WORKSPACE LIGHTING

Sustainable lighting for thriving workspaces

THE CHANGING **WORKSPACE...**

...IN A CHANGING WORLD
Net Zero operational efficiency and increasingly, embodied carbon levels and sustainability are, quite rightly, high on the agenda of the development of the modern workspace – new build and retrofit projects.

We are playing our part in ensuring that our lighting solutions meet current and imminent changes to legislation that impacts on our use of products and unsafe materials.

...AND ITS IMPACT ON HEALTH AND WELLBEING
Spaces in which people have to work have to be designed to not only let them function efficiently but to also have a positive impact on their physical and mental wellbeing. As highlighted recently by the IWBI, designs that consider better lighting, air quality and thermal comfort can show a health related return that is 45 times greater than the energy alone.
We are aware of this and devise lighting solutions that provide a high degree of flexibility to reflect the changing needs and moods of the people using the spaces.
Solutions that, being conducive to work and enjoyment,
help alleviate problems such as absenteeism and 'quiet quitting' by helping create a healthy building.

...APPROACING THE CHALLENGES
Energy sourcing, production, supply and costs have
all been brought into sharp focus. We are committed to ensuring that our lighting solutions help control and, where possible, reduce the costs – installation, operation and maintenance – of illuminating a workspace. We are achieving this through our use of sustainable materials,

Making the workspace work for people

In our more than 75 years of experience, we have witnessed many dramatic changes in not only the technology at our disposal, but also the situations our lighting solutions are found in, and the demands made on their functionality.

More recently, due to the impact of COVID-19 and lockdowns, we have seen a dramatic change in the way we work.

Five days in the office is virtually a thing of the past. More people are dividing their time between going in and working from home.

To make the prospect of going into the office an attractive one workspaces now need to be more than purely functional. They have to be viewed as part of a healthy building: well ventilated, well-lit, fit for a diverse number of uses and which creates an environment that contributes to the mental and physical wellbeing of the occupants.

To help create the ideal lighting solutions for the workspace, we consult with architects, clients, lighting designers, consultants and specifiers, to make sure that we maximise the best use of natural daylight levels, and that our solutions complement the varying light levels that occur during the working day to maximum effect and maximum cost-effectiveness.

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Four ways we bring light and wellbeing into the workspace

The way in which we work, and the role workspaces play in how we work, have changed dramatically post-COVID 19. Changes that are refelected in the four pillars that we use to build our lighting and control solutions.

These are the key areas we consider when we design products and lighting schemes.

User experience

Post-Covid, lighting in the workplace needs to reflect a more flexible approach to not only how people work, but how spaces are used for a variety of different activities through a day: quiet areas to make calls or video conferences, meetings with colleagues or clients - one-to-one or teams - or just day-to-day routine tasks.

Employers and property owners are looking for lighting that contributes to their drive for sustainability - a commitment that, with our high quality of sustainability and environmental credentials, we can more than satisfy.

From area to task lighting, we can provide the solutions, including sophisticated controls, that can create the lighting levels the workspace demands.

Aesthetics

Vision plays a major part in our ability to appreciate our surroundings, and how those surroundings are lit enhances that appreciation. The modern workspace is no exception to this, as people want to work in an environment that not only makes them feel comfortable, but which inspires them to achieve new heights.

Inspiration that is driven by the way light is used in the overall layout of a space. Our team can design and create solutions that are both consistent and imaginative.

Using our extensive selection of recessed, surface and suspended luminaires, they can create a multitude of solutions that meet both practical and aesthetic aims. Should anything more particular be required, our Custom Made service can meet very particular requirements that can embrace everything from colour changes to sophisticated controls.

This applies particularly to retrofit projects where raising the standard of the work environment and achieving sustainability credentials can prove problematic, but we have the systems and processes needed to achieve these goals – our ReLight initiative and our reuse, reduce and renew approach to retrofit work.

Design and compliance

Design optimisation can only be delivered alongside compliance and consideration of the user – in light of the impact that whole life carbon considerations and delivering sustainable, resilient solutions are having, an increasing desire for a scheme to go beyond being selected simply on capital cost.

Add to this the many standards that need to be taken into consideration, such as **BS EN12461-1, SLL Lighting Guide, BCO, WELL, NABERS, BREEAM,** and it's easy to appreciate that devising a lighting scheme for a workspace is not a simple matter.

Besides the wellbeing and welfare of the occupants, good workspace lighting design takes into consideration the building's fabric, changes in daylight levels throughout the day, the multi-use nature of spaces in the workspace, along with overall lighting levels, uniformity and glare control, which is why our solutions consider integration of all these factors to deliver the best possible scheme, along with true value and cost performance.

Energy and sustainability

Global warming, attaining Net Zero emissions' targets, carbon reduction – the UK built environment accounts for 25% of the UK's total carbon footprint* – uncertainty over energy costs and other environmental impacts: they are all having an effect on the running of workspaces of all sizes.

While newbuild projects are more energy efficient, we can help make significant carbon savings by focusing on the decarbonisation of the 80% of existing building estimated to still be in use by 2050.

We recognise the importance of low energy lighting systems and the part they play in helping not only reduce running costs but also in addressing issues relating to operational (the energy consumed during use) and embodied carbon (the energy consumed during production, transportation, installation and eventual disposal).

Our choice of highly efficient luminaires and use of the latest LED chip technology, combined with our range of controls can optimise energy use, keep down operating costs and help lower the environmental impact of workspaces.

In the circular economy that is becoming the norm and which is influencing how we are developing and designing our products, our increasing use of long-life and replaceable components and building in future adaptability and flexibility, puts us in a strong position to continue to provide lighting solutions that are more energy efficient and more sustainable and circular.

*https://committees.parliament.uk committee /62/ environmental-audit-committee news/ 171103/ emissions-must-be-reduced-in-the-construction-of-buildings-if-the-uk-is-to-meet-net-zero-mps-warn/

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Balancing illumination with concentration

By definition, an open plan office is any large multi-occupied, desk-based working environment. It is also, thanks to modern flexible working practices, a multi-function space. To meet both of these considerations, the correct level of illumination has to be provided, one that reflects the various uses to which the space can be put rather than just creating a single overall level to which people have to adjust.

Effective lighting design in the workspace is not just about providing a blanket lighting level. It needs to take into account the 'localising' of tasks, the ages of the workers, its impact on their vision, and the effective control of glare to ensure both visual comfort and productivity. It also needs to allow for clear communication and ensure that surfaces are well lit to create welcoming, stimulating and comforting spaces.

The more detailed the nature of the work being done, however, the higher the level of lighting needs to be.

Another factor to take into consideration when lighting an open plan office is the overall architectural style of the building, including the nature and colour of surface finishes. Careful product selection will not only help create an effective working environment, but also enhance the overall vision of the architect without compromising the space's main function through the consideration of such factors as surface illumination, cylindrical illuminance, the colour rendering index, flicker rate and their impact on the health, well-being and productivity of the occupants.

CIBSE LG7
Lux level:
300 lux – screen-based tasks
500 lux – paper-based tasks
Cylindrical illuminance:
150 lux
UGR:
19
Uniformity:
0.60

BS EN12464-1
Lux Level (Horizontal):
500 lux
Mean cylindrical illuminance
150 lux
Wall illumination:
150 lux
Ceiling illumination:
100 lux
UGRL:
19
Uniformity:
0.60

Cityline

Avenue Metro*

Cascade Flex*

*Vitality versions are available

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Meeting individual needs to increase productivity

Similar to an open plan office, a cellular office differs in as much as people are arranged in small groups or cells – an arrangement that encourages collaboration, close teamwork and better communication in both face-to-face and virtual meetings.

An overall lighting level, however, is only a starting point to achieving high levels of productivity. The needs of the individual workers and specialised tasks need to be accommodated through the use of dedicated task lights to meet these particular requirements.

In cellular offices where there is little or no natural daylight, tunable luminaires may be the best way to support the overall wellbeing of people in the workspace.

Avenue Metro*

Mirage 3*

Cascade Flex*

CIBSE LG7
Lux level:
300 lux – screen-based tasks
500 lux – paper-based tasks
Cylindrical illuminance:
150 lux
UGR:
19
Uniformity:
0.60

BS EN12464-1
Lux Level (Horizontal):
500 lux
Mean cylindrical illuminance
150 lux
Wall illumination:
150 lux
Ceiling illumination:
100 lux
UGRL:
19
Uniformity:
0.60

*Vitality versions are available

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Lighting that meets a variety of purposes

CIBSE LG7
Lux level:
300 lux – standard meetings
500 lux – if intense reading and writing
Cylindrical illuminance:
150 lux
UGR:
19
Uniformity:
0.60

BS EN12464-1
Lux Level (Horizontal):
500 lux
Mean cylindrical illuminance
150 lux
Wall illumination:
150 lux
Ceiling illumination:
100 lux
UGRL:
19
Uniformity:
0.60

cradle to cradle CERTIFIED BRONZE

*Vitality versions are available

Avenue Metro*

Mirage 3*

Cascade Flex*

Meeting rooms now serve a multitude of purposes: they provide space in which people can gather for face-to-face meetings and as a 'hub' for virtual meetings: board meetings, work-in-progress discussions, creative collaborations, workshops, training sessions, interviews and client presentations.

For these reasons, it's important that the lighting should not only enhance the materials featured in the room, but also reflect the client's expectations and aspirations. In both instances, making sure that everything is seen in the best light.

Aside from these bigger considerations, the practicalities of modern business also have to be taken into account and catered for.

For example, most meeting rooms will feature a screen for conference calls or presentation purposes, which means that the lighting should be designed to avoid veiling reflections on the screen.

Further to this, the designer also needs to consider the light on the face of those within the room being viewed on screen for those dialing in. Good vertcial illumination that provides a good level of modelling and ensuring the appropriate control gear is used within a product to ensure there is no flicker can support the effective digital meeting experience.

To add visual impact and interest to a meeting room, the use of supplementary lighting, varied colour and colour temperature should be considered.

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*Vitality versions are available

CORRIDOR & CIRCULATION SPACES

Solutions to match the mood and the movement

Movement in these spaces, such as corridors, lift lobbies and stairwells – effectively, the arteries of any building – needs to be not only safe, but also visually interesting to help maintain the overall wellbeing of the user.

When lighting these spaces, the designer needs to be particularly aware of the lighting levels where they come off an office or other workspace to achieve a balance between the two, as the office will probably be brighter than the corridor it opens on to.

Whether it is through the use of linear lighting or downlights the product selected can support the delivery of the wider aesthtic and visual impact of these spaces.

The use of secondary and accent lighting can help to create dramatic affect.

CIBSE LG7
Lux level:
100 lux – at floor level
Cylindrical illuminance:
Not mentioned
UGR:
25

BS EN12464-1
Lux Level (Horizontal):
100 lux
Mean cylindrical illuminance
50 lux
Wall illumination:
50 lux
Ceiling illumination:
30 lux
UGRL:
28
Uniformity:
0.40

Avenue Metro*

Avenue Micro

Mirage 3*

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Creating lighting that encourages creativity

A space unlike any other in the modern environment – a change of scenery.

Somewhere to conduct informal meetings, to find a little peace and quiet to get on with work, to have team catch-ups, to get away from the workstation, computer, screen, monitors, telephones and just clear the head.

They also create opportunities to interact with colleagues from other parts of the business that people don't usually work with, improving communications and strengthening relationships.

Spaces that can have a positive influence on the well-being of staff, increase productivity and reduce stress levels.

This more informal and relaxed space gives lighting designers the opportunity to create a solution that will help people to relax, stimulate creativity and increase productivity. In short, somewhere people want to go. Visual interest is very much at the top of the designer's list of priorities.

Variety of lighting in terms of the luminaires used, contrast variations, diversity of light sources, location of points of light, colours and colour temperatures is key to creating the comfortable space a breakout area needs to be. Equally important is the use of control technology to allow the lighting to be adjusted to create and reflect the desired mood: creative lighting to create the perfect atmosphere.

CIBSE LG7
Lux level:
300 lux – screen-based tasks
500 lux – paper-based tasks
Cylindrical illuminance:
150 lux
UGR:
19
Uniformity:
0.60

BS EN 12464
Lux Level (Horizontal):
200 lux
Mean cylindrical illuminance
75 lux
Wall illumination:
75 lux
Ceiling illumination:
50 lux
UGRL:
22
Uniformity:
0.40

Avenue Metro*

Mirage 3*

Oculus

*Vitality versions are available

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Lighting that creates the right impression

There's far more to lighting these key areas than just providing the right lighting levels to allow people to enter, exit, meet, mingle and get on with their work.

These spaces are an opportunity for occupants to create a lasting impression of who they are, what they stand for and what sets them apart: the 'wow' factor.

The designer has to take into account the architect's vision when they drew up their plans. The lighting scheme has to allow for the interior appearance of the spaces – transient spaces, furniture, furnishings, artworks – and complement and highlight their positioning and appearance.

The level of natural light and how it varies through the day also needs to be taken into account, as the difference it can make can be dramatic on the look and feel of the space.

At an aesthetic level, the lighting should be adjustable to reflect the time of day, and on a more practical level, glare control is an important factor, not only for the comfort and wellbeing of visitors and staff alike, but also to allow reception and security personnel to carry out their work safely and effectively.

CIBSE LG7
Lux level:
200 lux – general
300 lux – over reception desk
Cylindrical illuminance:
150 lux
UGR:
22

BS EN 12464
Lux Level (Horizontal):
300 lux
Mean cylindrical illuminance
100 lux
Wall illumination:
100 lux
Ceiling illumination:
75 lux
UGRL:
22
Uniformity:
0.60

Avenue Metro*

Mirage 3*

Oculus

*Vitality versions are available

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Helping keep everybody safe and secure

Our primary goal is to provide safe transit for staff and visitors, minimising upward lighting and reducing unnecessary light pollution.

A goal that applies throughout the day, but more especially at times associated with people entering and exiting the premises, while also allowing for starting early, finishing late, flexi and 24-hour working patterns.

In pedestrian areas and car parks – including multistorey – high levels of uniformity are required and, to aid facial recognition, we recommend the use of post top fittings.

The lighting best suited to lighting roadways depends on the classification of the road, as slower traffic may allow for a lower level of illumination than lighting more conventionally associated with public roads and highways.

Our use of smart lighting control systems in outdoor locations achieves not only lower operating costs but helps reduce light pollution while still enhancing safety and security.

Lighting Criteria

When planning lighting for outdoor amenities, consideration should be given to the following standards and guidance:

Standard/Guidance

BS EN12464-2
Lighting – Outdoor Workplaces

BS 5489-1
Lighting of roads and public amenity areas

Secured by Design
The Police Crime Prevention Initiatives, Guide to Lighting

ILP GN 01
Guidance Notes for The Reduction of Obtrusive Light

Park Mark®
The Safer Parking Scheme

ACL Industry

Kolo Bollard

Sirocco Midi

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Functionality and flexibility that controls running costs

Energy consumption reduction and the cost savings it brings is the most obvious benefit of using lighting controls, but it's not the only one.

Depending on the function of a space and its usage patterns, customising the lighting controls' design to individual spaces supports the overall lighting control strategy and gives users the optimum light levels for working, meeting or relaxing.

Best practice workspace design will make use of any natural light that is available. Flexible daylight-linked dimming, activated through the monitoring of ambient light levels, will ensure that any available daylight is maximised, and unwanted illumination levels reduced.

The use of manual override controls to adapt light levels to the working conditions, for example, on-screen and flip chart presentations, will help prevent veiling reflections and make material easier to read.

In corridors, staircases and circulation areas, lighting controls can maintain light levels during occupation periods for safe passage but be reduced when no presence is detected.

Wireless intelligent lighting control systems offer much more than energy saving in terms of building flexibility, reduced installation costs and ease of use, particularly in areas with higher ceilings such as reception areas, dining facilities and entrance atria, and integration into wider building management systems. Further 'smart' benefits are delivered by the ability to re-configure the lighting functionality to suit the usage of the building without costly and time-consuming external commissioning.

Lighting control configuration and energy consumption reduction can vary depending on the function of a space and its usage patterns. Customising the controls' design to the individual space will support the overall lighting control strategy and deliver favourable results.

Air Control

- Based on a 2.4Ghz low energy wireless technology mesh, networking is configured to provide basic functionality through advanced lighting control and scene recall
- Bringing wireless control to areas with higher ceilings, the high-performance mesh networking technology delivers seamless communication without the need for additional gateways

Organic Response*

- Integrated or remotely housed sensor nodes detect motion and ambient daylight levels and transmit and receive infrared messages wirelessly for intelligent decisions about optimum light levels
- Can be customised to provide an interface with building management systems and vital building management information via a web-based portal

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LIGHTING CONTROLS

Meeting rooms

- Flexible and localised scene setting and control is perfect for meeting rooms or anywhere that requires individual control is needed to deliver best lit environment for activity
- Spaces can be also configured and re-configured without the need for invasive work once the function of the space changes
- Absence detection: manually switch on light and automatically detects when people vacate the space to switch off
- Manual dimming

Open area offices

- Presence/occupancy detection: automatically detects presence in open office areas
- Setback control: this will ensure that individual users are not 'plunged' into darkness once occupancy is no longer detected by individual control devices. In addition, leaving on a 'notional' corridor can also help in creating a feeling of comfort and safety to the occupier during these hours of low occupancy
- Daylight harvesting: dimming can be employed to window areas where sufficient daylight is present. Lighting automatically adjusts to take advantage of natural daylight to maintain appropriate light levels while reducing energy consumption

Cellular offices

- Absence detection: manually switch on light and automatically detects when people vacate the space to switch off
- Manual dimming
- Manual override

Corridor & circulation spaces

- Corridor hold: ensures corridors are not switched off when offices or breakout areas are occupied
- Dedicated occupancy detection
- Daylight harvesting: dimming can be employed to window areas where sufficient daylight is present. Lighting automatically adjusts to take advantage of natural daylight to maintain appropriate light levels while reducing energy consumption
- Time scheduled control

Breakout areas

- Daylight harvesting: dimming can be employed to window areas where sufficient daylight is present. Lighting automatically adjusts to take advantage of natural daylight to maintain appropriate light levels while reducing energy consumption
- Manual switching or absence detection: manually switch on light and automatically detects when people vacate the space to switch off
- Scene setting: multiple, programmable scenes selected from wall switch pane

Entrances & atria

- Daylight harvesting: dimming can be employed to window areas where sufficient daylight is present. Lighting automatically adjusts to take advantage of natural daylight to maintain appropriate light levels while reducing energy consumption
- Presence detection: automatically detects presence in entrances/ receptions

Energy Performance

Assess energy consumption by time of day, and day of week, and correlate with occupancy. Also compare energy consumption across functional areas / zones to identify opportunities to trim light levels or dwell times.

Maintenance

Receive real-time notification of luminaire location, usage, faulty fixtures, and status information about drivers and light source.

Emergency Lighting Testing and Reporting

Schedule and record emergency lighting central automatic testing in accordance with local standards to support the scheduling of predictive maintenance.

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Safe at all times

While it may never be called upon, emergency lighting provision is an essential element of any lighting solution in a workspace.

In the event of a power failure, a secure, effective, nondisruptive emergency lighting solution is vital in order to ensure safe evacuation of staff and visitors.

Early consultation with us to discuss the emergency lighting needs will ensure that the lighting solution we provide, including emergency lighting in areas identified as being high risk, will be delivered.

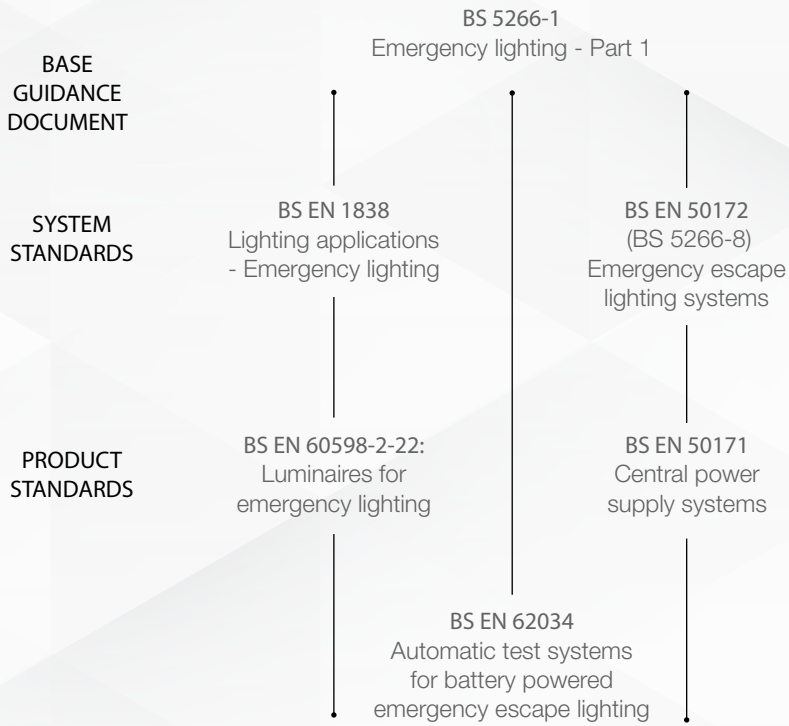
Product selection and system design for the emergency lighting should consider:

- Ease of maintenance
- Flexibility of design
- Parasitic energy consumption
- Minimising disruption to work patterns
- Testing & Reporting

By law, any emergency system requires regular and annual testing. The use of central emergency testing and reporting system can ensure an effective emergency provision is therefore in place at all times.

The Whitecroft Organic Response® Portal allows for simple set-up of scheduling and recording of the emergency lighting system to deliver compliance to BS EN 62034.

Florin E3



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Custom-made solutions for particular circumstances

As lighting technology rapidly advances – in terms of luminaires, light sources and controls – so too do the demands designers make of us.

Gone are the days of ‘one size fits all’. Each project has its unique requirements for aesthetic and highly efficient lighting products and solutions, and the most innovative and demanding projects call for even more than the most comprehensive range of lighting products and solutions.

That’s why we established our Custom Made facility, with its team of product and engineering designers dedicated to the production of bespoke lighting systems and working in partnership and collaboration with architects and specifiers, their purpose is to turn your vision into reality.

Our special products cover everything from completely bespoke luminaires, to match the aesthetics of a building, to solutions to meet your different lighting, power, or size requirements. We can also adapt existing products to, for example, provide them in different colours, materials and sizes.

In short, we can deliver a bespoke solution whatever your requirement. Designing, building, testing and manufacturing to meet your exact specifications.

However, a special solution doesn’t mean there needs to be a complicated process to deliver it. We have developed a clear route map, from initial enquiry to full production, taking in feasibility, quotations, sales sketches, customer samples, in house testing and on-site installation.

CUSTOM MADE MAKES SENSE IN SO MANY WAYS

5 Stages from start to finish

01. Defining the brief together

02. Producing quotations and sketches

03. Developing samples and testing

04. Delivering the product solution

05. Supporting you after delivery

Find out more about Custom Made

CASE STUDY:

We were selected by lighting design specialists Pritchard Themis to develop a product to meet the complex brief. The client was seeking a solution to match the industrial and technological aesthetics of the building, and blend with the exposed concrete ceiling.

There were a large number of technical criteria, including finishes, colour temperature of the lit environment, lighting levels, suspension, spacing, and the ability to accommodate a third-party DALI addressable PIR sensor and photocell.

Our team of luminaire designers created prototypes and finished samples for Pritchard Themis and installing contractor Skanska Building Services, to ensure that the product fulfilled every part of the brief, including installation and maintainability.

The end result was a totally unique product that sits at home within the industrial inspired workplace.

READ THIS CASE STUDY

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MEETING NET ZERO OBJECTIVES

Lighting solutions for the circular economy

As the world changes to adapt to new environmental demands, so too must our thinking on the impact of lighting solutions.

By engaging in a meaningful way, we have developed our approach to circularity that allows us to provide a service for existing buildings undergoing regeneration and decarbonisation.

Our Whitecroft Vitality products are designed specifically to help achieve this goal. They are modular, upgradeable and designed to last using high quality components. In addition, they come with complete data transparency in the form of material health EPDs.

Further product integrity is provided by accreditation from the Cradle to Cradle Products Innovation Institute, an independent third party organisation.

Similarly, our Vitality ReLight service provides owners of existing workspace buildings with an opportunity to make significant operational savings, as well as conserving the original embodied carbon associated with a building's construction.

Our partnerships with our customers aren't only to provide the best possible lighting solutions and support in the here and now, but to understand what their needs are for the future and to embark on research and development to ensure we are the number one lighting and controls company to meet those needs.

READ MORE WHITECROFT VITALITY PRODUCTS

CASE STUDY:

Manchester City Council has set the ambitious goal of achieving carbon neutrality by 2038
and has begun a six-year programme of
activity to decarbonise its estate of buildings.

The iconic Manchester Town Hall was one of
the first buildings to undergo a transformation.
Our brief was to balance the council's environmental targets with the need for high quality lighting and aesthetics that complemented the neo-gothic surroundings.

READ THIS CASE STUDY

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Delivered with expertise

We pride ourselves on the quality of the lighting solutions, luminaires and controls we deliver.

We are equally proud of the level of advice and consultancy we provide that ensures that our solutions are perfect in the particular situations and applications where they are installed.

It is a level of customer support and advance planning that saves time and money on a project by considering all relevant factors, whether newbuild or retrofit projects.

We can offer expert help on everything from the best techniques to employ designing bespoke lighting solutions and reducing carbon impact.

Highlighting the benefits of our expertise

Just some of the ways our team of experts can help you achieve the perfect workspace lighting solution.

Total project solutions

- Indoor and outdoor lighting solutions
- Seamless integration of controls
- Circular and sustainable solutions
- Newbuild and retrofit projects
- Product life cycle assessments
- Bespoke product solutions

Eliminate design risk

- Ensure compliance with standards
- BIM and lighting design
- Capability to deliver large, complex projects

Support

- Regional and national account management
- Project management
- After-sales service

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Whitecroft Lighting

A leading light in Sustainability

The workspace sector is just one of areas in which we have been at the forefront of sustainability and circularity in UK commercial lighting.

We are one of the leaders in the development of products, lighting solutions and controls that minimise the use of materials and promote reusability through replaceable modular hardware.

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