

# Dialight's DuroSite™ Series LED Lighting Fixtures

## Award-winning ExCeL London Exhibition & Conference Centre chooses high quality LED lighting to meet energy efficiency targets

In January 2010 the ExCeL London management team started investigating how they could improve their lighting in order to achieve uniformity throughout the central boulevard of the exhibition and conference centre. At almost half a mile in length this is the main thoroughfare and public space used by all events. The solution that ExCeL chose for this critical space not only improved the light quality, but reduced operating and maintenance costs while also improving energy efficiency.



### About ExCeL London

ExCeL London, the international exhibition and conference centre, is the result of a £300m investment in providing world-class facilities for London - Europe's premier business and leisure destination - and is the Capital's largest and most successful exhibition and conference centre. Hosting eight of London's top ten trade shows, it has won many accolades including the 2010 World Travel Awards title as the World's Best Meetings & Conference Centre. Since opening in 2000 the venue has hosted over 2000 events and welcomed over 5 million visitors from over 200 different countries. [www.excel-london.co.uk](http://www.excel-london.co.uk)



### The lighting challenge

Engineering and Energy Manager, Chris Barnes explains how the need for improved lighting came about: "During the Phase Two expansion of ExCeL we used ETFE roofing above the new section of the central boulevard to allow us to harvest a lot of daylight. The Phase One section was still lit by 400W high pressure sodium lamps which produce variable colour rendering as they age, so it looked dark by comparison. We specifically wanted to improve the lighting so that visitors could flow through the two areas without noticing a big difference in lighting conditions. Lighting is a key part of the user experience of this building and, as we couldn't cut holes in the roof of the old section to let in daylight, it had to be an internal solution to matching the light quality."

Additionally the ExCeL management team wanted to meet energy efficiency targets as part of their award-winning policy to continuously evolve and implement practices that deliver economic security, social and environmental benefits. A key part of this policy is to put a sustainable business strategy in place for lighting and other essential elements of its direct in-house operations.

## How the challenge was overcome with LED lighting

ExCeL London agreed to a trial of eight DuroSite™ Series LED High Bay lights from applied LED technology specialist Dialight. The 150W LED High Bays were used to replace 400W sodium lamps on a one-for-one basis and delivered more than double the lighting level taking the measured lux from 100 to 220. On the basis of this result the installation was extended to a total of 194 LED High Bay lights throughout the central boulevard.



ExCeL London's central boulevard

Chris Barnes had trialled other LED lights and says: "Dialight's High Bay suits the purpose for the building; it looks nice, it's aesthetically pleasing, it ticks all the boxes. For example, the boulevard is a public area and when there's a power cut the HPS can take 2-3 minutes to come back on, whereas the LED is back on instantly. Our event managers noticed that and they like it, so now there's a push to get more LEDs installed." He adds:

**"With LED what you see is what you get – it's got a far better colour spectrum than HPS – and that's important for events like our big fashion shows."**

Of the installation process carried out by Elite Electrical he comments: "Considering our ceiling height is 10 metres, it was very easy – four guys, six nights on two 'magic carpets'. In fact the success of the boulevard prompted us to look at other areas like the dock edge walkway which was a big challenge as it relied on light from the building for illumination. We've now got 25 LED High Bays along the edge of the building, so the walkway is much safer and people are no longer worried about using it; not only that, but we can now turn off the building lights at night and that's delivering 78% in energy savings."

ExCeL London's management team takes great pride in having one of the greenest and most energy efficient exhibition centres in the world. Adrian Corthine of Elite Electrical notes "By replacing the high pressure sodium lamps with Dialight LED High Bays they will potentially save close to 700kW of energy per day equating to over 250MW of energy per year. On top of that the LED High Bays carry Dialight's 5-year warranty which means they will also save greatly on maintenance."

## Looking ahead

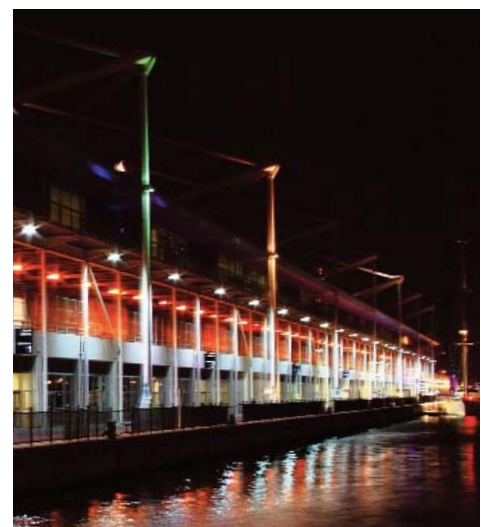
Further plans now include fitting Dialight LED High Bays throughout ExCeL's 46 conference halls. For Chris Barnes, the main issue is light quality while the reduced energy, maintenance needs and carbon emissions are all added bonuses to the lighting efficiency. As he says, "Our workshop's immediate reaction to the LED was 'Wow!' I'd describe it in two words and say the High Bay is 'selling itself'."

## Installation Snapshot

- ▷ Central boulevard almost ½ mile long
- ▷ Number of fixtures – 194
- ▷ Replaced – 400W HPS with 150W LED High Bay
- ▷ Illuminance level – moved from 100 to 220 lux
- ▷ Mounting height – 10 metres
- ▷ Energy reduction – 70%

## Dialight LED benefits

- ▷ 5-YEAR warranty = maintenance free
- ▷ 80% lumen maintenance after 60,000 hours
- ▷ 77lm/w certified
- ▷ Significant energy savings
- ▷ Instant on/off
- ▷ Superior light quality
- ▷ IP66 rated to withstand dust and moisture
- ▷ Polycarbonate glaze
- ▷ No heat or UV
- ▷ No hazardous substances



LED Fittings on the dock edge walkway contrasts with the HPS light on the level above

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