

What's in store for LEDs?

LEDs are getting more than a cursory glance from retailers with some big-name chains opting to fit them in their stores. **Angeline Albert** asks some major retailers if they are now ready to fully embrace the technology



“The biggest thing for retailers is having the confidence to convert to LEDs”

Much has been written about the rapid development of LEDs and their energy-saving credentials but, rather than racing to install them in stores, some retailers have been reluctant to do so. In some cases, they still believe ceramic metal halide represents the pinnacle of retail lighting; in others, they feel the economics still don't stack up.

At the end of last year, however, John Lewis took a step away from ceramic metal halide by installing 100 per cent LED lighting in its newly-opened Ipswich branch. In November, 500 LED modules were fitted throughout the store, including all non-trade areas. Barry Ayling, John Lewis' lighting design manager, explains why the retailer made this move now.

“The biggest thing for retailers is having the confidence to convert to LEDs,” says Ayling. “Five years ago there were lots of LED expectations that weren't met. Retailers had their fingers burned. John Lewis was testing lighting but it was not about any race for LEDs.” He adds: “Eighteen months ago, the cost of LEDs was prohibitive. Only this year did they become a viable option.”

To find a lighting solution while respecting the organisation's culture, research was key. LEDs were fitted after pilot tests of

Making the switch
John Lewis' Ipswich branch was fitted out entirely with LEDs when it opened last November

luminaires took place, as part of an 18-month process at John Lewis stores in London's Oxford Street and Westfield Stratford City. The retailer chose to install luminaires supplied and adapted by Edge Lighting, incorporating GE Lighting's Infusion LED modules.

Its lighting criteria includes a colour temperature requirement of 3000K warm white. As well as meeting those specifications, Ayling says he wanted good light control via a 15-degree narrow beam and sought something that would be easy to upgrade.

“We opted for GE Lighting's second-generation range of LEDs because, not only did it meet all of John Lewis' lighting criteria, it had a twist and lock capability, which I wanted to embrace”, he says. “It means we can re-lamp easily and just replace the LED chips.”

Ayling has already decided to replace the Ipswich store's second-generation chips with a third-generation variety this month, following GE Lighting's rapid development of its Infusion modules.

He explains that John Lewis' LED efforts are motivated by a corporate social responsibility (CSR) goal to reduce energy

consumption by 20 per cent in 10 years. The lighting average benchmark across the John Lewis business is 30W/m², based on ceramic metal halide lights, but the equivalent figure for the LED store is just 10W/m². Once the third-generation chip is installed, Ipswich's lighting benchmark will be 7W/m².

In terms of its lighting strategy, John Lewis says no LED roll-out is scheduled for its stores; they will be "assessed individually and a business case will be drawn up for each" before any lighting changes are made".

"Ipswich is a line in the sand as to whether, as a business, we will continue with LEDs or stick with ceramic metal halide", says Ayling. Revealing his satisfaction with the Ipswich store so far, however, he adds: "The shop staff, customers, procurement and CSR team are happy. LEDs are working for us. LEDs would make a 15-20 per cent energy saving across the business."

John Lewis isn't the first retailer to take this step. Next opted to install LEDs in almost 10 per cent of its stores last year, as part of a £4 million order.

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Henry Singleton, Next

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Next replaced 35W, infra-red coating (IRC) dichroic lamps with 90,000 LEDs in 60 stores between June and December last year. Projection Lighting's AlphaLED luminaires were installed as perimeter wall replacements after pilot tests were conducted in six UK stores. As part of its £4 million order, Next also installed in its stores Luxonic luminaires fitted with Xicato LED modules and GE Lighting's Infusion module.

Henry Singleton, a regional project manager at Next, says the retailer gained several benefits from introducing LEDs to 60 stores: "LEDs more than matched IRCs in terms of light quality. Other benefits include the maintenance considerations, which, in the past, had to be factored in quite heavily. Now with the LEDs, we get 5-10 years without maintenance. From the changes we have made, we have seen a 30-40 per cent energy saving".

Despite these benefits, cost considerations resulted in compact florescent lamps (CFLs) remaining in the sales areas of the 60 stores, making up 40 per cent of lighting in each outlet.

"CFLs are a fairly efficient fitting. For us, it wasn't a cost-effective solution to replace all lights in the stores with LEDs," Singleton explains.

Next, which has 536 UK stores, is adopting a phased approach to LEDs and is planning to have 60 more stores installed with LEDs by mid-2013.

The energy-saving potential of LEDs has also been a big motivator for Tesco, which has fitted 100 per cent LEDs in its Express store in Loughborough. Opened in September, LEDs are used throughout the site including in the store's chiller rooms and car park. ▶



Above and below The second half of 2012 saw Next install 90,000 LEDs, including perimeter wall replacements, in 60 of its outlets after having carried out pilot tests such as the one below

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Perimeter fitting – AlphaLED Basic 115, supplied by Projection Lighting

42W PL Downlight – Astral L S3142, supplied by Projection Lighting

Trough spotlight 1500lm – Luxonic will supply in future projects

Twin Gimbal – 2 x 1300lm AlphaLED Twin Gyro LED 111, supplied by Projection Lighting

SPORTING CHANCE



The lighting scheme for the Nike House of Innovation at Selfridges, London, was completed in August 2012 by Paul Nulty Lighting Design; LEDs were used in 30 per cent of the pop-up store

“We are at the tipping point in terms of LEDs’ viability but it is a minefield”, he says, adding: “I may compare lux level but the lumen output is harder to find out because all the components of the luminaire contribute to it. The overall performance of the LED fitting is tough to determine because the individual chips differ so much in terms of colour temperature. The same luminaire can perform very differently. At the moment, it’s like the ‘wild west’ – there are lots of figures out there but TK Maxx needs to research this.”

In January, TK Maxx sought an external lighting designer to lead a year-long research project to compare T5 fluorescents, Philips Elite, Philips Evolution products and other luminaires on the market. It installed Philips Elite LEDs in its Brixton store in South London and expects to start piloting LEDs in other stores later this year.

The commitment issue

Retailers’ comments suggest that while high-street retailers value the benefits of LEDs, some are further down the road than others. Cost and research results are two factors dictating whether or not a retailer will fully commit to LEDs.

Dixons Retail uses LEDs for downlights and signage in its stores. Colin Braidwood, energy manager at Dixons Retail, says: “We have a tight payback criteria we work within for our annual property-development portfolio, and LEDs certainly have their place now. As the technology improves and confidence in performance is proven, it then can only come down to cost.” He adds: “If the business case stacks up in this last area, the tipping point will truly be reached and wider adoption will be inevitable.”

As with everything in this sector, once LEDs are proven to be financially viable, it won’t be long before they are fitted in stores everywhere. And judging by comments from the sector, that moment seems to be coming sooner rather than later. ■

Tesco expects the store’s LED lighting to make a 30 per cent energy saving, compared with that of Express stores fitted with fluorescent luminaires. Emily Sjölander, environmental programme manager at Tesco says: “If this delivers the energy savings we have estimated, it is likely that we would replicate this lighting system at other stores.”

Although Tesco has not confirmed whether it will roll out LEDs in all its UK stores, it will install LEDs in the refrigerators of 900 Tesco Express stores by the end of 2013.

While some retailers have embraced LEDs, others are more reticent. Clothing retailer TK Maxx uses T5 fluorescents in its 230 stores and began using ceramic metal halide luminaires four years ago “to give its perimeter walls some punch,” according to Alan Culverhouse, its creative operations director. He says comparable LED performance figures are needed before TK Maxx can trust LEDs.

Timeline of a technology

Both John Lewis and Next use GE Lighting’s LED Infusion module. The timeline shows how the lumen packages and efficacies have improved over time



*Efficacy numbers are quoted at the highest drive current setting for each module and are the highest efficacy example (usually 840 colour) in each range.