DE MONTFORT UNIVERSITY

DMU INVESTS IN LED FOR SUSTAINABLE CAMPUS DEVELOPMENT

Dextra LIGHTING

ABOUT THE CLIENT

With a student base of approximately 27,000, Leicester's De Montfort University (DMU) is the UK's sixth fastest growing educational and research establishment and is amongst the 150 most promising "young" universities internationally.

Its success has been propelled by a continual reinvestment into updating and expanding its facilities, exemplified by the recent £136m Campus Transformation Project targeting its city centre site. The university has high hopes for the project, predicting that it "will, when complete, provide DMU with one of the finest campuses in the country".

The centrepiece of this project has been the replacement of the former Fletcher building with the state-of-the-art Vijay Patel building, home to the faculty of Arts, Design and Humanities. As the newest addition to the university's long line of innovative and sustainable building designs, LED lighting was set to be a crucial part of the project, ensuring that the investment would yield maximum returns on investment in terms of energy and maintenance costs whilst reducing the university's carbon footprint.

Dextra Lighting has had a fruitful and ongoing relationship with DMU and partnered electrical installers, Lowe Electrical of Leicester, helping the university achieve its ambitious sustainable development goals quickly and efficiently. Once again, Dextra Lighting were appointed as the sole suppliers for the project given its proven track-record for fast delivery times, flexible bespoke capabilities, and its sector-specific product range and expertise, the new lighting solution was guaranteed to minimise energy consumption whilst providing a high-calibre aesthetic suitable for modern educational environments.

THE BRIEF

The project focused on the building's Food Village; a place where students can enjoy an eclectic range of cuisines from around the world, relax and socialise throughout the day. Having received the architect's CAD drawings for the dining and kitchen areas, the Dextra Lighting team began to work closely with the appointed consultants and installers, to deliver the university's aesthetic vision whilst fulfilling all functional, safety and energy-efficiency criteria to the highest standard.

The large open-plan dining area was designed for a capacity of up to 350 students, featuring a number of self-service, kitchen and buffet stations, surrounded by an extensive seating area. The challenge here was to provide appropriate lighting for both front and back of house areas, supporting food preparation, service and dining equally.

"All products used in this project are manufactured with the latest, LM80-verified Lumileds, offering 90% LED lumen maintenance at 60,000 operating hours"

Front of House / Dining Area – Capo LED Pendant Luminaire & Protec LED Downlight

The Capo LED is a popular choice for clients taking a more architectural approach to lighting. The luminaire's design combines efficiency and form, offering various elements of visual interest such as its high-quality anodised spun rear housing, opal refractor and translucent collar (available in different colours), making it adaptable to a range of architectural concepts and corporate themes.

Its compact housing ensures that all dimming and emergency control gear, is neatly enclosed without compromising the look and feel of the luminaire's design.

For the Food Village's front of house area, the luminaire was provided in a 2992llm (3847llm also available) version featuring a highly efficient Lumileds chip-on-board source designed to provide a similar performance to 70W HID equivalents, whilst halving energy expenditure and eliminating the need for frequent lamp replacements.

Luminaries were suspended using three-metre cables attached to the top of the ceiling which were supplied to facilitate installation.

The versatile luminaire is typically used for both accent and ambient lighting and was selected to work alongside the Protec LED downlights, adding a softer, less direct light above the dining tables for a more relaxed atmosphere.

The Protec LED downlight on the other hand, was installed on suspended rafts of varying shapes and sizes hovering above the service points.

As one of the most versatile luminaries in Dextra Lighting's extensive product range, it can be customised with a number of options, bespoke bezels (for existing ceiling cut-outs), interchangeable reflectors and colour attachments that can be easily replaced post-installation, to adapt to changes in colour scheme and room layout.

DALI (Digital Addressable Lighting Interface) and Touch-Dim dimming options and 3-hour maintained and self-test emergency are also available with this range to meet specific requirements.

For a more intense and focused illumination in the service points, the Protec LED was supplied in a 2000lm (Llm?) output with specular reflectors, offering a crisp and narrower distribution as well as raising the lux levels in the targeted areas.

Furthermore, the Protec LED can be supplied with IP44 covers that can be silicone-sealed for bathroom applications, or manufactured to comply to BSEN 12464 glare limits for areas where monitors are in use.

The luminaire is designed for flexible and easy installation featuring a four point, self-clamping spring bracket and is suitable for plasterboard, mineral fibre and metal tile installation.

Altogether, the Protec LED has allowed DMU to maintain a high-level finish and performance whilst adhering to its commitments to the environment.

Back of House (Kitchens & Offices) – MODLED Office & IMPR LED Recessed Luminaires

The IMPR LED's sturdy steel housing, ABS frame and polyurethane gasket, provided an IP65-rated solution ideal for the kitchen's more demanding conditions, offering all the energy-efficiency and low-maintenance advantages of high-quality LED.

Its advanced optic panel offers excellent diffusion and high LORs whilst keeping light transmission as high 93%. In combination with its Lumileds LED source, these optics allow the IMPR LED to perform comfortably above L2 efficiency recommendations at between 100 to 120Llm (Luminaire-lumens per Watt) depending on output.

To achieve the CIBSE recommended light level of 500 Lux and uniformity for food preparation areas, a 6800lm variant was used, offering both task appropriate lighting conditions and comfort for staff.

Available in 3 different body sizes and a choice of outputs ranging from 3500lm to 15200lm the luminaire is adaptable to a variety of spaces and lighting requirements. Compatibility to most mainstream dimming options is also available with this product and can be installed alongside standalone sensors for presence and daylight detection to maximise energy savings.

Purpose-built for office applications, the MODLED Office allowed visual clarity and comfort to be achieved while minimising energy and maintenance costs. With its high-performance LED source and dual-optic design consisting of a central microprism optic and high-transmission diffuser, the luminaire balances glare control with efficiency allowing optimal light intensity to be achieved using cost-effective luminaire spacings as wide as 3m by 3m. The MODLED Office therefore offers compliance with ECA, L2 and BSEN 12464 with optimum performance.

Using a combination of 4400lm and 5500lm output versions, each office met the 400 Lux required and BSEN12464 glare limitations for both the 3000 candelas per square metre above 65 degrees and UGR19 for areas where computers are in use, whilst consuming approximately 60% less energy than a typical HID or fluorescent installation.

The MODLED Office is available in a wide selection of outputs ranging from 1900llm to 7422llm across 2 body sizes, lay-in or pull-up installation formats for different ceiling types and integral emergency, dimming and sensor control options to maximise energy savings.

FEATURED PRODUCTS

CAPO LED

PROTEC LED

MODLED OFFICE

IMPR LED

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