



designplan
L I G H T I N G

CUSTODIAL

ILLUMINATING CUSTODIAL APPLICATIONS



DESIGNPLAN LIGHTING

PEACE OF MIND



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

Our luminaires are designed and manufactured to provide peace of mind. We all need the reassurance that the lighting will remain operational - whatever is thrown at it. Three values are embedded in our DNA:

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

Robust and durable

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

- High impact and ingress protection
- Robust construction
- Standards compliance
- Plug and play upgrades

Service excellence

Our team has a great deal of knowledge and experience in developing and delivering lighting solutions for custodial environments:

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

Total cost of ownership

Our vandal resistant 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



Why choose Designplan?

Cost of ownership



Compliance



Construction



Capability



Whether lighting a 19th century prison or a “state of the art” facility, safety is the key consideration. Ensuring the wellbeing of prisoners and operational personnel is of the utmost importance.

A custodial luminaire must pass stringent Ministry of Justice (MoJ) standards. This includes real world destruction tests utilising implements that could be available to a prisoner, such as chair legs and pool cues.

Our luminaires are built to resist impacts up to 250 joules of energy – 5 times more than a standard IK11 fitting. High ingress protection, tamper proof and flame retardant materials are also incredibly important in a custodial environment.

Preventing self-harming is a key safety concern in custodial applications.

MoJ standards state that in ‘safer cell’ applications “the luminaires must be designed so as to reduce the potential for a prisoner to attach a ligature in order to attempt suicide”. We achieve this by minimising the aperture between the luminaire’s diffuser and body, using tamper proof screws and designing the body to be suitable for the application of anti-pick mastic during installation.

Cost of ownership and ease of maintenance have become increasingly important. The MoJ is the second largest government department in terms of size and estate running costs. This equated to over £500m in 2017/18*.

LED light engines, and even more significantly LED replacement gear trays, enable new or existing lighting to use up to 65% less energy than traditional fluorescent. This reduction counts towards the government’s 2050 zero carbon target.

The future of custodial lighting

The Prison Estates Transformation Programme (PETP), has committed to providing an additional 10,000 new prison places. Whilst this will be a challenge to deliver, there is an exciting opportunity to incorporate new lighting innovations to help save energy, add functionality and improve wellbeing.

The latest LED light engines, lighting controls, daylight saving, and incorporating other services, will ensure the PETP’s lighting element will be fit for purpose both now and in the future.

In this brochure, we will identify typical custodial lighting applications, focusing on the principles of good lighting and the 4Cs crucial for custodial applications:

- **Cost of ownership**
- **Compliance**
- **Construction**
- **Capability.**

* Source – State of the Estate 2017/18 report. Author: Cabinet Office.



POLICE STATIONS & LAW COURTS

Police stations and law courts require weather resistant luminaires for the exterior of the building through to vandal resistant, task specific lighting for internal areas such as the booking desk, holding cells, interview rooms and public facilities such as court rooms.

High ingress protection ratings are essential for the external lighting. To ensure longevity, and minimise costs, the paint finishes of luminaires should be highly resistant to degradation. Where restricted lines of sight exist, the lighting should be designed to help eliminate any dark spaces.

Internally, the lighting must be designed to comply with very specific task requirements. These include undertaking a breathalyser test, taking finger prints and conducting searches. See technical support for more information.

Holding cells in law courts and police custody suites require vandal resistant lighting because occupants are unsupervised for the majority of their in-cell time. They can also be in an aggressive state and prone to violence. As a result, cell lighting must be able to withstand extreme physical abuse, requiring high IK ratings, and resist repeated tampering attempts.

Designplan luminaires incorporate the latest optical designs for the highest efficiency and optimum visual comfort. Illumination in directly adjacent areas should also be taken into account to create a comfortable transition between spaces. Controls can be used to ensure that the lighting is energised only as required.

Emergency lighting will need to be specified in certain areas, see pages 16 and 17. In addition, easy maintenance and quick and simple LED upgrades are vital, see page 19.

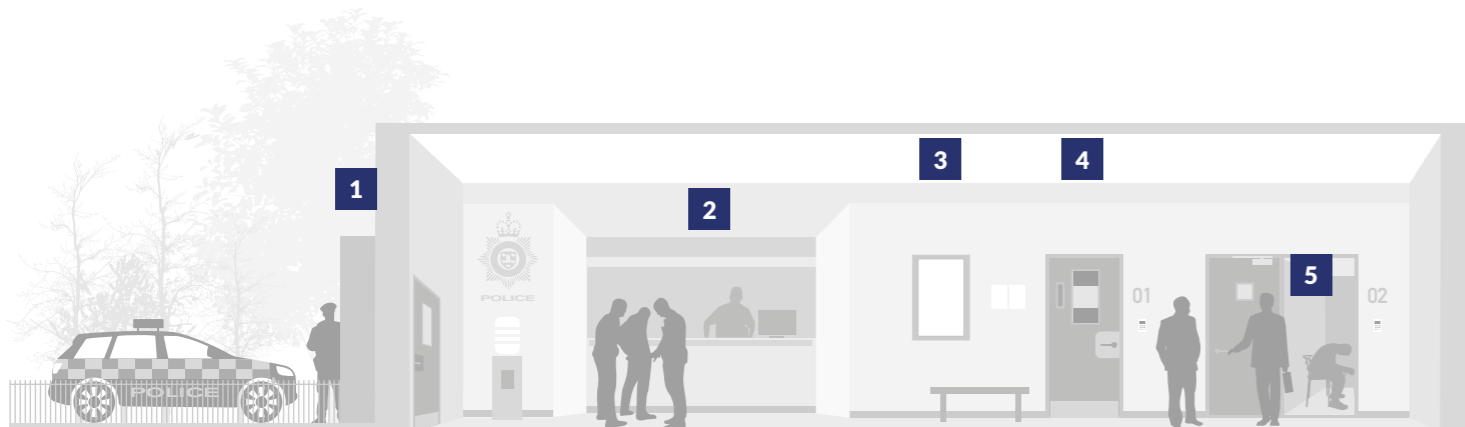
Technical support

Specific technical and lighting requirements are set out in the Home Office Police Custody Suites Design Guide, standard number STD/Z/DG/078. Selected illumination levels should be in accordance with the criteria set out below.

- Corridor (detainee accessible):**
150-300 lux at floor level.
- Holding rooms:**
150-300 lux at 750mm above the floor.
- Charge room (desk):**
500 lux at floor level (front of charge desk).
- Offices and breathalyser rooms:**
350 lux at 750mm above the floor.
- Search room:**
350 lux at floor level.

- Photo / fingerprint area:**
- 350-550 lux at 750mm above the floor.
- Interview and medical rooms:**
350 lux at 750mm above the floor.
- WCs and store rooms:**
100 lux at floor level.
- Cells:**
Daytime:
150-300 lux at 750mm above the floor.
Cleaning/inspection/visually impaired:
300-500 lux at 750mm above floor
Night inspection:
15 lux at floor level
- External:**
7 lux at floor level (footpaths & walkways).

For further lighting advice speak to our technical sales team on 020 8254 2022.



1 TUSCAN

IK 16 Linear, weather resistant luminaire designed to resist extreme physical attack and is suitable for wall and ceiling mounting.
IP 65



2 BASILICA

IK 20 Contemporary and robust bulkhead with an efficacy of 115 luminaire lm/W and no ligature points to help prevent self harming.
IP 66



3 QUADRATUM

IK 14 Recessed or surface mounted sealed luminaire suitable for use in tough environments. Provides excellent light distribution and integrates within various ceiling types.
IP 65



4 RDL AL G2

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



5 OBEX

IK 20 Ligature free, vandal resistant cornice LED luminaire for police custody suite cells. Night light and DALI as standard. Options include integral 3-way cable management, sensor and corner camera units.
IP 65



Why choose Designplan?

Cost of ownership



- Energy efficient lighting solutions with long operational life.
- Competitive initial purchase price.
- Short lead times.
- Comprehensive warranty.
- Removable gear trays ensure LED technology upgrades are affordable.

Compliance



- Proven approved designs and "fit for purpose" application experience.
- Specifically designed test rig and MoJ spec prison cell in our UK factory.
- Installed lighting CE certified again, following LED retrofit upgrade.

Construction



- Metal bodies and specially designed diffusers provide vandal resistance.
- High ingress protection.
- Tamper proof fixings.
- Removable gear trays enable quick and easy maintenance.

Capability



- Made in Britain.
- Significant sector experience.
- Site surveys to suggest ways installed lighting can be upgraded to LED.
- Project management team.

CELLS (STANDARD & SAFER)

Cells represent one of the toughest environments for lighting fixtures as prisoners are unsupervised for the majority of the time. In the UK there are two types of cells, “standard” and “safer”, which both follow stringent specifications set out by the MoJ.

In both cell types, luminaires must be physically robust and tamper resistant. Whereas “safer cells” require anti-ligature light fittings to prevent self-harming.

Since 1963, Designplan have led the way in designing and manufacturing vandal resistant luminaires. We have developed lighting which goes above and beyond the IK scale of measuring vandal resistance. The IK scale goes up to IK11, certifying that a luminaire can resist an impact of up to 50 joules of energy.

However, in custodial environments this level of impact resistance is simply not adequate.

Our drop-test rig creates impacts up to 250 joules of energy, 5 times more than an IK11 rated fitting. This rigorous testing process ensures our custodial luminaires are robustly constructed and fit for purpose in line with the MoJ’s standards.

To resist extended periods of naked flame attack, specially designed diffusers stop holes being created which could be used to attach ligatures or store contraband.

The logistics of moving prisoners from block to block to carry out maintenance is a major consideration in cell applications, especially in large prisons. Luminaires that incorporate removable gear trays not only save energy but ensure quick and easy upgrades, resulting in less disruption to prisoners and staff, see page 19.



Technical support

The MoJ have a stringent set of standards for prison cell design and certification

Standard cells are governed by STD/E/SPEC/021 and “Safer cells” by STD/E/SPEC/022. Both contain the requirement for lighting above the IK ratings detailed in EN 60068-2-75. Our luminaires are rated up to IK20, which is an impact equivalent to 250 joules of energy - 5 times more than an IK11 rated fitting (50 joules).

In “safer cell” applications, MoJ standards state that “the luminaires must be designed so as to reduce the potential for a prisoner to attach a ligature in order to attempt suicide”. We achieve this by minimising the aperture between the luminaire’s diffuser and body, using tamper proof screws and designing the body to be suitable for the application of anti-pick mastic during installation. A burns test is also required for “safer cell” accreditation. A naked flame, and abrasion from a 10mm coach bolt, is applied for up to 8 minutes to ensure the diffuser can’t be punctured.

For further lighting advice speak to our technical sales team on 020 8254 2022.



Why choose Designplan?

Cost of ownership



- Robust and durable luminaires are essential.
- Reduced maintenance costs and energy consumption.
- Competitive initial purchase costs.

Compliance



- Proven approved standard cell and “safer cell” luminaires.
- “Fit for purpose” application experience.
- Specifically designed test rig and MoJ spec prison cell in our UK factory.
- Installed lighting CE certified again, following LED retrofit upgrade.

Construction



- Metal bodies and specially designed diffusers provide vandal/burn resistance.
- Fully sealed luminaires with tamper proof fixings.
- Removable gear trays enable quick and easy maintenance.

Capability



- Made in Britain.
- Significant sector experience.
- Site surveys to suggest ways installed lighting can be upgraded to LED.
- Project management team.

1 MONITOR II

IK 16 Approved luminaire for “standard” cells. Zinc coated steel finished in chemical and abrasion resistant textured white polyester powder coat.
IP 22



2 DL86 SC

IK 20 Anti-ligature, vandal resistant downlight for use in “safer cell” environments. A translucent GRP diffuser maintains product strength and is able to withstand an impact of 250 joules of energy (IK20).
IP 65



3 ABRAMS AL

IK 16 “Safer cell” certified ceiling mounted vandal resistant fitting. UK Justice Department HMPPS approved fitting with patented diffuser design.
IP 65



4 UNI-CELL

IK 16 Extremely robust HMPPS compliant “safe cell” anti-ligature lighting and trunking system including options for CCTV, ventilation, smoke detectors and speakers.
IP 65



LIGHTING CONTROLS

An important factor for cell lighting is the lighting control strategy. Lighting designers and consultants will need to meet specific standards and operational requirements whilst reducing energy use where practical. At Designplan we can provide control solutions for traditional switched applications and standalone luminaire operation, through to full networked systems utilising the DALI protocol.

ASSOCIATION AREAS

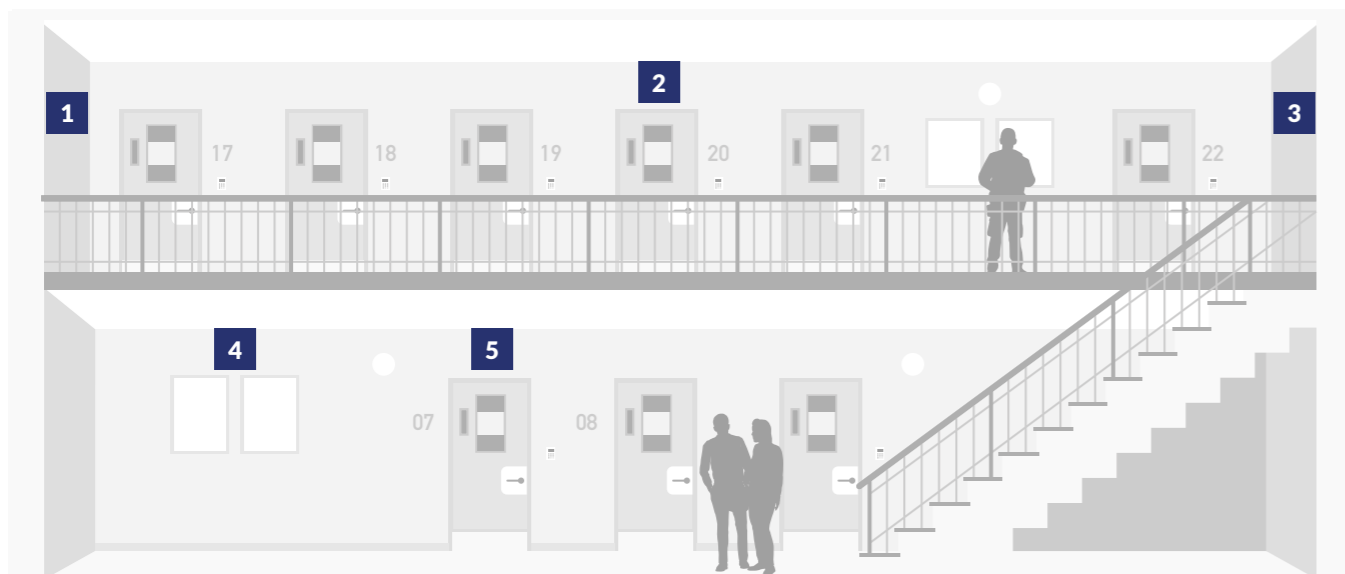
Landings, corridors and general association areas can need high levels of illumination during the day, which may not be required at night. Daylight harvesting, separate switching of luminaires, dimming or presence detection can be used to reduce energy usage.

If, due to the age of a custodial installation, lighting controls cannot be used then upgrading to LED lighting can instantly save energy. Custodial luminaires with a removable internal gear tray enable quick and simple technology upgrades, without the expense and inconvenience of replacing an entire light fitting.

In a custodial environment moving prisoners to other locations, so that building work can be undertaken, can be a logistical nightmare. By quickly and simply upgrading existing luminaires to LED, utilising replacement gear trays, the installed lighting will use less energy and run for longer - reducing ongoing maintenance.

Association areas are usually supervised. However luminaires with high IK and IP ratings prevent physical attack or the luminaire being used as a weapon. "Low flicker" is also an important requirement as it is likely CCTV will be used in these areas.

Association areas may also need to incorporate emergency lighting, see pages 16 and 17.



Technical support

In association areas, just as with other custodial applications, lighting must be physically robust, tamper resistant and built in such a way that items cannot be hidden within them. As a minimum, we would recommend an IP rating of IP54.

Lighting needs to be of good uniformity and a minimum of 200 lux. When illuminating stairwells, consideration should be given to contrast between adjacent areas and surfaces.

As prisoners can congregate together in areas such as walkways, landings and stairs it is a requirement that fixtures are not capable of being used as weapons. Lighting should be securely mounted to the wall, and tamper proof screws incorporated to prevent prisoners from exposing live parts.

For further lighting advice speak to our technical sales team on 020 8254 2022.



Why choose Designplan?

Cost of ownership



- Robust, long life lighting.
- Removable gear trays make technology upgrades simple and affordable.
- Programmable lighting levels for differing times of day.
- Enables areas to be divided into zones for economy and security.

Compliance



- Specifically designed test rig and MoJ spec prison cell in our UK factory.
- "Fit for purpose" application experience.
- Installed lighting CE certified again, following LED retrofit upgrade.

Construction



- Robust luminaires resist damage, minimising intervention.
- Low energy luminaires reduce ongoing costs.
- Short lead times.
- Presence and daylight sensors reduce energy use.

Capability



- Made in Britain.
- Significant sector experience.
- Site surveys to suggest ways installed lighting can be upgraded to LED.
- Project management team.

1 QUADRANT

IK 14 Vandal resistant bulkhead fitting for wall or ceiling mounting. Zinc coated steel body with opal polycarbonate diffuser held against the gasket by tamper proof screws.

IP 54



2 TUSCAN ANGLED

IK 16 Linear luminaire designed to resist extreme physical attack which is suitable for wall and cornice mounting.

IP 65



3 DUOMO

IK 15 Robust circular bulkhead suitable for wall or ceiling mounting.

IP 65



4 LINILUX

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

IP 54



5 PARKALUX ANGLED

IK 14 Hard wearing angled vandal resistant linear fitting, suitable for wall and cornice mounting.

IP 54



SHOWERS

In showers and en-suite areas high ingress protection is required due to water presence. Vandal resistance is also needed as less supervision occurs in these areas.

Lighting should be sufficient to aid safe access and promote feelings of cleanliness whilst also enabling easy cleaning.

Moisture is likely to be ever-present, so luminaires with high IP ratings are a must. In addition, the lighting should help highlight any potential slip hazards.

To prevent heavy shadowing, each cubicle should have a proportion of direct light. If not a individual luminaire per cubicle will be required.

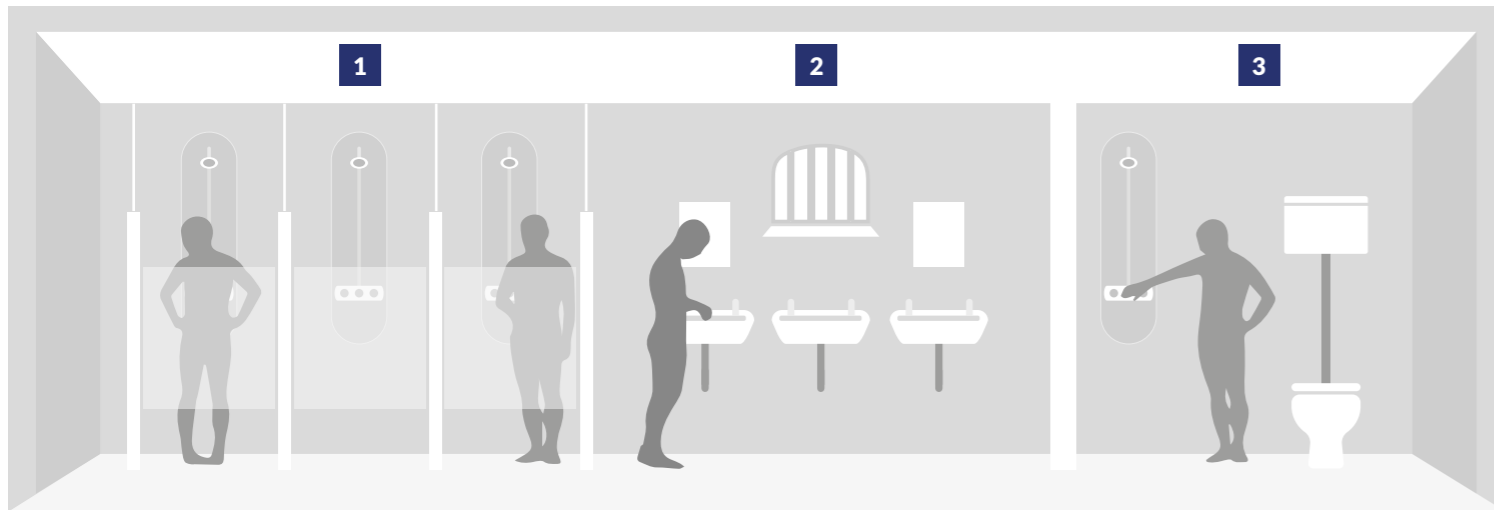
Luminaires that are particularly robust, easy to clean and with long service lives will help minimise any down time for maintenance.

Technical support

Shower lighting must adhere to IEE Wiring Regulations, BS 7671: 2018, section 701. This standard identifies 'zones' that are deemed to be at risk from water ingress and indicates what type of electrical appliance can be installed.

Luminaires above a shower must be at least IPX4. However, we recommend a light fitting to be IP65 or IP66 rated.

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



EDUCATION

With a limited amount of time spent outside, natural light inside helps support human health and aids visual stimulation. The trend is for education blocks, especially in newly built custodial facilities, to be bright and utilise natural light in conjunction with the benefits of lighting control.

Good quality lighting results in increased performance, concentration and wellbeing. All things that are crucial for learning wherever the educational setting. This is especially important where the rehabilitation of the prisoner is the primary objective.

Luminaires installed in custodial education blocks should include daylight sensors to control the level of artificial light. These light fittings can then remain unlit when natural light levels are adequate, also helping reduce energy and running costs.

LED lighting is ideal as it eliminates the risk of distracting bad-lighting factors such as poor illumination, glare, flicker and colour imbalance. LED lights do not flicker or buzz when close to the end of their operational life, and they remain brighter for longer.

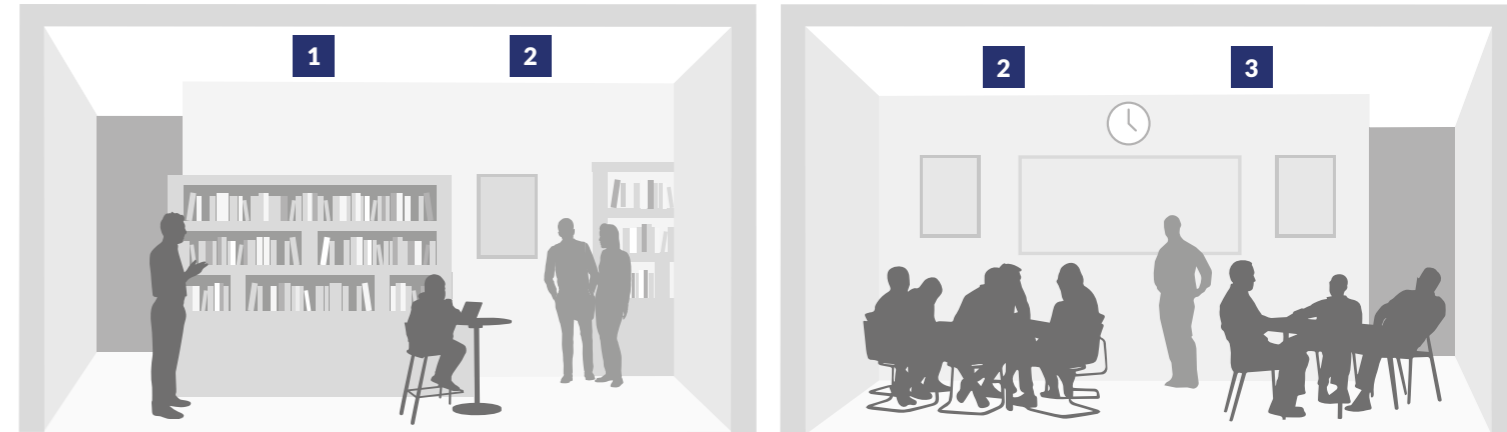
Robust luminaires are required in applications such as libraries and class rooms to provide a safe yet non-institutional feel to development areas.

Technical support

Section 19 of the Estates Directorate technical standard STD/E/SPEC/018 sets out a range of standards custodial luminaires must comply with.

Prison education blocks are flexible spaces so we recommend 500 lux at desk height as recommended by CIBSE LG5 and BS EN12464-1:2011. Vertical illuminance should also be considered.

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



1 ABRAMS

IK 16 Robust vandal resistant fitting for non-cell prison applications and suitable for wall or ceiling mounting.



2 BASILICA

IK 20 Contemporary and robust bulkhead with an efficacy of 115 luminaire lm/W and no ligature points to help prevent self harming.



3 DL86 SC

IK 20 Anti-ligature, vandal resistant downlight for use in 'safer cell' environments. A translucent GRP diffuser maintains product strength and is able to withstand an impact of 250 joules of energy (IK20).



1 CURVE VR

IK 14 Robust fitting for surface ceiling mounting. Opal polycarbonate diffuser held by end caps and secured to body against gasket by tamper proof screws.



2 QUADRATUM

IK 14 Recessed or surface mounted sealed luminaire suitable for use in tough environments. Provides excellent light distribution and integrates within various ceiling types.



3 LINILUX

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



VIDEO CONFERENCING

One of the key ambitions of Her Majesty's Prison and Probation Service (HMPPS) is to improve functionality in the custodial estate and make better use of technology.

The introduction of Video Conferencing Centres (VCCs) have introduced a significant expansion of video capability. VCCs aim to provide a standardised, consistent and high quality user experience to prisoners, operational staff and the external caller.

VCCs require lighting of high quality, particularly to meet specified light levels. Lighting that controls glare, but also adequately lights vertical surfaces including the faces of the user, is especially important.

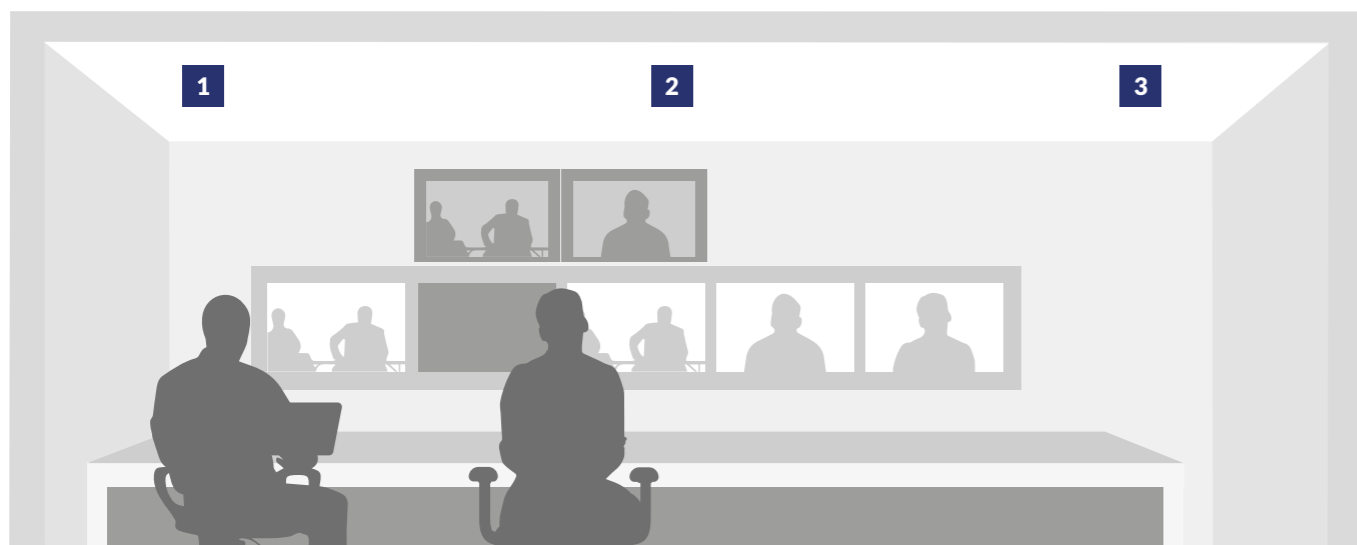
Lighting uniformity is a key consideration and should not be less than 0.7 between the minimum and average standard maintained values at the working plane.

Quiet operation of LED luminaires will ensure there is no "buzzing" or noise disturbance. Lighting should be vandal resistant, as with other custodial applications, and require little in the way of maintenance.

Technical support

The internal lighting levels for VCCs need to be designed to the CIBSE Code for Lighting Guide 5 (LG5), Guide 7 & 9 (LG7 & LG9), British and MoJ standards as laid out in HMPPS's VCC design guide. This document specifies LED luminaires as the preferred light engines.

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



ANCILLARY AREAS

Lighting in ancillary areas is designed to facilitate quick and accurate work safely, by creating a good visual environment.

Ancillary areas in custodial settings include plant rooms, workshops, visitor spaces, healthcare and canteens.

Where prisoners are present the luminaires are still required to have high vandal resistance and ingress protection. Whilst also illuminating the space to the level suitable for the task being undertaken.

In indoor recreational areas, such as sports halls, a luminaire that can withstand a high level of impact is required. Although not for the same reasons as other custodial areas. For example, the lighting could be a target for footballs.

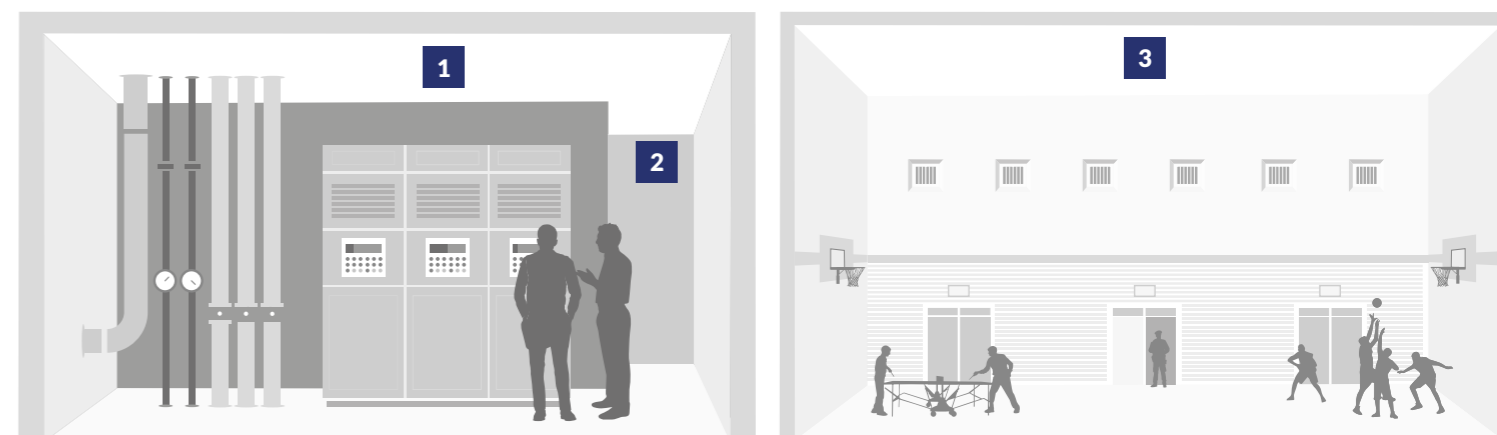
Ancillary area lighting should require very little maintenance, due to access issues. For example, the lighting solution specified for indoor recreational areas will often include high bay luminaires installed several metres off the ground.

Technical support

Specific lux levels in ancillary areas will be task / application dependant. It is important to remember to balance lux levels and light quality, whilst ensuring a space is not over illuminated which wastes energy.

Further energy savings can be made by employing lighting controls. Automated occupancy controls are especially valuable in areas that are not continuously occupied.

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



1 QUADRATUM

IK 14 Recessed or surface mounted sealed luminaire suitable for use in tough environments. Provides excellent light distribution and integrates within various ceiling types.
IP 65



2 DUOMO

IK 15 Robust circular bulkhead suitable for wall or ceiling mounting.
IP 65



3 FLAIR

IK 16 Robust vandal resistant linear fitting suitable for ceiling or optional recessed mounting.
IP 65



1 PARKALUX

IK 14 Versatile vandal resistant linear fitting suitable for ceiling and semi-recessed mounting.
IP 54



2 DUOMO

IK 15 Robust circular bulkhead suitable for wall or ceiling mounting.
IP 65



3 HERO By Fagerhult

IK 10 Robust high bay luminaire. Various lumen packages available with glare-free illumination even from high heights.
IP 65



EMERGENCY LIGHTING

The design of emergency lighting is very important in custodial applications. Consider the paradox for a moment, specifically the need to provide a means of escape in a building that is based entirely on keeping people inside it.

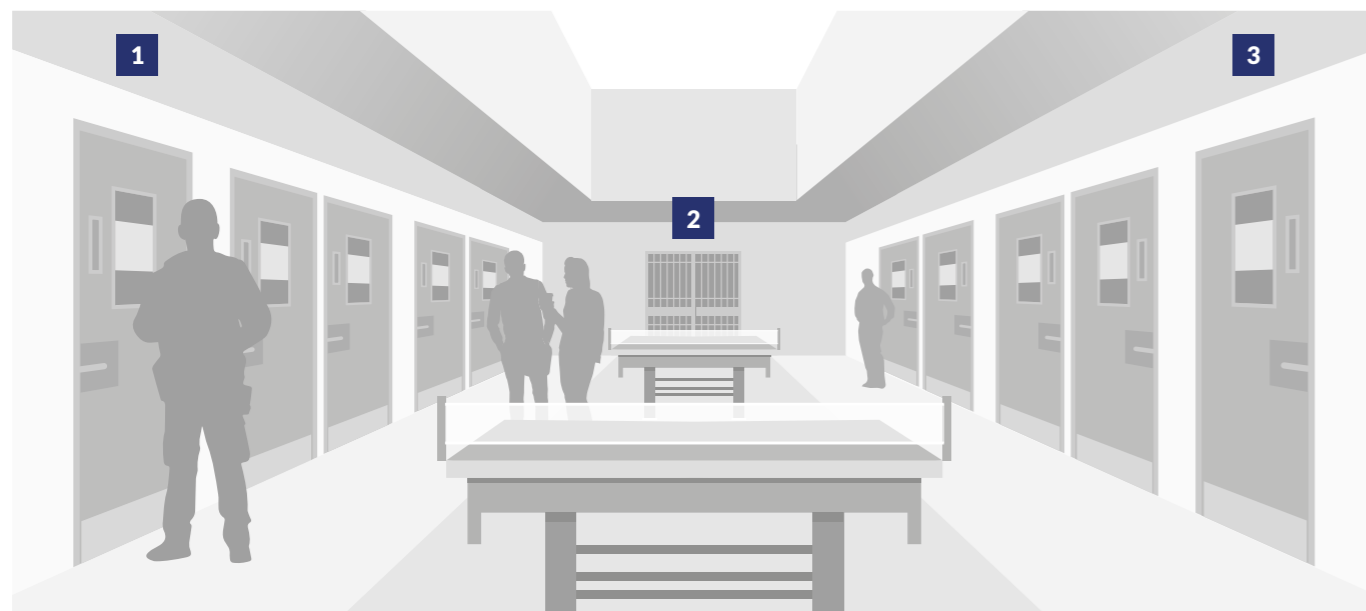
Typically emergency lighting standards assume one of two scenarios: stay or go. Staying put is understandably the preferred option. Yet emergency lighting requirements differ depending on the type of custodial facility.

In prison association areas, back of house, education, workshops and indoor recreation areas emergency lighting is a requirement. However, the lux levels vary and are listed in the MoJ Technical Standards.

Emergency lighting is required in, for example, holding cells in magistrates courts and police custody suites. However, in a typical prison cell there is no emergency lighting. This is on the basis that, provided there is no risk to life, the safest place to hold a prisoner is behind a locked door.

Luminaires specified in custodial emergency applications have to work with a number of different power sources. This includes uninterrupted power supplies (UPS), central battery and integral 3 hour emergency - or a combination of the three.

In addition, emergency lighting for custodial applications must have increased levels of vandal resistance and ingress protection.



Technical support

Lighting design

Many general custodial areas can be lit to BS5266-1:2016. However, the MoJ and Home Office have a very stringent set of Technical Standards which require enhanced emergency lighting levels. This includes custodial cells, high risk areas, secured doors or gatelines and defined escape routes.

This means that higher levels of illuminance are needed in certain applications, combined with specific light distribution requirements, to achieve the correct lux level at various defined task heights. For example, for over-door emergency luminaires, the MoJ and Home Office require a minimum of 15 lux at all secure door and gate positions on escape / evacuation routes where operational personnel need to handle keys / locks. To achieve these light levels, a luminaire will have to be specifically designed, like our Gateline product, rather than adapting a standard fitting.

Consideration must also be given when changing light sources from fluorescent to LED. This is because the light distribution from the original light source can be vastly different in the new LED luminaire or replacement LED gear tray. Therefore, by upgrading to LED in a drive to save energy, the light levels of the new or amended luminaire must also be considered to ensure emergency lighting levels remain compliant.



Testing and maintenance

In a custodial environment the maintenance and means of testing an emergency lighting system, whether manual or automatic, needs to be clearly defined.

BS5266-1 outlines the requirements for a monthly function test and an annual duration test. The responsible person must ensure regular testing and record the results. Any action required for any device failure needs to be noted together with the corrective action taken.

A function test is a quick test of the emergency device by temporarily cutting the power. The luminaire will return to its original operational state immediately afterwards. This test confirms that all device components are working as required.

A duration test is a full power-down of a device, typically for a 3 hour time period, to ensure that the device will be providing an adequate output during this time. The battery should return to full charge within a 24-hour period.

For further lighting advice speak to our technical sales team on 020 8254 2022.

Why choose Designplan?

Cost of ownership



- Robust, long life lighting.
- Competitive initial purchase price.
- Short lead times.
- Comprehensive warranty.
- Extended warranties available on selected emergency battery options.

Compliance



- "Fit for purpose" application experience including luminaires designed for MoJ/ Home Office defined task illuminance.
- Automated or self test emergency lighting test systems designed to ensure BS5266-1 compliance.
- Can ensure lighting upgraded to LED complies with required lux levels.

Construction



- Metal bodies and specially designed diffusers provide vandal resistance.
- High ingress protection.
- Tamper proof fixings.
- Designed to work with a number of different power sources.

Capability



- Made in Britain.
- Significant sector experience.
- Site survey service to suggest ways installed lighting can be upgraded to LED and how to ensure emergency illuminance levels remain compliant.
- Project management team.

EMERGENCY LIGHTING TEST SYSTEMS

Designplan have a range 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, which clearly signal faults either integral to the luminaire or remotely, allow the responsible person to comply with their legal obligations whilst keeping costs to a minimum.

DESIGNMESH

Cloud based wireless control system with remote monitoring for both standard and emergency fittings, providing fault reporting and energy data.



DESIGNPATH

Wired or wireless DALI emergency testing and reporting system



1 GEMINI

IK 14 Robust vandal resistant rectangular bulkhead fitting. Available with exit legends to ISO 7010.
IP 54



2 GATELINE

IK 14 Robust MoJ specific emergency luminaire designed to provide 15 lux at security doors on evacuation routes.
IP 65



3 GEAR TRAYS

We can provide replacement gear trays to update existing fluorescent emergency luminaires to energy saving LED versions.



EXTERNAL LIGHTING

Courtyards and external spaces offer prisoners a space to exercise outdoors, helping reduce violent tendencies and improving mental wellbeing.

However, outdoor spaces pose a unique security challenge to correctional facilities. The perimeter walls have to ensure that prisoners stay inside their designated areas and stop "contraband" coming in. With this in mind, various standards dictate specific lighting levels, see technical support.

External custodial 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. Moreover, for longevity and to minimise costs, the paint finishes of luminaires should be highly resistant to degradation.

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

With regard to visitor car parks, luminaires should provide basic levels of visibility. Ideally, lighting should be positioned over and between parked cars to eliminate potential hiding places.

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.

Technical support

Different standards may be referenced dependant on the precise nature of the approach to the building. These include BS EN 12464-2:2014 for general outdoor areas including car park spaces. The Estates Directorate Technical Standard STD/E/SPEC/018 provides specific guidance for external lighting within a prison's perimeter fencing, which varies dependant on the category of the prison (A-D).

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

LED UPGRADES

Whilst our luminaires are incredibly robust they have also been designed to be upgradable to the latest LED technology, by installing a retrofit LED gear tray, to reduce energy consumption.

The MoJ is the second largest government department in terms of size and estate running costs. This equated to over £500m in 2017/18*. Should custodial luminaires require replacing to more energy efficient versions, upgrading a component part such as the light source will reduce electricity consumption without requiring costly and time consuming building work.

Retrofitting existing fluorescent luminaires is a fantastic opportunity, but should be approached with an element of caution. We are original equipment manufacturers, and experts in this field, please contact us for advice.

LED retrofitting considerations:

- Re-certification of the CE mark (both a legal and MoJ requirement).
- The ingress protection of the modified luminaire.
- Lighting performance, comfort and quality.
- LED compatibility (VOCs).
- The operational life of the retrofit solution.
- The warranty of the modified fitting.
- The Waste Electric and Electronic Equipment (WEEE) directive.

* Source - State of the Estate 2017/18 report. Author: Cabinet Office.

Technical support

Retrofit gear trays must comply with a wide and strict regulatory framework to ensure correct operation and safety. In the November 2019 edition of the MoJ's Electrical Installation Technical Specification (STD/E/SPEC/018), it states that an entire product must be CE certified again, following an LED retrofit upgrade.

We can undertake a site survey to identify which of the existing luminaires can be retrofitted to LED. Our team will also suggest other ways to save energy, lower maintenance costs and ensure that you meet all your regulatory obligations.

To arrange a site survey call 020 8254 2022 or e-mail technicalsales@designplan.co.uk



OUR RANGE OF RETROFIT LED GEAR TRAYS INCLUDE:

MONITOR II RETRO

Installing linear retrofit LED gear trays, like Monitor II Retro, can reduce your energy bills by circa 50%.



TUSCAN D860

All our retrofit gear trays utilise a slip plug design, like the Tuscan D860, to ensure easy adoption of technology upgrades.



QUADRETRO

QuadRetro is an example of our bulkhead service packs, which enable you to upgrade existing fluorescent luminaires to LED.



1 STREET By iGuzzini

IK 09
IP 65 Stylish post top range from iGuzzini, one of our Fagerhult Lighting Group sister companies.



2 ZELOS BOLLARD

IK 16
IP 65 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 SKI SLOPE

IK 16
IP 65 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.



LIGHTING

CONTROLS



SECURITY OF SUPPLY &

THE DESIGNPLAN WARRANTY

Our luminaires have been designed and manufactured in the UK by Designplan Lighting since 1963. Our full product warranty* covers a minimum period of 5 years with no complicated sign up processes or clauses.

Security of supply

We are part of the Fagerhult family which is Europe's second largest lighting group.

We are an agile business focused on local customer needs with the support and benefits of being part of a larger group.

Full product warranty

Our full product warranty covers a period of 5 years*.

As an original equipment manufacturer we are also able to offer extended warranties which are project specific.

Please refer to www.designplan.co.uk/terms-and-conditions for full details of our terms and conditions of sale.



* With the exception of batteries in emergency lighting.

The lighting control specification requirements for the MoJ and Home Office have been evolving over time and we are now seeing more lighting control systems used in custodial applications.

Lighting the space

It is important that we provide the right lighting for custodial applications. As we've identified in this brochure a secure accommodation project is made up of several applications. This includes cells, association spaces, showers, education blocks, video conferencing, ancillary areas, emergency lighting and external locations each with specific needs for prisoners 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 custodial project, defined by the needs of prisoners 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.



PRODUCT TESTING

AND MANUFACTURING



We've been making robust luminaires in the London Borough of Sutton since 1963. Product testing is a vital element in the design of our luminaires. Our fittings start as concept designs, utilising 3D CAD software, and are then fully tested in our in-house laboratory.



Manufacturing cycle

Our production processes utilise advanced robotic and automated machines together with highly skilled operators.

After forming, luminaire bodies flow into our paint plant to apply the finishes which will protect them from the harsh environments they will operate in. The remaining stages of our manufacturing cycle are assembly, testing and despatch.

Our manufacturing workflow uses LEAN methodology to reduce waste in time and materials and help us continually improve our products.



Low carbon footprint

We are accredited to the ISO 9001 Quality Management and ISO 14001 Environmental Management systems.

Our purpose built high quality manufacturing facility (designed by ourselves) has helped us reduce our carbon footprint.

Rain water harvesting, solar panels, material recycling and plastic reduction have resulted in our facility being awarded the BREEAM 'Excellent' accreditation.

PROJECT MANAGEMENT

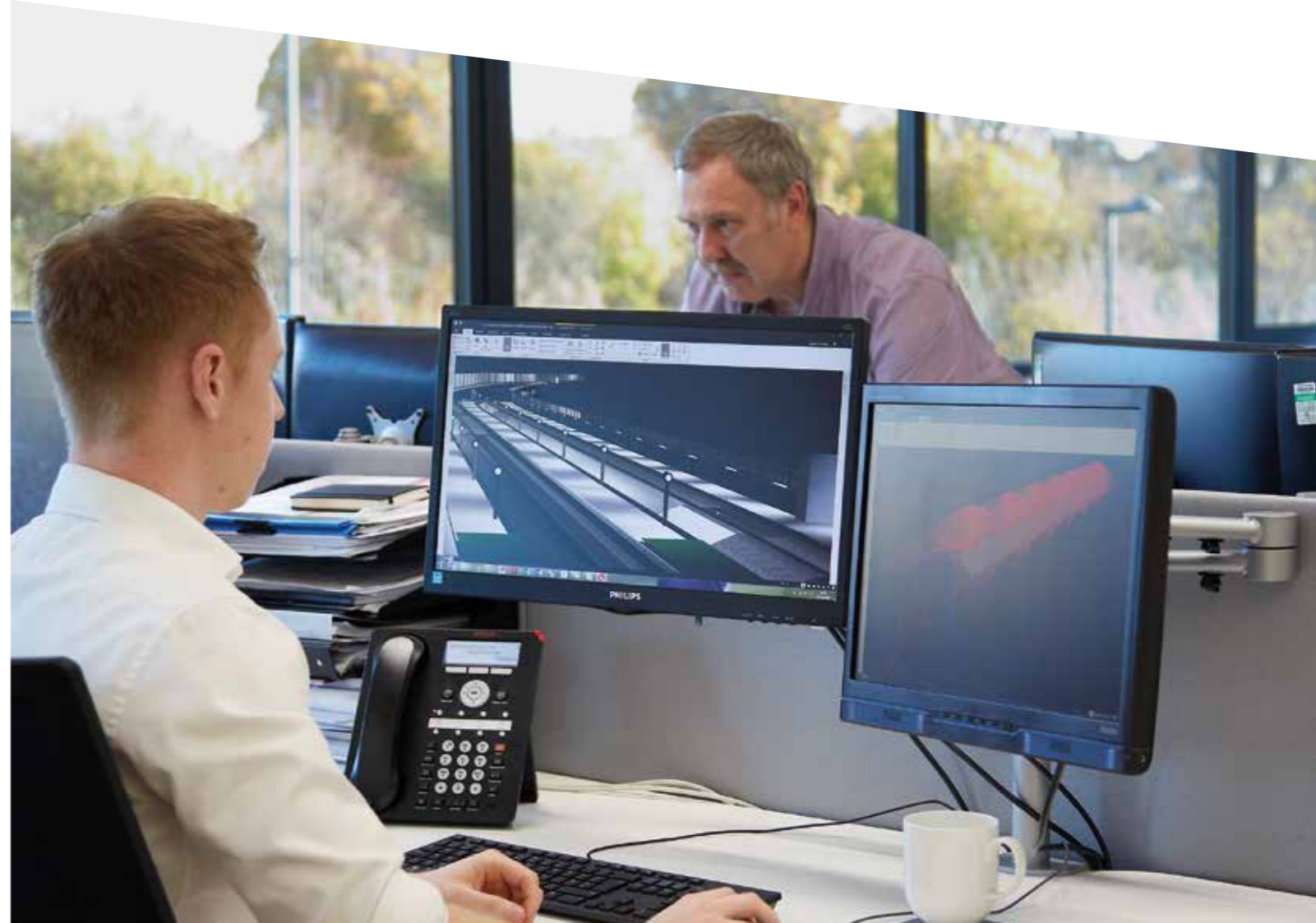
AND LIGHTING DESIGN

Our dedicated in-house project management team will work closely with your project team. Together they will help ensure the schedule is met and the on-site logistics are managed in the most efficient way.

Services include:

- Design and product development assistance.
- Delivery coordination - on time and in full.
- Site visits for update meetings.
- On site installation support.
- Full after sales service.
- Energy management site surveys.
- Best practice recommendations.
- Bespoke solutions.
- Providing lighting designs from industry standard platforms such as Relux or Dialux
- Supplying technical and photometric performance details.
- Providing BIM models.
- General technical advice and support for Designplan products.

To speak to our team or arrange a site survey call 020 8254 2022 or e-mail technicalsales@designplan.co.uk



CUSTODIAL LIGHTING

FROM DESIGNPLAN



Designed to last:

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

designplan
L I G H T I N G

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