

OSRAM SubstiTUBE®
Retrofit LED tubes with a
luminous intensity of 5,600lm
and efficiency of 150lm/W.

Light is personal

OSRAM SubstiTUBE® LED tubes
Pioneering lighting solutions
with proved savings

Light is OSRAM

OSRAM

OSRAM SubstiTUBE® T8 Connected Light management is just this simple

Wireless light management via ZigBee®: OSRAM SubstiTUBE® Connected enables you to profit from a real innovation. Up to 50 T8 LED tubes can be linked with a sensor. And you only need a screwdriver to install them. There's no need to wire the lights to one another! You will hardly find an easier way to create a professional light management system.

OSRAM SubstiTUBE® Advanced T8 Connected:

- The replacement for T8 fluorescent lamps that come in lengths of 1,200 mm and 1,500 mm
- For CCG-operated lamps or 230V
- High efficiency of up to 150 lm/W
- Luminous flux of up to 3,600 lm
- Long lifespan of up to 50,000 hours¹
- Five-year guarantee²

OSRAM SubstiTUBE® Connected Sensors:

- Various PIR sensors with daylight and presence detection are available for the widest range of uses
- A sensor controls up to 50 SubstiTUBE® Advanced T8 Connected LED tubes
- Communication between the sensor and LED tubes is done using the ZigBee® standard
- Installation is done with a screwdriver – no laptop or smartphone/tablet is necessary



Ideal areas of use:

- Production areas
- Warehouses (including high-bay storage facilities)
- Parking garages
- Corridors



Wireless to produce the highest level of efficiency: With a continuous dimming function, movement and light sensors, SubstiTUBE® Advanced T8 Connected saves up to 90 % of the energy used by comparable fluorescent lamps.

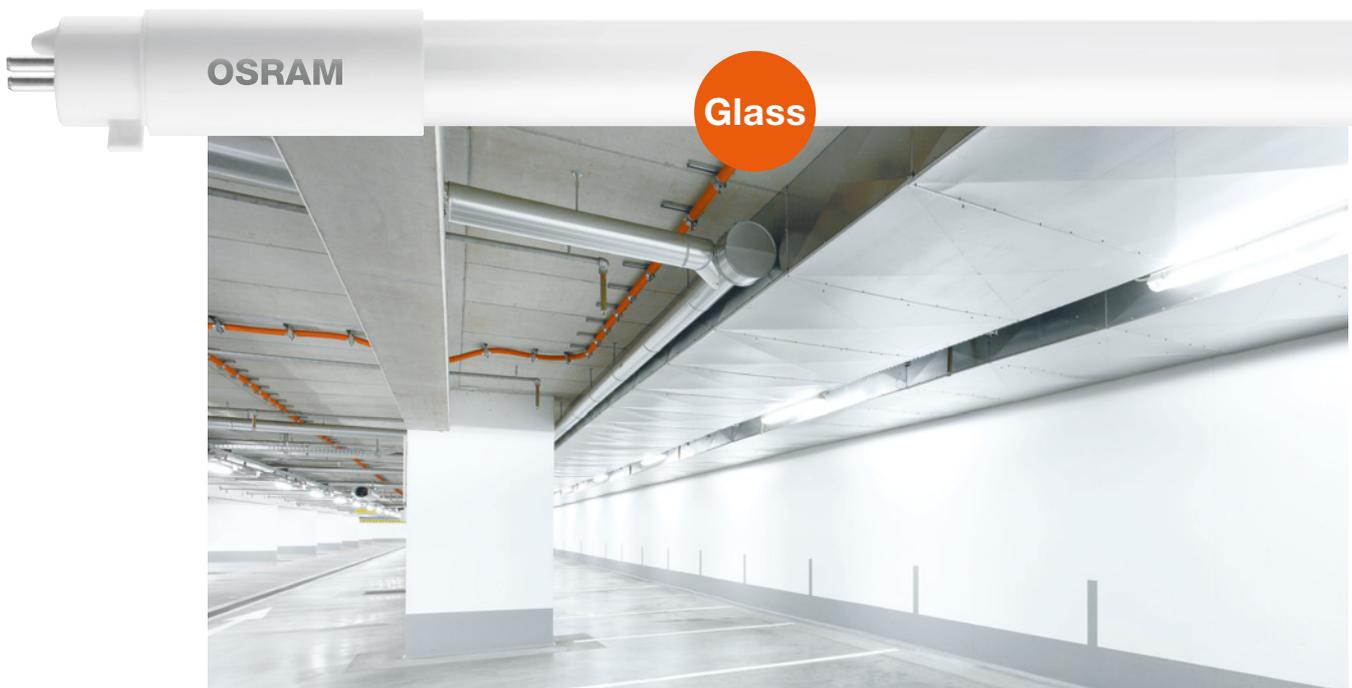


¹ L70/B50 | ² For further information and full guarantee terms and conditions, please go to: [Guarantee terms and conditions](#)

OSRAM SubstiTUBE® Advanced T5/T5 UO

Small LED tubes with a big impact

T5 luminaires can now be easily upgraded to the latest energy-saving LED technology without doing the least bit of rewiring – thanks to the new OSRAM SubstiTUBE® Advanced T5. With their integrated ECG, the innovative LED tubes with a diameter of 16 mm are true plug-&-play replacements for conventional T5 fluorescent lamps with 49 W and 80 W. Even the test seal of the current luminaires can be retained.



OSRAM SubstiTUBE® Advanced T5 and T5 UO:

- Retrofit use for T5 fluorescent lamps with 49 W and 80 W
- Look & feel of a fluorescent lamp thanks to the glass body
- Luminous flux of up to 5,600 lm
- High efficiency of up to 150 lm/W
- Extremely long lifespan of up to 60,000 hours¹
- Five-year guarantee²

Ideal areas of use:

- For warehouses and corridors, parking garages and sales areas
- Ultra-output varieties (UO) for areas with particularly high lighting needs, such as offices



¹ L70/B50 | ² For further information and full guarantee terms and conditions, please go to: [Guarantee terms and conditions](#)

OSRAM SubstiTUBE® T8 Universal

One for all



With the new OSRAM SubstiTUBE® Advanced T8 UO Universal, you no longer need to give any thought to the driver technology being used. The innovative all-in-one LED tube delivers the same strong performance in both ECG and CCG luminaires. It not only makes it much easier for users to operate, but also eliminates the need to keep a double amount of lamps on hand. Thanks to ultra output, it is also equipped in the best way to handle challenging lighting jobs. A real universal genius.

OSRAM SubstiTUBE® Advanced T8 UO Universal:

- The replacement for T8 fluorescent lamps that come in lengths of 1,200 mm and 1,500 mm
- An LED tube for all driver technologies¹
- High efficiency of up to 150 lm/W
- Ultra output – luminous flux of up to 3,600 lm
- In the light colors 840 and 865
- Long lifespan of up to 50,000 hours²
- Five-year guarantee³

Ideal areas of use:

- Perfect for use in warehouses and production halls



Independence from drivers: SubstiTUBE® Advanced T8 UO Universal excels in places with high luminous flux needs.

¹ Compatibility lists for ECG are available here: [Compatibility lists](#) | ² L70/B50

³ For further information and full guarantee terms and conditions, please go to: [Guarantee terms and conditions](#)

OSRAM SubstiTUBE® Advanced/Value T8

Strong foundation

Some significant improvements have also been made to the OSRAM SubstiTUBE® standard product range. The Advanced versions deliver strong performance with increased efficiency of up to 150 lm/W. And for cost-optimized lighting jobs, the completely reworked OSRAM SubstiTUBE® Value T8 serves better than ever before as an economic alternative to conventional fluorescent lamps.

OSRAM SubstiTUBE® Advanced T8:

- Retrofit replacement for 590, 1,200 and 1,500 mm fluorescent lamps
- High efficiency of up to 150 lm/W
- Luminous flux of up to 3,000 lm
- Lifespan of up to 50,000 hours¹
- In the light colors 830, 840 and 865
- Advanced EM-R for CCG-operated luminaires or line voltage; with rotating end caps
- Advanced HF for ECG-operated luminaires
- Five-year guarantee²

Ideal areas of use:

- For standard professional uses
- In production facilities, warehouses, sales areas, underground parking garages and corridors

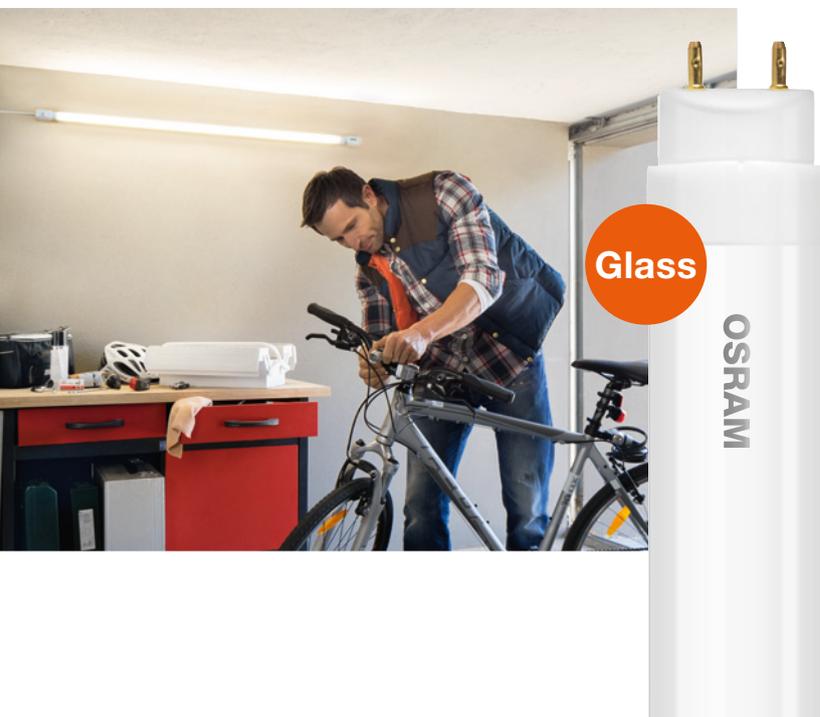


OSRAM SubstiTUBE® Value T8 EM and HF:

- Efficiency of up to 100 lm/W
- In the light colors 830, 840 and 865
- Lifespan of up to 30,000 hours¹
- Look & feel of a fluorescent lamp thanks to the full glass body
- Three-year guarantee²

Ideal areas of use:

- For cost-optimized lighting jobs
- Stairwells, garages and basements
- Private households



¹ L70/B50

² For further information and full guarantee terms and conditions, please go to: [Guarantee terms and conditions](#)

OSRAM SubstiTUBE®

The valuable light

Radiant illumination, singular technology: The new OSRAM SubstiTUBE® LED tubes outperform conventional T8 and T5 fluorescent lamps in many ways.¹

Plug & Play

Quick, simple and safe lamp replacement without rewiring

Efficiency

Up to a brightness level of 150 lm/W

Energy savings

Up to 70 % compared with fluorescent lamps
Up to 90 % with SubstiTUBE® Advanced T8 Connected for wireless dimming

Economy

Replacement costs can be amortized in just six months

Lifespan

Up to five times longer than with conventional fluorescent lamps

Lamp start

Immediate 100 % flicker-free light, ideal for use with sensors



Design

Special mention award for special design quality by the German Design Council



Safety

SubstiTUBE® Advanced EM/HF and Advanced UO EM



Guarantee

Product guarantee of three to five years – for further information, please go to:

[Guarantee terms and conditions](#)

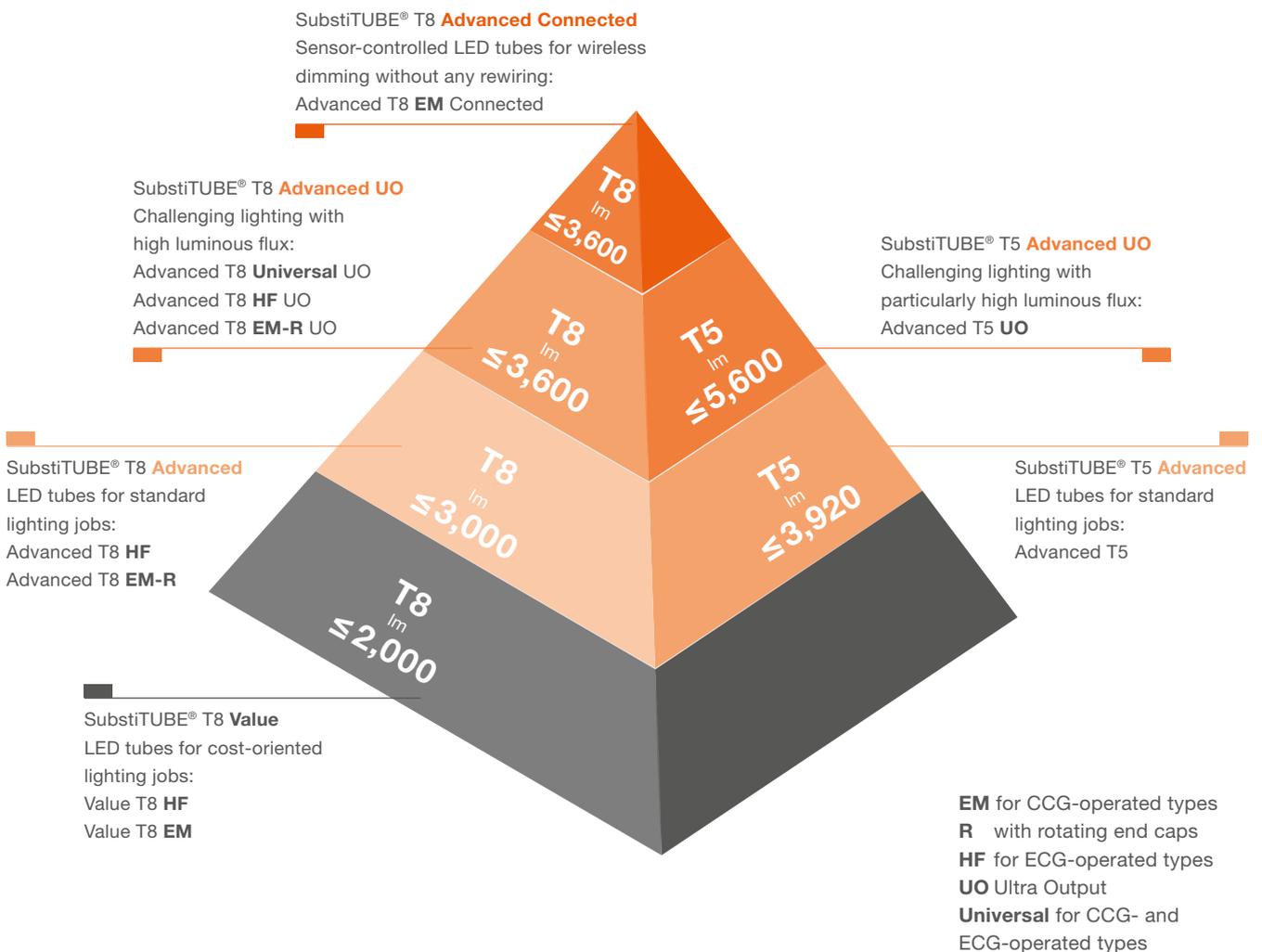


¹ The total energy efficiency and light distribution of a unit will depend on its design

OSRAM SubstiTUBE®

Huge selection, real innovations

Even more variety, even more quality – and, above all, innovations that deliver real added value: The new OSRAM SubstiTUBE® product range provides tailored lighting solutions.



OSRAM SubstiTUBE®

It all pays off

Energy efficiency, lifespan, product guarantee: SubstiTUBE® LED tubes have many strengths. When they are all added together, you come to one conclusion: The costs of replacing fluorescent lamps with OSRAM SubstiTUBE® in commercial areas can be amortized in less than a year. Once this point has been reached, you will do nothing more than save, save, save during each hour of operation – real cash, energy and CO₂ emissions.

Here is an example of cost amortization for a reference project of an industrial company

Calculation base: 24 months, two years, 12,480 operating hours
Operation period: Five days/week, 52 weeks, 24 hours/day

Type of lamp	Standard T8 FL 54 W 1,500 mm	SubstiTUBE® Advanced T8 EM-R 1,500 mm	Savings generated through the use of SubstiTUBE® LED tubes
GTIN		4052899956209	
Number of lighting outlets	100 units	100 units	
System output ¹	72W	21 W	
Luminous flux	–	3,000 lm	
Average lifespan	15,000 h	50,000 h	
Annual operating hours	6,240 h	6,240 h	
Operating hours after 60 months	31,200 h	31,200 h	
Lamp replacement costs	1.70 €/unit	22.00 €/unit	
Replacement costs	5.00 €/unit	5.00 €/unit	
Electricity cost ²	0.12 €/kWh	0.12 €/kWh	
CO ₂ emission factor	0.5 kg CO ₂ /kWh	0.5 kg CO ₂ /kWh	
Lamp replacement probably after ...	2.4 years	8.01 years	
Required lamps in 60 months	300 lamps	100 lamps	
Lamp costs after 60 months	510 €	2,200 €	
Replacement costs after 60 months	1,500 €	500 €	1,000 €
Power consumption after 60 months	224,640 kWh	65,520 kWh	159,120 kWh
Energy costs after 60 months	26,957 €	7,862 €	19,095 €
Total costs after 60 months	28,967 €	10,562 €	18,405 €
CO ₂ emissions after 60 months	112,320 kg CO ₂	32,760 kg CO ₂	79,560 kg CO ₂

Savings during the product's lifespan		306 €/lamp
Estimated amortization period		0.53 years
Energy savings per year		3,819 €
Expected total savings after 60 months		18,405 €

¹ System performance = lamp performance + losses at control gear

² Average price for industrial customers in Germany in 2015 (source: Statista)

OSRAM TCO calculator

Use our TCO calculator to easily determine the savings potential of your own projects:
www.osram-substitube-tco.com

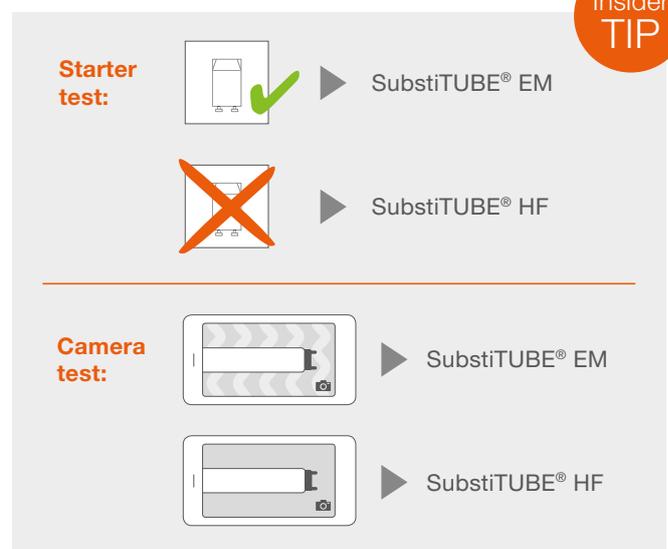
OSRAM SubstiTUBE®

Which technology is the right one?

Are you uncertain about which lamp technology (EM or HF lamps) you need for your luminaire? Our insider tip offers you two ways of easily finding this out.

Starter test: See whether the luminaire in which you want to use the new lamp has a starter. If it does, you need a SubstiTUBE® Advanced T8 EM or Value T8 EM for operation on a CCG. If it does not, you should use the ECG-compatible HF variant.¹

Camera test: If a functioning T8 fluorescent lamp is still mounted in a luminaire, examine it with a digital camera (e.g. in your smartphone or tablet). If the light flickers, you need a SubstiTUBE® Advanced T8 EM or Value T8 EM for operation on a CCG. If it does not, you should use the ECG-compatible HF variant.¹



¹ A compatibility list and other information are available here: [Compatibility list](#)

Clever:

If you want to play it safe without conducting a test, you should simply select the new OSRAM SubstiTUBE® Advanced T8 UO Universal because this clever all-in-one solution will work in any case.

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An overview of technical data



Item name	Product number (GTIN)	$\frac{l}{[mm]}$	W^1	lm^1	$\frac{lm}{W}$	K	\triangle	R_a	t_{h1}^2		
OSRAM SubstiTUBE® Advanced T5 HF UO – G5 – for ECG luminaire⁴											
ST5AU-1.5m-37W-840-HF	4052899956636	1,449	37	5,600	151	4,000	180°	>80	60,000	A++	05
ST5AU-1.5m-37W-865-HF	4052899956643	1,449	37	5,600	151	6,500	180°	>80	60,000	A++	05

OSRAM SubstiTUBE® Advanced T5 HF – G5 – for ECG luminaire⁴											
ST5A-1.5m-26W-840-HF	4052899956674	1,449	26	3,920	151	4,000	180°	>80	60,000	A++	05
ST5A-1.5m-26W-865-HF	4052899956681	1,449	26	3,920	151	6,500	180°	>80	60,000	A++	05

OSRAM SubstiTUBE® Advanced T8 EM, Connected – G13, 230V – for CCG luminaire											
ST8AU-1.2m-16W-840-CON	4052899970557	1,200	16	2,400	150	4,000	160°	>80	50,000	A++	01
ST8AU-1.2m-16W-865-CON	4052899970564	1,200	16	2,400	150	6,500	160°	>80	50,000	A++	01
ST8AU-1.5m-24W-840-CON	4052899970571	1,500	24	3,600	150	4,000	160°	>80	50,000	A++	01
ST8AU-1.5m-24W-865-CON	4052899970588	1,500	24	3,600	150	6,500	160°	>80	50,000	A++	01

OSRAM SubstiTUBE® Connected Sensors

Type	Product number (GTIN)	Sensor type	Installation	Recommended installation height	Type of protection	Voltage	Frequency	Application
Connected Sensor ST8 CR	4058075801448	Passive infrared	Ceiling	2.50-4.00 m	IP54	230-240V	50 Hz	Parking garages
Connected Sensor ST8 RT	4058075801462	Passive infrared	Ceiling	2.50-5.00 m	IP54	230-240V	50 Hz	Corridor
Connected Sensor ST8 HB	4058075801486	Passive infrared	Ceiling, corridor	4.00-12.00 m	IP54	230-240V	50 Hz	Industry, warehouses

Item name	Product number (GTIN)	$\frac{l}{[mm]}$	W^1	lm^1	$\frac{lm}{W}$	K	\triangle	R_a	t_{h1}^2		
OSRAM SubstiTUBE® Advanced T8, Universal – G13, 230V – for CCG and ECG luminaire											
ST8A-1.2m-16W-840-UN	4052899956513	1,200	16	2,400	150	4,000	150°	>80	50,000	A++	04
ST8A-1.2m-16W-865-UN	4052899956520	1,200	16	2,400	150	6,500	150°	>80	50,000	A++	04
ST8A-1.5m-24W-840-UN	4052899956551	1,500	24	3,600	150	4,000	150°	>80	50,000	A++	04
ST8A-1.5m-24W-865-UN	4052899956575	1,500	24	3,600	150	6,500	150°	>80	50,000	A++	04

OSRAM SubstiTUBE® Advanced T8 EM-R UO, with rotating end caps – G13, 230V – for CCG luminaire											
ST8AU-1.2m-16W-840-EM	4052899956438	1,200	16	2,400	150	4,000	160°	>80	50,000	A++	02
ST8AU-1.2m-16W-865-EM	4052899956445	1,200	16	2,400	150	6,500	160°	>80	50,000	A++	02
ST8AU-1.5m-24W-840-EM	4052899956476	1,500	24	3,600	150	4,000	150°	>80	50,000	A++	02
ST8AU-1.5m-24W-865-EM	4052899956483	1,500	24	3,600	150	6,500	150°	>80	50,000	A++	02

Item name	Product number (GTIN)										
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OSRAM SubstiTUBE® Advanced T8 EM-R, with rotating end caps – G13, 230V – for CCG luminaire

ST8A-0.6m-7.3W-830-EM	4052899956070	590	7.3	990	136	3,000	160°	>80	50,000	A++	02
ST8A-0.6m-7.3W-840-EM	4052899956087	590	7.3	1,100	151	4,000	160°	>80	50,000	A++	02
ST8A-0.6m-7.3W-865-EM	4052899956094	590	7.3	1,100	151	6,500	160°	>80	50,000	A++	02
ST8A-1.2m-14W-830-EM	4052899956131	1,200	14	1,900	136	3,000	150°	>80	50,000	A++	02
ST8A-1.2m-14W-840-EM	4052899956148	1,200	14	2,100	150	4,000	150°	>80	50,000	A++	02
ST8A-1.2m-14W-865-EM	4052899956155	1,200	14	2,100	150	6,500	150°	>80	50,000	A++	02
ST8A-1.5m-20W-830-EM	4052899956193	1,500	20	2,700	138	3,000	150°	>80	50,000	A++	02
ST8A-1.5m-20W-840-EM	4052899956209	1,500	20	3,000	150	4,000	150°	>80	50,000	A++	02
ST8A-1.5m-20W-865-EM	4052899956216	1,500	20	3,000	150	6,500	150°	>80	50,000	A++	02

OSRAM SubstiTUBE® Value T8 EM – G13, 230V – for CCG luminaire

ST8V-0.6m-8W-830-EM	4052899955677	590	8	720	90	3,000	190°	>80	30,000	A+	03
ST8V-0.6m-8W-840-EM	4052899955691	590	8	800	100	4,000	190°	>80	30,000	A+	03
ST8V-0.6m-8W-865-EM	4052899955714	590	8	800	100	6,500	190°	>80	30,000	A+	03
ST8V-1.2m-17W-830-EM	4052899955738	1,200	17	1,530	90	3,000	190°	>80	30,000	A+	03
ST8V-1.2m-17W-840-EM	4052899955752	1,200	17	1,700	100	4,000	190°	>80	30,000	A+	03
ST8V-1.2m-17W-865-EM	4052899955776	1,200	17	1,700	100	6,500	190°	>80	30,000	A+	03
ST8V-1.5m-20W-830-EM	4052899955790	1,500	20	1,800	90	3,000	190°	>80	30,000	A+	03
ST8V-1.5m-20W-840-EM	4052899955806	1,500	20	2,000	100	4,000	190°	>80	30,000	A+	03
ST8V-1.5m-20W-865-EM	4052899955813	1,500	20	2,000	100	6,500	190°	>80	30,000	A+	03

OSRAM SubstiTUBE® Advanced T8 HF UO – G13 – for ECG luminaire⁴

ST8A-1.5m-25W-840-HF UO	4058075802902	1,500	25 ³	3,600 ³	144 ³	4,000	160°	>80	50,000	A++	01
ST8A-1.5m-25W-865-HF UO	4058075803354	1,500	25 ³	3,600 ³	144 ³	6,500	160°	>80	50,000	A++	01

OSRAM SubstiTUBE® Advanced T8 HF – G13 – for ECG luminaire⁴

ST8A-0.6m-8W-830-HF	4052899956254	590	8	1,000	125	3,000	180°	>80	50,000	A++	01
ST8A-0.6m-8W-840-HF	4052899956261	590	8	1,100	138	4,000	180°	>80	50,000	A++	01
ST8A-0.6m-8W-865-HF	4052899956278	590	8	1,100	138	6,500	180°	>80	50,000	A++	01
ST8A-1.2m-14.5-830-HF	4052899956315	1,200	14.5	1,890	131	3,000	180°	>80	50,000	A++	01
ST8A-1.2m-14.5-840-HF	4052899956322	1,200	14.5	2,100	145	4,000	180°	>80	50,000	A++	01
ST8A-1.2m-14.5-865-HF	4052899956339	1,200	14.5	2,100	145	6,500	180°	>80	50,000	A++	01
ST8A-1.5m-21W-830-HF	4052899956377	1,500	21	2,835	135	3,000	180°	>80	50,000	A++	01
ST8A-1.5m-21W-840-HF	4052899956384	1,500	21	3,150	150	4,000	180°	>80	50,000	A++	01
ST8A-1.5m-21W-865-HF	4052899956391	1,500	21	3,150	150	6,500	180°	>80	50,000	A++	01

OSRAM SubstiTUBE® Value T8 HF – G13 – for ECG luminaire⁴

ST8V-0.6m-8W-830-HF	4052899955899	590	8	720	90	3,000	210°	>80	30,000	A+	03
ST8V-0.6m-8W-840-HF	4052899955905	590	8	800	100	4,000	210°	>80	30,000	A+	03
ST8V-0.6m-8W-865-HF	4052899955912	590	8	800	100	6,500	210°	>80	30,000	A+	03
ST8V-1.2m-17W-830-HF	4052899955950	1,200	17	1,530	90	3,000	210°	>80	30,000	A+	03
ST8V-1.2m-17W-840-HF	4052899955967	1,200	17	1,700	100	4,000	210°	>80	30,000	A+	03
ST8V-1.2m-17W-865-HF	4052899955974	1,200	17	1,700	100	6,500	210°	>80	30,000	A+	03
ST8V-1.5m-20W-830-HF	4052899956018	1,500	20	1,800	90	3,000	210°	>80	30,000	A+	03
ST8V-1.5m-20W-840-HF	4052899956025	1,500	20	2,000	100	4,000	210°	>80	30,000	A+	03
ST8V-1.5m-20W-865-HF	4052899956032	1,500	20	2,000	100	6,500	210°	>80	30,000	A+	03

¹ All technical parameters apply to the entire lamp. Because of the complex manufacturing process for light-emitting diodes (LEDs), the specified typical values for LED technical parameters represent only purely statistical variables. They do not necessarily correspond to the actual technical parameters for each individual product which can deviate from the typical value |² L70/B50 |³ Preliminary data

⁴ Values for the use on the reference ECG

OSRAM TCO calculator

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www.osram-substitute-tco.com

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