

Lighting, design, controls:  
Total Project Solutions



REDUCE YOUR  
CARBON FOOTPRINT  
LIFECYCLE EVALUATION  
EFFICIENCY

Energy Services

PAYBACK  
LIGHTING COMFORT  
REDUCE CO<sub>2</sub>  
EMISSIONS  
ENERGY AUDIT  
UNDERSTAND YOUR ENERGY CHOICE  
COMPLIANCE  
LIGHTING UTILISE LED  
CONTROLS TECHNOLOGY  
OCCUPANCY DETECTION  
REDUCE LIGHTING ENERGY BY **60%** DAYLIGHT HARVESTING  
INCREASED LOR

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# Energy Audit Services

Lighting is the largest single consumer of energy in most commercial buildings. By using energy efficient lighting solutions you can reduce the energy consumed by lighting by up to 60%. Our energy audit service is designed to maximise savings in lighting energy, resulting in lower emissions, compliance with current and future legislation and reduced energy bills. Our simple, four step process will evaluate your existing lighting scheme, recommend improvements, demonstrate payback and manage the entire design and installation procedure.

## Current scheme evaluation

The first step in providing any new energy-saving lighting scheme is to evaluate the current installation. To do this we survey the existing luminaires and lamp types, and measure the current lighting levels. Any existing lighting controls are then factored into the evaluation, along with typical burning hours. From this information a calculation is made to ascertain the current cost of energy used.



## New scheme recommendation

Once the current scheme has been evaluated, a new lighting scheme can be designed which will exceed the performance of the existing lighting. This may involve utilising standard products from within our range, or, if demands require, designing a bespoke luminaire. Compliance with all relevant lighting and energy regulations is always ensured. Many of our luminaires qualify for the Enhanced Capital Allowance Scheme and certification is available on request.



## Demonstrating payback

Both the new and existing lighting schemes are evaluated for energy consumption, and a simple calculation is made to demonstrate the payback of investment in energy saving. This is typically within 2 - 4 years.



## Project management

If the proposed lighting scheme is accepted, our project management services will ensure a smooth transition from old to new. Detailed plans will be provided for the scheme before the production and installation phase of a project. Delivery to site will be methodically co-ordinated, whether to a single site or a national multi-site roll-out programme. Once delivered, our after-sales team will be available to assist with any on-site issues during or after installation, and all of our luminaires are backed by a full 5 year warranty.



# Solutions in Action

## High street discounts

Whitecroft have been working with one of the UK's largest retailers to reduce their energy usage in-store. Although the stores already used highly efficient T5 luminaires with sophisticated lighting controls, a custom designed Aerial LED Twin luminaire was able to reduce the energy from 500W to 215W per luminaire, whilst also enhancing visual comfort and aesthetic. The luminaire was designed to use the same fixing points and plug and socket connectivity as the existing solution, and work with the existing lighting controls, ensuring a swift changeover without interruption to trading. The resulting savings over the 100 store program will be over 21 Gigawatt hours, delivering a massive £2.1m reduction in the company's energy bill.



## Saving energy, saving lives

Whitecroft have long been recognised as experts in Healthcare lighting. During the development of the new Cardiff Childrens' Hospital, they suggested a revolutionary all-LED lighting scheme for the entire site. The mixed source scheme originally specified was completely re-designed by Whitecroft's lighting design team, using a combination of existing and bespoke LED luminaires, all controlled by a state-of-the-art DALI addressable control system. The 2,000 installed points reduced the forecasted energy consumption by 55%, whilst the LED luminaires allowed higher lumen levels to be delivered in critical areas compared with traditional sources. This dramatic energy reduction enabled an investment payback period of 2.5 years.



Saving  
**£2.1m**  
per year

**NCP** save over  
**34** GWh of  
electricity  
each year

lighting  
energy  
reduced by **55%**



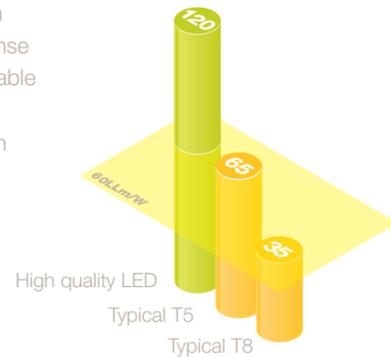
## Driving down the cost of parking

Parking giant NCP looked to Whitecroft, in conjunction with facilities management specialists FES, to help reduce ever-increasing energy costs. The solution was to replace the existing lighting in 134 multi-storey car parks across the country with the specially designed ACL Park luminaire. The product is optimised to deliver the light output required for such a specialist area, and included integral presence detection and daylight hold off controls so that no energy was wasted. The resulting scheme has saved NCP 34 Gigawatt hours of power in the first year, at a financial saving of over £3.4m. Our project management skills ensured an efficient roll-out of luminaires to each site, collaborating with a host of different installation teams.



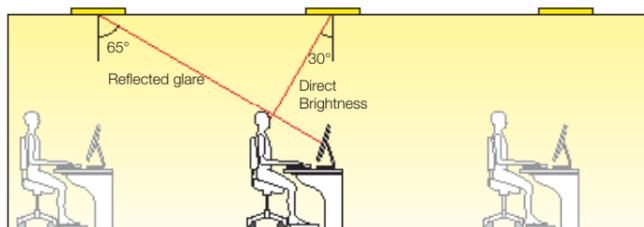
## At the forefront of LED technology development

As a leading European lighting manufacturer, Whitecroft have been at the forefront of the development and integration of LED technology. We are members of Zhaga, a worldwide consortium of lighting manufacturers committed to the standardisation and adoption of LED light sources. LEDs offer major advances in energy saving, but many LED luminaires do this at the expense of lighting quality. There are many low energy solutions available on the market today, however few offer the lighting comfort that comes from well developed solutions that combine both excellent glare control and colour rendition.



## Controlling glare from all angles of view

The traditional measurement of glare from a luminaire is defined at 65° of elevation and above. This measurement method was developed to eliminate the reflectance of a luminaire on a computer screen which was the foremost cause of glare and discomfort. Our luminaires meet the 3000cd/m<sup>2</sup> glare limit as defined in BS EN12464, as well as the LG7 and BCO guides.



We should perhaps assess the modern luminaire in degrees of comfort rather than glare. With normal ceiling heights luminaires enter our field of vision at a far lower angle of incidence. Although we generally do not look directly at a luminaire from a 30° angle, we are aware of the brightness and will make a subconscious judgement as to the degree of discomfort this causes. Our luminaires utilise advanced diffusion materials to eliminate direct LED intensity and incorporate Intermediate Brightness Zones to reduce sudden harsh contrasts across the ceiling plane.

## Colour rendering

Whether a Retail or Commercial environment, colour rendering is an important element in the perceived quality of lighting.

Some LED solutions have poor colour rendering characteristics, resulting in a dull appearance. Our LED solutions have a colour rendering index of at least 80, giving the equivalent appearance of a tungsten halogen lamp and resulting in a bright, well lit environment across the spectrum.



Typical poor LED



Whitecroft >80 LED

## Solutions for any application

With a range of over 85 LED luminaires, backed by the manufacturing capability of the UK's largest lighting manufacturer, we can offer an energy efficient solution for any application. Our in-house testing facilities and developmental laboratory ensure that all of our solutions are designed and tested thoroughly.



## Customised solutions

We strive to design the most energy efficient lighting schemes possible. This means that we will not be constrained by standard product offerings that can over-light the required space. Where appropriate, we will optimise existing luminaires, or even design bespoke solutions, to ensure that the right amount of light is delivered without any wastage.



## Complete control

Energy usage is not solely determined by luminaire type. Lighting controls can add further significant savings to your energy usage. From simple hard wired controls to multi-site DALI addressable systems, our experts will ensure the right controls methodology is used in each application.



## Quality assured

You can be assured of the highest quality solutions when specifying our luminaires. All of our products are UK designed and manufactured to suit the needs of the UK market. Our luminaires are comprehensively tested and carry a full 5 year warranty, ensuring longevity and peace of mind.

