

HEALTHCARE LIGHTING

Solutions
everybody feels
comfortable with



Everybody gets the benefit

We believe that our attitude to healthcare lighting sets us apart.

That's because while we are concerned with all aspects of lighting one of the most complex and demanding environments and the incredible variety of spaces found in healthcare premises, our biggest consideration is the wellbeing of the people who have to live and work with the lighting solutions we design and make.

We care about not only the people providing medical help and support, and not just the people under their care, but also the people involved in installing and maintaining our lighting solutions.

Looking for help, advice and inspiration before deciding who to work with, people who can help realise your vision, searching for like-minded collaborators you can trust, or wanting to know more about products and their technical specifications; we can satisfy your requirements, thanks to our more than 75 years of experience of providing innovative lighting solutions to the healthcare sector.

Solutions that are designed specifically for the demands – from clinical safety to achieving Net Zero targets – of this most exacting sector, not general-purpose lighting that has been adapted.

The greatest benefit we deliver?

It has to be peace of mind.

The reassurance that comes from knowing that, whatever we do with you, the people that you are ultimately doing it for are in an environment that plays an active part in making a positive contribution to how they feel.

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4 HEALTHCARE PILLARS

Four ways we bring light to life

Whether it's in an operating theatre or a hospital car park, all of our lighting and control solutions are built on four pillars.

These are the key areas we consider when we devise and support the installation of a lighting scheme.

The emphasis we place on our four pillars varies with the application, but they are always at the forefront of our thinking.

User experience

There are two main – and very different – considerations that we bear in mind in this critical area.

First, the needs of the patient, who wants a quality of lighting that not only provides visual comfort, but which also helps put their mind at rest which, in turn, contributes to their recuperation and a faster recovery.

Second, those providing treatment and care who need to clearly see what they are doing so they can do it safely and efficiently.

Infection control

All the products we make for the healthcare sector are made with the prevention of germs and contagion in mind.

Where necessary, they are capable of withstanding rigorous cleaning regimes, even those using strong cleaning agents, chemical solutions or where gases are present.

Design and compliance

We see meeting the regulations relating to lighting levels and other performance criteria not only as an important responsibility – but as a starting point.

Not only do we work to ensure correct lighting levels, uniformity and glare limits are achieved, but also appropriate colour rendition and colour temperature to ensure the best light quality for the task as described in CIBSE/SLL:LG2.

Energy and sustainability

Global warming, attaining Net Zero emissions' targets, uncertainty over energy costs and other wider environmental impacts beyond those related solely to carbon: they are all set to impact on the running of medical establishments of all sizes – many of which are working 24/7 every day of the year.

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 and embodied carbon.

Our choice of highly efficient luminaires combined with our range of controls can optimise energy use, keep down operating costs and help lower the environmental impact of healthcare institutions.

In the circular economy that is becoming the norm, our increasing use of long-life and replaceable components puts us in a strong position to continue to provide lighting solutions that satisfy on so many levels.

WARD AREAS

Achieving a balance between care and comfort

Among the most important spaces in any hospital, wards need to be light and airy to not only help in patients' recovery and have a positive impact on their wellbeing, but also to allow staff to carry out their work, safe in the knowledge that they have the light to clearly see what they are doing.

Lighting must accommodate a diverse range of clinical duties, while still providing the greatest possible patient comfort.

These duties include the provision of task-specific illuminance values, from 0.5 lux for nightlight through to 1000 lux for patient examination with colour rendering at \geq Ra90, providing visual comfort and innovative designs for complex spaces.

Our integration of tunable white technology aligned with our innate connection to nature delivers the possibility of a true, people-centred lighting design for hospital wards, having a positive impact on staff wellbeing and accelerating patient healing.

The benefit being that everybody – staff, patients and visitors alike – enjoy a lit space that's perfect for their requirements and easy to control.



Florence+



Nightingale M3



Careline

Lighting Criteria

CIBSE LG2 and BS EN12464-1 set the standards for lighting levels in ward areas. The tables below give the specific lux levels for the different tasks.

CIBSE LG2

General Circulation Space:
100 lux at floor level

Patient Activity / Reading:
300 lux at bedhead

General Nursing Care:
300 lux whole bed

Nightlight:
5 lux at 0.85m /
0.5 lux max at pillow

Examination (Ra90):
1000 lux whole bed

Watchlight:
15-20 lux at bedhead

BS EN12464-1:2011

General Circulation Space:
100 lux

Patient Activity / Reading:
300 lux

General Nursing Care:
300 lux

Nightlight:
5 lux
–

Examination (Ra90):
1000 lux

Watchlight:
5 lux



INNOVATIVE LIGHTING FOR WALL OR CEILING MOUNTING

The right light in the right place

New build or refurbishment, our choice of innovative lighting solutions that encompass all lighting removes the need to install additional luminaires solely for the purpose of conducting examinations.

For example, our Florence+ bedhead luminaire delivers a combination of upward and downward light in an elegant, low-profile design, while our pre-assembled, one-piece Careline module can be fitted into a standard suspended ceiling to give a fully integrated ceiling solution.

Simple bedside controls for both of these solutions give the patient full control over the lighting in their environment, for example, for resting and reading, while staff can adjust light levels for general nursing care, patient examination and observation.

Nightingale M3

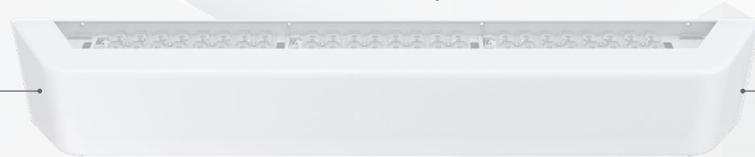
A dedicated circulation lighting solution with ultra-low glare to recumbent patients and can be switched from day to night, allowing rest and recuperation.



Florence+

Concealed indirect illumination

Single piece extrusion has no seams or visible screws making it easy to clean



Patient optic for general nursing care or a relaxing lower level of illumination with optional tunable white control to encourage healing

Activity based 4000K or 3000K colour temperature

Patient at rest



General nursing care



Patient examination



Patient reading



Patient



INNOVATIVE LIGHTING CEILING MOUNTED

Careline

Infection Control

Integrated solutions optimise the prevention and control of infections. The solid, wipe clean exteriors have minimal upward facing surfaces that can harbour dust and bacteria, so as to limit the risk of infection transmission.

Dimmable main luminaire observation for examination, nursing care and patient rest

Separately switched output section for observation

Nightlight

Reading lights

Examination



General daytime



General nursing care



Observation



Patient reading



Night-time





OPERATING THEATRES, RECOVERY ROOMS AND INTENSIVE CARE

Lighting where there's no room for compromise

Lighting Criteria

There are specific lighting levels stated for specific treatment areas, but in general the tables below indicate the requirements for most specialist examination areas. Colour rendering is specified at no lower than Ra90 for any clinical space.

CIBSE LG2

Operating Theatre:
1000 lux
at working plane

Recovery Areas:
500 lux on trolley /
300 lux circulation

Scrub Areas:
500 lux at working plane

Anaesthesia Rooms:
500 lux at working plane

Preparation:
500 lux at working plane

Utility Rooms:
100 – 150 lux at floor

BS EN12464-1

Operating Theatre:
1000 lux
at working plane

Recovery Areas:
500 lux on trolley

Scrub Areas:
–

Anaesthesia Rooms:
–

Preparation:
–

Utility Rooms:
300 lux

The work done in these areas is amongst the most demanding carried out in any hospital.

Important to what is needed to carry out this work is the need for high illumination – but that brings with it potential problems for medical staff working under it.

High illumination needs to be controlled so that work can be carried out confidently and efficiently while not contributing to fatigue and reduced levels of concentration. We use a combination of carefully selected optics and light sources and enable flexibility which we achieve through \geq Ra90 colour rendering and flexibility of illumination through our simple effective lighting controls, including crash conditions for recovery areas.

Getting the lighting right also reduces the problems that glare can cause with vital monitors in these three areas.

Cleanliness is also an important consideration in sterile areas, so our solutions are resistant to rigorous cleansing regimes.

To further guard against infection in operating theatres, we use glass diffusers in our luminaires as recommended in the LG2 standard, to prevent bacterial growth on the optic material.

Intensive care, in the majority of cases, involves a patient being in a bed or confined to a room for a considerable period of time.

A situation that can have a harmful effect on mental wellbeing of patients and the efficiency of staff, which is why we focus on two requirements: providing a level of adjustable illumination considers patient comfort, and which allows medical staff to conduct their examinations and procedures efficiently and effectively.

We achieve the light levels through the use of intelligent lighting control to monitor ambient light levels and room occupancy, making best use of available daylight to reduce any unwanted artificial light.

Due to the nature of the often-restricted space available in all of these critical areas, our prime concerns include product build, downtime and maintenance, infection control and, most importantly, reducing the risk to the patient that poor lighting may produce.



DTFN Elite LED Theatre



HDU LED



DTFU

CIRCULATION SPACES

Lighting solutions with clear benefits



Helm Asymmetric



Radial LED

Lighting Criteria

Lighting levels in circulation areas can vary depending on the time of day. As corridors can be operated at different lighting levels, dimming luminaires should be employed to maintain uniformity rather than switching alternate luminaires.

CIBSE LG2

Circulation - Daytime:
200 lux at floor

Circulation - Night-time
50 lux at floor

Corridors - Ward Areas
Night-time:
5 lux at floor

BS EN12464-1

Multi-Purpose Corridors:
200 lux

Corridors - Cleaning:
100 lux

Circulation - Daytime:
100 lux at floor

Circulation - Night-time
50 lux at floor

Accounting for as much as 30% of a typical hospital building circulation lighting has a high impact on energy costs, but this expense has to be balanced with the positive impact a well designed and implemented lighting solution has on the wellbeing of people within the building.

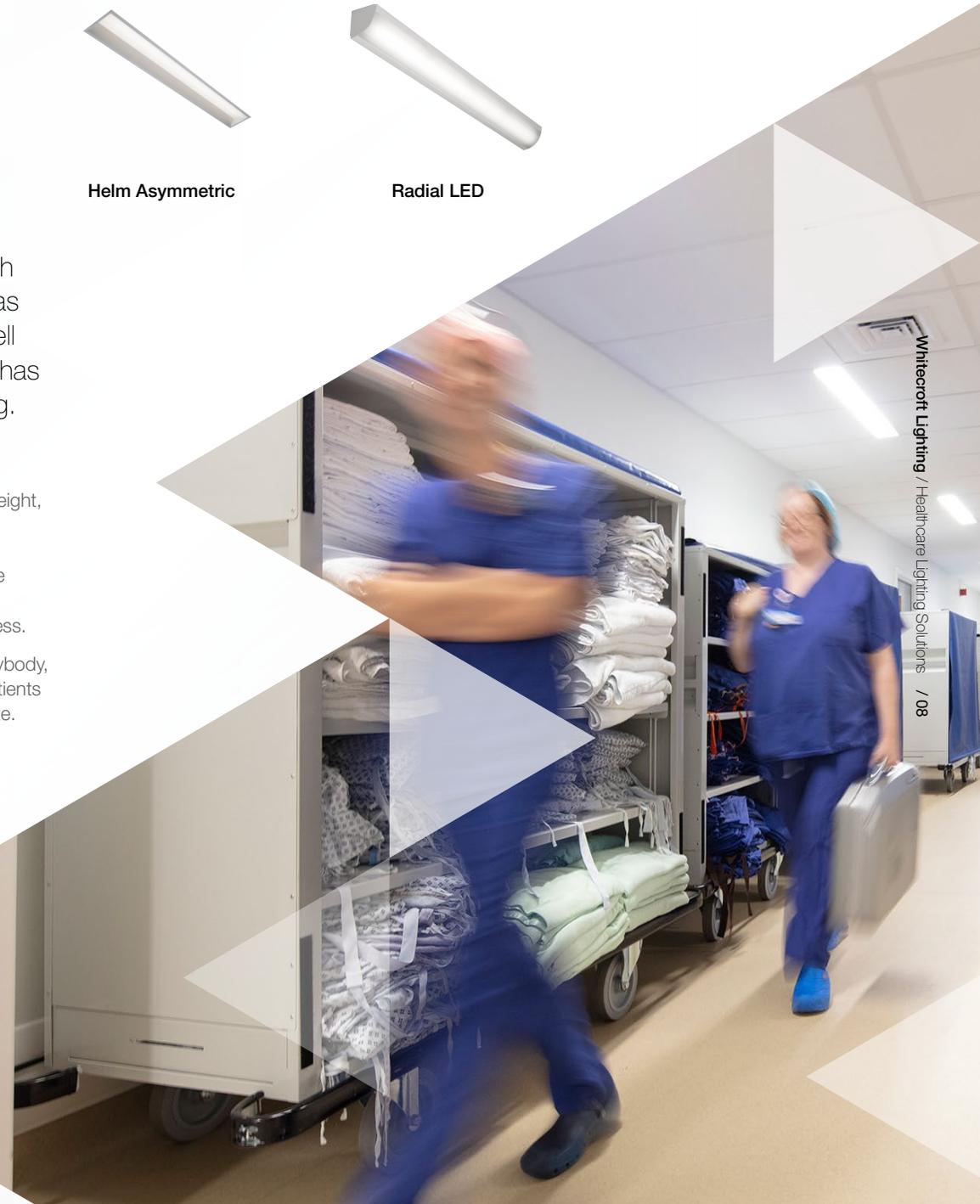
Our lighting solutions for these high traffic areas feature controls that make the most of natural daylight and switch off non-essential areas when no movement is detected.

Lighting levels can also be reduced at night-time to conserve energy, save money and ensure patient comfort in adjacent areas such as wards.

Other factors besides flexible lighting levels that are taken into account include the movement of recumbent patients who should not experience discomfort glare from overhead lighting, so luminaires should be off-set to one side.

Similarly, we ensure that changes of direction, in height, the location of ramps and handrails, signage and wayfinding information are not only well-lit but help create a feeling of openness.

All with benefits that everybody, from administrators to patients and visitors can appreciate.



CONSULTING

Serving the professional, calming the anxious

Lighting Criteria

Illumination levels vary in these spaces dependent on the type of examination and treatment being undertaken. However, in all spaces, consideration for the correct colour rendering ($\geq Ra80$), compliance to EN12464-1 and use of computer screens must be given.

CIBSE LG2

Consulting
300 lux

General Examination
500 lux

Treatment
300/500 lux

BS EN12464-1

Examination Rooms
500 lux

Treatment
300/500 lux

Consulting rooms meet a variety of needs, bringing with them their own particular requirements, with key among them providing light that allows the healthcare professional to clearly see what they are doing while providing recumbent patients, who can be anxious and worried under these often-stressful circumstances, with visual comfort.

Our lighting solutions are based around a good quality light source providing the necessary levels of illumination housed in a unit that is easy to clean.

And, where appropriate, we also incorporate intelligent lighting control that monitors and responds to ambient lighting levels.



Cascade Flex

SPECIALIST EXAMINATION

Bringing warmth to sterile environments

Lighting Criteria

There are specific lighting levels stated for individual treatment areas, but in general the tables below indicate the requirements for most specialist examination areas. Colour rendering is specified at no lower than Ra80 for any treatment room.

CIBSE LG2

X Ray/Fluoroscopy:
300 lux at working plane

Scanning and CT Room:
300 lux at 1m

MRI:
300 lux at working plane

BS EN12464-1

Scanner Rooms:
300 lux

An environment in which the specialist work carried out requires the highest levels of cleanliness along with sympathetic product selection and simple control.

Our lighting solutions in this key area are based around products that not only protect against infection, but also take into consideration the understandable anxiety that most patients are feeling. Our solutions are designed to bring visual interest to what could otherwise be a stark environment, creating a sense of comfort and calm.



Cascade Flex Tunable White



Life P LED



Mirage 3 C165 MRI



Mirage 3 Tunable White



Avenue Metro Tunable White

WAITING AREAS

Making light of the stress of waiting

Lighting Criteria

The lighting criteria defined by both CIBSE LG2 and BS-EN12464-1 are outlined below.

CIBSE LG2

Waiting Areas:
200 lux at floor

Atria:
200 lux at floor

Reception Desks:
500 lux at desk height

BS EN12464-1

Waiting Areas:
200 lux

Atria:
200 lux

Reception Desks:
300 lux

Nobody likes having to wait, and that especially applies in a healthcare environment.

And waiting areas – including entrance and reception areas – are often the first impression patients have when attending a hospital, clinic or local surgery, so creating the right atmosphere is important, and the role of lighting in that cannot be underestimated.

Patient or visitor, it's an opportunity to reduce stress and anxiety through the use of a soothing, well thought-out lighting solution.

We have found that in a lot of situations, particularly those in large, open, high-ceilinged areas, pendant luminaires provide not only optimum light levels but also, where picture panels are utilised,

visual interest to help take people's minds off whatever they are waiting for.

Similarly, in lower ceilinged areas, recessed linear lighting can be used to not only create a conducive atmosphere but also aid in navigation through to other departments.



Oculus



Mirage 3



Avenue Metro



Duo3 Evo

CLEAN AREA FACILITIES

Clear benefits where clean is a priority

Lighting Criteria

Lighting levels in laboratories and clean area facilities need to accommodate a wide range of visual tasks.

CIBSE LG2

Laboratories:
500 lux at working plane

BS EN12464-1

Laboratories:
500 lux

Clean Area facilities need protection from the ingress of dust and liquids. While the degree of protection may vary depending on the needs and classification of the spaces, the lighting must not only offer a high quality of light, but also be easy to clean and maintain.

Our unique design solutions meet the regulations that apply to these key areas with features such as single piece frame, gaskets and solid aluminium jacking brackets to prevent contamination from the ceiling void. Minimal fixings to the front frame reduce the risk of bacterial contamination.

Alongside cleanliness, we put equal emphasis on the quality of light our solutions provide. Our use of premium optics with advanced glare control technology allows for worry-free specification and delivers compliance to the most stringent regulatory requirements.



DTFU



Lister



MENTAL HEALTH UNITS

Creating a safe environment that aids wellbeing

Lighting Criteria

Further guidance can be sought within the latest version of LG2: Healthcare Buildings and Department of Health, Environmental Design Guide for Adult Medium Secure Services. Early consultation with the trust / members of staff involved with the treatment of service users will ensure the best possible solution is delivered for these environments.

The challenge to balance the need to provide lighting that aids wellbeing for the service users and also allows medical staff to provide treatment and care safely and efficiently, is one of the greatest we face.

While our solutions have to be robust, tamper-proof and reduce the risk of harm or self-harm, they also have to create an environment which both service users and staff feel is calming and contributes to overall wellbeing.

Which is why we have developed our MSU range, independently certified to meet the requirements of the Department of Health Adult Medium Secure Services.



Radial AL



MSU Surface



Helm MSU Kit



Kolo MSU Kit



Mirage 3 MSU Kit



Recessed 600 MSU Kit

ELDERLY CARE

Clinical lighting but with a domestic feel

As the elderly population grows, so too does the demand placed on healthcare services to deliver effective treatments and long-term care.

While general guidance and standards apply to almost all areas associated with lighting in environments that provide for the elderly, there is a further matter that we take into consideration when designing lighting solutions for this part of our society – and that is lighting that they, literally, feel at home with.

A visit to or a stay in a hospital, clinic or care facility can be a daunting prospect at the best of times for the elderly, so creating an environment in which they feel safe, secure and comfortable is essential.

Consideration should be given in this sensitive area to a higher level of illumination than in most similar areas, to help patients who suffer from visual impairment. This should be balanced with careful glare control, warmer colour temperatures and maximising comfort.

We also take into consideration wayfinding and helping indicate changes in height and direction to help guard against falls.

We continue to look at research into the use of daylight and artificial light in circadian rhythms, particularly in relation to the wellbeing of dementia patients.



Cascade Flex Tunable White



Mirage 3 Tunable White



ANCILLARY AREAS

Lighting focused on efficiency

While they may appear peripheral to the running of a medical facility, ancillary areas and the work undertaken in them are a vital part of achieving and maintaining high standards of effectiveness and efficiency.

Lighting solutions must, therefore, focus on the functionality of activities and on protection requirements of the people working in them.

Add to these controllability and aesthetics, and lighting ancillary areas is not a simple matter of being able to switch a light on and off.

Bad lighting in these 'behind-the-scenes' settings can conceal slip and trip hazards.

Hospital pharmacies need superior lighting to ensure that the correct medication is issued in the right dosages.

And in areas where lighting is not required for long periods, we design solutions that feature the integration of energy-saving lighting control with room occupancy detection, ensuring lights are only on when they need to be.



Cascade Flex



Stiletto LED



ACL Industry

Lighting Criteria

Levels of illumination vary depending on the ancillary area, the tables below give examples of lighting criteria defined by both CIBSE LG2 and BS EN12464-1.

CIBSE LG2

Drug Stores
500 lux at desk

Laundry Rooms
300 lux at bench

Plant Rooms
300 lux at floor

Supplies Stores
300 lux at floor

BS EN12464-1

Decontamination Rooms
300 lux

Plant Rooms
200 lux

Stores (general)
100 lux

Stores (packing & handling areas)
300 lux

OUTDOOR AMENITIES

Maximum effectiveness meets minimal light pollution

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

In pedestrian areas and car parks, 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 GN01
Guidance Notes for the Reduction of Obtrusive Light

Park Mark®
The Safer Parking Scheme



Kolo Bollard



Sirocco Midi



Kolo - IP65



LIGHTING CONTROLS

Reducing energy costs while enhancing patient comfort

While reducing energy costs in any 24/7 environment is highly desirable, it can be challenging.

Standards have to be maintained, needs have to be met, while patients have to feel comfortable, which is why we recommend the use of lighting controls that allow for a high degree of autonomous operation, but don't have a negative impact on overall lighting levels.

For example, in areas where lighting isn't a constant requirement, motion sensors can trigger illumination, reduce it to reflect lower footfall and, when appropriate, switch it off after a period when no motion has been monitored.

We can also install controls that achieve a balance between the need for artificial lighting and the availability of natural daylight.

We can provide intelligent wireless control systems that react to complex occupancy patterns and modify their behaviour as the use of the building changes.

These can be modified to allow them to interface with Building Management Systems and other vital building information such as full analytics of the building operation through a web-based portal.

They can also be used to help monitor energy performance, maintenance schedules and records and the testing and reporting of emergency lighting.



LIGHTING CONTROLS

Circulation and Transition

With illumination on approach or continuous low-level lighting, no occupant or patient need enter a space in darkness.

Clever features such as “Min Light” deliver low energy minimum light levels for assured occupant safety and patient comfort.

Consulting Rooms

Lighting automatically adjusts to accommodate varied occupancy patterns, and specific scenes can be set to optimise the use of space.

What’s more, delay times can be modified so that no luminaire is on when it doesn’t need to be, such as once no occupancy is detected.

Clinical Spaces

Ensure appropriate lighting is always available for performing critical tasks, but off when no staff or patients are present.

Supportive Care

Adjust the light source colour of any tunable white luminaire via comprehensive colour temperature control to create an environment that users are most comfortable in.



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.

EMERGENCY LIGHTING

Reassurance where and when it's needed most

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

- Ease of maintenance
- Flexibility of design
- Parasitic energy consumption
- Minimising patient disruption
- Testing & Reporting

Any emergency system requires regular and annual testing. The use of central emergency testing and reporting systems to ensure an effective emergency provision is therefore in place at all times.

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

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

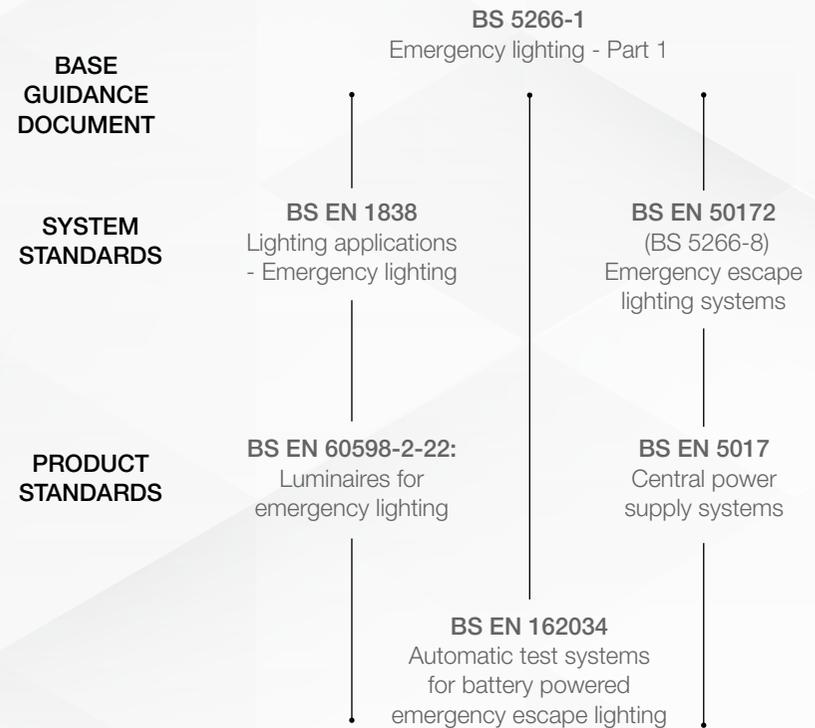
In the event of a power failure, a secure, effective, non-disruptive emergency lighting solution is vital in order to ensure the safe evacuation, movement, or continuation of any medical procedure.

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

Everything we do relating to emergency lighting not only complies to all the necessary standards and regulations, but also delivers products that are easy to maintain, require little or no standby power, facilitate automatic testing and reporting and, perhaps most importantly, minimise patient disruption.



Florin E3



MEETING NET ZERO OBJECTIVES

Lighting solutions for the circular economy

As the world changes to adapt to new demands made on the impact lighting solutions have on our environment, so too is our thinking.

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 healthcare 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](#)

 [READ MORE VITALITY RELIGHT SOLUTION](#)



EXPERTISE

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 healthcare 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



Whitecroft Lighting

A leading light in Sustainability

The healthcare 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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