNA	1B	4800	2G11	17,5	535	535	10
DULUX L 55 W/830 <sup>1)</sup>	4050300298917	55	LUMILUX Warm White	1B	4800	2G11	17,5	533	535	10
DULUX L 55 W/840 <sup>1)</sup>	4050300295879	55	LUMILUX Cool White	1B	4800	2G11	17,5	533	535	10
DULUX L 55 W/880 <sup>1)</sup>	4008321185938	55	LUMILUX SKYWHITE	1B	4100	2G11	17,5	533	535	10
DULUX L 55 W/865 <sup>1)</sup>	4050300553900	55	LUMILUX Cool Daylight	1B	4800	2G11	17,5	533	535	10
DULUX L 80 W/830 <sup>1)</sup>	4050300665467	80	LUMILUX Warm White	1B	6000	2G11	17,5	568	568	10
DULUX L 80 W/840 <sup>1)</sup>	4050300665481	80	LUMILUX Cool White	1B	6000	2G11	17,5	568	568	10
DULUX L 80 W/880 <sup>1)</sup>	4008321185952	80	LUMILUX SKYWHITE	1B	5600	2G11	17,5	568	568	10
<b>OSRAM DULUX® L COLORED</b>										
DULUX L 24 W/67	4050300354033	24	Blue		550	2G11	17,5	317	320	10

OSRAM DULUX® L provide lighting planners with interesting options. Their pleasant and economical light can be used in unconventional ways for all indoor and outdoor lighting – ideal for new short-run luminaires.

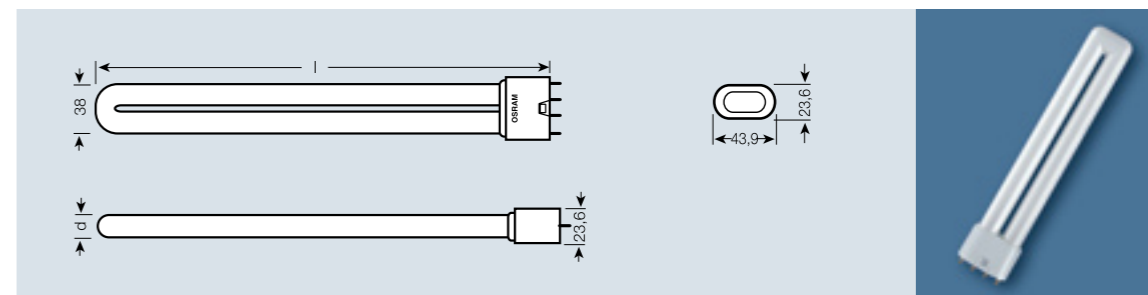
- Same luminous flux and power consumption as fluorescent tubes but less than half the length and more compact than U-shaped and circular lamps.
- Available in popular light colors LUMILUX® and LUMILUX® DE LUXE.
- Can be combined with existing LUMILUX® lighting because the same range of light colors is available.

- Suitable for use with conventional control gear and starters (except for OSRAM DULUX® L 40 W, 55 W and 80 W) and for QUICKTRONIC® HF control gear (see Section 9).
- Single-ended four-pin plug-in 2G11 base.
- OSRAM DULUX® L 40 W, L 55 W and L 80 W have been designed specifically for square and short-run luminaires with 600 mm sides.
- Comfortable light thanks to ECG operation.
- The colored version is the ideal energy-saving lamp for illumination and decoration.

### Applications:

Rectangular, square and round ceiling and wall luminaires for foyers, offices, shops and exhibitions.

## OSRAM DULUX® L CONSTANT for electronic control gear (ECG)



Product reference	Product number	W		Ra			
<b>OSRAM DULUX® L CONSTANT for electronic control gear (ECG)</b>							
DULUX L 40 W/840 CONSTANT	4008321104823	40	LUMILUX Cool White	1B			
DULUX L 55 W/840 CONSTANT	4008321104847	55	LUMILUX Cool White	1B			
DULUX L 80 W/840 CONSTANT	4008321104861	80	LUMILUX Cool White	1B			
Product reference		Im		TUBE d [mm]	l max. [mm]	IEC T max. [mm]	
DULUX L 40 W/840 CONSTANT		3500	2G11	17,5	533	535	10
DULUX L 55 W/840 CONSTANT		4800	2G11	17,5	533	535	10
DULUX L 80 W/840 CONSTANT		6000	2G11	17,5	565	568	10

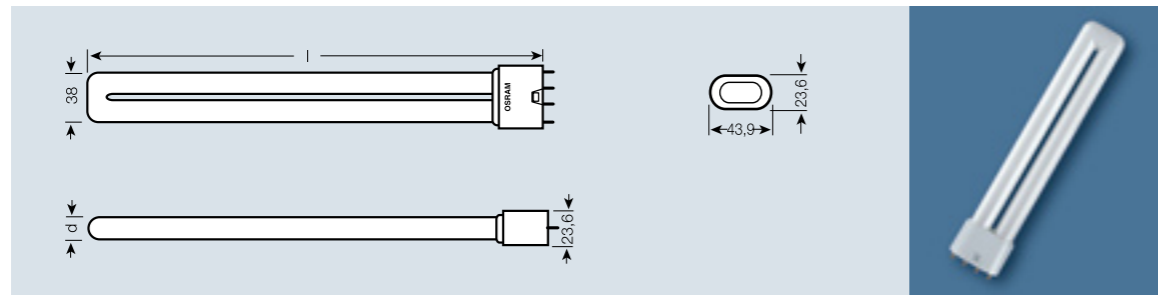
OSRAM DULUX® L CONSTANT uses new high-temperature amalgam technology. This enables the lamps to operate with a luminous flux greater than 90% in a temperature range from +5 °C to +70 °C. This compares favorably with conventional OSRAM DULUX® L lamps (> 90% between +20 °C and +40 °C). Provisional information on dimming: OSRAM DULUX® L CONSTANT lamps have not yet been approved for dimming.

- Optimized amalgam technology.
- The lamp has the same base as conventional OSRAM DULUX L lamps.
- The lamp is identified by a red stamp.






### Applications:

- Outdoor lighting
- Indoor lighting
- Industrial lighting
- Narrow luminaires with high temperatures
- Studio lighting

## OSRAM DULUX® L LUMILUX DE LUXE



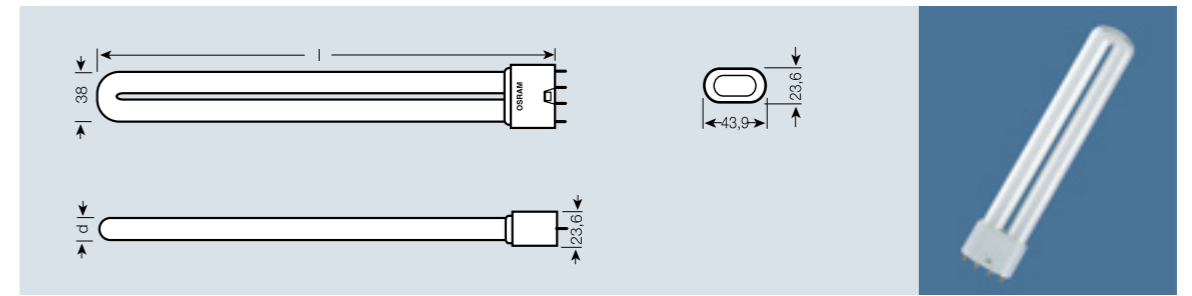
Product reference	Product number	W		R <sub>a</sub>	lm
<b>OSRAM DULUX® L LUMILUX DE LUXE</b>					
DULUX L 18 W/930	4050300018324	18	LUMILUX DE LUXE Warm White	1A	750
DULUX L 18 W/940	4050300018560	18	LUMILUX DE LUXE Cool White	1A	750
DULUX L 18 W/954	4050300018423	18	LUMILUX DE LUXE Daylight	1A	750
DULUX L 24 W/930	4050300018386	24	LUMILUX DE LUXE Warm White	1A	1200
DULUX L 24 W/940	4050300018584	24	LUMILUX DE LUXE Cool White	1A	1200
DULUX L 24 W/954	4050300018447	24	LUMILUX DE LUXE Daylight	1A	1200
DULUX L 36 W/930	4050300018393	36	LUMILUX DE LUXE Warm White	1A	1900
DULUX L 36 W/940	4050300018607	36	LUMILUX DE LUXE Cool White	1A	1900
DULUX L 36 W/954	4050300018461	36	LUMILUX DE LUXE Daylight	1A	1900
DULUX L 40 W/954 <sup>1)</sup>	4050300315799	40	LUMILUX DE LUXE Daylight	1A	2200
DULUX L 55 W/930 <sup>1)</sup>	4050300370705	55	LUMILUX DE LUXE Warm White	1A	3000
DULUX L 55 W/940 <sup>1)</sup>	4050300197999	55	LUMILUX DE LUXE Cool White	1A	3000
DULUX L 55 W/954 <sup>1)</sup>	4050300321400	55	LUMILUX DE LUXE Daylight	1A	3000

Product reference					
DULUX L 18 W/930	2G11	17,5	227	225	10
DULUX L 18 W/940	2G11	17,5	217	225	10
DULUX L 18 W/954	2G11	17,5	217	225	10
DULUX L 24 W/930	2G11	17,5	317	320	10
DULUX L 24 W/940	2G11	17,5	317	320	10
DULUX L 24 W/954	2G11	17,5	317	320	10
DULUX L 36 W/930	2G11	17,5	411	415	10
DULUX L 36 W/940	2G11	17,5	411	415	10
DULUX L 36 W/954	2G11	17,5	411	415	10
DULUX L 40 W/954 <sup>1)</sup>	2G11	17,5	533	535	10
DULUX L 55 W/930 <sup>1)</sup>	2G11	17,5	533	535	10
DULUX L 55 W/940 <sup>1)</sup>	2G11	17,5	533	535	10
DULUX L 55 W/954 <sup>1)</sup>	2G11	17,5	533	535	10

OSRAM DULUX® L compact fluorescent lamps are ideal for new short-run luminaires.






The excellent color rendering of OSRAM DULUX® L LUMILUX® DELUXE lamps opens up areas of application in which color rendering is of major importance.

## OSRAM DULUX® L SP



Product reference	Product number	W		R <sub>a</sub>
<b>OSRAM DULUX® L SP</b>				
DULUX L 18 W/830 SP	4050300300276	18	LUMILUX Warm White	1B
DULUX L 24 W/830 SP	4050300300238	24	LUMILUX Warm White	1B

Product reference	lm					
DULUX L 18 W/830 SP	1200	2G11	17,5	209	225	10
DULUX L 24 W/830 SP	1800	2G11	17,5	309	320	10

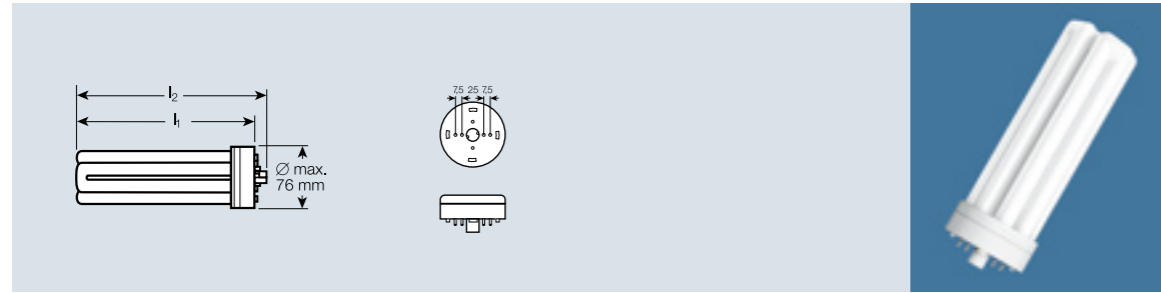
For circuit diagrams see page 3.37

For QUICKTRONIC® electronic control gear see Section 9

OSRAM DULUX® L SP lamps bring the same economy and luminous flux to outdoor lighting that OSRAM DULUX® L lamps bring to indoor lighting.

The round-ended design ensures that maximum luminous flux is achieved at an average outdoor temperature of 5 °C.

## OSRAM DULUX® 120 W HO CONSTANT for electronic control gear (ECG)



Product reference	Product number	W		Ra
<b>OSRAM DULUX® 120 W HO CONSTANT for electronic control gear (ECG)</b>				
DULUX 120W/830 HO CONSTANT	4008321053008	120	Warm White	1B
DULUX 120W/840 HO CONSTANT	4008321053022	120	Cool White	1B

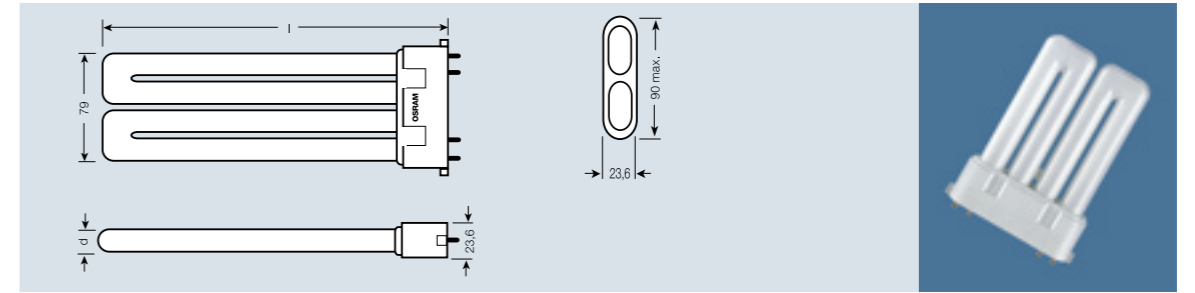
Product reference	lm	<sup>1)</sup>	l1 max. [mm]	l2 max. [mm]	IEC l1 [mm]	
DULUX 120W/830 HO CONSTANT	9000	2G8-1	215	230	225	6
DULUX 120W/840 HO CONSTANT	9000	2G8-1	215	230	225	6

The innovative OSRAM DULUX® 120 W HO (High Output) CONSTANT compact fluorescent lamp offers a high luminous flux of 9000 lm. Thanks to new amalgam technology, high luminous flux is provided over a wide range of ambient temperatures. 90% is achieved between +5 °C and +70 °C.

OSRAM DULUX® 120 W HO CONSTANT is the first choice for new high-intensity downlights, ceiling lights and workplace lighting in industry and commerce. Ideal areas of application include public buildings, shopping centers, warehouses, car parks, sports halls and outdoor lighting.

- Good color rendering ( $R_a > 80$ ) and color stability throughout the life of the lamp.
- This lamp has not yet been approved for dimming.
- Instant hot restart after a power outage.
- Thanks to its quadruple-turn tubes, this lamp is the shortest in this segment.
- New: specially developed four-pin base (2G8).

## OSRAM DULUX F



Product reference	Product number	W		Ra
<b>OSRAM DULUX F</b>				
DULUX F 18 W/827	4050300333564	18	LUMILUX INTERNA	1B
DULUX F 18 W/830	4050300333540	18	LUMILUX Warm White	1B
DULUX F 18 W/840	4050300333526	18	LUMILUX Cool White	1B
DULUX F 24 W/827	4050300333625	24	LUMILUX INTERNA	1B
DULUX F 24 W/830	4050300333601	24	LUMILUX Warm White	1B
DULUX F 24 W/840	4050300333588	24	LUMILUX Cool White	1B
DULUX F 36 W/827	4050300312187	36	LUMILUX INTERNA	1B
DULUX F 36 W/830	4050300299051	36	LUMILUX Warm White	1B
DULUX F 36 W/840	4050300299037	36	LUMILUX Cool White	1B

Product reference	lm	<sup>1)</sup>	TUBE d [mm]	l max. [mm]	IEC l1 [mm]	
DULUX F 18 W/827	1100	2G10	17,5	122	122	10
DULUX F 18 W/830	1100	2G10	17,5	122	122	10
DULUX F 18 W/840	1100	2G10	17,5	122	122	10
DULUX F 24 W/827	1700	2G10	17,5	165	165	10
DULUX F 24 W/830	1700	2G10	17,5	165	165	10
DULUX F 24 W/840	1700	2G10	17,5	165	165	10
DULUX F 36 W/827	2800	2G10	17,5	217	217	10
DULUX F 36 W/830	2800	2G10	17,5	217	217	10
DULUX F 36 W/840	2800	2G10	17,5	217	217	10

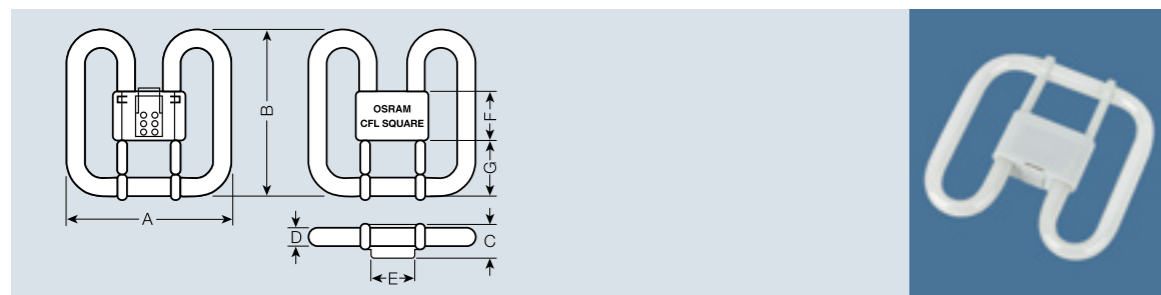
For circuit diagrams see page 3.37

For QUICKTRONIC® electronic control gear see Section 9

OSRAM DULUX® F lamps are new low-profile compact fluorescent lamps with high luminous efficacy. They are ideal for area lighting with 2 M and 3 M modular luminaires (200 and 300 mm sides), e.g. for square surface-mounted and recessed luminaires, low-profile wall and ceiling luminaires, downlights and uplights.

- High luminous efficacy: with QUICKTRONIC® the OSRAM DULUX® F 36 W has a 13% higher luminous flux than two OSRAM DULUX® L 18 W lamps.
- Compact dimensions: only about half as long as an OSRAM DULUX® L of comparable output.
- The OSRAM DULUX® F 36 W is easier to install and involves lower system costs than two OSRAM DULUX® L 18 W lamps.
- Can be used with the same HF control gear or conventional control gear as OSRAM DULUX® L lamps of comparable output.
- Four-pin plug-in 2G10 base.

## OSRAM CFL SQUARE® for conventional control gear (CCG) OSRAM CFL SQUARE® 4-Pin



Product reference	Product number	W		R <sub>a</sub>	Im		IEC l max. [mm]	
<b>OSRAM CFL SQUARE® for conventional control gear (CCG)</b>								
CFL SQUARE 16 W/827 2-PIN	4050300816852	16	LUMILUX INTERNA	1B	1050	GR8	138	20
CFL SQUARE 16 W/835 2-PIN	4050300816838	16	LUMILUX Warm White	1B	1050	GR8	138	20
CFL SQUARE 28 W/827 2-PIN	4050300816913	28	LUMILUX INTERNA	1B	2050	GR8	205	20
CFL SQUARE 28 W/835 2-PIN	4050300816937	28	LUMILUX Warm White	1B	2050	GR8	205	20
<b>OSRAM CFL SQUARE® 4-Pin</b>								
CFL SQUARE 16 W/827 4-PIN	4050300816890	16	LUMILUX INTERNA	1B	1050	GR10q	138	20
CFL SQUARE 16 W/835 4-PIN	4050300816876	16	LUMILUX Warm White	1B	1050	GR10q	138	20
CFL SQUARE 28 W/827 4-PIN	4050300816951	28	LUMILUX INTERNA	1B	2050	GR10q	205	20
CFL SQUARE 28 W/835 4-PIN	4050300816982	28	LUMILUX Warm White	1B	2050	GR10q	205	20
CFL SQUARE 38 W/827 4-PIN	4050300817002	38	LUMILUX INTERNA	1B	2700	GR10q	205	20
CFL SQUARE 38 W/835 4-PIN	4050300817026	38	LUMILUX Warm White	1B	2700	GR10q	205	20

OSRAM CFL SQUARE® lamps are slim compact fluorescent lamps. The square shape provides uniform distribution of light, with no shadows at either end and no dark patches. The lamps are ideal for low-profile wall and ceiling luminaires.

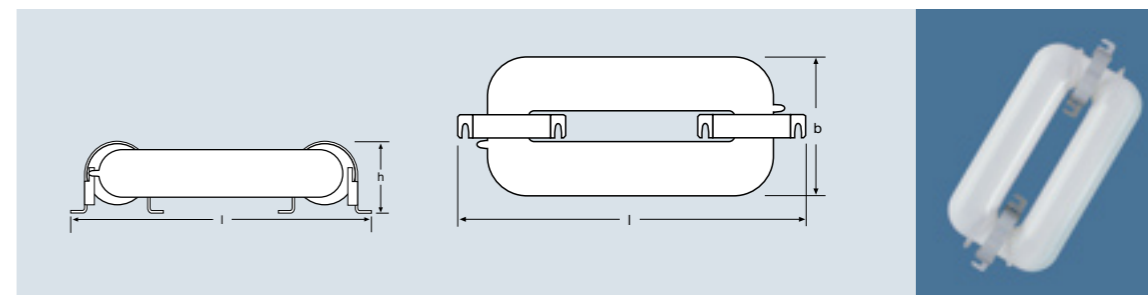
- Luminous flux values from 1050 to 2700 lm.
- Available in 3 wattages: 16 W, 28 W and 38 W.
- Available in 2 light colors: 827 and 835.
- Available in 2-pin and 4-pin versions.

#### Applications:

Public buildings, reception areas, office lighting, corridors, etc.

Product reference	A in mm	B in mm	C in mm	D in mm	E in mm	F in mm	G in mm
CFL SQUARE 16 W	max. 138,0	max. 141,0	max. 27,5	max. 15,0	max. 41,0	max. 40,0	49,0/51,0
CFL SQUARE 28 W	max. 205,0	max. 207,0	max. 33,0	max. 24,0	max. 41,0	max. 49,0	74,0/77,0
CFL SQUARE 38 W	max. 205,0	max. 207,0	max. 33,0	max. 24,0	max. 41,0	max. 49,0	74,0/77,0

## OSRAM ENDURA®. The electrode-less high-performance fluorescent lamp



Product reference	Product number	W		R <sub>a</sub>	Im	l max. [mm]	b max. [mm]	h max. [mm]	
<b>OSRAM ENDURA®. The electrode-less high-performance fluorescent lamp</b>									
ENDURA 70W/830 2-pole <sup>3)</sup>	4050300817293	70	LUMILUX Warm White	≥ 80	6500 <sup>1)</sup>	315	139	75	1
ENDURA 70W/840 2-pole <sup>3)</sup>	4050300817286	70	LUMILUX Cool White	≥ 80	6500 <sup>1)</sup>	315	139	75	1
ENDURA 100W/830 2-pole <sup>3)</sup>	4050300668420	100	LUMILUX Warm White	≥ 80	8000 <sup>1)</sup>	315	139	75	1
ENDURA 100W/840 2-pole <sup>3)</sup>	4050300668437	100	LUMILUX Cool White	≥ 80	8000 <sup>1)</sup>	315	139	75	1
ENDURA 150W/830 2-pole <sup>3)</sup>	4050300668444	150	LUMILUX Warm White	≥ 80	12000 <sup>2)</sup>	415	139	75	1
ENDURA 150W/840 2-pole <sup>3)</sup>	4050300668451	150	LUMILUX Cool White	≥ 80	12000 <sup>2)</sup>	415	139	75	1

For QUICKTRONIC® ENDURA® electronic control gear see Section 9.

#### The principle of the OSRAM ENDURA®

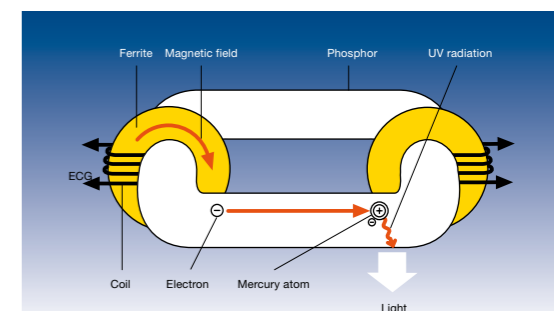
The discharge in this lamp has no starting point and no end. The closed "ring" enables a discharge to take place without electrodes. In the ENDURA® lamps the energy is "injected" from the outside by magnetic fields, which leads to an extremely long service life.

#### Product features:

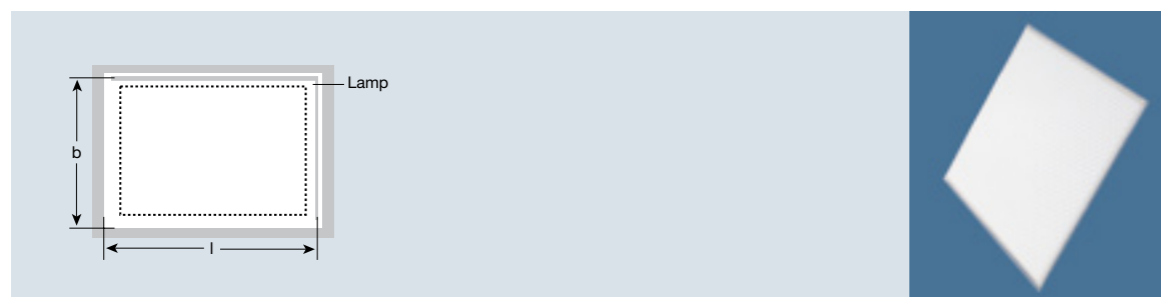
- Extremely long life
- High luminous flux
- Instant flicker-free starting
- High system luminous efficacy: 80 lm/W
- Excellent quality of light (color rendering R<sub>a</sub> ≥ 80)
- High luminous flux over a wide temperature range thanks to amalgam technology
- Low operating frequency of 250 kHz
- Small loss of luminous flux
- Low ignition temperature, as low as -40 °C<sup>4)</sup>
- Can be used in dc systems

#### Preferred applications:

Wherever relamping is expensive, for example in outdoor lighting, tunnel lighting and factory lighting.



The ENDURA® electrode-less high-performance fluorescent lamp has an extremely long life.



Product reference	Product number	W	R <sub>a</sub>	K <sup>2)</sup>	cd/m <sup>2</sup>	AC/DC <sup>3)</sup>
<b>OSRAM PLANON®<sup>1)</sup></b>						
PLANON 60W/865	4008321163417	60	85	6500	6000	24 V DC
PLANON 100W/865	4008321163325	100	85	6500	5000	24 V DC

Product reference	l [mm]	b [mm]	h [mm]	ECG reference
PLANON 60W/865	326	250	6	QT PLANON 1x60/24
PLANON 100W/865	451	363	6	QT PLANON 1x100/24

**OSRAM PLANON®**

- Two-dimensional, mercury-free discharge lamp
- Ultra low-profile design
- Homogeneous brightness distribution over the entire surface
- Extremely long average life of up to 100,000 h
- Lamp life unaffected by switching cycle
- Lamp and control gear (ECG) available as a system

**Mercury-free technology:**

- Luminous flux unaffected by temperature in the range from -20 °C to +60 °C
- Instant light (no warm-up time)

1) On request. Other lamp formats in preparation  
 2) Other color temperatures in preparation; special light colors on request  
 3) 90 – 240 V AC in preparation

Lamp OSRAM DULUX® Wattage	Lamp voltage for 50/60Hz V	Lamp current for HF operation V	Lamp voltage for 50/60Hz V	Lamp current for HF operation mA	System wattage, ECG operation W	Luminance cd/cm <sup>2</sup> LF 827, 830, 840	Compensation Parallel capacitor <sup>1)</sup> CCG operation 230V/50Hz µF	Series capacitor <sup>2)</sup> CCG operation µF
CFL SQUARE 16	103	–	195	–	–	–	–	–
CFL SQUARE 28	108	–	320	–	–	–	–	–
CFL SQUARE 38	110	–	430	–	–	–	–	–
DULUX S 5	35	–	180	–	–	2,5	2,2	–
DULUX S 7	47/45	–	175/180	–	–	2,6	2,1	–
DULUX S 9	60/59	–	170/180	–	–	2,8	2,0	–
DULUX S 11	91/–	–	155/–	–	–	2,7	1,7	–
DULUX D 10	64	–	190	–	–	4,0	2,2	1,4
DULUX D 13	91	–	175	–	–	4,0	1,8	1,4
DULUX D 18	100	–	220	–	–	4,5	2,2	1,7
DULUX D 26	105	–	325	–	–	5,5	3,2	2,5
DULUX T 13	91	–	175	–	–	4,2	1,8	1,4
DULUX T 18	100	–	225	–	–	4,7	2,3	1,7
DULUX T 26	105	–	325	–	–	6,0	3,3	2,5
DULUX S/E 5	–	27	–	190	7,5	2,5	–	–
DULUX S/E 7	–	37	–	175	9	2,6	–	–
DULUX S/E 9	–	48	–	170	12	2,8	–	–
DULUX S/E 11	–	75	–	150	14	2,7	–	–
DULUX D/E 10	–	51	–	190	12	4,0	–	–
DULUX D/E 13	–	77	–	165	14	4,0	–	–
DULUX D/E 18	–	80	–	210	20	4,5	–	–
DULUX D/E 26	–	80	–	300	28	5,5	–	–
DULUX T/E 13	–	77	–	165	14	4,2	–	–
DULUX T/E 18	–	80	–	210	20	4,7	–	–
DULUX T/E 26	–	80	–	300	28	6,0	–	–
DULUX T/E 32	–	100	–	320	35	6,5	–	–
DULUX T/E 42	–	135	–	320	46	7,0	–	–
DULUX T/E 57	–	182	–	320	62	7,0	–	–
DULUX T/E 70	–	219	–	320	77	7,0	–	–
DULUX L 18	58	50	375	320	19	2,1	4,2	2,7
DULUX L 24	87	75	345	300	27	2,1	3,6	2,7
DULUX L 36	106	90	435	360	39	2,8	4,4	3,4
DULUX L 40	–	126	–	320	45	2,3	–	–
DULUX L 55	–	101	–	550	61	3,2	–	–
DULUX L 80	–	145	–	555	86	3,7	–	–
DULUX L CONSTANT 40	–	126	–	320	45	2,3	–	–
DULUX L CONSTANT 55	–	101	–	550	61	3,2	–	–
DULUX L CONSTANT 80	–	145	–	555	86	3,7	–	–
DULUX 120 W HO CONSTANT	–	153	–	800	134	7	–	–
DULUX F 18	58	50	375	320	19	2,4	4,2	2,7
DULUX F 24	87	75	345	300	27	2,5	3,6	2,7
DULUX F 36	106	90	435	360	39	3,0	4,4	3,4

\* ECG also available in two-lamp version.  
 For QUICKTRONIC® electronic control gear see Section 9.  
 For detailed technical information see the "Technical Guides".

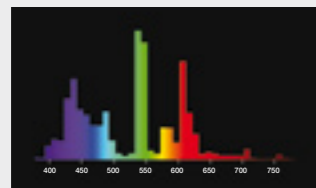
1) Design for cos phi = 0.95  
 Dielectric strength of the capacitors 250 V ac  
 Capacitance tolerance ± 10%.

2) To maintain the specified operating and preheating values, close-tolerance capacitors (± 2%) and series reactors (± 1.5%) are required for series compensation. Check the product ranges of leading manufacturers. Dielectric strength of the capacitors 450 V ac.

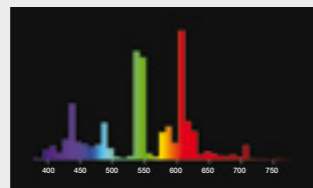


## Spectral power distribution of OSRAM DULUX® lamps with integrated control gear

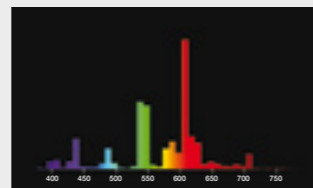
Visible range from 380 to 780 nm, relative spectral emission per 10 nm.



Color 865 LUMILUX®  
Daylight



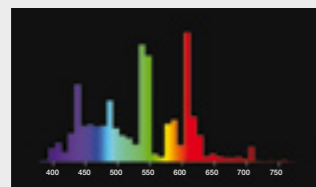
Color 840 LUMILUX®  
Cool White



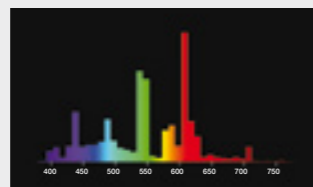
Color 827 LUMILUX®  
Warm White

## Spectral power distribution of OSRAM DULUX® pin-base lamps

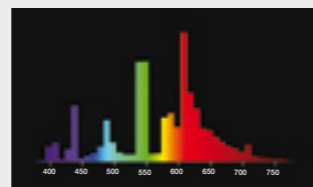
Visible range from 380 to 780 nm, relative spectral emission per 10 nm.



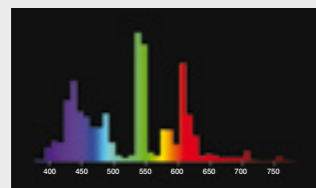
Color 954 LUMILUX® DE LUXE  
Daylight



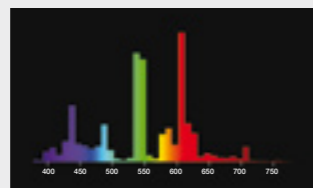
Color 940 LUMILUX® DE LUXE  
Cool White



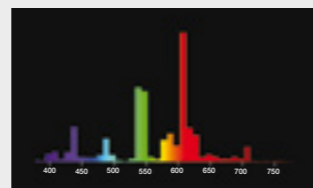
Color 930 LUMILUX® DE LUXE  
Warm White



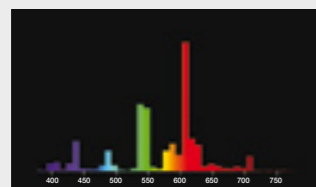
Color 865 LUMILUX®  
Cool Daylight



Color 840 LUMILUX®  
Cool White



Color 830 LUMILUX®  
Warm White



Color 827 LUMILUX INTERNA®

## Light colors and color rendering properties of fluorescent lamps to DIN 5035

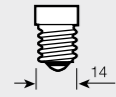
### Light colors and color rendering properties of fluorescent lamps to DIN 5035

				
Group 1 very good	1 A R <sub>a</sub> 90 ... 100	954 LUMILUX® DE LUXE Daylight 5400 K	940 LUMILUX® DE LUXE Cool White 3800 K	930 LUMILUX® DE LUXE Warm White 3000 K
	1 B R <sub>a</sub> 80 ... 89	865 LUMILUX® Cool Daylight 6500 K	840 LUMILUX® Cool White 4000 K	830 LUMILUX® Warm White 3000 K
				827 LUMILUX INTERNA® 2700 K
				827 LUMILUX Warm White 2700 K

For an explanation of light colors see page 4.33.

# Bases IEC/EN 60061-1

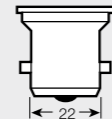
## For direct connection to ac power



E14  
Sheet 7004-23

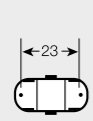


E27  
Sheet 7004-21

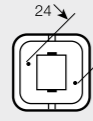


B22d  
Sheet 7004-10

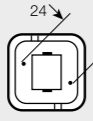
## For choke/starter operation



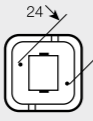
G23  
Sheet 7004-69



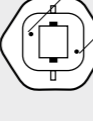
G24d-1  
Sheet 7004-78



G24d-2  
Sheet 7004-78



G24d-3  
Sheet 7004-78



GX24d-1  
Sheet 7004-78

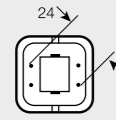


GX24d-2  
Sheet 7004-78

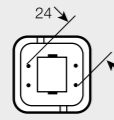


GX24d-3  
Sheet 7004-78

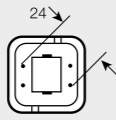
## For HF operation



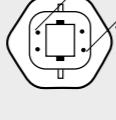
G24q-1  
Sheet 7004-78



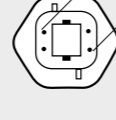
G24q-2  
Sheet 7004-78



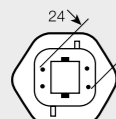
G24q-3  
Sheet 7004-78



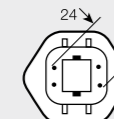
GX24q-1  
Sheet 7004-78



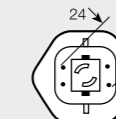
GX24q-2  
Sheet 7004-78



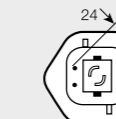
GX24q-3  
Sheet 7004-78



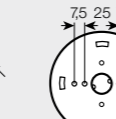
GX24q-4  
Sheet 7004-78



GX24q-5  
Sheet 7004-78

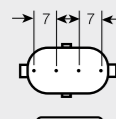


GX24q-6  
Sheet 7004-78

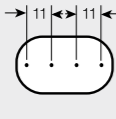


2G8-1  
Sheet 7004-141

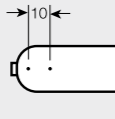
## For HF operation



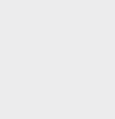
2G7  
Sheet 7004-102



2G11  
Sheet 7004-82

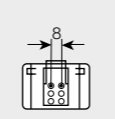


2G10  
Sheet 7004-118



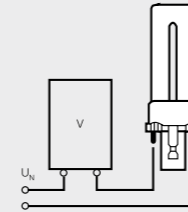
GR10q  
Sheet 7004-77

## For choke/starter operation

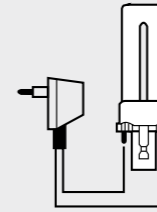


GR8  
Sheet 7004-68

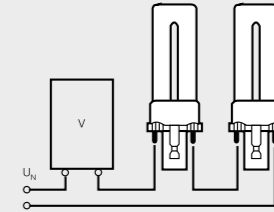
# Circuit diagrams for conventional control gear



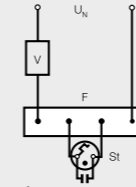
1  
Single lamp with control gear  
OSRAM DULUX® S 5W, 7W, 9W, 11W  
OSRAM DULUX® D 10W, 13W, 18W, 26W  
OSRAM DULUX® T 13W, 18W, 26W



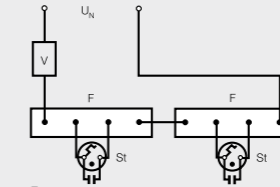
2  
Single lamp with plug-in control gear  
OSRAM DULUX® S 5W, 7W, 9W, 11W  
OSRAM DULUX® D 10W, 13W  
OSRAM DULUX® T 13W



3  
Series connection with control gear  
OSRAM DULUX® S 5W, 7W, 9W



4  
Single lamp with starter St 111  
or DEOS® St 171  
OSRAM DULUX® L 18W, 24W, 36W  
OSRAM DULUX® L 18W SP, 24W SP  
OSRAM DULUX® F 18W, 24W, 36W



5  
Series connection to 230V only  
with starter St 151  
OSRAM DULUX® L 18W  
OSRAM DULUX® L 18W SP  
OSRAM DULUX® F 18W

F = Four-pin lampholder  
St = Starter  
U<sub>N</sub> = Line voltage  
V = Control gear

For circuit diagrams for HF operation see Section 9.