

## Reviewed:

# LED

# DOWNLIGHTS

**That staple of the office and corridor, the CFL downlight, is facing serious competition from LED alternatives. Alan Tulla and Robert Bain put seven products through their paces**

**T**his month we have looked at seven LED alternatives to the ubiquitous recessed compact fluorescent downlight. These tend to be used in two areas: corridors and offices.

In corridors the illumination level is generally relatively low and burning hours are long. In offices it is more important to avoid glare. Generally speaking, to reduce glare you need a deeper reflector and more recess depth. Colour rendering is also likely to be more significant in offices. Some 4000K LEDs have a CRI of 70-80. Warmer LEDs usually have a better CRI but at the cost of lower efficacy.

Although LEDs are a completely different shape from CFLs, all the luminaires were instantly recognisable as a recessed downlight.

Lumiance has taken this one stage further and made the ceiling cut-out size the same diameter as that for a conventional downlight, so you can simply replace them one-for-one (assuming that the luminaire meets your other criteria such as light output and distribution).

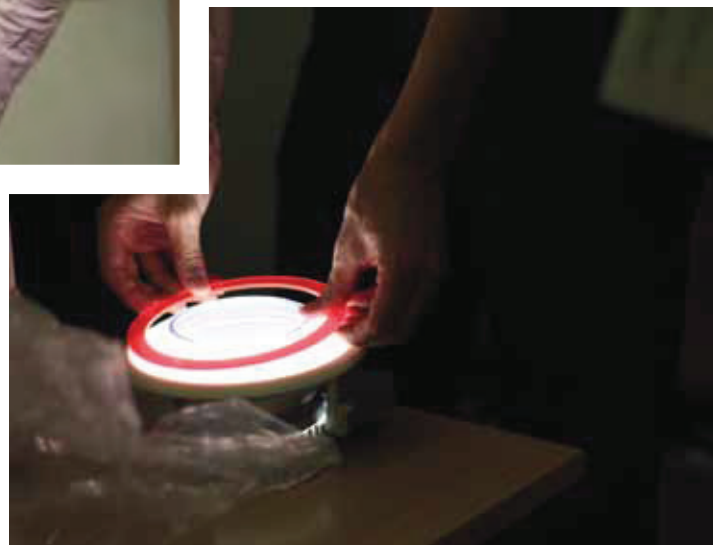
### Don't forget controls

If you are replacing luminaires, always consider how else you can save energy by using controls. All seven downlights here have a dimming control option. A presence detector in a corridor or meeting room can significantly reduce energy consumption, or if your installation has lots of daylight, think about controlling the luminaires nearest the windows.

Finally, we live in an imperfect world and fittings do fail from time to time. The long life claims for LEDs make guarantees particularly important.

One manufacturer here is offering a simple seven-year guarantee with (apparently) none of the usual caveats you see in the small print.

Most of these downlights are available in a number of sizes, so generally we have reviewed the most powerful option. Prices are indicative for a quantity of 50 of the unit tested.



**All the LED units we looked at were instantly recognisable as replacements for recessed CFL downlights**

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## PHOTONSTAR NEMESIS

This is a compact, well-engineered unit. The heatsink fins are deep and let a good flow of air pass through. Having the heatsink on one side and a remote driver means the mounting depth is only about 110mm. It has the highest efficacy of the seven we reviewed, at 99 lm/W. Couple this with the deep, specular reflector and you get a highly efficient, top performing unit at a decent price. The range goes from 15-41W. There is also a range of drivers, colour temperatures and colour-rendering options available, as well as decorative accessories.



**POWER 26W**  
**OUTPUT 2,584lm**  
**EFFICACY 99lm/W**  
**CRI >80**  
**PRICE £145**



**Highly efficient and well made**

## RZB PASCALA

The unique feature of this unit is the conical silver reflector – more reflective than aluminium, improving optical efficiency. Germany's RZB uses a patented manufacturing process to achieve the reflector shape. Coupled with LEDs, it is a very low glare unit with a UGR of less than 15. To avoid a 'darklight' effect, the white bezel is designed to just catch the light and give a circular corona around the edge. The matt black, heavy aluminium heatsink is one of the most finely machined we have ever seen. There is also a huge range of decorative accessories. However, all this quality and German engineering comes at a price.



**POWER 22W**  
**OUTPUT 2,000lm**  
**EFFICACY 91lm/W**  
**CRI 80**  
**PRICE £160**



**The engineer's choice**

## LUMIANCE INSAVER 175

The Insaver range of downlights from Havells-Sylvania's Lumiance brand has been designed to replace existing halogen or CFL downlights. The cut-out size the same as that for conventional units (75-175mm). You can therefore replace conventional units one-for-one and save a tremendous amount of energy and maintenance costs with little contractor labour. We tested the largest one which is a nominal 38W and 2,600 lm. It has a shallow 85mm depth and remote gear from Harvard. A low-glare option is available and this has a deeper specular reflector.



**POWER 38W**  
**OUTPUT 2,600lm**  
**EFFICACY 68lm/W**  
**CRI 85**  
**PRICE £145**



**Great for retrofits**

## CREE CR150-2000L

This fitting from Cree, newly available in a 2,000lm version, is beautifully made, with real attention to detail. But as with Cree's recessed ceiling product, which we gave a five-star review in November 2012, it's the quality of the light that really makes it stand out. The CR150 has the highest colour-rendering index of all the downlights we looked at, thanks to Cree's TrueWhite technology. OK, so several of the other products are more efficient, but what do you want for £75? An integral heatsink keeps the depth to less than 100mm. The CR150 is available in the UK from Rehmat Lighting and comes with Cree's five-year warranty.



**BEST OVERALL**

**POWER 27W**  
**OUTPUT 2,000lm**  
**EFFICACY 74lm/W**  
**CRI 90**  
**PRICE £75**



**Great quality at a great price**