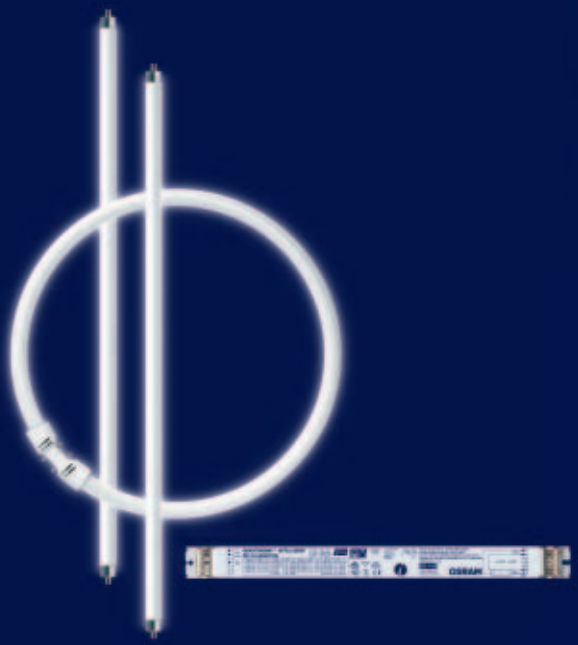


A new direction for modern lighting design.

Complete. Innovative. The new LUMILUX® T5 range from OSRAM: HE, HO, HO CONSTANT and FC®.

SEE THE WORLD IN A NEW LIGHT

OSRAM

Others offer T5.
We offer LUMILUX® T5.

Modern architecture in light made by OSRAM: LUMILUX® T5 HE ("High Efficiency"), HO and HO CONSTANT ("High Output") and FC® ("Fluorescent Circline") combine the benefits of compact T5 design with the special strengths of successful OSRAM LUMILUX® technology.

LUMILUX® T5: compact, bright and economical

With a tube diameter of just 16 mm, LUMILUX® T5 fluorescent lamps enable space-saving luminaires to be made even more compact than with the old "standard lamps" (26 mm diameter). Depending on the intended application and individual preferences, users can choose the particularly bright LUMILUX® T5 HO or HO CONSTANT with constant luminous flux over a wide range of temperatures, or the particularly economical LUMILUX® T5 HE versions. The circular LUMILUX® T5 FC® lamp provides the basis for particularly attractive "all-round" lighting solutions.

LUMILUX® T5: better light, prettier colours

Innovative LUMILUX® T5 fluorescent lamps from OSRAM put conventional T8 lamps clearly in the shade in terms of quality of light. Unique OSRAM LUMILUX® technology ensures excellent colour rendering – over the entire colour spectrum. A colour rendering of R_a=80–89 is offered, and even R_a>90 from LUMILUX® DE LUXE T5 HO lamps.

High-intensity industrial lighting systems with innovative OSRAM LUMILUX® T5 fluorescent lamps

Cost/benefit analysis: LUMILUX® T5 versus BASIC T8 lamps

Energy savings:	**Old**	**New**	**Savings**
Type of lamp	BASIC T8	LUMILUX T5	
Sample type	L 58/20	FQ 49/840 HO	
Service life	5000 h	18000 h	
Luminous flux	4600 lm	4300 lm[1)]	
System efficiency	68 lm/W	80 lm/W	
Power consumption in kWh	1600 kWh	1040 kWh	
Power consumption in %	100%	65%	
Energy savings			**35%**
Power consumption incl. air conditioning	1852 kWh	1040 kWh	
Savings incl. reduced air conditioning			**44%**

Maintenance: LUMILUX® T5 versus BASIC T8 lamps

Energy savings:	**Old**	**New**	**Savings**
Type of lamp	BASIC T8	LUMILUX T5	
Sample type	L 58/20	FQ 49/840 HO	
Period	18000 h	18000 h	
Service life	5000 h	18000 h	
Number of lamps	3.6	1	
Number of relampings	3.6	1	
Savings			**45%**

[1)] Rated luminous flux at 25°C, max. luminous flux is 4900 lm at 35°C

Extra costs for changing starters are not included.

Calculation model with the following conditions:
- Hours burned per year: 4500 h
- Period: 4 years
- Calculations are always based on a comparable lighting level
- The T5 lamp is operated on a single-lamp non-dimmable ECG
- The T8 lamp is operated on conventional low-loss gear
- Luminaires equipped with T5 lamps have a luminaire efficiency of 0.85; the luminaire efficiency of T8 luminaires is 0.65

T5

Perfect operation in a perfectly matched system:

LUMILUX® T5 and QUICKTRONIC® INTELLIGENT EVG (QTi)

The HE and HO T5 families contain lamps of the same length but with different wattages. The demand from luminaire manufacturers to operate lamps of the same length on only one ECG is being met by OSRAM with its new QUICKTRONIC® INTELLIGENT family of ECGs. The really “intelligent” QTi ECG automatically detects the lamp used and operates it with the correct electrical parameters. Precise matching of the components used in the QTi ECGs ensures that OSRAM’s lamp + ECG system meets the highest possible standards in terms of economy, quality and reliability.

With QUICKTRONIC® INTELLIGENT, cut-off technology can now be used. QTi has so many outstanding properties that the benefits are truly impressive:

- Gentle operation of the lamps ensures an optimum average lamp life of 24,000 hours for T5 HE and HO
- Optimum luminous flux is maintained at an ambient temperature of 35°C thanks to cut-off technology, with luminaire efficiency being increased by 6 to 8% as a result
- ECG power loss has been minimized so the energy consumption of the system is reduced by up to 2 W compared with existing control gear.

Minimal dimensions for new luminaire designs

For the same efficiency as a T8 luminaire, the volume of a luminaire equipped with a LUMILUX® T5 lamp can be reduced by as much as 50%:

Fit for the future: QTi today offers flexible solutions for tomorrow

- Same shading with 40% smaller reflectors
- Reduced height of the QTi (21 mm) for compact luminaire dimensions
- Same geometry and wiring for all 1 and 2-lamp QTi ECGs.

The full range: all wattages, all light colours

LUMILUX® T5 HE, HO and FC® lamps are available from 14 to 80 W and in six light colours for a wide range of applications and effects, namely SKYWHITE (880), Cool Daylight (865), Cool White (840), White (835), Warm White (830) and INTERNA (827). All LUMILUX® T5 lamps from OSRAM can be used as straight-forward replacements for standard lamps from other manufacturers.

HE

LUMILUX® T5 HE: 14 W to 35 W. Particularly economical

The “diesel” among fluorescent lamps. At up to 104 lumen per watt, LUMILUX® T5 HE lamps from OSRAM offer an extremely high luminous efficacy and therefore excellent economy. The benefits of LUMILUX® T5 HE lamps are most obvious in office lighting where they offer energy savings of up to about 30 percent.

Energy savings of up to about 30%

The use of the LUMILUX® T5 HE system in luminaire designs for T8 lamps leads to the following savings:

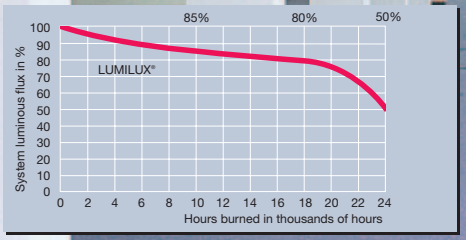
- Up to 10% higher luminous efficacy of the LUMILUX® T5 HE lamps compared with T8 lamps
- Up to 8% more light thanks to much less self-shading from the slimmer lamp
- Up to 10% higher luminaire efficiency because the temperature for optimum luminous flux has been raised to 35°C

Maximum economy, minimum dimensions

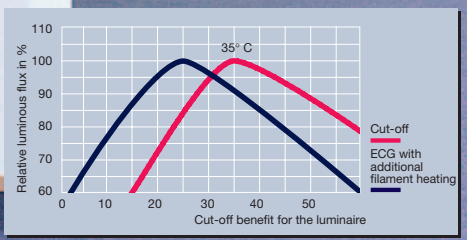
With the LUMILUX® T5 HE system from OSRAM, luminaire designers can go in either of two directions:

- maximum economy in luminaire designs for T8/26 mm lamps
- minimum luminaire dimensions, with the same output as T8 luminaires but up to 50% smaller

The right light in the right place: efficient space and energy-saving lighting with OSRAM LUMILUX® T5 HE



The small drop in system luminous flux due to the LUMILUX® phosphor increases the service life (mortality x maintenance)



Even more effective thanks to cut-off technology: the temperature for optimum luminous flux has been raised to 35°C. This results in a 6 to 8% increase in luminaire operating efficiency for direct luminaires

HO

LUMILUX® T5 HO: 24 W to 80 W. Particularly bright.

Optimum use of space: space-saving lighting solutions with OSRAM LUMILUX® T5 HO

The “turbo” among fluorescent lamps. LUMILUX® T5 HO produces up to 55 percent more light than standard T8 LUMILUX® fluorescent lamps of the same length on ECGs. They are used to best advantage in rooms with high ceilings (for example in industrial lighting systems) or in direct/indirect lighting.

Luminous flux increased by more than 50%

The LUMILUX® T5 HO system opens up new luminaire design paths in one of two directions:

- Luminaires of more or less the same length but up to 50% brighter
- The same amount of light as with a T8 lamp but much smaller LUMILUX®

T5 HO is also available in a “DE LUXE” version. With its excellent colour rendering of R_a>90, the LUMILUX® DE LUXE T5 HO is the ideal solution for attractive lighting in public buildings such as museums and in high-quality domestic lighting systems.

New powerful lighting for offices and factories

The LUMILUX® T5 HO system offers the perfect platform not only for super compact, design-oriented luminaires but also for high-intensity luminaires with optimum efficiency for direct/indirect lighting or for rooms with high ceilings. The main areas of application for modern LUMILUX® T5 HO luminaires are therefore as follows:

- Offices and administrative buildings
- Factory lighting

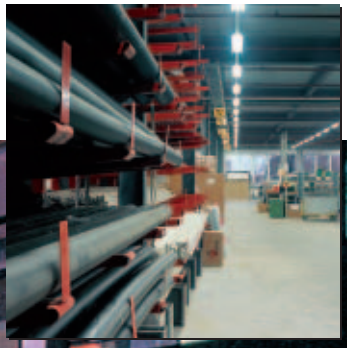
LUMILUX® T5 HO CONSTANT: 24 W to 80 W. Particularly hardy.

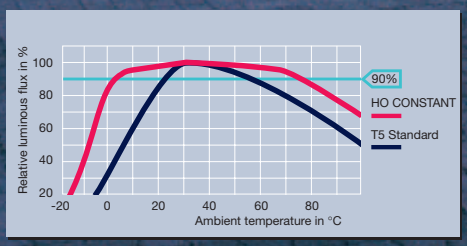
LUMILUX® T5 HO CONSTANT is the perfect solution for very cold and very hot lighting installations. Thanks to new amalgam technology, high luminous flux can be achieved over a wide range of ambient temperatures within the luminaire. Between +5°C and +70°C the luminous flux is an impressive 90% of its rated value.

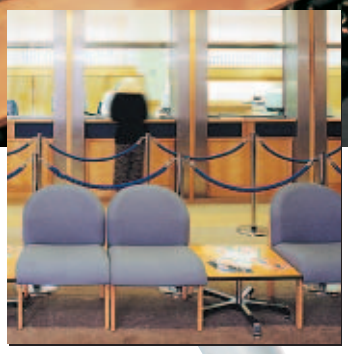
New applications thanks to amalgam technology.

T5 fluorescent lamps are normally not suitable for applications with cold ambient temperatures because there is a significant drop in luminous flux at temperatures below 25°C in the luminaire. The luminous flux from conventional T5 lamps is also too low if the ambient temperatures are particularly high. T5 lamps are therefore usually restricted to temperatures between about 25°C to 50°C. Thanks to the innovative amalgam technology from OSRAM on the new LUMILUX® T5 HO CONSTANT lamps, these cold and hot applications are now no longer “off limits”. Efficient lighting solutions are now possible for example despite “cold” luminaire temperatures of less than 25°C in outdoor applications, tunnels and car parks. This technology also opens up applications in which the temperatures inside the luminaires go as high as 70°C, as in damp-proof luminaires or small recessed luminaires. The new LUMILUX® T5 HO CONSTANT lamps are compatible with conventional T5 lamps and are straightforward replacements for these lamps.

Broad range of applications: LUMILUX® T5 HO CONSTANT with innovative amalgam technology is at the heart of high-performance lighting solutions.







A good idea all round, and not just at the Main Tower in Frankfurt

FC

LUMILUX® T5 FC®: 22 W to 55 W. Particularly “rounded” lighting solutions.

Designers and architects are looking for suitable alternatives to standard strip lighting. They appreciate round luminaires that will blend in perfectly with their surroundings. OSRAM has therefore taken its super bright LUMILUX® T5 HO lamps and developed the circular LUMILUX® T5 FC® fluorescent lamp (“Fluorescent Circline”) in two diameters.

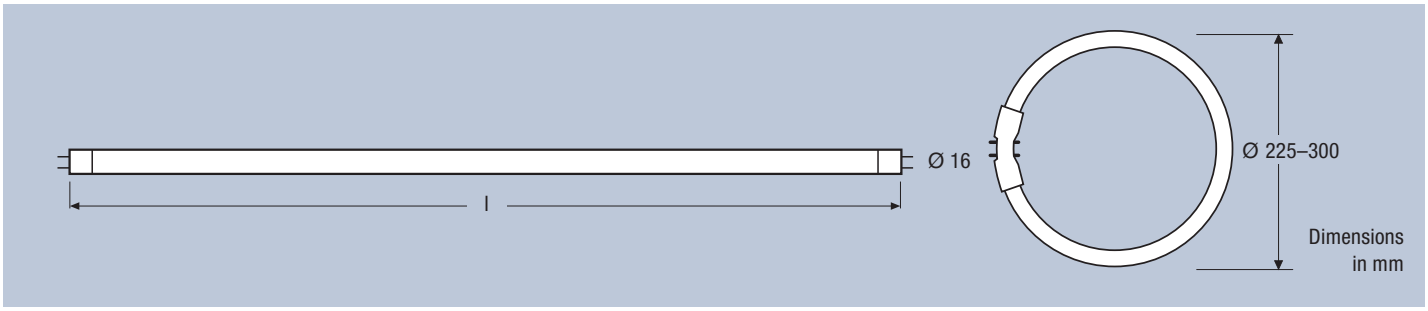
An all-round solution which ever way you look at it

The innovative solution for all lighting designers and architects who want to get away from the restrictions of strip lighting and rectangular grid systems. The circular LUMILUX® T5 FC® system paves the way for unconventional high-intensity circular luminaires with so many different uses for the FC 22 W, 40 W and 55 W lamps. The circular shape of the LUMILUX® T5 FC® fluorescent lamp enables designers to create round luminaires that emit light in all directions.

Slim lamp, low-profile luminaire

The tube diameter is just 16 mm so the luminaires can be unusually shallow and compact and offer high levels of efficiency. Many manufacturers have taken up the idea of circular lighting with the LUMILUX® T5 FC® system from OSRAM and launched a wide variety of innovative luminaires with unconventional designs and optimum efficiency on the market.

Technical data



LUMILUX® T5 FC® (R_a=80–89) Colour temperature: 3000 K, 4000 K, 6500 K; Light colours: 830, 840, 865; Tube diameter Ø: 16 mm; Lamp base: 2 GX 13

	FC 22 W	FC 40 W	FC 55 W
Rated luminous flux (25°C)[1) 2)]	1800 lm	3200 lm	4000 lm
Ring diameter Ø	225 mm	300 mm	300 mm

The FC® system produces optimum luminous flux at 25–30°C

LUMILUX® T5 HE (R_a=80–89) Colour temperature: 2700 K, 3000 K, 3500 K, 4000 K, 6500 K; Light colours: 827, 830, 835, 840, 865, 60, 66, 67; Lamp base: G5

	HE 14 W	HE 21 W	HE 28 W	HE 35 W
Rated luminous flux (25°C)[1) 2)]	1200 lm	1900 lm	2600 lm	3300 lm
Max. luminous flux (35°C)[2)]	1350 lm	2100 lm	2900 lm	3650 lm
Lamp length l	549 mm	849 mm	1149 mm	1449 mm

LUMILUX® T5 HO (R_a=80–89) Colour temperature: 2700 K, 3000 K, 3500 K, 4000 K, 6500 K, 8000 K[3)]; Light colours: 827, 830, 835, 840, 865, 880[3)], 60[3)], 66[3)], 67[3)]; Lamp base: G5

	HO 24 W	HO 39 W	HO 49 W	HO 54 W	HO 80 W
Rated luminous flux (25°C)[1) 2)]	1750 lm	3100 lm	4300 lm	4450 lm	6150 lm
Max. luminous flux (35°C)[2)]	2000 lm	3500 lm	4900 lm	4900 lm	7000 lm
Lamp length l	549 mm	849 mm	1449 mm	1149 mm	1449 mm

LUMILUX® T5 HO CONSTANT (R_a=80–89) Colour temperature: 2700 K, 3000 K, 3500 K, 4000 K, 6500 K; Light colours: 830, 840, 865; Lamp base: G5

	HO 24 W CONSTANT	HO 39 W CONSTANT	HO 54 W CONSTANT	HO 80 W CONSTANT
Rated luminous flux (25°C)[1) 2)]	1950 lm	3400 lm	4850 lm	6800 lm
Max. luminous flux (35°C)[2)]	2000 lm	3500 lm	5000 lm	7000 lm
Lamp length l	549 mm	849 mm	1149 mm	1449 mm

The stamp and base plate on the LUMILUX® T5 HO CONSTANT is orange. Not yet released for dimming – for further details contact OSRAM or go to www.osram.com/hoconstant.

LUMILUX® DE LUXE T5 HO (R_a>90) Lamp base: G5

	FQ 24 W/940 HO	FQ 24 W/965 HO	FQ 49 W/940 HO	FQ 49 W/965 HO	FQ 54 W/940 HO	FQ 54 W/965 HO
Rated luminous flux (25°C)[1)]	1400 lm	1300 lm	3500 lm	3450 lm	3500 lm	3450 lm
Max. luminous flux (35°C)	1700 lm	1600 lm	3900 lm	3700 lm	4050 lm	3800 lm
Colour temperature	4000 K	6500 K	4000 K	6500 K	4000 K	6500 K
Light colours	940	965	940	965	940	965
Lamp length l	549 mm	549 mm	1449 mm	1449 mm	1149 mm	1149 mm

[1)] At 25°C (planning value) [2)] Luminous flux values do not apply to light colours 60, 66, 67. Luminous fluxes for LF 865 and 880 differ. For details see Lighting Programme. [3)] Does not apply to 49 W

For technical data for the electronic control gear see the relevant data sheets or product information.

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