

Myths & truths about LED

What is actually true and what is not true when talking about LED tubes? Many propositions are circulating and this has led to some misleading rumours. We clear up some of the most frequently asked questions.

I have to rebuild the entire luminaire before installing LED tubes.

● False – In the vast majority of luminaires, it is fine to replace a fluorescent tube with a LED tube without any other measures. For special HF drivers and for AC tubes, you may need to do additional work, but in 9 out of 10 cases it is possible to change from standard to LED tubes.

If I switch to LED tubes, the CE marking does not apply.

● False - Since you don't do any harm to the luminaire, but only change the fluorescent tube, the CE marking* remains.

If I change from conventional fluorescent tubes to LED tubes I risk getting a worse light.

● False – Some LED tubes may have a slightly lower rating lumen output than equivalent fluorescent tubes, but since LED tubes have directed light, the light intensity and illuminance will still be similar or better.

LED tubes have a poorer lifetime compared to a conventional fluorescent tube.

● False – LED tubes have a significantly longer lifetime than the equivalent standard fluorescent tubes and better maintenance of the amount of light throughout their lifetime.

LED tubes have a worse CRI value than conventional fluorescent tubes.**

● False – The color rendering of LED lamps is similar to or better than fluorescent lamps.

LED tubes are not dimmable.

● True – With very few exceptions LED tubes are not dimmable.

Good to think about!

How do I know if the lighting fixture needs to be adapted to work with LED tubes?

If the luminaire is equipped with a starter, a magnetic ballast is used and all T8 LED tubes for CCG (magnetic ballast) will work. If the luminaire is equipped with a HF driver (electronic ballast), check that the relevant type of HF driver can be found in our published compatibility lists. This applies to both T8 HF and T5 HF.

In that case, what kind of adaptation might be needed, is it enough to change the driver?

If the existing HF driver is not compatible, the solution is to change to a compatible HF driver or to change the luminaire to 230V AC, in other words, directly to an electrical outlet without a driver. This can be done for both T8 and T5 luminaires.

*The CE marking shows that the product meets EU standards for safety, health and environmental protection.

**CRI indicates color rendering.

Fast refund and reduced electricity consumption

Demand from the EU Commission: Reduce electricity consumption by one tenth

In order to reduce energy prices in Europe, the European Commission has demanded all European companies and households to reduce their electricity consumption by one tenth. Today lighting accounts for about 20% of the world's electricity use and there is a lot of energy saving to be gained here. With an upgrade to energy-saving LED and control that ensures that lighting is not left on unnecessarily, you can easily contribute to reduced electricity consumption in your premises - and at the same time save money.

Payback - 3 months

Energy prices are higher than ever and 2023 fluorescent tubes will be phased out. Switching to energy-efficient LED has never been as relevant and profitable as now. One of our customers in Blekinge, with large business premises, will now upgrade 1,600 fluorescent Long Life tubes to LED tubes with direct replacements. With energy prices of SEK 3/kWh, we calculated that the payback period is just under three months!

	Long Life tubes	LED tubes
Investment costs	200 000 SEK	240 000 SEK
Energy consumption, kWh	326 480 kWh	128 260 kWh
Operating costs/year	989 157 SEK	401 104 SEK
CO ₂ emissions/year	24 830 kg	9 765 kg
Payback time switching to LED	2,8 months	

Our fluorescent Long Life tubes have about the same lifespan as LEDs, but are half as energy efficient. In large industries and premises like this, a switch to LED is quickly noticeable on the electricity bill.

Energy-efficient lighting in schools frees up money for other things

In a 2022 survey of lighting in Sweden's schools, it was found that nearly 6 out of 10 schools still have fluorescent lighting*. There are great opportunities to save energy here. A medium-sized school can be assumed to have a total of 700 fluorescent tubes in the building. With a direct replacement of fluorescent tubes to LED tubes, the school would almost halve the lighting's energy consumption and at the same time get better light. With the prevailing high electricity prices also mean that the payback period is under a year, calculated at SEK 3/kWh.

	Standard tubes	LED tubes
Investment costs	66 500 SEK	154 000 SEK
Energy consumption, kWh	63 000 kWh	28 500 kWh
Operating costs/year	200 083 SEK	90 393 SEK
CO ₂ emissions/year	4 814 kg	2 165 kg
Payback time switching to LED	10 months	

LED tubes are more expensive to purchase than standard, but with their high energy efficiency and a lifespan of up to 5 times longer, an upgrade to LED quickly pays off. Add that LEDs do not contain mercury and you quickly halve your carbon footprint.

We make your lighting energy efficient!

Contact us for a free inventory of premises, as well as an energy calculation of possible energy, CO₂ and cost savings you can achieve with new lighting.

*Read more about Aura Light's mapping at www.auralight.se