Less is often more

– less diameter
– less length

\+ more light
\+ more style

The new FQ® fluorescent lamp system from OSRAM

THERE IS LIGHT. AND THERE IS OSRAM.

OSRAM

The mission:
To make fluorescent lamps smaller…

…the first step:
to reduce the diameter to 26 mm

For years and years, the good old T12 fluorescent lamps with a tube diameter of 38 mm were the epitome of economic light.

In 1978, OSRAM launched the much slimmer and more economical T8 generation of fluorescent lamps with a diameter of only 26 mm.

Over the years we have given them longer lives and made them more economical in conjunction with modern electronic control gear. And with the new LUMILUX® PLUS coating we have improved their luminous flux still further.

1996 – and the time is ripe for a new generation: the new FQ® fluorescent lamp system with a diameter of only 16 mm

More lumens, less volume

With the new FQ® (Fluorescent Quintron) system, OSRAM is launching a range of fluorescent lamps with impressive luminous flux. They are 50% brighter than T8 lamps of comparable length.

And with a lamp diameter of only 16 mm (T5), they are about 40% thinner than T8 lamps (26 mm).

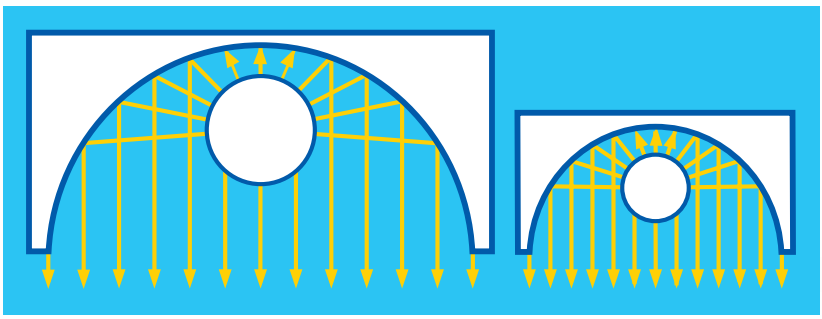
This is a powerful combination, enabling designers to create small, stylish and above all high-intensity luminaires for direct and indirect lighting and for high-ceiling rooms.

But that's not all.
We have also built in the following features:

- Optimum luminous flux has been shifted to an ambient temperature of 35°C so that even narrower luminaires can be produced.
- The length has been reduced by 5 cm which means they are now compatible with conventional ceiling modules.
- ECG operation with cut-off technology ensures that optimum luminous flux is archieved at 35°C and also, in conjunction with the improved LUMILUX® PLUS phosphor, prolongs the life of the lamps.

The advantages of the new FQ® system for luminaire designers

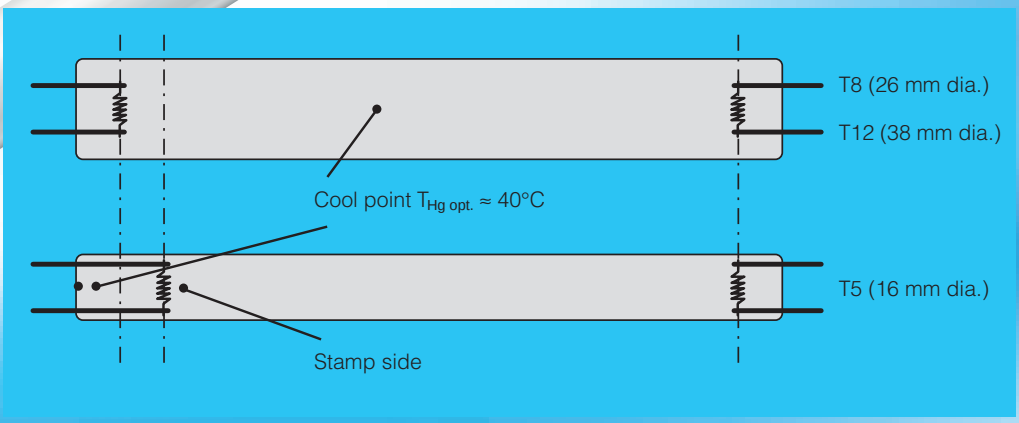
16 mm tube diameter



With the luminaire reflector reduced in proportion to the reduction in tube diameter, the shading effect remains the same.
With the same luminaire efficiency, this gives designers enormous freedom to create new systems.

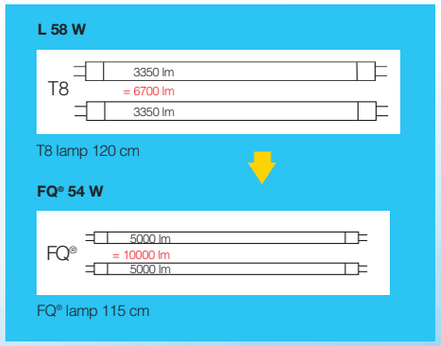
The shading remains the same but the reduction in tube diameter means the reflector can be 40% smaller.

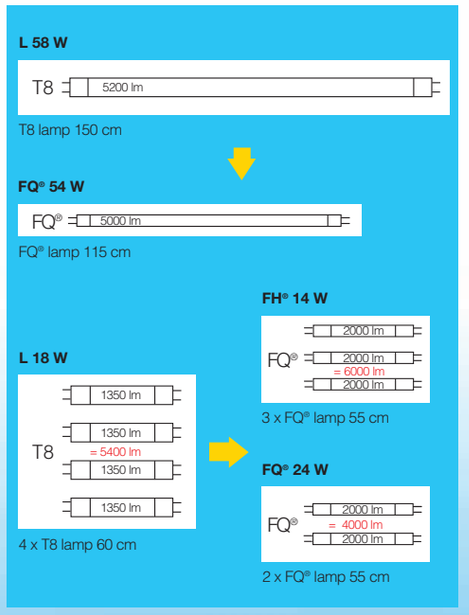
Luminous flux behavior of T8 and T5 with cut-off technology



Luminous flux increased by 50%

The luminous flux from the FQ® system is 50% higher than that of T8 lamps of comparable length. Or put another way, the FQ® lamp generates as much light from a length of only 115 cm as a T8 lamp 150 cm long. For FQ® lamps the luminous flux values are maximum values. The options for luminaire designers are as follows:



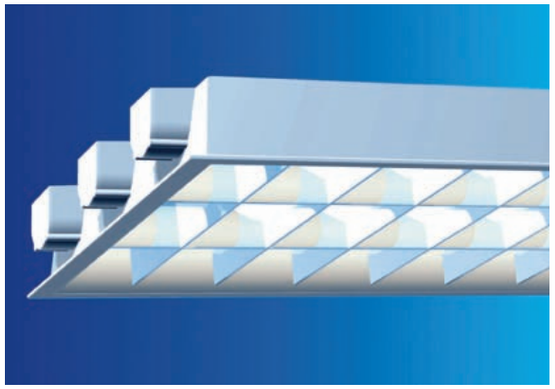


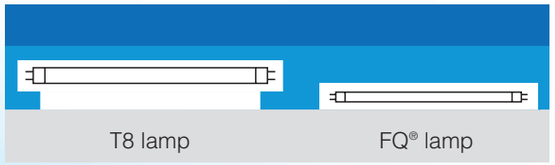
1. FQ® lamps give out 50% more light than T8 lamps of around the same length.

2. Luminaires with FQ® lamps can be smaller yet still give out the same amount of light; i.e. the lamps are operated at maximum luminous flux.

The new OSRAM FQ® lamp is not only 40% slimmer, it's 50 mm shorter – ideal for ceiling modules

With the FQ® system from OSRAM there is now no longer any need for the costly and complicated "rucksack" arrangements which are so difficult to install. Now that the overall length has been reduced by 50 mm, these new lamps fit perfectly in standard 60 and 120 type louvre ceilings.





In the past, manufacturers of recessed ceiling luminaires had to resort to costly "rucksack" arrangements. FQ® lamps are 50 mm shorter than T8 lamps, which makes installation a great deal simpler.

Bright direct/indirect luminaires with the FQ® system

FQ® fluorescent lamps with their particularly high luminous intensity allow designers to create modern direct/indirect luminaires

All the benefits of the FQ® system: compact dimensions for small luminaires, maximum luminous flux for direct/indirect lighting.

Slim lamp, compact control gear

The new FQ® lamp and the ECG – the perfect combination

FQ® fluorescent lamps are operated with compact QUICKTRONIC® FQ®.

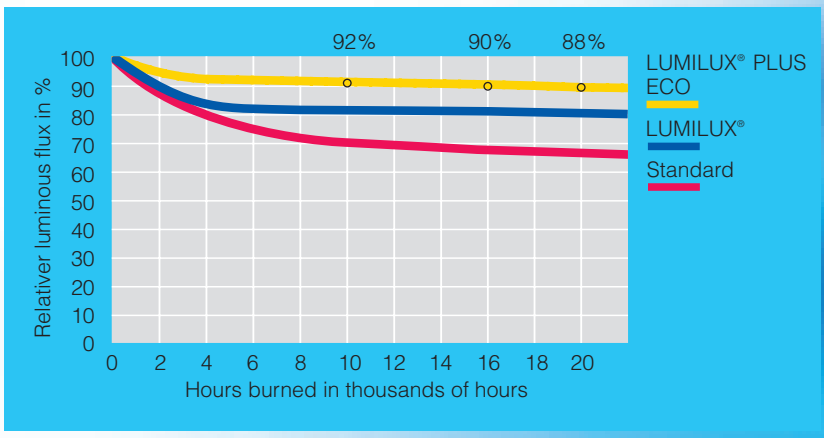
By carefully matching the technical data of the lamp and the electronic control gear, OSRAM can guarantee excellent quality and reliability. What's more, many years of practical use have shown that OSRAM electronic control gear has a very long life. Over 90% of OSRAM ECGs last more than 50,000 hours, which is more or less as long as the luminaire will be used.

The advantages of high-frequency operation at a glance:

- cut-off technology
- ENEC-10 mark indicates compliant lamp operation
- flicker-free ignition
- gentle warm start
- pleasant flicker-free light
- no humming
- long lamp life
- low power losses and low thermal output
- automatic safety shutdown of faulty lamps so no flashing or flickering
- compliance with European standards for safety, operation and EMC
- suitable for use in emergency lighting systems to DIN VDE 0108.

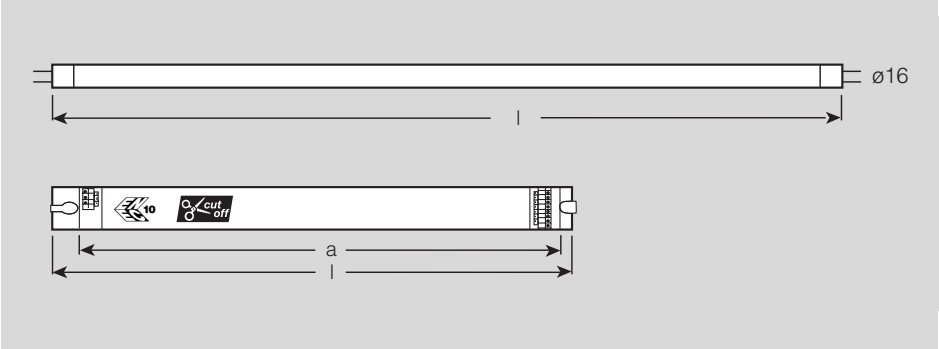
LUMILUX® PLUS for longer service life

The LUMILUX® PLUS fluorescent material used in FQ® lamps represents a further development of the highly successful three-band LUMILUX® coating. Lamps with this coating suffer only a approx. 5% drop in luminous flux over their lifetime (reduced from around 15%). They can be kept in use much longer because the planned and installed lighting level is maintained.



The smaller drop in luminous flux with the new LUMILUX® PLUS coating enables the lamps to be operated for much longer.

Technical data



Lamp	FQ® 24 W	FQ® 39 W	FQ® 54 W	FQ® 80 W
Rated luminous flux (25°C)*	1760 lm	3080 lm	4400 lm	6160 lm
Max. luminous flux (25°C)	2000 lm	3500 lm	5000 lm	7000 lm
Light colour	830 = 3000 K, 840 = 4000 K, 860 = 6000 K			
Colour rendering Index	1B	1B	1B	1B
Max. lamp length l	549 mm	849 mm	1149 mm	1449 mm
Lamp base	G5	G5	G5	G5

*) This value should be used in lighting plans in conjunction with luminaire efficiency measured at 25°C

QUICKTRONIC FQ®

Lamp reference	Length l	Hole distance a	Heigth
QT-FQ 1x24/230–240	280 mm	273 mm	30 mm
QT-FQ 2x24/230–240 old	280 mm	273 mm	42 mm
QT-FQ 1x24/230–240 (DIM)	360 mm	350 mm	30 mm
QT-FQ 1x39/230–240 (DIM)	360 mm	350 mm	30 mm
QT-FQ 1x54/230–240 (DIM)	360 mm	350 mm	30 mm
QT-FQ 1x80/230–240 (DIM)	360 mm	350 mm	30 mm
QT-FQ 2x24/230–240 new	360 mm	350 mm	30 mm
QT-FQ 2x39/230–240	360 mm	350 mm	30 mm
QT-FQ 2x54/230–240 new	360 mm	350 mm	30 mm
QT-FQ 2x24/230–240 DIM	423 mm	415 mm	30 mm
QT-FQ 2x39/230–240 DIM	423 mm	415 mm	30 mm
QT-FQ 2x54/230–240 DIM	423 mm	415 mm	30 mm

QUICKTRONIC® for FQ fluorescent lamps (T5, 16 mm dia.)

- Cut-off technology:
  – Optimum luminous flux at 35°C
  – Optimum lamp life
  – Minimal ECG losses
- ENEC-10 mark indicates compliant lamp operation
- Fully electronic hum-free control gear for OSRAM FQ (T5) lamps
- Optimised warm start, high resistance to switching transients
- Tested in accordance with general and safety-related requirements for ECGs to EN 60928
- Active harmonic filter to protect against mains pollution to EN 61000-3-2
- Radio interference suppressed to EN 55015 and DIN VDE 0875
- Immune to external noise to EN 61547
- Protective shutdown in the event of an overvoltage
- Integrated safety shutdown of defective lamps
- Approval marks:
- Failure rate: per 1000 hours 1–2‰ at a measuring point temperature of 70°C
- ECG life: 10% failure after 50,000 hours at a measuring point temperature of 70°C
- Can be used in emergency lighting to VDE 0108 (EN 60924 and EN 60928)
  – dc voltage range: 176 V to 254 V
  – ac voltage range: 198 V to 254 V
- For luminaires with F and FF or W and WW symbols to EN 60598/DIN VDE 0710