THORN

case studies | office | industry | education | health | retail | indoor sport | outdoor sport
road & tunnel | cityscape | art & culture | transportation | transit areas & car parks | residential

About Thorn

Thorn Lighting in the UK is a brand of ZG Lighting (UK) Limited. Thorn is globally trusted supplier of outdoor and indoor luminaires with integrated controls. Our mission is to make great lighting easy for you. Our high performance lighting solutions can be found in many different applications such as sport, road, tunnel, cityscape, office, education or industry.

Founded in 1928, we have years of experience in providing lighting solutions. Leveraging our research and development facilities, we actively work to promote the correct lighting standards and are uniquely placed to combine the latest light source technology with our specialist expertise in optical and luminaire design. We focus on digitally-integrated solutions through the latest lighting controls technology. Our aim is to exceed the requirements of customers all over the world to become the trusted, reliable, professional long-term partner for cost-effective lighting.

We offer energy savings without compromising performance, efficiency and comfort. To achieve a lighting solution where aesthetics, optical performance, and energy consumption are all in perfect balance is at the core of what we do. Our lighting solutions are easy to specify, install, and maintain. Thorn is part of the Zumtobel Group.

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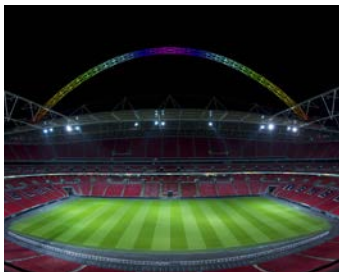
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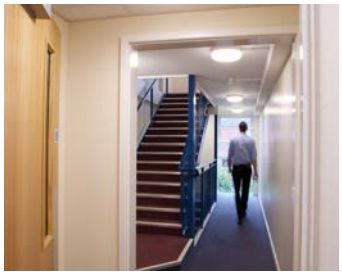
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Executive
Boxes
Level
6
LEVEL 6
ST JAMES' PARK


The
Magpie
Suite
The
Magpie
Suite

Newcastle United Football Club Offices, St James Park, Newcastle

Products: Quattro LED | BaseLED | D-CO LED Downlight

Newcastle United's St James' Park, the oldest football stadium in North East England, has been given the latest LED treatment.

A mixture of 19 high efficiency downlights and spotlights using solid state LEDs illuminate one of the executive boxes, while 151 lay-in Quattro LEDs cater for the main corridors on two upper floors. The lighting schemes reduce the running cost in electricity by approximately 30 and 50 per cent respectively.

LIGHTING OBJECTIVE

When Thorn's lighting team of Martin Thompson and Steve Gleghorn specified the executive box refurbishment scheme, they knew exactly what they wanted – an attractive appearance, high quality white light, together with occupant control and economical operation.

LIGHTING SOLUTION

As a result, they chose a mix of 12 Base LED 1000 and D-CO LED downlights, two Tidon LED gimbals and four Prospector LED spotlights. Furthermore, recessed Quattro LED luminaires were chosen to provide a high level of soft, low brightness illumination. Should the power fail, the executive box and corridors could quickly become an obstacle course. To help occupants locate the most appropriate escape route, 45 non-maintained Voyager LED Route and LED Area luminaires have been provided.

RESULTS & BENEFITS

The old installation consisted of CFL downlights and power hungry dichroics, so the LEDs dramatically reduced electrical loading, from 400W to 275W.

Lighting maintenance at the club was a little like painting the Forth Bridge, and scarcely less annoying for the electricians. Large numbers of lamp replacements were required prior to every match. The average life of the LED downlights is 24 times that of tungsten halogen; or put another way 3,571 match days!

To solve the problem of providing everyone with as much or as little light as they needed, and to save on running costs, a straightforward SensaLink lighting control system was installed. Occupants are able to adjust the room lighting via a simple scene plate, with sensors for presence/absence operation reducing electricity use further, thus saving energy and money.

The football club also needed to improve the lighting along the fifth and sixth floor corridors, a much bigger task. Here was a typical example of an area which could benefit from a broader light distribution than afforded by the 273, mainly twin lamped CFL and dichroic, downlights.

Here the recessed Quattro LED luminaires significantly improve colour rendering (92 CRI v 80 CRI). The electrical load was virtually halved (14.1 to 7.4kW) from the previous installation - the estimated saving in future carbon taxation costs is around £4,000 per annum – and, again, the 50,000 hours light source life is expected to generate considerable savings in maintenance.

Not only are the LED emergency lights more aesthetically pleasing than traditional fluorescent-based systems, but they consume less power and require smaller integral power supplies. All use single, high performance 2.7W LEDs and sophisticated optics to give better light control. The fittings can thus be spaced more widely with consequent savings in installation and running costs.

Time Square Office, Bracknell Forest Council, Bracknell

Products: Quattro T5 | SensaLink | Voyager LED

The Time Square office building in Bracknell is home to Bracknell Forest Council. The building is typical of many UK office blocks and required a complete refurbishment, including a lighting upgrade.

LIGHTING OBJECTIVE

The old lighting comprised 1x58W switchstart luminaires with cat 2 louvres arranged in rows within a metal plank ceiling across the office space. The luminaire design combined with old technology meant the ceiling and walls appeared very dark, creating a gloomy effect below the optimum lighting specification for offices, therefore the main objective was to increase the lighting standards and create a brighter inviting work space.

LIGHTING SOLUTION

Two schemes were put forward for consideration: 1x55W TC-L with high frequency dimmable control gear and 1x42W LED with dimmable gear. The latter scheme was chosen with the contemporary recessed Quattro LED luminaire because it offered maximum energy savings.

RESULTS & BENEFITS

In comparison to the existing 1x58W switchstart luminaire, Quattro LED offered a 37% energy saving on connected load. Significantly, over a 12-year period, Quattro LED also offered an energy and maintenance saving of £45,543 compared to the fluorescent alternative.

Part of the upgrade also included the installation of daylight and presence lighting controls using Sensa Link to ensure the lighting uses the minimum amount of energy required to meet the new design specification. The new lighting levels have been designed to achieve 450 lux on the working plane with sensors programmed to dim the lights in groups according to daylight and occupancy. With the inclusion of lighting controls, lighting is only used when required, increasing the energy savings over and above the 37% achieved by upgrading to LED.

The office lighting has been brought up to the latest lighting standards to support the wide variety of office-based tasks. With excellent colour rendition and superb light quality, the Quattro LED luminaires have transformed the working environment into a bright, vibrant space. The office is now a comfortable place to work, facilitating everyday tasks such as reading, writing and working with a computer screen, as well as clear communication between people as well as the lighting technology upgrade, the office has also been redecorated. This has increased the reflected light within the space and in turn creates further energy savings.

As part of the refurbishment, the emergency lighting has also been upgraded to LED using the Thorn Voyager LED series range. The addition of Explorer emergency lighting controls gives a central emergency testing facility across the building.

Bridgewater Place, Leeds

Products: Elevation

Thorn has lit one of the tallest office buildings outside London. At 32 storeys and 137 metres high, Bridgewater Place is Leeds' tallest mixed office and residential development, requiring over 3,000 modular luminaires, all of which were specially made.

Designed by architect Aedas, it combines nine floors of high-spec office space with chic apartments, a hotel, shops and restaurants. The building incorporates a glass atrium that links the two tower structures and allows for maximum daylight.

LIGHTING OBJECTIVE

Thorn evolved the lighting in close co-operation with M&E contractor, SES (Shepherd Engineering Services), and building services engineering consultants, Operon.

Steve Gleghorn, the company's project manager says: "SES asked for a luminaire that provides an ideal working environment, while offering flexibility, quick installation and optimum energy saving. As a result, we had to carry out an enormous amount of application and customer evaluation work in the Product Verification Facility at Spennymoor."

LIGHTING SOLUTION

The lighting design was determined by the ceiling module of 500mm, and the requirement for an office floor layout that could be quickly and easily adapted from the standard open plan to individual offices. The semi-recessed, custom product Elevation Premier 180 luminaires incorporate unique glowing reflective wing attachments and a centrally mounted louvre (1000 cd/m^2), employing twin 36W TC-L lamps to provide high light output with low glare and excellent colour rendering.

RESULTS & BENEFITS

To achieve the most efficient use of energy the luminaires employ digital dimmable control gear controlled by daylight sensors and PIR motion detectors. Installation time was reduced via special quick release brackets, reduced packaging to site and tool free electrical connections - the fittings quickly connecting to the Electrack buscom trunking system with modular plug in leads.

The lighting delivers an upward light component onto the walls and ceiling, thus creating visual interest in the wider space. The result is a stimulating atmosphere while the use of 6500K lamps mimics daylight.

Anglian Home Improvements, Norwich

Products: HiPak Pro LED

Anglian Home Improvements was established in 1966 and is renowned in the UK as the number one supplier of high quality home improvements.

LIGHTING OBJECTIVE

Saving energy for their customers is at the forefront of what they do, so the company decided to explore how its own manufacturing site in Norwich could save energy with new energy efficient lighting.

LIGHTING SOLUTION

After trialling fittings from several manufacturers, facilities management company Cofely chose Thorn's HiPak Pro LED high bay luminaire to refurbish the lighting at Anglian Home Improvements Norwich factory.

Thorn's Key Account Manager, Terry Ganslandt, worked closely with facilities management company Cofely to provide various product samples for trial, expert lighting designs and several supportive site visits.

As a new customer to Thorn, Cofelys Regional Account Manager, Jason Rose had trailled fittings from four other manufacturers without success. Jason explains, "It was Thorn's HiPak Pro LED which was the best for our application and the reason why we chose to work with Thorn for the first time. HiPak Pro LED gives a great lighting spread and doesn't glare when you look at or around the light."

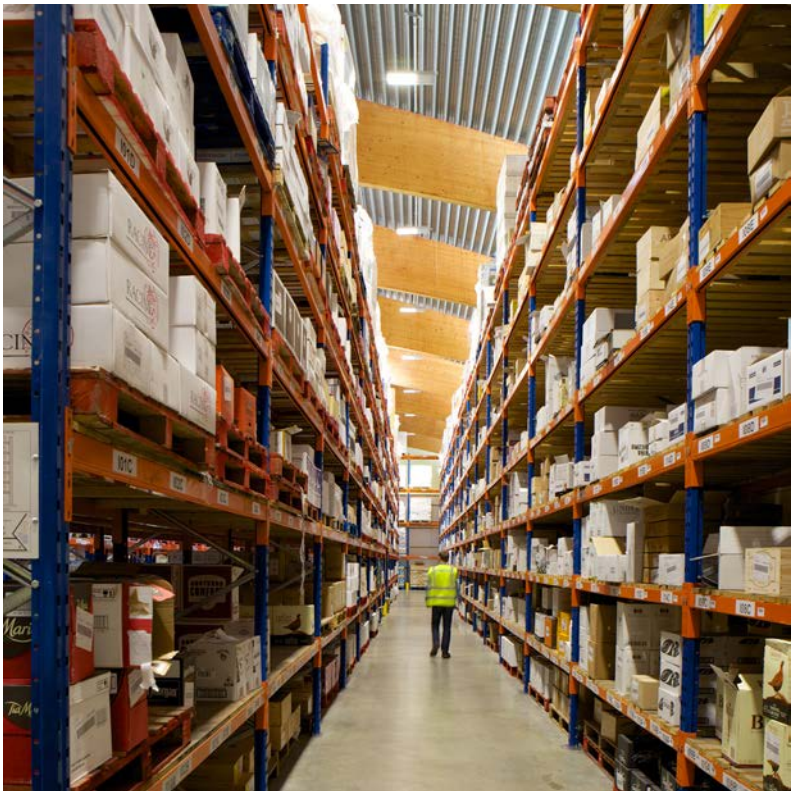
HiPak Pro LED is a robust, low maintenance and energy saving LED high bay luminaire. At just 150W, it is substantially more energy efficient than the original 700W mercury lamps and has dedicated individual LED optics for precise light control. It also has an integrated PIR sensor and is DALI dimmable for maximum energy savings.

RESULTS & BENEFITS

HiPak Pro has reduced energy consumption by 63% (from 19kWh to 7kWh) while increasing light levels from 100 to 300 lux. Jason explains: "Due to the PIR option, we were able to program HiPak Pro LED to our requirements, which was a big plus." "The fitting was also very easy to install. Everyone in the factory is really happy with the solution. The lighting has a very good even spread, provides a nice light to work under and saves a lot of energy too."

Duncan Mottershead, Engineering Director at Anglian Home Improvements says: "An integral part of Anglian Home Improvements' energy and environmental policies is a commitment to use energy wisely and responsibly, and actively pursue ways to reduce energy usage."

"Installation of the new Thorn HiPak Pro LED lighting is part of this commitment and has resulted in energy savings of around 60% versus the previous lighting solution it replaced, as well as providing a much brighter and better overall environment within the factory."



Adnams Brewery, Suffolk

Products: AquaForce II LED | HiPak Pro LED | Cetus LED

Established in 1872, Adnams is best-known as a brewer of beer with a strong sustainability ethos. Adnams also owns and runs three coastal hotels, makes its own hand-crafted spirits, imports wines for its stores and runs an online shop.

Adnams is a returning Thorn customer, with Thorn having successfully refurbished some of its offices with LED lighting as well as undertaking several maintenance projects to replace fittings when failures occur. Based on the quality of Thorn's products and the integrity and expertise of its service, Adnams approached Thorn to renew the lighting at its Reydon-based distribution centre in Suffolk.

LIGHTING OBJECTIVE

The 4,400m^2 distribution centre stores beers, wines and spirits from both Adnams' own production and its suppliers. Installed when the building was built in 2006, the lighting at the centre was a mix of inefficient fluorescent, metal halide and compact fluorescent lamps. The objectives for the new lighting were to therefore reduce the number of fittings and associated energy consumption by switching to LED.

Achieving these objectives was especially important because the centre has an ecofriendly design. It houses a 5,000m^2 green/sedum roof and is made from locally grown hemp and lime bricks with sustainable glulam wooden beams for support. This ensures the building is very insulated and no artificial cooling or heating is needed to maintain a cool 13-16°C inside. Installing LED lamps would reduce the temperature given off from the lights and therefore better maintain the temperature inside.

LIGHTING SOLUTION

The distribution centre's key industrial areas, including the main warehouse, cask bay and goods in area are illuminated with Thorn's HiPak Pro LED high bay luminaire. With high efficiency (135 Llm/W), HiPak Pro LED makes particularly significant energy savings in comparison to the previous lamps.

Thorn's IP65 rated dust and moisture resistant Aquaforce ll LED has been fitted in several other industrial areas including the loading bay, caged and parcel areas.

Other refurbishment areas include the toilets with Cetus LED. As a recessed LED downlight sealed to IP44, Cetus LED is designed for one for one replacements of traditional compact fluorescent downlights.

The next phase will see the refurbishment of the offices which will include the introduction of lighting controls to maximise energy savings.

RESULTS & BENEFITS

The new lighting has met Adnams' lighting objectives by reducing the number of fittings and energy consumption, as well as providing a better quality of light.

Throughout the project Adnams received Thorn's diligent customer service which it values so highly, and this will of course continue into the future.

Benedict Orchard, Environmental Sustainability Manager says: "We chose Thorn over other suppliers because of their quality. We do not seek to buy the cheapest products because we want to ensure our suppliers provide a top quality product (as we do in our business), with great customer service. We therefore look for suppliers who follow similar values to ours around pride and passion for the product and company, integrity, individuality and responsibility.

"Having fully researched our site beforehand to understand which solutions would be best for us, Thorn successfully met our objectives, including to reduce the number of light fittings and energy consumption within the building. Minimal disruption occurred and our staff are very happy with the products.

"So far we have data suggesting reduced energy consumption is on par with calculations prior to project completion. The light levels are all significantly better and the colour is very clean and great for industrial operations.
I am also impressed with how clean and smart the lighting and light levels look. The new lighting makes the whole site not only a better environment to work in but also visually more pleasing, which is important when stocking high quality products."


Fire exit
Keep clear

Our Lady's Primary School, Buckinghamshire

Products: College | Leopard | Novaline

Our Lady's Primary School in Buckinghamshire, England, has just over 200 pupils, including boys and girls aged between 4 to 11. The school is housed in modern and airy buildings, and the children are taught in seven classrooms by year group.

As well as a multi-purpose hall, ICT suite and music room, the school has an outside learning area, grassed area and two play grounds.

LIGHTING OBJECTIVE

With the school closed for six weeks during the summer holiday period, the board took the opportunity to upgrade all the classrooms, corridors and store areas to LED lighting. The main aim was to improve the lit environment within the school's classrooms. Reducing maintenance and energy consumption were also high priorities.

LIGHTING SOLUTION

The classrooms each saw the replacement of nine 1x65W T12 switch start battens with Thorn's latest College LED luminaire. The College LED luminaire is specifically designed for educational environments and has luminaire optics that improve the vertical and cylindrical illuminance within the space to aid communication. College LED's excellent cylindrical illuminance means teachers and pupils can now clearly see and understand facial expressions. The classrooms also feel much brighter with light levels increasing from 200-250lux to more than 400lux, making the space an enjoyable place to learn.

As well as the classrooms, College LED has replaced the dull and uninviting 1x36W T12 switch start corridor battens, transforming the area into a bright and vibrant space. In the storerooms, Thorn's Leopard LED and Novaline LED bulkhead luminaires have replaced the 60W GLS pendants. With integral presence controls, these luminaires ensure the lights are turned off when the space is not in use.

RESULTS & BENEFITS

A key benefit of the LED upgrade to Our Lady's School is the reduction in maintenance. With the College LED luminaire offering a lifetime of 50,000 hours, the school can expect the luminaires to last in excess of 20 years while still maintaining at least 70% of the current light output. Equally important, the move to LED lighting has reduced energy consumption by 39%, saving £560 and 3.33 tonnes of CO_2 per annum.

Netherburn Primary School, Lanarkshire

Products: BaseLED | Quattro LED | Sensa | Voyager Sigma

New premises built for Netherburn Primary School in Larkhall, Scotland were designed by South Lanarkshire Council to replace the original older building.

LIGHTING OBJECTIVE

The new facility will help transform the learning experiences of children, both now and in the years to come. Not unnaturally, the Council required first class lighting - high quality control of the light distribution to ensure good teaching conditions, together with an attractive appearance and economical operation through life.

LIGHTING SOLUTION

A major feature of the £2.4m building is the use of LED equipment throughout, including four general classrooms, a sports hall, kitchen, circulation areas, toilets, office facilities and nursery.

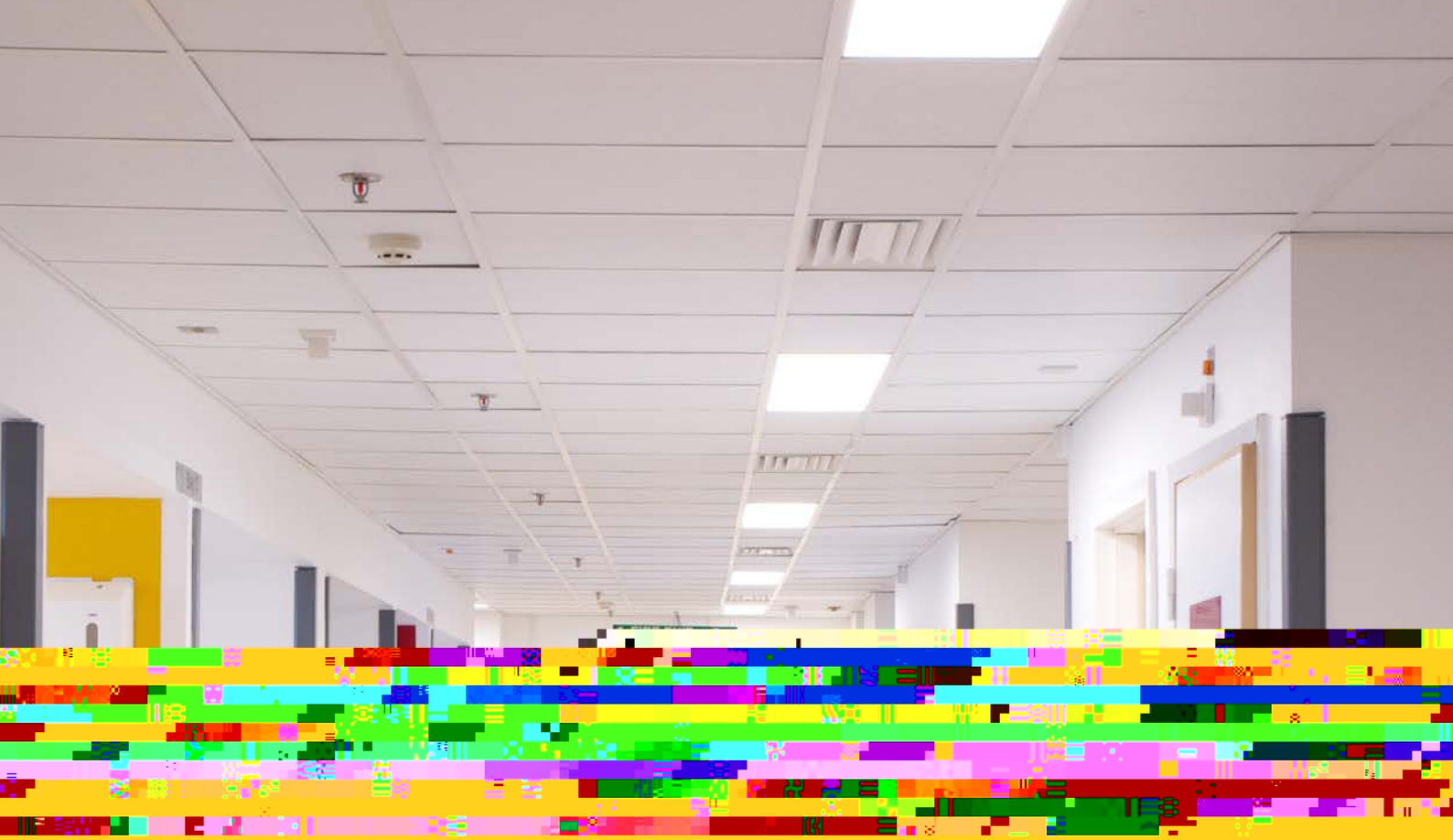
Among the luminaires used are 108nr. recessed modular 48W Quattro LEDs and 50nr. Base LED downlights. The lighting in the classes are controlled by our Sensa Modular system.

It was not simply the aesthetic appeal of the luminaires which prompted the choice. The advent of LEDs had given the opportunity of formulating a new lighting package which not only gave high quality colour rendering (Ra 92), but also significantly reduce energy usage.

RESULTS & BENEFITS

Some idea of the improvement in performance can be seen by the fact that to achieve an illuminance approaching 400 lux in one of the larger classrooms with conventional fittings (MenloSoft) using 2x40W TC-L lamps would require 11 fittings, giving 398 lux for an installed load of 14.10 W/m². The same number of Quattro LED luminaires achieves 380 lux for a load of only 7.69 W/m². Running costs are cut by 45%, and the long LED lifetime is expected to generate considerable savings in maintenance.

LEDs do more than provide general lighting; they also help supply emergency lighting. Compact, recessed Voyager LED Series luminaires (Area and Route models) and Voyager Sigma LED exit signs switch on automatically in the event of a power failure.




Pathology

Chelsea and Westminster Hospital, London

Products: College | Omega LED

For the UK National Health Service (NHS), a sustainable health and care system that works within the available environmental and social resources is the key to protecting and improving health now and for future generations. This means working to reduce carbon emissions, minimising waste and pollution, making the best use of scarce resources, building resilience to a changing climate and nurturing community strengths and assets.

Chelsea and Westminster Hospital NHS Foundation Trust is one of many NHS facilities with a series of new build and refurbishment projects.

LIGHTING OBJECTIVE

Supported by Ferguson Brown Consultants, Chelsea and Westminster obtained funding to upgrade to LED lighting based on predicted energy and CO_2 reductions through the life of each installation. The need to replace existing fixtures point for point with minimal construction work was essential to the project as all areas were live environments so patient care and consideration was paramount.

Additionally, the timeline to design, manufacture and install a solution was a critical factor to be considered as deadlines were in place to access the funding of the project.

LIGHTING SOLUTION

Thorn were selected to provide the product solution based on a mix of standard, modified and bespoke fixtures, carefully selected to meet the stringent requirements of the project. Standard products included Chalice LED downlights for circulation areas, College LED for corridors and Omega LED for the patient wards. Local controls were also built into the project, helping to maximise the energy savings and provide additional functionality of the spaces.

Bespoke architectural solutions were used in more challenging areas such as the atria and staircases. The existing indirect reflector fixtures and suspended circular fixtures in these spaces were originally designed to complement the building architecture and are an important feature for the trust to keep and maintain the building identity. Therefore, the refurbishment and upgrade exercise was required to replace the existing compact fluorescent sources with LED. With the timescales being so stringent on the project, the additional prototyping and testing of these bespoke solutions had to be built into the programme.

RESULTS & BENEFITS

The upgrades completed in this phase of the project resulted in a 42% reduction in energy consumption with a payback of less than 5 years with the additional benefit of reduced maintenance, not only a financial benefit for the Trust but also playing a major part in minimised disruption in the 24 hour care they provide and maximising safety through low maintenance lit environment.


MARKET ST.
Welcome to Morrisons Thornbury
Chocolate
Sweets
Fruit Juice
Squash
Cola
Soft Drinks
Fabulous Bakin Boys
Double Chocolate
Muffin
£1.50
4 pack
Save
30p
'Pick of The Street'
Sub Rolls White Bread
4 pack
£1.05
75p
Only
£1
Extra
Free
Cadbury Cake Bars
5 pack
Cadbury


N
NUTMEG
clothing designed for life
part of the MORRISONS family
U
From
£1
Great
Value
Batteries
Toilet Rolls
Light Bulbs
Foil
Dishwashing
Laundry

Wm Morrisons Supermarket, Bradford

Products: Custom Product

Like every national retailer, Wm Morrisons has energy and carbon reduction at the top of its green agenda. Head of Energy at Wm Morrisons, Stuart Kirk, has a target to reduce energy expenditure by £17 million while maintaining high quality lighting, which is so integral to the shopping experience.

LIGHTING OBJECTIVE

Thorn were approached to develop a bespoke retrofit LED luminaire, which could be easily mounted into the Thorn Arena Trough system. The recessed system had been installed in most of the traditional Wm Morrisons stores for over 20 years using fluorescent T8 lamps and HF control gear. Stuart therefore saw an LED solution as a quick-win to reducing the overall lighting load.

LIGHTING SOLUTION

Thorn worked with Ian Jagger, Electrical Services Projects Manager at Wm Morrisons and project management and installation partner, IES to develop a bespoke LED luminaire for the high level shop floor lighting which would replicate the distribution of the T8 luminaires with improved performance. Bevelled and flat luminaire designs were put forward with extensive trials at the headquarter mock-up store in Bradford. The conclusion was that the bevelled solution better suited the required look and feel.

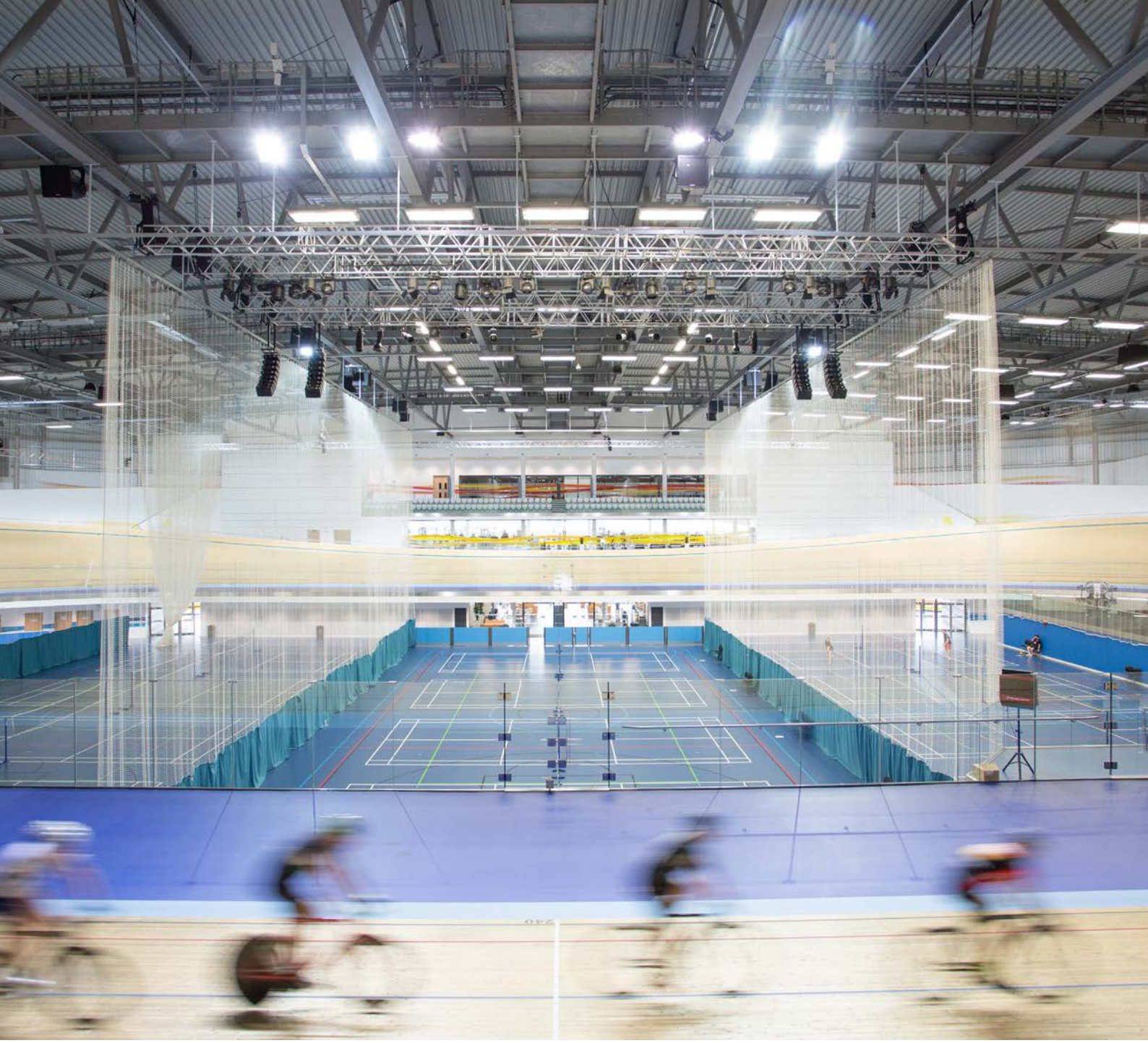
Thorn also worked with project partner, Tridonic, to build in the Stark LLE 24 panels with LCI 070 300 drivers to produce a luminaire with efficacy of 91 Lm/W. An opal panel was used to diffuse the LED light source to reduce glare and 300mm blanking plates were installed between each fitting to match the current ceiling layout and improve the uniformity and aesthetics.

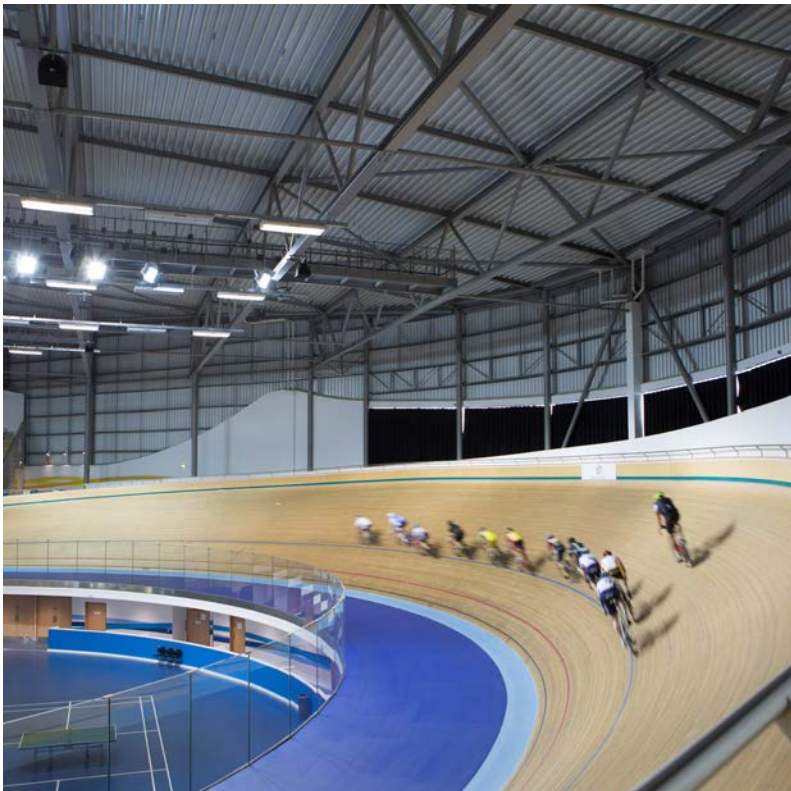
RESULTS & BENEFITS

By replacing the old fluorescent T8 lamps and HF control gear (140W) with the latest LED technology (52W), Wm Morrisons benefits from 63% lower energy consumption. By using the LED solution, it also allowed for the total number of luminaire to be reduced slightly which increased energy savings from 63% to 70%. The improved luminaire efficacy has also increased the store lighting levels and improved uniformity.

This gives a much brighter and uniform feel with a crisp colour temperature of 4000K. The specifically designed retail optics also provide improved vertical illuminance to ensure products on the shelves stand out to customers.

As part of the solution, Thorn additionally trained the installing contractor to develop a quicker installation method. This was because it was important that the system could be installed across a store within three nights during closing times.





Derby Arena and Velodrome, Derby

Products: Mundial | Troika | Titus Sport | ImpactForce | Duoproof | Piazza

Opened in 2015, Derby Arena is a state-of-the-art multi-use arena and velodrome. The arena hosts events ranging from family pantomimes to classic car shows while the 250m velodrome track is the Midlands' brand new hub for track cycling.

Derby Arena also benefits from a high specification in field indoor sports area the size of 13 badminton courts, a café, fitness gym, group exercise studios, a spinning studio and meeting and conferencing rooms.

Having successfully worked with Thorn for many years, Derry Building Services once again commissioned Thorn to provide the lighting for the sports areas as well as some internal areas.

LIGHTING OBJECTIVE

Derby Arena is inspired by Britain's success at the London 2012 Olympics and has been created to provide a unique Arena to benefit the people of Derby. Compliance with illuminance levels and uniformity over the track and in field areas according to the specification were key objectives. Separate switching levels for the track and multi-use sports areas within the Arena were also important requirements.

LIGHTING SOLUTION

Thorn's Mundial (1KW) and Troika (400W) floodlights illuminate the velodrome track. Mundial is a high power oodlight for sport and large area illumination applications while Troika is an asymmetric 'flat glass' floodlight with four different light distributions for each lamp option and a broad selection of attachments.

Titus Sport, a robust dedicated sports hall luminaire with T16 (T5) fluorescent lamps, illuminates the infield sports area. Thorn luminaires including Impactforce, Piazza and Duoproof illuminate other indoor areas.

RESULTS & BENEFITS

The velodrome tack benefits from three switching levels of 600 lux, 300 lux and 100 lux to efficiently meet the lighting requirements for uses ranging from competition to training. The track benefits from the required colour temperature of 5600K, a colour rendering index of 90 and uniformity level of 0.76. All track floodlights are tilted no higher than 65° for good glare control.

With an illuminance level of 500 lux and uniformity ranges from 0.8 to 0.95, the infield area also has separate switching to accommodate the volleyball, basketball and badminton courts. Not only does this save energy by only using the required lighting but it also provides more focus for players and spectators.

The switching arrangement is specifically positioned to accommodate the demands of each field of play and sporting activity, ensuring lighting is appropriate and comfortable for players. This is particularly important for overhead sports such as badminton as overhead lighting would cause glare and discomfort.

Chris Pilkington of Derry Building Services commented 'The scheme was developed in close liaison with Thorn and the whole experience from outset to final commissioning, set up and completion was carried out in a very professional and considered manner. The lighting is extremely well suited to the particular challenges of lighting a modern world class velodrome and sporting facility.'


THE GOLF ACADEMY
SPARTAM NACTUS ES
HANC EXORNA
LORETTO SCHOOL


PERFORMANCE
GOLF APPAREL

Loretto Golf Academy, Edinburgh, Scotland

Products: Cetus LED | HiPak Pro LED | Olsys Area | Omega LED

Founded in 1827, Loretto School is one of Britain's leading co-educational boarding and day schools. Set in 85 acres, the campus is just outside Edinburgh and also hosts the stunning Loretto Golf Academy - The Scottish Golf National Training Facility.

A successful fund raising campaign financed the project to convert the schools swimming complex into the Golf Academy. Officially opened by Ryder Cup legend Sam Torrance, the Loretto Golf Academy now proudly offers world class services including an indoor driving range, short game facility, putting analysis, teaching studio with video analysis and Trackman technology. Additionally, further rooms were refurbished into a golf shop, offices and meeting rooms. As part of this a new lighting scheme was implemented to fit the Academy.

LIGHTING OBJECTIVE

The key lighting objective for the new golf academy was to create a stimulating environment, using energy efficient and low maintenance products.

LIGHTING SOLUTION

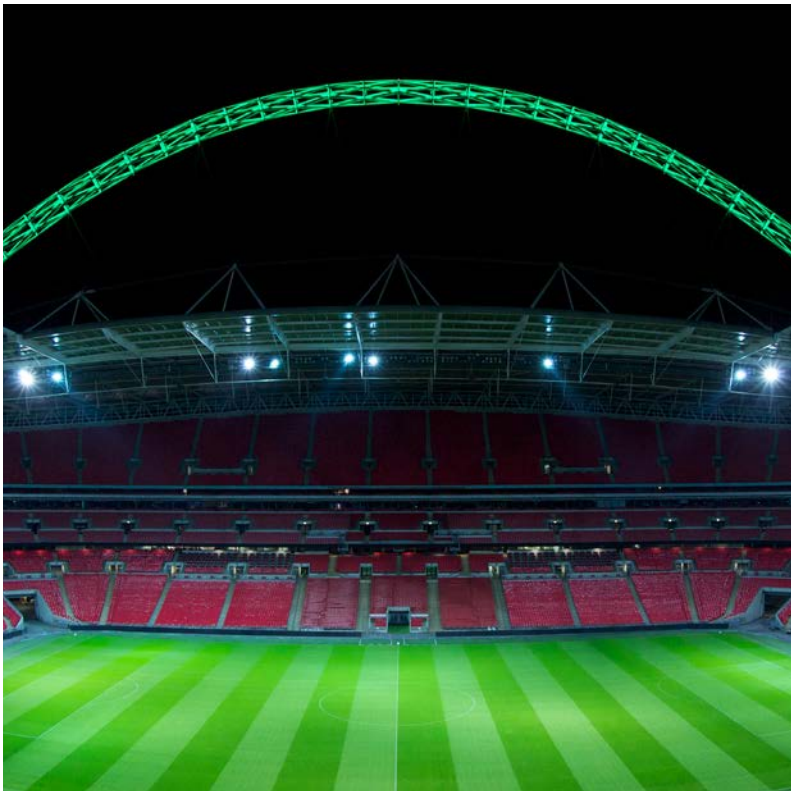
Thorn was chosen as the preferred supplier and worked with JGM Contractors supporting them with lighting calculations to help demonstrate the capabilities of the potential lighting design. The design included HiPak Pro LED with wide optics and dimmable capabilities for the main golfing area, chosen for its efficient high light output, raising the lux levels on the playing surface.

Cetus LED downlights present an energy saving IP44 solution for restrooms and kitchens. 44 Cetus LED downlights were installed in addition in the boardroom. Omega LED offers a low energy solution for the offices, providing excellent Illumination of the vertical surfaces. Outside Olsys LED floodlights were used and wall mounted in the small adjoining car park.

RESULTS & BENEFITS

Graeme Gibson, JGM, Engineering Services Manager, commented, "The lighting installation was designed and installed to CIBSE guidelines. The requirements were glare control, good colour rendering, dimming control and technical lighting/illumination criteria. These necessities are essential for the teaching, coaching and demonstration requirements within the centre. All these criteria were successfully and fully met by the Thorn scheme, which was successfully designed and installed by JGM Contractors. The products meet the clients brief to the satisfaction of the school and system users."

WEMBLEY CONNECTED BY EE | THORN LIGHTING PEOPLE



Wembley Stadium, London

Products: Areaflood | Contrast 2 LED | Mundial C

As one of the most modern and breathtaking arenas in the world, Wembley Stadium connected by EE opened in 2007 and was built on the site of the earlier Wembley Empire Stadium, which was demolished in 2003. A UEFA category four stadium, Wembley Stadium hosts major football matches as well as other major sporting and music events. With 90 000 seats, 34 bars, 98 kitchens, 8 restaurants and 688 food and drink service points, it is the largest stadium in the UK and the second largest in Europe.

LIGHTING OBJECTIVE

Thorn has been a lighting partner to Wembley Stadium since the 1970s, originally illuminating the Empire Stadium and in 2007 equipping the new stadium with the vast majority of its luminaires. In 2004 Thorn achieved full approval to supply lighting to Wembley Stadium following a successful tender process which involved carrying out lighting calculations for every room and area (except emergency signage) using the specified lighting package of AG132.

LIGHTING SOLUTION

Arch lighting
In 2014 Thorn replaced the stadium's iconic arch lighting with a custom LED lighting system designed for full colour as well as special moving light effects.

The new lighting means the arch can be illuminated in an endless range of colourful possibilities. Roger Maslin, Wembley National Stadium Ltd Managing Director, explains: "We can now use the arch to make big, bold and entertaining statements which can be seen right across London. With so many lighting scenes the possibilities are fantastic. From the St. George's Cross and team colours to highlight goals for big games, to solid and moving colours for event lighting, to the corporate colours of our sponsor EE and charity partners. The lighting is transformational and exciting."

Pat Holley, Senior Lighting Designer at Thorn, who helped to create the lighting design scheme throughout the project, explains: "The arch's lighting system consists of a dynamic floodlight with red, green, blue and white LED chips. 50% of the LED chips are white and the remaining are equal quantities of red, green and blue. This will allow The Arch to have unlimited lighting effects - both dynamic or static - with colours and movement to suit events and occasions" Kevin Stubbs, UK Technical Manager, adds: "Importantly, Wembley wanted the new 'whiter' LED white to match the white achieved with the old metal halide system. We therefore had to tune the LED white to achieve this consistency."

Wembley's onsite specialist subcontractor, Hollandia - an expert in the access and maintenance needs of the arch - installed the new lighting comprising 228 RGBW LED floodlights. To speed up installation Thorn coordinated and designed a custom bracket to allow the existing fixings to be used. The heart of the new lighting solution is the controls system, designed by Thorn together with a partner which brings the endless possibilities the LED lighting installation provides to life.

Pitch lighting
408 Mundial 2KW floodlights light the stadium's magnificent pitch and provide six switch levels including: Concert, Maintenance/emergency concert, FA Class III, Premiership, UEFA/ Emergency TV broadcast and FIFA/HDTV

Mundial is a high power and performance floodlight for all sports applications and large area illumination. With a choice of lamp sizes it gives flexibility over lumen package, colour rendering index and colour temperature.

Bowl lighting
Bowl lighting is used for all six pitch switch levels in different arrays using Troika 400W metal halide uplights and downlights. Troika is an asymmetric 'flat glass' floodlight for 250-600W discharge lamps with an adjustable lampholder. It is ideal for sport applications and minimises light pollution & glare with excellent light output control. Each lamp option offers four different light distributions for flexibility and performance. For the up/downlighting of the bowl Troika floodlight is mounted on the inside of the gantry while for the uplighting of the roof Troika is mounted at the back of the upper level of the bowl. The bowl lighting includes multi-fed electrical supplies for emergencies.

RESULTS & BENEFITS

The floodlights at Wembley achieve a switch level of 63 000 lux with an average vertical camera illuminance to camera of 2626 and uniformity of 0,7. Mundial's rear access and automatic power interruption makes it easy to install and maintain.

Noel Whiffin, Key Account Manager at Thorn Lighting, explains how the lighting design for the pitch lighting demanded careful consideration: "A preliminary visit to the Wembley site showed that the trusses on the one side of the stadium to support the partially closing roof would create an obstruction to the floodlights. We therefore worked with our software partner Lighting Analysts, to create a full model of the gantry trusses to eliminate the need to move floodlights post-installation. The result was less than 5% obstruction to the floodlights and a fully FIFA compliant lighting design. The floodlights are mounted with two fixings – central bolt and retaining wire – and are mounted up to three floodlights high. To further eliminate obstruction of adjacent floodlights we assisted in the design of the headframes to prevent the beams from being obscured."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BIG BETS FOR HIG

Brentford Football Club, Middlesex

Products: Altis | Mundial C

Based in the London borough of Hounslow, Brentford Football Club is a professional football club playing in the Football League Championship. Since 1904 the club has played its home games at Griffin Park football ground. Griffin Park is situated in a predominantly residential area and has a capacity of 12 300 football fans. In the 2014/15 Season Brentford reached the Premier League playoffs for the first time.

The club therefore contacted electrical contractors SPE Engineers to increase the stadium's electrical capacity and lighting levels, which saw an average illumination of just 598 lux (2013-14 Season it was 426 lux).

LIGHTING OBJECTIVE

Brentford Football Club set a target for the new lighting at Griffin Park to achieve a pitch illumination level 20% above Championship standard. Improved colour quality was particularly important for TV broadcasting.

Brentford Football Club Operations Manager, Alan Walsh, says: "Our new Brentford FC Community Stadium is planned to open in 2018 based on the projected timeline, so keeping this in mind we needed a cost-effective solution which would conform to Championship rules and regulations but also take into account the remaining lifespan of Griffin Park."

Confident in Thorn's competence in lighting design and ability to provide excellent electrical and commissioning customer care, SPE Engineers approached Thorn to help commission the pitch lighting. SPE Engineers Director, Steve Pearce, explains: "Given the layout and design of the stadium we needed to increase lighting levels to initially a minimum of 1000 lux at pitch level. However, we could only use the existing four floodlight towers."

LIGHTING SOLUTION

Steve continues: "The project required careful design and specification. We did this by working with our Thorn Account Manager Noel Whiffin and leveraging Thorn's extensive experience to design a system that would squeeze the maximum effect from the site constraints."

Thorn Account Manager, Noel Whiffin, explains: "Thorn's 2kW Altis and Mundial floodlights were installed on the four existing 40m masts. 92 Altis floodlights with a symmetric distribution provide the bulk of the illumination while 8 Mundial floodlights provide asymmetric lighting with a low tilting angle to illuminate the corners. The floodlights were selected on the basis of providing the best solution from a lighting design aspect as well as the geometry of the stadium."

RESULTS & BENEFITS

Speaking about the new pitch lighting, Alan says: "The outcome was remarkable. We were required to provide on average lux levels of 800 lux but have achieved close to 1200 lux. This has given us the basis to have a total constant light cover throughout the field of play with minimal shadow. If Brentford Football Club is successful in achieving Premier League status prior to the new Brentford Football Club Community Stadium, then we know we have a system in place that is not far off the demands of the premiership requirements."

"Every game under the new floodlights at Griffin Park gives the supporters and visitors a warm feeling of excitement. The lighting colour complements everything around the pitch activity and game, which has been evident on numerous live broadcast productions. The reaction from staff, fans, players, media and photographers is that the field of play looks excellent under the floodlights with some people even asking the question why it took so long!" "Thorn provided the schematic plans to assure the football club that we would achieve the objective. The expertise that Thorn brought to the table then provided us with the best Thorn light fittings so that the project was not only delivered on time and within budget, but achieved more than expected." "Thorn proved to be an excellent lighting partner and we look forward to engaging with them on future projects."

Steve adds: "As well as providing us with good quality lighting equipment we benefited from Thorn's extremely efficient customer service and industry experience. We have had dealings with other organisations within the industry but no one has come anywhere near the level of service and assistance provided by Thorn."

"I think I can safely say that SPE Engineers now has a good deal of experience and expertise in stadium lighting. Thanks to Thorn, not only have we gained experience in conventional lighting but our learning curve has given us knowledge of new technologies coming on the market."

"We have had great feedback from Brentford Football Club and are confident that new projects are well within our capabilities. This experience and knowledge has been gained with a great deal of assistance from our Thorn Account Manager and the rest of Thorn's team. We look forward to future collaborations with Thorn and welcome the opportunity to keep up to date with its latest products and services."

Durham County Council, Durham

Products: Oracle | R2L2

With a population of more than 500 000, Durham County Council is one of the largest local authorities in England. As with many other UK and Ireland local authorities, it has a long history spanning more than 50 years working with Thorn – a partnership first ignited by the mass production of street lighting.

LIGHTING OBJECTIVE

Today Durham County Council has approximately 86 000 streetlights and illuminated traffic signs throughout the county, contributing to one of the council's biggest energy costs. In line with the Carbon Reduction Commitment Energy Efficiency Scheme (CRCEE) and the Climate Change Act, the council has been working to reduce both its total energy consumption and CO2 emissions by 40% by 2016. One important part of the initiative is the upgrading of conventional technology to LED.

LIGHTING SOLUTION

Since 2010 Thorn has supplied more than 14 000 road lanterns as part of a major ongoing programme to replace all of the council's inefficient SOX, SON and Cosmo lanterns. In 2010 the chosen luminaire for more than 8 000 fittings was Oracle S as it offered the best fit for the purpose with a very efficient HID lamp that offered energy savings and good light output. In 2013, Thorn won a contract based on the price, photometric performance and efficiency of its lanterns to supply Isaro LED and R2L2 LED lanterns over a 6-year period. More than 7 400 of these luminaires have been installed to date.

RESULTS & BENEFITS

Compared to the council's inefficient SOX, SON and Cosmo lanterns, Isaro LED and R2L2 LED offer improved photometric performance along with annual energy savings.

Samantha Berry, Key Account Manager, explains: "Thorn is committed to research and development to ensure continuous product improvements. By installing the most efficient LED modules as soon as they become available, Durham County Council benefits from performance and energy savings. Crucially, the move to LED lighting and reduction in lighting classes in line with BS5489-1:2013 has provided Durham County Council with an annual energy saving in excess of 50%. Our ability to manufacture and supply a quality product in line with Durham County Council's demanding delivery schedule has been key to the success of this programme to date."

Thorn worked closely with the client to deliver luminaires pre-wired with the spigot fitted in the correct orientation to allow the luminaries to be installed from delivery without any additional work being carried out by the customer. Thorn also provided a copy of the label inside the luminaire attached to the cable to allow identification of the luminaire without having to open the canopy. This has allowed Durham CC to take the luminaires directly to site for installation and to be recorded for inventory purposes without having to open the luminaire, thus reducing installation time.

The driving force behind the successful management and project implementation was to achieve customer satisfaction by supplying a quality product in line with Durham CC's demanding delivery schedule. Thorn successfully coordinated and supplied in line with the client's delivery plan, meeting the initial and subsequent demand within the required short timescale. This achievement is attributed to Thorn's manufacturing capability and the experienced Project Management team, who organised and coordinated the mobilisation through careful planning and proactive communication with all stakeholders concerned.

Darren Hubbard, Senior Street Lighting Engineer, Durham County Council, says: "Thorn Lighting has been a road lighting partner to Durham County Council since the 1960s. We have found a long-term procurement approach with Thorn to be very beneficial, delivering benefits from continuous product and service improvements. By building on our previous experiences and project successes we can always expect and enjoy more from Thorn. We benefit from faster installation processes and lower energy consumption plus greater service efficiency. Going forward, I expect the products and services provided by Thorn to continue to improve to offer even better quality and performance while still providing excellent value for money".

Heriot-Watt University, Scotland

Products: Isaro

With a history dating back to 1821, Heriot-Watt University in Scotland is known for being a world-class teaching facility with practical, leading-edge research. It has become one of the top UK universities for business and industry. The project included the refurbishment of the university's 3-4 miles of roads and pathways which were lit with more than 460 SON lamp luminaires. Thorn provided a high quality, reliable product along with a local service with product knowledge and design input.

LIGHTING OBJECTIVE

The refurbishment project was based on replacing the old luminaires on a one for one basis. It therefore required a cost effective product that would fit onto a 34mm spigot, weigh no more than 10kg and provide high optical performance.

The three main objectives were to reduce energy consumption, reduce maintenance costs and reduce light pollution.

LIGHTING SOLUTION

Thorn's Isaro LED lantern offered the ideal solution for the university's outdoor lighting. Isaro LED is an economic, accurately controlled luminaire for minor and major roads. Its simple style offers an excellent refurbishment solution while advanced optical and thermal control ensures precision efficiency and a long lifetime. Isaro LED was trialled on site to confirm its optical performance and demonstrate its ease of installation by arriving ready to be installed, straight from the box. Following a successful trial, the Thorn Isaro LED 42W (93Llm/W) and Isaro LED 31W (83Llm/W) were chosen to light the roads and pathways.

RESULTS & BENEFITS

The refurbishment of the university's old, inefficient lighting with Isaro LED has reduced annual energy consumption by 76%.

A long lamp lifetime of more than 60 000 hours (L70 @ Ta 25°C) also reduces maintenance and the associated costs. In addition to reducing energy consumption and maintenance costs, Isaro LED offers adjustable tilting -20° to +10°. This reduces light pollution by allowing the light distribution to be matched with the geometry of the road with no upward stray light. The adjustable tilting also enabled the existing columns to be utilised, making the installation easy and cost effective.

Graeme Ramage, Key Account Manager at Thorn Lighting says: "The use of Isaro LED to refurbish the outdoor lighting at Heriot-Watt University has enabled the required illuminance to be achieved using a lower wattage luminaire. The installation of Isaro LED was really smooth and in fact, the programme was completed four weeks ahead of schedule. "


WELCOME TO CELTIC PARK
THE CELTIC WAY


CELTIC FOOTBALL CLUB 1888
CELTIC FOOTBALL CLUB

Celtic Way, Scotland

Products: Dyana LED | Isaro

Celtic Park is an iconic football stadium in the Parkhead area of Glasgow, and is the home ground of Celtic Football Club.

The areas surrounding the stadium recently embarked upon a significant redevelopment which included the creation of Celtic Way. A new access route for supporters, which they can travel along with pride as they approach the park, one of Europe's finest football stadia.

LIGHTING OBJECTIVE

To do justice to the high-profile development of Celtic Way, Celtic FC and its lead contractor Waterman Group needed an iconic lighting scheme. Eddie Murphy, Senior Electrical Engineer at Waterman Group, says, "We wanted lighting that would add to the dramatic features of the new Celtic Way and focus fans' attention on the attractions of the main boulevard. At the same time, we needed striking bespoke columns that reflect the success of the club – all in Celtic green of course." Additional requirements were to light new car park areas to safe levels and to meet Celtic FC's requirement to hang banner ads from lighting columns. The lights also had to be highly reliable, as well as cost-effective and easy to maintain for years to come.

LIGHTING SOLUTION

Once briefed on Celtic FC's requirements, the Thorn team proposed a solution based on sleek, eight-metre, brushed aluminium columns with illuminated green tips called 'finials'. The bespoke columns are equipped with striking, energy-efficient luminaires from Thorn's Dyana range, with in-built attachments strong enough to hang three-metre banner ads. To illuminate the new car park areas to safe levels without taking attention away from the main boulevard, Thorn proposed a solution based on six-metre columns equipped with Isaro LED luminaires. "The Thorn Isaro luminaires are highly energy efficient and don't detract fans' attention from the main Celtic Way boulevard," says Eddie Murphy.

The Thorn products used for Celtic Way were delivered by Thorn reseller MacLean Electrical and on-site installation was managed by local electrical contractor Pegasus Power & Communications. "All the project partners worked together seamlessly to ensure that the project was delivered successfully, on time and to budget," says Eddie Murphy.

RESULTS & BENEFITS

"Thorn has helped us deliver a hugely impressive, visually stunning lighting scheme that reflects Celtic FC's past glory, current success and future aspirations," says Eddie Murphy. "Celtic Way is now much more than the approach to Celtic Park – it's an attraction in its own right and we frequently see local people and fans stopping to take pictures and admire the Thorn columns and light fittings that line the central boulevard."

Celtic FC is delighted with the new lighting scheme, which enhances Celtic Way and its attractions. Robin Buchanan, Stadium General Manager of Celtic FC says, "Celtic Way is a stunning new public area for our supporters and Thorn's lighting scheme helps to show it to its best advantage. We will continue to progress and develop Celtic FC in the right direction to show that we are one of the world's leading football clubs and give our fans a club they can be proud of."

By using latest-generation LED technology, the Thorn Lighting solution maximises energy efficiency and minimises operating costs for Celtic FC. Celtic FC needed a highly reliable lighting scheme that would deliver week after week, with little or no maintenance required. The fact that Thorn Dyana LED and Isaro LED lanterns need almost no maintenance for many years made them an excellent choice for the football club.


National Glass Centre


National Glass Centre


National Glass Centre

National Glass Centre, Sunderland

Products: Contrast 2 LED | Sensa DMX

National Glass Centre is located in Sunderland, England, on the north banks of the River Wear. It aims to share its knowledge of contemporary glass by allowing people to learn how to make glass, watch glass being made and view exhibitions inspired by glass. Part of the University of Sunderland, the Centre is at the forefront of glass research and its facilities are internationally recognised.

LIGHTING OBJECTIVE

A recent £2.3m refurbishment project has more than doubled the size of the Centre's exhibition areas and learning studios. As part of the refurbishment project, Thorn was invited by J H Partners Consulting Engineers to come up with a solution to provide a colour change lighting effect to the two 18m glass centre chimneys and main entrance sign.

LIGHTING SOLUTION

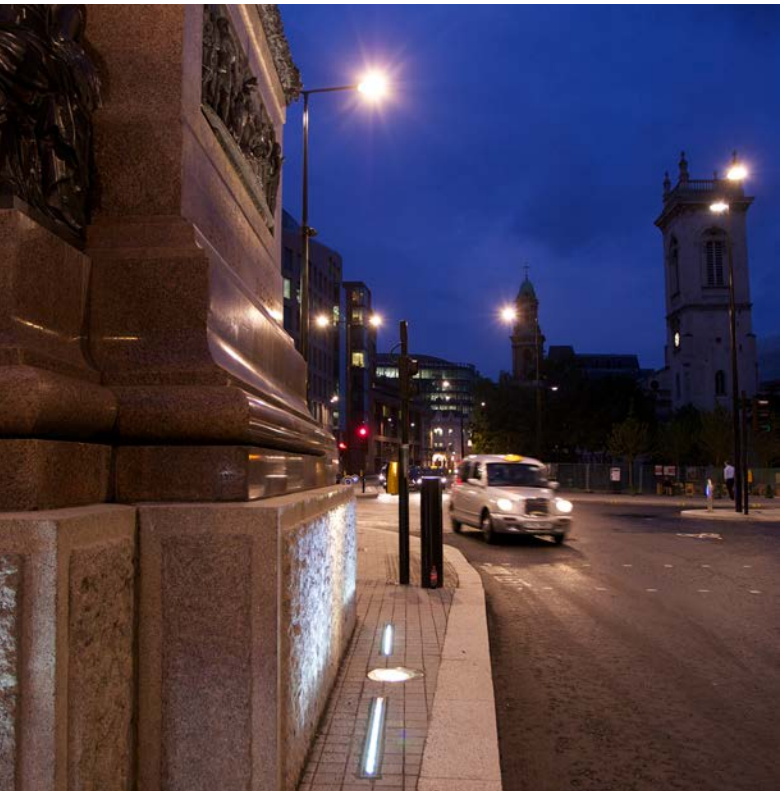
To create the colour changing effect, Thorn's Contrast LED floodlights with Red-Green-Blue (RGB) coloured LEDs were ideal. These luminaires, along with the lighting within the main sign, were all controlled by a standalone Sensa DMX controller allowing for scene control from the main reception. Contrast LED has the power to project light up to 30m while producing a variety of precise beam distributions.

RESULTS & BENEFITS

By using the latest LED technology, Contrast LED creates a stunning effect while minimising energy use. With a connected load of just 52W, energy savings of 25-65% are possible when compared with typical 70-150W metal halide floodlights.

The Sensa DMX controller provides the ability to have pre-defined scenes and colour change programmes running during the night. The effect on the chimneys means they can be seen from miles around, giving a focal point on the bank of the River Wear.

The Sensa DMX controller has the ability to control up to 32 luminaires on a single output, allowing for individual control of each luminaire via a unique DMX address. DMX splitters can also be used to increase the capacity of the system to 128 luminaires. This allows the DMX control system to offer complete flexibility and future proofing should requirements change due to further developments. Importantly, the complete lighting system is easy to install and above all, easy to use with the software provided.



Prince Consort Statue, Holborn, London

Products: Mica

For a period of time, the historic Prince Consort Statue had been absent from its usual position in the middle of Holborn Circus roundabout. It had been cleaned and restored to its former glory by the City of London Corporation and moved to a safer spot on the central reservation where it no longer obstructs motorists' line of sight.

LIGHTING OBJECTIVE

With the statue fully restored and looking its best, The City of London Corporation wanted to illuminate it in a way that does it justice. However, there were significant challenges that needed to be overcome. Marlon Edwards, Mechanical and Electrical Engineer at The City of London Corporation, says, "Our initial thought was to mount floodlights on 10 metre columns on either side of the road, but we decided against it. There are lots of glass buildings in the area and we didn't want them to be affected by reflected light. We also needed to make sure that passing vehicles wouldn't be affected by glare."

As well as tackling the issue of glare, the lighting solution for the Prince Consort Statue needed to emphasise the fine detail of the bronze work. "We wanted a solution that could enhance every element of the statue, from the plinth to Prince Albert, his horse Nimrod, and the other figures: Peace and History," says Edwards. "Because the statue is tall with multiple sections, it was a challenge to direct light in a way that added to, rather than took away from, its overall appearance."

LIGHTING SOLUTION

The City of London approached a number of leading lighting specialists and requested proposals that addressed its unique challenges. In the final analysis, Edwards and his team chose a lighting design created by Jim Ashley Down of Thorn Lighting.

"There are lots of non-technical sales people around who don't fully understand the requirements for lighting a monument like this, but Jim isn't one of them," says Edwards. "He is a degree-qualified lighting designer and it definitely showed in his solution, which uses a combination of cool and warm LEDs and warm white metal halide luminaires to light each façade of the statue – emphasising its tiered design and bringing out the detail of the bronze reliefs."

The Thorn solution bathes the statue's lower plinth in light from cold white LEDs that ground the stonework and emphasise its textured finish. At the same time, the upper plinth and figures are lit with warm white LEDs to bring out the detail and colour of the bronze.

Thorn products used to illuminate the statues include Thorn Mica 'in-ground' spotlights and Thorn Band Recessed 'in-ground' linear LED luminaires, which are embedded in the ground close to the statue and angled as required.

The products used to light the top part of the statue – the Prince Consort and his horse Nimrod – are Hess by Thorn metal halide luminaires mounted in bespoke City Elements bollards that were created especially for the project. As well as providing excellent illumination for the detailed bronze reliefs, the bespoke bollards provide extra physical protection for the statue.

RESULTS & BENEFITS

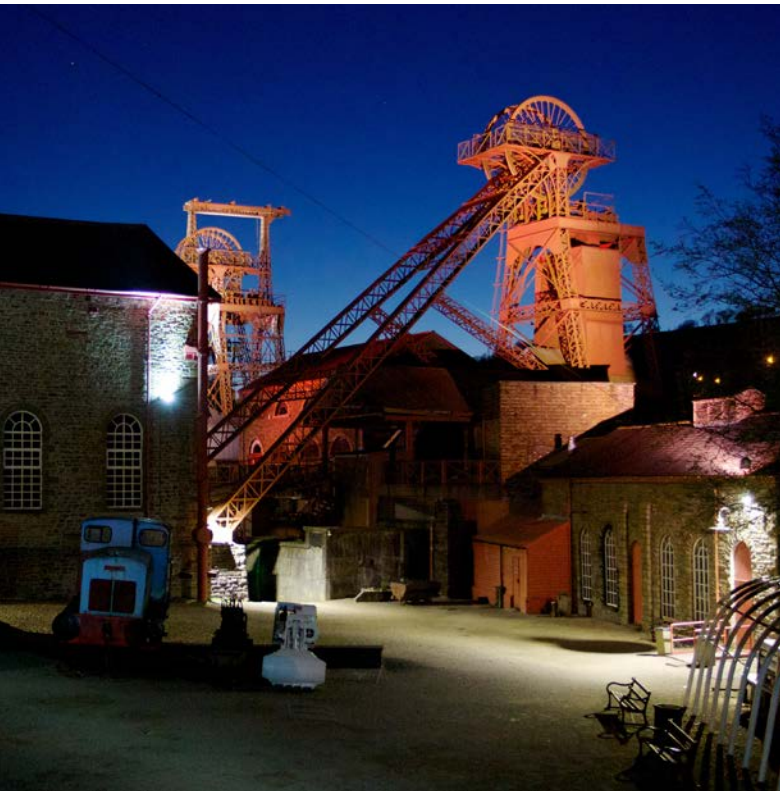
With just one point of contact at Thorn, The City of London was able to overcome project challenges far more easily than would otherwise have been possible. "The project went a lot smoother because Jim could manage all aspects of the solution design, as well as commissioning and installation," says Edwards. "When we had a problem with the bollards overheating, Jim also helped us reposition the lamps and solve the problem quickly."

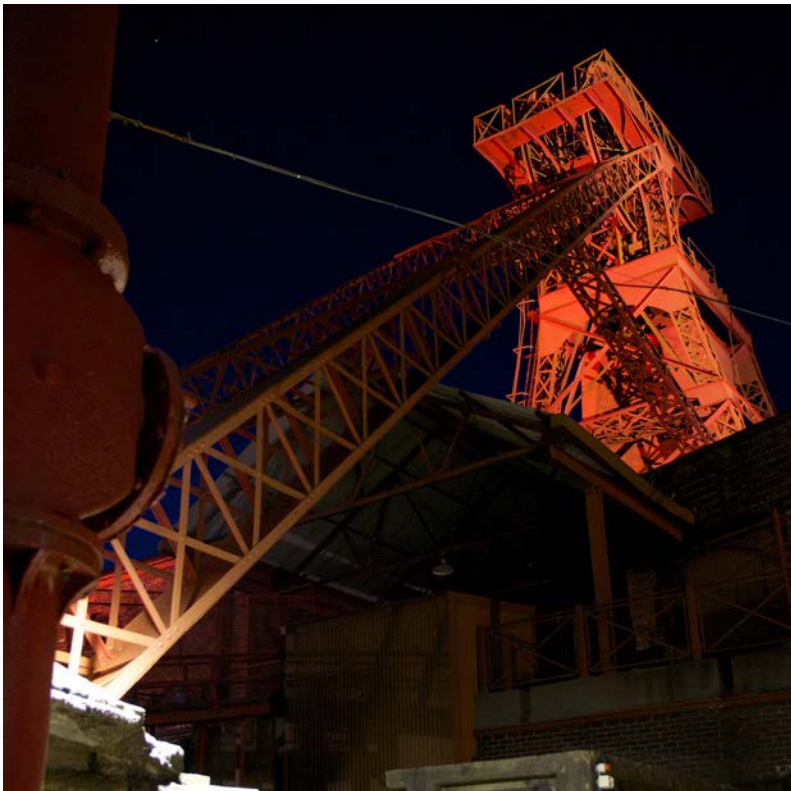
The close working relationship between Thorn and the City of London will deliver benefits for years to come. "My team doesn't just project manage new lighting schemes; we also maintain them on an ongoing basis," says Edwards. "Because we were able to work shoulder-to-shoulder with Jim, we have all the knowledge we need to maintain the scheme, and we also have the security that it will be reliable and meet our needs for decades."

The sophisticated Thorn solution has delivered the required lighting effect for the statue, without creating any glare for nearby buildings or passing motor vehicles. "Most of the solutions that were proposed to us were fairly simplistic, and they would have caused glare," says Edwards. "Jim's expertise meant that all the lighting angles are calculated to the millimetre, and special filters are used to prevent glare. We haven't had a single complaint since the scheme went live – in fact, we've had only compliments."

As an additional benefit, the Thorn solution is helping The City of London minimise energy consumption and reduce its carbon footprint. "We have a policy to use LED lighting where possible now to reduce energy use," says Edwards. "The fact that Thorn LED projectors are powerful enough to floodlight a statue like this one shows just how far the technology has evolved in the last 18 months."

The relationship between The City of London and Thorn Lighting is going from strength to strength based on the success of this project, and another lighting scheme delivered by Thorn at Bell Wharf Lane in the City. "We're extremely impressed with Thorn and we're looking forward to working with them in the future to continue to enhance lighting schemes across the City.





Rhondda Heritage Site

Products: Contrast 2 LED | Olsys Area | Leopard LED

Between 1860 and 1939 the Rhondda Valleys were one of the world's most important coal mining regions. Despite Rhondda being home to nearly 80 collieries, the Lewis Merthyr Colliery was the only one saved from demolition and preserved. In 1989 the Lewis Merthyr Colliery reopened as Rhondda Heritage Park – a tourist attraction offering an underground experience tour, replica village street, children's play area and more.

As a returning customer impressed by Thorn's high quality products and design expertise, Rhondda Cynon Taf County Borough Council (RCTCBC) approached Thorn once again.

LIGHTING OBJECTIVE

This time the brief was to design a new lighting solution to upgrade and improve the feature lighting of the colliery's Grade 2 Listed chimney, steel wheel towers and car park.

The existing lighting from Thorn was a mixture of metal halide and Sonpak high pressure sodium floodlights with, by now poor beam control and a total annual energy consumption of 9958.3 kWh.

In order to meet Local Authority requirement's, the lighting objectives were to

significantly reduce energy consumption and maintenance while enhancing the Heritage Park and surrounding area. Standing at 50 metres and with a 360° viewing angle, the chimney required particularly careful lighting design to ensure even illumination with no waste light.

LIGHTING SOLUTION

Working directly with RCTCBC, Thorn's specialist design team conducted a site visit before developing a CGI to demonstrate how the new lighting would illuminate the park. This was particularly important because there was no performance specification to work to.

Following approval of the CGI, the old lighting was replaced with an energy efficient, low maintenance LED lighting solution. This included Thorn's Contrast 2 floodlight with a narrow beam reflector for the chimney and steel wheel towers, Leopard LED bulkhead for the perimeter and Olsys Area floodlight for the car park, courtyard and play area.

Where possible existing mounting positions were used. Where the position was too dangerous however, Thorn established new locations to ensure safe and easy access for cleaning and maintenance. By relocating some floodlights, the overall number of fittings was reduced.

RESULTS & BENEFITS

The feature lighting at this Heritage Park has had a spectacular facelift. The use of LED with precise beam optics ensures light is projected where is it needed on the chimney and winding gear, and not into the sky. As well as enhancing the overall lit effect and saving energy, this significantly reduces waste light.

With a 75% reduction in energy consumption, the new lighting will reduce annual energy costs by more than £890. Energy Manager at RCTCBC, Jon Arroyo, says: "My experience of working with Thorn has once again been one that I would describe as both professional and supportive with high quality products that I trust."

"I had an idea of what we needed to do as there was existing old and failing sodium lighting but had no clue of what power LED fittings would be required. During Thorn's site visit we discussed design ideas and I was really impressed when the Thorn design showed plots and 3D representation of the lit effect. The CGI was very reassuring of what we might expect."

"The focus of the project was to achieve energy as well as maintenance savings and I'm delighted that Thorn met all of our objectives for this project. The lights are compact and discrete and will hopefully serve us well to create a focal landmark at the gateway to the Rhondda Valleys."

"I was particularly impressed with the support and response we have received from Thorn. Thorn has been involved in the project rather than just giving us a catalogue of fittings and leaving it to us to choose. Special thanks go to my dedicated Account Manager for his efforts and support. He certainly goes the extra mile to make these projects work."


HAYMAR
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HAYMARKET
Eldon Sq Bus Station
Newgate Street
Information, Taxis
Marks & Spencer

Haymarket Bus Station, Newcastle

Products: BaseLED | Voyager LED

Haymarket bus station is one of two bus stations serving the city centre of Newcastle upon Tyne, North East England. It is located in the Haymarket area of the city centre, near to Newcastle University. Originally opened in 1930, it has undergone several refurbishments.

LIGHTING OBJECTIVE

The lighting was part of a £1m modernisation programme which involved replacing the bus station's glazed roof with a sturdier aluminium standing seam system, and an internal makeover. The main objectives were to reduce energy consumption and to create a brightly lit area promoting safety for users.

LIGHTING SOLUTION

The chosen scheme included BaseLED 18W and Cruz 160 LED downlights which were recessed in a suspended ceiling. Furthermore, because the bus station is a "public space" emergency lighting is required. This is provided by the Voyager LED range and signage by the Voyager Sigma LED.

RESULTS & BENEFITS

The overall impression is bright, safe and inviting. With an estimated 70% of luminaires using LEDs the station operator will also benefit from the resulting energy efficiency and long lifetimes. Thanks to high luminaire efficacy (≥ 54 lm/W); savings of up to 50% and 75% can be achieved compared with conventional 1x 18/26W CFL or 50/75W halogen downlights respectively.

Other plus points in favour of the LED downlights are that they are largely impervious to vibration and, unlike fluorescents, performance improves as temperatures drop.

Thorn has also supplied some "Corniche style" custom products housing 1x49W T5 lamps.

White Rose Office Centre Car Park, Leeds

Products: ImpactForce

The White Rose Office Centre Car Park has a long-standing relationship with GMI Energy, after GMI Construction originally built its state-of-the-art offices. The GMI Group is at the forefront of sustainable development in the UK, leading the way with smart building technology and environmental intelligence. It continually strives to add value to clients, so allowing GMI Energy to assess the potential for improved energy management in the car park was a natural progression and the first major step towards improved energy efficiency. With the support of the Thorn Energy Solutions team, GMI Energy managed this project from start to finish with an in-house team of energy experts.

LIGHTING OBJECTIVE

The car park used a very inefficient fluorescent lighting system with a lifespan of typically just one year. Many of the lights were continually failing at a huge expense. There were also no lighting controls included with the previous lighting which means that all luminaires are on at 100% all day everyday regardless of whether anyone is in the carpark.

The target for the project was to reduce energy consumption whilst also reducing maintenance costs, and to deliver better light quality with improved safety.

LIGHTING SOLUTION

GMI Energy has provided a new LED lighting system for the car park, replacing the fluorescent lighting with vastly improved energy efficiency. The new lighting system, which comprises 200 ImpactForce II LED luminaires (36W), will reduce energy consumption by 60 per cent and consequently deliver significant financial and CO_2 savings. With a 50,000-hour lifetime, the new LED lights can be expected to last more than 6 years and therefore drastically reduce maintenance requirements and costs. Overall, the system will pay for itself in just 1.9 years.

Another main driver for the project was to improve the lit environment within the car park area. Some luminaires in the carpark had failed leaving pockets of darkness which made the carpark feel unsafe at night. By using the very latest LED technology this has been achieved by producing a crisp white light with excellent vertical illuminance. The light distribution of the ImpactForce II LED luminaire ensures light onto the vertical surfaces of cars within the space and not just onto the ground. This makes the area feel bright and consequently a great deal safer. Further energy savings have been achieved by using presence detectors to switch off half the luminaires when nobody is present.

RESULTS & BENEFITS

- Energy saving: 60%
- CO_2 saving per annum: 95 tonnes
- Payback: 1.9 years


JD
next
EXIT
5
50%
OFF

Centre Retail Park, Oldham

Products: Indra

Centre Retail Park in Oldham has 245,000 sq. ft. of retail space and car parking facilities, with over 1,100 parking spaces.

Occupiers include national retailers and restaurant chains, including Boots, Carphone Warehouse, Next, McDonald's and Pizza Hut.

LIGHTING OBJECTIVE

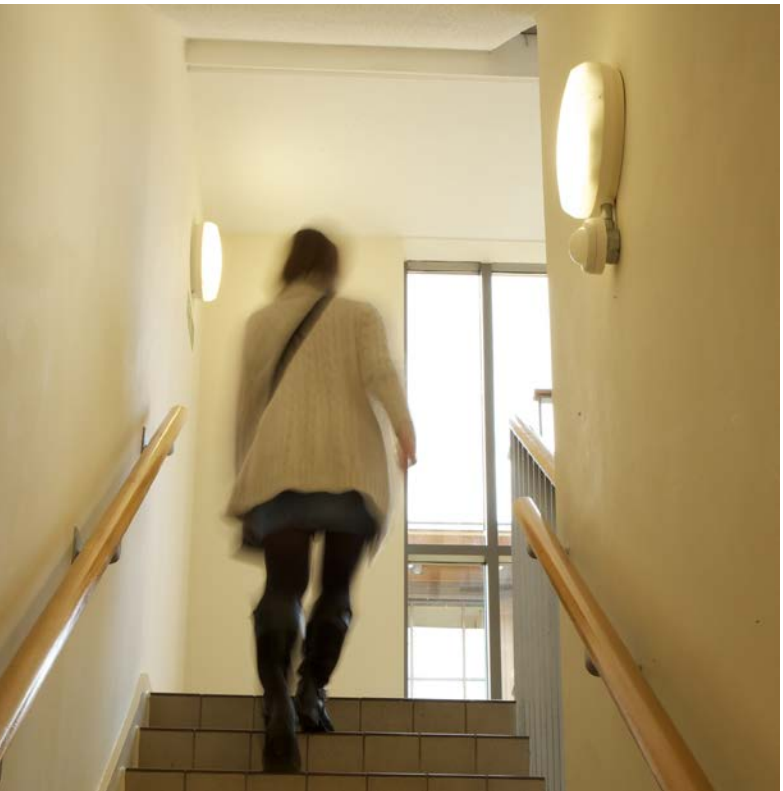
With the existing car park lighting scheme comprising 45 column-mounted 400W SON luminaires (with 52W gear losses), the site had a dull orange glow. Despite only 60% of the lighting working, it consumed 82,224 kWh per annum, with frequent lamp failures adding to the high operating costs. In conjunction with Centre Retail Park agent, Savills, and Stroma, a leading authority in meeting energy reduction targets, an assessment was undertaken to determine a suitable replacement. As well as reducing energy consumption and improving lamp lifetime, a crisper light output was required to create an enhanced shopping experience with a greater sense of security.

LIGHTING SOLUTION

Thorn Energy Solutions specified the Indra 98W road lighting luminaire with Bi power dimming to provide the optimum solution. 45 Indra fittings are mounted onto the existing lighting columns, using double-headed units where twin SON fittings had been previously used.

RESULTS & BENEFITS

The chosen scheme, benefits from Indra's Bi power dimming which reduces energy consumption by 50 per cent during nighttime hours. With its advanced optical performance, Indra offered the highest lumen output and also met the payback requirement of less than four years. Indra also reduces maintenance costs to practically zero, while still achieving the CIBSE requirement of 20 lux for car parks. The entire scheme is backed by Thorn's comprehensive 5-year product guarantee for peace of mind.



University of Lincoln, Lincolnshire

Products: Leopard | PopPack Pro

Universities across the UK are updating their facilities to increase energy efficiency and minimise carbon emissions. This is the case at the University of Lincoln.

LIGHTING OBJECTIVE

The University of Lincoln embarked on a major refurbishment of 'The Courts', its complex of 17 student halls of residence with 1,037 furnished bedrooms, common areas and shared kitchens. To ensure that the project supported the university's environmental goals, the facilities teams went to market for efficient indoor lighting products to replace existing 2D and T26 switchstart fluorescent luminaires and battens.

Phil Lawson, Head of Electrical Projects at the University of Lincoln, says: "We needed LED luminaires and fluorescent battens that were durable, cost effective and simple to install, with no need for major alterations to the existing in-building wiring. Integrated controls were also a must to ensure that students never leave lights on when they leave the room."

Another key requirement for the project was to dispose of the old luminaires in line with the Waste Electrical and Electronic Equipment (WEEE) directive, recycling materials where possible and minimising waste sent to landfill.

LIGHTING SOLUTION

While visiting a previous LuxLive show, Phil Lawson saw Thorn Lighting's Leopard LED bulkhead luminaires and T16 Pop Pack Pro fluorescent battens in action. "I'd already seen LED products and fluorescent battens from other manufacturers, but I needed a guarantee of quality and durability, and that's what you get from Thorn," says Phil. "Thorn's proposal was also extremely competitive from a commercial standpoint, and they were able to provide a solution for recycling our old luminaires as part of the package."

During the planning phase of the project, the Thorn account team helped the University of Lincoln build a business case for replacing its existing switchstart 2D bulkhead luminaires and T26 battens with the latest Thorn LED and fluorescent products. "Based on a combination of lower energy consumption and automated controls, we were able to calculate that the move to Thorn products would reduce our installed load, meaning our lighting energy consumption, by 23 kilowatts from 57.7 kilowatts to 33.9 kilowatts across all 17 blocks," says Phil.

With the business case established, the university worked with a Thorn reseller and Thorn recycling partners to replace luminaires across the halls of residence based on a three-phase deployment. "We replaced 1479 luminaires in seven blocks and a further 1429 luminaires across five blocks," says Phil, "and we will upgrade luminaires in the final five blocks during the summer period"

Following on from each phase, old luminaires and battens were placed in recycling skips provided by Thorn recycling partners Lumicom and Recolight. "The materials were separated into two skips and taken away for recycling," says Phil.

RESULTS & BENEFITS

By replacing fluorescent luminaires and battens across its student halls with the latest LED and fluorescent products from Thorn, the University of Lincoln is minimising its environmental impact and lowering energy costs. The university will also reduce carbon dioxide emissions by 62%, and gained industry recognition for its commitment to recycling.

Based on a combination of efficient LED and fluorescent technology and integrated controls, the University of Lincoln will achieve rapid returns on its investments in Thorn products. This is based on lighting energy savings of 25% and total energy savings in student blocks of more than 20%. "We've been able to measure the difference in energy consumption between five of the blocks that use Thorn's products, and those that still have the old 2D, switchstart fluorescents," says Phil. "For those five blocks alone, we are seeing an average monthly energy saving of more than 20%, which means total energy savings of nearly £10,000 for the academic year. If we achieve similar results for the other 12 blocks, our Thorn products will pay for themselves in just five years."

The university won the Lux 2013 Recycling Award for its major refurbishment project at The Courts. "The ability to recycle our old luminaires and battens was always a key priority for this project, and we're very proud of what we've achieved," says Phil. "Winning the Lux Award shows that we are leading the way when it comes to recycling and environmental responsibility."

The new Thorn LED and fluorescent products were fast, simple and cost effective to install in the student halls, with no need for rewiring. In addition, the new luminaires and battens incorporate sensors that ensure they are never left on when students leave the room, and which ensure that lights come on in the event of an emergency – all in the same compact unit. "The Thorn luminaires and battens provide all the functionality we need in a simple product that is very quick and easy to install," says Phil.

Coventry Student Accommodation, Coventry

Products: Chalice | Club | Leopard | Indiquattro | Lightstream | Novaline | Olsys

UNITE is the UK's leading provider of student accommodation, providing homes to 42,000 students in 130 properties across 23 of the UK's strongest university cities.

In partnership with MITIE Lighting the complete Coventry site has been refurbished with the latest Thorn LED lighting technology. The refurbishment covered lighting in the bedrooms, ensuites, kitchens, office, reception area, laundry room, corridors, landlord common area and external areas.

LIGHTING OBJECTIVE

Student accommodation can be an energy hungry facility, with busy students, often forgetting to switch lights off. therefore, one of the key objectives for this trial site was to find a solution that is energy efficient and incorporated lighting controls.

LIGHTING SOLUTION

The luminaires, including Thorn's Club, Leopard, IndiQuattro, Lightstream, Chalice, Novaline and Olsys complemented the requirements of each space and the differing user requirements. In some areas the use of integral sensors ensure the lighting is only on when required.

RESULTS & BENEFITS

By switching to LED, UNITE will gain energy savings of up to 75-80%. This will significantly reduce the lighting energy costs associated with running the accommodation.

The typical 50,000-hour LED lifetime will also substantially reduce maintenance requirements and costs. In some of the larger areas, a payback period of around 3 years is expected. This may be higher in some of the other areas depending on the quantity of luminaires and the operating hours expected over a typical annual period.

Finally, the quality of light has also been improved in all areas. All the living spaces now benefit from a crisp, clean feel.

THORN
LIGHTING PEOPLE

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