Primary education

Lighting application guide

MADE IN THE UK

Thorlux Lighting

Contents

Inspirational lighting for inspirational spaces

Introduction

Thorlux, for over 80 years, has manufactured increasingly sophisticated luminaires in the Birmingham area. Over the last 20 years, the company has focused on high technology products, including the development of its first electronic energy-saving lighting control system in the mid-1990s. Huge investment in design and testing facilities in Worcestershire has now put Thorlux at the forefront of its market sector.

Innovating sustainable lighting solutions for a brighter future.

Check out our social media

Why choose Thorlux?

Made in the UK

Thorlux Lighting, the largest company in the FW Thorpe Plc group, is proud that around 90% of its products are manufactured in the UK.

Safety and security

Thorlux luminaires provide correct illumination levels, ensuring a safe and comfortable environment and increasing security for pupils, staff and visitors.

Building safety and compliance

Under the Regulatory Reform (Fire Safety) Order, failure to provide a compliant emergency lighting system or to regularly test and maintain it can result in prosecution for the employer or building owner. They may face fines or imprisonment if convicted.

Ease of maintenance

SmartScan *(see page 30)* allows the user to view full luminaire status. LED PCBs and modules are replaceable should a failure occur.

Five year warranty

A genuine warranty with genuine value. A long and stable history reassures Thorlux customers that its warranty is meaningful.

Low total cost of ownership

Thorlux luminaires are rapid to install, energy efficient, low maintenance and have a long lifespan resulting in a truly cost effective solution over the lifetime of the installation.

Quality and reliability

Rigorous product testing is essential in maintaining our reputation for reliability and quality. All Thorlux materials, components, subassemblies and finished products are subject to stringent quality control, as demonstrated by the company's BS EN ISO 9001:2015 (Quality management systems) certification.

Energy saving

Thorlux lighting controls combine maintained illuminance, daylight dimming and presence detection to maximise energy savings, in some instances exceeding 70%. SmartScan allows users to monitor their energy performance data and complete operational information for all SmartScan standard and emergency luminaires. This information is displayed on the SmartScan website which can be accessed from anywhere using a computer, laptop, tablet or smartphone.

Environmentally friendly

Thorlux and the FW Thorpe Group Plc have an SBTi-validated target of achieving net-zero emissions by 2040. Thorlux has been carbon neutral since 2012, using woodland in Monmouthshire to offset CO_2 generated from its activities.

Solar photovoltaic units on the roof of the Thorlux manufacturing facility produce 1 million kWh of electricity per annum.

The company has ISO 14001:2015 environmental certification.

Introduction to primary education lighting

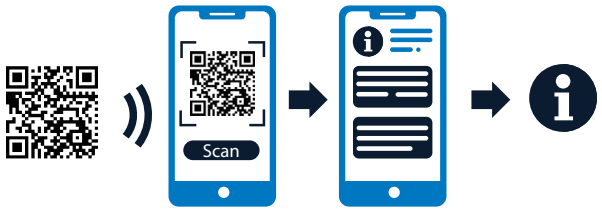
www.thorlux.com/applications/education

Scan here to view the education lighting section on the Thorlux website

Quality of light in primary education establishments can make a difference in pupils' learning experience and motivation. Pupils require an encouraging learning environment, and studies have shown that good lighting aids the subconscious processes that energise learning. Modern learning spaces must cater flexibly to different activities and teaching methods. The correct lighting level for the varying teaching requirements can be achieved by using lighting controls, achieving energy saving through occupant detection and dimming in the presence of daylight.

What is a QR code?

Look out for QR codes throughout this brochure. These enable the reader to instantly access the Thorlux Lighting website to gain any addition information.



Daylight

Daylight plays a large part in our mood, health and well-being, which may impact our learning ability. New school designs recognise this and bring as much daylight as possible into learning spaces. Lighting controls can save energy by dimming artificial lights in response to sunlight.

The Thorlux SmartScan ColourActive control system uses the principles of circadian rhythms to change artificial lighting throughout the day, providing a varied spectrum of colour and brightness to replicate the daylight's natural cycle. Circadian-optimised lighting may positively affect pupil performance, behaviour, physical health and well-being. ColourActive lighting imitates natural lighting conditions inside the classroom, which may help regulate daily rhythms for pupils and staff, improving alertness during tests and tasks that require concentration.

CREATE STIMULATING
environments for learning


Warragul
Primary School
OFFICE

LIGHTING RECOMMENDATIONS

Reception areas

Reception areas should provide a smooth transition from the external to the internal environment. Accordingly, reception lighting levels must allow the eye to adapt. Feature lighting may be required to illuminate displays or logos without causing glare in display screens, as well as high-quality general lighting with good vertical illumination on the faces of both the visitor and the receptionist.

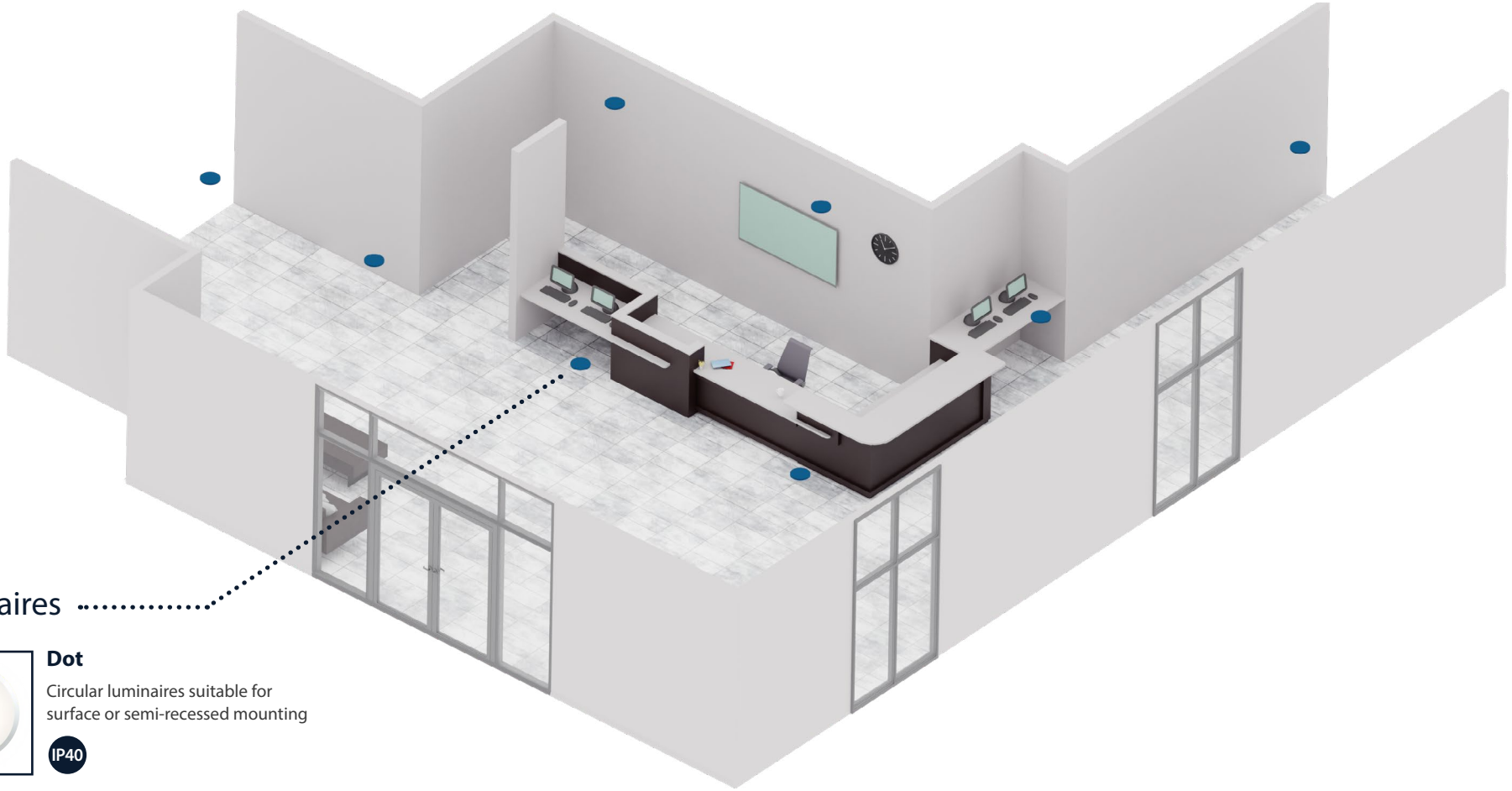
Please see CIBSE: SLL Lighting Guide 5 - Lighting for Education (2011) for recommended lux levels.

For emergency lighting guidance please see page 36

Thorlux recommends

Product thumbnails are interactive.

Scan here to view all available products.



Luminaires

Dot

Circular luminaires suitable for surface or semi-recessed mounting

IP40

G3

Circular LED recessed downlighter

IP20 ABOVE CEILING IP40 BELOW CEILING

IP65 BELOW CEILING *(IP65 version only)*

Flexbar Diffuser

Slimline, linear luminaires

IP20

Ovix

Circular surface luminaires with excellent lateral distribution

IP40 IK09

Flexview

Recessed picture luminaire with dual light engine

IP20

LIGHTING RECOMMENDATIONS

Teaching rooms

Modern classrooms host a variety of activities, from reading and writing to playing and art. A flexible solution using a lighting management system will provide uniform brightness and ensure appropriate illumination for every teaching requirement; it will also save energy through occupant detection and daylight dimming.

In addition to general lighting, luminaires may be configured to provide wall and ceiling illumination to highlight features, artwork and displays. Whiteboards and smartboards are now more common than chalkboards in classrooms; these tend to have a high level of surface reflectance, and the positioning of luminaires must avoid causing reflected glare.

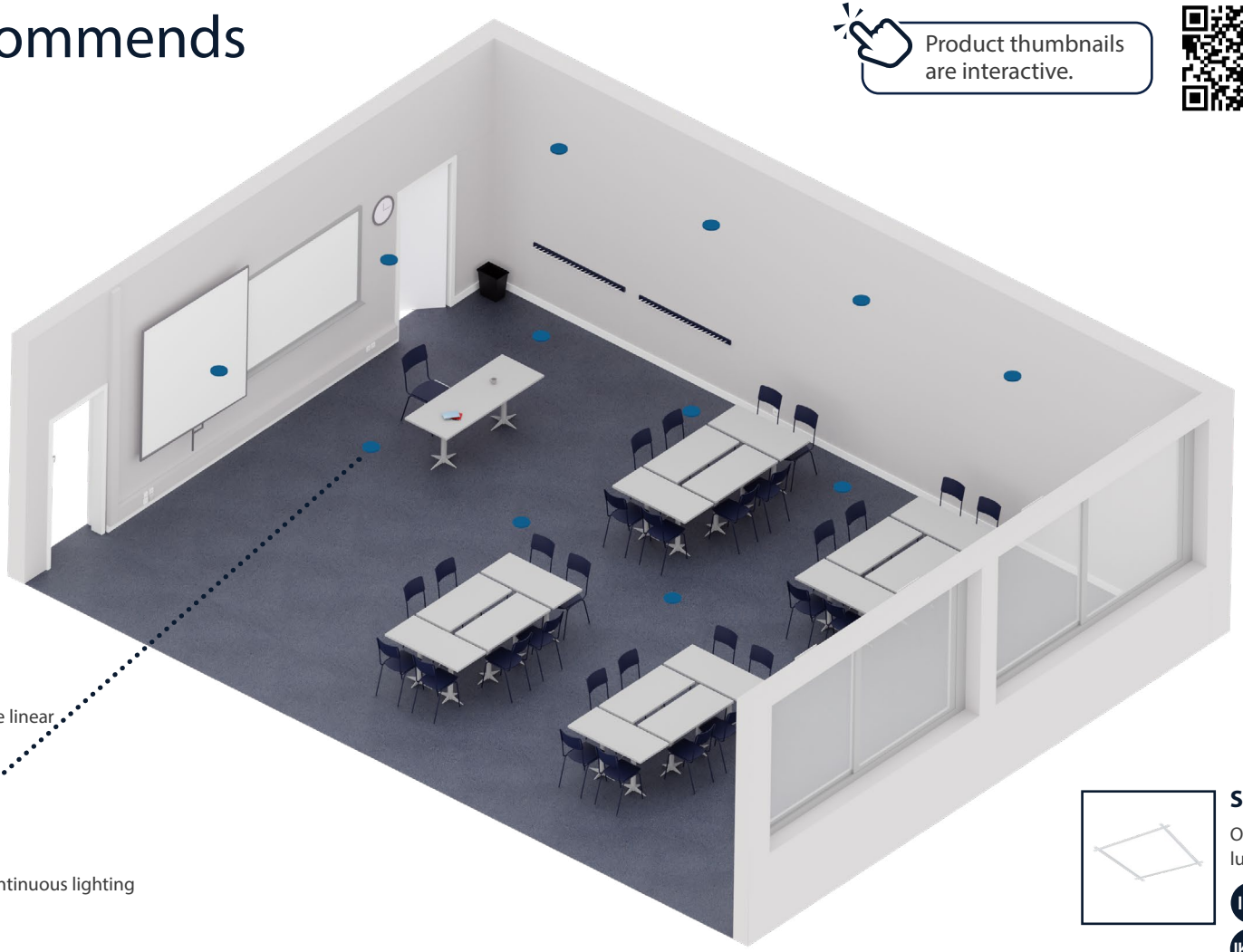
Please see CIBSE: SLL Lighting Guide 5 - Lighting For Education (2011) for recommended lux levels.

For emergency lighting guidance please see page 36

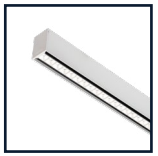
Thorlux recommends

Product thumbnails are interactive.

Scan here to view all available products.



Luminaires



Flexbar

Slimline, low glare linear luminaires

IP20

Kanby Zip

LED controller continuous lighting system

IP40

Hi-Style

High performance recessed luminaires

IP20 ABOVE CEILING IP44 BELOW CEILING

Kanby Evo

Narrow body LED controller luminaires

IP40

SkyDome

Domed polycarbonate diffuser luminaires

IP20 ABOVE CEILING IK09

IP40 BELOW CEILING

SkyGlo

Opal polycarbonate diffuser luminaires

IP20 ABOVE CEILING IP54 BELOW CEILING

IK09

SkyPro

Low glare polycarbonate diffuser luminaires

IP20 ABOVE CEILING IP54 BELOW CEILING

IK09

LIGHTING RECOMMENDATIONS

SEND rooms

The lighting of SEND rooms must consider the requirements of children with functional needs and differing ability levels. For example, visually impaired children need lighting levels that enhance their sight. Children who are hard of hearing need clear visibility for lipreading and signing, as well as for orientation, wayfinding and reading signage. Safety is crucial, as poor visibility and surface contrast may contribute to accidents.

Designs should avoid glare, silhouetting, reflections, shadows and any other interference that causes visual confusion. There will be times when teachers may want to change the mood of a space to create a more calming or stimulating environment, which will require lighting controls.

Please see CIBSE: SLL Lighting Guide 5 - Lighting For Education (2011) for recommended lux levels.

Lighting SEND classrooms and spaces is often challenging, and communication with the school, staff, and pupils is often needed to ensure the right conditions are met.

For emergency lighting guidance please see page 36

Thorlux recommends

Product thumbnails are interactive.

Scan here to view all available products.

Luminaires

Ovix

Circular surface mounted luminaires with excellent lateral distribution

IP40 IK09

Thorlux Cloud

Cloud effect suspended feature luminaires

IP40

Kanby Evo

Narrow body LED controller luminaires

IP40

Kanby Zip

LED controller continuous lighting system

IP40

SkyPro

Low glare polycarbonate diffuser luminaires

IP20 ABOVE CEILING IP54 BELOW CEILING

IK09

SkyDome

Domed polycarbonate diffuser luminaires

IP20 ABOVE CEILING IP40 BELOW CEILING

IK09

LIGHTING RECOMMENDATIONS

Multi-purpose halls

Halls in primary schools are multi-functional spaces used for sports, daily assemblies, concerts and presentations; for this reason, lighting needs are less demanding than those of a dedicated sports hall. The general lighting's function is to provide uniform illuminance with acceptable colour rendering, free from glare. Using a lighting management system enables tailored scene settings, which are adjustable to suit the specific requirements of each space usage.

It is necessary to consider the durability of luminaires for sports halls as impacts from items such as balls are likely. Compliance is recommended with the ball test in DIN 57710 part 13.

Please see CIBSE: SLL Lighting Guide 5 - Lighting For Education (2011) for recommended lux levels.

For emergency lighting guidance please see page 36

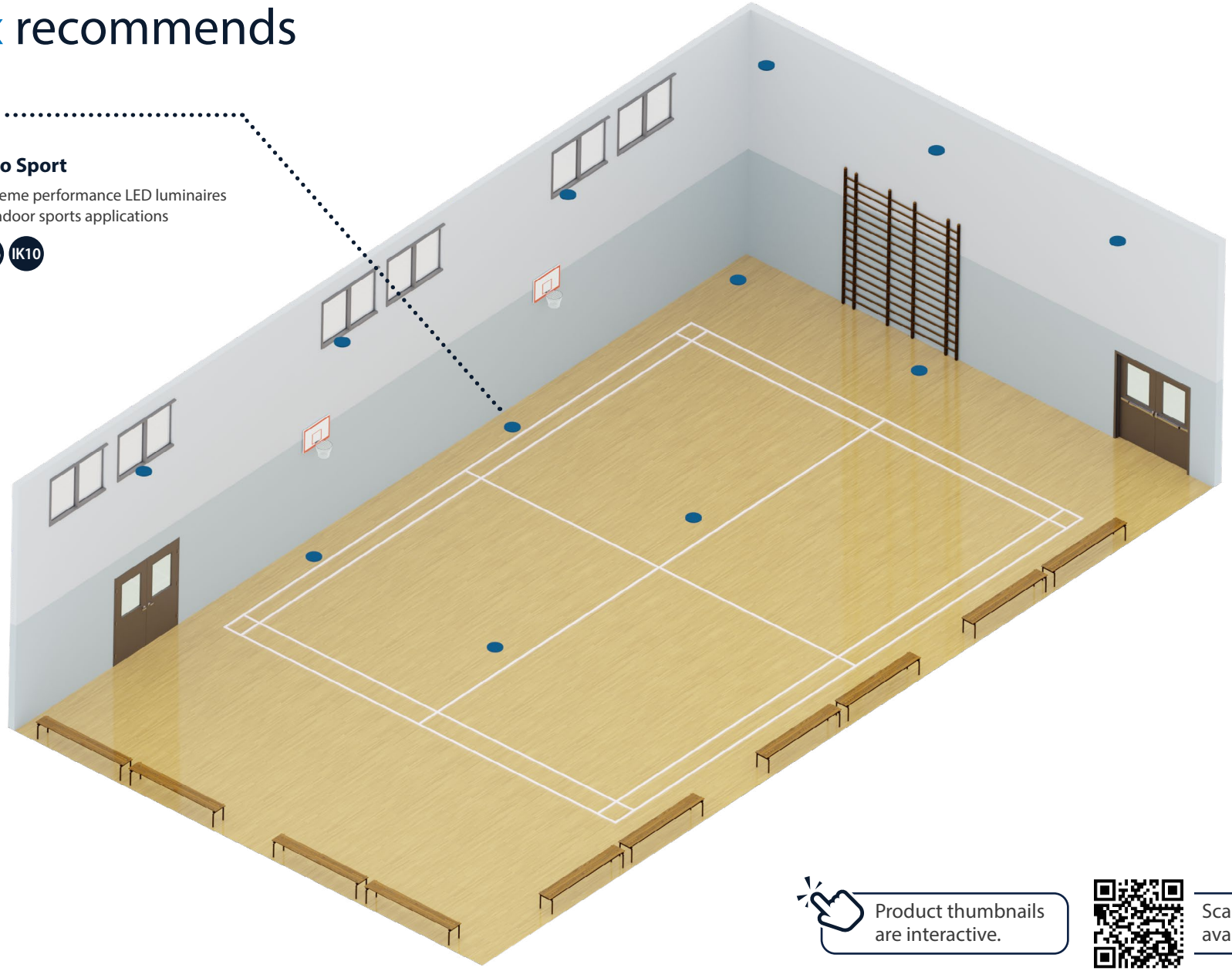
Thorlux recommends

Luminaires

Visio Sport

Supreme performance LED luminaires for indoor sports applications

IP66 IK10



Product thumbnails are interactive.

Scan here to view all available products.

LIGHTING RECOMMENDATIONS

Libraries

When lighting for libraries, the designer must consider two main tasks: finding the correct book and studying.

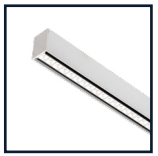
Physically finding a book requires a vertical illuminance of 200 lux on the spine; remember that books may be shelved anywhere between floor level and head height. Many libraries have a reading and study area, often equipped with computers, so care must be taken to minimise glare.

Please see CIBSE: SLL Lighting Guide 5 - Lighting For Education (2011) for recommended lux levels.

For emergency lighting guidance please see page 36

Thorlux recommends

Luminaires



Flexbar

Slimline, low glare linear luminaires

IP20

Flexline

Extremely narrow profile linear luminaires

IP20

Flexview

Recessed picture luminaire with dual light engine

IP20

Kanby Evo

Narrow body LED controller luminaires

IP40

Lightline

Individual or continuous suspended direct/indirect LED

IP20

SkyDome

Domed polycarbonate diffuser luminaires

IP20 ABOVE CEILING | IP40 BELOW CEILING | IK09

SkyPro

Low glare polycarbonate diffuser luminaires

IP20 ABOVE CEILING | IP54 BELOW CEILING | IK09

Product thumbnails are interactive.

Scan here to view all available products.

LIGHTING RECOMMENDATIONS

Dining areas and kitchens

Lighting in dining areas should be inviting and comfortable but provide the required illuminance for high activity levels. One must also consider if the space is to be multi-use and select appropriately flexible luminaires.

The luminaires in the kitchen area should be IP-rated and easy to clean, in keeping with expected hygiene standards. Luminaires positioned above ovens must be suitable for high ambient temperatures and sealed to cope with steam and condensation.

Please see CIBSE: SLL Lighting Guide 5 - Lighting For Education (2011) for recommended lux levels.

For emergency lighting guidance please see page 36

Thorlux recommends

Product thumbnails are interactive.

Scan here to view all available products.

Luminaires

Flexbar Diffuser

Slimline, linear luminaires

IP20

Flexline

Extremely narrow profile linear luminaires

IP20

Flexview

Recessed picture luminaire with dual light engine

IP20

Kanby Evo

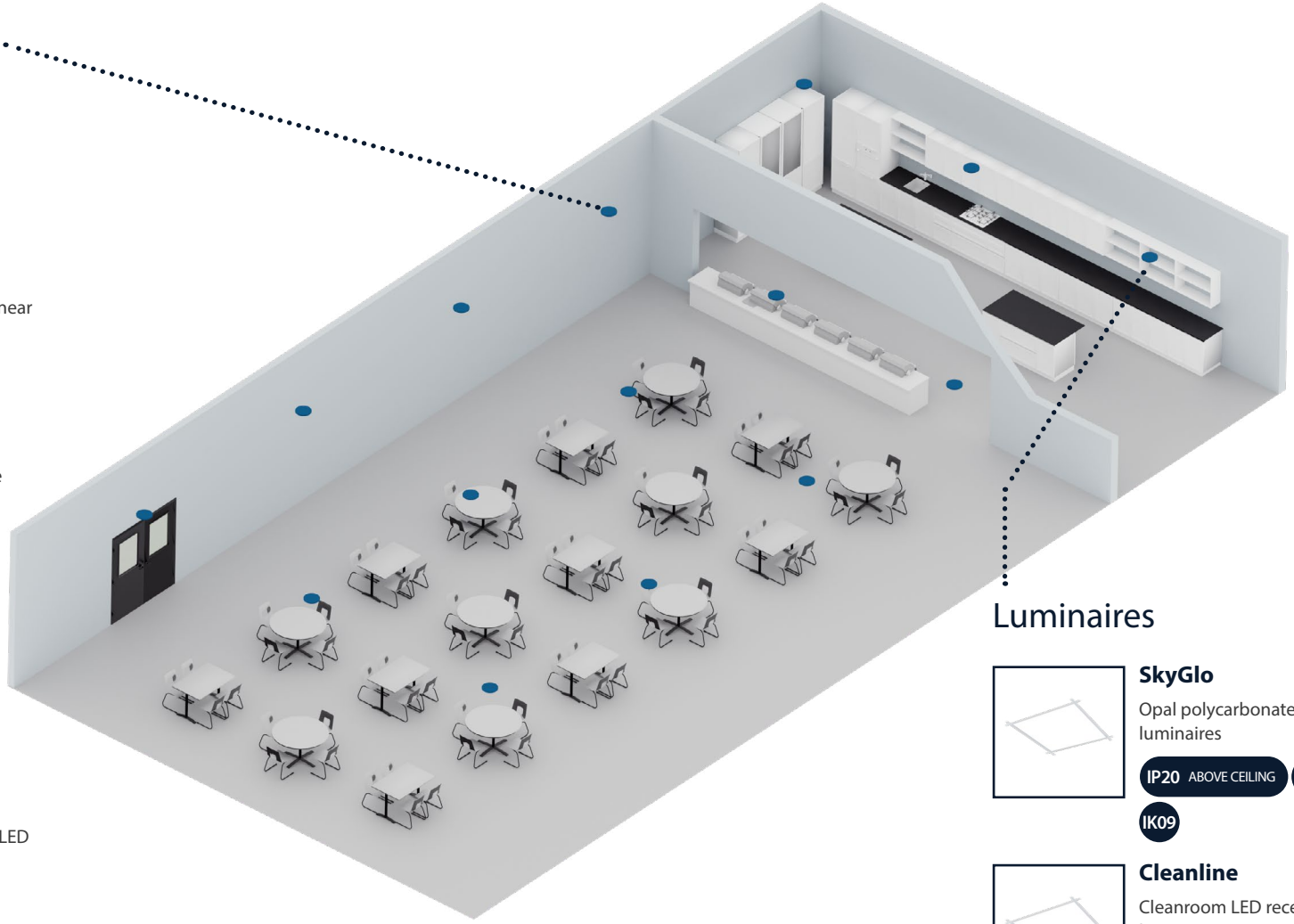
Narrow body LED controller luminaires

IP40

Lightline

Individual or continuous suspended direct/indirect LED

IP20



Luminaires

SkyGlo

Opal polycarbonate diffuser luminaires

IP20 ABOVE CEILING IP54 BELOW CEILING

IK09

Cleanline

Cleanroom LED recessed luminaires

IP20 ABOVE CEILING IP65 BELOW CEILING

IK10

LIGHTING RECOMMENDATIONS

Corridors/ circulation areas

Corridors and circulation areas must be functional to help pupils, staff, and visitors find their way efficiently and safely, even if unfamiliar with the building. In addition to general lighting, luminaires may have to provide wall illumination, highlighting signage, artwork and displays.

Stairs need to be well-lit to avoid accidents. It is vital to provide lighting which ensures that staircase treads and risers are well-defined.

Please see CIBSE: SLL Lighting Guide 5 - Lighting For Education (2011) for recommended lux levels.

For emergency lighting guidance please see page 36

Thorlux recommends

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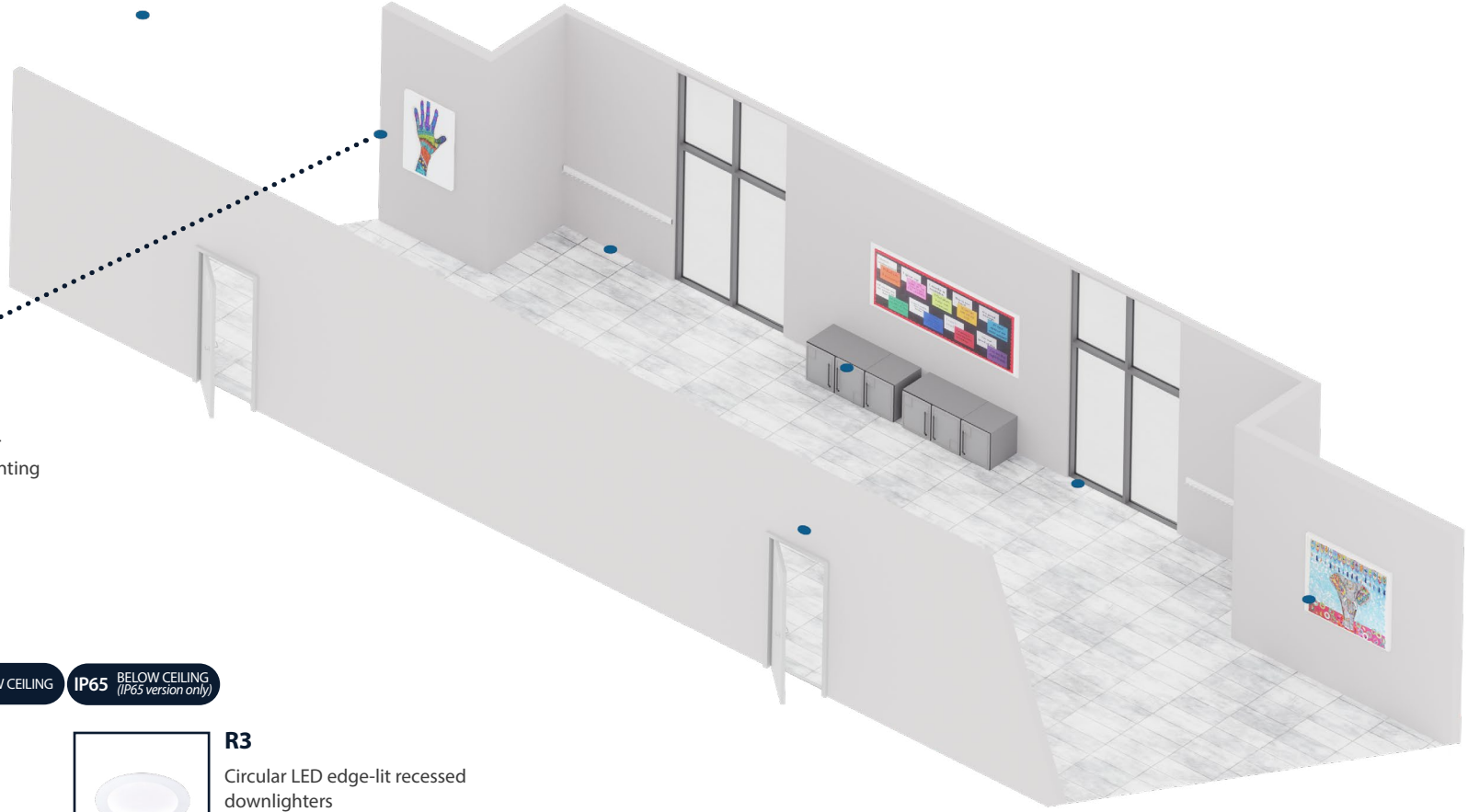


Luminaires

Dot

Circular luminaires suitable for surface or semi-recessed mounting

IP40

G3

Circular LED recessed downlighter

IP20 ABOVE CEILING | IP40 BELOW CEILING | IP65 BELOW CEILING *(IP65 version only)*

Kanby Evo

Narrow body LED controller luminaires

IP40

R3

Circular LED edge-lit recessed downlighters

IP40 ABOVE CEILING | IP54 BELOW CEILING | IP42 BELOW CEILING *(Low Glare and Smart versions)*

Ovix

Circular surface luminaires with excellent lateral distribution

IP40 IK09

SkyDome

Domed polycarbonate diffuser luminaires

IP20 ABOVE CEILING | IP40 BELOW CEILING | IK09

SkyGlo

Opal polycarbonate diffuser luminaires

IP20 ABOVE CEILING | IP54 BELOW CEILING | IK09

LIGHTING RECOMMENDATIONS

Toilets

Lighting design in toilet areas should provide bright, glare-free illumination for the entire room, including within cubicles. Additionally, a separately controlled luminaire should provide diffuse lighting over the mirror. This luminaire would typically be above the washbasin.

Depending on their positioning in the room, IP-rated luminaires may be required.

Please see CIBSE: SLL Lighting Guide 5 - Lighting For Education (2011) for recommended lux levels.

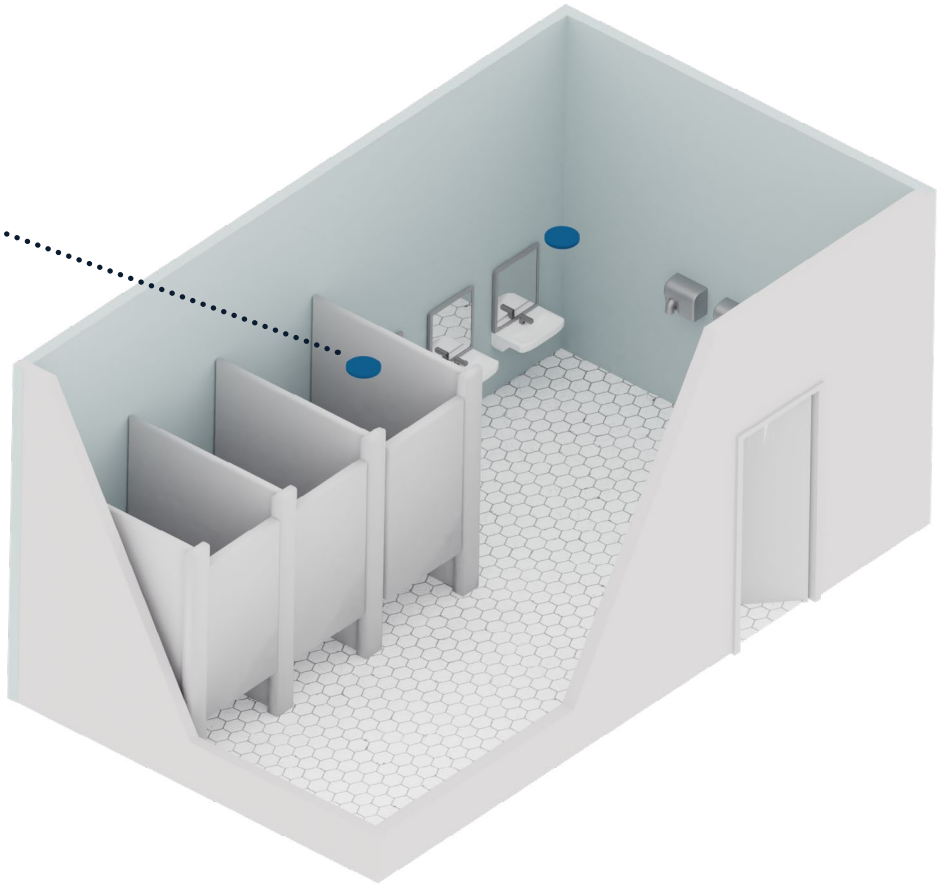
For emergency lighting guidance please see page 36

Thorlux recommends

Product thumbnails are interactive.

Scan here to view all available products.

Luminaires



Dot

Circular luminaires suitable for surface or semi-recessed mounting

IP40

G3

Circular LED recessed downlighter

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Kanby Evo

Narrow body LED controller luminaires

IP40

Ovix

Circular surface luminaires with excellent lateral distribution

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Circular LED edge-lit recessed downlighters

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SkyDome

Domed polycarbonate diffuser luminaires

IP20 ABOVE CEILING | IP40 BELOW CEILING | IK09

SkyGlo

Opal polycarbonate diffuser luminaires

IP20 ABOVE CEILING | IP54 BELOW CEILING | IK09

LIGHTING RECOMMENDATIONS

Exterior

When designing exterior lighting for primary schools, the first consideration is to create a feeling of safety and security for pupils and staff. Additionally, lighting should visually enhance entrances, access routes, or equipment wherever possible. These luminaires can be activated by photocells or a lighting control system.

Illumination of external car parks must ensure safe movement for vehicles like staff cars and school buses and provide essential school security. Achieving these needs in all conditions will require suitably weatherproof luminaires, often mounted on columns.

Please see CIBSE: SLL Lighting Guide 5 - Lighting For Education (2011) for recommended lux levels.

For emergency lighting guidance please see page 36

Thorlux recommends

Luminaires

Acorn

Highly sustainable exterior floodlight

IP66 IK07

Juno B

High performance LED pole top luminaires

IP66 IK10

Prismalette 360

Vandal-resistant circular luminaires

IP66 IK10++

Realta

High performance luminaires designed to minimise light pollution and energy consumption

IP66 IK10++ / IK10 / IK06

Starbeam

LED floodlights and street lights

IP66 IK10

Starflood

High performance mini LED floodlights

IP66 IK10

Product thumbnails are interactive.

Scan here to view all available products.

Lighting management systems

Thorlux offers a comprehensive range of lighting management systems from basic presence detection, through to full wireless control and monitoring systems.

SMARTSCAN

SMARTSCAN INTERNAL

Integrated intelligent lighting management maximising energy savings for internal applications through movement detection and daylight sensing with convenient user control.

SMARTSCAN EXTERNAL

Integrated intelligent lighting management maximising energy savings for external applications through movement detection and daylight switching with timed override via the SmartScan Website.

SMARTSCAN RADAR

High frequency sensor technology built onto the LED light engine for applications where the luminaire aesthetics and impact rating are important factors. Maximising energy saving through presence detection, photocell control and user control timed override via the SmartScan Website.

SMARTSCAN EMERGENCY

Self-testing emergency luminaires with centralised, web-based testing and reporting options to ensure compliance with local standards.

SMARTSCAN

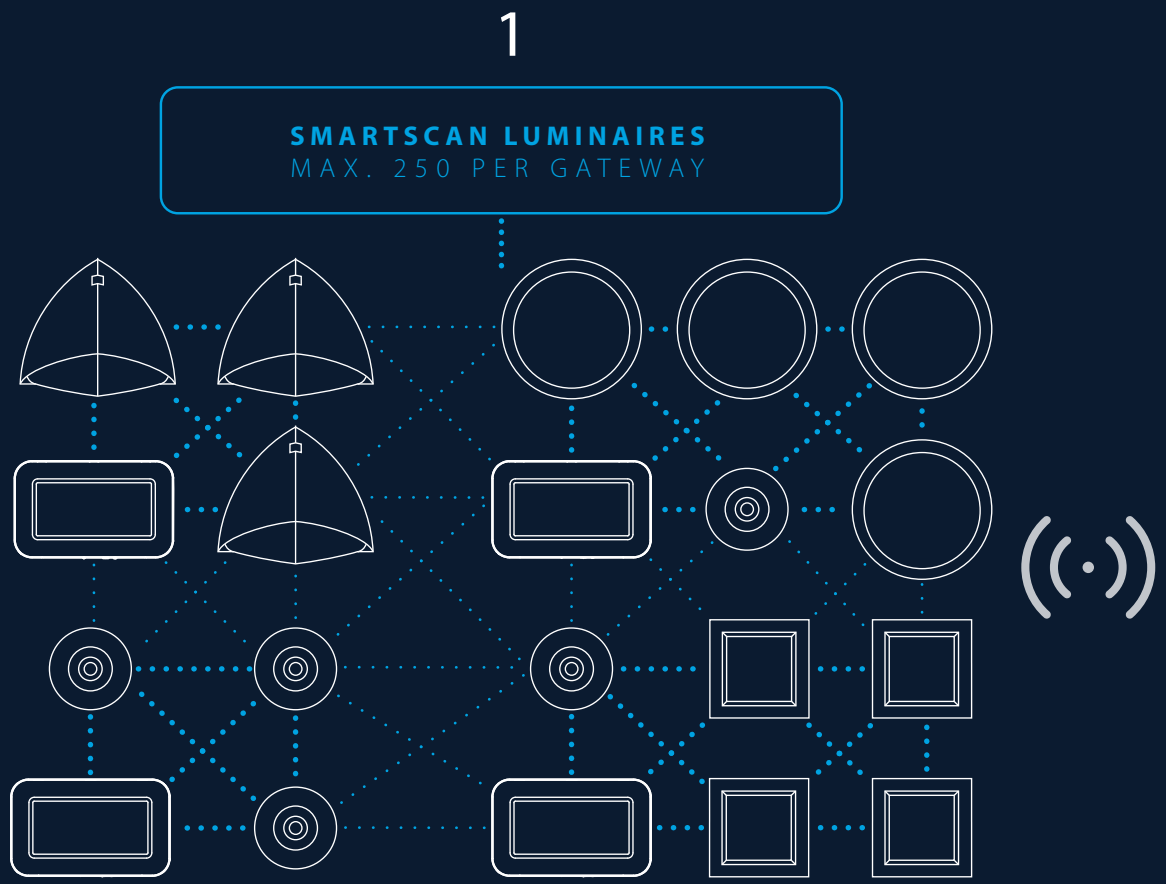
Lighting management systems

Lighting energy consumption within data hall areas can be significant. The SmartScan lighting management system makes the most of maintained illuminance, daylight dimming and presence detection to ensure optimum energy savings, often measured in real applications to exceed 70%. SmartScan also monitors the performance of all luminaires so any fault can be reported promptly to the maintenance teams.

1. Compatible SmartScan Internal, SmartScan Radar, SmartScan External and SmartScan Emergency luminaires wirelessly communicate with each other.

2. The Gateway transmits energy performance and status reports for standard and emergency luminaires to the SmartScan web server.

3. Users can view status and operational information on any Internet enabled device.



2

SMARTSCAN GATEWAY

SMARTSCAN WEB SERVERS

3

YOUR DEVICE

Scan here to view lighting management systems.

SmartScan Features

Occupancy profiling

Thorlux SmartScan can now provide occupancy profiling information. The SmartScan sensor incorporated into the luminaire collects data, allowing managers to monitor room occupancy even when the light is off.

Air quality control

The SmartScan air quality sensor monitors three key parameters: temperature, CO_2 and relative humidity. Coloured LED indicators provide live status information for each parameter, enabling users to take remedial action if necessary.

Air quality data from linked sensors is gathered daily by the SmartScan Gateway and included in its status upload to the SmartScan website. Authorised users can then view the air quality profiles as an annual, monthly, weekly or daily report. This data is available for groups and individual luminaires.

Full luminaire status monitoring

The password-protected SmartScan website displays all gathered information, accessible from any web-connected device. The graphical user interface provides an overview of your entire site, down to the performance and status of an individual luminaire.

Off-site storage

Any user with a valid username and password can remotely access all stored information on the SmartScan web server. This information includes energy performance data, emergency lighting testing records, “as fitted“ drawings, commissioning certificates and all the essential emergency lighting documentation.

Interactive drawings

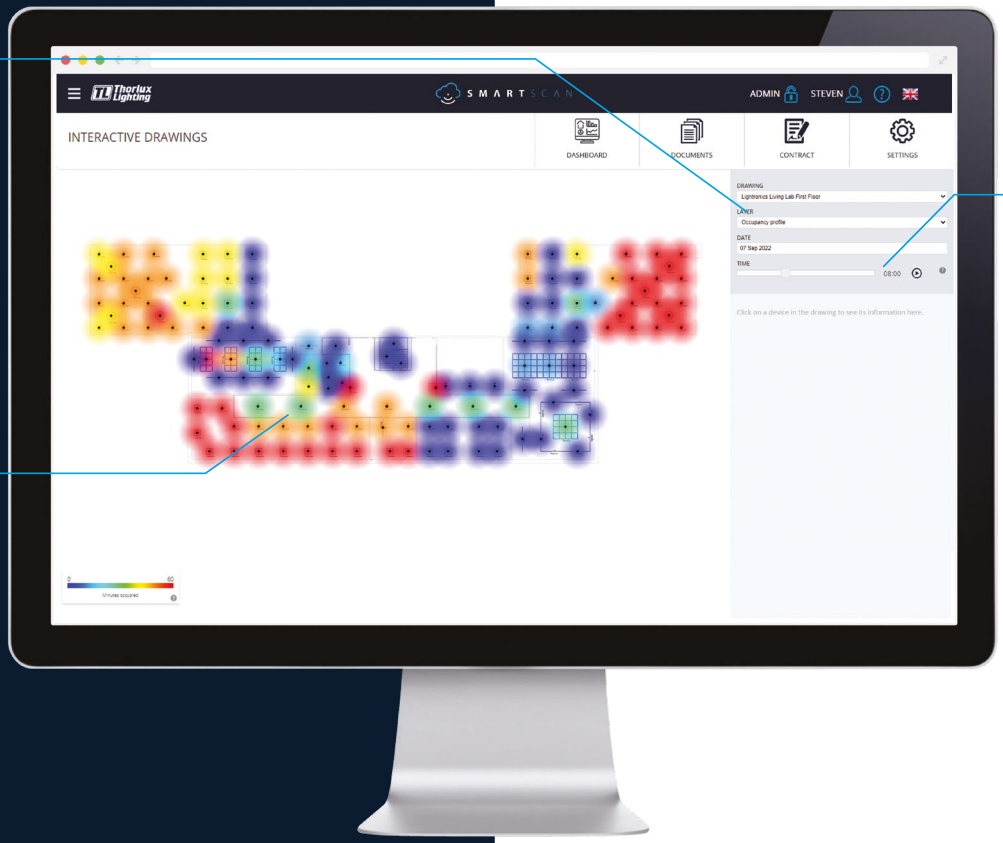
SmartScan interactive drawings provide a simple and effective method of viewing system information.

Navigation

Each dataset is shown as a layer allowing the user to zoom in or out as needed. The user can look at data for the whole building, or focus attention on a single room or individual luminaire.

Occupancy profile

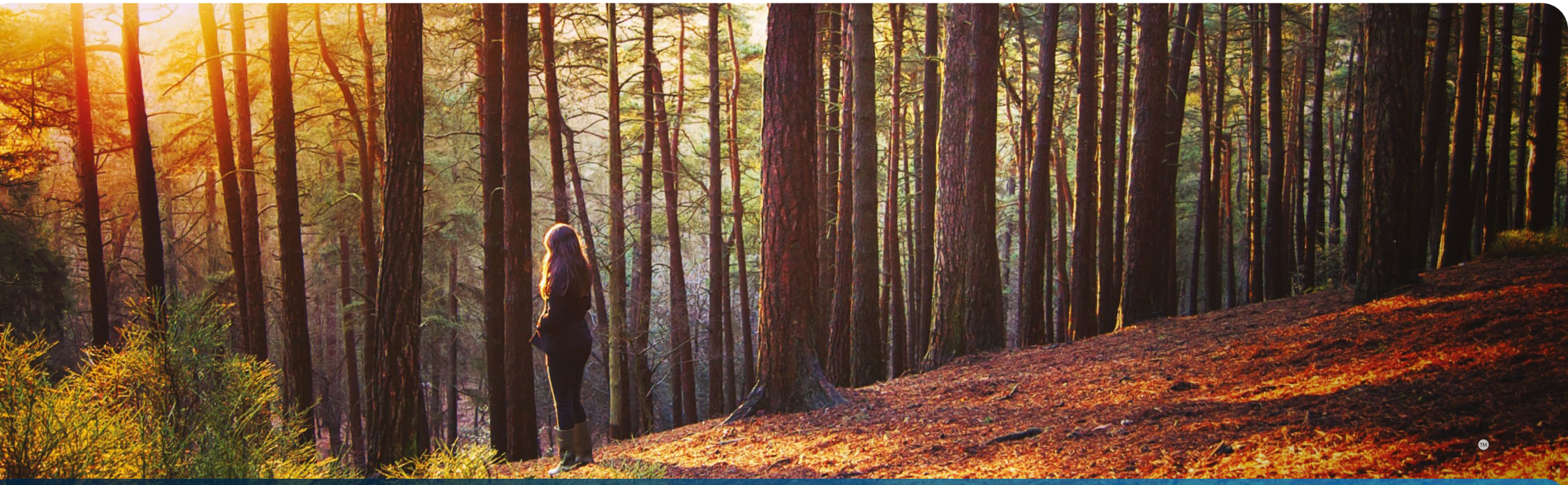
The occupancy profile for each sensor is displayed by a range of colours from grey (no occupancy) through to red (occupied continuously throughout the selected hour).



Information table

If a single luminaire is selected, an information table is displayed with the data for that luminaire.

The user can select a date, then using the time slider can see how the usage pattern or performance changes through the day.



ColourActive lighting

ColourActive luminaires with SmartScan control

Light does more than enable us to see - it affects humans physically, mentally and behaviourally.

Light intensity and colour temperature are among the principal drivers of our body clock, the circadian rhythm. As such, they can have a profound effect. For example, low levels of warm light can be calming and relaxing, whereas high levels of cool blue light can be stimulating.

Thorlux has developed ColourActive luminaires that, combined with SmartScan lighting controls, can alter their light intensity and colour output. This technology enables interior lighting to replicate the cycle of daylight.

Colour temperature control

High-performance Thorlux ColourActive LED luminaires incorporate dual populated PCBs where LEDs with two different colour temperatures (3000K and 6500K) are combined.

This Thorlux-designed and -manufactured technology utilises twin lighting circuits within each luminaire to vary the output to produce colour temperatures of 3000K, 6500K, or any temperature in between.

High-quality medium-power LEDs placed on a circuit board with integral heatsinking provide a high-efficiency solution.

Advanced controls

SmartScan wireless mesh network technology provides signals to control the ColourActive luminaires, giving manual and automatic control of colour temperature.

The ColourActive Gateway communicates with the luminaires throughout the day, providing automatic, seamless transitions between colour temperatures.

Manual control comes via wall-mounted touch-sensitive plates or a smartphone app.

For more information on the range of ColourActive luminaires, please get in touch with the Thorlux sales office.


THE SOLAR SYSTEM
PERIODIC TABLE
Why trees?
CARBON CYCLE
Carbon Cycle
Did You KNOW?

3000°K

6500°K

Emergency lighting

Good emergency lighting is essential to ensure pupils and staff can evacuate calmly and safely in the event of an emergency. Exit routes should be clearly identified with exit signs, and each tread on stairs should be clearly illuminated. Fire-fighting equipment should be lit to a minimum of 5 lux. BS 5266-1:2016 recommends that a minimum of two luminaires, or one luminaire and an exit sign with a useable downward element, should be fitted in every section of an escape route.

Thorlux offers a comprehensive range of emergency lighting control solutions from standard emergency, through to full wireless control and monitoring systems.

The emergency lighting design must take into account the following points of emphasis:

- Escape route signs
- Stairs
- Changes in floor level
- Changes in escape route direction
- Corridor intersections
- First aid posts
- Fire alarm call points or firefighting equipment
- Final exit doors to a place of safety
- Moving stairways and walkways
- Toilet facilities exceeding eight m^2
- Toilet facilities for disabled use
- Motor generator, control and plant rooms
- Manual release controls for electronically locked doors
- Escape equipment for disabled people
- Refuges and call points
- Other areas deemed necessary by a risk assessment

SMARTSCAN

Emergency

Self-testing emergency luminaires with integral battery for three-hour emergency operation. Wireless communication and web connectivity for automatic scheduled testing, luminaire status and test history reporting.

DALI/Self-Test Emergency

Self-testing emergency luminaires with integral battery for three-hour emergency operation.

Standard Emergency

Emergency luminaires with integral battery for three-hour emergency operation.

Thorlux recommends

The majority of Thorlux luminaires are available with an integral emergency option.

Large open areas

Duo-Spot

Adjustable emergency twin head spotlights for open areas

IP65

Escape route

Firefly

Emergency luminaires for recessed mounting with SmartScan wireless communication version

IP65 DOWNLIGHTER (BELOW CEILING) IP40 DOWNLIGHTER (ABOVE CEILING)

Firefly Surface

Emergency luminaires for surface mounting with SmartScan wireless communication version

IP54 SQUARE VERSION IP66 CIRCULAR VERSION

External bulkhead

Lexi-65

IP65 LED emergency luminaires with SmartScan wireless communication version

IP65 IK10

Mini-8

Small LED emergency bulkhead luminaires

IP65

Exit signage

Atom

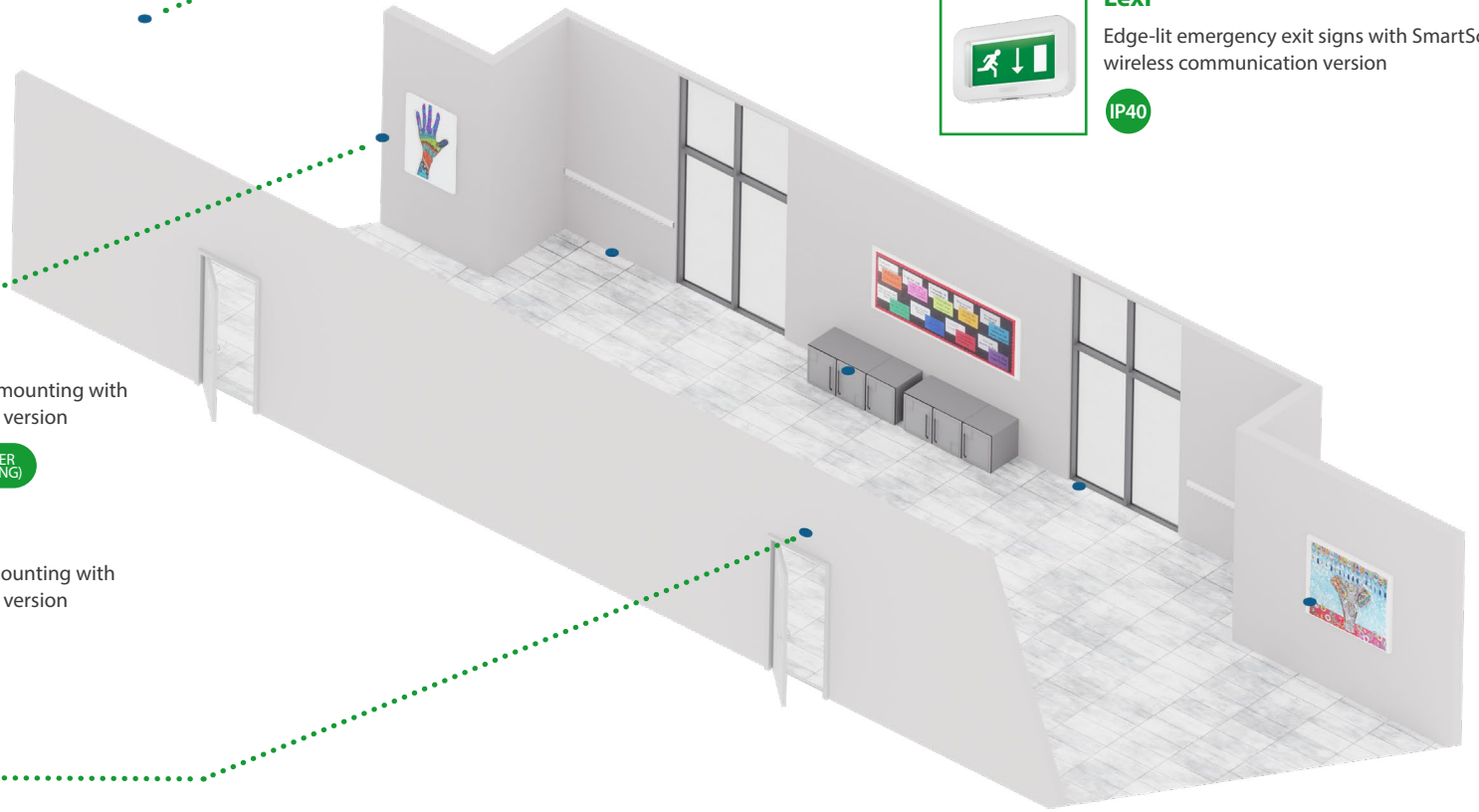
Architectural emergency exit sign with SmartScan wireless technology

IP40

Lexi

Edge-lit emergency exit signs with SmartScan wireless communication version

IP40



Product thumbnails are interactive.

Scan here to view all available products.

Sustainability

On a journey to net-zero by 2040

For the last two decades, Thorlux Lighting, as part of the FW Thorpe Plc Group, has worked hard to reduce its environmental impact, and we are proud of the progress made.

But, recognising that there is still much to do to safeguard the environment and avoid the worst effects of climate change, Thorlux and the FW Thorpe Plc Group have set a target to reach net-zero greenhouse gas (GHG) emissions by 2040, ten years before the UK government's 2050 net-zero target.

NET ZERO BY 2040

A validated net-zero target

FW Thorpe Plc has committed to reaching net-zero greenhouse gas emissions across the value chain by 2040.
The Science Based Targets initiative (SBTi) has validated these science-aligned targets:.

Near-term target

FW Thorpe Plc commits to reducing absolute scope 1 and 2 GHG emissions by 57.5% by FY2030 from a FY2021 base year. FW Thorpe Plc also commits to reducing absolute scope 3 GHG emissions by 25% within the same timeframe.

Long-term target

FW Thorpe Plc commits to reducing absolute scope 1 and 2 GHG emissions by 90% by FY2040 from a FY2021 base year. FW Thorpe Plc also commits to reducing absolute scope 3 GHG emissions by 90% within the same timeframe.

Thorlux Lighting has been carbon neutral since 2012 through a combination of measures. Company-wide initiatives such as energy use minimisation, self-generation through solar photovoltaic (PV) units, and renewable energy procurement have reduced Thorlux's carbon footprint, whilst trees in our award-winning carbon offsetting afforestation project sequester the remaining carbon dioxide produced.
Our carbon-neutral status is independently verified as per ISO 14064-1.

Sustainability at Thorlux

Scan here to view **Sustainability at Thorlux**

Our commitment to sustainability and the environment

Sustainability and the environment have been at the core of Thorlux for many years and we have always been committed to doing the right thing for both people and the planet.

We have worked hard to reduce our environmental impact of our manufacturing and selling activities, and consider carefully the implications our products have during their life and at the end of their life. Through our environmental monitoring programme, which is independently certified to the environmental management standard ISO 14001, we continually measure and improve our environmental credentials.

“Thorlux has a long-standing commitment to tackling global environmental challenges, principally through its core business of manufacturing energy efficient lighting equipment. The company has a genuine desire to become a more sustainable business.

“Over the last two decades, at Thorlux we have sought to address our carbon impact by working towards carbon neutrality for our manufacturing and distribution operations. It gives me huge pleasure that our hard work and ambitions have paid off in achieving our carbon neutral status both now and historically.

“But our work doesn’t stop here. By assessing our carbon impact right across our manufacturing and value chain then setting science-based targets in line with the Paris Agreement on climate change, our goal is ultimately to reach zero carbon status well before the UK’s target for achieving net zero carbon emissions by 2050. Watch this space.”

Michael Allcock

FW Thorpe Group Chairman

Complete turnkey service

Thorlux Lighting offers its customers a complete, full-life turnkey operations and installation solution for new and refurbished lighting system projects. Thorlux provides a professional one-stop-shop service that takes all the work out of your hands, from planning to installation and beyond.

Planning and surveying

The process begins with a thorough on-site survey by a lighting engineer and an energy analyst. These surveyors carefully record all current luminaire types and locations, diffusers, emergency lighting, existing lighting controls, average operating hours, and more.

Lighting design

With this information, the award-winning Thorlux design team develops a comprehensive lighting plan. Luminaires and controls are selected based on each area's usage and the required light levels defined in current standards. Thorlux can then propose options for new lighting systems, prioritising cost effectiveness, low cost of ownership and user comfort. Some customers wish to produce their lighting schemes; for this reason, Thorlux is a partner of both DIALux and Relux. These lighting design software packages and the Thorlux luminaire database are freely downloadable from the Thorlux website.

Supply

When the plan is agreed, Thorlux will build the new fittings. Making luminaires to order ensures that waste is kept to a minimum, reducing embodied carbon. 90% of all Thorlux products are designed and manufactured in its UK factory in Redditch, Worcestershire. This provides Thorlux with the flexibility to fast-track orders and supply products to meet important deadlines.

Installation

Thorlux has an integrated installation and commissioning capability using a combination of in-house teams and a network of specialist partners who are trained on all aspects of Thorlux products. We ensure a rigorous selection process and ongoing quality control and training methods to ensure our specialist partners are of the highest standard.

Commissioning

Thorlux offers a professional on-site commissioning service to ensure that products are configured to provide the desired performance and return on investment. Commissioning begins with identifying the end-user's project requirements and ends with ensuring that the installed systems satisfy these requirements. Commissioning of lighting is now an integral part of the requirements for new buildings and major refurbishments under Building Regulations Part L.

User training

The final step of the process is to train all applicable personnel to operate, maintain and monitor the new lighting system. This includes using the SmartScan web platform, diagnosing issues, and customising functionality. This protects against attempted overrides or bypasses and helps ensure buy-in from all relevant parties.

Technical support

The Thorlux Technical Services department is available to answer all queries regarding Thorlux products and their use in specific applications.

Five year warranty

A genuine warranty with genuine value

The Thorlux range of luminaires is designed, manufactured and distributed by Thorlux, a division of the FW Thorpe Plc group. FW Thorpe Plc is listed on the London Stock Exchange. See the corporate website at www.fwthorpe.co.uk

Thorlux luminaires have been manufactured continuously in the UK since 1936, the year Frederick William Thorpe founded the company.

In 2023-24, the revenue of FW Thorpe Plc was £175.8m, of which £91.9m was generated by Thorlux luminaires and control systems.

The Thorlux product warranty offered to customers covers a period of five years, with no get-out clauses concerning the number of burning hours or maintenance requirements, and no convoluted registration process.

This warranty is enhanced by the following key factors:

- FW Thorpe Plc has a robust balance sheet, with net assets in excess of £175m (2024)
- More than £50m in cash reserves provide the ability for Thorlux to support any future warranty liabilities
- FW Thorpe Plc has a stable ownership structure, with over 50% of the business owned by founding family members and management
- Investment in product research and development is continual - £2m invested per annum
- Thorlux product failure rates are consistently below 0.2%, with over 2,000 luminaires individually tested and shipped every day
- Critical components are supplied by market-leading global suppliers
- A dedicated team of our own employed local service engineers respond to any customer issues quickly and effectively, not only in the UK but overseas too
- Around 90% of Thorlux products are manufactured in the UK, therefore spares are readily available
- As Thorlux is a listed company, stringent conditions require it to be fully audited by a third party. In recent years this has been PricewaterhouseCoopers LLP (PwC), one of the top four audit and advisory firms globally. Auditors of listed companies follow rigorous international guidelines, ensuring that the financial details such companies publish (such as those above) are accurate and can be relied upon.

Thorlux must prove that it will be able to pay any claims made according to its warranty conditions during the warranty period. Provision is made in each year's accounts, effectively putting aside profit from current orders for use in the future if required.

While all companies are required to provide for expected future warranty costs, Thorlux comes under more scrutiny as a listed business. Financial strength enables us to stand behind our warranty; some competitors may not have this advantage. At Thorlux, we are capable of meeting our obligations.

Some other companies offer long warranties but do not have the financial assets to withstand a sizeable warranty claim. Thorlux encourages customers to consider this scenario when purchasing other companies' products with extended warranty offers.

Michael Allcock - Non-Executive Chairman

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

How to specify your lighting supplier

1. The supplier shall be independently assessed and certified to ISO 9001 (Quality Management Systems).

2. The supplier shall be responsible for its environmental activities and demonstrate genuine concern, as proven by independent assessment and certification to ISO 14001 (Environmental Management Systems).

3. The supplier shall prioritise the welfare of the workforce and site visitors, as proven by independent assessment and certification to ISO 45001 (Occupational Health and Safety Management Systems).

4. The supplier shall prioritise the protection of sensitive data, as proven by independent assessment and certification to ISO 27001 (Information Security).

5. The supplier shall provide Certificates of Conformity demonstrating compliance with European legislation directives 2006/95/EC, 2004/108/EC and 2011/65/EU.5. Photometric test information shall be available using independently assessed equipment.

6. The supplier shall offer a commissioning service using in-house, trained technicians and then provide a commissioning certificate.

7. All products will be tested before despatch, including safety earth circuit continuity, high-voltage electrical strength testing, full circuit functionality including dimming, and checks on current drawn.

8. Products and services shall be backed by a comprehensive 5-year warranty - the supplier will have an established history and track record.

9. The supplier will have an established plan for achieving net-zero greenhouse gas (GHG) emissions in line with the Paris Agreement on Climate Change. This plan will be assessed and validated to SBTi standards.

Thorlux CPD seminars

Thorlux offers a range of professional CPD presentations ranging from updates in lighting technology to guidance on lighting applications and legislation. These CIBSE-approved presentations are non-sales based and intended to disseminate knowledge and best lighting practices.

Lighting for Educational Establishments (LG5)

How can lighting contribute to improved learning? What are the fundamentals of good education lighting design? How can lighting increase energy efficiency?

For more information or to book your CPD, contact your local lighting sales engineer, or visit

www.thorlux.com/cpd

SMARTCHOICE funding solutions

Thorlux offers flexible funding solutions from **Mitsubishi HC Capital UK PLC**, a leading financial services company. This Partnership Agreement allows funding models from simple payment plans to innovative turnkey solutions with installation and maintenance - without any upfront capital expenditure.

These tailored solutions can realise savings from year one. With energy costs high, there has never been a better time to adopt efficient lighting.

The choice is yours

TRADITIONAL UPFRONT

- Capital Expenditure required

NOT INCLUDED
- Installation
- Maintenance
- Saving from Year 1
- Flexible Payment Profiles

SMART CHOICE BY THORLUX

- Capital Expenditure NOT required
- Saving from Year 1
- Flexible Payment Profiles

OPTIONAL
- Installation
- Maintenance

HIRE PURCHASE VIA MITSUBISHI HC CAPITAL

- Capital Expenditure NOT required
- Saving from Year 1
- Flexible Payment Profiles

OPTIONAL
- Installation
- Maintenance

OPERATING LEASE VIA MITSUBISHI HC CAPITAL

- Capital Expenditure NOT required
- Installation
- Maintenance
- Saving from Year 1
- Flexible Payment Profiles

Example 10-year saving analysis

Taken from a real user case. Typical payment periods vary from 3-7 years to suit

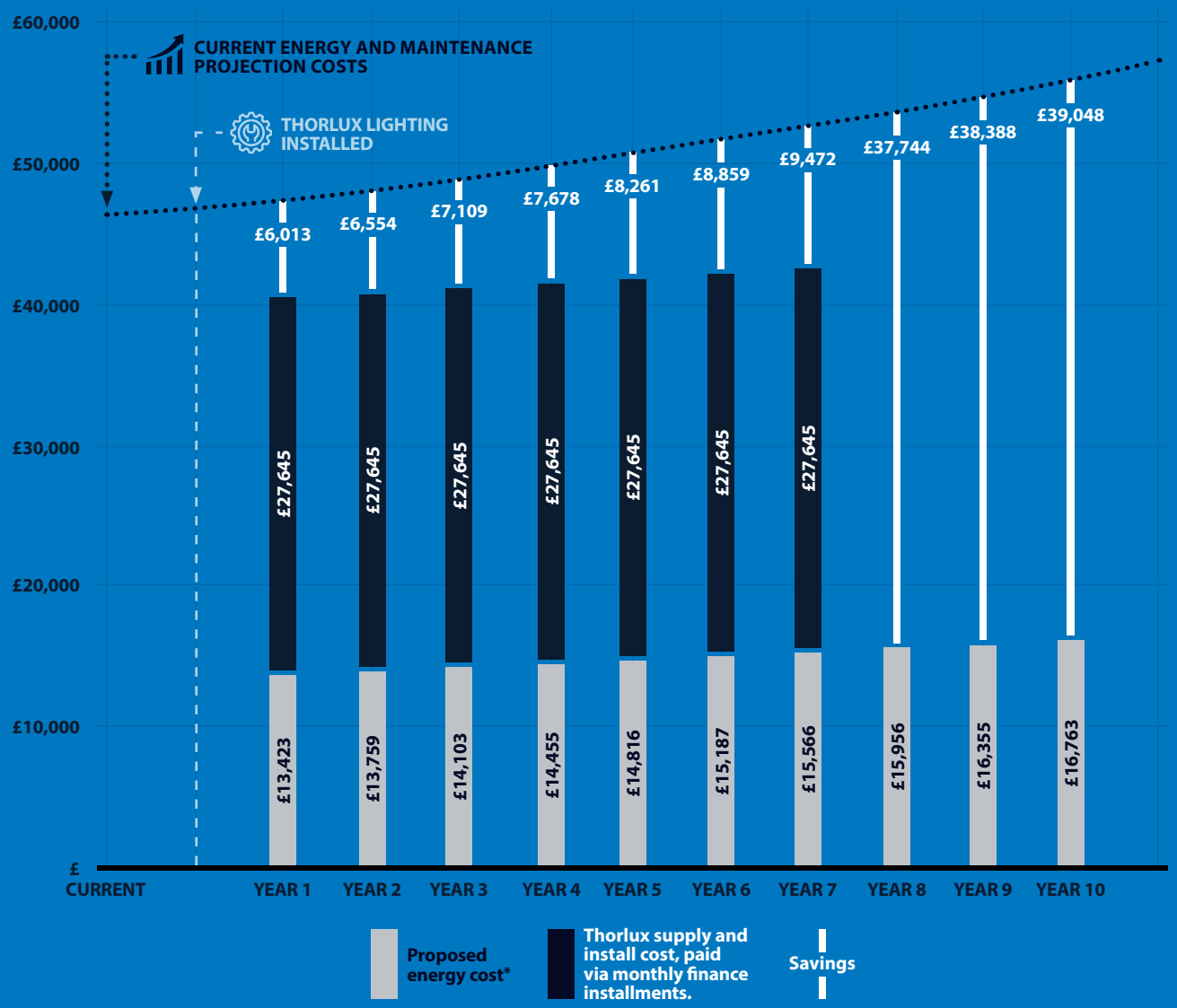
How it works

Initial energy assessment

Thorlux produce lighting design and calculate ROI

Submit proposals and agree on funding options and installation

Thorlux lighting installed

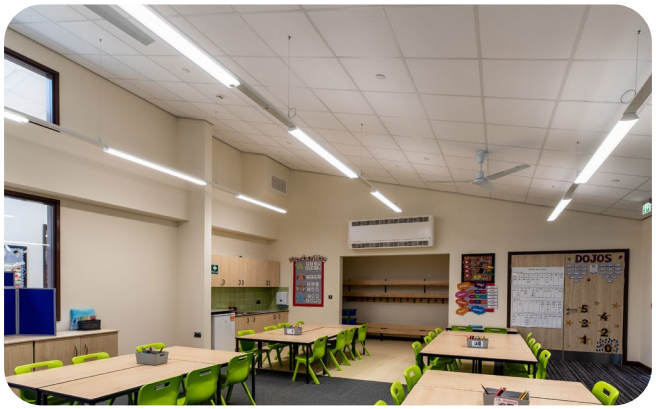


*Based on energy cost (kWh) at time of publication.
For illustrative purposes only, finance costs based on a 7 year Managed Service agreement

Project

Holyoakes Field First School and Nursery

Redditch, United Kingdom



Holyoakes Field First School and Nursery was founded in 1913 and has provided a first step in life to generations of children in Redditch, Worcestershire, UK. The school prides itself on its close relationship with the local community, with a vision of "empowering young minds to become great minds."

However, after over a century at the same site, the school was facing several issues due to its aging buildings and limited space. As a result, in 2019, plans were laid for Holyoakes to move to new premises in the town.

The challenge

Work on the new 2,000 m^2 school building began in early 2020. The single-storey, timber-framed construction was designed to achieve a 'very good' BREEAM sustainability rating with a bright, modern educational aesthetic. To this end, based on its decades of experience in the educational sector and its environmental credentials, Thorlux was appointed as lighting supplier. The lighting objective was to provide a system of internal and external luminaires that complemented the open, modern design of the new building, whilst providing optimal levels of energy efficiency.

The solution

The building interior uses a varied selection of Thorlux luminaires throughout. This includes over one hundred each of Kanby Zip and Zipline luminaires. Other luminaires include Hi-Style, Solow LED, Cleanline and Firefly. To provide clear and concise emergency exit signage, Lex maintained exit signs with AutoTest facility have been installed across the school. The lighting scheme for the building's exterior includes Realta, Mercian and Cobalt luminaires. Starbeam ECO pole-top floodlights are utilised to provide illumination of outdoor play and parking areas.

To prevent energy wastage and ensure optimum building efficiency, most of the supplied luminaires use discrete Smart sensors. This means each luminaire only illuminates when the area is in use, and it monitors ambient light to control its output at the correct level. Additionally, Thorlux has been independently confirmed as being carbon neutral since 2012, further bolstering the sustainability credentials of the new school building.

With the lighting installation and all other fixtures and fittings completed, and the lighting commissioned by Thorlux engineers, the £6 million new Holyoakes School opened its doors to pupils in September 2022. From its new, modern site, the school is looking forward to serving its community for another century.

Project

The Croft Preparatory School

Stratford-upon-Avon, United Kingdom

The Croft Preparatory School in Stratford-upon-Avon, Warwickshire, is an independent day school hosting 300-400 children aged between 3 and 11. The school stands in thirty acres of playing fields and has been awarded 'Outstanding' and 'Excellent' status by the Independent Schools Inspectorate.

The school's two-storey Mundell Court building opened in 2009 to provide additional teaching space. Mundell Court features a state-of-the-art music space, science and technology rooms, two maths rooms, a computer suite and a Personal, Social and Health Education (PSHE) room.

The challenge

The Croft is "committed to creating an environmentally-sustainable school and environment," and as such has engaged in several green initiatives, including biomass heating and the use of solar panels. To further advance this commitment, the school invited Thorlux Lighting to renovate and modernise the lighting system in the Mundell Court building, with the goal of maximising energy conservation. Thorlux's initial survey found the school could cut its lighting energy consumption by an impressive 88% through the adoption of intelligent LED luminaires and control technology to replace its existing fixed-output fluorescent fittings. This would also reduce the school's carbon footprint by over 7,000 kg per year.

An arrangement to fund the renovation through Thorlux's SmartChoice funding was agreed (enabled by Thorlux's partnership with Mitsubishi HC Capital UK), spreading costs over several years. This allowed the project to commence without upfront capital expenditure. Thorlux partnered with Elektra Engineering Services Ltd to conduct the installation.

The solution

Following the results of the lighting survey, engineers installed a carefully-specified selection of Thorlux luminaires throughout the interior of Mundell Court. The large downstairs Information Technology (IT) and science rooms are now equipped with new Hi-Style Multi-Drive luminaires, designed specifically for classroom applications and providing 400 lux of illumination. Hi-Style Multi-Drive provides an effective solution where two 'secondary' luminaires are powered from the main 'primary' luminaire reducing both luminaire and installation costs.

LED Kanby Zip SmartScan luminaires in the upstairs tutoring rooms provide a bright and stimulating learning environment, with light levels of between 300 and 500 lux depending on the room's usage. Office spaces are equipped with Hi-Style LEDs; storerooms with Glodome luminaires; the lobby area and corridors with wall-mounted

Ovix luminaires. Firefly emergency downlighters are used to provide emergency lighting. Finally, Flexbar suspended luminaires, wall-mounted Ovix and R3 LED opal downlights illuminate the 9m-high main hall.

Thorlux's award-winning SmartScan wireless system monitors and controls the entire lighting system. This has been optimised by Thorlux commissioning engineers to provide the greatest levels of efficiency. Where possible, engineers returned empty packaging to Thorlux for re-use or recycling. Finally, Thorlux's carbon neutral status helps further minimise the building's embodied carbon.

With work completed for the 2022-23 term, Mundell Court is now a showcase for The Croft School's environmental credentials.

Innovating sustainable lighting solutions for a brighter future

INDUSTRIAL LUMINAIRES
COMMERCIAL LUMINAIRES
FLOODLIGHTING LUMINAIRES
ARCHITECTURAL LUMINAIRES
HEALTHCARE LUMINAIRES
HAZARDOUS AREA LUMINAIRES
RETAIL AND DISPLAY LUMINAIRES
CONTROLS AND SYSTEMS

A DIVISION OF F.W. THORPE PLC

Thorlux Carbon Offsetting Project:
www.thorlux.com/trees

The information given in this catalogue is typical and must not be interpreted as a guarantee of individual product performance and/or characteristics. We reserve the right to alter specifications and designs without prior notice.

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