



**designplan**  
L I G H T I N G

SECURE HEALTH

# ILLUMINATING SECURE HEALTH APPLICATIONS





# DESIGNPLAN LIGHTING

## PEACE OF MIND



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### When it comes to lighting secure health applications we have an unrivalled wealth of experience and products.

Our secure health luminaires have been deployed on many projects and incorporate proven in service ligature resistant designs to help prevent self-harming. Our lighting is designed and manufactured to provide peace of mind with three core values embedded in our DNA.

- Robust and durable
- Service excellence
- Total cost of ownership

### Robust and durable

Our secure health luminaires enhance service-user safety by reducing the possibility of attaching a ligature by minimising the gap between components.

Made from steel or aluminium with specialist polycarbonate diffusers, our lighting can resist up to 5 times (250 joules) more impact than standard fittings (50 joules). High IP ratings help minimise maintenance requirements.

- Ligature resistant, tamper proof designs
- High impact and ingress protection
- Compliance
- Plug and play upgrades

### Service excellence

Our team has a great deal of knowledge and experience in developing and delivering lighting solutions for secure health environments.

- Made in Britain
- Bespoke and standard solutions
- Project and design support
- Vast sector experience (Est. 1963)

### Total cost of ownership

Our robustly designed LED luminaires help reduce your total cost of ownership over a project's lifetime.

- Low energy
- Long operational life
- Sustainable
- Easy to maintain, easy to upgrade



# LIGHTING TO ENSURE WELLBEING



**We believe that visually comfortable lighting is critical to aiding recovery, with service-user safety of paramount importance. Our luminaires are designed to meet the requirements of “Design in Mental Health Network’s (DiMHN) Testing Guidance for Products in Mental Health Facilities” with a ligature resistant design to help prevent self-harming.**

Our luminaires incorporate rounded or bevelled corners to prevent a fitting being used for self-harming as a ligature can not be attached. By following the DiMHN’s testing guidance enables our luminaires to be assigned a LIG rating when tested accordingly.

We conduct specific tests at the design stage. This includes determining the degree of slope a 20 kg weight attached to a galvanised suspension cable, of differing widths, will slide off a luminaire at different angles of incline (see picture on page 5).

Utilising tamper proof screws and designing the body to be suitable for the application of anti-pick mastic during installation prevents the lighting from being breached or even used as a weapon.

Our secure health luminaires help maintain bright hygienic environments, and are easy to clean, as they incorporate high ingress protection measures. High impact resistance also provides peace of mind in applications such as bedrooms and communal areas.

Lighting can be a large source of energy consumption in secure health settings. Energy efficient LED lighting can incorporate a variety of dimming and occupancy sensor options to ensure that luminaires are only at full output when actually required.

Removable internal gear trays enable speedy maintenance and provide an opportunity to upgrade technologies, without compromising the robust, tamper proof design required for secure health settings.

Introducing colour, such as sensory rooms, can stimulate our senses to help energise or calm us.

We have also developed tuneable white lighting to regulate our circadian rhythm. In the daytime, this lighting can mimic daylight to boost energy, while at night it can switch to a warm tone to aid restful sleep.

To help reduce stress levels further, a non-institutional feel to fixtures and fittings is important.

In this brochure, we identify secure health applications, focusing on the principles of good lighting and:

- **Safety**
- **Robust construction**
- **Easy maintenance**
- **Design.**

## WEIGHTED ANGLE DESIGN TEST



### Why choose Designplan?

Safety

Robust construction

Easy maintenance

Design



# BEDROOMS & EN-SUITE

**The bedroom, though not the primary location for treatment, is a service user’s home from home and place of refuge during their recovery journey. It is their place to rest in safety.**

These spaces must deliver in a number of areas. A place for restful sleep is understandably the most important. Disrupted sleep affects our psychological state, impairing a service user’s short and long term recovery.

Creating a non-institutional feel to the space is very beneficial. It is preferable to design the bedrooms to look as close to a residential setting as possible. The type of luminaires selected and their lit effect can impact this greatly.

The lighting should create a pleasant, restful space and the light itself should provide good colour rendering to enable various tasks to be carried out.

Luminaires should not be placed directly above the bed as this will cause discomfort to the service user resting underneath.

Lighting with a ligature resistant design are essential as they help prevent self-harming as the aperture between the luminaire’s diffuser and body is minimised.

A high level of impact and tamper resistance also helps secure the luminaire from interference, dismantling and potential weaponising.

## Technical support

In this type of space we recommend 150 lux average during the day dimmed to 50 lux at night. Luminaires should be specified with a soft diffused glow, supplemented by wall lights.

Despite a service user requiring their own space, operational staff need to be able to control lighting within individual bedrooms from outside the room. Service-users may need to be observed during the night and discreet lighting that does not disturb their sleep is essential.

The main light should be service user-controllable which staff can override from outside the room if required.

A night light should be incorporated in an over bed light which can be operated inside or outside of the bedroom. Low glare night lights will ensure service user visual comfort.

In the en-suite toilet high ingress protection is required due to water presence with dual operation; internally (service user) and externally (staff).

*For further lighting advice speak to our technical sales team on 020 8254 2022 or e-mail [technicalsales@designplan.co.uk](mailto:technicalsales@designplan.co.uk)*

## Why choose Designplan?

### Safety

- **Ligature resistant designs reduces the risk of a service user self-harming.**
- **Fully sealed luminaires prevent the luminaire from becoming weaponised.**
- **Tamper proof fixings ensure safety and security and also prevent items from being hidden inside the fitting.**

### Robust construction

- **Robust luminaires resist damage, minimising intervention.**
- **High ingress protection.**
- **Comprehensive warranty.**
- **Proven designs and significant application experience.**

### Easy maintenance

- **Low energy luminaires ensure long-life, reducing ongoing costs.**
- **Removable gear trays enables easy maintenance and technology upgrades.**
- **High IP ratings ensure a bright hygienic, easy to clean environment.**

### Design

- **Good colour rendering enables various tasks to be carried out.**
- **Service user and staff controllable for discreet night time inspection.**
- **A contemporary luminaire design ensures a non-institutional feel.**



#### 1 RDL AL G2

**IK 14** Recessed ligature resistant downlight suitable for secure accommodation, designed to fit into a 215mm cut-out.  
**IP 65**



#### 2 DPW20

**IK 16** Wall recessed ligature resistant fitting designed to act as a wayfinding light at night.  
**IP 65**



#### 3 ARCULUS LINEAR RECESSED

**IK 16** Recessed ligature resistant luminaire suitable for ceiling mounting. A surface mounted version is also available.  
**IP 65**



#### 4 DL86 AL

**IK 14** Ligature resistant downlight for secure healthcare providing uniform light distribution.  
**IP 65**



#### 5 BEDHEAD AL

**IK 14** Discrete ligature resistant reading light designed to provide a soft lit appearance.  
**IP 65**





# CORRIDORS & CIRCULATION SPACES

**Corridors form the backbone of a secure health facility, linking residential and treatment spaces for both people and services. These circulation spaces ensure effective movement from one location to another and act as a means of orientation. The lighting must factor in the requirements of everyone using these functional, yet crucial, spaces.**

Light offers a sense of safety and security by optimising our spatial awareness. Corridors can be a confined space, requiring lighting that does not produce glare or shine into adjacent rooms.

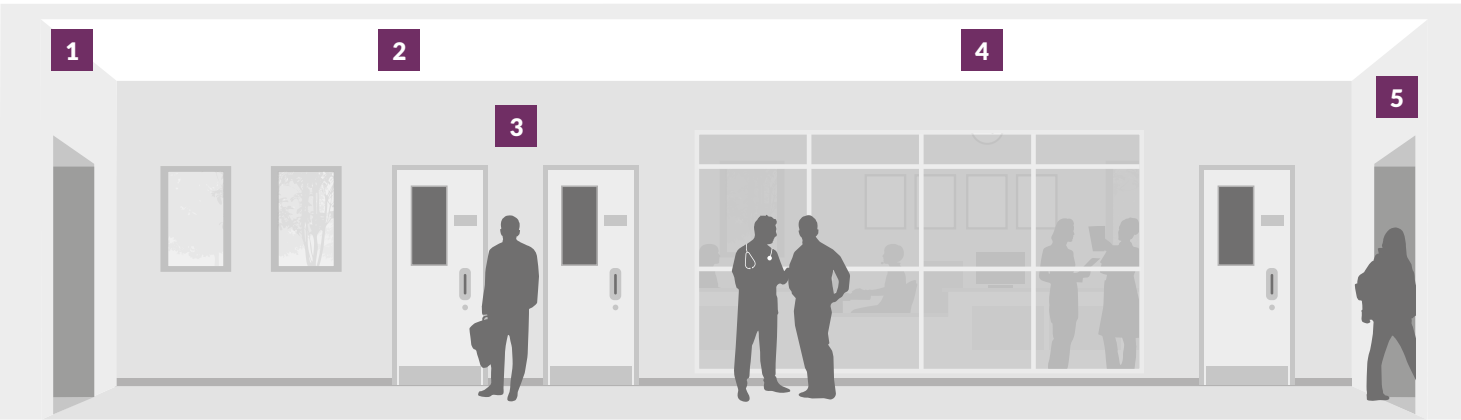
At night time, or during periods of rest, non-clinical areas leading off a corridor benefit when light levels are set to provide low ambient illumination.

Energy efficient LED lighting can incorporate a variety of dimming and occupancy sensor options to ensure that luminaires are only at full output when actually required.

To maintain a bright hygienic environment, luminaires require high ingress protection measures to ensure easy cleaning. Lighting should also be robustly constructed and require little in the way of maintenance.

In an emergency situation, corridors can often double as the exit route to a place of safety.

Function and duration tests of emergency luminaires have to be conducted regularly and the results recorded. Automated test systems can help you meet your legal obligations - see the technical support section for more information.



## Technical support

Levels of illumination in a corridor can vary depending on the time of day. BS EN12464-1 recommends 200 lux for multi-purpose corridors during the day and CIBSE LG2 suggests 5 lux on the floor at night for corridors leading on to bedrooms.

There are many guides, directives and standards relating to emergency lighting including BS EN60598-2-22 for emergency luminaires, The Health and Safety (Safety Signs and Signals) Regulations, and BS5266 Part 1:2016, Code of Practice for the Emergency Lighting of Premises.

BS EN 62034 and BS EN 50172 relate directly to your legal requirement to ensure your emergency lighting systems are routinely inspected, tested and the test results recorded. We can provide professional guidance on how you can meet your emergency lighting obligations.

For example, we offer a DALI emergency lighting test system called DesignPath that automatically carries out routine testing, records results and reports faults.

*For further lighting advice speak to our technical sales team on 020 8254 2022 or e-mail [technicalsales@designplan.co.uk](mailto:technicalsales@designplan.co.uk)*



## Why choose Designplan?

### Safety

- Automated or self test emergency lighting test systems designed to ensure BS5266-1 compliance.
- Tamper proof fixings.

### Robust construction

- Metal bodies and specially designed diffusers provide impact resistance.
- Works with a number of different power sources (emergency lighting).
- Highly resistant to unauthorised tampering.

### Easy maintenance

- High ingress protection ensures luminaires are easy to clean.
- Removable gear trays enables easy maintenance and technology upgrades.
- Low energy luminaires ensure long-life, reducing ongoing costs.

### Design

- “Low glare” ensures no user discomfort when moving through corridor zones.
- A contemporary luminaire design ensures a non-institutional feel.
- Integrated lighting controls improve functionality and reduce costs.

### 3 ARCULUS LINEAR RECESSED

IK 16  
IP 65  
Recessed ligature resistant luminaire suitable for ceiling mounting. A surface mounted version is also available.



### 2 RDL G2

IK 12  
IP 65  
Ceiling recessed round fitting suitable for interior applications. Front access option available.



### 3 BASILICA

IK 20  
IP 66  
Contemporary and robust ligature resistant bulkhead with uniform light distribution and impressive light output.



### 4 ARCULUS SURFACE

IK 16  
IP 65  
Simple to install ligature resistant luminaire. Designed to be disassembled and reinstated to ensure maintenance can be undertaken quickly and easily after anti-pick mastic application.



### 5 STROMMA

IK 14  
IP 65  
Robust vandal and weather-resistant IP65 rated modular lighting system offering continuous linear illumination.





# THERAPY ROOMS

Light can set the tone for a therapy session. Flexible lighting, with a variable colour temperature can boost activity or create a relaxing environment. The use of colour can also be beneficial.

The lighting design must be flexible as most therapy activities do not require a specific room layout or equipment and these spaces are often multi-functional.

Natural light has a positive effect on stress and feelings of anxiety and can be helpful in a counselling setting. We have developed lighting, to support daylight and help regulate our circadian rhythm.

Tuneable white lighting can be raised to a cool colour temperature to replicate daylight providing an energy boost or lowered to a warm colour temperature to create a restful environment.

## Technical Support

Vertical illuminance must be considered to ensure good personal interaction. Lighting vertically onto surfaces can also help spaces feel less oppressive and more welcoming.

For further lighting advice speak to our technical sales team on 020 8254 2022 or e-mail [technicalsales@designplan.co.uk](mailto:technicalsales@designplan.co.uk)



1

ARCULUS RECESSED TUNEABLE WHITE

IK 16  
IP 65

Tuneable white ligature resistant bulkhead designed to mimic our circadian rhythm.

2

DL86 AL RGBW

IK 14  
IP 65

Ligature resistant RGBW colour control downlight for secure healthcare providing uniform light distribution.

3

BASILICA TUNEABLE WHITE

IK 20  
IP 66

Contemporary and robust tuneable white ligature resistant bulkhead, to mimic our circadian rhythm.

# COMMUNAL AREAS

Well-designed lighting in communal areas must be warm and welcoming and should encourage service users to socialise in a pleasant, attractive environment.

Good lighting helps create an environment where service users can engage in social activities. These areas are often open plan, enhancing the therapeutic environment by creating a light and airy space at the heart of the unit.

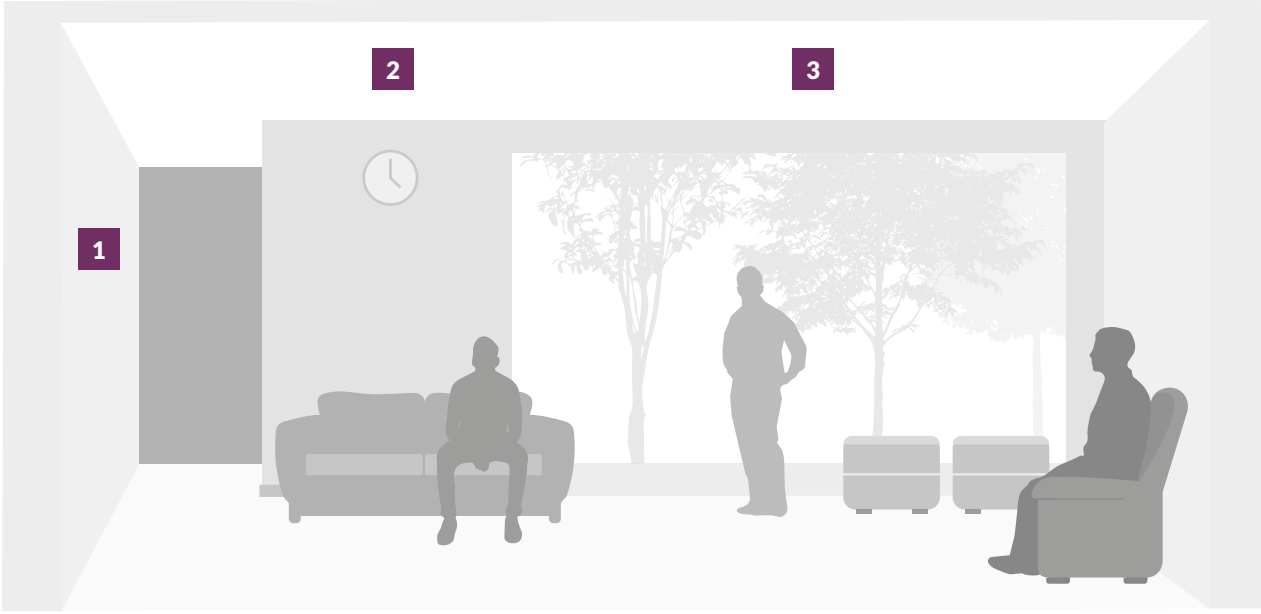
The sitting room often has access to the garden courtyard area enabling lighting designers to mix natural and artificial light to create a comfortable, relaxing space.

Sudden changes in illumination character can be disconcerting and disorientating. Light levels should be appropriate for the application with due attention paid to the consistency of lighting in the transition between areas.

## Technical Support

Codes of practice will generally specify values of horizontal illuminance. However, careful and controlled vertical lighting can dramatically increase the perception that the space is brightly lit and welcoming, far beyond what horizontal illuminance alone can deliver.

For further lighting advice speak to our technical sales team on 020 8254 2022 or e-mail [technicalsales@designplan.co.uk](mailto:technicalsales@designplan.co.uk)



1

BASILICA TUNEABLE WHITE

IK 20  
IP 66

Contemporary and robust tuneable white bulkhead, to mimic our circadian rhythm, with no ligature points to help prevent self harming.

2

ARCULUS LINEAR RECESSED

IK 16  
IP 65

Recessed ligature resistant luminaire suitable for ceiling mounting. A surface mounted version is also available.

3

ARCULUS RECESSED

IK 16  
IP 65

Simple to install recessed 600mm x 600mm ligature resistant luminaire. Security fixings recessed on side of front frame for a clean aesthetic whilst still allowing maintenance after anti-pick mastic has been applied.



# NURSE STATIONS

The nurses’ station is often the central hub of a secure health facility as it is operational 24/7. Tasks can vary considerably, from screen and paper based through to face to face discussions with colleagues and visitors.

High quality lighting, particularly in terms of visual comfort and glare control is essential. Illuminating vertical surfaces, including the faces of operational staff and service users, is especially important.

If there is access to daylight, this should be maximised where possible, and lighting controls should be used to ensure that the lighting is energised only as required.

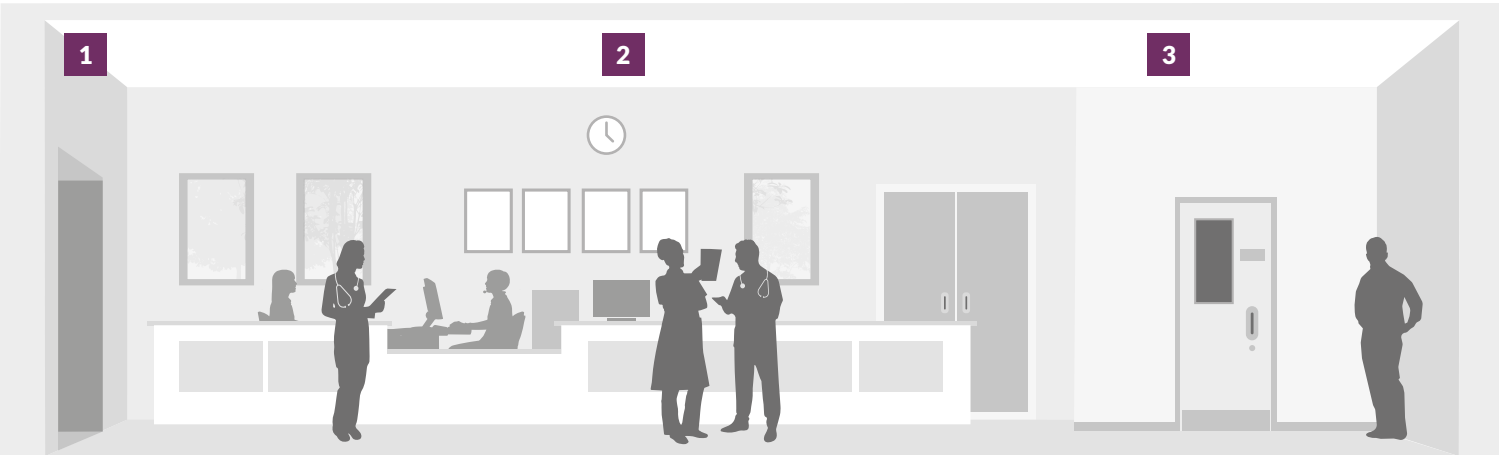
Light levels must be carefully selected to allow for effective 24/7 operation. Lighting must be flexible to allow the night shift to have sufficient illumination to perform their work without disturbing service-users.

In a nurse station it is advisable to use low maintenance lighting tailored to the task.

## Technical Support

It is important to balance light levels, and light quality, whilst ensuring nurses’ stations are not over illuminated and waste energy. The provision of dimming control, for specific tasks, and the uniformity of light should be maximised. Energy savings can be made by employing lighting controls.

For further lighting advice speak to our technical sales team on 020 8254 2022 or e-mail [technicalsales@designplan.co.uk](mailto:technicalsales@designplan.co.uk)



- 1

ARCULUS LINEAR  
RECESSED TUNEABLE  
WHITE
- IK 16

IP 65

Recessed ligature resistant luminaire designed to mimic our circadian rhythm.



- 2

RDL AL G2  
TUNEABLE WHITE
- IK 14

IP 65

Recessed ligature resistant downlight designed to mimic our circadian rhythm.



- 3

ARCULUS SURFACE  
TUNEABLE WHITE
- IK 16

IP 65

Simple to install ligature resistant luminaire designed to mimic our circadian rhythm.



# DE-ESCALATION ROOMS

The aim of this “calming” room is to allow the service user to enter an area where they can de-escalate from their current emotional state. This safe place reduces the chance of physical injury to both themselves and others.

Introducing muted colour in this environment can help provide a calming, quiet and low-stimulus space. This can be achieved using RGBW luminaires, which mix red, green, blue and white light to achieve an infinite palette of colours and intensities.

To help reduce stress levels further, a non-institutional feel to these luminaires is important and they should produce a pleasant, diffused light.

Ligature resistant luminaires are often specified as they can help prevent self-harming. There are generally no moving or protruding parts and rounded or bevelled corners, with minimal gaps, prevent points where something can be attached.

Luminaires with a high impact resistance are required as a service user recovers from a distressed emotional state.

## Technical Support

At Designplan our RGBW luminaires can utilise DALI, or wireless control methods such as Casambi which can be adapted to the needs of your secure health project.

For further lighting advice speak to our technical sales team on 020 8254 2022 or e-mail [technicalsales@designplan.co.uk](mailto:technicalsales@designplan.co.uk)



- 1

BASILICA RGBW
- IK 20

IP 66

Contemporary and robust RGBW colour control ligature resistant bulkhead.



- 2

RDL AL G2 RGBW
- IK 14

IP 65

Recessed RGBW colour control ligature resistant downlight suitable designed to fit into a 215mm cut-out.



- 3

DL86 AL RGBW
- IK 14

IP 65

Ligature resistant RGBW colour control downlight for providing uniform light distribution.





# EXERCISE & ACTIVITY AREAS

Individuals with severe mental illness often engage in significantly less amounts of physical activity than the general population. External courtyards and internal activity spaces can break down the barriers to exercise, opening up the physical and mental benefits to service users.

External courtyards offer a space outdoors to socialise, exercise and for quiet relaxation, all of which are beneficial to mental wellbeing. External lighting can be fully exposed to the elements, making high IP rated luminaires essential.

Lighting should be robustly constructed requiring little in the way of maintenance and should be appropriate for the intended use of the space, whether that be sport, exercise or relaxation.

Consideration should also be given to minimising upward light and ensuring that light does not spill into interior spaces.

Low level lighting such as bollards can be used to aid movement around footpaths and circulation areas and this can be complemented by wall mounted luminaires around the perimeter.

Internal multi-purpose exercise areas require lighting which can withstand a high level of impact such as being hit by a stray football.

Equipment, such as a running machine, can have a sloping control panel so bright reflections from a luminaire should be minimised.



## Technical support

### Internal exercise spaces

These areas should appear light and airy as dark colours can look oppressive. A light ceiling reduces the contrast between the luminaire and its immediate surroundings, reducing glare.

BS EN12464-1: Lighting – Indoor Workplaces should be consulted. Generally, in these spaces, we would recommend an illumination level of 300 lux.

### Outdoor amenities

Consideration should be given to the following standards and guidance:

- BS EN12464-2: Lighting – Outdoor Workplaces.
- BS 5489-1: Lighting of roads and public amenity areas.
- ILP GN01:2011: Guidance Notes for the reduction of obtrusive light.

For further lighting advice speak to our technical sales team on 020 8254 2022 or e-mail [technicalsales@designplan.co.uk](mailto:technicalsales@designplan.co.uk)



## Why choose Designplan?

### Safety

- Good lighting promotes feelings of safety, security and wellbeing.
- Uniform lighting minimises shadowing, promoting user confidence.
- Clear and unambiguous lighting of signage ensures safe wayfinding.

### Robust construction

- Specialist diffusers and metal bodies provide high vandal resistance.
- High ingress protection.
- External finishes of luminaires are highly resistant to degradation.

### Easy maintenance

- Running hours and output reduced by using controls.
- Removable gear trays enables easy maintenance and technology upgrades.
- Highest quality, UV stabilised optics minimises luminaire maintenance.

### Design

- Highly efficient luminaires with low energy consumption.
- Multiple mounting options only put light where it is needed.
- Light trespass and pollution is strictly controlled.

### 1 ZELOS BOLLARD

IK 16 Impact, weatherproof bollard with specifically designed optics to provide up to 8 metre spacings (15 lux average and 0.25 uniformity).



### 2 ZELOS WALL SKI SLOPE

IK 16 Vandal and weather resistant luminaire providing minimal upward light. Ski-slope design prevents the luminaire being used as an external hiding place, accessible from an internal window.



### 3 MONITOR

IK 16 Very strong vandal and weather resistant linear fitting providing excellent light distribution.



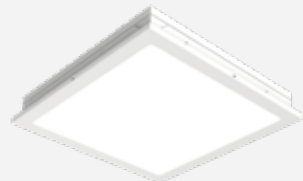
### 4 BASILICA

IK 20 Contemporary and robust ligature resistant bulkhead with uniform light distribution and impressive light output.



### 5 ARCULUS RECESSED

IK 16 Simple to install recessed 600mm x 600mm ligature resistant luminaire. Security fixings recessed on side of front frame for a clean aesthetic whilst still allowing maintenance after anti-pick mastic has been applied.





# ANCILLARY AREAS

Ancillary areas are integral to the efficient operation of a secure health facility. Lighting must focus on functionality as activities can vary considerably.

In laundry rooms, for example, inadequate lighting can conceal trip hazards and slippery floors which can cause accidents.

A bright interior with light coloured surfaces is advised. Higher vertical illuminances, and some light onto the ceiling, is recommended. Glare control will also safeguard staff against discomfort or reduced visibility.

Luminaires that are easy to clean, with long service lives, will help minimise any down time for maintenance.

Automated occupancy controls are especially valuable as ancillary areas are not continuously occupied.

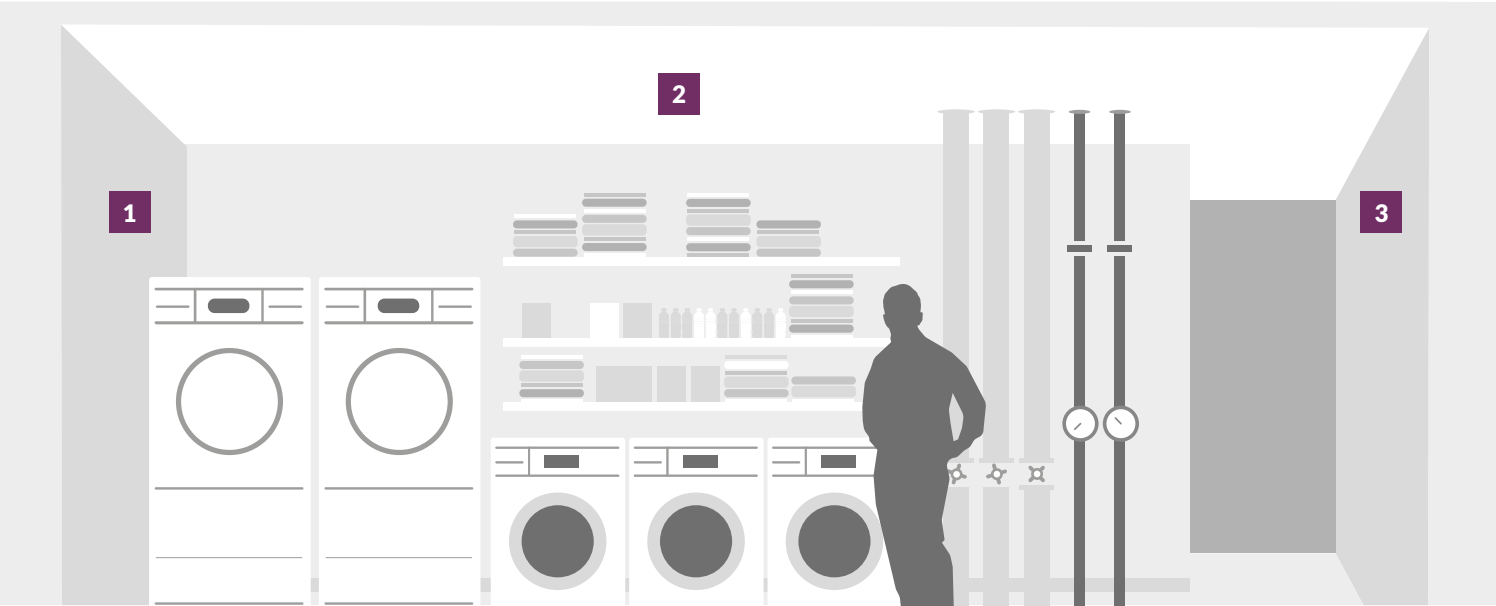
## Technical Support

Levels of illumination vary depending on each ancillary area. CIBSE LG2 recommends:

*Laundry rooms:* 300 lux at bench height.

*Plant rooms and supply stores:* 200 lux at the floor.

*For further lighting advice speak to our technical sales team on 020 8254 2022 or e-mail [technicalsales@designplan.co.uk](mailto:technicalsales@designplan.co.uk)*



### 1 QUADRING

**IK 12** Round robust bulkhead fitting for wall or ceiling mounting. Die cast aluminium body incorporating opal polycarbonate diffuser.



### 2 LINILUX

**IK 12** General purpose robust linear luminaire manufactured with a heavy gauge steel body, suitable for ceiling mounting.



### 3 QUADRANT

**IK 14** Vandal resistant bulkhead fitting for wall or ceiling mounting. Can resist up to 100 joules of energy.



# EXTERIOR AND PERIMETER

External lighting can be fully exposed to the elements, making high IP rated luminaires essential. It is therefore particularly important that lighting is especially robust and requires little in the way of maintenance.

Staff and visitor car parks, for example, require weatherproof luminaires with good levels of visibility. Ideally, lighting should be positioned over and between parked cars to eliminate potential hiding places.

External building signage must be properly illuminated and clearly visible. The perceived brightness of the approach to a secure health facility should be carefully considered. The illuminance levels should be selected to balance with the ambient illuminance that exists in the vicinity.

As with any exterior lighting installation, it is important to minimise upward and spill light to prevent light pollution and to ensure it does not cause a nuisance to neighbours.

LEDs with specifically designed optics can vastly reduce energy usage as, for example, lighting with discharge lamps in a floodlight can be very inefficient.

For longevity and to minimise costs, the paint finishes of luminaires should be highly resistant to degradation.

## Technical Support

When it comes to lighting external and perimeter applications glare must be kept to a minimum. We recommend that the peak intensity of the main beam is below 70° from the vertical.

Higher mounting heights also need lower main beam angles, which can not only reduce glare but limit light pollution into neighbouring areas. Lighting levels should conform to CIBSE LG9 and BS EN 12464-2:2014.

*For further lighting advice speak to our technical sales team on 020 8254 2022 or e-mail [technicalsales@designplan.co.uk](mailto:technicalsales@designplan.co.uk)*



### 1 STREET By iGuzzini

**IK 09** Stylish post top range from iGuzzini, one of our Fagerhult Lighting Group sister companies.



### 2 ZELOS BOLLARD

**IK 16** Weather resistant bollard with specifically designed optics to provide up to 8 metre spacings on typical pathway applications (15 lux average and 0.25 uniformity).



### 3 ZELOS WALL MAX

**IK 16** Elegant and versatile bulkhead for high wall mounted perimeter applications. Minimal upward light.



# SECTOR KNOWLEDGE AND SOLUTIONS

## BROADMOOR HOSPITAL REDEVELOPMENT



### Designed to last

We have significant sector knowledge and a proven pedigree in the secure health care sector. Safety and service user comfort are the primary drivers in the selection of lighting.

Our luminaires incorporate features specifically designed to meet these objectives whilst also providing high quality, energy efficient illumination.

Our Basilica luminaire, for example, is ligature resistant and has an IK20/IP66 rating.

With a variety of sizes, switching, and lumen options our specially designed secure healthcare luminaires are perfect for a variety of applications (see pages 6-17).

### Case study: Broadmoor

The Broadmoor Hospital Redevelopment (BHR), in Berkshire England, provides specialist high security psychiatric services for men who have serious mental health or personality disorders.

The main aim of BHR is to modernise living conditions and upgrade service-user facilities. With their non-institutional appearance, 1500 Basilica luminaires were specified in the corridor, ward day space and reception areas. The contemporary lighting helps aid the treatment of mental illness in a modern forward thinking environment.

All our specified luminaires utilise LED light engines to provide uniform light distribution. LED also helps lower running costs by reducing energy consumption when compared to fluorescent lighting.

Our internally specified luminaires include Parkalux Angled, whose sleek design discreetly masks tamper-proof screws. Externally, the IK16 / IP65 rated Zelos Wall Max means it can be relied upon, whatever the weather.

### Case study: Foss Park

We are proud to have supplied our specially designed secure health luminaires to the secure health unit at the Foss Park Hospital in York.

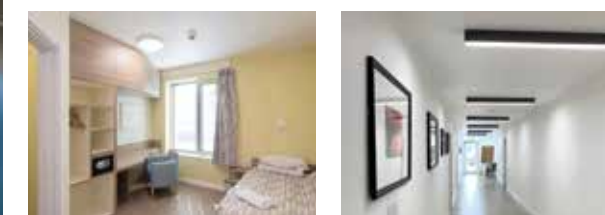
Luminaires specified included Basilica, Bedhead AL and RDL AL G2 which incorporate rounded corners to help prevent self-harming as a ligature can not be attached.

The Basilica, Bedhead AL and RDL AL G2 have also been designed to minimise the aperture between the luminaire's diffuser and body and are suitable for the application of anti-pick mastic during installation.

The high IK rating of several of the installed luminaires, including our Stromma fitting installed in some of the corridors, ensures they can withstand high levels of impact in the event of any disruption.



## FOSS PARK HOSPITAL





# PRODUCT TESTING TO ENSURE SAFETY

**Our products are designed to withstand attack and to reduce the possibility of attaching ligatures. We design these features into our products from the outset by carefully developing the form of the product, selecting the most appropriate materials and minimising the gaps between components.**

Our luminaires are designed to meet the requirements of BRE and the Design in Mental Health Network's (DiMHN) Testing Guidance for Products in Mental Health Facilities with a ligature resistant design to help prevent self-harming.

Amongst its primary objectives the BRE and DiMHN guidance also covers the ability of products to withstand sustained attack and abuse.

The BRE and DiMHN guidance defines test procedures and requirements that should result in demonstrating a range of performance characteristics that will enable an informed choice to be made by those procuring the product.

The Guide provides testing methodologies that aim to replicate attempts to damage a product or attach a ligature with varying degrees of planning and itemises the implements that should be used in carrying out the tests. This includes trying to insert various items such as a key, piece of cutlery or a credit card.

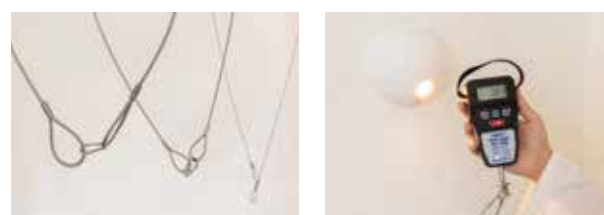
Impact tests featured in the Guide include a "soft" body, "hard" body or pendulum hammer.

We go above these testing methodologies having designed a drop hammer test (pictured below). This test applies an impact of 250 joules of energy - 5 times higher than EN 60068-2-75 (50 joules).

## LIGATURE RESISTANCE PROBE TEST



## LIGATURE RESISTANCE PULL TEST



## DROP TEST



# ANTI-PICK MASTIC: MAINTAINING SAFETY



**To ensure that luminaires do not present a ligature risk they must have anti-pick mastic applied to the junction between the luminaire bezel and the mounting substrate during installation. Lights must be designed to ensure they can be maintained after anti-pick mastic application.**

Designplan ligature resistant luminaires are designed to support this safety-critical installation process. They can be disassembled and reinstated safely during maintenance without affecting the application of the anti-pick mastic, as the pictures opposite demonstrate.

Not all secure health luminaires on the market can be maintained in this way. This can cause several issues including the inability to change emergency batteries or upgrade the product to the latest LED light engines utilising a retrofit gear tray (see page 25).

The aesthetics of the installation will also be affected as removing anti-pick mastic will damage the mounting substrate and possibly damage the light fitting.



1. Fit mounting bezel & apply anti-pick mastic



2. Connect luminaire



3. Luminaire now operational



4. Product can be removed for maintenance

# EMERGENCY LIGHTING

**UK Building regulations and associated Approved Documents stipulate that emergency lighting should be provided in the event of the failure of the normal lighting supply. Emergency lighting provides way finding and illumination to designated routes out of the building.**

### Standards

There are many guides, directives and standards relating to emergency lighting including BS EN60598-2-22 for emergency luminaires, The Health and Safety (Safety Signs and Signals) Regulations, and BS5266 Part 1:2016, Code of Practice for the Emergency Lighting of Premises. We can provide professional guidance on the requirements for your application.

### System Types

Emergency operation can be via either self-contained integral emergency equipment or central battery systems. We have been supplying emergency versions of our luminaires for many years.

Our emergency luminaires follow the same rigorous design, development and testing procedures as all our luminaires, and in all cases the entire luminaire is factory certified by us.

### Testing

We also have full ranges of Auto or Self Test emergency equipment to carry out mandatory testing and monitoring in real time, ensuring that the system is always at peak operational readiness.

These systems, such as DesignPath, clearly signal faults either integral to the luminaire or remotely, allow the responsible party to comply with their legal obligations whilst cutting costs to an absolute minimum.



### DP - E44



Ligature resistant non-maintained emergency luminaire.

IK 16  
IP 65

### DESIGNPATH



Wired or wireless DALI emergency testing and reporting system



ENSURING A CLEAN,  
HYGIENIC ENVIRONMENT



Reducing the build up of dust and germs aids the infection control measures of a secure health facility. Luminaires with smooth surfaces help maintain bright hygienic environments as they are easy to clean, whilst a high ingress protection (IP) rating maintains electrical safety.

Antibacterial paint

The term antibacterial refers to a substance that inhibits the growth of microorganisms. Our optional antibacterial powder coatings\* incorporate an advanced silver ion technology proven to actively reduce the growth of harmful bacteria on a painted luminaire's surface by up to 99.99%. Persistence tests have shown that the antibacterial activity does not decay with time.

TEST RESULTS

- For SARS-COV-2 (**Covid 19**) = 90% after 6 hours (ISO 21702:2019).  
% relates to the reduction of the treated sample against the untreated/control sample. Viral strain tested = SARS-COV-2\_COV2019 ITALY/INMI1.
- For efficacy against **MRSA** and **E.coli** by up to 99.99% (ISO 22196:2011). See table below.

SPECIES	CONTACT TIME		REDUCTION (CONTROL)	
	0 hours	24 hours	Log 10	Percentage
P. aeruginosa	1.30E+04	<11.11	≥ 4.39	≥ 99.99%
E. aerogonese	1.50E+04	<11.11	≥ 3.87	≥ 99.99%
E. faecalis	2.80E+04	<11.11	≥ 3.74	≥ 99.99%
E. coli	1.90E+04	<11.11	≥ 4.82	≥ 99.99%

\* Available in our standard paint colours as an option. If you require a special paint colour, please let us know.



# LIGHTING CONTROLS



**Lighting controls create energy-efficient and dynamic spaces. We have enhanced our luminaires with the latest technology that can help create welcoming and safe environments.**

## Lighting the space

It is important that we provide the right lighting for secure healthcare applications. As we've identified in this brochure a secure accommodation project is made up of several applications. This includes bedrooms, corridors, indoor and outdoor exercise spaces, therapy rooms and nurses stations each with specific needs for service users and operational staff.

Our luminaires have a number of driver options available including standard switched and DALI. When connected to a lighting control system, areas can be controlled to provide the right amount of light when occupied and reduce the output and save energy when they are empty.

## Control strategy

A control strategy is based upon the requirements specific to each area of a secure health project, defined by the needs of service users and operational personnel.

We can provide solutions using the following control methods:

- Presence activation
- Absence detection
- Timed control
- Daylight linking
- Manual control

We are able to provide energy efficient solutions for any application by using PIR and microwave sensor technologies for presence detection to work in conjunction with photocells.

We can reduce lighting levels in order to provide the right amount of light when required and to minimise, or switch off luminaires when sufficient daylight is available.

## Energy and maintenance

Lighting control systems can be used to reduce energy by lowering of light levels whilst maintaining the correct amount of light required by switching off spaces not being used.

Lighting control can be used for maintenance and monitoring of luminaires.

In addition, control systems can undertake automatic testing of emergency luminaires to provide compliance reports in line with statutory requirements.

# SUSTAINABLE LIGHTING AND MANUFACTURING

**We've been making robust, long last luminaires since 1963. As part of the Fagerhult Group, our sustainability promise is to create action for a better environment and a brighter future.**

Energy efficiency is a key part of our sustainability promise. Our luminaires incorporate a removable internal gear tray to enable sustainable technology upgrades, ensuring long life lighting and low electricity consumption.

The robust construction of our luminaire bodies, made from aluminium or steel enable the technology to be upgraded without the product housing needing replacing.

We are accredited to the ISO 9001 Quality Management and ISO 14001 Environmental Management systems, operating from a BREEAM 'Excellent' facility. Rain water harvesting, solar panels, material recycling and plastic reduction have lowered our carbon footprint.

In accordance with our sustainability strategy, we have recently upgraded older machinery to state of the art high efficiency, low energy consumption machines. Material recycling is a very important part of our manufacturing processes. We limit the use of plastic and we even make our own boxes.







## DESIGNED TO LAST

Our secure health luminaires are robustly constructed, reliable, simple to install and easy to maintain.

