

3F LED Technology

The real revolution is simplicity



**3F LED Technology.
Easy.**

Introduction

The LED is one of the most extraordinary inventions of recent times, and not just in the lighting sector. If you needed any evidence that interest in this technology is huge, just try searching for “LED” in Google – you will get nearly half a billion (496 million) hits! Unfortunately, there is an equal amount of confusion surrounding the topic.

3F Filippi has put more than 60 years of experience in the field to work alongside its designers to create its new LED product line. And the difference is plain to see: in a market full of efficient light sources which is evolving and developing from one day to the next, 3F Filippi has decided to equip its luminaires with sources manufactured using the highest quality components available.

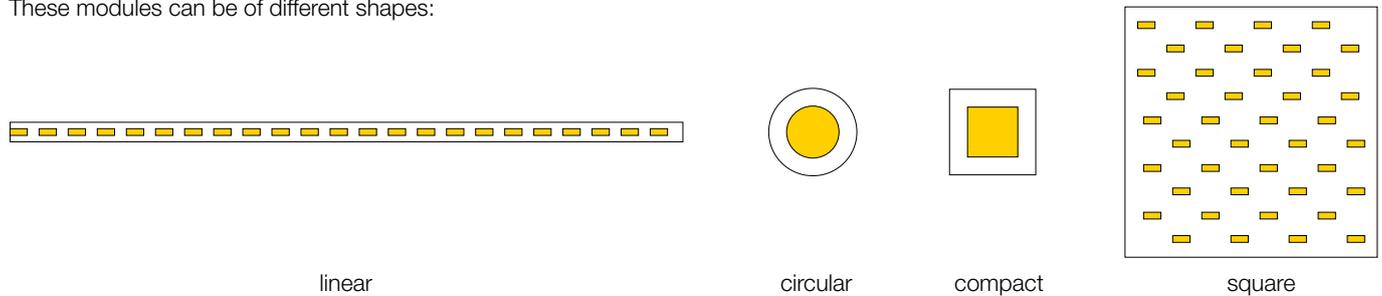
Unfortunately, one of the most common problems for lighting designers is the lack of a common standard to regulate how lighting companies advertise the performance of their products: these “tricks” hinder comprehension and comparability of products. For this reason, we have decided to shed light on the matter with this guide, by explaining LEDs and their most important characteristics simply yet exhaustively. Another step taken by 3F Filippi in this direction is the voluntary certification of our product data through compliance with the Assil Quality project (see specific chapter for more information).

It is important to remember that the original technical features of LED lighting will change according to the operating conditions of each luminaire, and as such, it is incorrect to assume that every LED has the same characteristics in terms of service life, decrease of luminous flux (L) life expectancy (B), etc.

What is an LED?

LEDs are electronic components which emit light when an electrical current passes through them – the name, indeed, is an acronym for Light Emitting Diode. This is possible thanks to the optical properties of some semiconductors which emit photons when current is passed through them.

When a group of LEDs are installed on a printed circuit, this is known as an LED module. These modules can be of different shapes:



What are the advantages of 3F LED technology?

Illuminotechnical

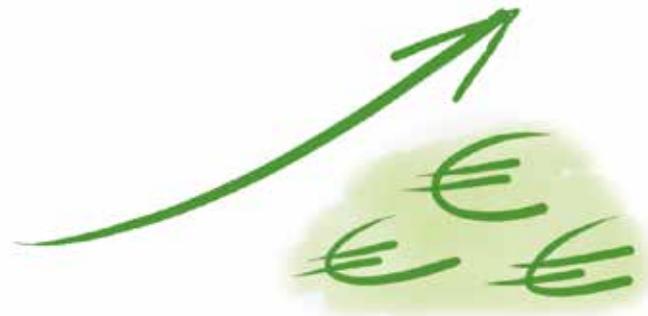
- High luminous efficiency LED, up to 200 lm/W.
- Immediate on.
- Control of the light flow, directed light.
- Absence of IR and UV components throughout the entire spectrum.
- Very long lifetime, > 50,000 hours (professional range).
- Lower power than traditional light sources with equal light output.
- Increased brightness.
- Adjustment of luminous flux from as low as 1%.

Environmental

- Mercury free.
- Lower CO₂ emissions thanks to lower power.
- Less use of polluting materials in LED production.
- Less heat lost to the environment.

For the customer

- Reduction of energy costs.
- Reduction of maintenance costs.
- Fast return on investment.



Comparison chart between luminaires of the same length

	Total luminaire of luminaire	Total energy consumption	Annual saving
2x58W Fluorescent Wiring low-loss EEI=B2	141W	€102	0%
2x58W Fluorescent Wiring EEI A2 electronic wiring	109W	€78	-24%
2x30W LED wiring ballast	68W	€49	-52%
2x22W LED electronic ballast	50W	€36	-65%

Table supposes electricity cost of €0.18 per kWh and total annual operation of 4,000 hours.