



## Compact fluorescent lamps.

More light, less energy and pretty to look at – three good reasons to choose compact fluorescent lamps from OSRAM. They consume considerably less electricity than ordinary light bulbs. They last much longer and they can be used in place of almost any ordinary light bulb. To see how bright they can be, fit an OSRAM DULUX® EL LONGLIFE 23 W lamp into a luminaire designed to take a maximum of 60 W. It will give out as much light as a 120 W light bulb. That's twice as bright.

As for their economy, they'll last up to 15 times longer than an ordinary light bulb and consume around 80% less electricity for the same amount of light. Our compact fluorescent lamps are also good for the environment and will save you money, for example, an OSRAM DULUX® EL LONGLIFE 20 W will save up to 1200 kW/h of electricity compared with an ordinary light bulb.

Compact fluorescent lamps from OSRAM are the bright and economical alternatives to ordinary light bulbs. They reduce electricity costs by as much as 80% compared with light bulbs of the same brightness, and last up to 15 times longer.

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### 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.

### 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 HO CONSTANT series. These innovative compact fluorescent lamps – OSRAM DULUX® 120W – 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.

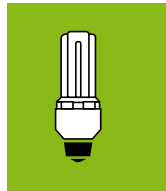
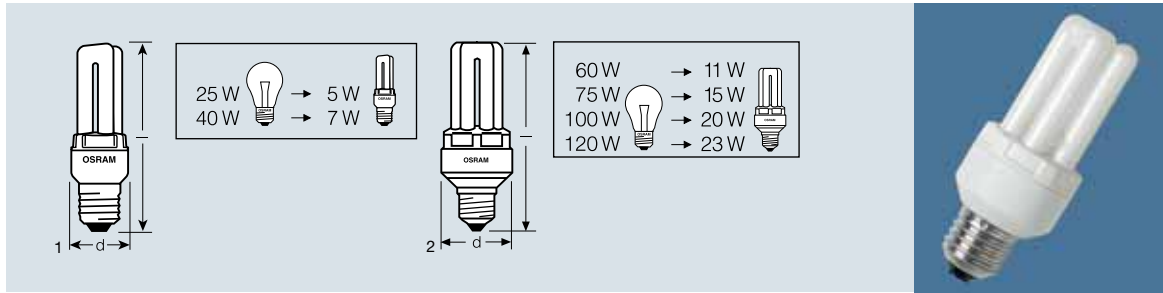
### Long life: the ENDURA® system.

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 a 150 W version. At 80 lm/W its luminous efficacy is extremely high. Its low height means that it can be used in low-profile luminaires.

## MANUFACTURER'S LAMP CROSS REFERENCE

Osram	Sylvania	Philips	GE
DULUX EL	Mini-Lynx T3 Long Life	PL E-C PRO	Electronic Biax ECO
DULUX EL	Mini-Lynx T3 eXtra Long Life	PL E-T PRO	Electronic Biax SuperMini
DULUX EL ECONOMY	Mini-Lynx Smartlite	-	Electronic Biax Start
DULUX S	Lynx-CFS	PL-S 2 Pins	Biax S
DULUX S/E	Lynx-CFSE	PL-S 4 Pins	Biax SE
DULUX D	Lynx-CFD	PL-C 2 Pins	Biax D
DULUX D/E	Lynx-CFDE	PL-C 4 Pins	Biax D
DULUX T	Lynx-CFT	PL-T 2 Pins	Biax T
DULUX T/E	Lynx-CFTE	PL-T 4 Pins	Biax TE
DULUX L	Lynx-CFL	PL-L 2 Pins	Biax L
DULUX L	Lynx-CFLE	PL-L 4 Pins	Biax LE
DULUX F	Lynx-CCF	-	-

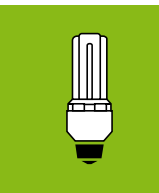
# OSRAM DULUX® EL LONGLIFE



Product reference	Product number	W	V	Hz				
<b>OSRAM DULUX® EL LONGLIFE E27</b>								
DULUX EL LL 5 W/827 E27	4050300357430	5	220-240	50 ... 60	40	LUMILUX Warm White		
DULUX EL LL 11 W/827 E27	4050300811598	11	220-240	50 ... 60	90	LUMILUX Warm White		
DULUX EL LL 15 W/827 E27	4050300811635	15	220-240	50 ... 60	120	LUMILUX Warm White		
DULUX EL LL 15 W/840 E27	4050300811741	15	220-240	50 ... 60	120	LUMILUX Cool White		
DULUX EL LL 20 W/827 E27	4050300811673	20	220-240	50 ... 60	160	LUMILUX Warm White		
DULUX EL LL 20 W/840 E27	4050300811765	20	220-240	50 ... 60	160	LUMILUX Cool White		
DULUX EL LL 20 W/860 E27	4050300811826	20	220-240	50 ... 60	160	LUMILUX Cool Daylight		
DULUX EL LL 23 W/827 E27	4050300028965	23	220-240	50 ... 60	185	LUMILUX Warm White		
DULUX EL LL 23 W/840 E27	4050300326429	23	220-240	50 ... 60	185	LUMILUX Cool White		
DULUX EL LL 23 W/860 E27	4050300421605	23	220-240	50 ... 60	185	LUMILUX Cool Daylight		
<b>OSRAM DULUX® EL LONGLIFE B22d</b>								
DULUX EL LL 7 W/827 B22d	4050300240239	7	220-240	50 ... 60	55	LUMILUX Warm White		
DULUX EL LL 11 W/827 B22d	4050300811611	11	220-240	50 ... 60	90	LUMILUX Warm White		
DULUX EL LL 15 W/827 B22d	4050300811659	15	220-240	50 ... 60	120	LUMILUX Warm White		
DULUX EL LL 20 W/827 B22d	4050300811703	20	220-240	50 ... 60	160	LUMILUX Warm White		
DULUX EL LL 23 W/827 B22d	4050300309477	23	220-240	50 ... 60	185	LUMILUX Warm White		
DULUX EL LL 23 W/860 B22d	4050300511399	23	220-240	50 ... 60	185	LUMILUX Cool Daylight		
Product reference		R <sub>a</sub>	l <sub>m</sub>		d [mm]	l [mm]		No.
DULUX EL LL 5 W/827 E27		1B	240	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 15 W/840 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 20 W/840 E27		1B	1230	E27	45	145 ± 3	10	2
DULUX EL LL 20 W/860 E27		1B	1230	E27	45	145 ± 3	10	2
DULUX EL LL 23 W/827 E27		1B	1500	E27	58	173 ± 3	10	2
DULUX EL LL 23 W/840 E27		1B	1500	E27	58	173 ± 3	10	2
DULUX EL LL 23 W/860 E27		1B	1500	E27	58	173 ± 3	10	2
DULUX EL LL 7 W/827 B22d		1B	400	B22d	36	113 ± 3	10	1
DULUX EL LL 11 W/827 B22d		1B	660	B22d	45	117 ± 3	10	2
DULUX EL LL 15 W/827 B22d		1B	900	B22d	45	128 ± 3	10	2
DULUX EL LL 20 W/827 B22d		1B	1230	B22d	45	145 ± 3	10	2
DULUX EL LL 23 W/827 B22d		1B	1500	B22d	58	173 ± 3	10	2
DULUX EL LL 23 W/860 B22d		1B	1500	B22d	58	173 ± 3	10	2

# OSRAM DULUX® EL LONGLIFE

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).

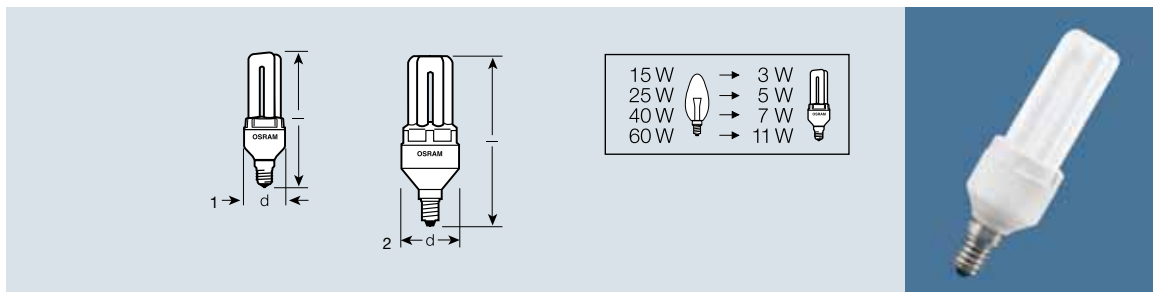
### Commercial applications:

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>1)</sup>).



Product reference	Product number	W	V	Hz		
<b>OSRAM DULUX® EL LONGLIFE E14</b>						
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>2)</sup>	4050300811451	11	220-240	50 ... 60	90	LUMILUX Warm White

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

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.

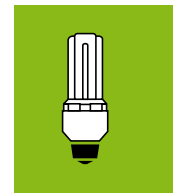
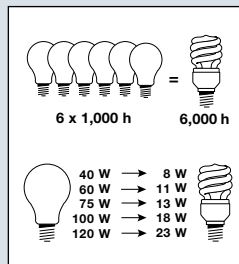
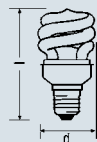
### Commercial applications:

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>1)</sup>).

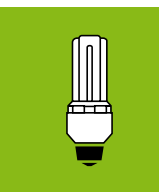
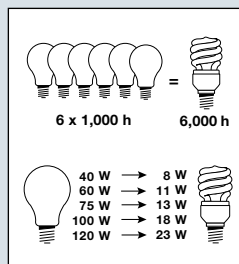
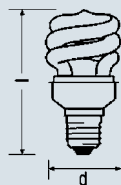
# OSRAM DULUXSTAR® MINI TWIST - T2 GLASS TUBE



Product reference	Product number		W	V	Hz	
<b>OSRAM DULUXSTAR® MINI TWIST - T2 GLASS TUBE</b>						
DULUXSTAR MINI TWIST 5 W/827	400832115379	B22d	5	220-240	50 ... 60	80
DULUXSTAR MINI TWIST 5 W/827	400832115218	E27	5	220-240	50 ... 60	80
DULUXSTAR MINI TWIST 5 W/865	400832115416	B22d	5	220-240	50 ... 60	80
DULUXSTAR MINI TWIST 5 W/865	400832115355	E27	5	220-240	50 ... 60	80
DULUXSTAR MINI TWIST 8 W/827	400832115553	B22d	8	220-240	50 ... 60	80
DULUXSTAR MINI TWIST 8 W/827	400832115492	E27	8	220-240	50 ... 60	80
DULUXSTAR MINI TWIST 8 W/840	400832115577	B22d	8	220-240	50 ... 60	80
DULUXSTAR MINI TWIST 8 W/840	400832115515	E27	8	220-240	50 ... 60	80
DULUXSTAR MINI TWIST 8 W/865	400832115591	B22d	8	220-240	50 ... 60	80
DULUXSTAR MINI TWIST 8 W/865	400832115539	E27	8	220-240	50 ... 60	80
DULUXSTAR MINI TWIST 11 W/827	400832115836	B22d	11	220-240	50 ... 60	100
DULUXSTAR MINI TWIST 11 W/827	400832115676	E27	11	220-240	50 ... 60	100
DULUXSTAR MINI TWIST 11 W/840	400832115850	B22d	11	220-240	50 ... 60	100
DULUXSTAR MINI TWIST 11 W/840	400832115690	E27	11	220-240	50 ... 60	100
DULUXSTAR MINI TWIST 11 W/865	400832115874	B22d	11	220-240	50 ... 60	100
DULUXSTAR MINI TWIST 11 W/865	400832115713	E27	11	220-240	50 ... 60	100

Product reference			R <sub>a</sub>	l <sub>m</sub>	∅ [mm]	l [mm]	
DULUXSTAR MINI TWIST 5 W/827	B22d	LUMILUX Warm White	1B	275	42	77	20
DULUXSTAR MINI TWIST 5 W/827	E27	LUMILUX Warm White	1B	275	42	77	20
DULUXSTAR MINI TWIST 5 W/865	B22d	LUMILUX Cool Daylight	1B	250	42	77	20
DULUXSTAR MINI TWIST 5 W/865	E27	LUMILUX Cool Daylight	1B	250	42	77	20
DULUXSTAR MINI TWIST 8 W/827	B22d	LUMILUX Warm White	1B	470	48	83.5	20
DULUXSTAR MINI TWIST 8 W/827	E27	LUMILUX Warm White	1B	470	48	85	20
DULUXSTAR MINI TWIST 8 W/840	B22d	LUMILUX Cool White	1B	470	48	83.5	20
DULUXSTAR MINI TWIST 8 W/840	E27	LUMILUX Cool White	1B	470	48	85	20
DULUXSTAR MINI TWIST 8 W/865	B22d	LUMILUX Cool Daylight	1B	440	48	83.5	20
DULUXSTAR MINI TWIST 8 W/865	E27	LUMILUX Cool Daylight	1B	440	48	85	20
DULUXSTAR MINI TWIST 11 W/827	B22d	LUMILUX Warm White	1B	680	48	91.5	20
DULUXSTAR MINI TWIST 11 W/827	E27	LUMILUX Warm White	1B	680	48	93	20
DULUXSTAR MINI TWIST 11 W/840	B22d	LUMILUX Cool White	1B	680	48	91.5	20
DULUXSTAR MINI TWIST 11 W/840	E27	LUMILUX Cool White	1B	680	48	93	20
DULUXSTAR MINI TWIST 11 W/865	B22d	LUMILUX Cool Daylight	1B	630	48	91.5	20
DULUXSTAR MINI TWIST 11 W/865	E27	LUMILUX Cool Daylight	1B	630	48	93	20

# OSRAM DULUXSTAR® MINI TWIST - T3 GLASS TUBE

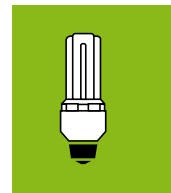
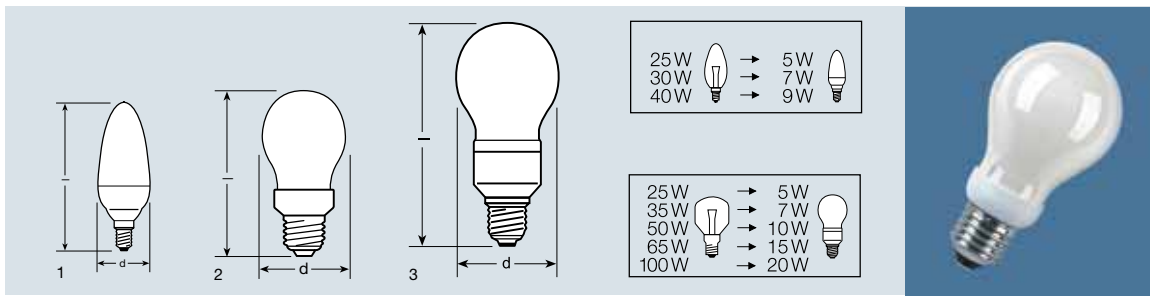


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Product reference	Product number		W	V	Hz	
<b>OSRAM DULUXSTAR® MINI TWIST - T3 GLASS TUBE</b>						
DULUXSTAR MINI TWIST 13 W/827	4008321 <b>041159</b>	B22d	13	220-240	50 ... 60	115
DULUXSTAR MINI TWIST 13 W/827	4008321 <b>041111</b>	E27	13	220-240	50 ... 60	115
DULUXSTAR MINI TWIST 13 W/840	4008321 <b>116949</b>	B22d	13	220-240	50 ... 60	115
DULUXSTAR MINI TWIST 13 W/840	4008321 <b>116925</b>	E27	13	220-240	50 ... 60	115
DULUXSTAR MINI TWIST 13 W/865	4008321 <b>041173</b>	B22d	13	220-240	50 ... 60	115
DULUXSTAR MINI TWIST 13 W/865	4008321 <b>041135</b>	E27	13	220-240	50 ... 60	115
DULUXSTAR MINI TWIST 18 W/827	4008321 <b>041234</b>	B22d	18	220-240	50 ... 60	160
DULUXSTAR MINI TWIST 18 W/827	4008321 <b>041197</b>	E27	18	220-240	50 ... 60	160
DULUXSTAR MINI TWIST 18 W/840	4008321 <b>116987</b>	B22d	18	220-240	50 ... 60	160
DULUXSTAR MINI TWIST 18 W/840	4008321 <b>116963</b>	E27	18	220-240	50 ... 60	160
DULUXSTAR MINI TWIST 18 W/865	4008321 <b>041258</b>	B22d	18	220-240	50 ... 60	160
DULUXSTAR MINI TWIST 18 W/865	4008321 <b>041210</b>	E27	18	220-240	50 ... 60	160
DULUXSTAR MINI TWIST 23 W/827	4008321 <b>041319</b>	B22d	23	220-240	50 ... 60	200
DULUXSTAR MINI TWIST 23 W/827	4008321 <b>041272</b>	E27	23	220-240	50 ... 60	200
DULUXSTAR MINI TWIST 23 W/840	4008321 <b>117021</b>	B22d	23	220-240	50 ... 60	200
DULUXSTAR MINI TWIST 23 W/840	4008321 <b>117007</b>	E27	23	220-240	50 ... 60	200
DULUXSTAR MINI TWIST 23 W/865	4008321 <b>041333</b>	B22d	23	220-240	50 ... 60	200
DULUXSTAR MINI TWIST 23 W/865	4008321 <b>041296</b>	E27	23	220-240	50 ... 60	200

Product reference			Ra	Im			
DULUXSTAR MINI TWIST 13 W/827	B22d	LUMILUX Warm White	1B	845	50	114.5	10
DULUXSTAR MINI TWIST 13 W/827	E27	LUMILUX Warm White	1B	845	50	116	10
DULUXSTAR MINI TWIST 13 W/840	B22d	LUMILUX Warm White	1B	845	50	114.5	10
DULUXSTAR MINI TWIST 13 W/840	E27	LUMILUX Warm White	1B	845	50	116	10
DULUXSTAR MINI TWIST 13 W/865	B22d	LUMILUX Cool Daylight	1B	800	50	114.5	10
DULUXSTAR MINI TWIST 13 W/865	E27	LUMILUX Cool Daylight	1B	800	50	116	10
DULUXSTAR MINI TWIST 18 W/827	B22d	LUMILUX Warm White	1B	1200	54	121.5	10
DULUXSTAR MINI TWIST 18 W/827	E27	LUMILUX Warm White	1B	1200	54	123	10
DULUXSTAR MINI TWIST 18 W/840	B22d	LUMILUX Cool White	1B	1200	54	121.5	10
DULUXSTAR MINI TWIST 18 W/840	E27	LUMILUX Cool White	1B	1200	54	123	10
DULUXSTAR MINI TWIST 18 W/865	B22d	LUMILUX Cool Daylight	1B	1140	54	121.5	10
DULUXSTAR MINI TWIST 18 W/865	E27	LUMILUX Cool Daylight	1B	1140	54	123	10
DULUXSTAR MINI TWIST 23 W/827	B22d	LUMILUX Warm White	1B	1550	54	130.5	10
DULUXSTAR MINI TWIST 23 W/827	E27	LUMILUX Warm White	1B	1550	54	132	10
DULUXSTAR MINI TWIST 23 W/840	B22d	LUMILUX Cool White	1B	1550	54	130.5	10
DULUXSTAR MINI TWIST 23 W/840	E27	LUMILUX Cool White	1B	1550	54	132	10
DULUXSTAR MINI TWIST 23 W/865	B22d	LUMILUX Cool Daylight	1B	1470	54	130.5	10
DULUXSTAR MINI TWIST 23 W/865	E27	LUMILUX Cool Daylight	1B	1470	54	132	10

# 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 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 15 W/827 B22d	4008321066190	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
DULUX EL CL A 20 W/827 B22d	4008321065957	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	4008321066329	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>	Im		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 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 15 W/827 B22d	1B	800	B22d	65	142 ± 3	10	3
DULUX EL CL A 20 W/827 E27	1B	1160	E27	70	152 ± 3	10	3
DULUX EL CL A 20 W/827 B22d	1B	1160	B22d	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 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>).

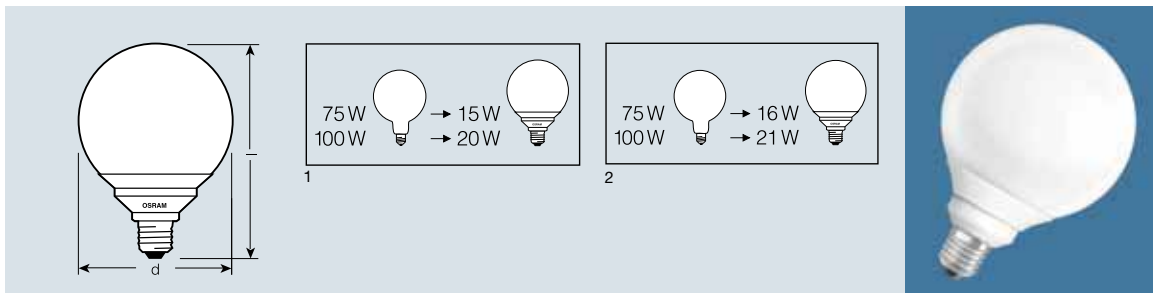
### Commercial applications:

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



1) Switching cycle: 60 min on, 15 min off

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

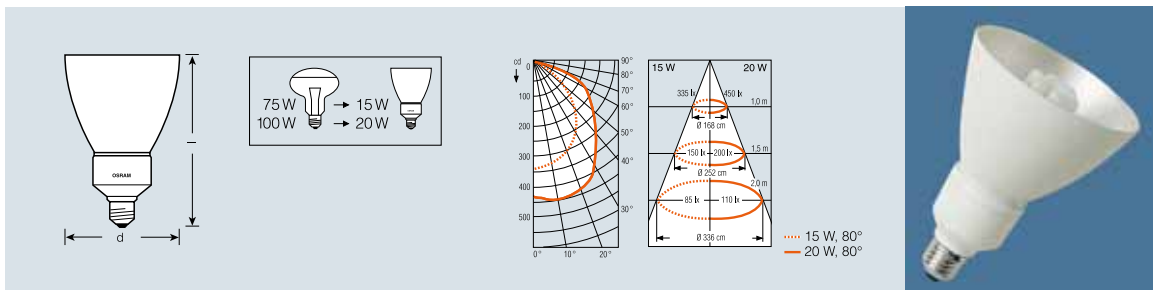


Product reference	Product number	W	V	Hz			
<b>OSRAM DULUX® EL LL GLOBE</b>							
DULUX EL LL GL 20 W/827 E27	4050300 <b>276274</b>	20	220-240	50 ... 60	160	LUMILUX Warm White	
Product reference		Ra	lm		d [mm]	l [mm]	
DULUX EL LL GL 20 W/827 E27		1B	1100	E27	120	167 ± 3	10

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.

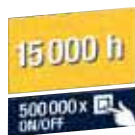
OSRAM DULUX® EL LONGLIFE GLOBE offers pleasant glare-free light. The plastic outer bulb with its new latching mechanism reduces the overall weight and improves impact resistance. The OSRAM DULUX® EL LONGLIFE GLOBE offers the same comfort and economy as other OSRAM DULUX® EL LONGLIFE lamps.

- 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>1)</sup> and an average life of 15,000 hours.



Product reference	Product number	W	V	Hz				
<b>OSRAM DULUX® EL REFLECTOR</b>								
DULUX EL REFL 15 W/827 E27	4050300 <b>306094</b>	15	220-240	50 ... 60	120	LUMILUX Warm White		
DULUX EL REFL 20 W/827 E27	4050300 <b>291703</b>	20	220-240	50 ... 60	160	LUMILUX Warm White		
Product reference		Ra	cd		80°	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

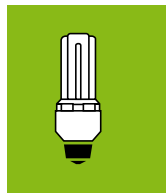
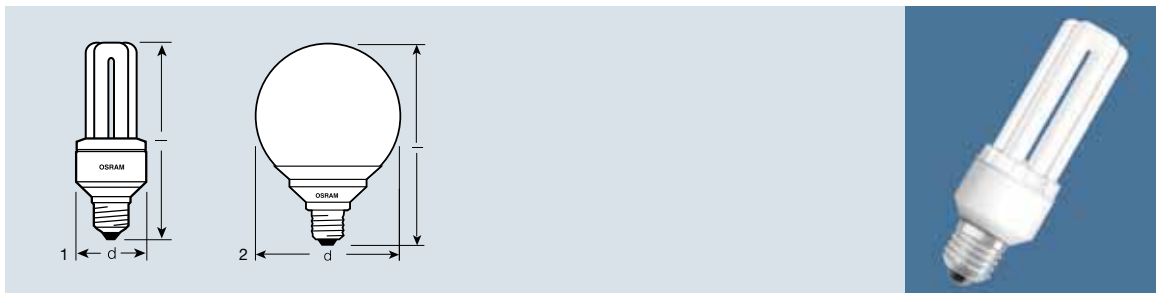
OSRAM DULUX® EL REFLECTOR lamps are not suitable for use with dc supplies, dimmers or electronic switches. Use outdoors only in enclosed and ventilated luminaires.



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

- With around 500,000 switching cycles<sup>2)</sup> and an average life of 15,000 hours.

# OSRAM DULUX® EL DIM



Product reference	Product number	W	V	Hz		
<b>OSRAM DULUX® EL DIM</b>						
DULUX EL DIM GL 15 W/827 E27	4008321 <b>924209</b>	15	220-240	50 ... 60	155	LUMILUX Warm White
DULUX EL DIM 20 W/827 E27	4008321 <b>080370</b>	20	220-240	50 ... 60	125	LUMILUX Warm White
DULUX EL DIM 20 W/827 B22d	4008321 <b>080394</b>	20	220-240	50 ... 60	155	LUMILUX Warm White

Product reference	lm						No.
DULUX EL DIM GL 15 W/827 E27	850	E27	120	166 ± 2	10		2
DULUX EL DIM 20 W/827 E27	1230	E27	58	158 ± 3	10		1
DULUX EL DIM 20 W/827 B22d	1230	B22d	58	158 ± 3	10		1

OSRAM DULUX® EL 15 W and 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.

- E27 and B22d base.
- Extra long average life of 15,000 hours.
- Around 500,000 switching cycles<sup>1)</sup>.

### Domestic applications:

Wherever the lighting level is to be varied.

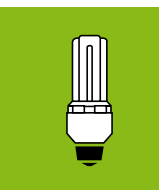
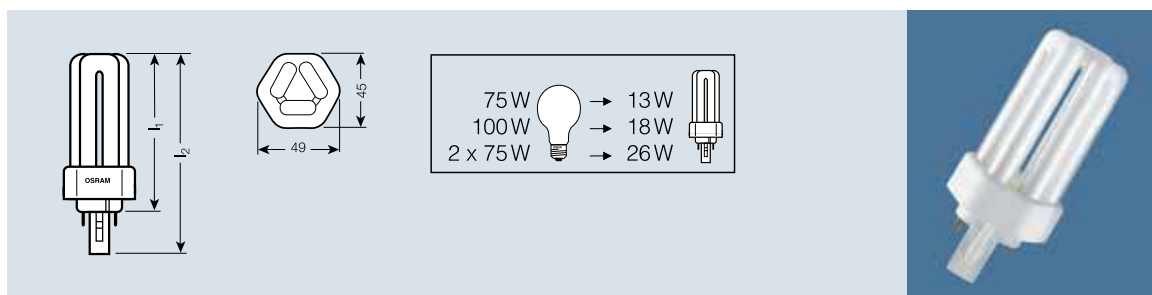
### Commercial applications:

Hotels, restaurants.



1) Switching cycle: 90 min on, 15 min off

# 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/830 PLUS	4050300 <b>446929</b>	13	LUMILUX Warm White	1B
DULUX T 13 W/840 PLUS	4050300 <b>446905</b>	13	LUMILUX Cool White	1B
DULUX T 18 W/830 PLUS	4050300 <b>333489</b>	18	LUMILUX Warm White	1B
DULUX T 18 W/840 PLUS	4050300 <b>333465</b>	18	LUMILUX Cool White	1B
DULUX T 26 W/830 PLUS	4050300 <b>342061</b>	26	LUMILUX Warm White	1B
DULUX T 26 W/840 PLUS	4050300 <b>342047</b>	26	LUMILUX Cool White	1B

Product reference	lm		$l_1$ max. [mm]	$l_2$ max. [mm]	IEC $l_1$ [mm]	
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/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/830 PLUS	1800	GX24d-3	115	138	130	10
DULUX T 26 W/840 PLUS	1800	GX24d-3	115	138	130	10

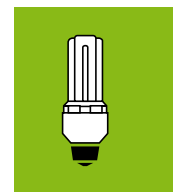
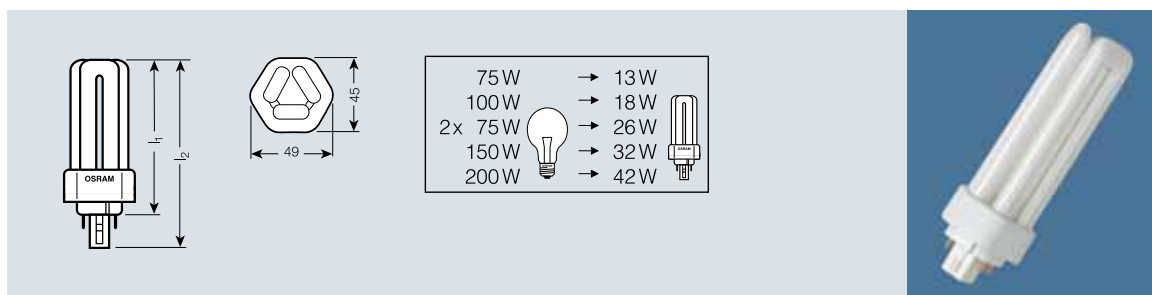
All the lamps in the successful OSRAM DULUX® T, T/E and T/E IN series have the following positive properties:

- 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/830 PLUS	4050300 <b>446981</b>	13	LUMILUX Warm White	1B
DULUX T/E 13 W/840 PLUS	4050300 <b>446967</b>	13	LUMILUX Cool White	1B
DULUX T/E 18 W/830 PLUS	4050300 <b>342245</b>	18	LUMILUX Warm White	1B
DULUX T/E 18 W/840 PLUS	4050300 <b>342221</b>	18	LUMILUX Cool White	1B
DULUX T/E 26 W/830 PLUS	4050300 <b>342306</b>	26	LUMILUX Warm White	1B
DULUX T/E 26 W/840 PLUS	4050300 <b>342283</b>	26	LUMILUX Cool White	1B
DULUX T/E 32 W/830 PLUS	4050300 <b>348582</b>	32	LUMILUX Warm White	1B
DULUX T/E 32 W/840 PLUS	4050300 <b>348568</b>	32	LUMILUX Cool White	1B
DULUX T/E 42 W/830 PLUS	4050300 <b>425641</b>	42	LUMILUX Warm White	1B
DULUX T/E 42 W/840 PLUS	4050300 <b>425627</b>	42	LUMILUX Cool White	1B

Product reference	lm		l1 max. [mm]	l2 max. [mm]	IEC l1 [mm]	
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/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/830 PLUS	1800	GX24q-3	115	131	130	10
DULUX T/E 26 W/840 PLUS	1800	GX24q-3	115	131	130	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/830 PLUS	3200	GX24q-4	152	168	155	10
DULUX T/E 42 W/840 PLUS	3200	GX24q-4	152	168	155	10

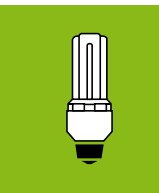
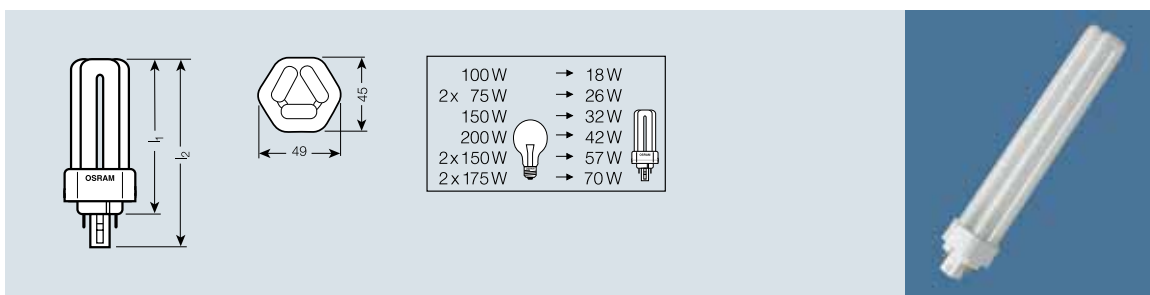
For circuit diagrams see page 3.25 For QUICKTRONIC® electronic control gear see Section 9



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		Ra
<b>OSRAM DULUX® T/E IN PLUS for electronic control gear (ECG)</b>				
DULUX T/E 18 W/827 IN PLUS	4050300 <b>425368</b>	18	LUMILUX INTERNA	1B
DULUX T/E 26 W/827 IN PLUS	4050300 <b>425481</b>	18	LUMILUX INTERNA	1B
DULUX T/E 26 W/830 IN PLUS	4050300 <b>425467</b>	26	LUMILUX Warm White	1B
DULUX T/E 26 W/840 IN PLUS	4050300 <b>425443</b>	26	LUMILUX Cool White	1B
DULUX T/E 32 W/827 IN PLUS	4050300 <b>425542</b>	32	LUMILUX INTERNA	1B
DULUX T/E 32 W/830 IN PLUS	4050300 <b>425528</b>	32	LUMILUX Warm White	1B
DULUX T/E 32 W/840 IN PLUS	4050300 <b>425504</b>	32	LUMILUX Cool White	1B
DULUX T/E 42 W/827 IN PLUS	4050300 <b>425603</b>	42	LUMILUX INTERNA	1B
DULUX T/E 42 W/830 IN PLUS	4050300 <b>425580</b>	42	LUMILUX Warm White	1B
DULUX T/E 42 W/840 IN PLUS	4050300 <b>425566</b>	42	LUMILUX Cool White	1B
DULUX T/E 57 W/830 IN PLUS	4050300 <b>622699</b>	57	LUMILUX Warm White	1B
DULUX T/E 57 W/840 IN PLUS	4050300 <b>622675</b>	57	LUMILUX Cool White	1B
DULUX T/E 70 W/840 IN PLUS	4050300 <b>800394</b>	70	LUMILUX Cool White	1B

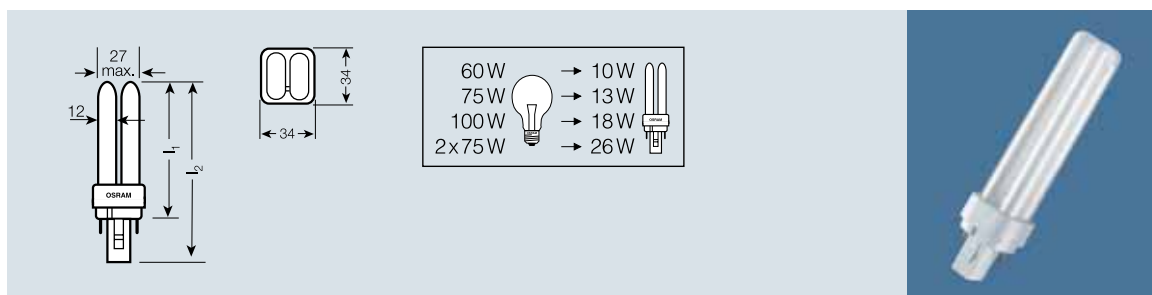
Product reference	lm		l1 max. [mm]	l2 max. [mm]	IEC I1 [mm]	
DULUX T/E 18 W/827 IN PLUS	1200	GX24q-3	100	116	110	10
DULUX T/E 26 W/827 IN PLUS	1800	GX24q-3	115	131	130	10
DULUX T/E 26 W/830 IN PLUS	1800	GX24q-3	110	126	130	10
DULUX T/E 26 W/840 IN PLUS	1800	GX24q-3	110	126	130	10
DULUX T/E 32 W/827 IN 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 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 I1 [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

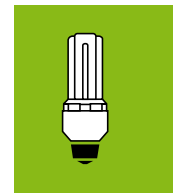
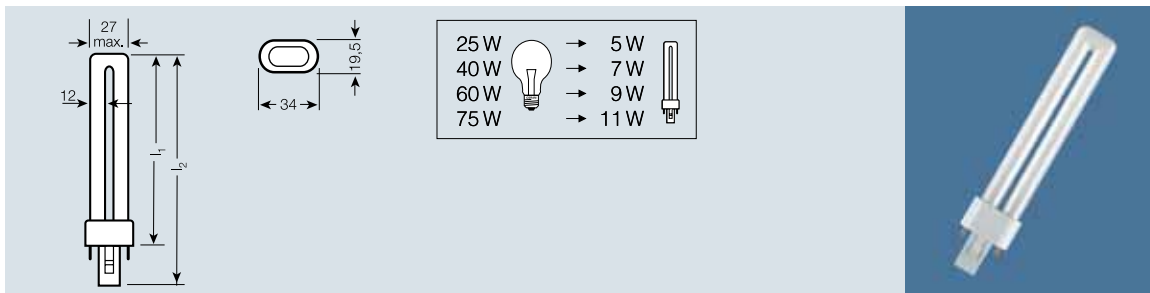
These compact fluorescent lamps are ideal for miniature luminaires and downlights for shallow recesses. They have twice the luminous flux and the same length as OSRAM DULUX® S lamps. The lamps consume only 20 to 25% of the power of ordinary light bulbs of comparable brightness. They provide a pleasant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

1) For circuit diagrams 1 and 2 see page 3.25  
OSRAM DULUX® D 18 W suitable only for operation with 0.22 A control gear  
2) See page 3.26



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



Product reference	Product number	W		R <sub>a</sub>	Im		l <sub>1</sub> max. [mm]	l <sub>2</sub> 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/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	40503000885063	7	LUMILUX Cool White	1B	400	G23	114	137	115	10
DULUX S 9 W/827	40503000884998	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	40503000884974	9	LUMILUX Cool White	1B	600	G23	144	167	145	10
DULUX S 9 W/865	40503000355320	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	40503000882222	11	LUMILUX Cool White	1B	900	G23	214	237	215	10
DULUX S 11 W/865	40503000112374	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

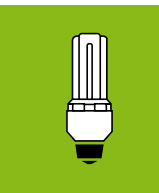
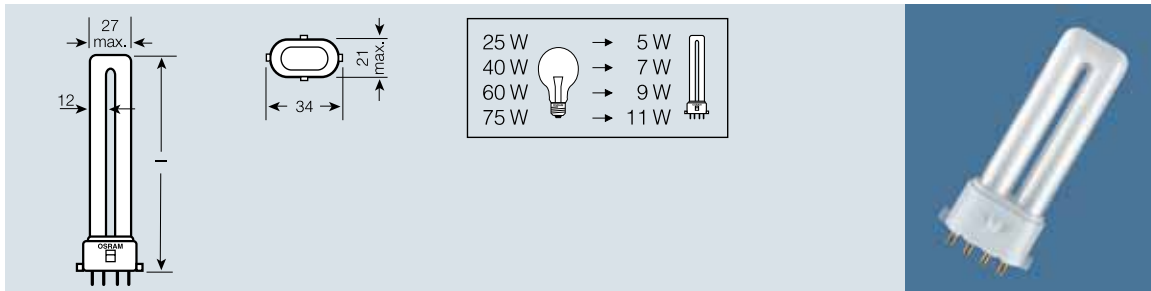
For circuit diagrams 1 to 3 see page 3.25.

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		R <sub>a</sub>	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/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/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/840	4050300020181	11	LUMILUX Cool White	1B	900	2G7

Product reference	l <sub>1</sub> max. [mm]	l <sub>2</sub> max. [mm]	IEC l <sub>1</sub> 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/840	114	124	115	10
DULUX S/E 9 W/827	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/840	214	220	215	10

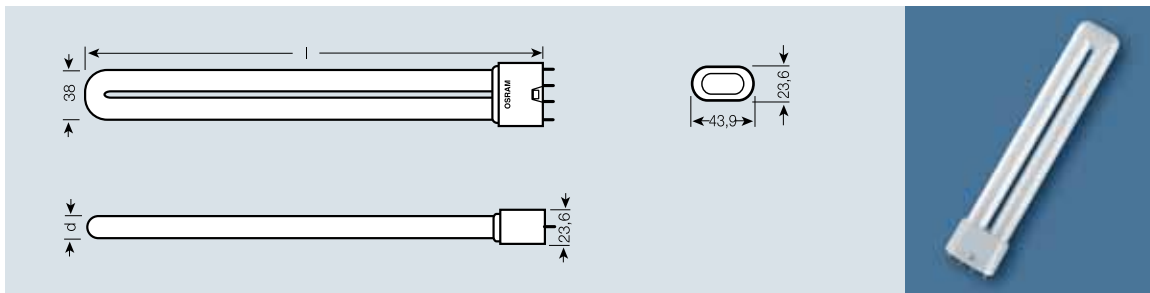
For circuit diagrams see page 3.25.

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

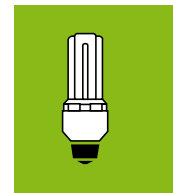
These innovative energy-saving lamps can be operated on battery, solar or ac power. They are suitable for high and low voltage (e.g. with ACCUTRONIC®). They can also be fully dimmed. Their dimensions and wattages are identical to those of the successful standard OSRAM DULUX® S models.

- 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 OSRAM DULUX® L COLORED



Product reference	Product number	W		Ra	lm		TUBE d (mm)	l max. (mm)	IEC l max. (mm)	
<b>OSRAM DULUX® L LUMILUX</b>										
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/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/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/865	4050300328263	36	LUMILUX Cool Daylight	1B	2750	2G11	17,5	411	415	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 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/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
<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.

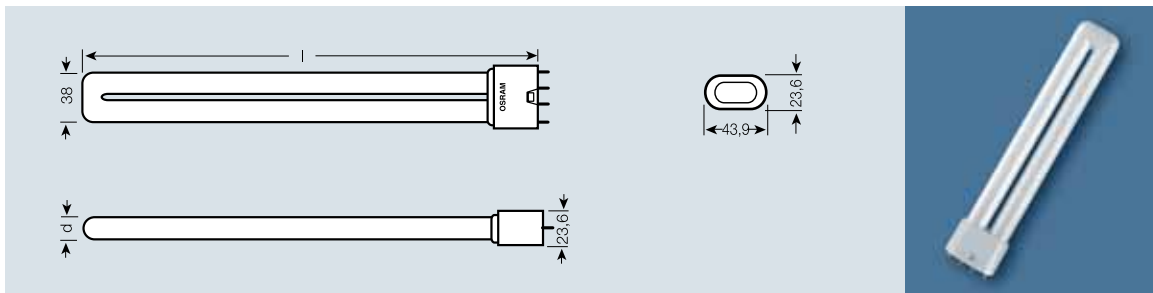
### Applications:

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


1) For ECG operation only

# OSRAM DULUX® L LUMILUX DE LUXE

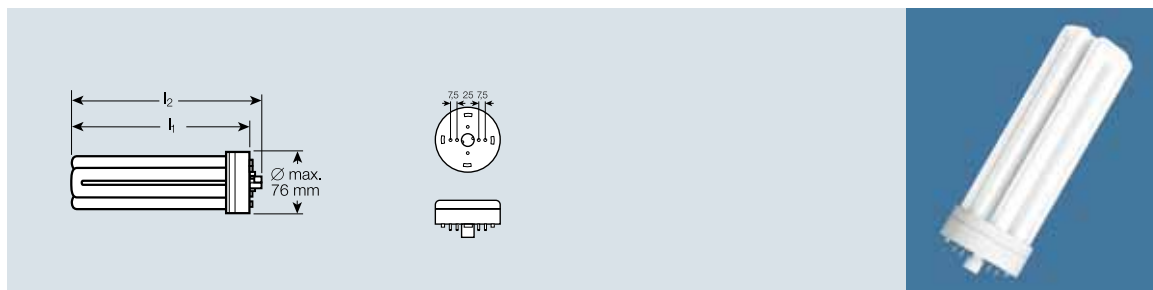
## OSRAM DULUX® 120 W HO CONSTANT for electronic control gear (ECG)



Product reference	Product number	W		R <sub>a</sub>	lm
<b>OSRAM DULUX® L LUMILUX DE LUXE</b>					
DULUX L 18 W/940	40503000 <b>18560</b>	18	LUMILUX DE LUXE Cool White	1A	750
DULUX L 36 W/930	40503000 <b>18393</b>	36	LUMILUX DE LUXE Warm White	1A	1900
DULUX L 36 W/954	40503000 <b>18461</b>	36	LUMILUX DE LUXE Daylight	1A	1900
DULUX L 55 W/930 <sup>1)</sup>	40503000 <b>370705</b>	55	LUMILUX DE LUXE Warm White	1A	3000
DULUX L 55 W/954 <sup>1)</sup>	40503000 <b>321400</b>	55	LUMILUX DE LUXE Daylight	1A	3000

Product reference	 <sup>2)</sup>	TUBE d (mm)	l max. (mm)	IEC l max. (mm)	
DULUX L 18 W/940	2G11	17,5	217	225	10
DULUX L 36 W/930	2G11	17,5	411	415	10
DULUX L 36 W/954	2G11	17,5	411	415	10
DULUX L 55 W/930 <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.



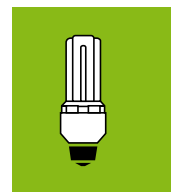
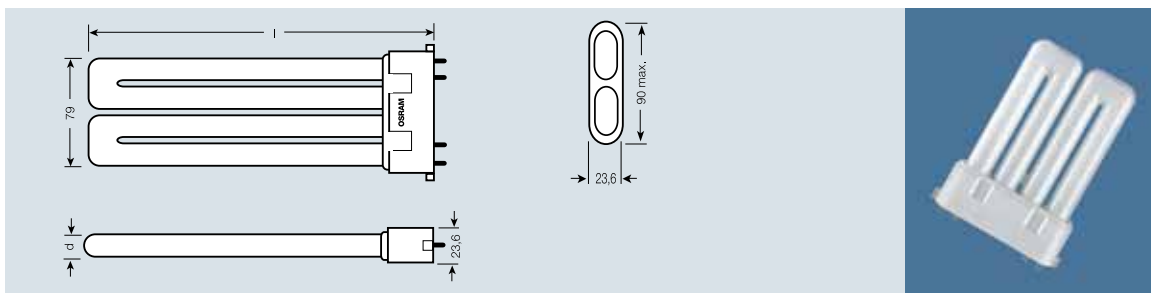
Product reference	Product number	W		R <sub>a</sub>
<b>OSRAM DULUX® 120 W HO CONSTANT for electronic control gear (ECG)</b>				
DULUX 120 W/840 HO CONSTANT	4008321 <b>053022</b>	120	Cool White	1B






Product reference	lm		l1 max. (mm)	l2 max. (mm)	IEC l1 (mm)	
DULUX 120 W/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.

- Good color rendering (R<sub>a</sub> > 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).



Product reference	Product number	W		Ra
<b>OSRAM DULUX F</b>				
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/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 I1 [mm]	
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/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

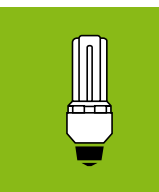
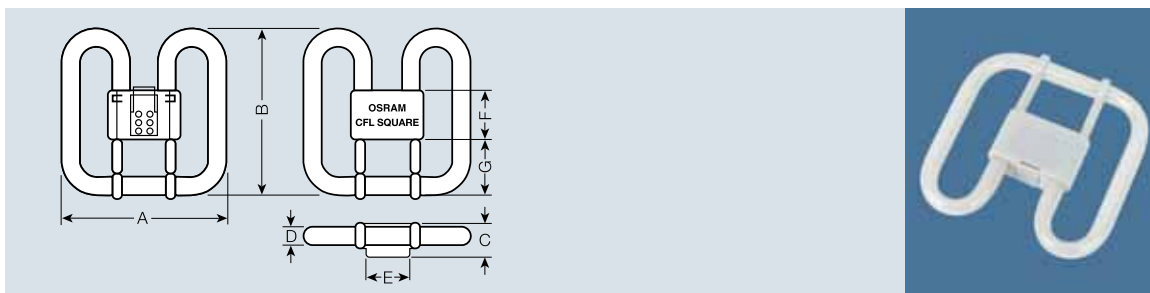
For circuit diagrams see page 3.25

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>	lm		IEC I 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.

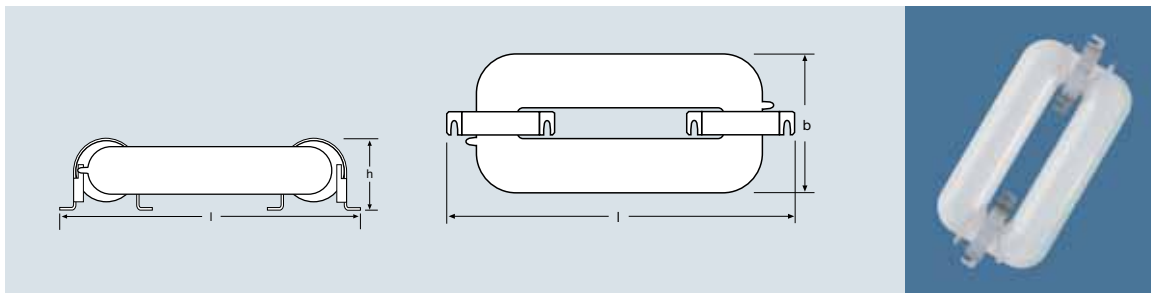
- Luminous flux values from 1050 to 2700 lm.
- Available in 3 wattages: 16 W, 28 W and 38 W.
- Available in 2 light colors: 827 and 835.
- Available in 2-pin and 4-pin versions.

### Applications:

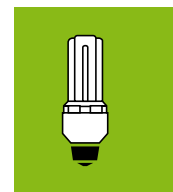
Public buildings, reception areas, office lighting, corridors, etc.

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 150 W/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®

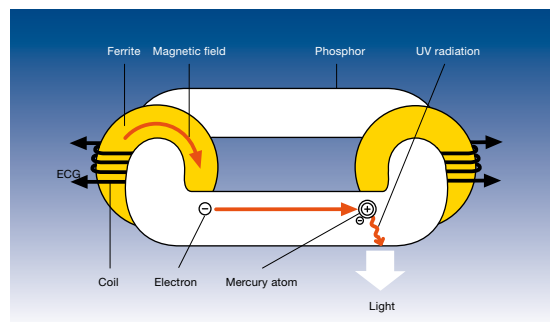
The discharge in this lamp has no starting point and no end. The closed “ring” enables a discharge to take place without electrodes. In the ENDURA® lamps the energy is “injected” from the outside by magnetic fields, which leads to an extremely long service life.

### 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.*

1) With QT ENDURA 70-100/120-240 S  
 2) With QT ENDURA 100-150/120-240 S  
 3) With 2-pin connector  
 4) With appropriate ECG

## Technical data



Lamp OSRAM DULUX® Wattage	Lamp voltage		Lamp current		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
	for 50/60Hz V	for HF operation V	for 50/60Hz mA	for HF operation mA				
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".

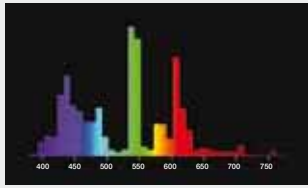
### 3.23

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

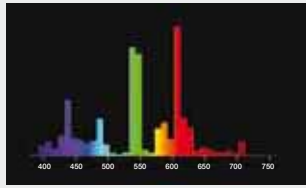
2) To maintain the specified operating and preheating values,  
close-tolerance capacitors ( $\pm 2\%$ ) and series reactors  
( $\pm 1.5\%$ ) are required for series compensation.  
Check the product ranges of leading manufacturers.  
Dielectric strength of the capacitors 450 V ac.

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

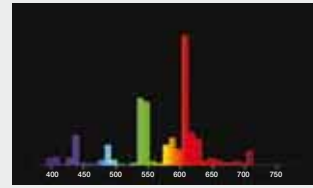
Visible range from 380 to 780 nm, relative spectral emission per 10 nm.



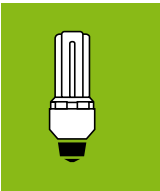
Color 865 LUMILUX®  
Daylight



Color 840 LUMILUX®  
Cool White

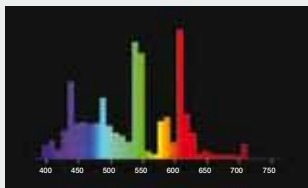


Color 827 LUMILUX®  
Warm White

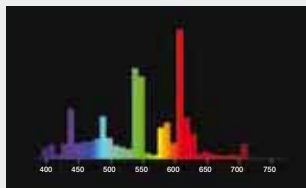


## Spectral power distribution of OSRAM DULUX® pin-base lamps

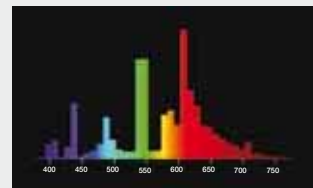
Visible range from 380 to 780 nm, relative spectral emission per 10 nm.



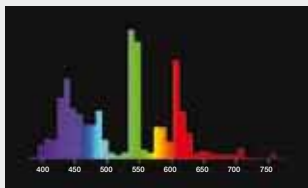
Color 954 LUMILUX® DE LUXE  
Daylight



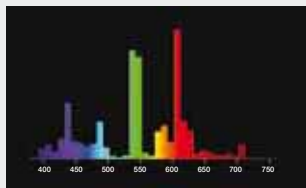
Color 940 LUMILUX® DE LUXE  
Cool White



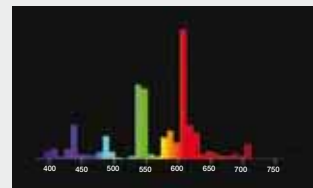
Color 930 LUMILUX® DE LUXE  
Warm White



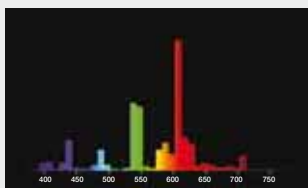
Color 865 LUMILUX®  
Cool Daylight



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

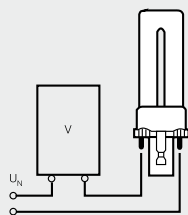
## Light colors and color rendering properties of fluorescent lamps to DIN 5035

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

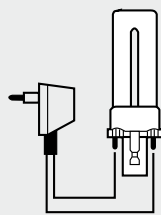
For an explanation of light colors see Section 4 Fluorescent.



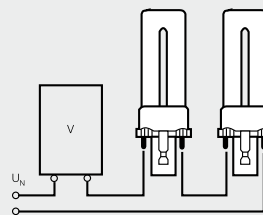
## Circuit diagrams for conventional control gear



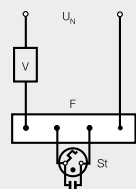
1  
Single lamp with control gear  
OSRAM DULUX® S 5W, 7W, 9W, 11W  
OSRAM DULUX® D 10W, 13W, 18W, 26W  
OSRAM DULUX® T 13W, 18W, 26W



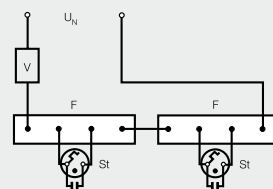
2  
Single lamp with plug-in control gear  
OSRAM DULUX® S 5W, 7W, 9W, 11W  
OSRAM DULUX® D 10W, 13W  
OSRAM DULUX® T 13W



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



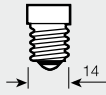
5  
Series connection to 230V only  
with starter St 151  
OSRAM DULUX® L 18W  
OSRAM DULUX® L 18W SP  
OSRAM DULUX® F 18W

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

For circuit diagrams for HF operation see Section 9.

# Bases IEC/EN 60061-1

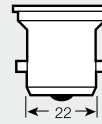
## For direct connection to ac power



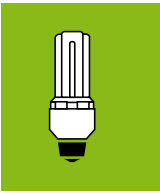
E14  
Sheet 7004-23



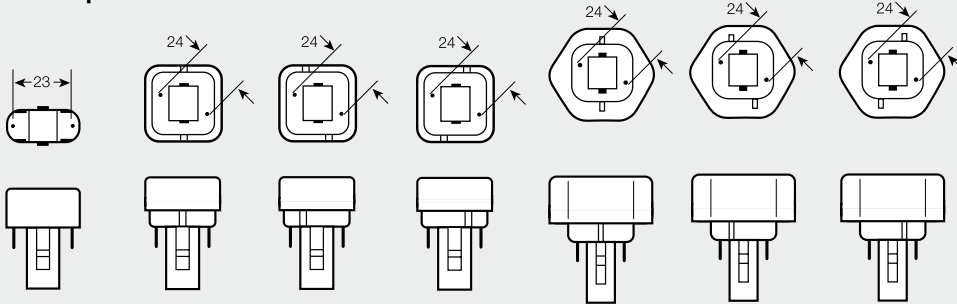
E27  
Sheet 7004-21



B22d  
Sheet 7004-10



## For choke/starter operation



G23  
Sheet 7004-69

G24d-1  
Sheet 7004-78

G24d-2  
Sheet 7004-78

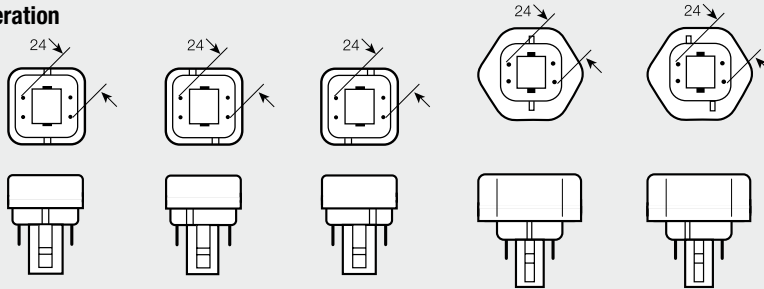
G24d-3  
Sheet 7004-78

GX24d-1  
Sheet 7004-78

GX24d-2  
Sheet 7004-78

GX24d-3  
Sheet 7004-78

## For HF operation



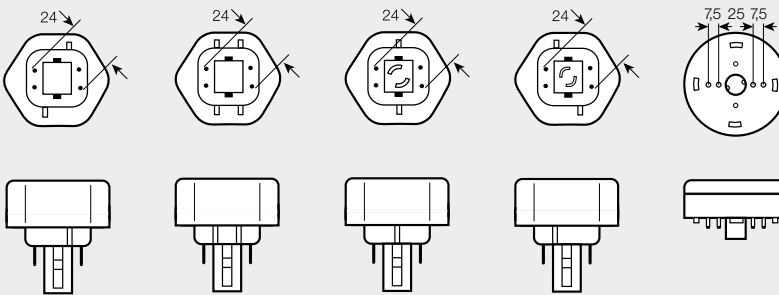
G24q-1  
Sheet 7004-78

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

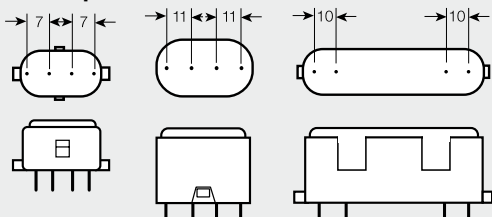
GX24q-4  
Sheet 7004-78

GX24q-5  
Sheet 7004-78

GX24q-6  
Sheet 7004-78

2G8-1  
Sheet 7004-141

## For HF operation

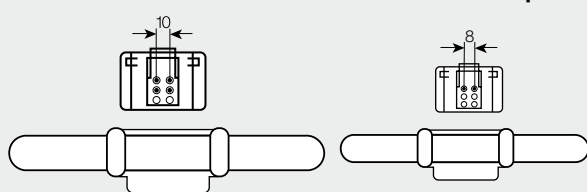


2G7  
Sheet 7004-102

2G11  
Sheet 7004-82

2G10  
Sheet 7004-118

## For choke/starter operation



GR10q  
Sheet 7004-77

GR8  
Sheet 7004-68