



WOODRUSH COMMUNITY HUB

HIGH PERFORMING ACADEMY INVESTS
IN HIGH-PERFORMANCE LED LIGHTING
FOR NEW DEVELOPMENT.

Dextra
LIGHTING

ABOUT THE CLIENT

Impressed by Dextra Lighting's successful projects in the region, Woodrush High School invests in a selection of precision-engineered LED luminaires to future-proof its newly-built community hub and sixth-form centre.



Woodrush High School has held a reputation for excellence over the years, consistently achieving Ofsted awards of "outstanding" in all areas of provision. To continue to offer its high-quality service to a larger number of students, the academy needed to expand its facilities in a sustainable manner, by using energy-efficient technology and opening its doors to the paying public.

The Wythall-based Academy is not alone in facing the challenge of balancing the provision of high-quality educational facilities with continuous budget cuts in the public sector. Despite this, funding opportunities can be created when development plans coincide with various government incentives targeting the financial and environmental sustainability of public services.

Nowadays, energy-efficient lighting, such as LED, plays a central role in securing funding for schools and universities, by ensuring eligibility to financial schemes such as the Salix Energy-Efficiency Loans, and supporting Ofsted-rated

Outstanding academies (or schools with pupils performing above the national average) such as Woodrush, in their application for expansion projects from the Education Funding Agency. Eco-friendly lighting also allows schools to benefit financially by improving its ranking in the government's CRC table. To successfully obtain funding, project managers in this sector need to demonstrate how the new lighting will,

- significantly reduce energy consumption
- improve the facility
- meet all compliance criteria
- offer value for money

With social enterprises such as the Woodrush Community Hub, it is also important to show how energy savings and other returns on investment, will be re-invested in other areas of service.



THE BRIEF

Woodrush High School, invested a total of £2m for the development of a state-of-the-art multi-purpose facility, offering a sixth-form centre with teaching and meeting spaces, a youth and community centre, café, gym, dance studio and the relocated Wythall Community Library all under one roof. The new lighting was to illuminate all these areas and support a diverse range of tasks and activities, whilst optimising the energy performance of the building.



By opting for LED, the school is able to benefit from average reductions in power load of up to 60% compared to HID or fluorescent alternatives, which will quickly convert into financial paybacks. The durability and reliability of the high-quality Lumileds LEDs used in Dextra Lighting's product range also ensure that maintenance costs of each installation is kept to a minimum, resulting in further savings and fewer disruptions to service for the school.

Dextra Lighting was given full responsibility to deliver a high-specification lighting design that was at once modern, vibrant and green. To achieve this goal, the new installation was to comply with Part L and SBEM energy-efficiency requirements and adhere to CIBSE Lighting Guide 7 (LG7) design criteria and BSEN12464 glare limitations, to allow for a comfortable and flexible use of portable and fixed computers in dedicated areas of the building.

In addition to the complete design and delivery service, Dextra Lighting was to assist local contractors, at both the installation and commissioning stage.



THE SOLUTION

Lobby / Reception & Balconies – Capo LED Pendant Luminaire.

The Woodrush High School project is one of the first to successfully incorporate the Capo LED in its design. Combining efficiency with elegant form, the pendant luminaire's rear housing is manufactured in anodised spun aluminium, and is framed by a translucent collar, available in a range of colours, giving designers a host of decorative options to enhance, and harmonise with, the building's architecture and decor. The luminaire's attractive opal polycarbonate refractor offers efficient distributions suitable for both ambient or accent lighting.

In the lobby and reception area, a 3500-lumen option was supplied in a 4000k colour temperature to provide a gentle and inviting welcome to the centre. At this output, the Capo LED performs at an impressive 126 luminaire lumens per watt, comfortably meeting Part L energy requirements for the area. The luminaires were installed with DSI dimming drivers and controls to offer flexibility to adjust the lighting when needed.

On the balconies, DSI dimming functions and compatible sensors from Dexsors Reacta range, allowed the luminaires to dim in conjunction with daylight offering further savings.

Installation was kept time and cost effective by supplying the luminaires with suspension kits, which facilitated fitting using durable three-metre White Flex suspension cables.



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“The lighting has been a significant aspect of the building design and certainly contributes a great deal to making the development a vibrant and modern space.”

Woodrush High School

THE SOLUTION

Primary and Secondary Lighting for Lobby, Social Areas, Library & WC Facilities – Protec LED Downlight.

A continuous run of the versatile and efficient Sequent LED luminaires was fitted across the wide open area of the departure and arrival corridors. As this was an area of high passenger traffic, the Sequent LED was chosen for its innovative design for rapid installation. Once its robust extruded anodised aluminium trunking system had been suspended (surface mounted version also available), the gear trays were fixed into the trunking with a simple twist lock motion. A practical 7 pole wiring loom and plug and socket system also allowed for a quick and easy electrical connection, with the flexibility to set up dual switching, dimming and emergency control as needed.

The luminaire's high transmission polycarbonate optic offers excellent diffusion of its high-quality Lumileds LEDs and is available in 3 different beam angles to adapt to a variety of interiors.



Meeting & Teaching Rooms / Gym & Dance Studio – Modled Slim & Graduate LED Recessed Luminaires.

The versatile and efficient Modled Slim and Graduate LED Recessed ranges have been highly popular choices for consultants and contractors specifying for schools and universities nationwide. Their success is owed to the combination of their premium performance, attractive minimalist design and suitability for a variety of environments.

For the Woodrush School project, both the Modled Slim LED and Graduate Recessed LED were supplied in various lumen outputs and body sizes to suit each application. Due to the higher ceilings and lux levels required in the gym and studio, a 6,800lm version of the Modled Slim was used to provide uniform coverage and maximum visibility during sports and other physical activities. In the conference rooms and teaching areas, 3,800-lumen version of the Graduate gull-wing luminaire and a 3,500lm Modled Slim panel light, offered glare reduction far below the BSEN12464 3000 candela limit, to provide visual comfort for pupils using computers and projectors. 4,500-lumen variants on the other hand, were used in areas where compliance to BSEN12464 was not essential and wider, more efficient luminaire spacings were prioritised.

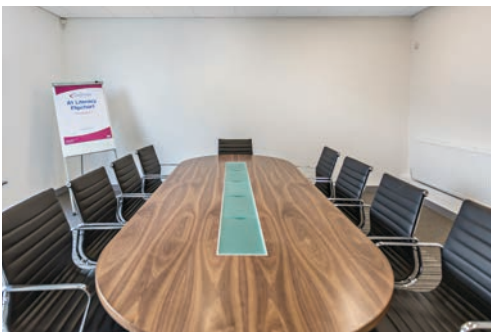
In addition to their wide range of lumen outputs, both these luminaires are available with a number of integral emergency lighting options, as well as dimming drivers with compatibility to a range of sensors. For this project, both luminaires were

offered with DSI and DALI dimming protocols to improve the energy efficiency of the building, making the most of the daylight entering from the large windows in the gym and classrooms and dim according to occupancy patterns.

The performance of the luminaires' high-quality Lumileds LEDs is also boosted by their advanced optic designs. The Graduate Recessed LED combines its prismatic opal diffuser with its aluminium gull-wing reflectors to offer high LORs and uniform distribution, whilst the Modled Slim achieves this using high-transmission panels for maximum visual comfort and excellent diffusion of the source.

The Graduate LED also offers an air-handling feature with a capacity of 25 litres per second where required. The luminaire is available in both lay-in and pull-up installation formats to suit different ceiling types.

Other luminaires used in this project include the durable, efficient and low-maintenance Hydra LED for storage areas and the attractive and versatile Amenity Decorative LED for stairwells and other circulation areas.



Customer Feedback,

"We were extremely pleased with the final design and development of our new Sixth form Facilities and Community Hub. The lighting has been a significant aspect of the building design and certainly contributes a great deal to making the development a vibrant and modern space."

– Woodrush High School.

FEATURED PRODUCTS



MODLED SLIM



GRADUATE LED
RECESSED



PROTEC LED



CAPO LED