# LIGHTBOOK XIX

# FUTURE

DESIGNS

# LIGHTBOOK XIX

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FUTURE DESIGNS

Light is dynamic
Light is emotive
Light has the ability to inspire, engage & motivate.
Light that adapts to its surroundings, environments that embrace the rhythm of the day and enhance wellbeing.

Welcome to Lightbook XIX


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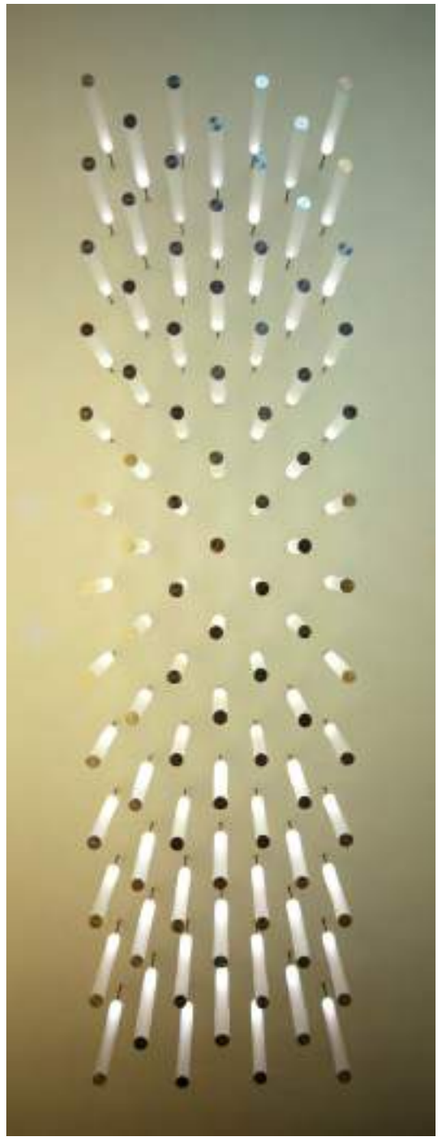

# INTRODUCTION


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# CLERKENWELL LIGHTHOUSE

CLERKENWELL Lighthouse in Dallington Street will champion light and showcase the very latest innovations in commercial lighting, giving visitors a truly immersive experience without displaying one single light fitting, through the utilisation of cutting edge Virtual Reality (VR), as well as demonstrating the latest technology in tunable white light technology. It is intended that this space will bring together the very latest thinking and technology from the lighting world and beyond, becoming a hub for forums, events and demonstrations.

## Tunable Light

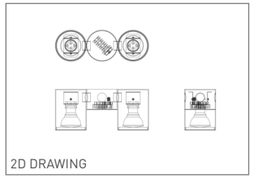
The ground floor space with its unique ceiling offers a complete tunable light experience. A full spectrum of lighting colours and colour temperatures, via the 67300 LEDs demonstrates how these different elements can dramatically change the look and feel of a space, according to how it needs to function for its users.

## Back to Reality

The VR experience, allows visitors to experience first hand the different options for lighting a space.  In the VR zone viewers will be able to step into another dimension and experience many lighting scenarios at their figure tips seamlessly switching from one to the other, experiencing the effect of colour temperatures for each product on show. The goal is not just to give the user a more realistic visual representation of the lighting applications but also the feeling and perception of the space, delivered through FUTURE Designs luminaires and design principles.

# 3D PRINTING & RAPID PROTOTYPING

We have invested in an all-encompassing 3D printing system to allow for quicker development of products.


2D DRAWING

3D DRAWING

3D PRINT

3D PRINTED PROTOTYPE

PROTOTYPE

FINAL PRODUCT

COPPA designed using 3D printing to develop and finalise the design.

# DESIGN

FUTURE Designs operates an in-house Research & Development facility to ensure our luminaires are unsurpassed in both performance and aesthetics. Our philosophy is always to push the boundaries by questioning the norm.

We constantly develop new and exciting product ranges to meet the needs of our diverse client base. We believe that even if a product has been successful in the market there is always room to further develop the success, be it through more efficient manufacturing or by incorporating the latest materials.

Our on-site facilities allow us to control the development of our luminaires from initial idea conception through to launch.

**Design Brief**
A brief from our client either for a standard luminaire, bespoke product or scheme.

**Concept & Specification**
Initial Concept through hand sketching and card models. At this stage no idea is discounted as even the most obscure idea could be the answer we are looking for.

**Research & Development**
3D development model. Design for aesthetics and function.

**Photometric Testing**
Virtual photometric tests to analyse performance and light distribution. Check for Building Regulations Part L & ECA (Enhanced Capital Allowance) schemes.

**Lux Level Testing**
Initial lighting calculations to check typical lux levels, energy consumption for BREEAM, LEED, SKA, ESTIDAMA.

**Final Design**
These tests allow us to refine and produce fully workable manufacturing drawings.

**Independent Photometric Testing**
Independent photometric labs provide us with a final photometric report.

**Manufacture**
Production of our luminaires in full swing and from here they are packaged and sent to our clients.

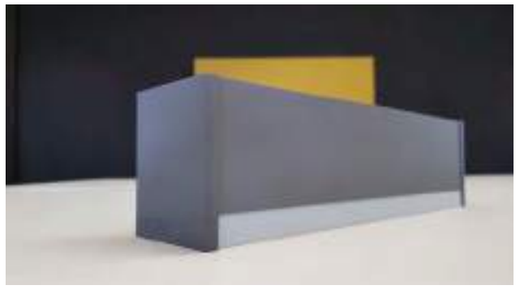
**First Install**
Arguably our favourite stage in the process where we see our product in situ and the full effect of an install.

# DESIGN & CPD

## SolidWorks
3D product design and engineering, bespoke product design and testing. Accurate drawings and models for concept and manufacture.

## REVIT & BIM
FUTURE Designs is BIM ready, with models available for architectural & Revit models.

## 3D Printing
Rapid prototyping and design development



Continual Personal Development (CPD)
FUTURE Designs are accredited to host a range of CPD courses on lighting & Wellness. These can be at your office or at our CLERKENWELL lighthouse.
Contact light@futuredesigns.co.uk to find out more or book a session.

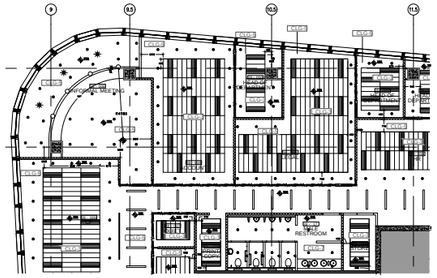
CIBSE CPD

FUTURE DESIGNS

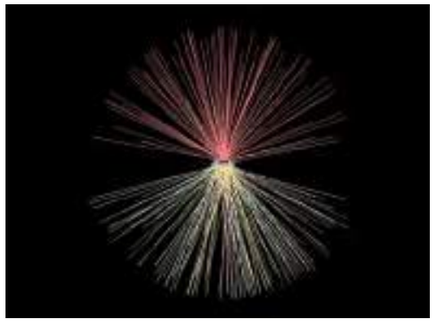


## Relux
For professional light planning and scheme design. Virtual spaces are modelled producing results for light levels, task area illuminance, energy W/m², cylindrical illuminance and levels on walls and ceilings.

## AutoCAD
A versatile design tool used to create manufacturing drawings, lighting schemes and schematics.



## Photopia
An advanced lighting design and simulation package giving fast and accurate photometric analysis. Photopia allows you to produce virtual luminaires without timely physical prototypes enabling a number of design variations to be tested without the need for tooling.



# BESPOKE DESIGN

Please email bespoke@futuredesigns.co.uk for our bespoke lighting brochure

FUTURE DESIGNS

# RESPONSIBILITY

We start considering the environment long before the lights go on.

At FUTURE Designs we recognise that good energy performance is sound financial management. With ever increasing energy prices, the introduction of carbon taxes and increased volatility in energy markets, the energy performance of a building is moving up the agenda of owners and occupiers alike.

We have always produced high efficiency, low energy luminaires but we are constantly striving to do even more. Giving you useful light in the right places for lower energy input is our aim and we do this with not just highly efficient luminaires, but efficient control systems, dimmers, presence and daylight detectors.

Reduced energy use means lower carbon emissions for the entire life of the product. We have also continually worked towards creating less waste and fewer emissions in our manufacturing process.

In recognition of this FUTURE Designs have been granted 'Accredited Supplier' status by the Carbon Trust.

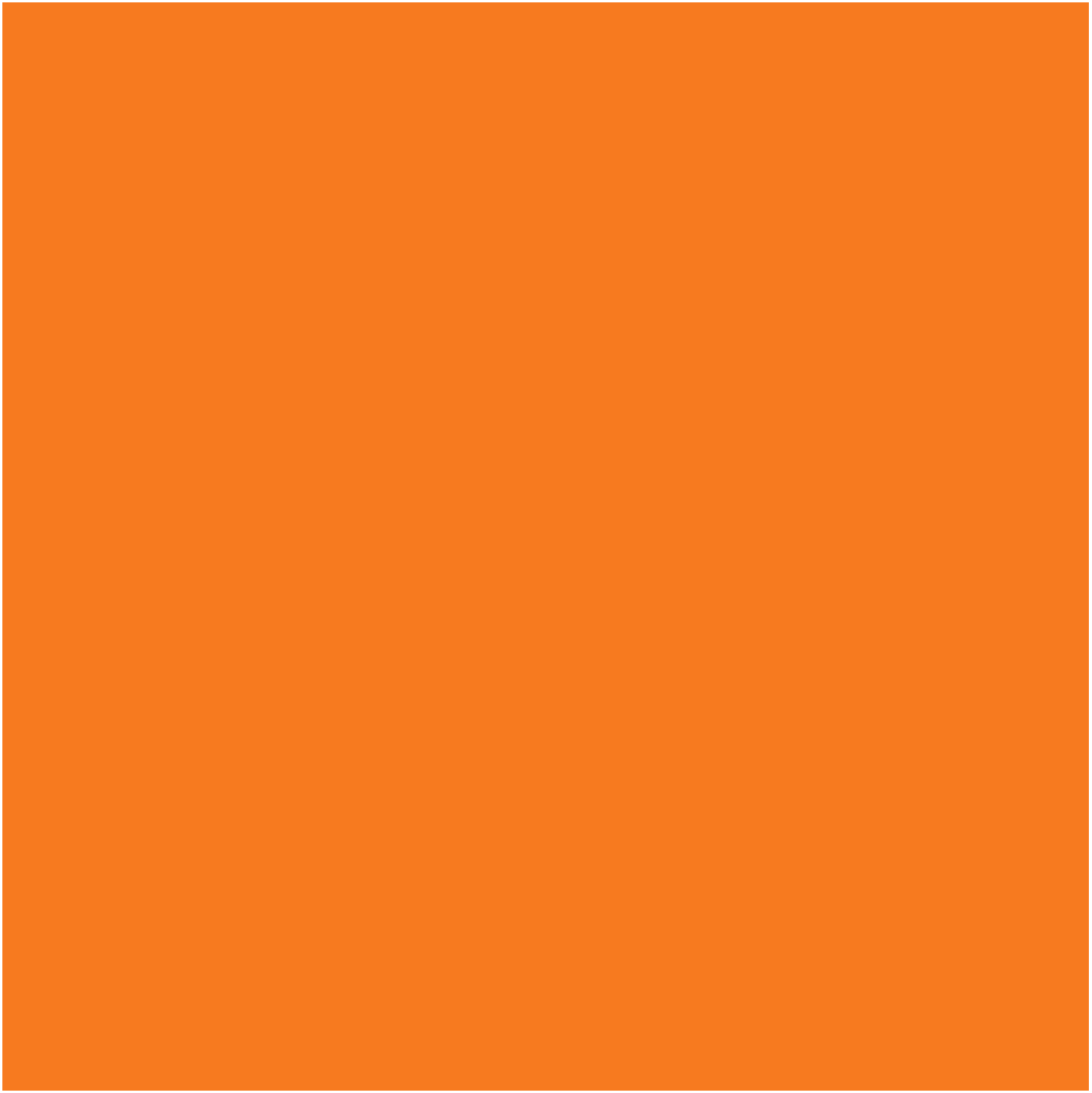
# SUSTAINABILITY

We are fully committed to taking responsibility for our products, designing for low impact and low waste manufacture and designing for end of life. The primary elements of steel, aluminium, glass, plastic and copper can be recovered and re-used.

Waste Electrical and Electronic Equipment (WEEE) is a regulation which governs the safe collection, treatment, recovery and environmentally sound disposal of electronic products. As a registered member of Lumicom we can ensure that we adhere to the directive and ensure that our products are 'reused, recycled & covered' in an environmentally friendly way.

Lumicom
FUTURE Designs is proud to be a member of Lumicom. Lumicom is a nonprofit initiative from LIF (Lighting Industry Federation) working under the Producer Compliance Scheme (PCS) for the WEEE directive.

ISO 14001 REGISTERED FIRM
ISO 9001 REGISTERED FIRM
CARBON TRUST ACCREDITED SUPPLIER
British Council for Offices
CIBSE
The Society of Light and Lighting
lumicom



# GUIDE TO LIGHT

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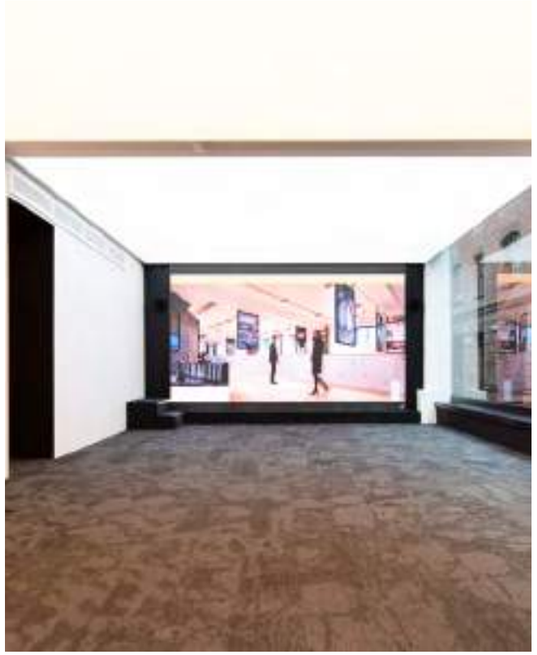
# WELLNESS & HUMAN CENTRIC LIGHTING

The natural daylight cycle has a direct effect upon us and with decreased exposure to natural light our biological circadian rhythms can be pushed out of sync with detrimental effect.

It is estimated that 200 years ago 75% of us worked outside. Nowadays that figure is closer to 10%. With more people spending more time under artificial lighting the balance needs to be restored which leads to better health and well-being.



## WHAT IS WELLNESS?

Wellness at work can now be assessed according to the Well Standard, a US specification encompassing seven aspects of well-being. Scoring in Air, Water, Nourishment, Light, Fitness, Comfort and Mind categories helps your building attain Well Standard ratings but more importantly signifies that the comfort and health of the workers within the building can be improved and maintained.

Following the identification of Seasonal Affective Disorder many studies have been carried out into the non-visual effects of light S.A.D is well known: some people who live in the northern and southern most latitudes experience depression during winter, symptoms being alleviated effectively by exposure to light from a specialist luminaire with high intensity cool white light.

In order to promote wellness lighting specifiers should seek to make use of systems which vary the colour temperature of artificial light. Reproducing the colours of natural daylight and tracking it throughout the day promotes well-being by exposing the human body to the cycle of light which prompts it to produce the correct hormones at the correct times of day, along with cues for other biological processes. This leads to an improved sleep/wake cycle which puts less stress on the body and mind.

- Air
- Water
- Nourishment
- Light
- Fitness
- Comfort
- Mind
- Innovation

# DAYLIGHT MIMICKING & COLOUR TUNING

## CIRCADIAN RHYTHM AND PRODUCTIVITY

In the same way that circadian rhythms can be controlled by exposure to light so can productivity.

By increasing the blue content of light, sleep hormones are suppressed and activity hormones promote wakefulness making us more alert, less error-prone and more accurate.

Studies in school children have shown dramatic increases in attentiveness and test results compared with similar students under traditional lighting.

By exposing workers to blue hued light during the start to mid parts of the day then slowly tuning to red/amber-hued light towards the end of the day overall productivity increases and the wind-down at the shift end or working day end is also boosted.

# LIGHTING, WELLNESS & SLEEP

Working with Dr. Neil Stanley, FUTURE Designs explored the effects that light and sleep have on our wellness with a sleep experiment carried out over 24 hours during the longest day of the year.

"I'm a freelance sleep expert who has been involved in sleep research for 36 years. I started my career at the Neurosciences Division of the R.A.F. Institute of Aviation Medicine, before in the early 1990s moving to the Human Psychopharmacology Research Unit, part of the University of Surrey, where as Director of Sleep Research he created and ran a 24 bed sleep laboratory for clinical trials. I am a past Chairman of the British Sleep Society (2000-2004) and a member of the European Sleep Research Society; the American Academy of Sleep Medicine and the European Society of Sleep Technologists.

I currently divide my time between lecturing, healthcare professionals and the public about the importance of sleep, consulting for companies in the sleep field and writing. I have published 38 peer-review papers on various aspects of sleep research and psychopharmacology and is widely quoted by the media as a sleep expert. I have also published a general science book 'How to Sleep Well'.

I have become involved with FUTURE Designs in order to help them elucidate the benefits, and problems, of human-centric lighting on sleep, health and work. LED technology allows us to do many things but from the human perspective are these necessarily desirable or beneficial?"

Dr. Neil Stanley

Cool White Installation

Warm White Installation

# SMART LIGHTING INTERNET OF THINGS

The IoT, will change our lives. Imagine a connected world where your car tells your oven to start cooking before beginning your commute home. It will even amend the cooking time according to information received from traffic monitoring systems if your commute will be longer.

In places of work, sensors connected to lighting will talk to building management systems reporting such information as: the amount of people in the room so that heating and lighting can be adjusted; who is in the room; the influence of solar gain for heating and lighting; where assets and equipment is located (laptops, phones, hospital beds).

Lighting is an obvious choice for placement of sensors and as a medium for transferring data. In towns and cities, lighting is ubiquitous. A Bluetooth mesh can be formed easily between transceivers integral to the luminaries. This can then send data back to a management system or pass it further on down the line to other data gathering systems.

## IoT Benefits

- Wireless control systems
- Building analytics including space &energy.
- Offsite access to systems
- Personalisation of lighting
- Provide a work space using tunable white for wellness.
- Wayfinding, location messaging and marketing for retail environments to increase sales through sensors integrated into the lighting.
- Product recognition for stock control.

Light Tuning for Wellness

Light Control

Occupancy

Motion Detection

Temperature Control

Building Analytics

# WELLNESS AT WORK

FUTURE Designs, one of six companies who commissioned the research project to explore the relationship between lighting design, wellness at work and the impact that this may have on productivity and profitability.

From the findings it transpired companies that recently adopted tunable white lighting on average have a gross profit margin that is 39% higher than those without.

Lighting and Wellness

- Harsh or overly bright lighting is considered a far greater distraction for employees than lower output soft or diffused lighting, in fact it is the third biggest form of extreme distraction mentioned by a third of employees.
- Areas that are underlit is the twelfth biggest distraction (22%).
- Facilities Management (FM) are in agreement with employees regarding the level of distraction accounted for by harsh light, however they consider that underlit areas are a much bigger distraction

Currently lighting systems that have the ability to change their colour tone as the day progresses are the least common feature in an office, with only 7% of organisations having them. It is however the top characteristic of the more profitable organisations so it is arguable that if there is one change you should consider to improve profitability it is changing the lighting. Tunable lighting can be programmed to recreate the colours of natural daylight throughout the day. For workers with little exposure to natural light, this can improve health and well-being.

Lighting systems that adapt their colour tone as the day progresses feature in some of the most productive companies, and those that consider themselves to be highly innovative or creative.

- 16% of highly innovative or creative companies have tunable lighting,
- 5% of the less innovative or creative companies have tunable lighting
- They are also a characteristic of the most productive companies (i.e. score 7 or 6 out of 7point scale)
- 12% of highly productive companies have these facilities while only 5% of the less productive do.

Focusing specifically on the characteristics that differentiate high and low profitability companies the study identified a positive link with wellness. These companies have mentally and physically fit staff; the kind of culture that embraces noise, social interaction and movement and importantly lights that change their tone during the day.

wellnessandwork.co.uk

# LIGHT PLANNING

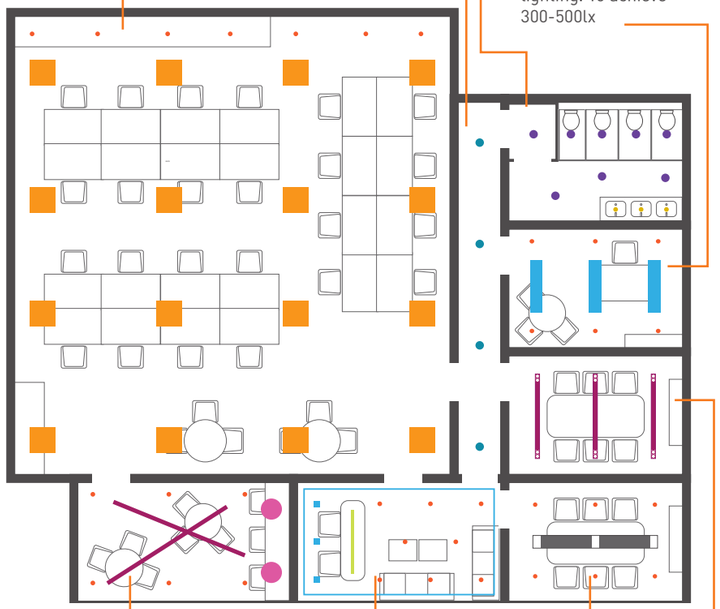
## A QUICK REFERENCE GUIDE TO LIGHTING A SPACE AND THE PRODUCTS TO USE ALONG WITH THE LIGHT LEVELS REQUIRED

Office space with 600mm x 600mm GLOS, EXEMPLAR or AXCEL. Up to 3m x 3m spacing to achieve 300-500lx on the working plane. BEEMRD130 for perimeter lighting.

Corridor space with BEEMRD185SB 2.4m or 3m spacing to achieve 100lx at floor.

Toilets with BEEMRD196 in each cubicle & BEEMRD100 over the sinks. Main washroom area 1.2 to 2.4m spacing to achieve 200lux.

Meeting rooms and cellular spaces illuminated using GLOS, EXEMPLAR or AXCEL linear or modular fixtures spaced up to 3m apart. with perimeter BEEMRD130 downlights for accent lighting. To achieve 300-500lx



Breakout space. Make the space interesting using a combination of fixtures to highlight focal areas. VANE, HUB & BEEMRD100 to achieve 200-300lux at task area.

Use lighting to zone and create focus over reception desk and waiting area. SHEER, VIVID coffer lighting, BEEMSQ & BEEMRD130 to achieve 200lux in the main area and desk at 300lux.

Cellular offices with feature HAL pendant and accent lighting with BEEMRD130 downlights to achieve 300-500lux at desk.

VANE recessed or suspended slotlights to illuminate cellular offices or meeting rooms to 300-500lux. VANE can be suppplied with optional downlighters to accent the space.

| Luminaire | Symbol | Image |
|---|---|---|
| GLOS/ EXEMPLAR/ AXCEL | | |
| GLOS/ EXEMPLAR/ AXCEL LINEAR | | |
| HAL | | |
| VANE | | |
| SHEER | | |
| BEEM185SB | | |
| BEEMRD196 | | |
| BEEMRD130 | | |
| BEEMRD100 | | |
| BEEMSQ100 | | |
| POD450 | | |
| VIVID | | |

FUTURE DESIGNS


THIS LIGHTING GUIDE IS FOR INFORMATION ONLY AND AS SUCH FUTURE DESIGNS WILL NOT BE HELD RESPONSIBLE FOR ANY ERRORS CONTAINED THEREIN.

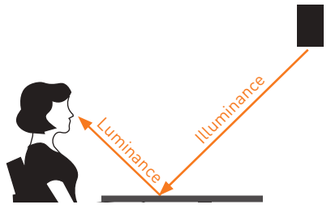
# LIGHTING DESIGN

AS PART OF BS EN 12464-1:2011 THE GUIDE WANTS US TO LOOK AT HOW LIGHTING INTERACTS WITH THE SPACE AND THE PERSONS WITHIN.

AS THE WAY WE WORK CHANGES, LIGHTING HAS TO ADAPT. WELLNESS, FACE TO FACE COMMUNICATION, VIDEO CONFERENCING, HOT DESKING AND COLLABORATIVE SPACES REQUIRE LIGHTING FOR VISUAL COMMUNICATION AND WELL BEING.

## LIGHTING DEFINITIONS

LUMENS also known as flux, is the light emitted from a light source or luminaire.
ILLUMINANCE is the amount of light that falls onto a surface measured in lux.
LUMINANCE is the intensity of the light reflected from a surface measured in Candelas (cd/sqm).




| Colour temperature BS EN 12464-1 | |
|---|---|
| Warm | Below 3000K |
| Intermediate | 3300-5300K<br>4000K typically used for CAT A Office (also known as cool white) |
| Cool | 5300K+ |

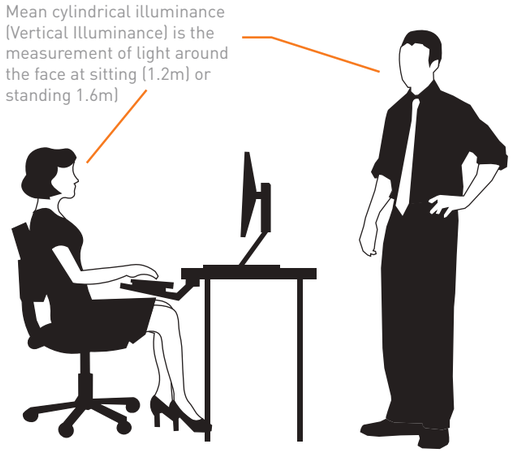
## CEILINGS & WALL ILLUMINANCE

Lighting walls and ceilings provide a visually comfortable space to work in as well as creating a brighter environment.

| Recommended illuminance levels for surfaces. It is recommended that these figures are exceeded. | |
|---|---|
| Ceiling | 50lux<br>Uniformity › 10% |
| Walls | 75lux<br>Uniformity › 10% |

## Cylindrical Illuminance

Cylindrical illuminance measures the vertical illuminance, the amount of light falling on a persons face. The recommendation is a mean Cylindrical Illuminance of 150lux with a uniformity of 0.1 at standing (1.6m) and sitting (1.2m).




## Task Illuminance

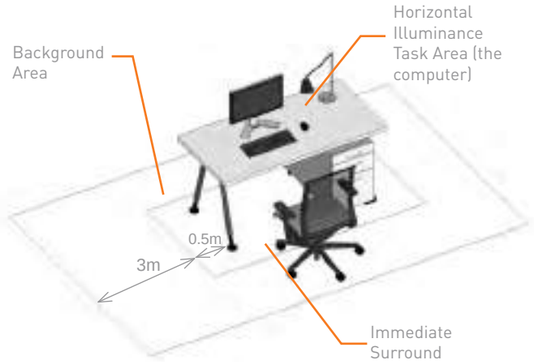
Lighting for task is an energy efficient way of lighting a space and thus eliminating wasteful light.

The task area is often seen as the computer screen on a typical desk of 1.5m x 0.75m. The actual task may occur anywhere on this surface.

Tasks should be lit to between 300 and 500lux (minimum 300lux for computer based tasks).

The Immediate Surround area is an area at least 0.5m around the task. If the desking layout is unknown then the Immediate Surround areas should not be less than 300lux.

Background Area is the area 3m around the Immediate Surround Area. Here we are looking at levels a third of the Task/Immediate Surround Area.



## GENERAL, ACCENT & PERIMETER LIGHTING

This is an area which can benefit from big energy savings. Using daylight linked lighting control systems energy consumption can be reduced. Tunable white enables lighting to mimic the day.

## LIGHTING CONTROL

Building Regulations require luminaires to be efficient. Utilising lighting controls can aid in saving energy and reducing carbon emissions.

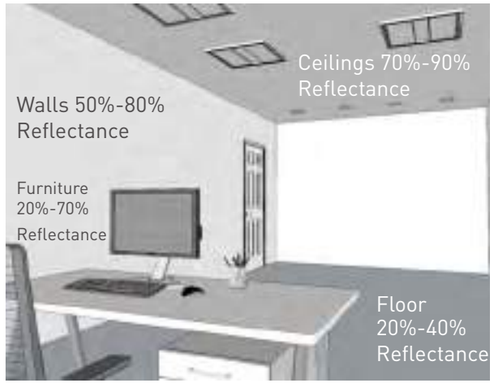
- Dimming
- Presence detectors
- Absence detection
- Localised control
- Daylight linking
- Power Over Ethernet

## GLARE

Glare can be defined as Discomfort Glare where it causes discomfort but does not impair vision of objects or Disability Glare where it impairs the vision of objects without causing discomfort.
Glare can be checked by glare calculations, UGR table and candela values of the luminaire (see photometry basics).

| Average luminance limits of luminaires, which can be reflected onto Flat screens (BS EN12464-1) | | |
|---|---|---|
| | High luminance screen | Medium luminance screen |
| Positive Polarity Normal requirements | ≤ 3000cd/sqm | ≤ 1500cd/m² |
| Negative Polarity Higher requirements such as CAD and colour inspection | ≤ 1500cd/sqm | ≤ 1000cd/m² |

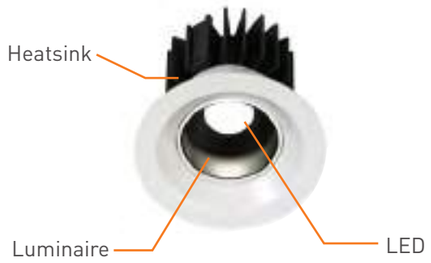
## STANDARD REFLECTANCES FOR OFFICE SPACE




Zhaga

Zhaga are a global lighting-industry organisation that is standardising LED light engines and associated components. This helps to simplify LED luminaire design and manufacturing, and to accelerate the adoption of LED lighting solutions.

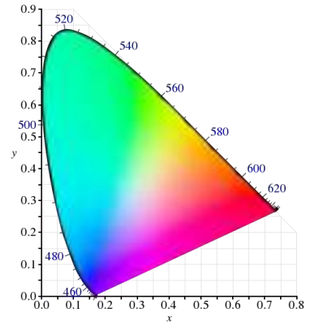
## LED LUMINAIRE PROPERTIES




| LED Terminology | Description | Notes |
|---|---|---|
| Rated Luminous flux | The light emitted from the luminaire. | Expressed in lumens |
| LED Life | Illustrated as lumen depreciation over time (L) and failure rate (F) | IES LM-80-08. Approved Method: Measuring Lumen Maintenance of LED Light Sources. |
| CRI | Colour Rendering Index. A measure of the ability of the light source to reveal the colours of an object/ surface. | For most installations CRI 80 or above |
| Colour Stability | Colour Binning | Measured as MacAdam Steps (SDCM). |
| CCT | Correlated Colour Temperature. Colour temperature is a characteristic of visible light | Classification of colour expressed in Kelvin e.g. 4000K |
| Thermal Management | LEDs do not radiate heat but need to be thermally managed. | Heat sink design and temperature testing to prevent damage or early degradation to the diode. |
| Efficacy | Efficacy of the product and of the LED | This details how efficient the product is and is required by ECA (Enhanced Capital Allowance Scheme) and Part L of the Building Regulations |
| Power factor | Expressed as mA | This is the current the luminaire is running at. The lower the current the less power the luminaire consumes |
| CELMA Guide Apples & Pears give an in depth guide into LED standards & Performance | | |

## COLOUR RENDERING

The MacAdam chromaticity diagram allows us to understand colour by clarifying what the colour is and how different colours are.




CIE Chromaticity Diagram

For office lighting we look at the white spectrum. The MacAdam ellipse allows LEDs to be binned (categorised) by performance.

Most LEDs are binned at 3 MacAdam steps. 4-7 MacAdam steps would mean the end user would see a colour difference.

## RATED LIFE -LIFE-TIME, LUMEN MAINTENANCE AND FAILURE RATE

The light output of an LED Module decreases over the life-time, this is characterised with the L value.

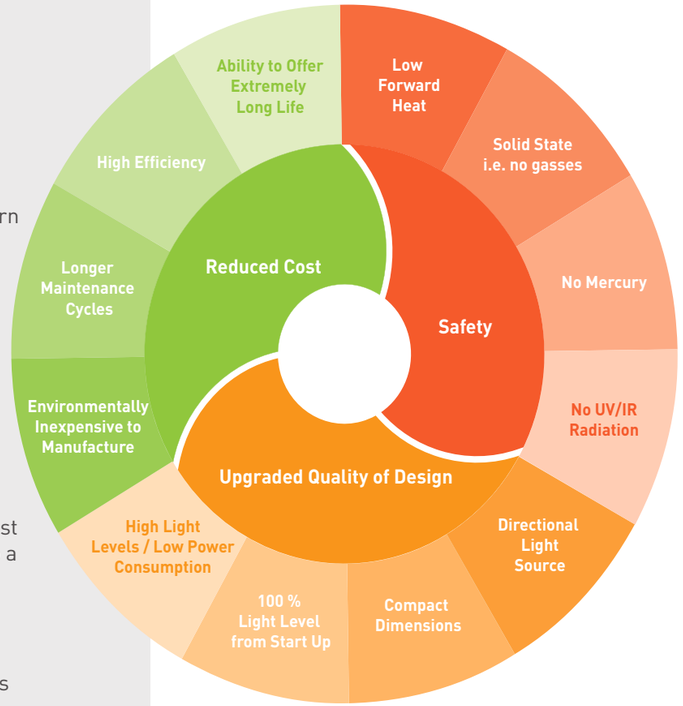
L70 means that the LED module will give 70% of its initial luminous flux. This value is always related to the number of operation hours and therefore defines the lifetime of an LED module.

The F value is the combination degradation and complete failures, e.g. L70F10 means 10 % of the LED modules may fail or be below 70 % of the initial luminous flux.

| Forward current | tp temperature | L90 / F10 | L90 / F50 | L80 / F10 | L80 / F50 | L70 / F10 | L70 / F50 |
|---|---|---|---|---|---|---|---|
| 250 mA | 45 °C | 53,000 h | >60,000 h | >60,000 h | >60,000 h | >60,000 h | >60,000 h |
| | 65 °C | 26,000 h | 39,000 h | 55,000 h | >60,000 h | >60,000 h | >60,000 h |
| 300 mA | 45 °C | 52,000 h | >60,000 h | >60,000 h | >60,000 h | >60,000 h | >60,000 h |
| | 65 °C | 26,000 h | 38,000 h | 54,000 h | >60,000 h | >60,000 h | >60,000 h |

## LED BENEFITS

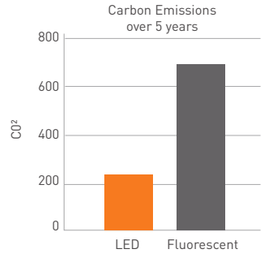
- Tunable White for Wellness
- Directional LED light distribution leads to increased LOR
- No lamp imaging
- Cost effective
- Low power consumption and in turn lower Watts/m²
- Reduced maintenance
- Reduced install points
- Payback in 3 years
- Compatibility with intelligent lighting systems
- LEDs are solid state lighting, robust in construction when compared to a fluorescent tube
- Warranty of 5 years
- High resistance to switching cycles
- High impact and vibration resistant



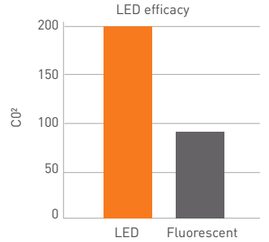

# CASE STUDY CORPORATE WORKSPACE RETROFIT

A workspace retrofit project where the original fluorescent housings were retained and upgraded to LED. Based on a 12hour work day, 260 days of the year.

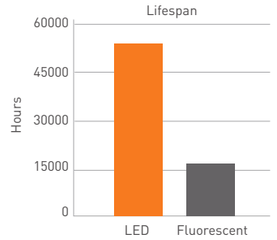
- Create a refreshed scheme demonstrating the re-use of existing luminaires
- Utilise existing housing using LED boards
- A sustainable upgrade plan
- Re-developing existing housing to LED
- Developed photometrically to ensure correct light levels and
- 64% Power saving
- 64% Reduction in carbon
- Comparable lumen output
- Quick LED installation
- Up to 20% further savings in dimming




LED offers a **64%** saving in carbon emissions and running costs.




LED offers increased light source efficiency of **122%**. In turn reducing energy costs and maintenance.



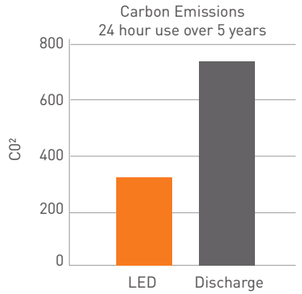

LED offers increased lamp life of source efficiency of **212%**. In turn reducing energy costs and maintenance.

By switching to LED the carbon saving over 5 years is the equivalent of driving a car 48.5 times around the world.

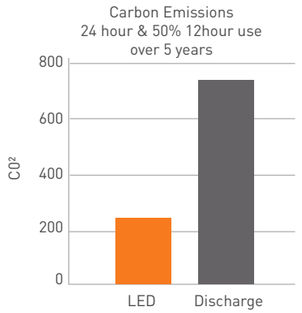
# CASE STUDY RECEPTION

Switching from discharge to LED in this corporate reception where the lighting is operational 365 days a year, 24 hours a day. An option to have half the amount of operational lights during the last 12 hours of the day was also considered.

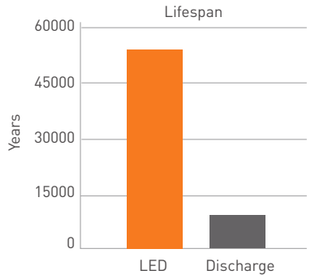
- 24 hour continuous use
- Option to reduce operational fittings to half for 12 hours
- 56% Reduction in carbon & running costs over 24 hour period
- 67% Reduction in carbon & running costs over 24/12 hour split period
- Quick LED installation in like for like placements
- Up to 20% further savings in dimming




Option 1
With 24 hours use. LED will offer **56%** saving in carbon emissions and running costs.




With 24 hours use and 50% off for 12 hours. LED will offer **67%** saving in carbon emissions and running costs.

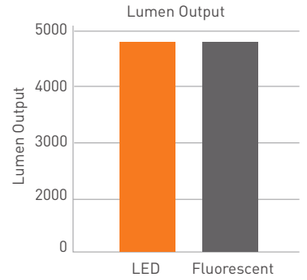



LED will offers **400%** increase of lamp life. Reducing maintenance costs.

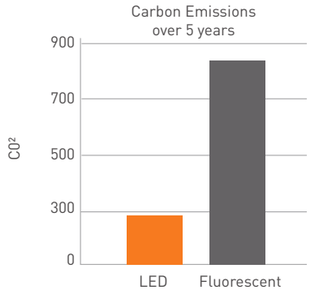
# CASE STUDY OFFICE SPACE

LED luminaire installation replacing an existing fluorescent scheme. Utilising LED technology and luminaire design to reduce maintenance and installation costs as well as providing comparable lux levels. Based on a 12hour work day, 260 days of the year.

- Create a modern LED installation
- 65% Power saving
- 65% Reduction in carbon
- Comparable lumen output
- 212% Increased life
- Up to 20% further savings in dimming




LED offers increased lifespan of **212%** whilst offering like for like lumen package.




LED reduces carbon emissions by **64%**. In turn reducing energy costs and maintenance.

By switching to LED the carbon saving over 5 years is the equivalent of driving a car 320 times around the world.

# GUIDES & ASSESSMENTS

## BREEAM
BREEAM is the world's foremost environmental assessment method and rating system for buildings. BREEAM sets the standard for best practice in sustainable building design, construction and operation and has become one of the most comprehensive and widely recognised measures of a building's environmental performance.

## BSI British Standards
The UK's national standards organisation that produces standards and information products that promote and share best practice. The world's first national standards body and we remain a leading global standards maker.

## The Chartered Institution of Building Services Engineers (CIBSE)
Is a professional body that exists to support the Science, Art and Practice of building services engineering, by providing our members and the public with first class information and education services and promoting the spirit of fellowship which guides our work.

## Enhanced Capital Allowance & Efficacy
LEDs enable luminaires to be extremely efficient. The ECA (Enhance Capital Allowance) Scheme allows for projects to be given a tax rebate by ensuring the most energy efficient luminaires are utilised.

## ESTIDAMA
Estidama is a building design methodology for constructing and operating buildings and communities more sustainable, primarily used in the Gulf region.

## Illuminating Engineering Society of North America (IESNA)
The recognised technical authority in the US on illumination, communicating information on all aspects of good lighting practice.

## LEED
LEED, or Leadership in Energy & Environmental Design, is a green building certification program that recognises best-in-class building strategies and practices. To receive LEED certification, building projects must satisfy prerequisites and earn points to achieve different levels of certification.

## The Well Standard
A US specification encompassing seven aspects of well-being. Scoring in Air, Water, Nourishment, Light, Fitness, Comfort and Mind.

| ENHANCED CAPITAL ALLOWANCE SCHEME (ECA) | | |
|---|---|---|
| ENHANCED CAPITAL ALLOWANCE SCHEME (ECA) Category | | Minimum Luminaire efficacy (in luminaire lumens/ Per Circuit Watt) |
| Amenity Accent & Display | | ≥ 95 |
| General indoor lighting (Direct Lighting) | | ≥ 105 |
| General indoor lighting (Uplighting) | | ≥ 125 |
| General indoor lighting (Indirect/Direct) | | ≥ 125-(20 x DLOR/LOR) |
| Exterior Area Lighting Units | | ≥ 105 |
| Exterior area & floodlighting | | ≥ 105 |

# EMERGENCY LIGHTING

ESCAPE LIGHTING IS AIMED TO ENSURE THAT PEOPLE ARE PROTECTED FROM THE EFFECTS OF NORMAL LIGHTING SUPPLY FAILURE AND PROVIDED WITH SUFFICIENT ILLUMINATION TO BE ABLE TO LOCATE ESCAPE ROUTES AND USE THEM SAFELY.

An emergency escape lighting design needs to consider:

- The escape route, including en-route exits and final exits for both interior and exterior.
- Areas with high risk tasks.
- Access areas.
- Occupational hours especially for offices, hospitals etc.
- Consideration must also be taken when looking at the type of emergency lighting to be provided and to ensure they meet with EN and BS regulations.

Escape lighting can be provided as either:

NON MAINTAINED: The escape lighting operates when the normal mains supply fails.

MAINTAINED: Where the lighting operates normally and continues to operate when the normal mains supply fails (mains lighting and escape lighting).

An escape lighting design should:

- Provide 3 hours of lighting for escape
- Provide adequate visual terms and directions for safe evacuation on escape routes
- Consider fire alarm call points, fire fighting equipment and safety equipment to be identified
- Allow hazards (e.g. stairs, intersections, slopes) and hazardous processes to be identified and made safe during evacuation.
- Provide at positions where a visual task has to be performed prior to evacuation or where people have to pass by these dangers along the escape route in the high risk areas.
- Be based on the minimum light output condition of the luminaire and should be based on direct light only.

| Area | | Design illuminance / light level |
|---|---|---|
| Escape route | | Minimum design value of 1 lx on the floor along the centre line (CL) of the route with 0.5 lx on the floor of the centre band (CB) of at least 50% of the route width. |
| Open escape area | | Minimum design value of 0.5 lx on central core empty floor excluding 0.5m wide perimeter band |
| Fixed seated area | | Minimum design value of 0.1 lx on a plane 1m above floor/ pitch-line over seated areas. Gangways should be treated as clearly defined routes |
| High risk task area | | Minimum 10% of maintained illuminance on the reference plane but at least 15 lx |
| Areas requiring emergency lighting due to risk assessment | Kitchens | 15 lx at the working plane |
| | First aid rooms | 15 lx at the working plane |
| | Treatment rooms | 50 lx at the working plane |
| | Refuge areas for people with impaired mobility | 5 lx at the working plane |
| | Plant rooms, switch rooms and emergency winding facilities for lifts | 15 lx in plane of visual task |
| | Fire control and indicating equipment | 15 lx in plane of visual task |
| | Reception area (sufficient illumination to call fire brigade) | 15 lx in plane of visual task |
| | Crash bars or security devices at exit doors | 5 lx in plane of visual task |
| | Swimming pool surrounds | 5 lx in plane of visual task |

Signs available for use in an emergency, are clearly signposted and are visible at all material times and should be illuminated by both the normal and the emergency lighting systems.
The style and details of the safety signs are defined in BS 5499. BS ISO 3864 gives the internationally agreed formats of exit signs and safe condition signs.

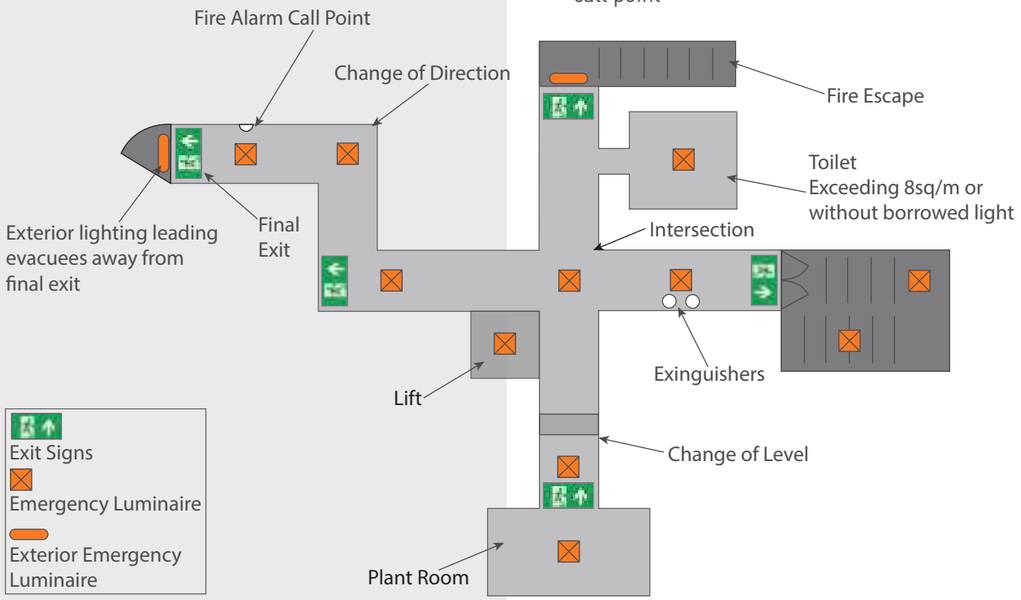
## EMERGENCY TESTING

- Self-contained - a functional test should be carried out to ascertain that all luminaires are working in the correct manner, i.e. Maintained, non-maintained and, where appropriate, combined. It should be verified that the battery-charging supply is present and indicated, and that the luminaires operate in emergency mode on simulation of a general supply failure.
- Central systems - the system should be tested in normal and emergency modes to determine the correct changeover of luminaires and full functionality in emergency mode. With central systems, it is essential that a full duration test is carried out.
- Automatic testing and remote testing systems - the system should be set-up and tested for functioning in accordance with the suppliers' instructions. A copy of these instructions should be placed with the log book.

# EMERGENCY POSITIONING

## IDEAL LOCATIONS TO SITE EMERGENCY LUMINAIRES

- At each exit door intended for use in an emergency
- Near stairs so that each flight of stairs receives direct light
- Near any change in level
- At mandatory emergency exits and safety signs
- At each change of direction
- At each intersection of corridors
- Near each final exit and outside the building to a place of safety
- Near each first aid post
- Near each piece of fire fighting equipment and call point




# EMERGENCY LEVELS

THE LIGHTING PROVIDED FOR USE WHEN THE SUPPLY TO THE NORMAL MAINS LIGHTING FAILS

## STANDBY LIGHTING

That part of emergency lighting provided to enable normal activities in the event of failure of the normal mains supply.

## OPEN AREA

The part of emergency escape lighting provided to avoid panic and provide illumination allowing people to reach a place where an escape route can be identified.

Large areas (generally greater than 60 square metres) through which escape may be hazardous (or generate panic).

0.5 Lux minimum anywhere in the area except the 0.5 metre band around the perimeter.

## ESCAPE ROUTE

Lighting provided to ensure that the means of escape can be effectively identified and safely used when a location is occupied.

Lighting of defined escape routes; corridors, stairways, fire stairs etc.

1 lux minimum on the centre line and the central band (not less than half total width) to be illuminated

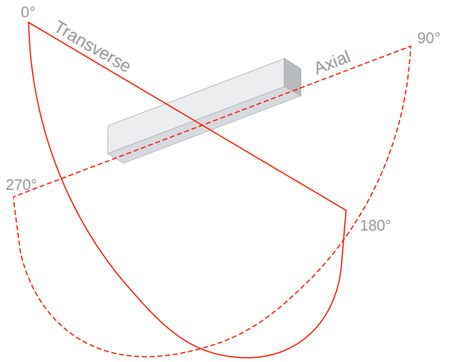
## HIGH RISK TASK LIGHTING

Emergency lighting provided to ensure the safety of people involved in a potentially dangerous process or situation and to enable proper shut down procedures for the safety of the operator and other occupants of the premises. Tasks that may require a shut down procedure before evacuation (rotating machines, acid baths etc.)

The task area must be lit to 10% of the normal illuminance for as long as the risk exists. Illuminance must be achieved in 0.5 seconds.

# PHOTOMETRY

PHOTOMETRIC DATA DESCRIBES THE BEHAVIOUR OF A LUMINAIRE AND IS PRESENTED IN A STANDARD FORMAT WHICH DESCRIBES HOW A LUMINAIRE 'LIGHTS', AND HOW IT COMPARES WITH OTHER SIMILAR FITTINGS.




Photometric data represents the two views of a luminaire, known as Transverse and Axial.

Photometric data can be supplied as a diagram which can be interpreted in such a way that is possible to work out which luminaires are suitable for specific installations.

The photometric properties of a luminaire can be accurately measured in several different ways, lighting engineers have developed precise terms to describe each of these:

## LUMINOUS FLUX

The light emitted by a light source, this is measured in LUMENS.

## LUMINOUS INTENSITY

This is the light travelling in any direction and is measured in CANDELAS.

## ILLUMINANCE

The luminous flux density on a surface. This is measured in LUX.

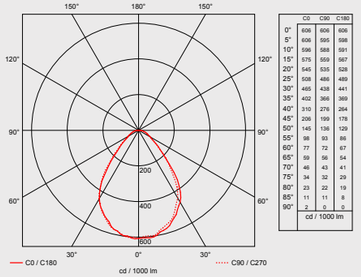
## TESTING

Luminaires are tested as either Absolute or Relative Photometry.

Relative photometry is where the light output ratio is adjusted for luminaire losses.

LED luminaires are generally tested as absolute photometry under the guidance of IESNA LM-79-08. This means that the luminaires are tested at 100% light output with the lumen value is adjusted as it exits the luminaire.

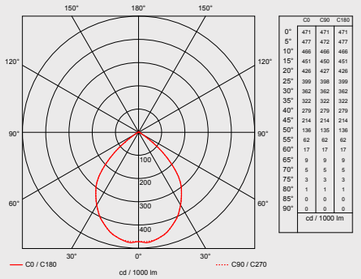
Photometric data files are supplied in LDT or IES formats to be used in lighting programs such as Relux or Dialux.




| | C0 | C90 | C180 |
|---|---|---|---|
| 0° | 606 | 606 | 606 |
| 5° | 606 | 595 | 598 |
| 10° | 596 | 588 | 591 |
| 15° | 575 | 559 | 567 |
| 20° | 545 | 535 | 528 |
| 25° | 508 | 486 | 489 |
| 30° | 465 | 438 | 441 |
| 35° | 402 | 366 | 369 |
| 40° | 310 | 276 | 264 |
| 45° | 205 | 199 | 178 |
| 50° | 145 | 136 | 129 |
| 55° | 86 | 93 | 86 |
| 60° | 77 | 72 | 67 |
| 65° | 59 | 56 | 54 |
| 70° | 46 | 43 | 41 |
| 75° | 34 | 32 | 29 |
| 80° | 23 | 22 | 19 |
| 85° | 11 | 11 | 9 |
| 90° | 0 | 0 | 0 |

cd / 1000 lm

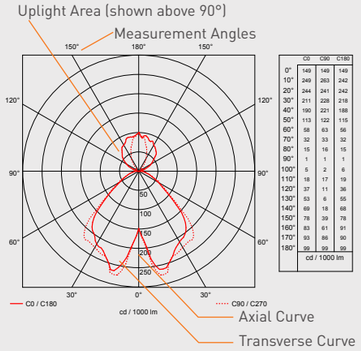
For square or linear luminaires, two polar curves are given; transverse, across the luminaire (solid red curve), and axial, along the luminaire (dotted red curve). These planes detail the light distribution of the luminaire.




| | C0 | C90 | C180 |
|---|---|---|---|
| 0° | 471 | 471 | 471 |
| 5° | 477 | 472 | 477 |
| 10° | 466 | 466 | 466 |
| 15° | 451 | 450 | 451 |
| 20° | 426 | 427 | 426 |
| 25° | 399 | 398 | 399 |
| 30° | 362 | 362 | 362 |
| 35° | 322 | 322 | 322 |
| 40° | 279 | 279 | 279 |
| 45° | 214 | 214 | 214 |
| 50° | 136 | 135 | 136 |
| 55° | 62 | 62 | 62 |
| 60° | 17 | 17 | 17 |
| 65° | 9 | 9 | 9 |
| 70° | 5 | 5 | 5 |
| 75° | 3 | 3 | 3 |
| 80° | 1 | 1 | 1 |
| 85° | 0 | 0 | 0 |
| 90° | 0 | 0 | 0 |

cd / 1000 lm

For a symmetrical luminaire, such as a downlight, only one curve is given which shows the average distribution from several planes around the fitting.




| | C0 | C90 | C180 |
|---|---|---|---|
| 0° | 149 | 149 | 149 |
| 10° | 249 | 263 | 242 |
| 20° | 244 | 241 | 242 |
| 30° | 211 | 228 | 218 |
| 40° | 190 | 221 | 188 |
| 50° | 113 | 122 | 115 |
| 60° | 58 | 63 | 56 |
| 70° | 32 | 33 | 32 |
| 80° | 15 | 16 | 15 |
| 90° | 1 | 1 | 1 |
| 100° | 5 | 2 | 6 |
| 110° | 18 | 17 | 19 |
| 120° | 37 | 11 | 36 |
| 130° | 63 | 6 | 55 |
| 140° | 69 | 18 | 68 |
| 150° | 78 | 39 | 78 |
| 160° | 83 | 61 | 91 |
| 170° | 93 | 86 | 90 |
| 180° | 99 | 99 | 99 |

cd / 1000 lm

The information presented within this table is the numerical form of the data in the polar diagram. Distribution is measured in planes, if a luminaire is symmetrical then the information is presented using C0 plane only. If a luminaire is square or rectangular additional planes are added to reflect the shape.

POLAR CURVES ARE A GRAPHICAL REPRESENTATIVE OF LIGHT DISTRIBUTED FROM A LUMINAIRE. THE CURVE PROVIDES INFORMATION ABOUT THE AMOUNT OF LIGHT, SPREAD AND THE INTENSITY OF THE LIGHT.

**Glare Rating (UGR)**

| Reflectance of Ceiling | | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Walls | | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 |
| Floor Cavity | | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Room dimension x | y | Viewed crosswise | | | | | Viewed endwise | | | | |
| 2H | 2H | 13.1 | 14.5 | 13.5 | 14.8 | 15.1 | 13.0 | 14.3 | 13.3 | 14.6 | 15.0 |
| | 3H | 13.8 | 15.0 | 14.1 | 15.3 | 15.7 | 13.8 | 15.0 | 14.2 | 15.4 | 15.7 |
| | 4H | 14.1 | 15.2 | 14.5 | 15.6 | 16.0 | 14.2 | 15.4 | 14.6 | 15.8 | 16.1 |
| | 6H | 14.5 | 15.5 | 14.9 | 15.9 | 16.3 | 14.7 | 15.8 | 15.1 | 16.1 | 16.5 |
| | 8H | 14.6 | 15.6 | 15.0 | 16.0 | 16.4 | 14.8 | 15.8 | 15.2 | 16.2 | 16.6 |
| | 12H | 14.7 | 15.7 | 15.1 | 16.1 | 16.5 | 14.9 | 15.9 | 15.3 | 16.3 | 16.7 |
| 4H | 2H | 13.4 | 14.5 | 13.8 | 14.9 | 15.2 | 13.2 | 14.4 | 13.6 | 14.7 | 15.1 |
| | 3H | 14.1 | 15.1 | 14.5 | 15.5 | 15.9 | 14.3 | 15.2 | 14.7 | 15.6 | 16.0 |
| | 4H | 14.6 | 15.4 | 15.0 | 15.8 | 16.3 | 14.9 | 15.8 | 15.4 | 16.2 | 16.6 |
| | 6H | 15.0 | 15.8 | 15.5 | 16.2 | 16.7 | 15.5 | 16.2 | 15.9 | 16.7 | 17.1 |
| | 8H | 15.3 | 16.0 | 15.8 | 16.4 | 16.9 | 15.7 | 16.4 | 16.2 | 16.8 | 17.3 |
| | 12H | 15.5 | 16.1 | 16.0 | 16.6 | 17.1 | 15.9 | 16.5 | 16.3 | 16.9 | 17.5 |
| 8H | 4H | 14.8 | 15.5 | 15.3 | 15.9 | 16.4 | 15.1 | 15.8 | 15.6 | 16.3 | 16.7 |
| | 6H | 15.4 | 16.0 | 15.9 | 16.5 | 17.0 | 15.8 | 16.4 | 16.3 | 16.8 | 17.3 |
| | 8H | 15.8 | 16.3 | 16.3 | 16.8 | 17.3 | 16.1 | 16.6 | 16.7 | 17.2 | 17.7 |
| | 12H | 16.1 | 16.5 | 16.7 | 17.1 | 17.6 | 16.4 | 16.8 | 16.9 | 17.3 | 17.8 |
| 12H | 4H | 14.8 | 15.5 | 15.3 | 15.9 | 16.4 | 15.1 | 15.8 | 15.6 | 16.2 | 16.7 |
| | 6H | 15.5 | 16.0 | 16.0 | 16.5 | 17.0 | 15.9 | 16.4 | 16.4 | 16.9 | 17.4 |
| | 8H | 15.9 | 16.4 | 16.5 | 16.9 | 17.4 | 16.2 | 16.7 | 16.8 | 17.2 | 17.7 |

Glare tables detail the glare rating based on typical room sizes and reflectances. When the photometric file is used within a lighting calculation, glare can be checked to see it falls in line with CIBSE SLL recommendations.

**Luminance chart**

| | C0 | C15 | C30 | C45 | C60 | C75 | C90 | C105 | C120 | C135 | C150 | C165 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 65° | [1132] | 965 | 974 | 1070 | 1110 | 1065 | 1070 | 1104 | 1055 | 1008 | 915 | 933 |
| 70° | 1078 | 658 | 537 | 1034 | 1078 | 1062 | 1018 | 1036 | 987 | 1008 | 961 | 902 |
| 75° | 1059 | 409 | 673 | 983 | 1081 | 1056 | 985 | 1070 | 1019 | 983 | 908 | 878 |
| 80° | 1066 | 775 | 947 | 1005 | 952 | 981 | 990 | 955 | 894 | 1050 | 883 | 945 |
| 85° | 921 | 1032 | 983 | 881 | 854 | 904 | 979 | 926 | 894 | 831 | 834 | 790 |

| | C180 | C195 | C210 | C225 | C240 | C255 | C270 | C285 | C300 | C315 | C330 | C345 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 65° | 1029 | 984 | 1051 | 1007 | 1094 | 1071 | 1100 | 1082 | 1072 | 1076 | 1023 | 992 |
| 70° | 981 | 930 | 926 | 987 | 1020 | 1122 | 1015 | 1002 | 1096 | 1017 | 974 | 1028 |
| 75° | 903 | 915 | 942 | 977 | 953 | 1037 | 1025 | 1053 | 1028 | 989 | 1061 | 995 |
| 80° | 867 | 966 | 1029 | 995 | 971 | 1038 | 1018 | 1038 | 946 | 1070 | 1043 | 1033 |
| 85° | 722 | 910 | 989 | 945 | 779 | 850 | 937 | 815 | 908 | 924 | 903 | 1069 |

Luminance tables enables checks to be made on the brightness of the luminaire at 65°and above. This can be checked against luminance requirements for screens.

# LIGHT LEVEL GUIDANCE

| Area | Lux | Glare | Uniformity | Colour Rendering |
|---|---|---|---|---|
| **Office Space** | | | | |
| Open Plan, cellular office, conference & meeting room | 300-500 | 19 | 0.60 | 80 |
| Writing, typing, reading, data | 300 | 19 | 0.60 | 80 |
| Filing, copying, etc. | 500 | 19 | 0.40 | 80 |
| Technical drawing | 750 | 16 | 0.70 | 80 |
| CAD work stations | 500 | 19 | 0.60 | 80 |
| Reception | 200 | 22 | 0.60 | 80 |
| Reception Desks | 300 | 22 | 0.60 | 80 |
| **Traffic zones inside buildings** | | | | |
| Circulation & corridors | 100 | 28 | 0.40 | 40 |
| Stairs, escalators, travelators | 100 | 25 | 0.40 | 40 |
| Elevators, lifts | 100 | 25 | 0.40 | 40 |
| Loading ramps/bays | 150 | 25 | 0.40 | 40 |
| **General areas inside buildings** | | | | |
| Canteens, pantries | 200 | 22 | 0.40 | 80 |
| Rest Rooms | 100 | 22 | 0.40 | 80 |
| Rooms for physical exercise | 300 | 22 | 0.40 | 80 |
| Cloakrooms, washrooms, bathrooms, toilets | 200 | 25 | 0.40 | 80 |
| Sick bay | 500 | 19 | 0.60 | 80 |
| Rooms for medical attention | 500 | 16 | 0.40 | 90 |
| Entrance halls | 100 | 22 | 0.40 | 80 |
| Cloakrooms | 200 | 25 | 0.40 | 80 |
| Lounges | 200 | 22 | 0.40 | 80 |
| **Places of public assembly - Restaurants and hotels** | | | | |
| Reception/cashier desk | 300 | 22 | 0.60 | 80 |
| Kitchen | 500 | 22 | 0.60 | 80 |
| Restaurant, dining, function | - | - | - | 80 |
| Self-service restaurant | 200 | 22 | 0.40 | 80 |
| Buffet | 300 | 22 | 0.60 | 80 |
| **Retail premises** | | | | |
| Sales area | 300 | 22 | 0.40 | 80 |
| Till area | 500 | 19 | 0.60 | 80 |
| **Plant & switch rooms** | | | | |
| Stores and stockrooms | 100 | 25 | 0.40 | 60 |
| Dispatch packing handling areas | 300 | 25 | 0.60 | 60 |
| Plant & switch gear rooms | 200 | 25 | 0.40 | 60 |
| Telex, post room, switchboard | 500 | 19 | 0.60 | 60 |
| **Storage rack areas** | | | | |
| Gangways: unmanned | 20 | - | 0.40 | 40 |
| Gangways: manned | 150 | 22 | 0.40 | 60 |
| Control stations | 150 | 22 | 0.60 | 80 |
| Storage rack face | 200 | - | 0.40 | 60 |
| **Places of public assembly - Libraries** | | | | |
| Bookshelves | 200 | 19 | 0.40 | 80 |
| Library: reading areas | 500 | 19 | 0.60 | 80 |
| Reading area | 500 | 19 | 0.60 | 80 |
| Counters | 500 | 19 | 0.60 | 80 |
| **Places of public assembly - Public car parks (indoor)** | | | | |
| In/out ramps (day) | 300 | 25 | 0.40 | 40 |
| In/out ramps (at night) | 75 | 25 | 0.40 | 40 |
| Traffic lanes | 75 | 25 | 0.40 | 40 |
| Parking areas | 75 | - | 0.40 | 40 |
| Ticket office | 300 | 19 | 0.60 | 80 |
| **Educational premises - Nursery school, play school** | | | | |
| Play room & Nursery | 300 | 22 | 0.40 | 80 |
| Handicraft room | 300 | 19 | 0.60 | 80 |
| **Educational premises - Educational buildings** | | | | |
| Classrooms, tutorial rooms | 300 | 19 | 0.60 | 80 |
| Classroom for evening classes & adults education | 500 | 19 | 0.60 | 80 |
| Auditorium, lecture halls | 500 | 19 | 0.60 | 80 |
| Demonstration & Black, green and white boards | 500 | 19 | 0.70 | 80 |
| Art rooms | 500 | 19 | 0.60 | 80 |
| Art rooms in art schools | 750 | 19 | 0.70 | 90 |
| Technical drawing rooms | 750 | 16 | 0.70 | 80 |
| Practical, craft rooms, laboratories & workshop | 500 | 19 | 0.60 | 80 |
| Music & language rooms | 300 | 19 | 0.60 | 80 |
| Computer practice rooms | 300 | 19 | 0.60 | 80 |
| Preparation rooms & workshops | 500 | 22 | 0.60 | 80 |
| Entrance Halls | 200 | 22 | 0.40 | 80 |
| Circulation areas, corridors | 100 | 25 | 0.40 | 80 |
| Stairs | 150 | 25 | 0.40 | 80 |
| Student common rooms & assembly halls | 200 | 22 | 0.40 | 80 |
| Teachers rooms | 300 | 19 | 0.60 | 80 |
| Stock rooms | 100 | 25 | 0.40 | 80 |
| Sports halls, gymnasiums, swimming pools | 300 | 22 | 0.60 | 80 |
| School canteens | 200 | 22 | 0.40 | 80 |
| Kitchen | 500 | 22 | 0.60 | 80 |
| **Health care premises - Rooms for general use & Staff** | | | | |
| Waiting rooms | 200 | 22 | 0.40 | 80 |
| Corridors: during the day | 100 | 22 | 0.40 | 80 |
| Corridors: during the night | 50 | 22 | 0.40 | 80 |
| Corridors - multi-purpose | 200 | 22 | 0.60 | 80 |
| Day rooms | 200 | 22 | 0.60 | 80 |
| Staff office | 500 | 19 | 0.60 | 80 |
| Staff rooms | 300 | 19 | 0.60 | 80 |
| **Health care premises - Wards** | | | | |
| General lighting | 100 | 19 | 0.40 | 80 |
| Reading lighting | 300 | 19 | 0.70 | 80 |
| Simple examinations | 300 | 19 | 0.60 | 80 |
| Examination and treatment | 1000 | 19 | 0.70 | 90 |
| Night & observation lighting | 5 | - | - | 80 |
| Patients Bathrooms & toilets | 200 | 22 | 0.40 | 80 |
| **Health care premises - Examination rooms (general)** | | | | |
| General lighting | 500 | 19 | 0.60 | 90 |
| Examination and treatment | 1000 | 19 | 0.70 | 90 |

Refer to CIBSE Lighting Guides & British Standards guides for in depth details on lighting design & light level requirements.

DATA CENTRE LIGHTING IS DESIGNED IN LINE WITH THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION'S TIA-942.

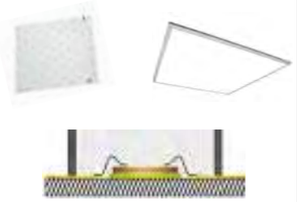
The standard uses 3 levels to assess lighting.:

- Level 1: When nobody is scheduled to be in the data centre space, the lighting level should be just high enough that security personnel (stationed outside the unoccupied data centre spaces) can monitor the space with surveillance cameras.
- Level 2: Motion detectors should automatically initiate a higher level of lighting once access is detected.
- The level of lighting should be high enough to clearly permit identification via security cameras. These motion sensors can also replace a manually-switched lighting control system.
- Level 3: Lighting should be a minimum of 500 lux min the horizontal plane and 200 lux in the vertical plane, measured 1m above the finished floor in the middle of all aisles between cabinets and at 1m on the vertical surface of the cabinet.

# LED MODULES

| LED | Image | Lumen | Colour (KELVINS) | Other Information | Luminaire |
|---|---|---|---|---|---|
| LED LINEAR BOARDS | | 2350lm/m | 3000K/4000K | General & supplementary lighting. Suitable for offices, work-spaces, reception, shops, schools, public buildings. | AMADA, ANGOL, AXCEL, GLOS, GFW, HAL, HUB IKON, PLINTH, POD, SMART, STEALTH, VANE, VERTOS, VWALL. |
| | | 2710lm/m | 3000K/4000K | | |
| | | 3100lm/m | 3000K/4000K | | |
| | | 2500lm/m | 2700K-6500K Tunable White | | |
| | | 5300lm/m | 2700K-6500K Tunable White | | |
| LED BOARDS - MODULAR 600mm x 600mm |  | 5000lm | 3000K/4000K | General & sup-plementary light-ing. Workspaces, reception, shops, schools, public buildings. | AXCEL, EXEMPLAR, GLOS, SEEL |
| | | 6000lm | 3000K/4000K | | |
| | | 6900lm | 3000K/4000K | | |
| | | 5000lm | 2700K-6500K Tunable White | | |
| LED BOARDS - LINEAR 1500mm x 300mm | | 6250lm | 3000K/4000K | General & sup-plementary light-ing. Workspaces, reception, shops, schools, public buildings. | GLOS, SEEL |
| | | 7500lm | 3000K/4000K | | |
| | | 8600lm | 3000K/4000K | | |
| | | 10500lm | 2700K-6500K Tunable White | | |
| LED BOARDS - LINEAR 1200mm x 300mm | | 5000lm | 3000K/4000K | General & sup-plementary light-ing. Workspaces, reception, shops, schools, public buildings. | AXCEL, EXEMPLAR, GLOS, SEEL |
| | | 6000lm | 3000K/4000K | | |
| | | 6900lm | 3000K/4000K | | |
| | | 8400lm | 2700K-6500K Tunable White | | |
| LED BOARDS - LINEAR 900mm x 300mm | | 3700lm | 3000K/4000K | General & sup-plementary light-ing. Workspaces, reception, shops, schools, public buildings. | AXCEL, EXEMPLAR, GLOS, SEEL |
| | | 4500lm | 3000K/4000K | | |
| | | 5200lm | 3000K/4000K | | |
| | | 6300lm | 2700K-6500K Tunable White | | |
| LED BOARDS - LINEAR 600mm x 300mm | | 2500lm | 3000K/4000K | General & sup-plementary light-ing. Workspaces, reception, shops, schools, public buildings.. | AXCEL, EXEMPLAR, GLOS, SEEL |
| | | 3000lm | 3000K/4000K | | |
| | | 3450lm | 3000K/4000K | | |
| | | 4200lm | 2700K-6500K Tunable White | | |
| LED SPOT MODULES | | 1100lm | 3000K/4000K | For general and accent lighting. Restaurant, office, circulation and perimeter lighting. | ART, BEEM, KAR |
| | | 2000lm | 3000K/4000K | | |
| | | 3000lm | 3000K/4000K | | |
| | | 5000lm | 3000K/4000K | | |
| | | 1400lm | 2700K-6500K Tunable White | | |
| | | 2000lm | 2700K-6500K Tunable White | | |

| LED | Image | Lumen | Colour (KELVINS) | Other Information | Luminaire |
|---|---|---|---|---|---|
| LED TAPE | | 600lm/m | 3000K/4000K | For creative, pelmet, perimeter and accent lighting. Suitable for incorporation into joinery details. | VIVID, GLAZE |
| | | 1200lm/m | 3000K/4000K | | |
| | | 1800lm/m | 3000K/4000K | | |
| | | 3800lm | 2700K-6500K Tunable White | | |
| | | 3000lm | | | |
| | | 2000lm | | | |
| | | 1200lm | | | |
| LED CIRCULAR BOARDS | | 1500lm | 4000K | For general and accent lighting. Restaurant, office, circulation and perimeter lighting. | POLA |
| | | 2000lm | 4000K | | |
| | | 2900lm | 4000K | | |
| | | 4100lm | 4000K | | |
| | | 1300lm | 3000K | | |
| | | 1800lm | 3000K | | |
| | | 2600lm | 3000K | | |
| | | 3700lm | 3000K | | |

| The main types of LED chip | | | | |
|---|---|---|---|---|
| | Chip on board Technology COB | | Primary Use Downlighters, spotlights, Track lighting Downlighters, spotlights, Track lighting | Suitable Areas Office, retail, Hospitality, Reception, Circulation, Accent lighting |
| | Surface mounted Device SMD |  | Primary Use Modular Office Luminaire, Slot lights, Industrial luminaires. | Suitable Areas Office, Education, Hospitals & Healthcare, Industrial Areas |

# INGRESS RATINGS (IP)

A TWO DIGIT NUMBER IS USED TO PROVIDE AN IP RATING TO A PIECE OF ELECTRONIC EQUIPMENT OR TO AN ENCLOSURE FOR ELECTRONIC EQUIPMENT.

THE TWO DIGITS REPRESENT TWO DIFFERENT FORMS OF ENVIRONMENTAL INFLUENCE.

| 1st Numeral | Description | Definition |
|---|---|---|
| 0 | Non protected | No special protection |
| 1 | Protected against solid objects greater than 50mm | A large surface of the body such as a hand (but no protection against deliberate access. Solid objects exceeding 50mm. |
| 2 | Protected against solid objects greater than 12mm | Fingers or similar objects not exceeding 80mm in length. Solid objects exceeding 12mm in diameter. |
| 3 | Protected against solid objects greater than 2.5mm | Tools, wires etc. Of diameter or thickness no greater than 2.5mm. Solid objects exceeding 2.5mm in diameter. |
| 4 | Protected against solid objects greater than 1mm | Wires or strips of thickness greater than 1mm. Solid objects exceeding 1mm in diameter. |
| 5 | Dust Protected | Limited protection against ingress of dust |
| 6 | Dust-tight | Totally protected against ingress of dust. |

THE FIRST NUMERAL
Represents protection against ingress of solid objects
THE SECOND NUMERAL
Represents protection against ingress of liquids

An IP44 rated product has ingress protection against solid objects greater than 1mm and protected against splashing water.

| 2nd Numeral | Description | Definition |
|---|---|---|
| 0 | Non protected | No special protection |
| 1 | Protected against dripping water. | Dripping water (vertically falling drops) shall have no harmful effect. |
| 2 | Protected against dripping water when tilted up to 15°. | Dripping water (vertically falling drops) shall have no harmful effect when the enclosure is tilted at 15° from its normal position. |
| 3 | Protected against spraying water. | Water falling as a spray at an angle of 60° from the vertical shall have no harmful effect. |
| 4 | Protected against splashing water. | Water splashing against the enclosure from any direction shall have no harmful effect. |
| 5 | Protected against water jets. | Water projected by a nozzle against the enclosure from any direction shall have no harmful effect. |
| 6 | Protected against powerful water jets. Ideal protection against heavy seas. | Powerful water jets from heavy seas shall not enter the enclosure in harmful quantities. |
| 7 | Protected against the effects of immersion of pressure and time. | Ingress of water in a harmful quantity shall not be possible when the enclosure is immersed in water under defined conditions. |
| 8 | Protected against the effects of submersion of pressure and time. | Ingress of water in a harmful quantity shall not be possible when the enclosure is submersed in water for long periods under pressure. |

# IMPACT RATINGS (IK)

IK RATING SYSTEM IS AN INTERNATIONAL CLASSIFICATION SHOWING DEGREES OF PROTECTION PROVIDED BY LUMINAIRES AGAINST EXTERNAL MECHANICAL IMPACTS.

DEGREE OF IMPACT PROTECTION EN62262.

| Number | Measure of protection - impact energy (joules) | Test |
|---|---|---|
| 00 | No protection to this standard | No protection to this standard |
| 01 | 0.15 | 0.20kg impact |
| 02 | 0.20 | 0.20kg impact |
| 03 | 0.35 | 0.20kg impact |
| 04 | 0.50 | 0.20kg impact |
| 05 | 0.70 | 0.20kg impact |
| 06 | 1.00 | 0.50kg impact from 200mm |
| 07 | 2.00 | 0.50kg impact from 400mm |
| 08 | 5.00 | 1.70kg impact from 295mm |
| 09 | 10.00 | 5.00kg impact from 200mm |
| 10 | 20.00 | 5.00kg impact from 400mm |

When higher impact energy protection is required 50 joules is recommended

# GLOSSARY

ACCENT LIGHTING
Directional lighting used to draw attention or place emphasis on a particular area or object.

AMBIENT LIGHTING
The general lighting within a space including daylight. Task and Accent lighting are not included.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
A nonprofit organisation that develops voluntary consensus standards and conformity assessment systems for products, services, processes, systems, and personnel in the United States.

ANALOGUE 1-10 VOLT DIMMABLE
1-10V DC input controls the light level.

AVERAGE ILLUMINANCE
Illuminance averaged over the total area.

BCO BRITISH COUNCIL FOR OFFICE
The British Council for Offices' (BCO) mission is to research, develop and communicate best practice in all aspects of the office sector.

BEAM ANGLE OR BEAM SPREAD
The total angle of the directed beam in degrees. Used to describe the light emitting from a reflectorised lamp or downlighter.

BIN (BINNING)
The dividing of performance parameters (Flux, Wavelength / colour) in to small groups.

BREEAM (BUILDING RESEARCH ESTABLISHMENT ENVIRONMENTAL ASSESSMENT METHODOLOGY)
An energy rating standard that sets the bar for best practice in sustainable building design, construction and operation. BREEAM has become one of the most comprehensive and widely recognised measures of a building's environmental performance.

BRIGHTNESS
Screen brightness in a display or television.

BULB
These grow in the ground and usually flower in spring.

CASE TEMPERATURE
The temperature measured at the LED driver package or case.

CANDELA (cd)
The measure of luminous intensity of a source in a given direction

CHROMATICITY
An objective specification of the quality of a colour, independent of its luminance, and as determined by its or saturation and hue.

CIE CHROMATICITY DIAGRAM
A colour space created by the International Commission on Illumination (CIE) in 1931 to define the entire gamut of colours visible to the average viewer.

CIRCADIAN RHYTHMS
Natural biological cycles, such as sleep/wake cycles. These are controlled by exposure to differing colours and intensities of light.

COLOUR DEFINITION
The colour of uniformly illuminated objects described using three terms:

Hue: Describes the situation when the appearance of different colours is similar
Lightness: Describes a range of greyness between black and white.
Chroma: Is the colourfulness relative to the brightness

COLOUR GAMUT
The range of colours within the CIE Chromaticity Diagram included when combining different sources.

COLOUR RENDERING
A general expression for the effect of a light source on the colour appearance of objects.

COLOUR RENDERING INDEX (CRI)
A measure of the degree of colour shift objects undergo when illuminated by the light source as compared with those same objects when illuminated by a reference source of comparable colour temperature. The reference source has a CRI of 100.

CONNECTED LOAD
The total sum of the wattages.

CONTRAST
The difference in the luminance of an object and its surrounding or between two objects.

COOL WHITE
Light with colour temperature of around 6000K. Low red wavelength content, higher blue wavelength content.

CORRELATED COLOUR TEMPERATURE (CCT)
A specification of the colour appearance of the light emitted by a lamp, defined in Kelvin (K).

CORTISOL
A hormone which makes us more alert.

DALI 8
The dimming protocol on which tune-able white systems run.

DALI (DIGITAL ADDRESSABLE LIGHTING INTERFACE)
A digital communications protocol for controlling and dimming lighting fixtures, originally developed in Europe.

DAYLIGHT FACTOR
Ratio of the illuminance at point on a given plane directly from the sky.

DELIVERED LIGHT
The amount of light a lighting fixture or lighting installation delivers to a target area or task surface, measured in foot candles (fc) or lux (lx).

DIFFUSE LIGHT
Luminaires which produce a soft light.

DIFFUSER
An object with irregularities on a surface causing scattered distribution.

DIODE
Chip: light emitting semiconductor.

DIRECT LIGHTING
Lighting by a luminaire projecting light straight onto the working plane.

DIRECTIONAL LIGHTING
Where the lighting of a plane or object is from a particular direction.

DIRECTIONAL LIGHT SOURCE
A light source that emits light only in the direction it is pointed or orientated.

DISABILITY GLARE
A degradation of visual performance caused by a reduction of contrast on a VDU screen.

DISCOMFORT GLARE
Glare that may impair vision causing discomfort.

DMX
A digital communications protocol for controlling lighting fixtures, originally developed to control stage lighting.

EFFICACY
The light output of a light source divided by the total electrical power input to that source, expressed in lumens per Watt (lm/W).

ELUMDAT (EUROPEAN LUMEN DATA)
A file produced by a photometric test which describes the behaviour of a luminaire within a lighting calculation program.

EMERGENCY LIGHTING
Lighting which is provided in the event of a mains failure.

ESCAPE LIGHTING
Emergency lighting provided to show the escape route.

FLOODLIGHTING
Wide distribution lighting of an object or building by flood lights or projectors.

FLUX / LUMINOUS FLUX
Luminous flux is the measure of the perceived power of light, adjusted to reflect the varying sensitivity of the human eye to different wavelengths of light

FORWARD VOLTAGE
LEDs are current driven devices. If an external current is passed through the device, a forward voltage will be developed across the diode.

FREEDOM FROM BINNING
Describes the case where the entire production of white LEDs can be described by a single CCT and within a declared number of MacAdam ellipses. No subdivision or colour binning of the LEDs is required for use in the intended application.

GENERAL LIGHTING
Lighting throughout a space with no localised requirements.

GLARE
Reduction in the ability to see objects causing discomfort. Glare caused by high contrasts or incorrect luminance limits.

GONIOPHOTOMETER
A photometric device for testing the luminous intensity distribution, efficiency, and luminous flux of luminaires.

HUMAN CENTRIC LIGHTING
Modern lighting approach which is centred around the user's health, well-being and productivity.

INDIRECT LIGHTING
Lighting emitted from a luminaire that is indirectly illuminating the working plane.

ILLUMINANCE
The intensity of light falling on a surface area. If the area is measured in square feet, the unit of illuminance is foot candles (fc). If measured in square meters, the unit of illuminance is lux (lx).

IPRGC
Intrinsically Photosensitive Retinal Gangleon Cells - cells in the eye which are sensitive to light colour and intensity specifically and are not associated with vision.

KELVIN (TEMPERATURE)
KELVIN (K) used to indicate the comparative colour appearance of a light source when compared to a theoretical blackbody. Yellowish incandescent lamps are 2700K. Fluorescent and LED light sources range from 3000K to 6500K and higher.

LEADING EDGE DIMMER
A type of dimmer that regulates power to lamps by delaying the leading edge of each half-cycle of AC power. Compatible with many LED fixtures.

LED ARRAY/MODULE/ENGINE
An assembly of LED diodes on a printed circuit board, possibly with optical elements and additional thermal, mechanical and electrical interfaces.

LED CHIP
The light producing semiconductor device.

LED LUMINAIRE
A complete lighting unit consisting of LED-based light emitting elements and a matched driver together with parts to distribute light.

LIFE CYCLE COSTING
A technique to establish the total cost of ownership. It is a structured approach that addresses all the elements of this cost and can be used to produce a spend profile of the product or service over its anticipated life-span.

LIGHT EMITTING DIODE (LED)
A Light Emitting Diode (LED) is a solid-state semiconductor device that converts electrical energy directly into light. On its most basic level, the semiconductor comprises of two regions: the p-region contains positive electrical charges while the n-region contains negative electrical charges. When voltage is applied and current begins to flow, the electrons move across the n region into the p region releasing energy. The dispersion of this energy produces photons with visible wavelengths.

LIGHT METER
Device used to measure light in situ. Calibrated in lux or foot candles.

LIGHT OUTPUT
The total lumens emitted from a luminaire.

LIGHT OUTPUT RATIO (LOR)
The ratio of the total light emitted by a luminaire (light fitting) to the total light output of the lamp or lamps it contains. It is always less than 1.

LUMEN (lm)
The international (SI) unit of luminous flux or quantity of light emitted by a source.

LUMEN DEPRECIATION
Describes the percentage of light lost relative to the initial lumen output.

LUMEN MAINTENANCE
The luminous flux at a give time in the life of the LED. This is expressed as a percentage of the initial luminous flux.

LUMEN MAINTENANCE CURVE
A graph illustrating the predicted average light output behaviour over time of a single LED or solution.

LUMEN OUTPUT
The total lumens emitted of a light source.

LUMINANCE
The intensity of light in a given direction from a surface. The unit is candelas per sq.m (cd/m²)

LUMINAIRE EFFICACY
The output of a light source divided by the total electrical power and efficiency of the luminaire. Expressed in luminaire lumens per Watt (ll/W).

LUMINOUS INTENSITY
The luminous flux in a given direction. The unit is the candela (one lumen per steradian).

LUX
The standard unit of illuminance of a surface being lit. One lux is one lumen per square metre.




THIS LIGHTING GUIDE IS FOR INFORMATION ONLY AND AS SUCH FUTURE DESIGNS WILL NOT BE HELD RESPONSIBLE FOR ANY ERRORS CONTAINED THEREIN.

## MACADAM ELLIPSE
A MacAdam ellipse is the region on a chromatic-ity diagram which contains all colours which are indistinguishable, to the average human eye, from the colour at the centre of the ellipse.

## MAINTENANCE CYCLE
Lamp replacement, luminaire and room surface cleaning cycle.

## MAINTAINED ILLUMINANCE
Value in which the average illuminance should not fall below.

## MELATONIN
The hormone which aids sleep and rest. Suppressed by blue light.

## MELANOPIC VISION
Illuminance which is not related to vision but affects melatonin production, controlling our circadian rhythms.

## MODELLING
The balance between diffuse and directional light to improve or enhance a space and objects, people, finishes within.

## MULTI CHANNEL
Tunable systems which utilise three or more channels of differing colours to achieve colour variations.

## NON DIMMING
Control gear for on/off switching.

## ORGANIC LIGHT-EMITTING DIODES (OLED)
Organic light-emitting diodes (OLEDs) are based on organic (carbon based) materials. In contrast to LEDs, which are small point sources, OLEDs are made in sheets which provide a diffuse area light source. OLED technology is developing rapidly and is increasingly used in display applications such as cell phones and PDA screens. However, OLEDs are still some years away from becoming a practical general illumination source. Additional advancements are needed in light output, colour, efficiency, cost, and lifetime.

## PHOSPHOR
A coating of phosphorescent material which photons from a royal blue LED pass through causing those photons to exit with a different colour property.

## PHOTORECEPTORS
Structures within the eye which react to light: rods, cones and ipRGC's.

## PLANCKIAN BLACK BODY LOCUS
The line on the CIE Chromaticity Diagram that describes the color temperature of an object when heated from approximately 1,000K to more than 10,000K.

## POLAR CURVE (Luminous Intensity Distribution)
The polar curve is a graphical representation of the distribution of intensity of a luminaire and indicates the directions in which light is projected.

## POWER FACTOR
The active power divided by the apparent power (i.e., Product of the rms input voltage and rms input current of a driver).

## POWER FACTOR CORRECTION
In an electronic device, such as an LED lighting fixture, a system of inductors, capacitors, or voltage converters to adjust the power factor of electronic devices toward the ideal power factor of 1.0.
The line on the CIE Chromaticity Diagram that describes the color temperature of an object when heated from approximately 1,000K to more than 10,000K.

## RADIANT FLUX
The total energy emitted by a light source across all wavelengths, measured in watts.

## REFLECTANCE
A measure of how much light a surface will reflect expressed as a %.

## REFLECTOR
Part of a luminaire designed to reflect, guide and distribute light in a specific way.

## ROOM INDEX
A means of representing the proportions of a room to be used in interior lighting design calculations. (Length x width) / (length + width) x height of lamp above working plane.

## REMOTE PHOSPHOR
A phosphor conversion technique in which photons from a royal blue LED pass through a phosphor material that is not attached to the LED chip.

## RGB COLOUR MODEL
An additive colour model in which red, green, and blue light are added together in different proportions to produce a broad range of colours, including white.

## RGB WHITE
A method of producing white light by combining the output from red, green, and blue LEDs.

## SAFETY LIGHTING
Lighting & emergency lighting for high risk tasks.

## SEASONAL AFFECTED DISORDER (S.A.D)
Illness whereby sufferers experience depression during the winter months. Directly linked to lack of exposure to light.

## SEROTONIN
Along with Cortisol, a hormone associated with alertness. Production is simulated by blue light.

## SOLID-STATE LIGHTING
A description of the devices that do not contain moving parts or parts that can break, rupture, shatter, leak or contaminate the environment.

## SPECTRAL LUMINOUS EFFICIENCY FUNCTION
A bell-shaped curve describing the sensitivity of a human eye with normal vision to the spectrum of visible light. Also known as the eye-sensitivity curve.

## SPOTLIGHT
Luminaire with direct light distribution which can be aimed at a specific object or area.

## STANDARD DEVIATION OF COLOUR MATCHING (SDCM)
Describes the difference between two colours. A difference of one to three SDCM "steps" is virtually imperceptible, a difference of four SDCM steps is just noticeable, and a difference of more than four SDCM steps is readily visible.

## STERADIAN
The standard unit of solid angle. Describes two-dimensional angular spans in three-dimensional space.

## SUBTRACTIVE COLOUR MODEL
A colour model that applies to reflective surfaces such as paints, dyes, and inks. Combining red, green, and blue in equal amounts produces black.

## TASK LIGHTING
Light source used to illuminate a task area. These can be lighting local to the area.

## THERMAL MANAGEMENT
Controlling the operating temperature of the product through design, examples includes heat sinks and improved airflow.

## TRAILING EDGE DIMMER
A type of dimmer that regulates power to lamps by delaying the end of each half-cycle of AC power. Compatible with many LED fixtures.

## TRACK LIGHTING
A versatile lighting system using luminaire spotlights that can be added or removed. Generally used in retail.

## TRANSMITTANCE
Ratio of the luminous flux transmitted through a body to the luminous flux on it.

## TUNABLE WHITE
White light which can be altered through warm white to cool white.

## TWO CHANNELS
Tunable systems which utilise a channel of warm white LEDs and a channel of cool white LEDs to achieve colour variation.

## UGR (UNIFIED GLARE RATING)
Unit for assessing glare.

## UNIFORMITY RATIO
The ratio for the minimum illuminance to the average illuminance over an area.

## ULTRAVIOLET (UV)
Electromagnetic radiation with wavelength shorter than that of visible light.

## UPLIGHT
Luminaires that emit light upwards.

## USEFUL LIFE
The amount of light a lighting fixture delivers in an application, minus any wasted light.

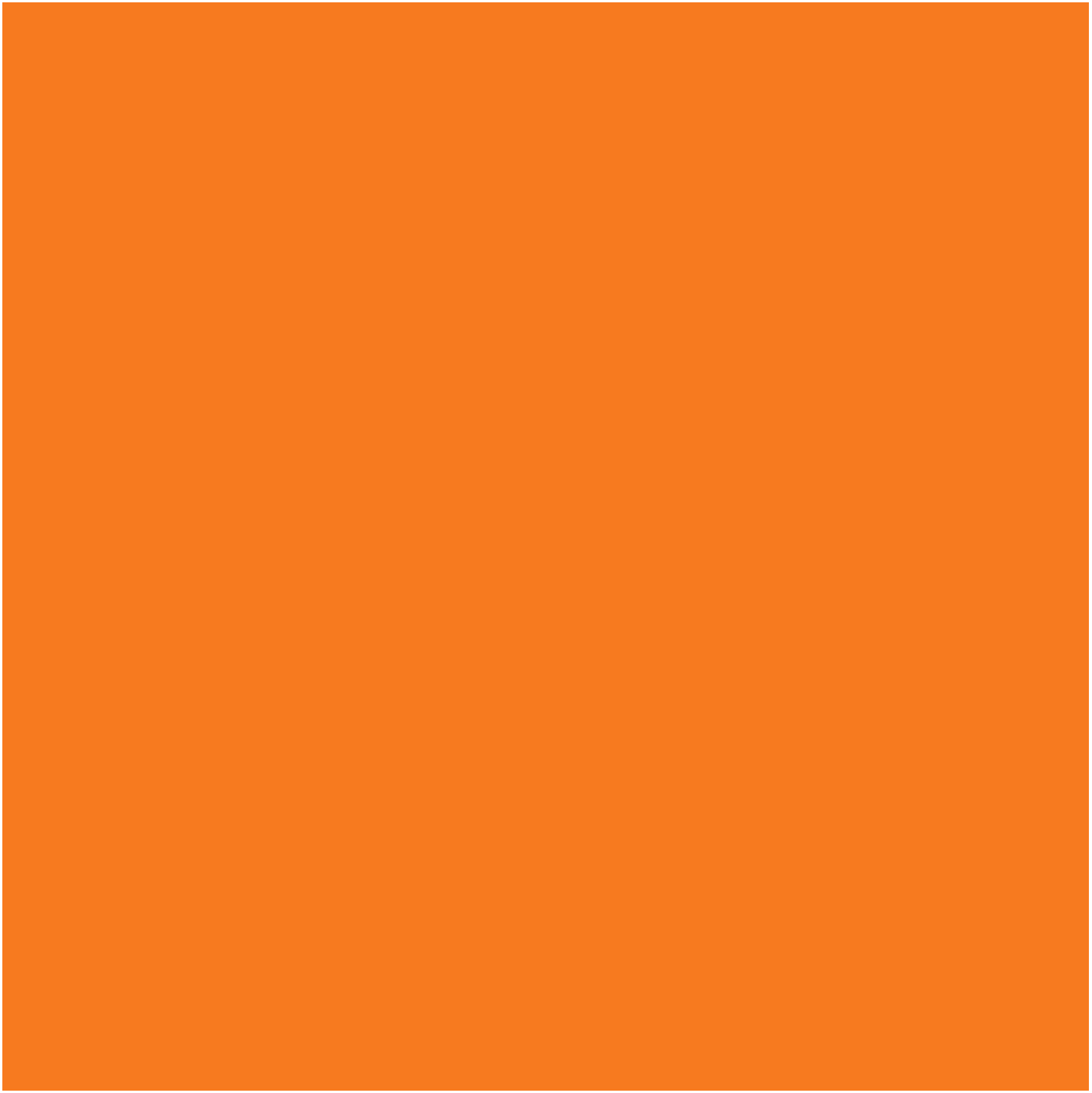
## VEILING REFLECTIONS
Reflections that appear on an object (e.g. A computer screen) that obscures details.

## WALL WASHER
Luminaire with a reflector or lens designed to wash light on to wall. Located parallel to the wall.

## WARM WHITE
Light with colour temperature of around 3000K. Low blue wavelength, higher red wavelength content.

## WELLNESS
An American standard for workplaces which encompasses seven elements which affect our health and well-being: air, water, nourishment, light, fitness, comfort and mind.

## WORKING PLANE / REFERENCE PLANE
Surface in which illuminance is measured e.g. Desk height. The plane can be horizontal, vertical or inclined.



# RECESSED LIGHTING

56 / VANE/R
64 / GLOS
68 / EXEMPLAR
72 / AXCEL
78 / BEL
82 / SEEL
86 / GLOS LIN
92 / EXEMPLAR LIN
96 / AXCEL LIN
102 / CHYLL

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lumen Options | SO<br>2350lm/m<br>3000K/4000K LED | | MO<br>2710lm/m<br>3000K/4000K LED | | HO<br>3100lm/m<br>3000K/4000K LED | | |
| Tunable White | TW 2500lm/m<br>2700K-6500K LED | | | TW 5300lm/m<br>2700K-6500K LED | | | |
| Control Gear | ND<br>Non dimming | | HD<br>DALI dimming | | HX<br>DSI dimming | | |
| Diffuser Option | O<br>Satin etched | | | MP<br>Microprism | | | |
| | RB<br>Rebated Diffuser | | FD<br>Flush Diffuser | | DD<br>15mm drop diffuser | | |
| Profile Option | TR<br>Trimmed profile | | TL<br>Trimless profile | | PI<br>Trimmed plaster-in | | |
| Junction Options | Corner, L and T junctions available | IF<br>Infill sections | | PIR<br>PIR integration | | BT<br>Extension boot | |
| Finish | AN<br>Anodised finish | | | RAL<br>RAL colour | | | |
| Ceiling details | R<br>Recessed via recessing bracket | | WM<br>Recessed into wall | | PI<br>Trimmed plaster in | | |
| Width Styles | 79<br>79mm x 100mm D | | 59<br>59mm x 100mm D | | 109<br>109mm x 100mm D | | |
| Lengths in mm<br>Other lengths available | 560 | 840 | 1120 | 1400 | 1680 | 1960 | 2250 |
| Emergency Options<br>Integrated emergency on lengths 1120mm & above | E3<br>3 hour integrated with green LED indicator | | EA<br>Self test emergency | | EC<br>Central battery emergency | | |
| | ED<br>DALI emergency | | | EE<br>Independent ELED | | | |
| Technical details | CRI>80 | | CRI>90 | | IP20 | | |

FUTURE DESIGNS



# VANE

The versatility of VANE enhances any space adding a visually engaging appearance, creating striking darts of light across walls and ceilings. Angles, corners and T junctions allow freedom of design. Extruded in high grade aluminium, VANE gives flexibility for tailor-made lengths with seamless joins. VANE is available as recessed (trimmed or trimless) as well as surface mounted and suspended. Tunable white also available.

WORKSPACE
WELLNESS
CIRCULATION
RECEPTION

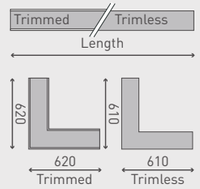
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

ACCENT
BREAKOUT
PERIMETER
WASH ROOM

BUILT
IN
BRITAIN

Part L2
✓

ECA
✓

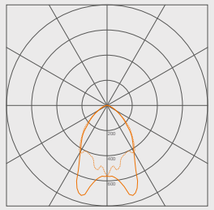


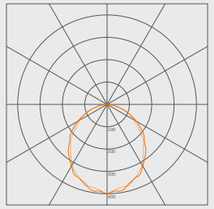

Trimless VANE Configuration
Cutout 81mm x total length +1mm

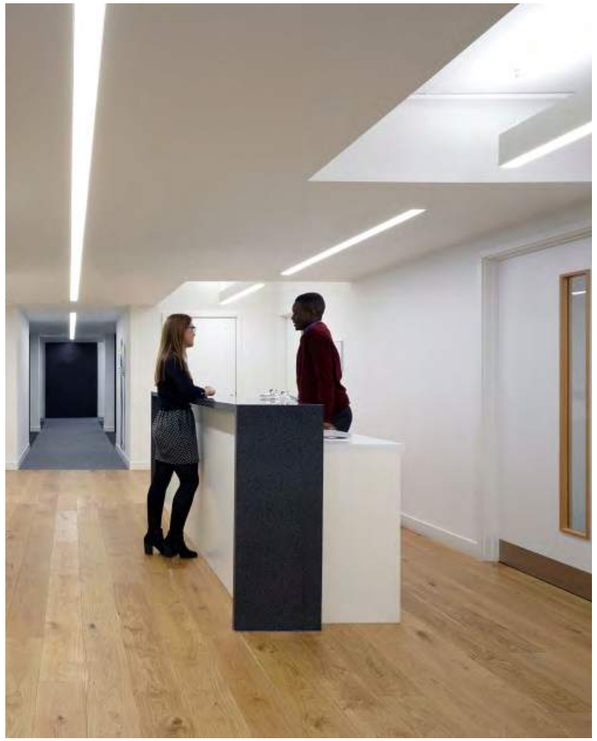
Start Length +7mm + Center Length + End Length +7mm

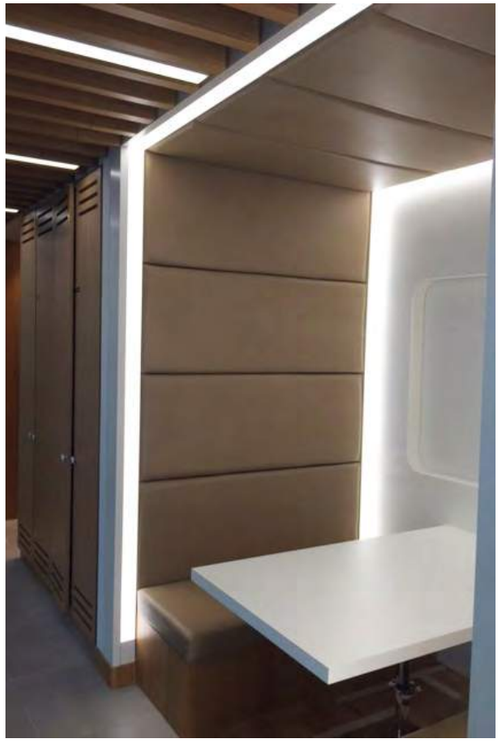
Trimmed VANE Configuration
Cutout 85mm x total length -19mm

Start Length +17.5mm + Center Length + End Length +17.5mm









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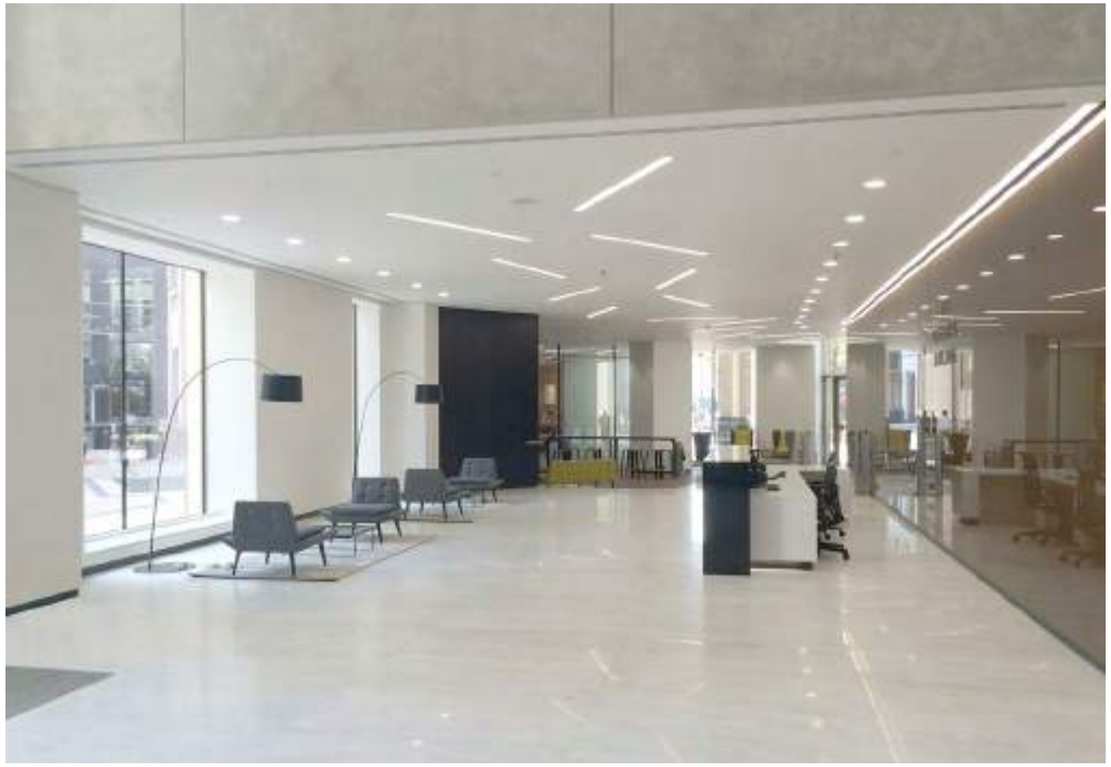


| | | | | |
|---|---|---|---|---|
| Lumen Options<br>600mm x 600mm<br>750mm x 750mm<br>Nominal | 5000lm<br>3000K/4000K LED | | 6000lm<br>3000K/4000K LED | 6900lm<br>3000K/4000K LED |
| Lumen Options<br>500mm x 500mm | 4000lm<br>4000K LED | 5000lm<br>4000K LED | 3700lm<br>3000K LED | 4600lm<br>3000K LED |
| Tunable White | TW 5000lm<br>2700K-6500K LED | | | |
| Control Gear | ND<br>Non dimming | | HD<br>DALI dimming | HX<br>DSI dimming |
| Diffuser Option | O<br>Satin etched | | MP<br>Microprism | |
| Options | AH<br>Air handling | | S<br>Shallow void | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | | EA<br>Self test emergency | EC<br>Central battery emergency |
| | ED<br>DALI emergency | | EE<br>Independent ELED | |
| Nominal Size | 5<br>500mm x 500mm | | 6<br>600mm x 600mm | 7<br>750mm X 750mm |
| Ceiling details | Exposed, plank & concealed grids | | | |
| Technical details | CRI>80 | | CRI>90 | IP20 |

FUTURE DESIGNS



# GLOS

GLOS' minimalist form compliments any workspace or environment. A modular recessed luminaire available in a variety of sizes to suit all recessed applications. GLOS' design is based on an even light across its surface ideal for general illumination and suitable for all workspace environments. Tunable white also available.

WORKSPACE
WELLNESS
RECEPTION

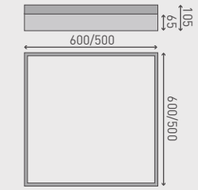
EDUCATION
HOTEL
RETAIL

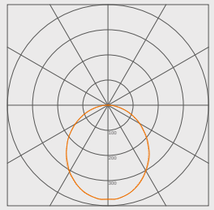
CIRCULATION
BREAKOUT

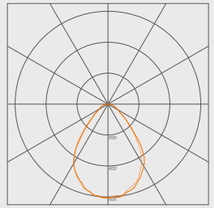
BUILT
IN
BRITAIN

Part L2
✓

ECA
✓





GLOS 750 with air handling

| | | | | |
|---|---|---|---|---|
| Lumen Options<br>600mm x 600mm<br>750mm x 750mm<br>Nominal | 5000lm<br>3000K/4000K LED | | 6000lm<br>3000K/4000K LED | 6900lm<br>3000K/4000K LED |
| Lumen Options<br>500mm x 500mm | 4000lm<br>4000K LED | 5000lm<br>4000K LED | 3700lm<br>3000K LED | 4600lm<br>3000K LED |
| Tunable White | TW 5000lm<br>2700K-6500K LED | | | |
| Control Gear | ND<br>Non dimming | | HD<br>DALI dimming | HX<br>DSI dimming |
| Diffuser Option | O<br>Satin etched | | MP<br>Microprism | |
| Options | AH<br>Air handling | | S<br>Shallow void | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | | EA<br>Self test emergency | EC<br>Central battery emergency |
| | ED<br>DALI emergency | | EE<br>Independent ELED | |
| Nominal Size | 5<br>500mm x 500mm | | 6<br>600mm x 600mm | 7<br>750mm X 750mm |
| Ceiling details | Exposed, plank & concealed grids | | | |
| Technical details | CRI>80 | | CRI>90 | IP20 |

FUTURE DESIGNS



# EXEMPLAR

EXEMPLAR is at the forefront of workplace lighting. Its design produces fluid light across its surfaces. A modular luminaire available in a variety of sizes to suit all recessed applications ideal for general illumination and suitable for all workspace environments. Tunable white also available.

WORKSPACE
WELLNESS
RECEPTION

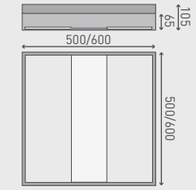
EDUCATION
HOTEL
RETAIL

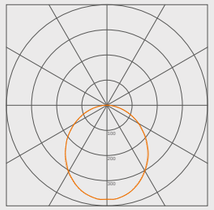
CIRCULATION
BREAKOUT

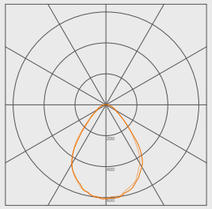
BUILT
IN
BRITAIN

Part L2
✓

ECA
✓





# AXCEL

AXCEL designed with shallow rake diffusers offers visual interest with fluid lighting. A modular luminaire available in a variety of sizes to suit all recessed applications ideal for general illumination and suitable for all workspace environments. Tunable white also available.

| | | | | |
|---|---|---|---|---|
| Lumen Options<br>600mm x 600mm<br>750mm x 750mm<br>Nominal | 5000lm<br>3000K/4000K LED | 6000lm<br>3000K/4000K LED | 6900lm<br>3000K/4000K LED | |
| Lumen Options<br>500mm x 500mm | 4000lm<br>4000K LED | 5000lm<br>4000K LED | 3700lm<br>3000K LED | 4600lm<br>3000K LED |
| Tunable White | TW 5000lm<br>2700K-6500K LED | | | |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming | |
| Diffuser Option | O<br>Satin etched | MP<br>Microprism | | |
| Options | AH<br>Air handling | S<br>Shallow void | | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | EE<br>Independent ELED | | |
| Nominal Size | 5<br>500mm x 500mm | 6<br>600mm x 600mm | 7<br>750mm X 750mm | |
| Ceiling details | Exposed, plank & concealed grids | | | |
| Technical details | CRI>80 | CRI>90 | IP20 | |

WORKSPACE
WELLNESS
RECEPTION

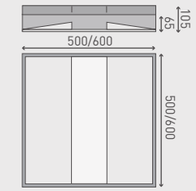
EDUCATION
HOTEL
RETAIL

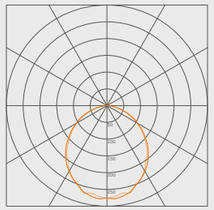
CIRCULATION
BREAKOUT

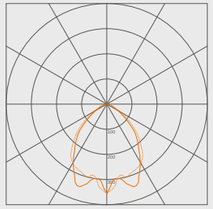
BUILT
IN
BRITAIN

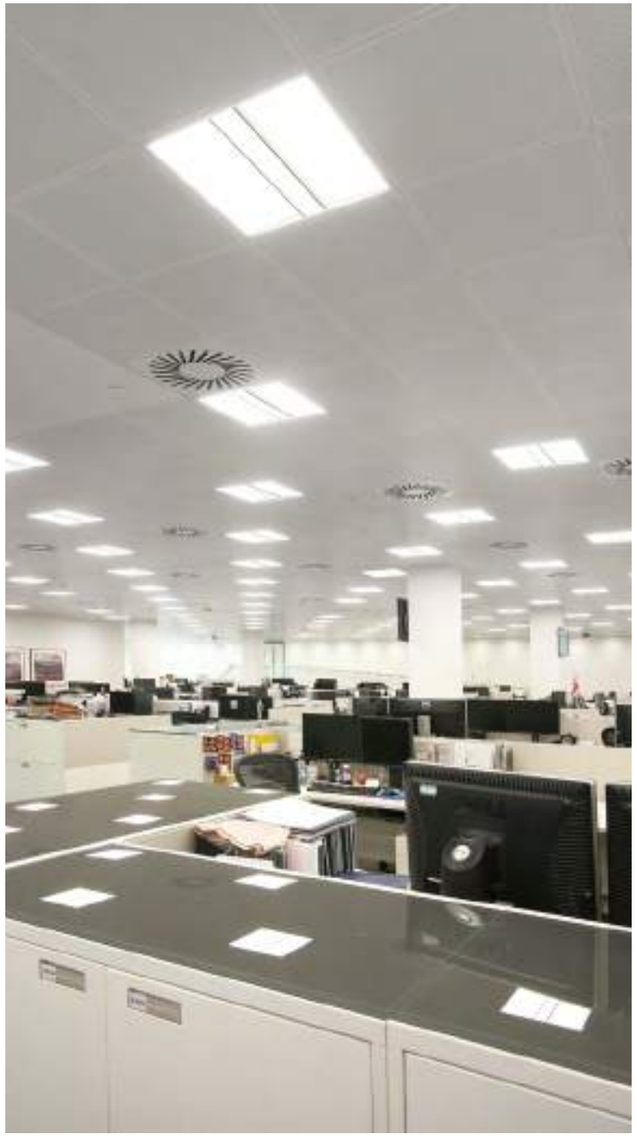
Part L2
✓

ECA
✓







# BEL

This unique recessed modular & linear luminaire uses direct/ indirect lighting. Designed for high performance, BEL creates lighting ideal for general illumination and suitable for all workspace environments. Tunable white also available.

| | | | | |
|---|---|---|---|---|
| Lumen Options<br>600mm X 600mm & Nominal | 5000lm<br>3000K/4000K LED | 6000lm<br>3000K/4000K LED | 6900lm<br>3000K/4000K LED | TW 6000lm<br>2700K-6500K LED<br>Tunable White |
| Lumen Options<br>1500mm X 300mm Nominal | 6250lm<br>3000K/4000K LED | 7500lm<br>3000K/4000K LED | 8620lm<br>3000K/4000K LED | TW 7500lm<br>2700K-6500K LED<br>Tunable White |
| Lumen Options<br>1200mm X 300mm Nominal | 5000lm<br>3000K/4000K LED | 6000lm<br>3000K/4000K LED | 6900lm<br>3000K/4000K LED | TW 6000lm<br>2700K-6500K LED<br>Tunable White |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming | |
| Diffuser Option | O<br>Satin etched | MP<br>Microprism | | |
| Options | AH<br>Air handling | S<br>Shallow void | | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | EE<br>Independent ELED | | |
| Nominal Size | 6<br>600mm x 600mm | 7<br>750mm X 750mm | | |
| | LIN15<br>300 x 1500mm | LIN12<br>300 x 1200mm | | |
| | Other lengths & widths available | | | |
| Ceiling details | Exposed, plank & concealed grids | | | |
| Technical details | CRI>80 | CRI>90 | IP20 | |

WORKSPACE
WELLNESS
RECEPTION

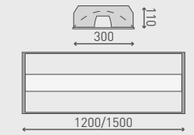
EDUCATION
HOTEL
RETAIL

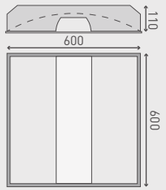
CIRCULATION
BREAKOUT

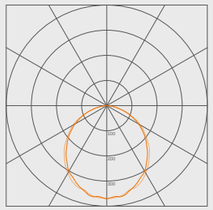
BUILT
IN
BRITAIN

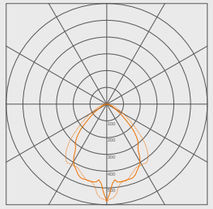
Part L2
✓

ECA
✓





RECESSED

| | | | | |
|---|---|---|---|---|
| Lumen Options<br>600mm X 600mm<br>Nominal | 5000lm<br>3000K/4000K LED | 6000lm<br>3000K/4000K LED | 6900lm<br>3000K/4000K LED | TW 5000lm<br>2700K-6500K LED<br>Tunable White |
| Lumen Options<br>500mm x 500mm<br>Nominal | 4000lm<br>4000K LED | 5000lm<br>4000K LED | 3700lm<br>3000K LED | 4600lm<br>3000K LED |
| Lumen Options<br>1500mm X 300mm<br>Nominal | 6250lm<br>3000K/4000K LED | 7500lm<br>3000K/4000K LED | 8620lm<br>3000K/4000K LED | TW 10500lm<br>2700K-6500K LED<br>Tunable White |
| Lumen Options<br>1200mm X 300mm<br>Nominal | 5000lm<br>3000K/4000K LED | 6000lm<br>3000K/4000K LED | 6900lm<br>3000K/4000K LED | TW 8400lm<br>2700K-6500K LED<br>Tunable White |
| Lumen Options<br>900mm X 300mm<br>Nominal | 3700lm<br>3000K/4000K LED | 4500lm<br>3000K/4000K LED | 5200lm<br>3000K/4000K LED | TW 6300lm<br>2700K-6500K LED<br>Tunable White |
| Lumen Options<br>600mm X 300mm<br>Nominal | 2500lm<br>3000K/4000K LED | 3000lm<br>3000K/4000K LED | 3450lm<br>3000K/4000K LED | TW 4200lm<br>2700K-6500K LED |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming | |
| Option | O<br>Satin etched | S<br>Shallow void | | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | EE<br>Independent ELED | | |
| Nominal Size | 5<br>500mm x 500mm | 6<br>600mm x 600mm | 7<br>750mm X 750mm | |
| | LIN15<br>300 x 1500mm | LIN12<br>300 x 1200mm | LIN9<br>300 x 900mm | LIN6<br>300 x 600mm |
| | Other lengths & widths available | | | |
| Ceiling details | Exposed, plank & concealed grids | | | |
| Technical details | CRI>80 | CRI>90 | IP55 | |

FUTURE DESIGNS



# SEEL

Designed specifically for clean room environments such as kitchens and healthcare applications. SEEL is IP55 with a sealed front face and is available to suit modular and linear ceiling systems. Tunable white also available.

CLEAN ROOM
HEALTHCARE
CATERING

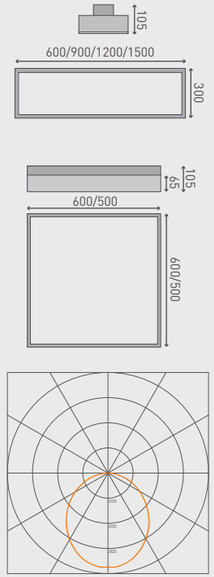
WORKSPACE
EDUCATION

HOTEL
RESIDENTIAL

BUILT
IN
BRITAIN

Part L2
✓

ECA
✓



| | | | | |
|---|---|---|---|---|
| Lumen Options<br>1500mm X 300mm<br>Nominal | 6250lm<br>3000K/4000K LED | 7500lm<br>3000K/4000K LED | 8620lm<br>3000K/4000K LED | TW 10500lm<br>2700K-6500K LED<br>Tunable White |
| Lumen Options<br>1200mm X 300mm<br>Nominal | 5000lm<br>3000K/4000K LED | 6000lm<br>3000K/4000K LED | 6900lm<br>3000K/4000K LED | TW 8400lm<br>2700K-6500K LED<br>Tunable White |
| Lumen Options<br>900mm X 300mm<br>Nominal | 3700lm<br>3000K/4000K LED | 4500lm<br>3000K/4000K LED | 5200lm<br>3000K/4000K LED | TW 6300lm<br>2700K-6500K LED<br>Tunable White |
| Lumen Options<br>600mm X 300mm<br>Nominal | 2500lm<br>3000K/4000K LED | 3000lm<br>3000K/4000K LED | 3450lm<br>3000K/4000K LED | TW 4200lm<br>2700K-6500K LED |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming | |
| Diffuser Option | O<br>Satin etched | MP<br>Microprism | | |
| Options | AH<br>Air handling | S<br>Shallow void | | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | EE<br>Independent ELED | | |
| Nominal Size | LIN15<br>300 x 1500mm | LIN12<br>300 x 1200mm | LIN9<br>300 x 900mm | LIN6<br>300 x 600mm |
| | Other lengths & widths available | | | |
| Ceiling details | Exposed, plank & concealed grids | | | |
| Technical details | CRI>80 | CRI>90 | IP20 | |

# GLOS LIN

GLOS' minimalist form in a linear recessed version, available in a variety of sizes to suit all recessed applications. GLOS' design is based on an even light across its surface ideal for general illumination and suitable for all workspace environments. Tunable white also available.

WORKSPACE
WELLNESS
RECEPTION

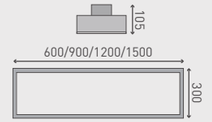
EDUCATION
HOTEL
RETAIL

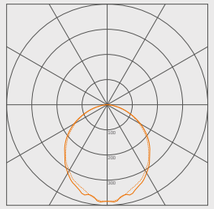
CIRCULATION
BREAKOUT

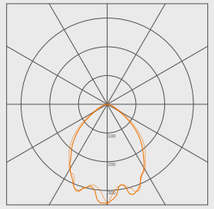
BUILT
IN
BRITAIN

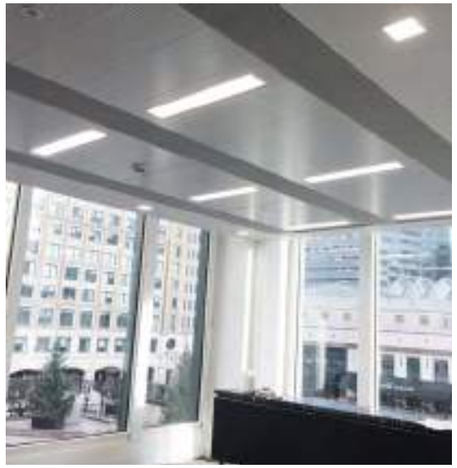
Part L2
✓

ECA
✓







| | | | | |
|---|---|---|---|---|
| Lumen Options<br>1200mm X 300mm<br>Nominal | 5000lm<br>3000K/4000K LED | 6000lm<br>3000K/4000K LED | 6900lm<br>3000K/4000K LED | TW 8400lm<br>2700K-6500K LED<br>Tunable White |
| Lumen Options<br>900mm X 300mm<br>Nominal | 3700lm<br>3000K/4000K LED | 4500lm<br>3000K/4000K LED | 5200lm<br>3000K/4000K LED | TW 6300lm<br>2700K-6500K LED<br>Tunable White |
| Lumen Options<br>600mm X 300mm<br>Nominal | 2500lm<br>3000K/4000K LED | 3000lm<br>3000K/4000K LED | 3450lm<br>3000K/4000K LED | TW 4200lm<br>2700K-6500K LED |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming | |
| Diffuser Option | O<br>Satin etched | MP<br>Microprism | | |
| Options | AH<br>Air handling | S<br>Shallow void | | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | EE<br>Independent ELED | | |
| Nominal Size | LIN12<br>300 x 1200mm | LIN9<br>300 x 900mm | LIN6<br>300 x 600mm | |
| | Other lengths & widths available | | | |
| Ceiling details | Exposed, plank & concealed grids | | | |
| Technical details | CRI>80 | CRI>90 | IP20 | |

FUTURE DESIGNS



# EXEMPLAR LIN

EXEMPLAR's centre rails highlight the linear form keeping the characteristic fluid light across its surface. Available in a variety of sizes to suit all recessed applications ideal for general illumination and suitable for all workspace environments. Tunable white also available.

WORKSPACE
WELLNESS
RECEPTION

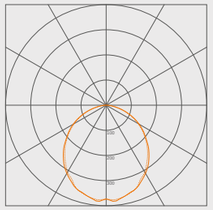
EDUCATION
HOTEL
RETAIL

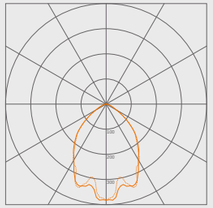
CIRCULATION
BREAKOUT

BUILT
IN
BRITAIN

Part L2
✓

ECA
✓





# AXCEL LIN

The linear variant of AXCEL with elevated centre rails and all three diffusing panels are illuminated evenly. A linear luminaire available in a variety of sizes to suit all recessed applications ideal for general illumination and suitable for all workspace environments. Tunable white also available.

| | | | | |
|---|---|---|---|---|
| Lumen Options<br>1200mm X 300mm<br>Nominal | 5000lm<br>3000K/4000K LED | 6000lm<br>3000K/4000K LED | 6900lm<br>3000K/4000K LED | TW 8400lm<br>2700K-6500K LED<br>Tunable White |
| Lumen Options<br>900mm X 300mm<br>Nominal | 3700lm<br>3000K/4000K LED | 4500lm<br>3000K/4000K LED | 5200lm<br>3000K/4000K LED | TW 6300lm<br>2700K-6500K LED<br>Tunable White |
| Lumen Options<br>600mm X 300mm<br>Nominal | 2500lm<br>3000K/4000K LED | 3000lm<br>3000K/4000K LED | 3450lm<br>3000K/4000K LED | TW 4200lm<br>2700K-6500K LED |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming | |
| Diffuser Option | O<br>Satin etched | MP<br>Microprism | | |
| Options | AH<br>Air handling | S<br>Shallow void | | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | EE<br>Independent ELED | | |
| Nominal Size | LIN12<br>300 x 1200mm | LIN9<br>300 x 900mm | LIN6<br>300 x 600mm | |
| | Other lengths & widths available | | | |
| Ceiling details | Exposed, plank & concealed grids | | | |
| Technical details | CRI>80 | CRI>90 | IP20 | |

WORKSPACE
WELLNESS
RECEPTION

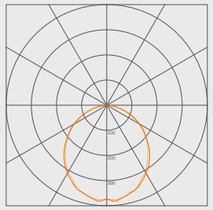
EDUCATION
HOTEL
RETAIL

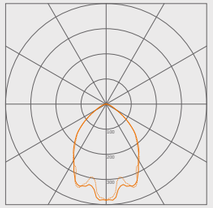
CIRCULATION
BREAKOUT

BUILT
IN
BRITAIN

Part L2
✓

ECA
✓





| | | | | |
|---|---|---|---|---|
| Lumen Options<br>1200mm Nominal<br>Per chilled beam side | 2600lm<br>3000K/4000K LED | 3000lm<br>3000K/4000K LED | 3480lm<br>3000K/4000K LED | TW 2800lm<br>2700K-6500K LED<br>Tunable White |
| Lumen Options<br>900mm Nominal<br>Per chilled beam side | 1980lm<br>3000K/4000K LED | 2280lm<br>3000K/4000K LED | 2600lm<br>3000K/4000K LED | TW 2100lm<br>2700K-6500K LED<br>Tunable White |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming | |
| Diffuser Option | O<br>Satin etched | MP<br>Microprism | | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | EE<br>Independent ELED | | |
| Nominal Size | 12<br>100 x 1200mm | 9<br>100 x 900mm | | |
| | Other lengths & widths available | | | |
| Ceiling details | Installed into chilled beam | | | |
| Technical details | CRI>80 | CRI>90 | IP20 | |

FUTURE DESIGNS



# CHYLL

Luminaire designed to be incorporated into a chilled beam system and created for workspace environments. Designed specifically to suit a range of chilled beam systems. Available in a variety of lumen outputs and colour temperatures including tunable white.

WORKSPACE WELLNESS

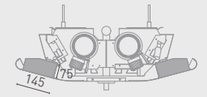
EDUCATION HEALTHCARE

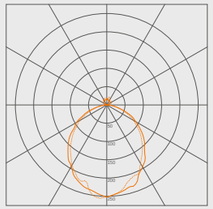
CIRCULATION

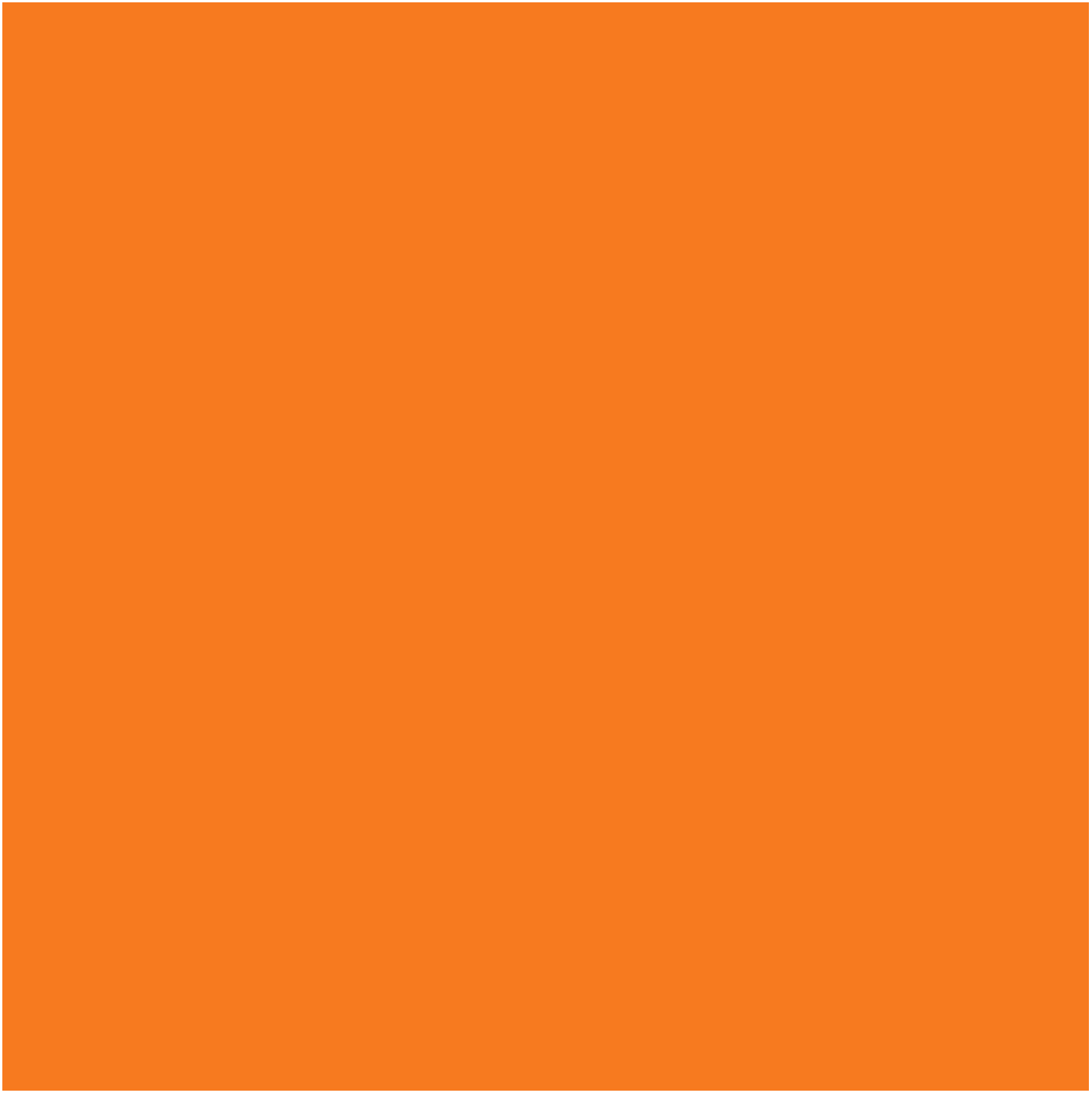
BUILT IN BRITAIN

Part L2
✓

ECA
✓





# SUSPENDED & SURFACE LIGHTING

108 / VANE
116 / ANGOL
120 / VANE150
124 / ELEVATE
126 / SHEER
130 / ASH
134 / LATERUL
140 / HAL
146 / SMART
150 / HUB
154 / POD RD
156 / POD SQ
160 / VWALL
162 / GLAZE
166 / VIVID

FUTURE DESIGNS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lumen Options | SO<br>2350lm/m<br>3000K/4000K LED | | MO<br>2710lm/m 3000K/4000K LED | | HO<br>3100lm/m 3000K/4000K LED | | |
| Tunable White | TW 2500lm/m<br>2700K-6500K LED | | | TW 5300lm/m<br>2700K-6500K LED | | | |
| Uplight | ULS 600lm/m<br>3000K/4000K LED | | ULM 1200lm/m<br>3000K/4000K LED | | ULH 1800lm/m<br>3000K/4000K LED | | |
| Control Gear | ND<br>Non dimming | | HD<br>DALI dimming | | HX<br>DSI dimming | | |
| Diffuser Option | O<br>Satin etched | | | MP<br>Microprism | | | |
| | RB<br>Rebated Diffuser | | FD<br>Flush Diffuser | | DD<br>15mm Drop Diffuser | | |
| Finish | AN<br>Anodised finish | | | RAL<br>RAL colour | | | |
| Mounting | WS<br>Wire suspended | | SM<br>Surface mounted | | VERTA<br>Vertical suspension | | |
| Options | Corner, L and T junctions available | | IF<br>Infill sections | | PIR<br>PIR integration | | |
| Width Styles | 79<br>79mm x 100mm D | | 59<br>59mm x 100mm D | | 109<br>109mm x 100mm D | | |
| Lengths in mm<br>Other lengths available | 560 | 840 | 1120 | 1400 | 1680 | 1960 | 2250 |
| Emergency Options<br>Integrated emergency on lengths 1120mm & above | E3<br>3 hour integrated with green LED indicator | | EA<br>Self test emergency | | EC<br>Central battery emergency | | |
| | ED<br>DALI emergency | | | EE<br>Independent ELED | | | |
| Technical details | CRI>80 | | CRI>90 | | IP20 | | |

FUTURE DESIGNS



# VANE

Striking spaces are created from VANE with slices of light which dart across spaces. VANE enhances any environment adding a visually engaging appearance. Customisable corners and junctions extend the possibilities and configurations. High grade extruded aluminium housings give allow for tailor-made lengths with seamless joins. VANE is available as recessed surface mounted and suspended. Tunable white also available

WORKSPACE
WELLNESS
CIRCULATION
RECEPTION

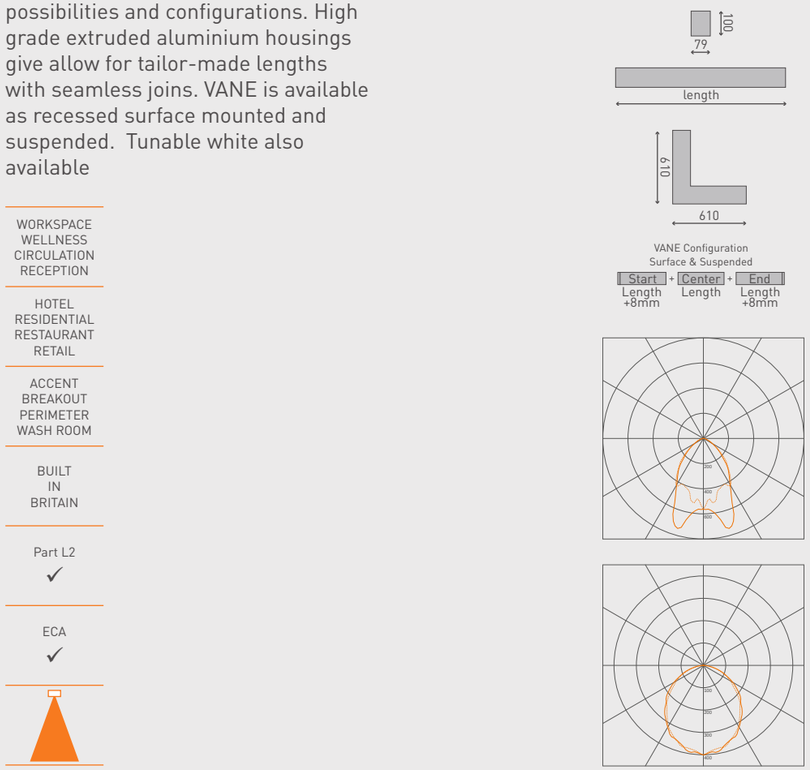
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

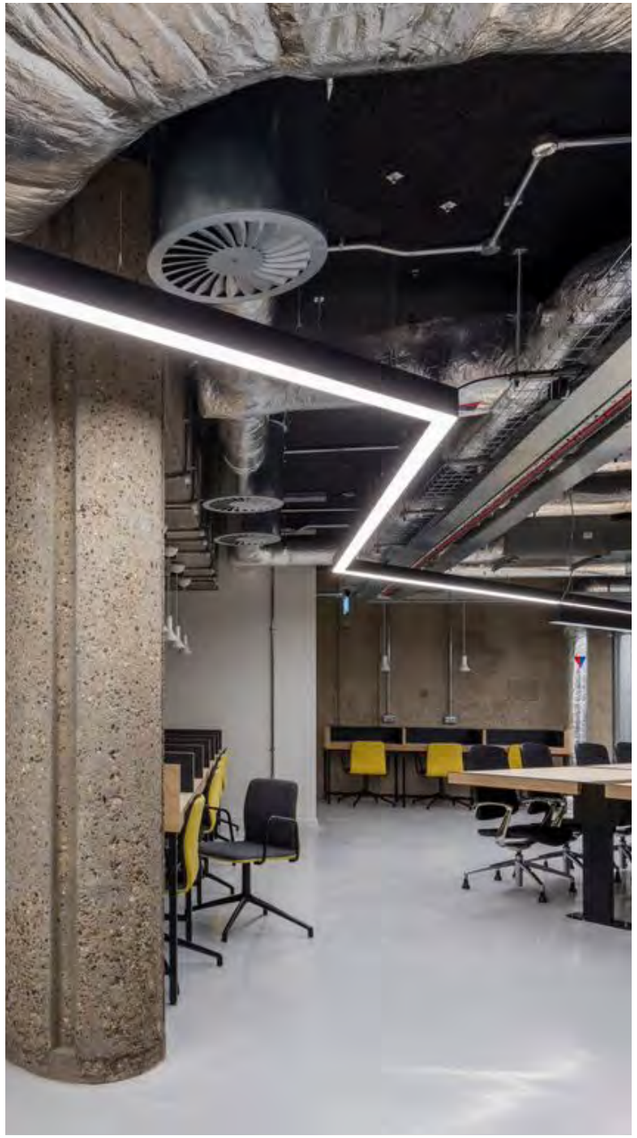
ACCENT
BREAKOUT
PERIMETER
WASH ROOM

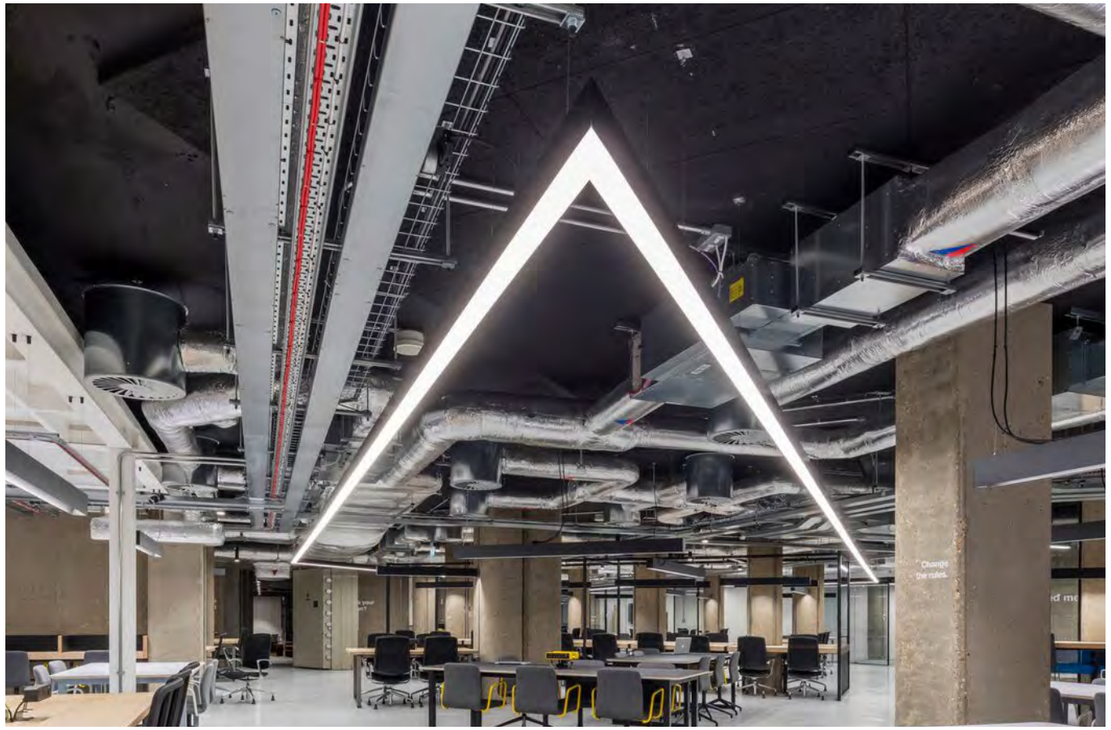
BUILT
IN
BRITAIN

Part L2
✓

ECA
✓





Where speed meets direction

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lumen Options | SO<br>2350lm/m<br>3000K/4000K LED | | MO<br>2710lm/m 3000K/4000K LED | | | HO<br>3100lm/m 3000K/4000K LED | |
| Tunable White | TW 2500lm/m<br>2700K-6500K LED | | | TW 5300lm/m<br>2700K-6500K LED | | | |
| Uplight | ULS 600lm/m<br>3000K/4000K LED | | ULM 1200lm/m<br>3000K/4000K LED | | | ULH 1800lm/m<br>3000K/4000K LED | |
| Control Gear | ND<br>Non dimming | | HD<br>DALI dimming | | | HX<br>DSI dimming | |
| Diffuser Option | O<br>Satin etched | | | MP<br>Microprism | | | |
| | RB<br>Rebated Diffuser | | | FD<br>Flush Diffuser | | | |
| Finish | AN<br>Anodised finish | | | RAL<br>RAL colour | | | |
| Mounting | WS<br>Wire suspended | | | SM<br>Surface mounted | | | |
| Options | Corner, L and T junctions available | | IF<br>Infill sections | | | PIR<br>PIR integration | |
| Lengths in mm<br>Other lengths available | 560 | 840 | 1120 | 1400 | 1680 | 1960 | 2250 |
| Emergency Options<br>Integrated emergency on lengths 1120mm & above | E3<br>3 hour integrated with green LED indicator | | EA<br>Self test emergency | | | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | | | EE<br>Independent ELED | | | |
| Technical details | CRI>80 | | CRI>90 | | | IP20 | |

# ANGOL

The versatility of a slim-line suspended luminaire with unique profiled pitched sides, ANGOL creates fresh possibilities for a visually engaging lighting design. Angles, corners and T junctions are all possibilities. ANGOL is extruded from high grade aluminium and is flexible in creating tailor-made lengths with seamless joins. ANGOL is available as surface mounted and suspended. Tunable white also available.

WORKSPACE
WELLNESS
CIRCULATION
RECEPTION

HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

ACCENT
BREAKOUT
PERIMETER
WASH ROOM

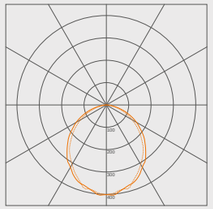
BUILT
IN
BRITAIN

Part L2
✓

ECA
✓

ANGOL Configuration
Surface & Suspended

Start Length +8mm + Center Length + End Length +8mm



| | | | | | | |
|---|---|---|---|---|---|---|
| Lumen Options | SO<br>3000lm/m<br>3000K/4000K LED | | MO<br>3750lm/m<br>3000K/4000K LED | | HO<br>4250lm/m<br>3000K/4000K LED | |
| Tunable White | TW 4600lm/m<br>2700K-6500K LED | | | TW 10000lm/m<br>2700K-6500K LED | | |
| Uplight | ULS 600lm/m<br>3000K/4000K LED | | ULM 1200lm/m<br>3000K/4000K LED | | ULH 1800lm/m<br>3000K/4000K LED | |
| Control Gear | ND<br>Non dimming | | HD<br>DALI dimming | | HX<br>DSI dimming | |
| Diffuser Option | O<br>Satin etched | | | MP<br>Microprism | | |
| Finish | AN<br>Anodised finish | | | RAL<br>RAL colour | | |
| Mounting | WS<br>Wire suspended | | | SM<br>Surface mounted | | |
| Options | Corner, L and T junctions available | | IF<br>Infill sections | | PIR<br>PIR integration | |
| Lengths in mm<br>Other lengths available | 840 | 1120 | 1400 | 1680 | 1960 | 2250 |
| Emergency Options<br>Integrated emergency on lengths 1120mm & above | E3<br>3 hour integrated with green LED indicator | | EA<br>Self test emergency | | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | | | EE<br>Independent ELED | | |
| Technical details | CRI>80 | | CRI>90 | | IP20 | |

FUTURE DESIGNS



# VANE150

With its 150mm width profile is a wider configuration of our more well-known suspended VANE luminaire and just as versatile. VANE150 is available as surface mounted and suspended. Angles, corners and T junctions extend the possibilities. Manufactured from high grade extruded aluminium give added flexibility for tailor-made lengths with seamless joins. VANE150 is available as surface mounted and suspended. Tunable white also available.

WORKSPACE
WELLNESS
CIRCULATION
RECEPTION

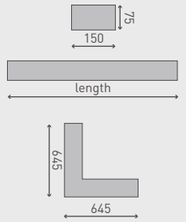
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

ACCENT
BREAKOUT
PERIMETER
WASH ROOM

BUILT
IN
BRITAIN

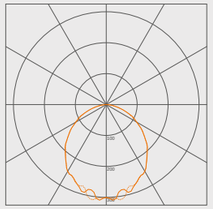
Part L2
✓

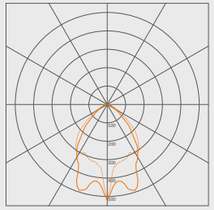
ECA
✓

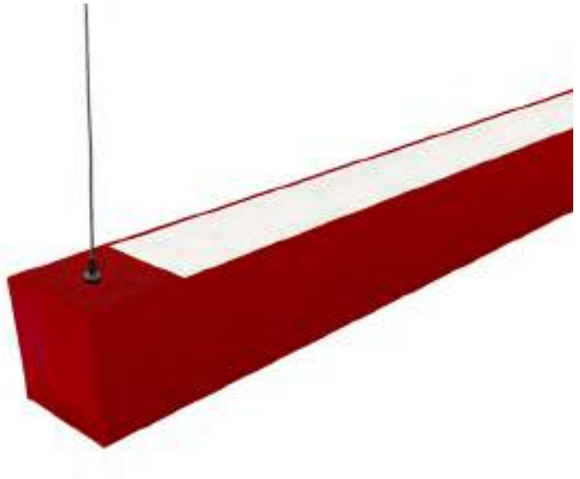



VANE150 Configuration
Surface & Suspended

Start Length +8mm + Center Length + End Length +8mm







| | | | | |
|---|---|---|---|---|
| Lumen Options<br>900mm Nominal Length | SO<br>1980lm<br>3000K/4000K LED | MO<br>2280lm<br>3000K/4000K LED | HO<br>2610lm<br>3000K/4000K LED | TW<br>2100lm<br>2700K-6500K LED |
| Lumen Options<br>1180mm Nominal Length | SO<br>2640lm<br>3000K/4000K LED | MO<br>3040lm<br>3000K/4000K LED | HO<br>3480lm<br>3000K/4000K LED | TW<br>2800lm<br>2700K-6500K LED |
| Lumen Options<br>1460mm Nominal Length | SO<br>3300lm<br>3000K/4000K LED | MO<br>3800lm<br>3000K/4000K LED | HO<br>43500lm<br>3000K/4000K LED | TW<br>3500lm<br>2700K-6500K LED |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming | |
| Diffuser Option | O<br>Satin etched | | | |
| Emergency Options | EE<br>Independent ELED | | | |
| Nominal Size | 35<br>35mm W x 40mm D | 45<br>45mm W x 40mm D | 55<br>55mm W x 40mm D | |
| Lengths | Other lengths & widths available | | | |
| Ceiling details | WS<br>Wire suspensions | | | |
| Technical details | CRI>80 | CRI>90 | IP20 | |

FUTURE DESIGNS



# ELEVATE

A powerful uplighter suitable for accent or feature areas, ELEVATE indirectly illuminates a space and can be used to highlight architectural features With a simple engineered joining system, ELEVATE can be supplied in lengths to suit. Tunable white also available.

WORKSPACE
WELLNESS
RECEPTION

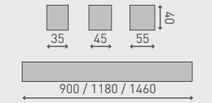
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

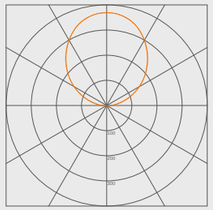
BREAKOUT
CIRCULATION

BUILT
IN
BRITAIN

Part L2
✓

ECA
✓



# SHEER

Designed specifically for reception or feature areas, SHEER creates a focal point above any workspace. The side-wall system allows any colour to be incorporated. It's compact size of only 60mm height x 46mm width gives a truly minimalist look. With a simple engineered joining system, SHEER can be supplied in lengths to suit. Tunable white also available.

| | | | |
|---|---|---|---|
| Lumen Options<br>1200mm Nominal | 1700lm<br>3000K/4000K LED | | TW 1300lm/m<br>2700K-6500K LED |
| Lumen Options<br>2400mm Nominal | 3500lm<br>3000K/4000K LED | | TW 2700lm/m<br>2700K-6500K LED |
| Lumen Options<br>3500mm Nominal | 5200lm<br>3000K/4000K LED | | TW 4000lm/m<br>2700K-6500K LED |
| Control Gear | ND<br>Non dimming | | HD<br>DALI dimming |
| Nominal Size | LIN12<br>1200mm | LIN24<br>2400mm | LIN35<br>3500mm |
| | Other lengths & widths available | | |
| Diffuser Option | Side panels can be supplied in various colours | | |
| Emergency Options | EE<br>Independent ELED | | |
| Ceiling details | WS<br>Wire suspensions | | |
| Technical details | CRI>80 | CRI>90 | IP20 |

WORKSPACE
WELLNESS
RECEPTION

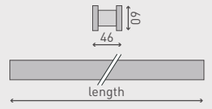
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

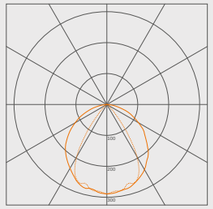
BREAKOUT
CIRCULATION

BUILT
IN
BRITAIN

Part L2
✓

ECA
✓



| | | | | |
|---|---|---|---|---|
| Lumen Options<br>1200mm X 300mm<br>Nominal | 5000lm<br>3000K/4000K LED | 6000lm<br>3000K/4000K LED | 6900lm<br>3000K/4000K LED | TW 9000lm<br>2700K-6500K LED<br>Tunable White |
| Lumen Options<br>900mm X 300mm<br>Nominal | 3700lm<br>3000K/4000K LED | 4500lm<br>3000K/4000K LED | 5200lm<br>3000K/4000K LED | TW 6750lm<br>2700K-6500K LED<br>Tunable White |
| Lumen Options<br>600mm X 300mm<br>Nominal | 2500lm<br>3000K/4000K LED | 3000lm<br>3000K/4000K LED | 3450lm<br>3000K/4000K LED | TW 4500lm<br>2700K-6500K LED |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming | |
| Diffuser Option | O<br>Satin etched | MP<br>Microprism | | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | EE<br>Independent ELED | | |
| Nominal Size | LIN12<br>300 x 1200mm | LIN9<br>300 x 900mm | LIN6<br>300 x 600mm | |
| | Other lengths & widths available | | | |
| Ceiling details | WS<br>Wire suspensions | | | |
| Technical details | CRI>80 | CRI>90 | IP20 | |

FUTURE DESIGNS



# ASH

Suspended luminaire designed for workspaces with a fluid light across its surface. A modular luminaire available in a variety of sizes to suit all suspended applications. Ideal for general illumination and suitable for all workspace environments. Tunable white also available.

WORKSPACE
WELLNESS
RECEPTION

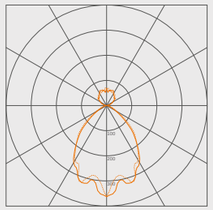
EDUCATION
HOTEL
RETAIL

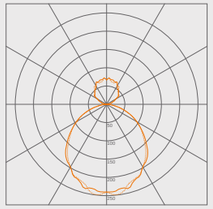
CIRCULATION
BREAKOUT

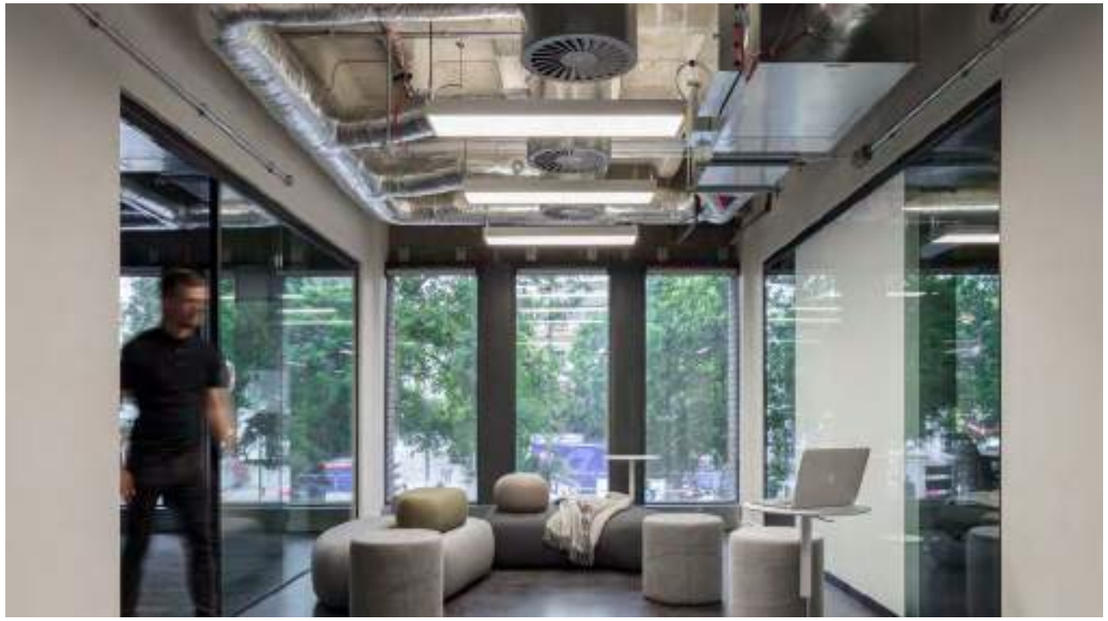
BUILT
IN
BRITAIN

Part L2
✓

ECA
✓







| | | | | |
|---|---|---|---|---|
| Lumen Options<br>Indirect/Direct | 7900lm<br>3000K/4000K LED | 9100lm<br>3000K/4000K LED | 10400lm<br>3000K/4000K LED | TW 8400lm<br>2700K-6500K LED<br>Indirect/Direct |
| Lumen Options<br>Direct | 5280lm<br>3000K/4000K LED | 6080lm<br>3000K/4000K LED | 6960lm<br>3000K/4000K LED | TW 5600lm<br>2700K-6500K LED<br>Direct |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming | |
| Diffuser Option | O<br>Satin etched | MP<br>Microprism | | |
| Emergency Options | E3<br>3 hour integrated within ELED module & green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | EE<br>Independent ELED | | |
| Nominal Size of Sections | SA<br>2.085m Standalone | | | |
| | M3m<br>Start Section | C3m<br>Middle Section | F2.45m<br>End Section | |
| | Other lengths & widths available | | | |
| Ceiling details | WS<br>Wire suspensions | | | |
| Technical details | CRI>80 | CRI>90 | IP20 | |

FUTURE DESIGNS



# LATERUL

The engineered features of LATERUL compliment the architectural lines of the workspace environment, LATERUL brings high performance lighting to the office, a suspended modular system to help create long luminaire runs along with individual modules. Tunable white also available.

WORKSPACE
WELLNESS
RECEPTION

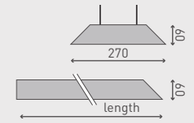
EDUCATION
HOTEL
RETAIL

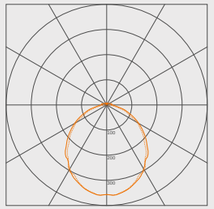
CIRCULATION
BREAKOUT

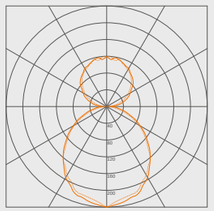
BUILT
IN
BRITAIN

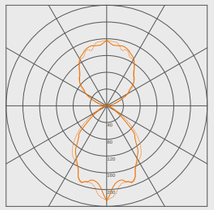
Part L2
✓

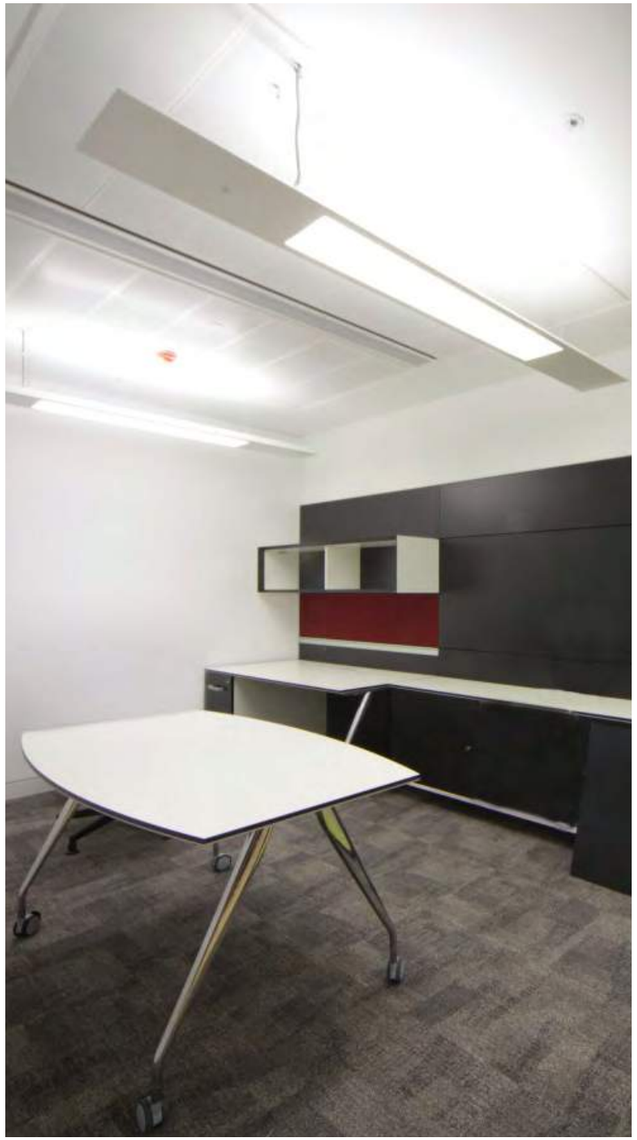
ECA
✓

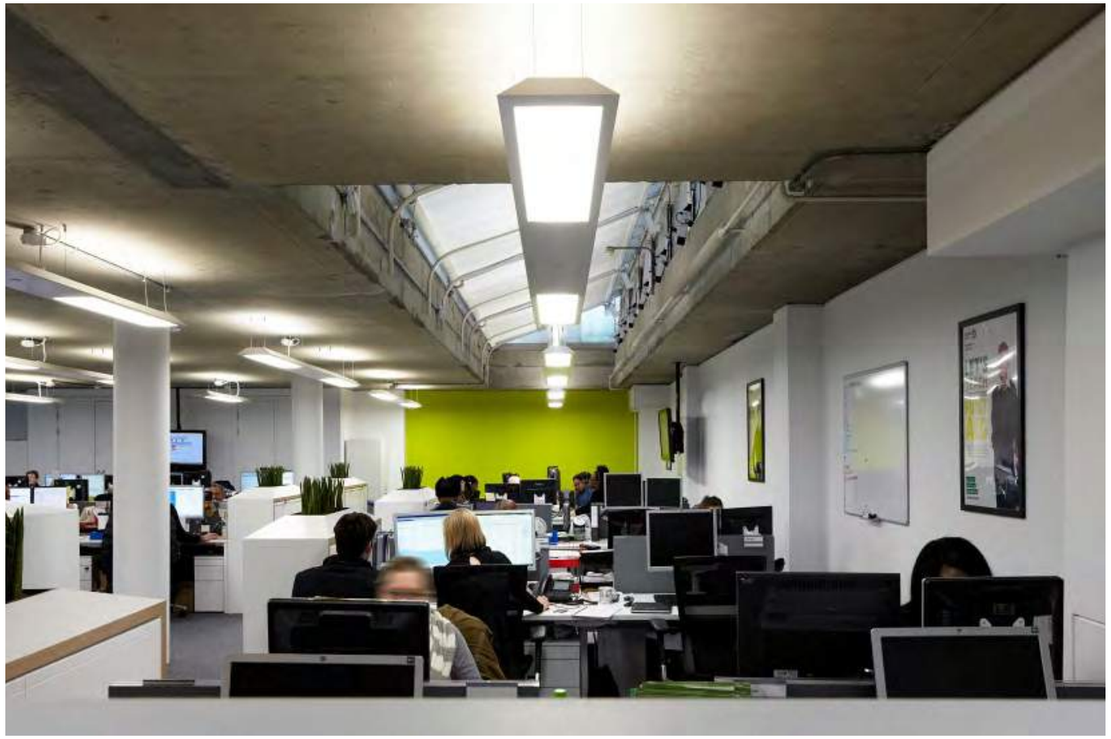










# HAL

A suspended modular luminaire with direct or indirect/direct lighting. Designed for high performance, HAL creates lighting that gives fantastic performance ideal for general illumination and suitable for all workspace environments. Tunable white also available.

| | | | |
|---|---|---|---|
| Lumen Options<br>1650mm Nominal | 6600lm<br>3000K/4000K LED | 7600lm<br>3000K/4000K LED | 8700lm<br>3000K/4000K LED |
| Lumen Options<br>1350mm Nominal | 5200lm<br>3000K/4000K LED | 6000lm<br>3000K/4000K LED | 6900lm<br>3000K/4000K LED |
| Lumen Options<br>Tunable White Nominal | TW<br>2700K-6500K LED | | |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming |
| Diffuser Option | O<br>Satin etched | MP<br>Microprism | |
| Finish | AN<br>Anodised finish | RAL<br>RAL colour | |
| Options | Corner, L and T junctions available | IF<br>Infill sections | PIR<br>PIR integration |
| Lengths | LIN13<br>205 x 1350mm | LIN16<br>205 x 1650mm | |
| | Other lengths & widths available | | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency |
| | ED<br>DALI emergency | EE<br>Independent ELED | |
| Ceiling details | WS<br>Wire suspensions | | |
| Technical details | CRI>80 | CRI>90 | IP20 |

WORKSPACE
WELLNESS
RECEPTION

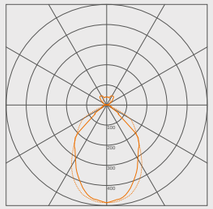
EDUCATION
HOTEL
RETAIL

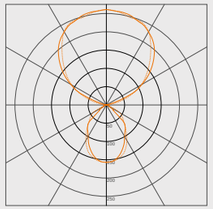
CIRCULATION
BREAKOUT

BUILT
IN
BRITAIN

Part L2
✓

ECA
✓





| | | | |
|---|---|---|---|
| Lumen Options<br>1500mm X 62mm<br>Nominal | 5500lm<br>3000K/4000K LED | | TW 7500lm<br>2700K-6500K LED |
| Lumen Options<br>1200mm X 62mm<br>Nominal | 4400lm<br>3000K/4000K LED | | TW 6000lm<br>2700K-6500K LED |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming |
| Diffuser Option | O<br>Satin etched | | MP<br>Microprism |
| Lighting Options | UL<br>Uplight Option | | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency |
| | ED<br>DALI emergency | | EE<br>Independent ELED |
| Lengths | Other lengths & widths available | | |
| Ceiling details | WS<br>Wire suspensions | | |
| Technical details | CRI>80 | CRI>90 | IP20 |

FUTURE DESIGNS



# SMART

SMART creates fine slices of light across the space. The versatility of SMART enhances any space. SMART is suited to any workspace environment including receptions, circulation and amenity areas. Tunable white also available.

WORKSPACE
WELLNESS
CIRCULATION
RECEPTION

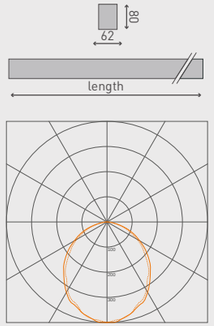
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

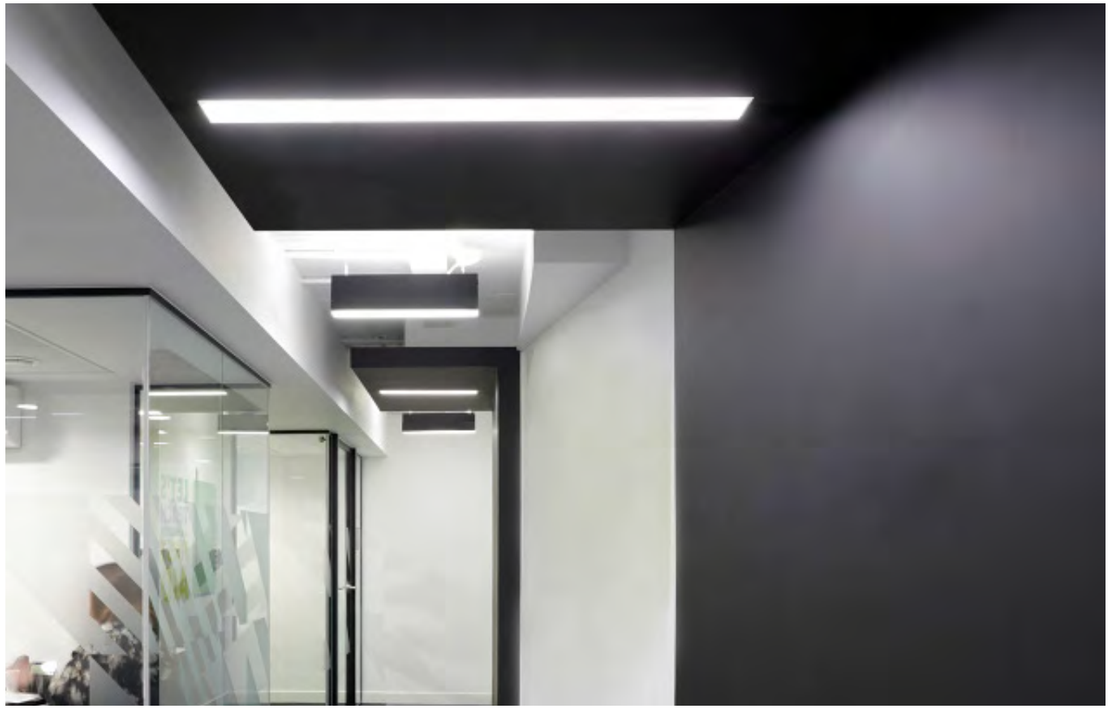
ACCENT
BREAKOUT
PERIMETER

BUILT
IN
BRITAIN

Part L2
✓

ECA
✓





| | | | |
|---|---|---|---|
| Lumen Options<br>Circular (RD)<br>Nominal | 5000lm<br>3000K/4000K LED<br>Ø600mm | 12000lm<br>3000K/4000K LED<br>Ø900mm | 18000lm<br>3000K/4000K LED<br>Ø1200mm |
| Lumen Options<br>Square (SQ)<br>Nominal | 6000lm<br>3000K/4000K LED<br>600mm x 600mm | 20000lm<br>3000K/4000K LED<br>900mm x 900mm | 24000lm<br>3000K/4000K LED<br>1200mm x 1200mm |
| Lumen Options<br>Tunable White Nominal | TW<br>2700K-6500K LED | | |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming |
| Diffuser | O<br>Satin etched | UL<br>Uplight | |
| Options | Depth 200mm<br>Other sizes available<br>Fabric shades available in various colours | | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EC<br>Central battery emergency | |
| Ceiling details | Suspended from ceiling rose | | |
| Technical details | CRI>80 | CRI>90 | IP20 |

# HUB

Drum style pendants specifically designed for the workplace environment. Available in a wide range of fabric finishes and sizes to suit all interior spaces. Mounting is via suspension from a ceiling rose.

WORKSPACE
WELLNESS
RECEPTION

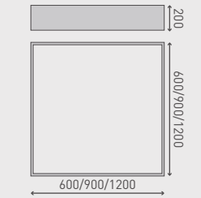
EDUCATION
HOTEL
RETAIL

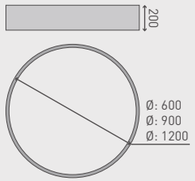
CIRCULATION
BREAKOUT

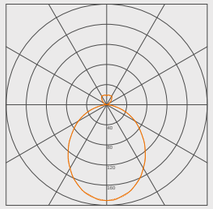
BUILT
IN
BRITAIN

Part L2
✓

ECA
✓



| | | | | | | |
|---|---|---|---|---|---|---|
| Lumen Options<br>Ø400mm X 87mm Nom | 1910lm<br>3000K LED | | 3390lm<br>3000K LED | | 2000lm<br>4000K LED | 3560lm<br>4000K LED |
| Lumen Options<br>Ø600mm X 87mm Nom | 4020lm<br>3000K LED | 5600lm<br>3000K LED | 6790lm<br>3000K LED | 4220lm<br>4000K LED | 5880lm<br>4000K LED | 7130lm<br>4000K LED |
| Lumen Options<br>Ø950mm X 129mm Nom | 14830lm<br>3000K LED<br>Direct / Indirect | | 12120lm<br>3000K LED<br>Direct | 12700lm<br>4000K LED<br>Direct / Indirect | | 15500lm<br>4000K LED<br>Direct |
| Lumen Options<br>Ø1240mm X 129mm<br>Nominal | 28420lm<br>3000K LED<br>Direct / Indirect | | 22220lm<br>3000K LED<br>Direct | 29770lm<br>4000K LED<br>Direct / Indirect | | 23280lm<br>4000K LED<br>Direct |
| Lumen Options<br>Ø1500mm X 129mm<br>Nominal | 36500lm<br>3000K LED<br>Direct / Indirect | | 25210lm<br>3000K LED<br>Direct | 38240lm<br>4000K LED<br>Direct / Indirect | | 36500lm<br>4000K LED<br>Direct |
| Tunable White | TW<br>2700K-6500K LED | | | | | |
| Control Gear | ND<br>Non dimming | | | HD<br>DALI dimming | | |
| Diffuser Option | O<br>Satin etched as standard | | | MP<br>Microprism | | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | | EA<br>Self test emergency | | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | | | EE<br>Independent ELED | | |
| Style | D<br>Direct | | | ID<br>Indirect/Direct | | |
| Ceiling details | WS<br>Wire suspended | | | SM<br>Surface mounted direct only | | |
| Finish | BL<br>Black | | WH<br>White | | AN<br>Anodised | |
| Technical details | CRI>80 | | CRI>90 | | IP20 | |

# POD RD

POD is designed with an aluminium shell, which can be anodised or finished in standard RAL colours. Incorporating an LED system to illuminate the front face. Available in a variety of sizes to suit any space, POD can be supplied as suspended or surface mounted. Tunable white also available.

WORKSPACE
WELLNESS
RECEPTION

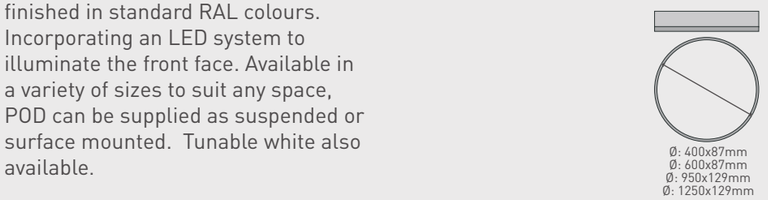
EDUCATION
HOTEL
RETAIL

CIRCULATION
BREAKOUT

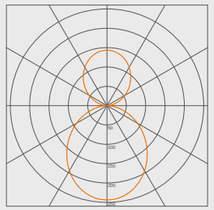
BUILT
IN
BRITAIN

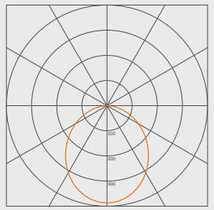
Part L2
✓

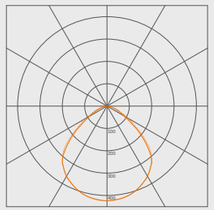
ECA
✓



Ø: 400x87mm
Ø: 600x87mm
Ø: 950x129mm
Ø: 1250x129mm







| | | | |
|---|---|---|---|
| Lumen Options<br>600mm X 600mm x 129mm Nom | 3350lm<br>3000K LED | 3460lm<br>4000K LED | |
| Lumen Options<br>900mm X 900mm x 129mm Nom | 7550lm<br>3000K LED | 7790lm<br>4000K LED | |
| Lumen Options<br>1200mm X 1200mm x 129mm Nom | 13420lm<br>3000K LED | 13840lm<br>4000K LED | |
| Lumen Options<br>1500mm X 1500mm x 129mm Nom | 23710lm<br>3000K LED | 24460lm<br>4000K LED | |
| Tunable White | TW<br>2700K-6500K LED | | |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | |
| Diffuser Option | O<br>Satin etched as standard | MP<br>Microprism | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency |
| | ED<br>DALI emergency | EE<br>Independent ELED | |
| Style | D<br>Direct | | |
| Ceiling Details | WS<br>Wire suspended | SM<br>Surface mounted | |
| Finish | BL<br>Black | WH<br>White | AN<br>Anodised |
| Technical details | CRI>80 | CRI>90 | IP20 |

FUTURE DESIGNS



# POD SQ

POD SQ is constructed from an aluminium shell, which can be anodised or finished in standard RAL colours. Incorporating an LED system to illuminate the front face. Available in a variety of sizes to suit any space, POD can be supplied as suspended or surface mounted. Tunable white also available.

WORKSPACE
WELLNESS
RECEPTION

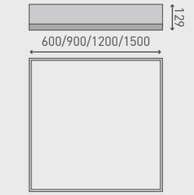
EDUCATION
HOTEL
RETAIL

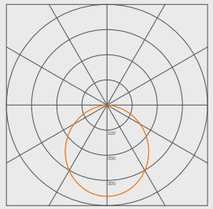
CIRCULATION
BREAKOUT

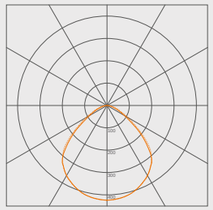
BUILT
IN
BRITAIN

Part L2
✓

ECA
✓





# VWALL

Wall mounted direct/indirect luminaire offering indirect/direct light distribution. Die cast construction with open space design makes this a stylish fixture for any space giving a more inviting feel. Finished in white or black. LED can be offered as cool white 4000K or 3000 Kelvin warm white, tunable white also available.

| | | | | |
|---|---|---|---|---|
| Lumen Options<br>Nominal Width 150mm | 820lm<br>4000K LED | | 750lm<br>3000K LED | |
| Lumen Options<br>Nominal Width 290mm | 850lm<br>4000K LED | 1620lm<br>4000K LED | 780lm<br>3000K LED | 1485lm<br>3000K LED |
| Lumen Options<br>Nominal Width 570mm | 1700lm<br>4000K LED | 3490lm<br>4000K LED | 1560lm<br>3000K LED | 2970lm<br>3000K LED |
| Tunable White | TW 700lm<br>2700K-6500K LED<br>Width 290mm | | TW 1500lm<br>2700K-6500K LED<br>Width 570mm | |
| Control Gear | ND<br>Non dimming | | HD<br>DALI dimming | |
| Finishes | GR<br>RAL9003 | AG<br>RAL9006 | BL<br>RAL9005 | |
| Ceiling details | Wall mounted | | | |
| Technical details | CRI>80 | CRI>90 | IP20 | |

WORKSPACE
WELLNESS
RECEPTION

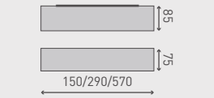
EDUCATION
HOTEL
RETAIL

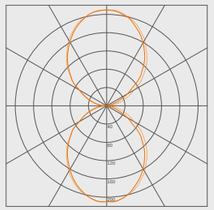
CIRCULATION
BREAKOUT
RESIDENTIAL

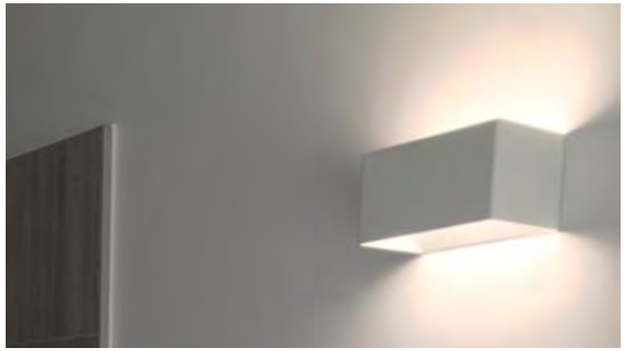
BUILT
IN
BRITAIN

Part L2
✓

ECA
✓





| | | | |
|---|---|---|---|
| Lumen Options | 500lm/m<br>3000K/4000K LED | 1000lm/m<br>3000K/4000K LED | 1500lm/m<br>3000K/4000K LED |
| Tunable White | 1200lm/m<br>2200K - 6500K LED | 3000lm/m<br>2200K - 6500K LED | 3800lm/m<br>2200K - 6500K LED |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | |
| Diffuser | CL<br>Clear diffuser | ET<br>Frosted diffuser | AET<br>Arched frosted diffuser |
| Emergency Option | EE<br>Independent ELED | | |
| Nominal Size | 100mm Cut Points | | |
| | Other lengths & widths available | | |
| Technical details | CRI>80 | CRI>90 | IP20 |

# GLAZE

GLAZE caters for all backlit and feature lighting needs. This versatile LED brings quality LED lighting with low energy use to any scheme. LED is housed in an aluminium extrusion with a choice of diffuser options. Available in 3 variations of lumen outputs, GLAZE sits perfectly in any cove, pelmet, undershelf or ceiling system. Tunable white also available.

ACCENT FEATURE

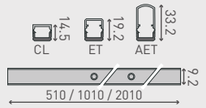
STAIR FURNITURE

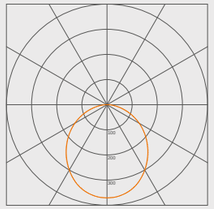
PELMET UNDER SHELF

BUILT IN BRITAIN

Part L2 ✓

ECA ✓



FUTURE
DESIGNS

| | | | |
|---|---|---|---|
| Lumen Options | 500lm/m<br>3000K/4000K LED | 1000lm/m<br>3000K/4000K LED | 1500lm/m<br>3000K/4000K LED |
| Tunable White | 1200lm/m<br>2200K - 6500K LED | 3000lm/m<br>2200K - 6500K LED | 3800lm/m<br>2200K - 6500K LED |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | |
| Emergency Option | EE<br>Independent ELED | | |
| Nominal Size | 100mm Cut Points | | |
| | Other lengths & widths available | | |
| Technical details | CRI>80 | CRI>90 | IP20 |

FUTURE DESIGNS



# VIVID

VIVID is designed for all backlit and feature lighting needs. This versatile LED system brings quality LED lighting with low energy use to any scheme. Available in 3 variations of lumen outputs, VIVID sits perfectly in any cove, pelmet, stretched ceiling or illuminated wall. Tunable white also available.

ACCENT FEATURE

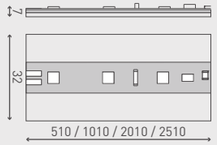
STAIR FURNITURE

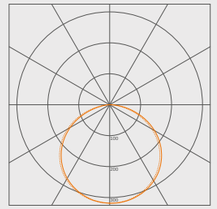
PELMET UNDER SHELF

BUILT IN BRITAIN

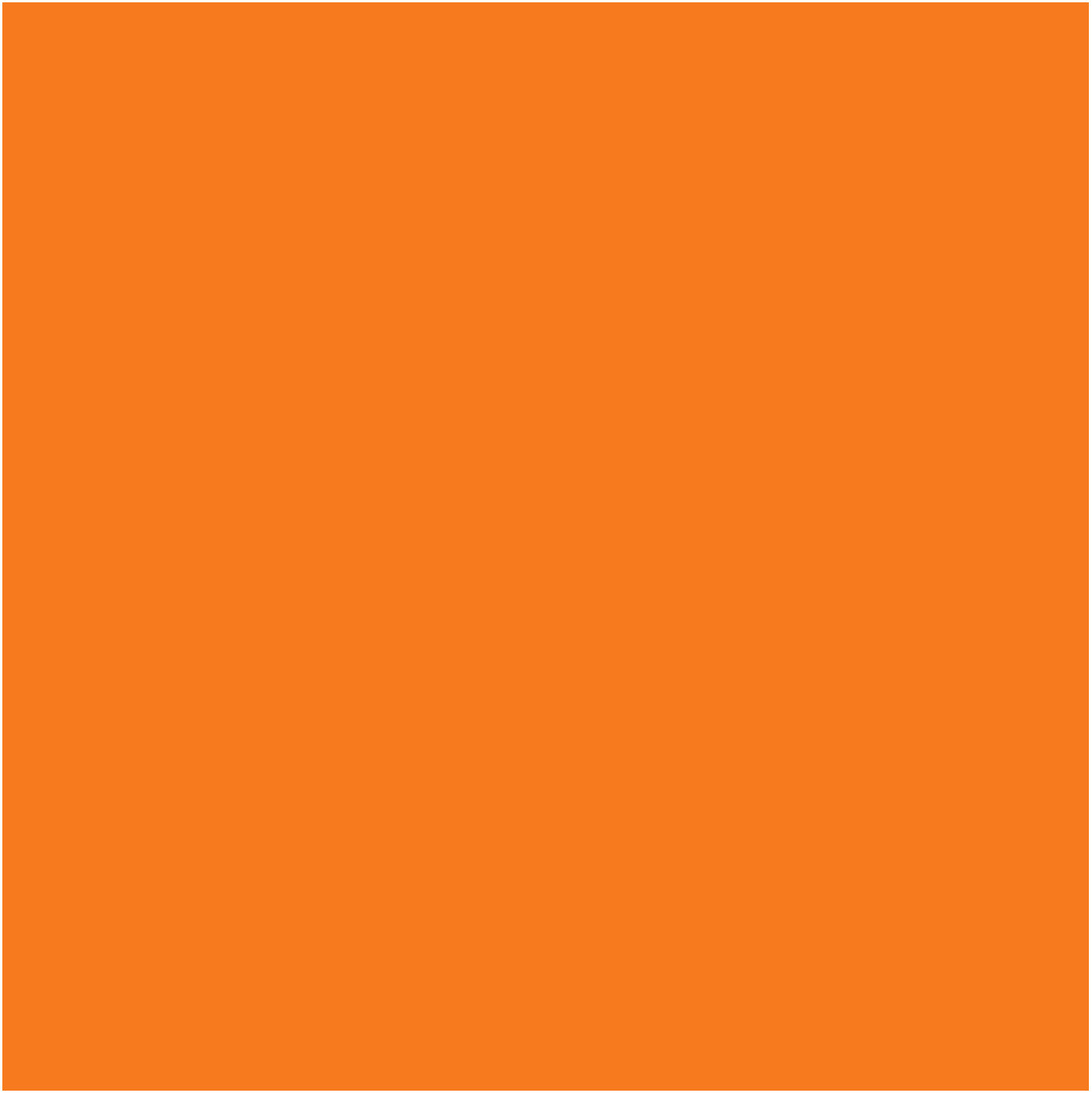
Part L2 ✓

ECA ✓



FUTURE
DESIGNS



# DOWNLIGHTS & ACCENT

172 / COPPA
176 / MECCAN RD
178 / MECCAN SQ
182 / MECCAN SD
184 / MECCAN QD
188 / BEEM RD 100
190 / BEEM RD 85
194 / BEEM RD 130
196 / BEEM RD 196
200 / BEEM SQ 100
202 / BEEM SQ 150
204 / BEEM SQ 180
208 / BEEM SB 100
212 / BEEM SB 150
214 / BEEM SB185
218 / BEEM SB 220
220 / POLA
222 / BEEM RD SM
226 / BEEM SQ SM
230 / KAR 1S
232 / KAR 2S
234 / KAR 3S
238 / ART A1
240 / ART A1

| | | | |
|---|---|---|---|
| Lumen Options | 575lm<br>2700K/4000K LED | | |
| Control Gear | ND<br>Non dimming | MD<br>Mains dimming | |
| Options | SM<br>Mounted to ceiling | CS<br>Suspended on copper drop rods | |
| Emergency Options | EE<br>Independent ELED | | |
| Nominal Size | 100mm x 76mm | | |
| Ceiling details | Finished & Exposed Ceiling | | |
| Technical details | CRI>80 | CRI>90 | IP20 |

FUTURE DESIGNS

# COPPA

COPPA is a feature of its environment. Teamed equally well with vintage and modern styling. Performance LED sources give low power consumption and long life-spans. The twin copper spinnings soften the light and add warmth and a relaxed feel to the luminaire.

WORKSPACE
RECEPTION
WAITING

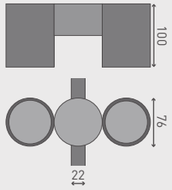
HOTEL
RESTAURANT
RETAIL

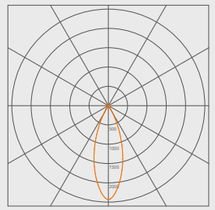
BREAKOUT
EXHIBITION
FEATURE

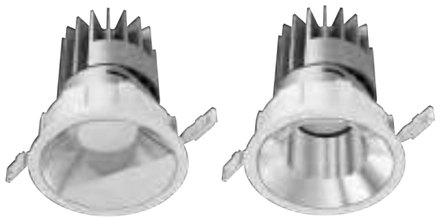
BUILT
IN
BRITAIN

Part L2
✓

ECA
✓





| | | | | |
|---|---|---|---|---|
| Ø55mm x 98mm C/O Ø45mm | 350lm<br>4000K / 3000K LED<br>Adjustable & fixed | | | |
| Ø78mm x 98mm C/O Ø68mm | 600lm<br>4000K / 3000K LED<br>Adjustable & fixed | | 800lm<br>4000K / 3000K LED<br>Adjustable & fixed | |
| Ø110mm x 126mm C/O Ø100mm | 850lm<br>4000K/3000K LED<br>Adjustable | 1100lm<br>4000K/3000K LED<br>Adjustable | 900lm<br>4000K/3000K LED<br>Fixed | 1200lm<br>4000K/3000K LED<br>Fixed |
| | 480lm<br>4000K/3000K LED Fixed wall washer | | 650lm<br>4000K/3000K LED Fixed wall washer | |
| Ø137mm x 157mm C/O Ø125mm | 1300lm<br>4000K/3000K LED<br>Adjustable | 1700lm<br>4000K/3000K LED<br>Adjustable | 1400lm<br>4000K/3000K LED<br>Fixed | 1800lm<br>4000K/3000K LED<br>Fixed |
| | 750lm<br>4000K/3000K LED Fixed wall washer | | 1000lm<br>4000K/3000K LED Fixed wall washer | |
| Ø162mm x 188mm C/O Ø150mm | 1800lm<br>4000K/3000K LED<br>Adjustable | 2500lm<br>4000K/3000K LED<br>Adjustable | 1900lm<br>4000K/3000K LED<br>Fixed | 2700lm<br>4000K/3000K LED<br>Fixed |
| | 1000lm<br>4000K/3000K LED Fixed wall washer | | 1400lm<br>4000K/3000K LED Fixed wall washer | |
| Beam Angle Adjustable | NB<br>20° Narrow Beam | MB<br>40° medium beam | WB<br>50° Wide beam | 10NB<br>10° Beam Ø68mm |
| Beam Angle Fixed | NB<br>28° Narrow Beam | MB<br>35° medium beam | WB<br>50° Wide beam | |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | MD<br>Mains dimming | |
| Reflector Option | SP<br>Specular reflector | WR<br>White reflector | BR<br>Black reflector | GR<br>Gold reflector |
| Style | AD<br>Adjustable 355° rotation 30° tilit | F<br>Fixed | WW<br>Fixed wallwasher | HC<br>Honeycomb mesh |
| Options | TR<br>Trimmed | | TL<br>Trimless | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | ED<br>DALI emergency | EC<br>Central battery emergency | EE<br>Independent ELED |
| Ceiling details | Recessed into false ceiling | | | |
| Technical details | CRI>80 | CRI>90 | IP20 | |

FUTURE DESIGNS



# MECCAN RD

Recessed downlighter with deep set reflector. Fixed, wall wash or adjustable and manufactured from high grade spun aluminium, reflectors available in various finishes. Easy to install luminaires which are adjustable to 30°. Available in various lumen outputs and colour temperatures.

WORKSPACE
CIRCULATION
RECEPTION

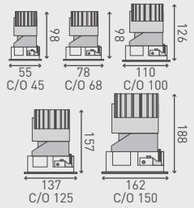
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

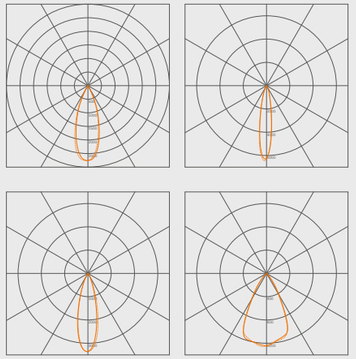
ACCENT
BREAKOUT
PERIMETER
WASH ROOM

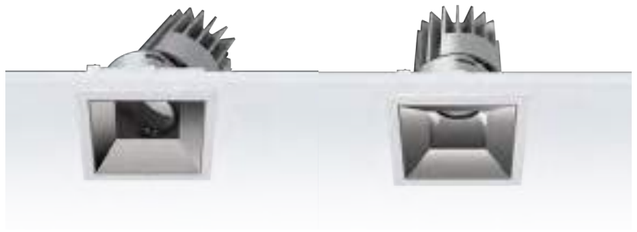
BUILT
IN
BRITAIN

Part L2
✓

ECA
✓





| | | | | |
|---|---|---|---|---|
| 55mm sq x 98mm C/O 45mm sq | 350lm<br>4000K / 3000K LED<br>Adjustable & fixed | | | |
| 78mm sq x 98mm C/O 68mm sq | 600lm<br>4000K / 3000K LED<br>Adjustable & fixed | | 800lm<br>4000K / 3000K LED<br>Adjustable & fixed | |
| 107mm sq x 126mm C/O 96mm sq | 850lm<br>4000K/3000K LED<br>Adjustable | 1100lm<br>4000K/3000K LED<br>Adjustable | 900lm<br>4000K/3000K LED<br>Fixed | 1200lm<br>4000K/3000K LED<br>Fixed |
| | 480lm<br>4000K/3000K LED Fixed wall washer | | 650lm<br>4000K/3000K LED Fixed wall washer | |
| 134mm sq x 157mm C/O 122mm sq | 1300lm<br>4000K/3000K LED<br>Adjustable | 1700lm<br>4000K/3000K LED<br>Adjustable | 1400lm<br>4000K/3000K LED<br>Fixed | 1800lm<br>4000K/3000K LED<br>Fixed |
| | 750lm<br>4000K/3000K LED Fixed wall washer | | 1000lm<br>4000K/3000K LED Fixed wall washer | |
| 159mm sq x 188mm C/O 147mm sq | 1800lm<br>4000K/3000K LED<br>Adjustable | 2500lm<br>4000K/3000K LED<br>Adjustable | 1900lm<br>4000K/3000K LED<br>Fixed | 2700lm<br>4000K/3000K LED<br>Fixed |
| | 1000lm<br>4000K/3000K LED Fixed wall washer | | 1400lm<br>4000K/3000K LED Fixed wall washer | |
| Beam Angle Adjustable | NB<br>20° Narrow Beam | MB<br>40° medium beam | WB<br>50° Wide beam | 10NB<br>10° Beam Ø68mm |
| Beam Angle Fixed | NB<br>28° Narrow Beam | MB<br>35° medium beam | WB<br>50° Wide beam | |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | MD<br>Mains dimming | |
| Reflector Option | SP<br>Specular reflector | WR<br>White reflector | BR<br>Black reflector | GR<br>Gold reflector |
| Style | AD<br>Adjustable 355° rotation 30° tilit | F<br>Fixed | WW<br>Fixed wallwasher | HC<br>Honeycomb mesh |
| Options | TR<br>Trimmed | | TL<br>Trimless | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | ED<br>DALI emergency | EC<br>Central battery emergency | EE<br>Independent ELED |
| Ceiling details | Recessed into false ceiling | | | |
| Technical details | CRI>80 | CRI>90 | IP20 | |

# MECCAN SQ

Square recessed downlighter with deep set reflector. Fixed, wall wash or adjustable and manufactured from high grade spun aluminium, reflectors available in various finishes. Easy to install luminaires which are adjustable to 30°. Available in various lumen outputs and colour temperatures.

WORKSPACE
CIRCULATION
RECEPTION

HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

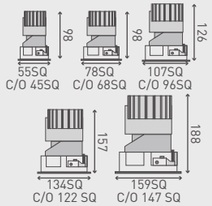
ACCENT
BREAKOUT
PERIMETER
WASH ROOM

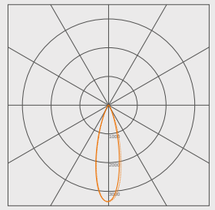
BUILT
IN
BRITAIN

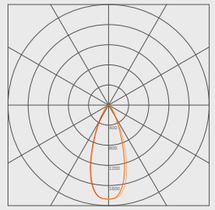
Part L2
✓

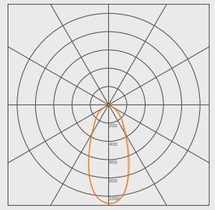
ECA
✓

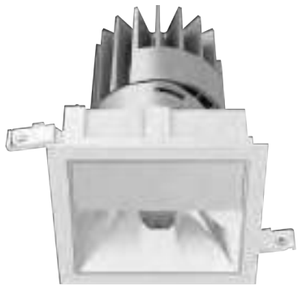




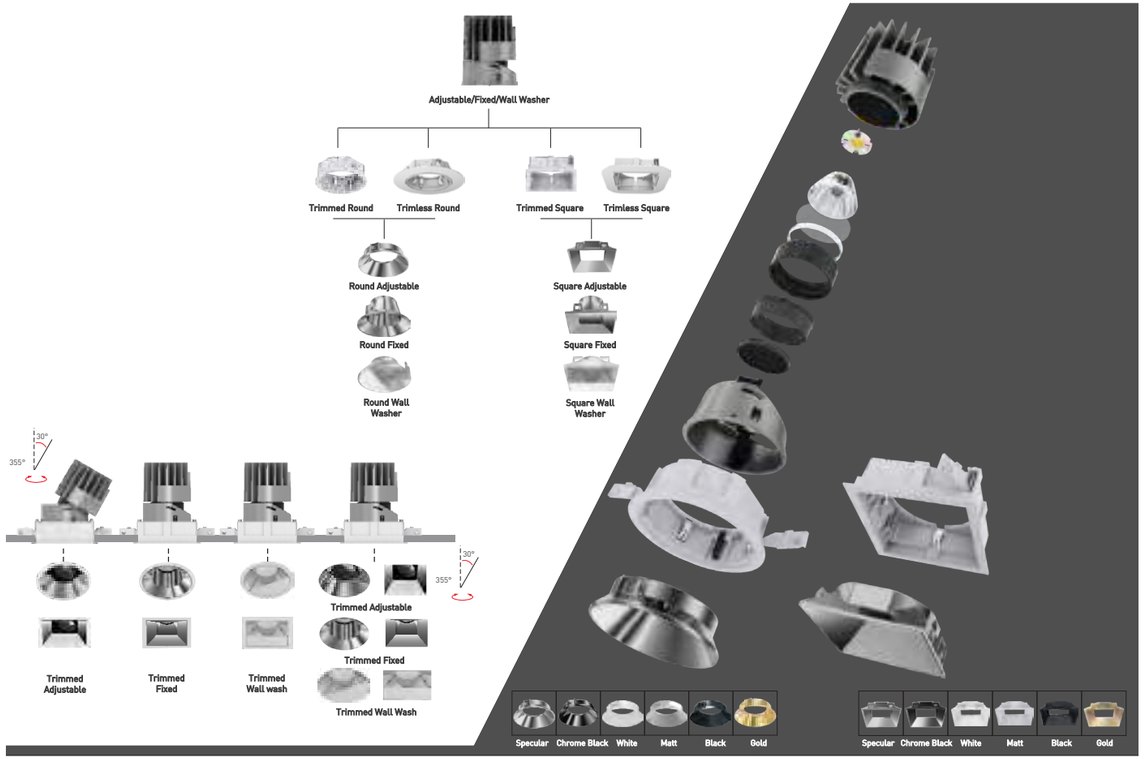






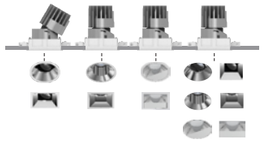
DOWNLIGHT & ACCENT

# MECCAN CONFIGURATOR

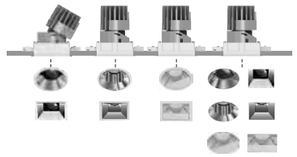



**MECCAN RD 55 / MECCAN RD 55**
**MECCAN SQ 78 / MECCAN SQ 78**

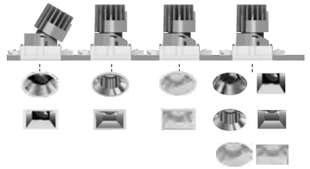
**MECCAN RD 110**
**MECCAN SQ 107**



**MECCAN RD 137**
**MECCAN SQ 134**



**MECCAN RD 162**
**MECCAN SQ 159**



## MECCAN SD

| | | | | |
|---|---|---|---|---|
| Lumen Options | 600lm<br>4000K / 3000K LED | 800lm<br>4000K / 3000K LED | 1000lm<br>4000K / 3000K LED | |
| | 1200lm<br>4000K / 3000K LED | 1500lm<br>4000K / 3000K LED | | |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | MD<br>Mains dimming | |
| Beam Option | NB<br>15° Narrow beam | MB<br>24° Medium beam | WB<br>38° Medium beam | FB<br>60° Flood beam |
| Luminaire Option | F<br>Fixed | A<br>Adjustable | | |
| | PI<br>Plaster in (fixed 600, 800 & 1000lm only) | | | |
| Reflector Option | SP<br>Specular reflector | WR<br>White reflector | BR<br>Black reflector | GR<br>Gold reflector |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | EE<br>Independent ELED | | |
| Nominal Size | Ø80mm x 104mm | Cutout Ø70mm | | |
| Ceiling details | Recessed into false ceiling | | | |
| Technical details | CRI>80 | CRI>90 | IP20 | |

FUTURE DESIGNS



# MECCAN SD

Miniature downlighter with deep set reflector. Fixed, wall wash or adjustable and manufactured from high grade spun reflectors available in various finishes. Easy to install luminaires which are available in various lumen outputs and colour temperatures.

WORKSPACE
CIRCULATION
RECEPTION

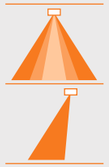
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

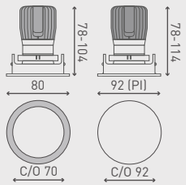
ACCENT
BREAKOUT
PERIMETER
WASH ROOM

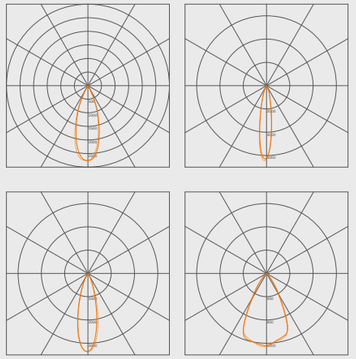
BUILT
IN
BRITAIN

Part L2
✓

ECA
✓





# MECCAN QD

Miniature downlighter with deep set reflector. Fixed, wall wash or adjustable and manufactured with high grade reflectors available in various finishes. Easy to install luminaires which are available in various lumen outputs and colour temperatures.

| | | | | |
|---|---|---|---|---|
| Lumen Options | 600lm<br>4000K / 3000K LED | 800lm<br>4000K / 3000K LED | 1000lm<br>4000K / 3000K LED | |
| | 1200lm<br>4000K / 3000K LED | 1500lm<br>4000K / 3000K LED | | |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | MD<br>Mains dimming | |
| Beam Option | NB<br>15° Narrow beam | MB<br>24° Medium beam | WB<br>38° Medium beam | FB<br>60° Flood beam |
| Luminaire Option | F<br>Fixed | A<br>Adjustable | | |
| | PI<br>Plaster in (fixed 600, 800 & 1000lm only) | | | |
| Reflector Option | SP<br>Specular reflector | WR<br>White reflector | BR<br>Black reflector | GR<br>Gold reflector |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | EE<br>Independent ELED | | |
| Nominal Size | 84mm x 84mm | Cutout 78 x 78mmmm | | |
| Nominal Size PI | 84mm x 75mm | Cutout 85 x 76mmmm | | |
| Ceiling details | Recessed into false ceiling | | | |
| Technical details | CRI>80 | CRI>90 | IP20 | |

WORKSPACE
CIRCULATION
RECEPTION

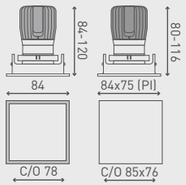
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

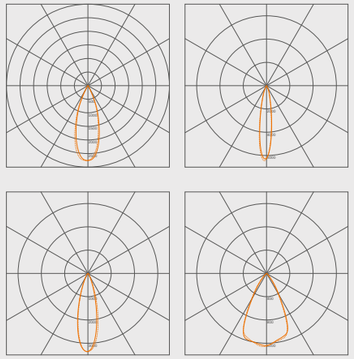
ACCENT
BREAKOUT
PERIMETER
WASH ROOM

BUILT
IN
BRITAIN

Part L2
✓

ECA
✓



| | | | |
|---|---|---|---|
| Bezel Style | F<br>Fixed style | A<br>Adjustable | |
| Lumen Options | 1100lm<br>3000K/4000K LED | 2000lm<br>3000K/4000K LED | |
| Tunable White | TW 1400lm<br>2700K-6500K LED | TW 2000lm<br>2700K-6500K LED | |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming |
| Inner reflector finish | BR<br>Black inner ring | WR<br>White inner ring | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency |
| | ED<br>DALI emergency | EE<br>Independent ELED | |
| Nominal Size | Ø100mm | Cutout Ø80mm | |
| Ceiling details | Recessed into false ceiling | | |
| Technical details | CRI>80 | CRI>90 | IP20 |

FUTURE DESIGNS



# BEEM RD100

Square recessed downlighter in a compact 100mm x 100mm size adding sparkle to any space. Manufactured from mild steel with easy install spring design for simple installation. Available in various lumen outputs and colour temperatures including tunable white.

WORKSPACE
WELLNESS
CIRCULATION
RECEPTION

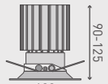
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

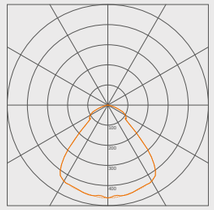
ACCENT
BREAKOUT
PERIMETER
WASH ROOM

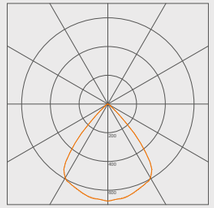
BUILT
IN
BRITAIN

Part L2
✓

ECA
✓





| | | | |
|---|---|---|---|
| Lumen Options | 900lm<br>3000K/4000K LED | | 1200lm<br>3000K/4000K LED |
| Control Gear | ND<br>Non dimming | | HD<br>DALI dimming |
| Beam Option | NB<br>Narrow beam | | MB<br>Medium beam |
| Reflector Option | BR<br>Matt black reflector | | WR<br>White reflector |
| Luminaire Option | PI<br>Plaster in | | WW<br>Wallwash |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency |
| | ED<br>DALI emergency | | EE<br>Independent ELED |
| Nominal Size RD | Ø85mm | | Cutout Ø81mm |
| Nominal Size SQ | 85mm x 85mm | | Cutout 81mm x 81mm |
| Ceiling details | Recessed into false ceiling | | |
| Technical details | CRI>80 | CRI>90 | IP44 |

FUTURE DESIGNS



# BEEM 85

Recessed downlighter in a compact 85mm size with black darklight reflector. Manufactured from high grade aluminium and polycarbonate featuring easy install spring design for simple installation. Available in various lumen outputs and colour temperatures. BEEM 85 also features a wall wash option.

WORKSPACE
CIRCULATION
RECEPTION

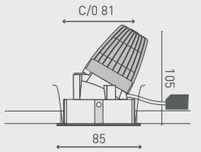
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

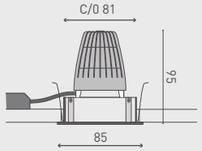
ACCENT
BREAKOUT
PERIMETER
WASH ROOM

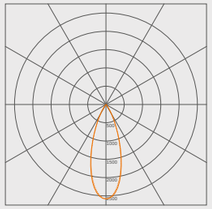
BUILT
IN
BRITAIN

Part L2
✓

ECA
✓



UNIVERSAL

# BEEM RD130

Recessed Ø130mm downlighter. Bezel & reflector manufactured from high grade aluminium with easy install spring design for simple installation. Suitable for general and accent lighting. Available in various lumen outputs and colour temperatures including tunable white.

| | | | | |
|---|---|---|---|---|
| Lumen Options | 800lm<br>4000K LED | 1600lm<br>4000K LED | 2500lm<br>4000K LED | 3300lm<br>4000K LED |
| | 800lm<br>3000K LED | 1500lm<br>3000K LED | 2400lm<br>3000K LED | 3200lm<br>3000K LED |
| Tunable White | TW 1400lm<br>2700K-6500K LED | | TW 2000lm<br>2700K-6500K LED | |
| Control Gear | ND<br>Non dimming | | HD<br>DALI dimming | |
| Luminaire Option | PI<br>Plaster in | | | |
| Glass Option | O<br>Etched glass IP54 | | CG<br>Clear glass IP54 | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | | EE<br>Independent ELED | |
| Nominal Size | Ø130mm | | Cutout Ø110mm | |
| Ceiling details | Recessed into false ceiling | | | |
| Technical details | CRI>80 | CRI>90 | IP20 | IP65 |

WORKSPACE
WELLNESS
CIRCULATION
RECEPTION

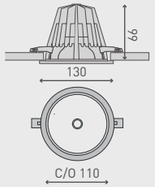
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

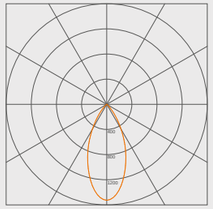
ACCENT
BREAKOUT
PERIMETER
WASH ROOM

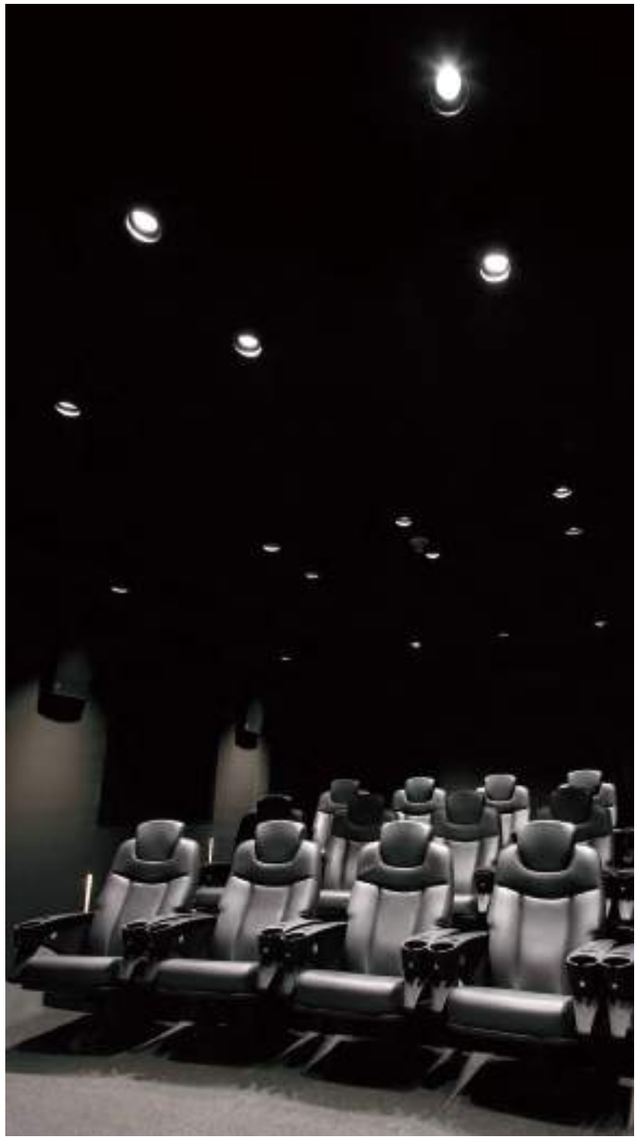
BUILT
IN
BRITAIN

Part L2
✓

ECA
✓





DOWNLIGHT & ACCENT

# BEEM RD196

Recessed Ø196mm downlighter. Bezel & reflector manufactured from high grade aluminium with easy install spring design for simple installation. Ideal for general and accent lighting. Available in various lumen outputs and colour temperatures including tunable white.

| | | | | |
|---|---|---|---|---|
| Lumen Options | 1100lm<br>4000K LED | 2200lm<br>4000K LED | 3300lm<br>4000K LED | 5200lm<br>4000K LED |
| | 1000lm<br>3000K LED | 2000lm<br>3000K LED | 3000lm<br>3000K LED | 4800lm<br>3000K LED |
| Tunable White | TW 1400lm<br>2700K-6500K LED | | TW 2000lm<br>2700K-6500K LED | |
| Control Gear | ND<br>Non dimming | | HD<br>DALI dimming | |
| Luminaire Option | PI<br>Plaster in | | | |
| Glass Option | O<br>Etched glass IP54 | | CG<br>Clear glass IP54 | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | | EE<br>Independent ELED | |
| Nominal Size | Ø196mm | | Cutout Ø176mm | |
| Ceiling Details | Recessed into false ceiling | | | |
| Technical Details | CRI>80 | | CRI>90 | |
| IP Ratings | IP20 | IP54 | IP65 | |

WORKSPACE
WELLNESS
CIRCULATION
RECEPTION

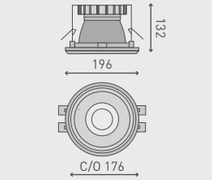
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

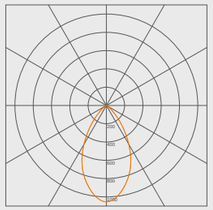
ACCENT
BREAKOUT
PERIMETER
WASH ROOM

BUILT
IN
BRITAIN

Part L2
✓

ECA
✓



# BEEM SQ 100

Square recessed downlighter in a compact 100mm x 100mm size adding sparkle to any space. Manufactured from mild steel with easy install spring design for simple installation. Available in various lumen outputs and colour temperatures including tunable white.

| | | | |
|---|---|---|---|
| Lumen Options | 1100lm<br>3000K/4000K LED | 2000lm<br>3000K/4000K LED | |
| Tunable White | TW 1400lm<br>2700K-6500K LED | TW 2000lm<br>2700K-6500K LED | |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming |
| Diffuser | O<br>Satin etched | | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency |
| | ED<br>DALI emergency | EE<br>Independent ELED | |
| Nominal Size | 100mm x 100mm | Cutout 90mm x 90mm | |
| Ceiling details | Recessed into false ceiling | | |
| Technical details | CRI>80 | CRI>90 | IP20 |

WORKSPACE
WELLNESS
CIRCULATION
RECEPTION

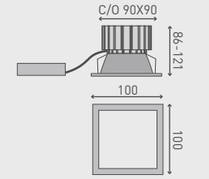
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

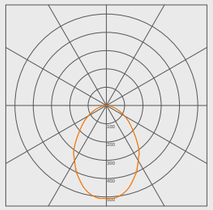
ACCENT
BREAKOUT
PERIMETER
WASH ROOM

BUILT
IN
BRITAIN

Part L2
✓

ECA
✓



| | | | |
|---|---|---|---|
| Lumen Options | 1100lm<br>3000K/4000K LED | | 2000lm<br>3000K/4000K LED |
| Tunable White | TW 1400lm<br>2700K-6500K LED | | TW 2000lm<br>2700K-6500K LED |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming |
| Diffuser | O<br>Satin etched | | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency |
| | ED<br>DALI emergency | EE<br>Independent ELED | |
| Nominal Size | 150mm x 150mm | Cutout 135mm x 135mm | |
| Ceiling details | Recessed into false ceiling | | |
| Technical details | CRI>80 | CRI>90 | IP20 |

FUTURE DESIGNS



# BEEM SQ 150

Square recessed 150mm x 150mm downlighter designed for general and accent illumination. Manufactured from mild steel with easy install spring design for simple installation. Available in various lumen outputs and colour temperatures including tunable white.

WORKSPACE
WELLNESS
CIRCULATION
RECEPTION

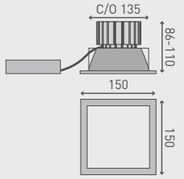
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

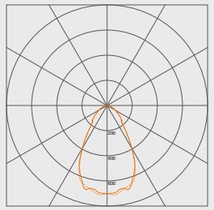
ACCENT
BREAKOUT
PERIMETER
WASH ROOM

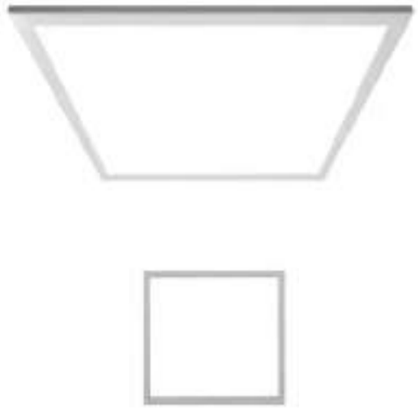
BUILT
IN
BRITAIN

Part L2
✓

ECA
✓





| | | | |
|---|---|---|---|
| Lumen Options | 1100lm<br>3000K/4000K LED | 2000lm<br>3000K/4000K LED | 3000lm<br>3000K/4000K LED |
| Tunable White | TW 1400lm<br>2700K-6500K LED | TW 2000lm<br>2700K-6500K LED | |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming |
| Diffuser | O<br>Satin etched | | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency |
| | ED<br>DALI emergency | EE<br>Independent ELED | |
| Nominal Size | 180mm x 180mm | Cutout 165mm X 165mm | |
| Ceiling details | Recessed into false ceiling | | |
| Technical details | CRI>80 | CRI>90 | IP20 |

FUTURE DESIGNS



# BEEM SQ 180

Square recessed 180mm x 180mm downlighter designed for general and accent illumination. Manufactured from mild steel with easy install spring design for simple installation. Available in various lumen outputs and colour temperatures including tunable white.

WORKSPACE
WELLNESS
CIRCULATION
RECEPTION

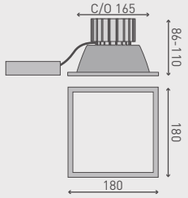
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

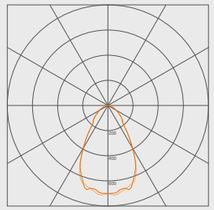
ACCENT
BREAKOUT
PERIMETER
WASH ROOM

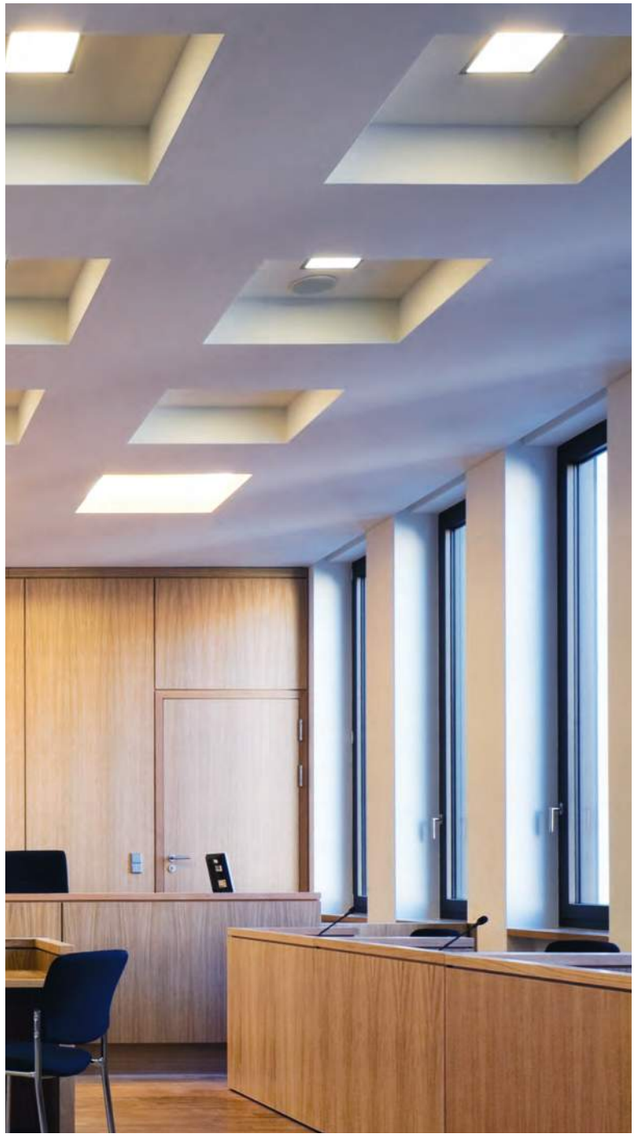
BUILT
IN
BRITAIN

Part L2
✓

ECA
✓





# BEEM SB 100

Recessed Ø100mm downlighter, manufactured from die cast aluminium with easy install springs designed for simple installation, the unique design of this downlighter incorporates a recessed frosted diffuser for optimum light distribution. BEEM SB 100 is available in various lumen outputs and colour temperatures.

| | | | |
|---|---|---|---|
| Lumen Options | 1100lm<br>4000K LED | | 1500lm<br>4000K LED |
| | 1000lm<br>3000K LED | | 1400lm<br>3000K LED |
| Control Gear | ND<br>Non dimming | | HD<br>DALI dimming |
| Diffuser | Satin etched | | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency |
| | ED<br>DALI emergency | | EE<br>Independent ELED |
| Finish | WH<br>RAL 9016 | | |
| Nominal Size | Ø108mm x 95mm | | Cutout Ø98mm |
| Ceiling details | Recessed into false ceiling | | |
| Technical details | CRI>80 | CRI>90 | IP54 |

WORKSPACE
CIRCULATION
PERIMETER
RECEPTION

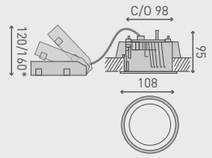
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

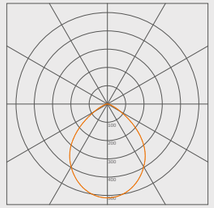
ACCENT
BREAKOUT
CLEAN ROOM
WASH ROOM

BUILT
IN
BRITAIN

Part L2
✓

ECA
✓



DOWNLIGHT & ACCENT

# BEEM SB 150

Recessed Ø150mm downlighter, manufactured from die cast aluminium with easy install springs designed for simple installation, the unique design of this downlighter incorporates a recessed frosted diffuser for optimum light distribution. BEEM SB 150 is available in various lumen outputs and colour temperatures.

| | | | | |
|---|---|---|---|---|
| Lumen Options | 1300lm<br>4000K LED | 1960lm<br>4000K LED | 2500lm<br>4000K LED | 3000lm<br>4000K LED |
| | 1200lm<br>3000K LED | 1750lm<br>3000K LED | 2250lm<br>3000K LED | 2640lm<br>3000K LED |
| Control Gear | ND<br>Non dimming | | HD<br>DALI dimming | |
| Diffuser | Satin etched | | | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | | EE<br>Independent ELED | |
| Finish | WH<br>RAL 9016 | | | |
| Nominal Size | Ø152mm x 95mm | | Cutout Ø140mm | |
| Ceiling details | Recessed into false ceiling | | | |
| Technical details | CRI>80 | CRI>90 | IP54 | |

WORKSPACE
CIRCULATION
PERIMETER
RECEPTION

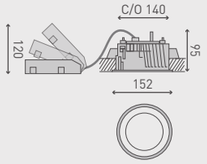
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

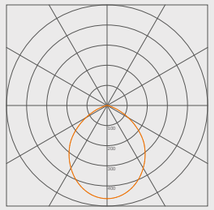
ACCENT
BREAKOUT
CLEAN ROOM
WASH ROOM

BUILT
IN
BRITAIN

Part L2
✓

ECA
✓



# BEEM SB 185

Recessed Ø185mm downlighter, manufactured from die cast aluminium with easy install springs designed for simple installation, the unique design of this downlighter incorporates a recessed frosted diffuser for optimum light distribution. BEEM SB 185 is available in various lumen outputs and colour temperatures.

| | | | | | |
|---|---|---|---|---|---|
| Lumen Options | 1330lm 4000K LED | 1900lm 4000K LED | 2460lm 4000K LED | 2860lm 4000K LED | 3540lm 4000K LED |
| | 1270lm 3000K LED | 1700lm 3000K LED | 2380lm 3000K LED | 2860lm 3000K LED | 3540lm 3000K LED |
| Control Gear | ND Non dimming | | | HD DALI dimming | |
| Diffuser | Satin etched | | | | |
| Emergency Options | E3 3 hour integrated with green LED indicator | | EA Self test emergency | | EC Central battery emergency |
| | ED DALI emergency | | | EE Independent ELED | |
| Finish | WH RAL 9016 | | | | |
| Nominal Size | Ø187mm x 95mm | | | Cutout Ø172mm | |
| Ceiling details | Recessed into false ceiling | | | | |
| Technical details | CRI>80 | | CRI>90 | | IP54 |

WORKSPACE
CIRCULATION
PERIMETER
RECEPTION

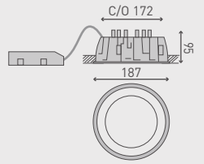
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

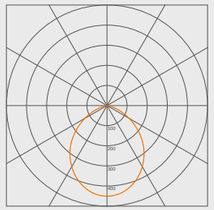
ACCENT
BREAKOUT
CLEAN ROOM
WASH ROOM

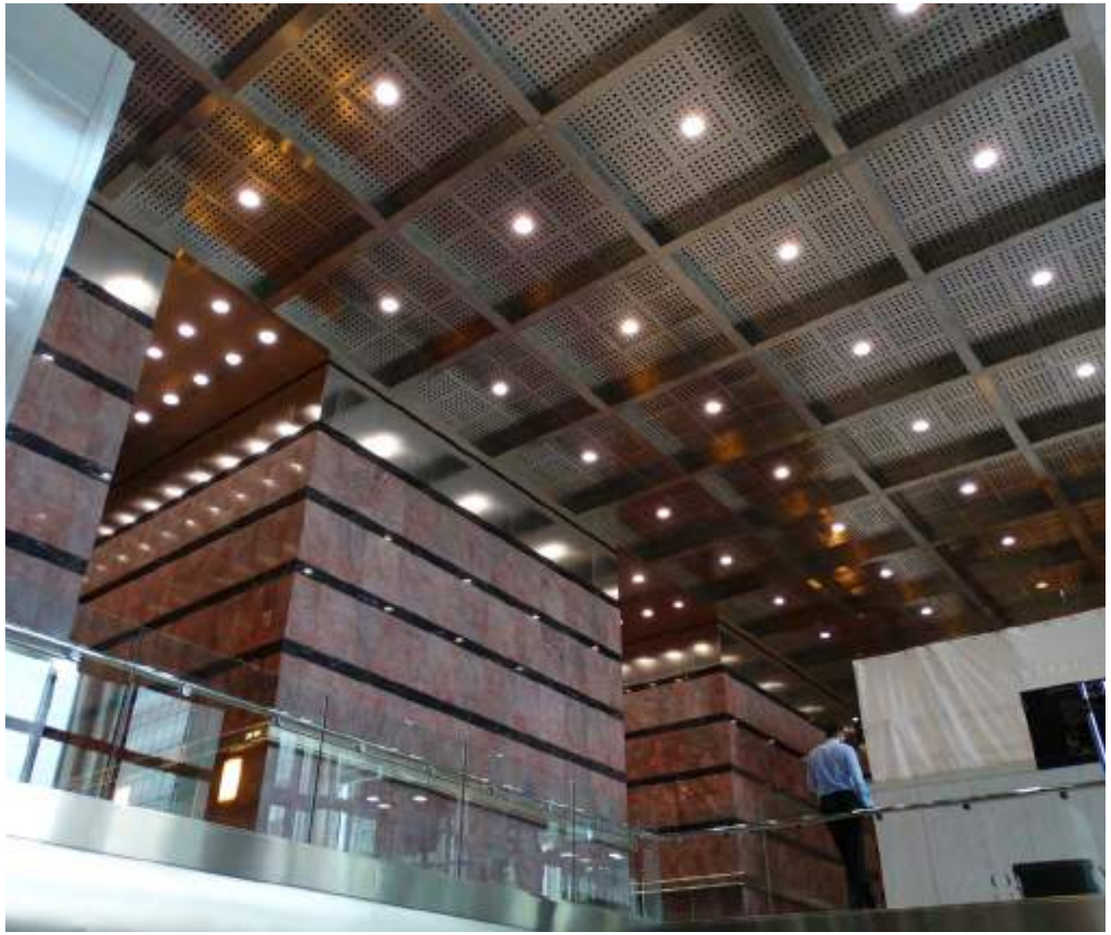
BUILT
IN
BRITAIN

Part L2
✓

ECA
✓





| | | | | | |
|---|---|---|---|---|---|
| Lumen Options | 1860lm<br>4000K LED | 2460lm<br>4000K LED | 3430lm<br>4000K LED | 4240lm<br>4000K LED | 5000lm<br>4000K LED |
| | 2000lm<br>3000K LED | 2750lm<br>3000K LED | 3850lm<br>3000K LED | 4880lm<br>3000K LED | 5880lm<br>3000K LED |
| Control Gear | ND<br>Non dimming | | | HD<br>DALI dimming | |
| Diffuser | Satin etched | | | | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | | EA<br>Self test emergency | | EC<br>Central battery emergency |
| | ED<br>DALI emergency | | | EE<br>Independent ELED | |
| Finish | WH<br>RAL 9016 | | | | |
| Nominal Size | Ø222mm x 95mm | | | Cutout Ø206mm | |
| Ceiling details | Recessed into false ceiling | | | | |
| Technical details | CRI>80 | | CRI>90 | | IP54 |

FUTURE DESIGNS



# BEEM SB 220

Recessed Ø220mm downlighter, manufactured from die cast aluminium with easy install springs designed for simple installation, the unique design of this downlighter incorporates a recessed frosted diffuser for optimum light distribution. BEEM SB 220 is available in various lumen outputs and colour temperatures.

WORKSPACE
CIRCULATION
PERIMETER
RECEPTION

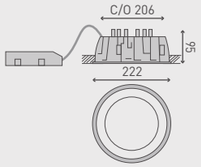
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

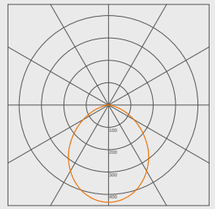
ACCENT
BREAKOUT
CLEAN ROOM
WASH ROOM

BUILT
IN
BRITAIN

Part L2
✓

ECA
✓



# POLA

Large downlighter in sizes up to Ø415mm manufactured from spun aluminium with easy install brackets. The unique design of this downlighter incorporates a frosted diffuser with optional centre dot design. POLA is available in various lumen outputs and colour temperatures

| | | | | |
|---|---|---|---|---|
| Lumen Options Ø415mm | 2900lm 4000K LED | 4100lm 4000K LED | 2600lm 3000K LED | 3700lm 3000K LED |
| Lumen Options Ø285mm | 1500lm 4000K LED | 2000lm 4000K LED | 1300lm 3000K LED | 1800lm 3000K LED |
| Control Gear | ND Non dimming | HD DALI dimming | HX DSI dimming | |
| Diffuser | O Satin etched | CD Centre etched diffuser | FD Etched Halo | |
| Emergency Options | E3 3 hour integrated with green LED indicator | EA Self test emergency | EC Central battery emergency | |
| | ED DALI emergency | EE Independent ELED | | |
| Nominal Size | Ø285mm Ø275mm cutout | Ø415mm Ø405mm cutout | | |
| Ceiling details | Recessed into false ceiling | | | |
| Technical details | CRI>80 | CRI>90 | IP20 | |

WORKSPACE
CIRCULATION
PERIMETER
RECEPTION

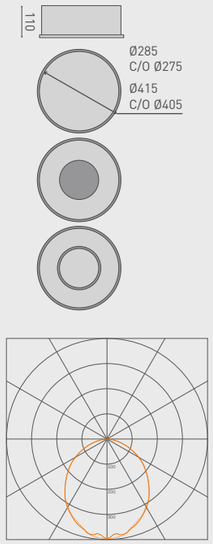
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

ACCENT
BREAKOUT
WASH ROOM

BUILT
IN
BRITAIN

Part L2
✓

ECA
✓






FUTURE DESIGNS

| | | | | |
|---|---|---|---|---|
| Lumen Options | 1300lm<br>4000K LED | 2200lm<br>4000K LED | 3100lm<br>4000K LED | 4300lm<br>4000K LED |
| | 1200lm<br>3000K LED | 2000lm<br>3000K LED | 2900lm<br>3000K LED | 4000lm<br>3000K LED |
| Tunable White | TW 1400lm<br>2700K-6500K LED | | TW 2000lm<br>2700K-6500K LED | |
| Control Gear | ND<br>Non dimming | | HD<br>DALI dimming | |
| Luminaire Option | WS<br>2m Suspension kit | | | |
| Glass Option | O<br>Etched glass IP54 | | CG<br>Clear glass IP54 | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | | EE<br>Independent ELED | |
| Nominal Size | Ø200mm x 240mm | | | |
| Ceiling Details | Surface mounted | | | |
| Technical Details | CRI>80 | | CRI>90 | |
| IP Ratings | IP20 | IP54 | IP65 | |

FUTURE DESIGNS



# BEEM RD SM

Surface mounted downlighter available in a range of RAL finishes, designed as surface mounted or suspended. BEEM is available in various lumen outputs and colour temperatures. Suitable for office, accent and perimeter lighting, reception, breakout and circulation spaces.

WORKSPACE
CIRCULATION
PERIMETER
RECEPTION

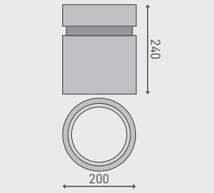
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

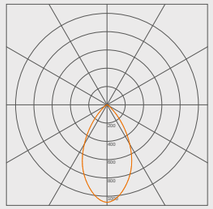
ACCENT
BREAKOUT
CLEAN ROOM
WASH ROOM

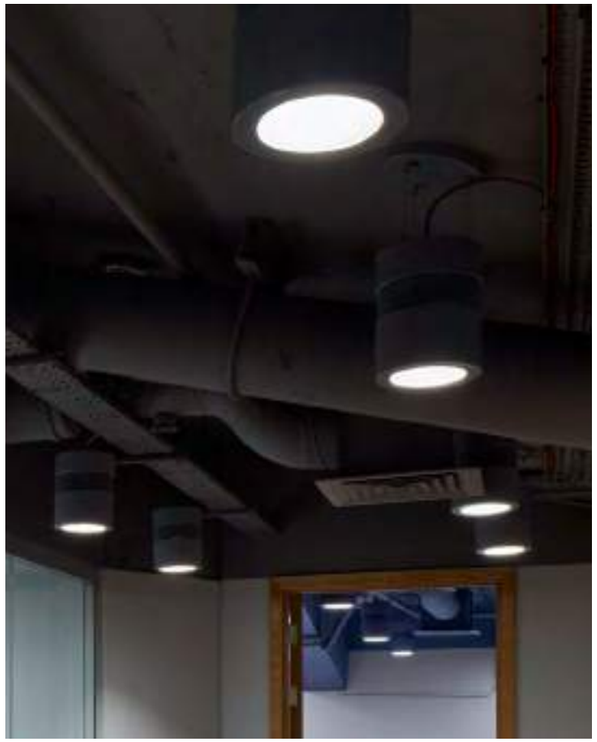
BUILT
IN
BRITAIN

Part L2
✓

ECA
✓





| | | | |
|---|---|---|---|
| Lumen Options | 1100lm<br>3000K/4000K LED | | 2000lm<br>3000K/4000K LED (145mm only) |
| Tunable White | TW 1400lm<br>2700K-6500K LED | | TW 2000lm<br>2700K-6500K LED |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming |
| Diffuser | O<br>Satin etched | | |
| Emergency Options | EE<br>Independent ELED | | EC<br>Central battery emergency |
| Nominal Size | 100<br>100mmx100mm<br>Remote control gear | | 145<br>145mmx145mm |
| Ceiling details | SM<br>Surface mounted | | SMB<br>Surface Mounted BESA |
| Technical details | CRI>80 | CRI>90 | IP20 |

# BEEM SQ SM

Surface mounted downlighter in a compact sizes of 145mm x 145mm and 100mm x 100mm. The downlighter adds a sparkle to any space and is available in a wide range of finishes and lumen outputs including tunable white. Designed for simple installation as surface mounted or onto BESA fixings.

WORKSPACE
WELLNESS
CIRCULATION
RECEPTION

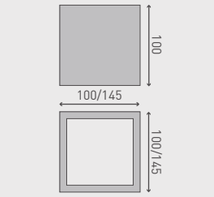
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

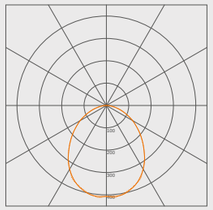
ACCENT
BREAKOUT
PERIMETER
WASH ROOM

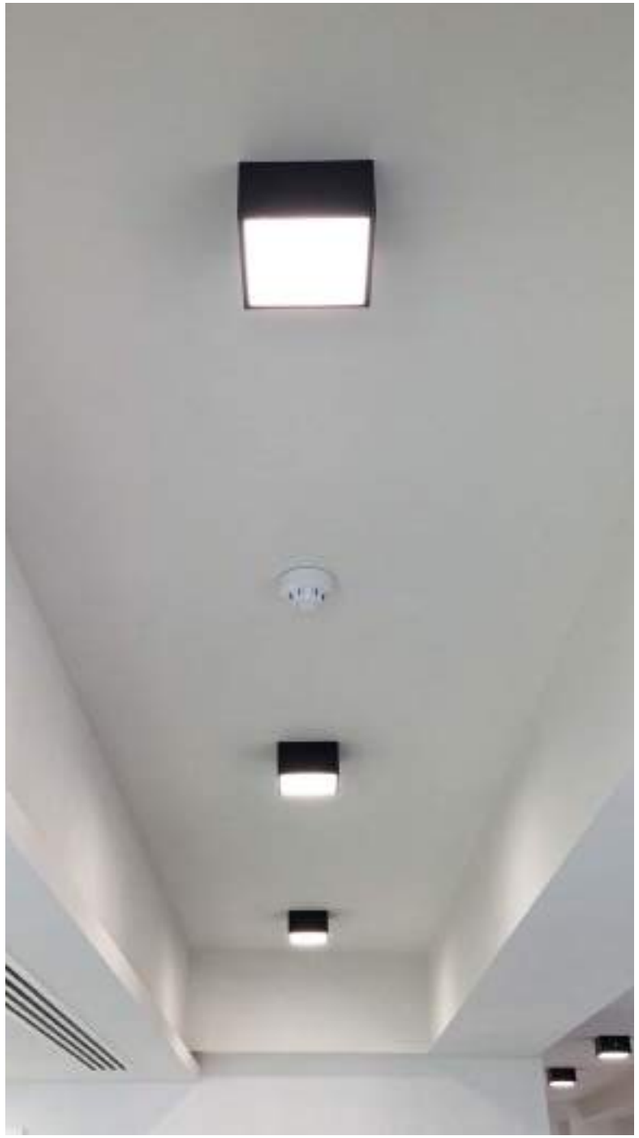
BUILT
IN
BRITAIN

Part L2
✓

ECA
✓





| | | | | |
|---|---|---|---|---|
| Lumen Options | 900lm<br>4000K LED | 2000lm<br>4000K LED | 2200lm<br>4000K LED | 3400lm<br>4000K LED |
| | 900lm<br>3000K LED | 2000lm<br>3000K LED | 2400lm<br>3000K LED | 3200lm<br>3000K LED |
| Tunable White | TW 1400lm<br>2700K-6500K LED | | TW 2000lm<br>2700K-6500K LED | |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming | |
| Beam Angle | NB<br>Narrow beam | MB<br>Medium beam | WB<br>Wide beam | |
| Finish Options | WW<br>White frame & white bezels | | WB<br>White frame & black bezels | |
| | BW<br>White frame & white bezels | | BB<br>White frame & black bezels | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | | EE<br>Independent ELED | |
| Nominal Size | 189mmx189mm | | Cutout 180mmx180mm | |
| Ceiling details | Recessed into false ceiling | | | |
| Technical details | CRI>80 | CRI>90 | IP20 | |

FUTURE DESIGNS



# KAR 1S

Recessed gimbal luminaire for general and feature lighting ideal for reception, museum, art, retail and restaurant lighting. KAR can direct light within a space highlighting areas and creating focal points. KAR is available as single, twin and triple modules, along with a range of beam angles and finishes, giving a depth of versatility to any scheme design.

WORKSPACE
WELLNESS
CIRCULATION
RECEPTION

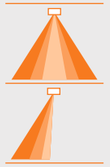
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

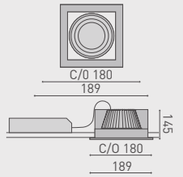
ACCENT
BREAKOUT
EXHIBITION
PERIMETER

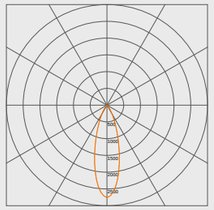
BUILT
IN
BRITAIN

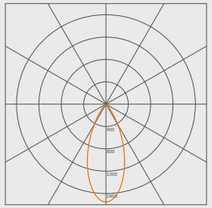
Part L2
✓

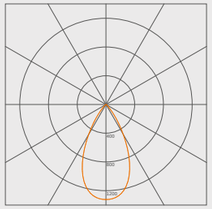
ECA
✓









| | | | | |
|---|---|---|---|---|
| Lumen Options | 1800lm<br>4000K LED | 4000lm<br>4000K LED | 4500lm<br>4000K LED | 6800lm<br>4000K LED |
| | 1750lm<br>3000K LED | 3900lm<br>3000K LED | 4800lm<br>3000K LED | 6500lm<br>3000K LED |
| Tunable White | TW 2800lm<br>2700K-6500K LED | | TW 4000lm<br>2700K-6500K LED | |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming | |
| Beam Angle | NB<br>Narrow beam | MB<br>Medium beam | WB<br>Wide beam | |
| Finish Options | WW<br>White frame & white bezels | | WB<br>White frame & black bezels | |
| | BW<br>White frame & white bezels | | BB<br>White frame & black bezels | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | | EC<br>Central battery emergency | |
| Nominal Size | 348mmx189mm | | Cutout 339mmx180mm | |
| Ceiling details | Recessed into false ceiling | | | |
| Technical details | CRI>80 | CRI>90 | IP20 | |

FUTURE DESIGNS



# KAR 2S

Recessed gimbal luminaire for general and feature lighting ideal for reception, museum, art, retail and restaurant lighting. KAR can direct light within a space highlighting areas and creating focal points. KAR is available as single, twin and triple modules, along with a range of beam angles and finishes, giving a depth of versatility to any scheme design.

WORKSPACE
WELLNESS
CIRCULATION
RECEPTION

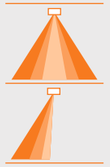
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

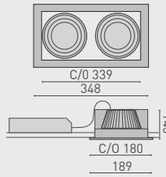
ACCENT
BREAKOUT
EXHIBITION
PERIMETER

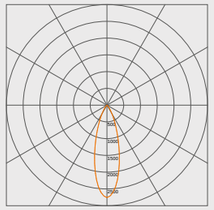
BUILT
IN
BRITAIN

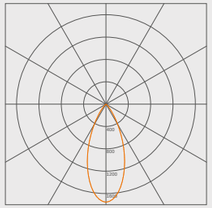
Part L2
✓

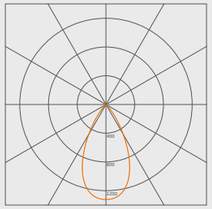
ECA
✓









| | | | |
|---|---|---|---|
| Lumen Options | 2700lm<br>4000K LED | 6000lm<br>4000K LED | 6700lm<br>4000K LED |
| | 2600lm<br>3000K LED | 5700lm<br>3000K LED | 7200lm<br>3000K LED |
| Tunable White | TW 4200lm<br>2700K-6500K LED | TW 6000lm<br>2700K-6500K LED | |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming |
| Beam Angle | NB<br>Narrow beam | MB<br>Medium beam | WB<br>Wide beam |
| Finish Options | WW<br>White frame & white bezels | WB<br>White frame & black bezels | |
| | BW<br>White frame & white bezels | BB<br>White frame & black bezels | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency |
| | ED<br>DALI emergency | EE<br>Independent ELED | |
| Nominal Size | 504mmx189mm | Cutout 495mmx180mm | |
| Ceiling details | Recessed into false ceiling | | |
| Technical details | CRI>80 | CRI>90 | IP20 |

# KAR 3S

Recessed gimbal luminaire for general and feature lighting ideal for reception, museum, art, retail and restaurant lighting. KAR can direct light within a space highlighting areas and creating focal points. KAR is available as single, twin and triple modules, along with a range of beam angles and finishes, giving a depth of versatility to any scheme design.

WORKSPACE
WELLNESS
CIRCULATION
RECEPTION

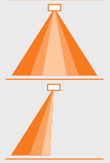
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

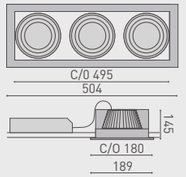
ACCENT
BREAKOUT
EXHIBITION
PERIMETER

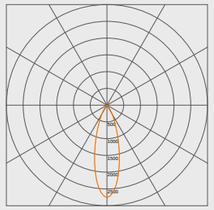
BUILT
IN
BRITAIN

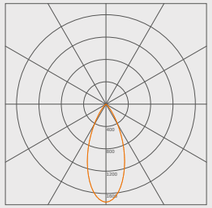
Part L2
✓

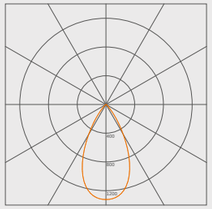
ECA
✓









DOWNLIGHT & ACCENT

| | | | | | | |
|---|---|---|---|---|---|---|
| Lumen Options | 1300lm<br>4000K LED | | | 2240lm<br>4000K LED | | |
| | 1250lm<br>3000K LED | | | 2150lm<br>3000K LED | | |
| Control Gear | ND<br>Non dimming | | | HD<br>DALI dimming | | |
| Beam Angle | NB<br>Narrow beam | | MB<br>Medium beam | | WB<br>Wide beam | |
| Finish Options | WH<br>White | | | BL<br>Black | | |
| Emergency Options | E3<br>3 hour track mounted with green LED indicator | | EA<br>Self test track mounted emergency | | EC<br>Central battery emergency | |
| | ED<br>DALI track mounted emergency | | | EE<br>Independent ELED | | |
| Ceiling Details | Surface fixed on to track<br>Swivel & tilt adjustable | | | | | |
| Track Details | Three circuit & DALI compatible 37.8mm Hx 31.4mm W | | | | | |
| | TR1000<br>1000mm track | | | TR2000<br>2000mm track | | |
| | WS<br>Wire suspended | FC<br>Flexible connector | | SC<br>Straight connector | L<br>'L'connector | |
| | WH<br>White track | | | BL<br>Black track | | |
| Technical details | CRI>80 | | CRI>90 | | IP20 | |

# ART A1

ART adjustable track lighting system with high quality die cast aluminium luminaire head. Light can be directed at specific elements, highlighting features, exhibits and areas. Track system and connectors allow for individual systems to be designed. ART features a variety of beam angles, lumen outputs and colour temperatures.

WORKSPACE
CIRCULATION
RECEPTION

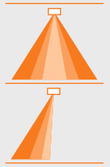
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

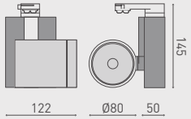
ACCENT
BREAKOUT
EXHIBITION
PERIMETER

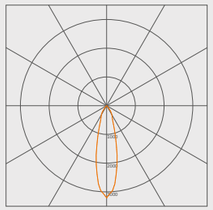
BUILT
IN
BRITAIN

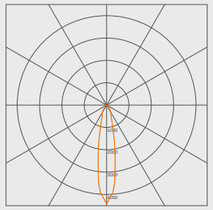
Part L2
✓

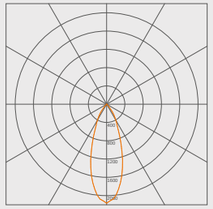
ECA
✓

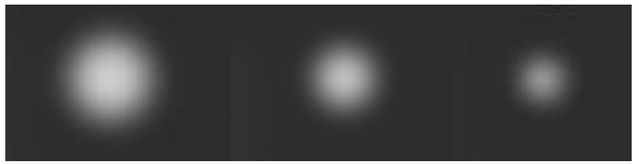










| | | | | |
|---|---|---|---|---|
| Lumen Options | 1600lm<br>4000K LED | 2500lm<br>4000K LED | 3380lm<br>4000K LED | 4860lm<br>4000K LED |
| | 1540lm<br>3000K LED | 2400lm<br>3000K LED | 3250lm<br>3000K LED | 4680lm<br>3000K LED |
| Control Gear | ND<br>Non dimming | | HD<br>DALI dimming | |
| Beam Angle | NB<br>Narrow beam | MB<br>Medium beam | WB<br>Wide Beam | |
| Finish Options | WH<br>White | BL<br>Black | | |
| Emergency Options | E3<br>3 hour track mounted with green LED indicator | EA<br>Self test track mounted emergency | EC<br>Central battery emergency | |
| | ED<br>DALI track mounted emergency | EE<br>Independent ELED | | |
| Ceiling Details | Surface fixed on to track<br>Swivel & tilt adjustable | | | |
| Track Details | Three circuit & DALI compatible 37.8mm Hx 31.4mm W | | | |
| | TR1000<br>1000mm track | TR2000<br>2000mm track | | |
| | WS<br>Wire suspended | FC<br>Flexible connector | SC<br>Straight connector | L<br>'L'connector |
| | WH<br>White track | BL<br>Black track | | |
| Technical details | CRI>80 | CRI>90 | IP20 | |

# ART A2

ART adjustable track lighting system with high quality die cast aluminium luminaire head. Light can be directed at specific elements, highlighting features, exhibits and areas. Track system and connectors allow for individual systems to be designed. ART features a variety of beam angles, lumen outputs and colour temperatures.

WORKSPACE
CIRCULATION
RECEPTION

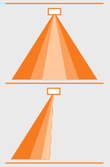
HOTEL
RESIDENTIAL
RESTAURANT
RETAIL

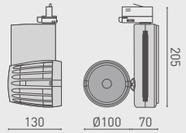
ACCENT
BREAKOUT
EXHIBITION
PERIMETER

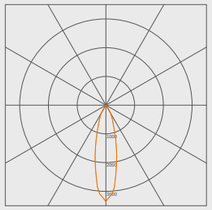
BUILT
IN
BRITAIN

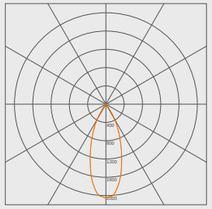
Part L2
✓

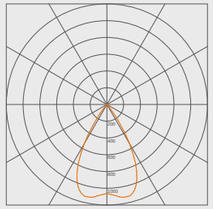
ECA
✓

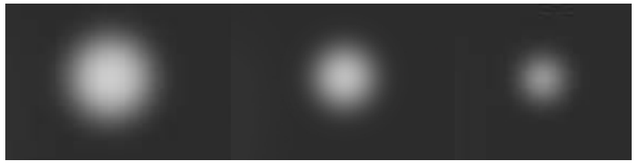


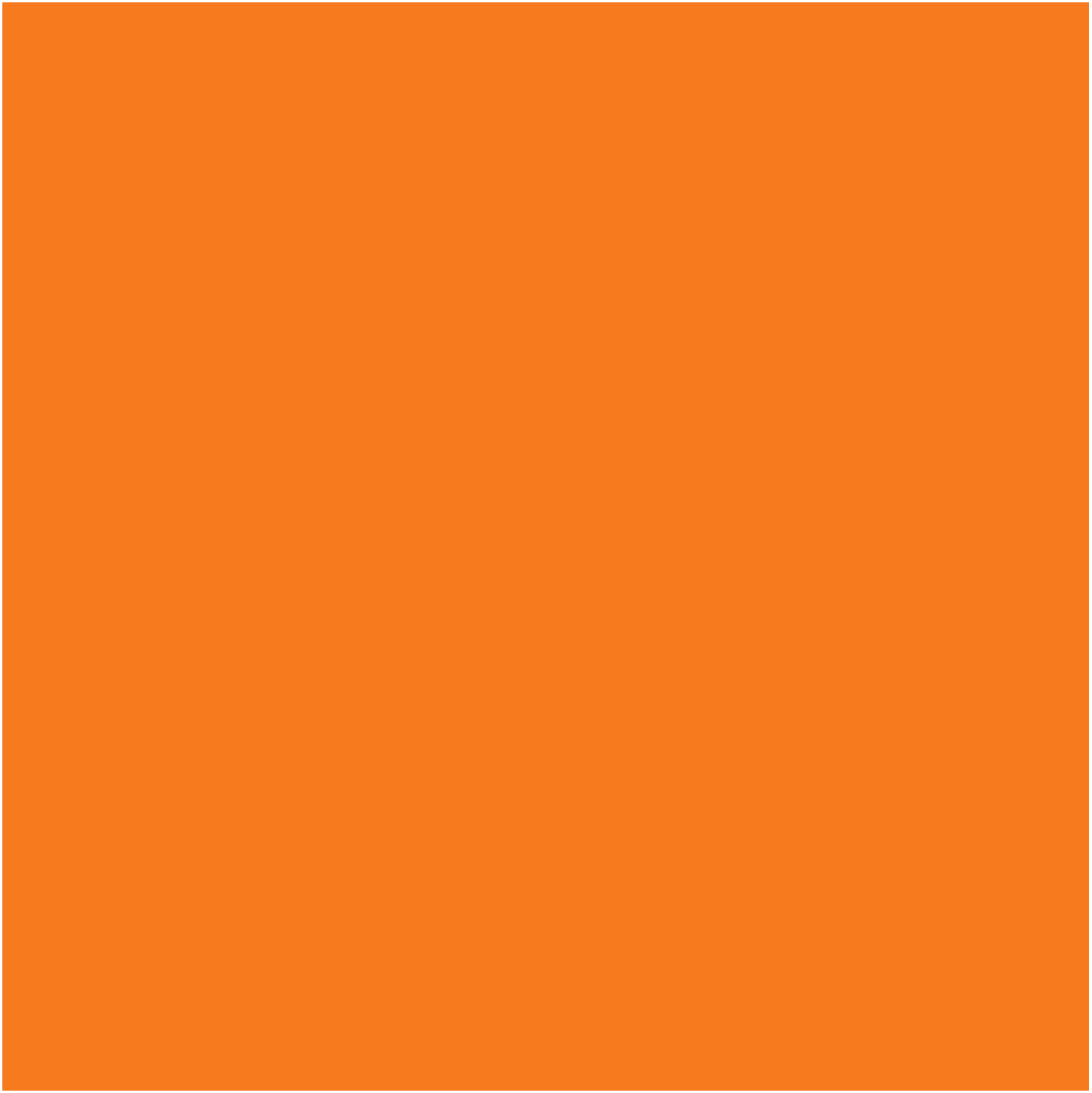










# INDUSTRY, TRANSPORT, DATA & EMERGENCY

246 / AMADA
250 / VERTOS
254 / STEALTH
256 / SKYLINE
260 / IKON
264 / PLINTH
268 / GFW
270 / ELED
272 / EXIT

| | | | | |
|---|---|---|---|---|
| Lumen Options<br>1500mm Nominal | 6600lm<br>3000K/4000K LED | 7600lm<br>3000K/4000K LED | 8600lm<br>3000K/4000K LED | TW 7000lm<br>2700K-6500K LED<br>Tunable White |
| Lumen Options<br>1200mm Nominal | 5280lm<br>3000K/4000K LED | 6080lm<br>3000K/4000K LED | 6960lm<br>3000K/4000K LED | TW 5600lm<br>2700K-6500K LED<br>Tunable White |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming | |
| Diffuser Option | O<br>Satin etched | LL<br>Ladder louvre | | |
| Options | WS<br>Wire suspended | TM<br>Trunking | | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | EE<br>Independent ELED | | |
| Nominal Size | 12<br>100 x 1200mm | 15<br>100 x 900mm | | |
| | Other lengths & widths available | | | |
| Ceiling details | Exposed & finished ceilings | | | |
| Technical details | CRI>80 | CRI>90 | IP20 | |

# AMADA

Designed for data centre, racking, library and archive lighting. AMADA directs light on to vertical surfaces and horizontal planes. Manufactured from mild steel AMADA can be suspended, surface or mounted to trunking. Available in a variety of lumen packages and colour temperatures including tunable white.

DATA CENTRE
LIBRARY
TRANSPORT

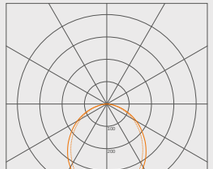
ARCHIVE
EDUCATION
HEALTHCARE

CIRCULATION
INDUSTRY
PLANT

BUILT
IN
BRITAIN

Part L2
✓

ECA
✓



| | | | | |
|---|---|---|---|---|
| 1200mm Options | 4800lm<br>3000K/4000K / 5000K / 6000K LED | 6400lm<br>3000K/4000K / 5000K / 6000K LED | 9600lm<br>33000K/4000K / 5000K / 6000K LED | |
| 1500mm Options | 5600lm<br>3000K/4000K / 5000K / 6000K LED | 8000lm<br>3000K/4000K / 5000K / 6000K LED | 11200lm<br>3000K/4000K / 5000K / 6000K LED | |
| 2400mm & 3000mm Option | 9600lm<br>2400mm<br>3000K/4000K / 5000K / 6000K LED | 11200lm<br>3000mm<br>3000K/4000K / 5000K / 6000K LED | | |
| Tunable White | TW 6000lm<br>1200mm<br>2700K-6500K LED<br>Tunable White | TW 7500lm<br>1500mm<br>2700K-6500K LED<br>Tunable White | TW 12000lm<br>2400mm<br>2700K-6500K LED<br>Tunable White | TW 15000lm<br>3000mm<br>2700K-6500K LED<br>Tunable White |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | | |
| Beam Options | NB<br>30° Narrow beam | MB<br>60° Medium beam | WB<br>90° Wide beam | FB<br>120° Flood beam |
| | 0<br>120° Beam | DAS<br>30-30 Double asymmetric | AS<br>Asymmetric left or right | |
| Options | Corner, L and X junctions available | TR<br>Track light | PIR<br>Sensor | IF<br>Infill |
| Mounting | WS<br>Wire suspended | DR<br>Drop rod | SM<br>Surface mounted | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | EE<br>Independent ELED | | |
| Nominal Size | 12<br>1200mm | 15<br>1500mm | 24<br>2400mm | 30<br>3000mm |
| Ceiling details | Exposed & finished ceilings | | | |
| Technical details | CRI>80 | CRI>90 | IP20 | |

FUTURE DESIGNS

# VERTOS

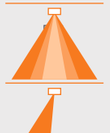
Flexible 3 phase trunking system, allows for luminaire modules to be placed to suit the spaces function. Suitable for industrial, retail and library applications. VERTOS is ideal for general and vertical illumination. The system allows for tool-less fixing of modules. A variety of beam angles, light distributions, colour temperature and lumen packages are available

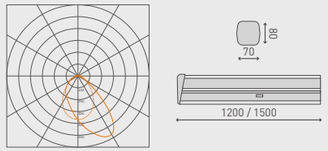
DATA CENTRE
LIBRARY
TRANSPORT
INDUSTRY

CIRCULATION
HEALTHCARE
PLANT
RETAIL

BUILT
IN
BRITAIN

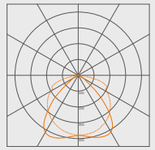
Part L2
✓



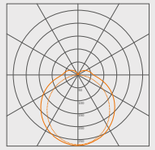



Asymmetric

30° double asymmetric



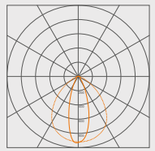
90° distribution



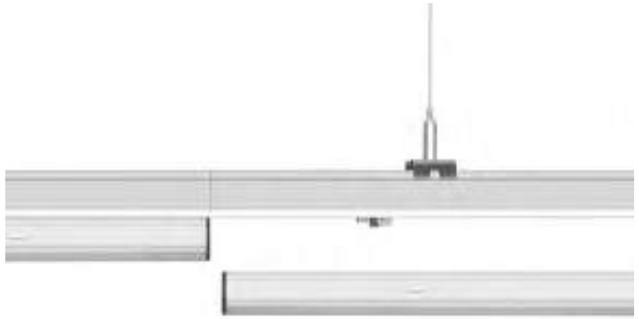
Polycarbonate cover

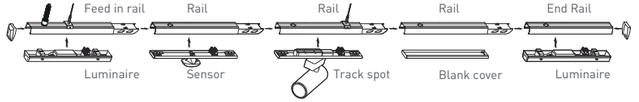
60° distribution

120° distribution



30° distribution

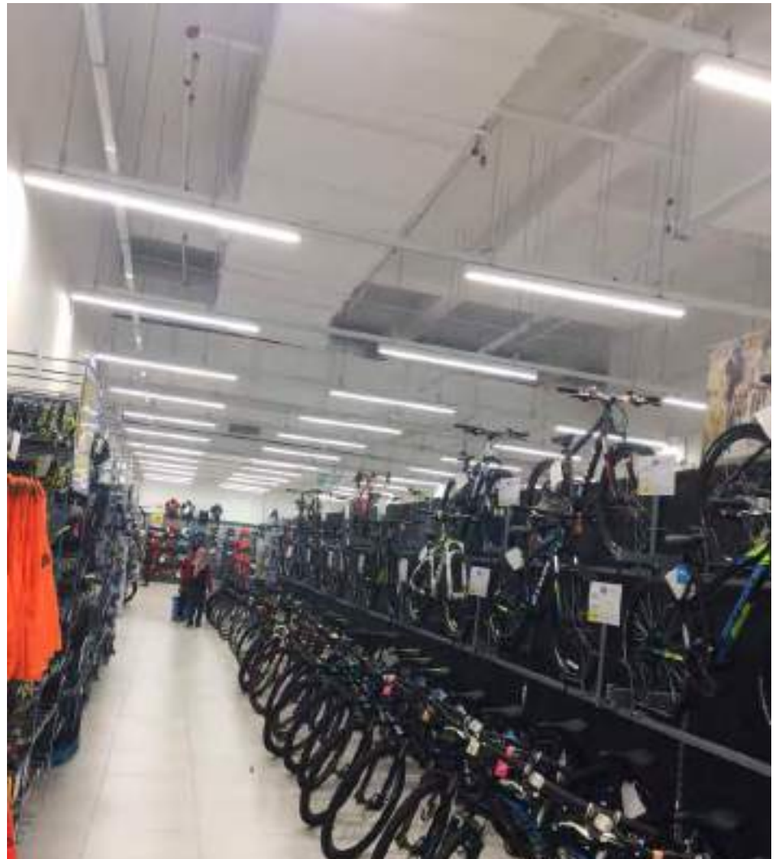





INDUSTRY, TRANSPORT, DATA & EMERGENCY

279.
119
209

CAMPING



# STEALTH

Designed for data centre, racking, library and archive lighting. STEALTH directs light on to vertical surfaces and horizontal planes. Manufactured from mild steel STEALTH can be suspended, surface or mounted to trunking. Available in a variety of lumen packages and colour temperatures including tunable white.

| | | | | |
|---|---|---|---|---|
| Lumen Options<br>1500mm Nominal | 6600lm<br>3000K/4000K LED | 7600lm<br>3000K/4000K LED | 8700lm<br>3000K/4000K LED | TW 7500lm<br>2700K-6500K LED<br>Tunable White |
| Lumen Options<br>1200mm Nominal | 5280lm<br>3000K/4000K LED | 6080lm<br>3000K/4000K LED | 6960lm<br>3000K/4000K LED | TW 6000lm<br>2700K-6500K LED<br>Tunable White |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming | |
| Diffuser | O<br>Satin etched | | | |
| Options | WS<br>Wire suspended | TM<br>Trunking | SM<br>Surface mounted | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | EE<br>Independent ELED | | |
| Nominal Size | 12<br>270 x 1200mm | 15<br>270 x 1500mm | | |
| | Other lengths & widths available | | | |
| Ceiling details | Exposed & finished ceilings | | | |
| Technical details | CRI>80 | CRI>90 | IP20 | |

DATA CENTRE
LIBRARY
TRANSPORT

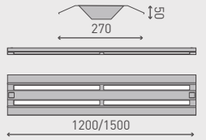
ARCHIVE
EDUCATION
HEALTHCARE

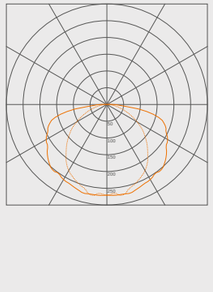
CIRCULATION
INDUSTRY
PLANT

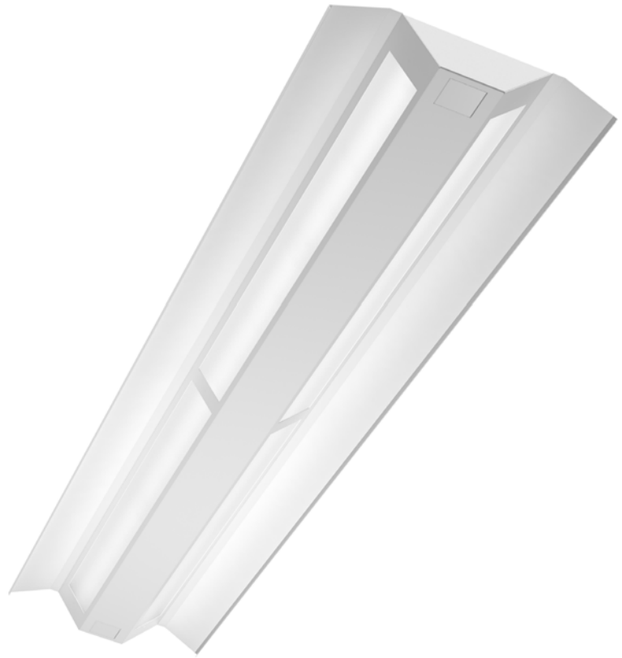
BUILT
IN
BRITAIN

Part L2
✓

ECA
✓





INDUSTRY, TRANSPORT, DATA & EMERGENCY

Start Length 3m | Middle Length 3m | End 1245mm

| | | | | |
|---|---|---|---|---|
| Lumen Options<br>Indirect/Direct Nominal | 7900lm<br>3000K/4000K LED | | 9100lm<br>3000K/4000K LED | 10400lm<br>3000K/4000K LED |
| Lumen Options<br>Direct Nominal | 5280lm<br>3000K/4000K LED | | 6080lm<br>3000K/4000K LED | 6960lm<br>3000K/4000K LED |
| Lumen Options<br>Tunable White Nominal | TW 5600lm<br>2700K-6500K LED<br>Direct | TW 12000lm<br>2700K-6500K LED<br>Direct | TW 8400lm<br>2700K-6500K LED<br>Indirect/Direct | TW 18000lm<br>2700K-6500K LED<br>Indirect/Direct |
| Downlighter Option | 1100lm<br>3000K/4000K LED | 2000lm<br>3000K/4000K LED | TW 1400lm<br>2700K-6500K LED | TW 2000lm<br>2700K-6500K LED |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HA<br>Analogue dimming | HX<br>DSI dimming |
| Diffuser Option | O<br>Satin etched | | MP<br>Microprism | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | | EE<br>Independent ELED | |
| Nominal Size of Sections | M3m<br>Start Section | C3m<br>Middle Section | F2.45m<br>End Section | |
| | Other lengths & widths available | | | |
| Ceiling details | WS<br>Wire suspension | | | |
| Technical details | CRI>80 | CRI>90 | IP20 | |

# SKYLINE

Luminaire system designed to illuminate with the benefit of being able to house all cable systems and incorporate items such as PIR and voice evacuation systems and junction sections. Engineered modules allow for seamless joins and flexibility in the design. Tunable white also available.

WORKSPACE WELLNESS

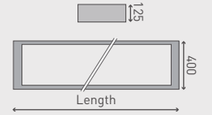
EDUCATION HEALTHCARE

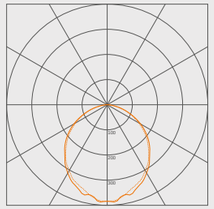
CIRCULATION

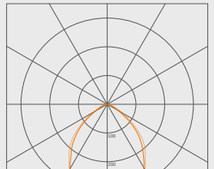
BUILT IN BRITAIN

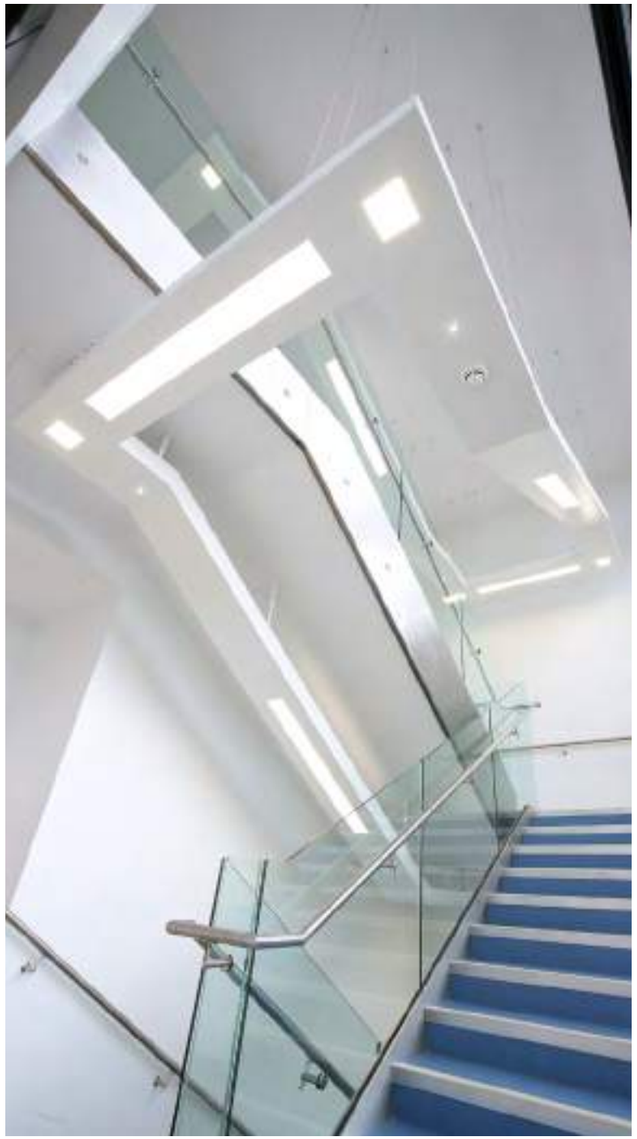
Part L2
✓

ECA
✓







# IKON

IP rated uplighter designed for transport projects, specifically located on concourses and mounted onto way finding totems. IKON is designed to be the sole source illuminating pedestrian traffic tunnels by delivering high luminous flux to tunnel ceilings which is reflected back to floor level.
Keeping the luminaire cool is a custom–made heat sink which also lends a striking look to the design. Manufactured from high grade aluminium with laminated toughened glass. IKON is available in a variety of lumen outputs, colour temperatures including tunable white.

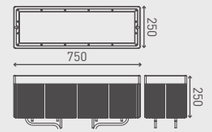
| | | | |
|---|---|---|---|
| Lumen Options<br>Nominal | 50000lm<br>3000K/4000K LED | 25000lm<br>3000K/4000K LED | 10000lm<br>3000K/4000K LED |
| | TW 9800lm<br>2700K-6500K LED<br>Tunable White | TW 21000lm<br>2700K-6500K LED<br>Tunable White | |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | |
| Diffuser Option | LG<br>Laminated toughened glass | | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | ED<br>DALI emergency | EC<br>Central battery emergency |
| | Independent horizontal & vertical emergency units supplied to install into Totem | | |
| Nominal Size | 700 x 250mm x 250mm D | | |
| | Other lengths & widths available | | |
| Mounting | Surface mounted uplighter | | |
| Technical details | CRI>80 | CRI>90 | IP65 |

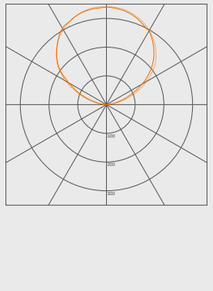
TRANSPORT

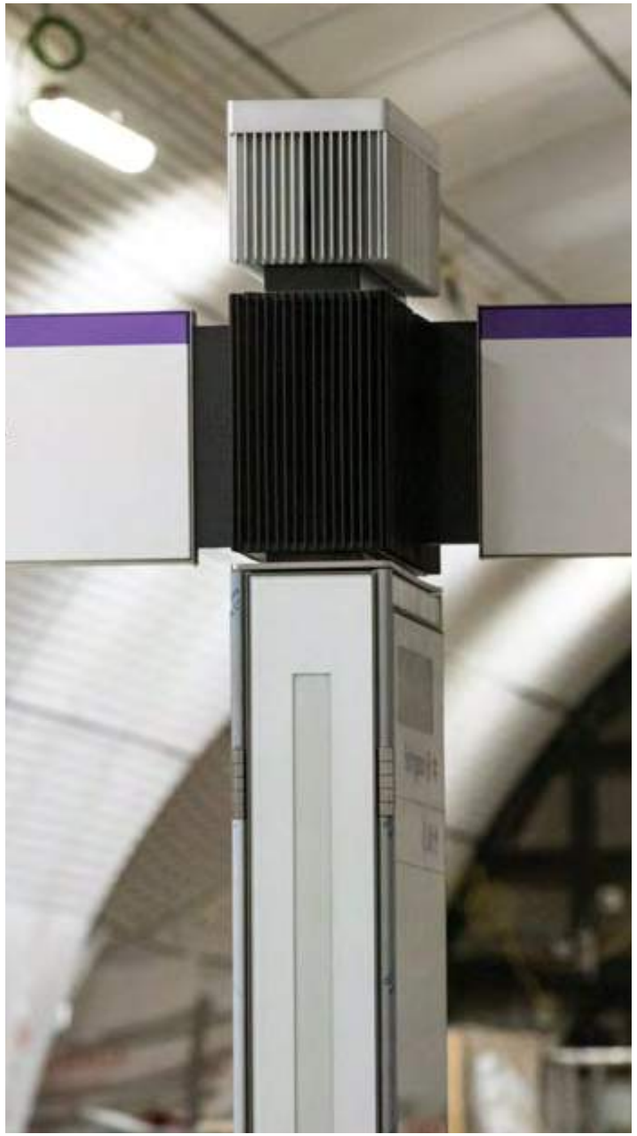
BUILT IN BRITAIN

Part L2 ✓

ECA ✓





Way out
Barbican
Lift

Eastbound platform A

| | | | |
|---|---|---|---|
| Lumen Options<br>Nominal | 8700lm<br>3000K/4000K LED | 9000lm<br>3000K/4000K LED | |
| Lumen Options<br>1200mm Nominal | TW 7000lm<br>2700K-6500K LED<br>Tunable White | TW 10500lm<br>2700K-6500K LED<br>Tunable White | |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | |
| Diffuser Option | LG<br>Laminated toughened glass with louvre | | |
| Nominal Size | 1500 x 305mm x 163mm D | | |
| | Other lengths & widths available | | |
| Mounting | Recessed mounted uplighter | | |
| Technical details | CRI>80 | CRI>90 | IP65 |

# PLINTH

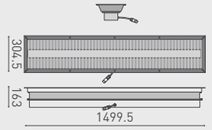
IP rated recessed uplighter designed for transport projects, specifically located in escalator decking. Manufactured from mild steel, with brushed 316 stainless steel front bezel, black aluminium glare-reducing louvre with laminated toughened glass. PLINTH is available in a variety of lumen outputs, colour temperatures including tunable white.

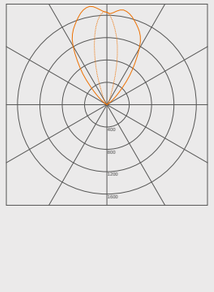
TRANSPORT

BUILT IN BRITAIN

Part L2 ✓

ECA ✓



| | | | | |
|---|---|---|---|---|
| Lumen Options<br>1500mm Nominal | 6600lm<br>3000K/4000K LED | 7600lm<br>3000K/4000K LED | 8600lm<br>3000K/4000K LED | TW 7500lm<br>2700K-6500K LED<br>Tunable White |
| Lumen Options<br>1200mm Nominal | 5280lm<br>3000K/4000K LED | 6080lm<br>3000K/4000K LED | 6960lm<br>3000K/4000K LED | TW 6000lm<br>2700K-6500K LED<br>Tunable White |
| Control Gear | ND<br>Non dimming | HD<br>DALI dimming | HX<br>DSI dimming | |
| Diffuser Option | PC<br>Polycarbonate | | | |
| Options | CS<br>Chain suspended | SM<br>Surface mounted | | |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency | |
| | ED<br>DALI emergency | EE<br>Independent ELED | | |
| Nominal Size | 12<br>110 x 1200mm x 75mm D | 15<br>110 x 1500mm x 75mm D | | |
| | Other lengths & widths available | | | |
| Ceiling details | Exposed & finished ceilings | | | |
| Technical details | CRI>80 | CRI>90 | IP65 | |

FUTURE DESIGNS



# GFW

IP rated industrial luminaire manufactured from polycarbonate. GFW is suitable for industrial applications, data centres, plant spaces and exterior applications. Available in a variety of lumen outputs, colour temperatures including tunable white.

DATA CENTRE
LIBRARY
TRANSPORT

EDUCATION
HEALTHCARE

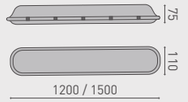
CIRCULATION
INDUSTRY
PLANT

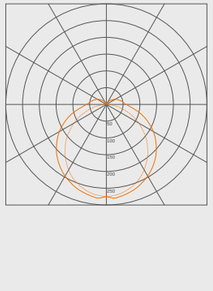
BUILT
IN
BRITAIN

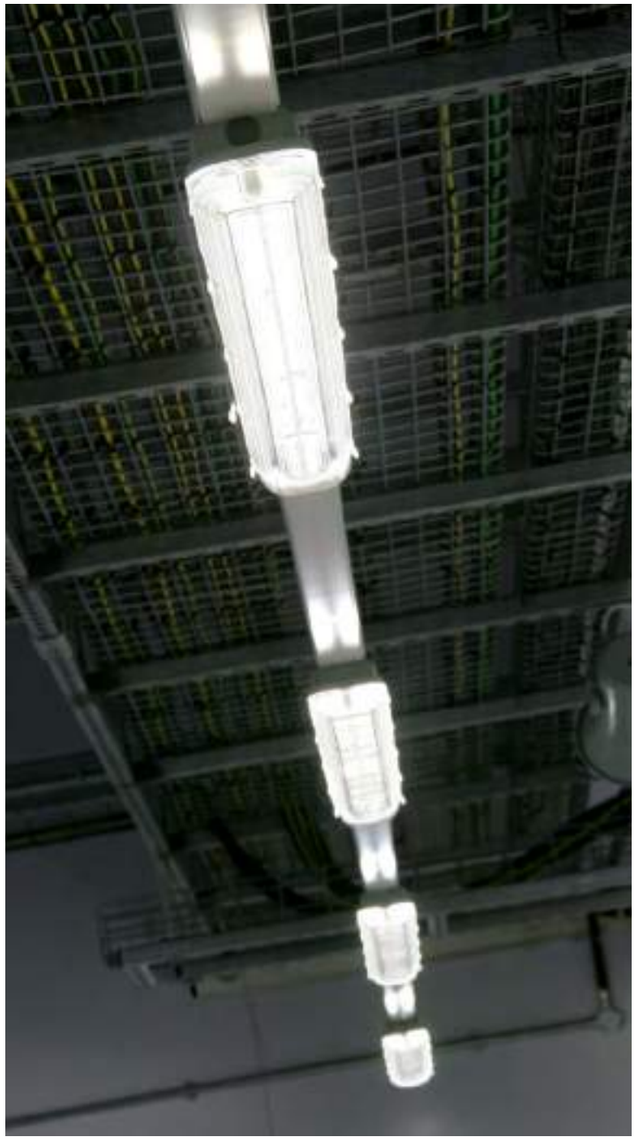
Part L2
✓

ECA
✓







# ELED

Series of independent self-contained emergency LED luminaires designed for seamless integration into the ceiling and lighting system. ELED offers discreet emergency lighting units as small as Ø50mm. Surface mounted versions available. ELED's offer 3 hour emergency escape lighting.

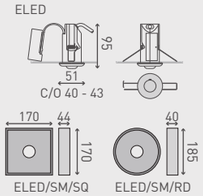
| | | | |
|---|---|---|---|
| Lumen Options<br>ELED | 1W AP<br>1Watt Anti panic<br>6500K | 1W ER<br>1Watt Escape route<br>6500K | 1W AP<br>1Watt Spot<br>6500K |
| | 2W AP<br>1Watt Anti panic<br>6500K | 2W ER<br>1Watt Escape route<br>6500K | 2W<br>1Watt Spot<br>6500K |
| Lumen Options<br>ELED SMRD | SM RD WH 3W<br>White Ø185mm x 40mm D<br>Circular surface mounted | | SM RD BL 3W<br>Black Ø185mm x 40mm D<br>Circular surface mounted |
| Lumen Options<br>ELED SMSQ | SM SQ WH 3W<br>White 170mm x 170mm x 44mm D<br>Square surface mounted | | SM SQ WH 3W<br>Black 170mm x 170mm x 44mm D<br>Square surface mounted |
| Emergency Options | E3<br>3 hour integrated with green LED indicator | EA<br>Self test emergency | EC<br>Central battery emergency |
| | ED<br>DALI emergency | | EE<br>Independent ELED |
| Ceiling details | Recessed & Surface mounted onto ceilings | | |
| Technical details | CRI>80 | | IP20 |

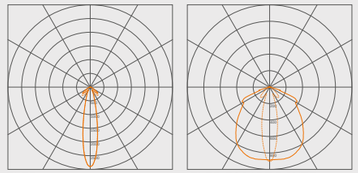
EMERGENCY

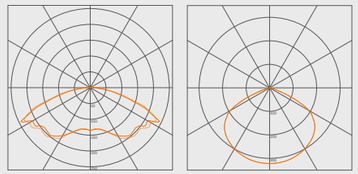
BUILT IN BRITAIN

Part L2 ✓

ECA ✓



ELED Standard

ELED SMRD

ELED SMSQ

# EXIT

Series of LED EXIT signs which are ICEL certified and conform to BS EN standards. Designed for easy installation and testing, this range of exit signs features European legend format and 3 hour emergency operation.

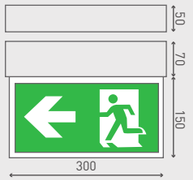
| | | | |
|---|---|---|---|
| Control | M3<br>Maintained<br>4000K -5000K | | |
| Direction Arrow | AL<br>Arrow legend left | AR<br>Arrow legend right | AD<br>Arrow legend down |
| Legend | S<br>Single sided | D<br>Double sided | |
| Finish Colour | SG<br>Silver | WH<br>White | |
| Emergency Options | E3<br>3 hour integrated self contained conversion kit with green LED indicator | EA<br>Self test emergency | |
| | ED<br>DALI emergency | | |
| Mounting | R<br>Recessed | WM<br>Wall mounted | SM<br>Surface mounted |

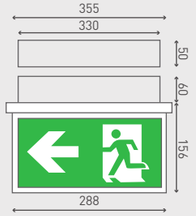
EXIT

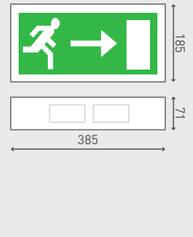
BUILT IN BRITAIN

Part L2 ✓

ECA ✓



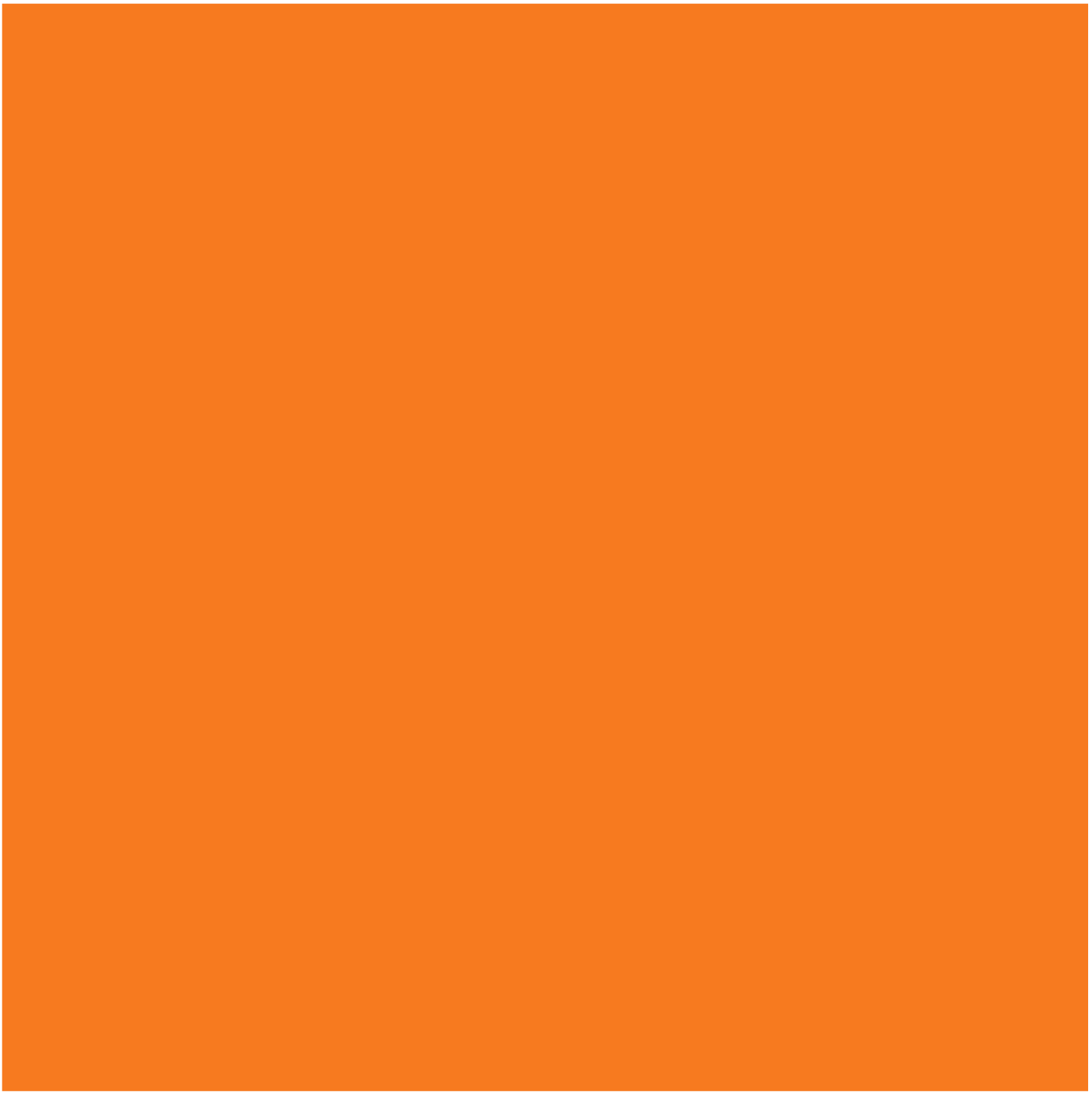



R (Recessed)

SM (Surface Mounted)

WM (Wall Mounted)



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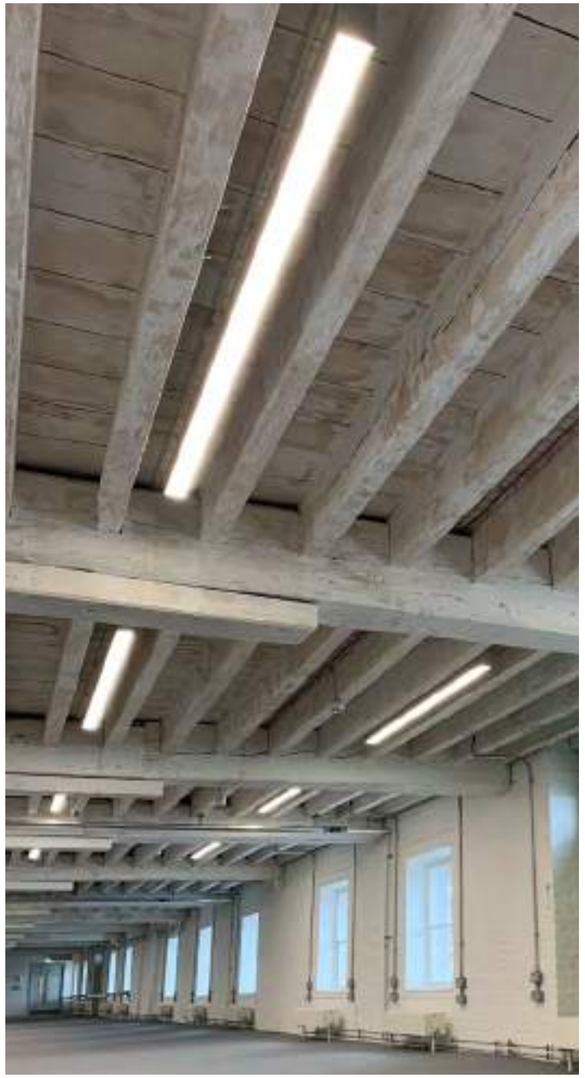

FUTURE DESIGNS


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