

# Downlights



EXCELLENT LIGHTING, SAVING ENERGY

# New generation LED downlights

Recently D1-D2-D3 LED downlights were fitted with the new chip-on-board technology – and the series got a true efficiency boost. Result: an even more efficient luminaire with a lower price tag.



*The optical and thermal design was optimised with the chip-on-board technology.*



D1



D2



D3

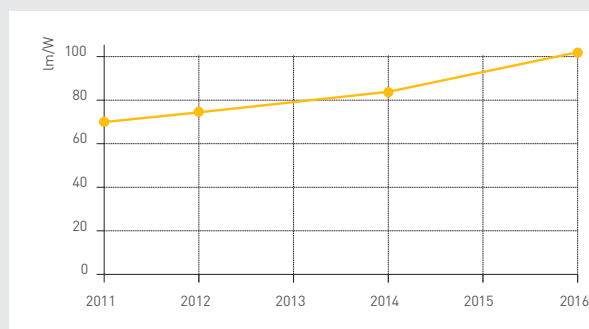
## Chip-on-board

LED downlights – previously fitted with an LED module – have recently been upgraded to the so-called chip-on-board (COB) technology. With COB technology several LED chips are placed together on one substrate, are interconnected electrically and are covered with a layer of phosphorus (in order to convert the blue LED light into white light). This light source is a whole lot more efficient and compact than the previous LED modules.

## Efficiency boost

On the outside no changes can be observed, but on the inside of the downlights the new technology results in quite a revolution. The new light source not only boasts higher efficiency, but also allows to optimise optical and thermal design. In practical terms we see that:

- the specific luminous flux (lm/W) increases by **20 to 30%**;
- the LLMF (Lamp Lumen Maintenance Factor) goes **from 70 to 90%**, after 50,000 h;
- depending on the version the cost price drops by **10 to 25%**.

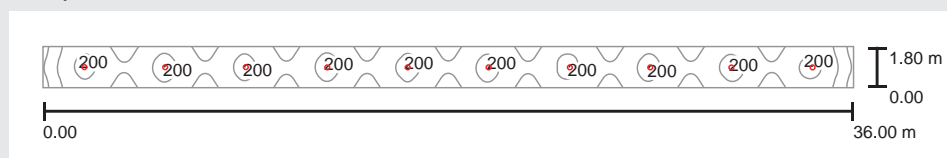


*Development of the specific luminous flux of D1 (1000 lm, 4000K)*

## Extensive range

The update changes nothing to the extensive choice of options within the range. Specular or satin-anodised reflector, white (RAL 9003) or aluminium white (RAL 9006) housing, smooth or superimposed trim. In addition, all downlights can be fitted with a daylight sensor or an LED module for emergency lighting. Versions with higher colour rendering are also available upon request, eg. for retail applications.

## Example:



*In a corridor measuring 36 by 1.8 metres, 10 luminaires are sufficient (spacing distance 3.6 m) to achieve a lighting level of 175 lux for a specific power of 1.87 W/m<sup>2</sup>/100 lx.*