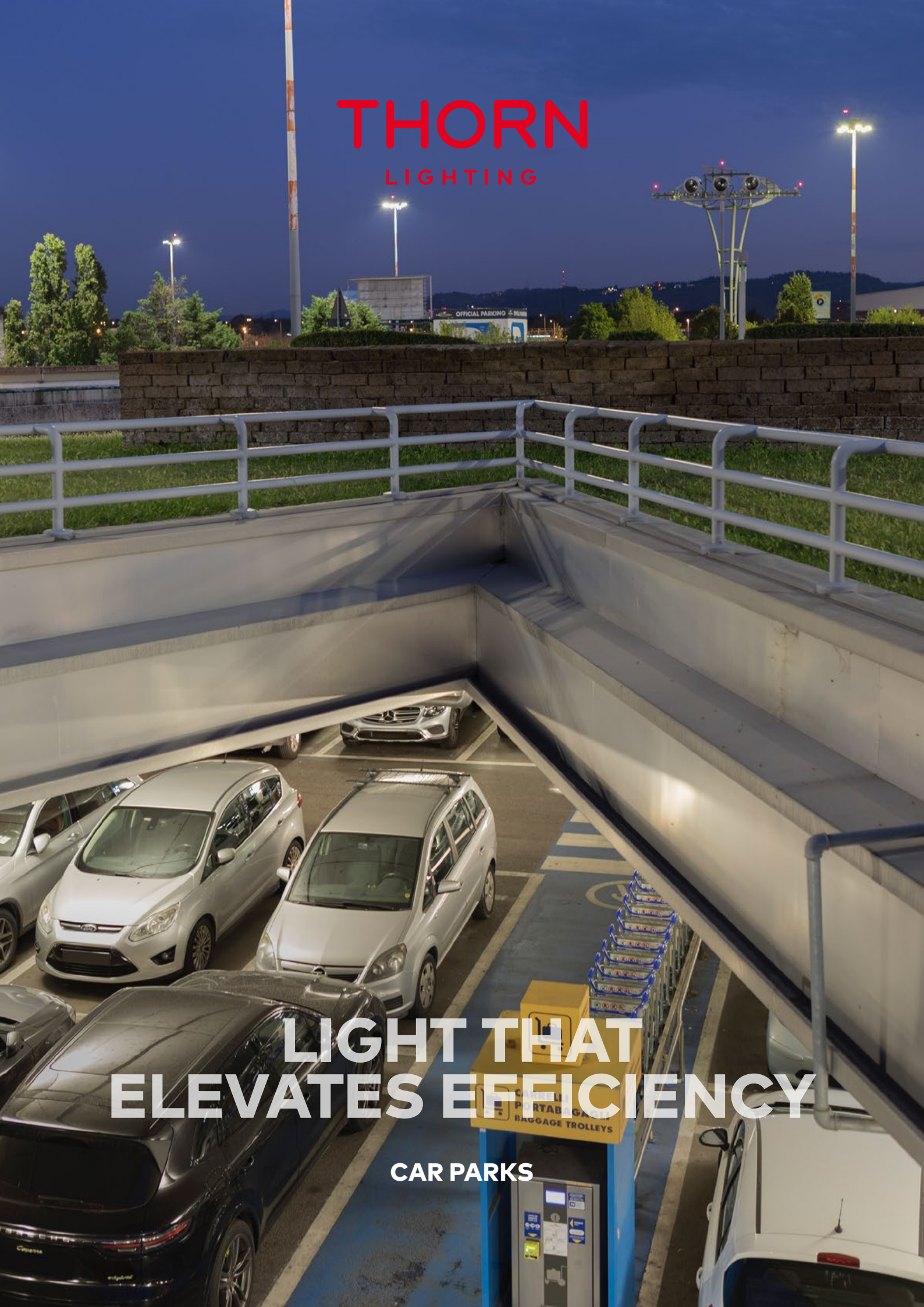


THORN

LIGHTING

**LIGHT THAT
ELEVATES EFFICIENCY**

CAR PARKS





LIGHT THAT ELEVATES EFFICIENCY

WE KNOW CAR PARKS

Carlton Cole Magee is credited with the invention of the car park in 1935. On 16 July 1935, the first parking meters went into operation in Oklahoma City, USA.

Times have changed significantly since 1935. Our requirements for the car parks we utilise are incredibly different. Car parks can be open 24 hours a day, seven days a week. This means we really need to be mindful about the efficiencies we can make regarding energy consumption. We also need these spaces to be safe when daylight levels are limited. Wayfinding is another key element to enable effective route guidance from car to street level and to connected places of work, travel and leisure.



WE
MAKE
LIGHT
WORK



WWE C

SUSTAINABLE CAR PARKS

Lighting is a significant contributor to the sustainability of a car park. Not only do we need to ensure our parking areas are safe and provide enhanced visibility at all times, but it's also important to responsibly manage energy consumption.

It's also important that the correct sustainability calculations can be made, which is why we offer ISO accredited EPDs as standard on our products. Lighting controls is an additional method to manage the overall electrical load whilst ensuring people experience the necessary lighting levels whilst making their way to and from their vehicles and when entering and exiting underground or multi-storey car parks from the street.



CARE

SUSTAINABLE DEVELOPMENT GOALS

UNITED NATIONS SUSTAINABLE DEVELOPMENT ALIGNMENT



GOOD HEALTH AND WELLBEING

Car parks often form a fundamental part of peoples positive experience of a village, town and city. Lighting plays a pivotal role in improving peoples visual acuity, thus enhancing their welfare and safety.



SUSTAINABLE CITIES AND COMMUNITIES

Creating more sustainable environments will be an increasingly regular goal of the projects you work on. Whether you're managing a new build car park or a refurbishment project, lighting will have a significant impact on the energy consumption of that space over time.



CLIMATE ACTION

Whether a car park is primarily located in an outdoor environment or it forms a multi level structure, it's effect on the climate can be significant. This is where lighting technologies such as NightTune and BasicDIM can help you lower overall output, energy consumption and light spill which can benefit local biodiversity and lower the overall electrical load.

CAR PARKS

SAFE AND SECURE PARKING FROM OUTSIDE-IN

✓ BEST PRACTICE

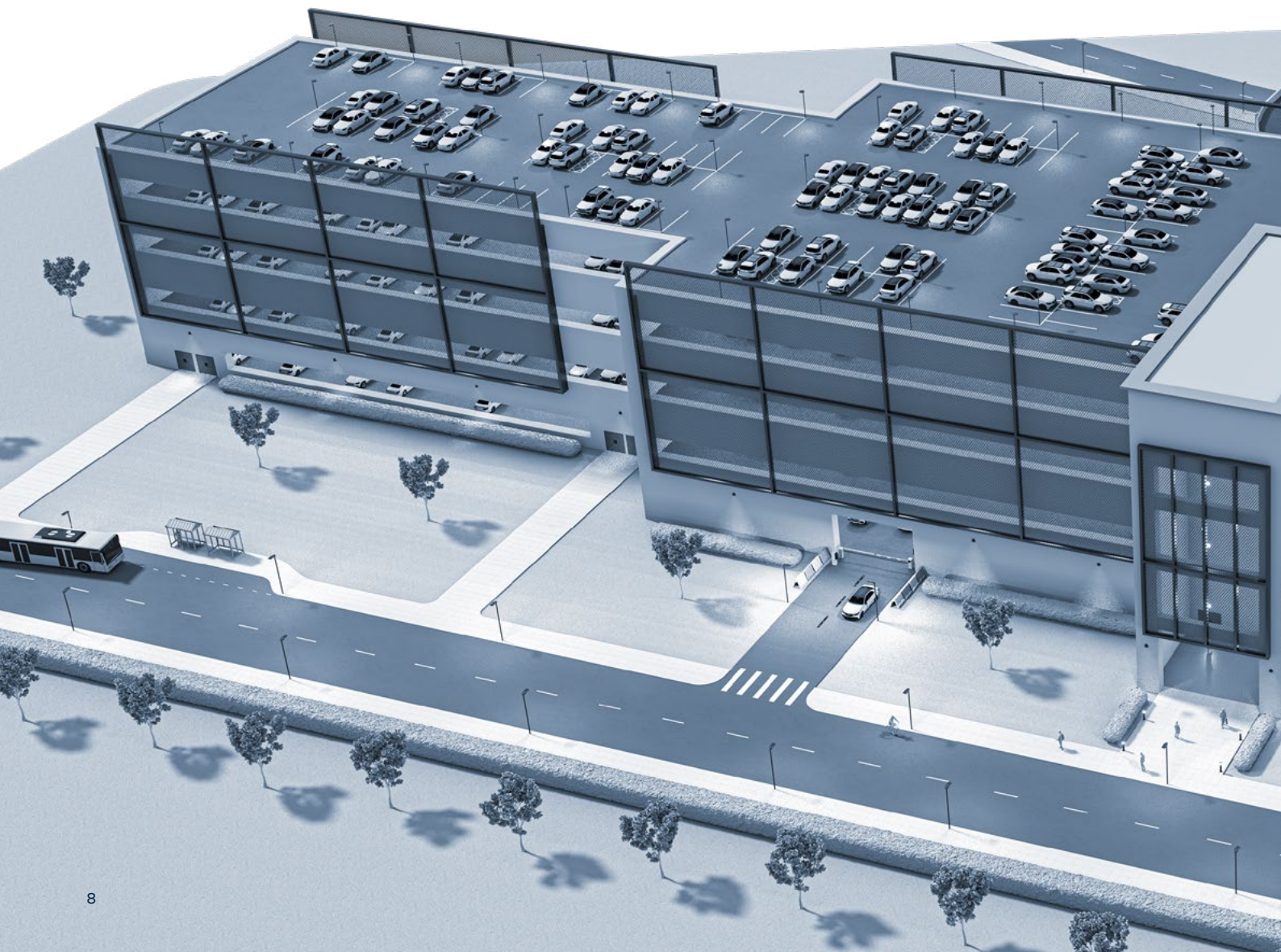
ENHANCED WAYFINDING

It's common for car parks to welcome brand new visitors. Perhaps people have never even been to the town or city before. This is where lighting becomes a comforting element that supports people and enhances the overall experience of their visit and additionally helps ensure return visits to the individuals' parking location of choice.

SAFER SPACES

Car parks can be very busy spaces. There are a lot of obstructions such as pillars, static and moving vehicles, ducting and pedestrians. This is why we champion the need for great lighting in spaces like car parks that require a higher level of safety.

Lighting solutions can enhance nonvisual communication, in accordance with EN 12464-1, we always aim to provide a lighting design that delivers great cylindrical illumination to ensure that facial expressions and nonverbal communication is improved by our lighting solutions.



Recommended solutions



CARAT



ISARO PRO



PIAZZA



LED FIT



AQUAFORCE PRO



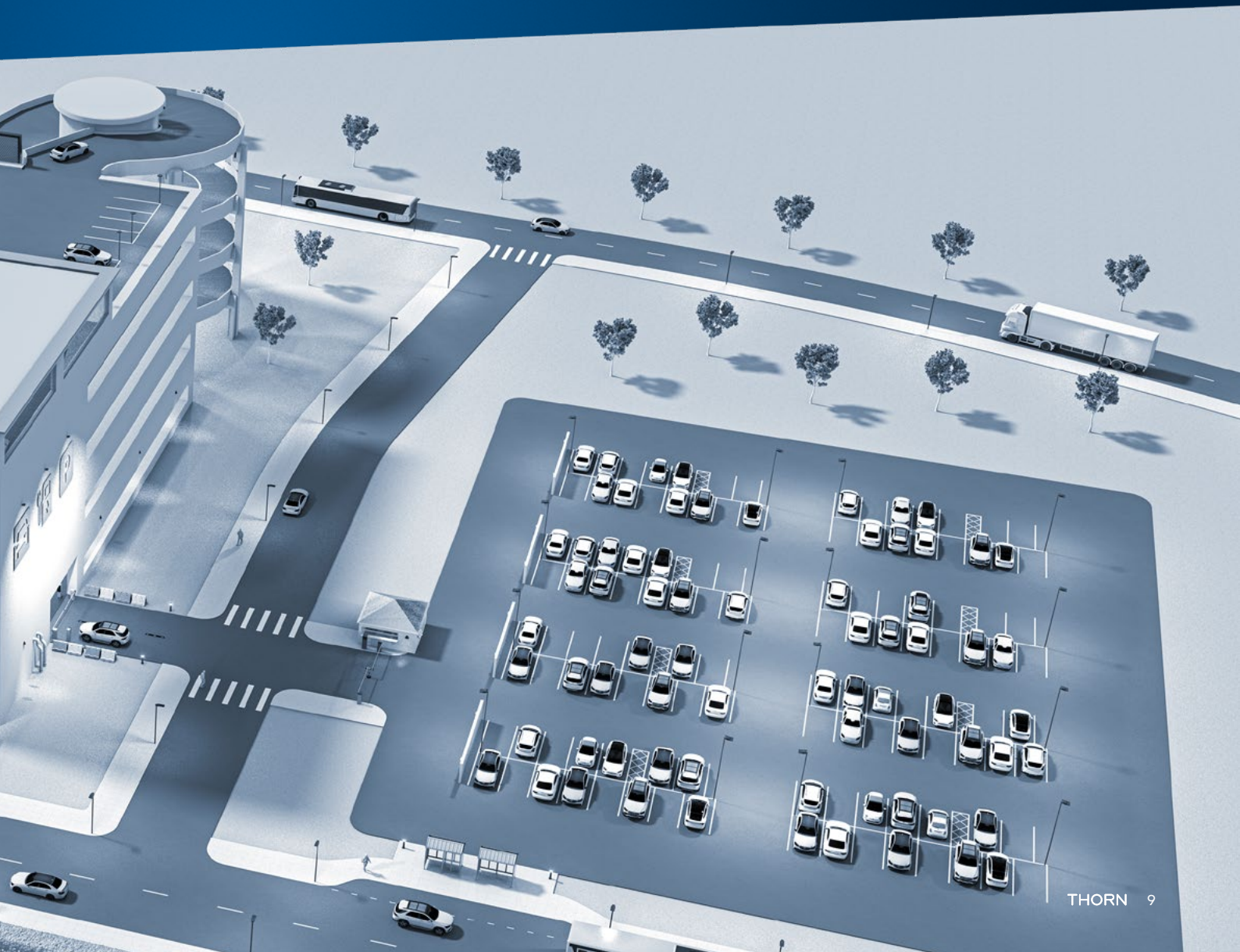
EYEKON



FORCELED



ESCORT



BUILDING SURROUNDS & PATHWAYS

EFFICIENT LIGHTING FOR COMFORT AND SAFETY

ILLUMINATION

Whether your trip from the car park ends up at street level, in a shopping centre, supermarket, a place of work or a place of travel – it's essential that the lighting levels around the building support any and all pedestrian journeys.

With technology like Variable Light Distribution (VLD), you're able to balance the needs of pedestrians with the needs of moving traffic and your sustainability aspirations utilising one light fixture. With VLD you can control the colour temperature and light levels independently for moving traffic and pedestrian needs.

Products used in scene:



OUTDOOR PARKING

SUSTAINABLE ILLUMINATION FOR OPEN SPACES

SUSTAINABLE CAR PARKS

In outdoor parking locations, there's an additional sustainability focus. Not only do we need to save energy and ensure that illumination levels reflect the demand, we also need to protect our wildlife and ecology.

NightTune technology is a strong solution here – paired with lighting controls we can ensure that the colour temperature and output provides safe wayfinding for people whilst minimising light pollution for the night sky and to ensure that nocturnal ecological patterns aren't detrimentally affected.

Products used in the scene:



PARKING AREAS

EFFICIENTLY LIGHTING JOURNEYS

LIGHTING THE WAY

Great lighting supports a smooth and simple car parking experience. It's essential that light works as a supporting feature for an incredibly wide range of people with differing visual needs. From highlighting potential hazards at the security gates to ensuring structural pillars are well illuminated, to improving light levels along pedestrian routes.

SIMPLE INSTALLATION

As well as designing our products to cope with the wider environment whilst delivering exceptional lighting coverage, we also ensure that installation is as straightforward as possible so that car parking downtime is kept to a minimum.



KEY CONSIDERATIONS

- 01** Cylindrical illumination is a major factor in improving peoples safety and sense of security
- 02** Wireless controls can further enhance energy savings without adding or re-running any cabling
- 03** Simple installation – Strong solutions. Products should be IP54 and above and IK07 and above
- 04** Good colour rendering – Ra80 and above can ensure your lighting solutions adequately supports CCTV



PARKING AREAS

LIGHTING TO EN-12464-1 & EN-12464-2

TASK OR ACTIVITY	E_{H}	UGR _L	U_o	NOTES
In/out ramps (during the day)	300	25	0,40	Illuminances at floor level. Safety colours must be recognisable.
In/out ramps (at night)	75	25	0,40	Illuminances at floor level. Safety colours must be recognisable.
Traffic lanes	75	25	0,40	Illuminances at floor level. Safety colours must be recognisable.
In the main directions of movement				Semi-cylindrical illuminance E_{sc} at a height of 1.5m above the floor of at least 10lx. When approaching daylight double the illuminance levels.
Parking area/space	75	-	0,40	Illuminances at floor level. Safety colours must be recognisable. A high vertical illuminance E_v increases recognition of people's faces and therefore the feeling of safety (also see Chapter Spatial lighting, direction of light, modelling).
In the main directions of movement				Semi-cylindrical illuminance E_{sz} at a height of 1.5m above the floor of at least 10lx. When approaching daylight double the illuminance levels.
Extreme peripheral areas	75	-	-	
Ticket office	300	19	0,60	Reflections of windows shall be avoided. Glare from outside shall be prevented.

Products used in the scenes:



Other recommended products:



PAYPOINTS & ACCESS SPACES

SAFE ILLUMINATION FOR BUSY SPACES

LIGHTING PEOPLE

During the payment process, we can experience a heightened level of vulnerability. We may be juggling several tasks at once and feeling unsafe at the same time adds to a negative psychological state which can add to the individual's decision to avoid repeating that experience.

Good lighting and intelligently thought through control systems help to balance the need to maximise energy savings when lighting demand is

low whilst enabling an enhanced user experience of the space when lighting requirements increase.

Great lighting means taking into account the need for strong cylindrical illuminance. In spaces where safety is a key concern for return users of the space, you can enable solutions that prioritise cylindrical illumination that spreads light in a way that enhances facial recognition and nonverbal communication so you're able to better survey the space and people around you.

Products used in the scene:



SECURITY OFFICE

COMFORTABLE LIGHTING TO ENHANCE SECURITY

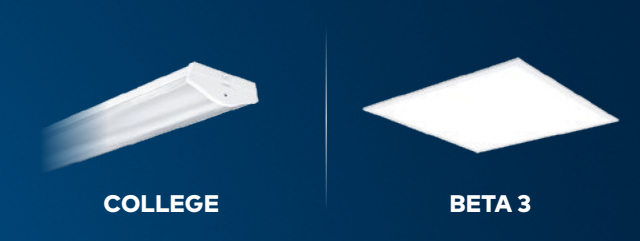
LIGHTING PERFORMANCE

Whether security monitoring occurs on site or remotely, it's important that we deliver lighting solutions that mitigate against visual discomfort through poor light levels and discomfort glare. The team of people responsible for site monitoring have an important role in ensuring the safety and security of these spaces. For these workers, a good lighting scheme helps improve comfort levels and should minimise any discomfort glare.

Products used in the scene:

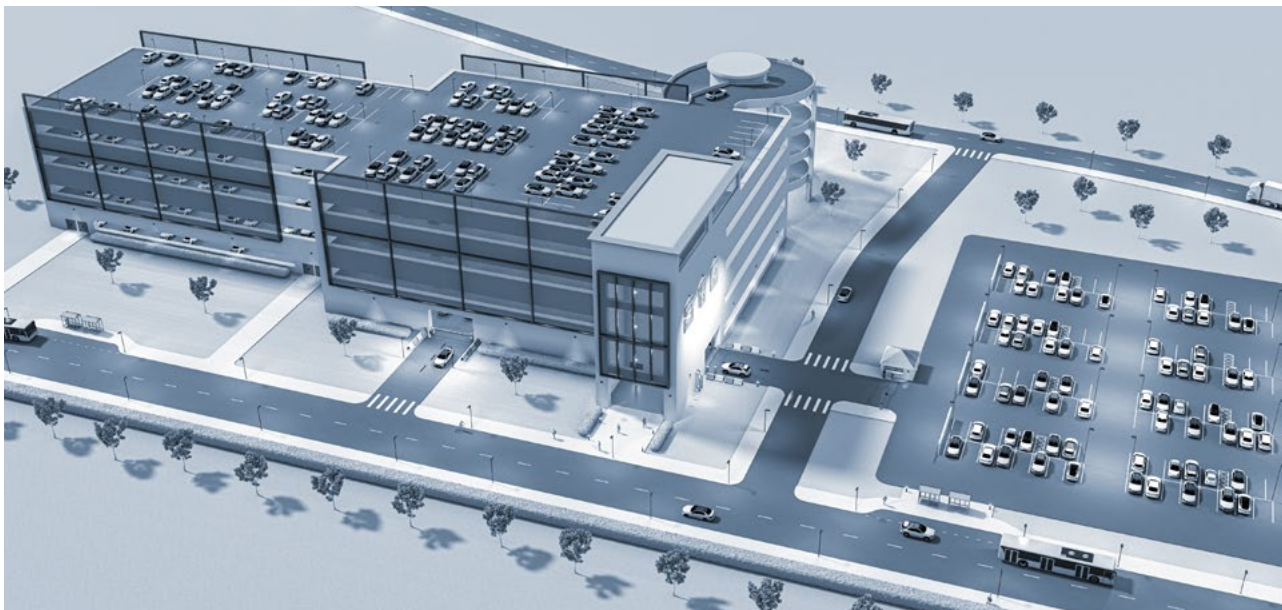


Other recommended products:



LIGHTING CONTROL SOLUTIONS

LIGHTING CONTROL FOR THE ENVIRONMENT



CONTROLS - OUTDOOR

Controlling the illumination levels in exterior areas across a car park can be a challenge. We need to ensure that we utilise lighting responsibly to manage energy consumption, human comfort and safety whilst minimising the disruption to nocturnal biodiversity. To address this complexity, we have a range of lighting control solutions that ensure we manage the lighting needs across a car park:

UrbaSens Detect – integrated PIR system providing autonomous pedestrian, bicycle and traffic sensitive illumination. Providing the balance between energy reduction and security. Ideal for refurbishment projects.

UrbaSens Sentinel – Autonomous motion detection and increased energy savings whilst supporting NightTune & Variable Light Distribution.

NightTune – a sustainable solution, adjusting both colour temperature and output to protect the nocturnal environment, wildlife and promoting human wellbeing without compromising safety.

Variable Light Distribution – taking NightTune technology to the next level by integrating different optics within the same luminaire to ensure pedestrians, cycle paths and roadways are visually identifiable and correctly lit.

CONTROLS - INDOOR

Even though there are significant energy savings to be had by upgrading from old lighting technology to more energy efficient LED solutions – there's an additional 60% decrease in energy consumption by implementing intelligent controls.

When those controls are wireless, then you can connect all light points via a mesh network, which means it's possible to use existing cabling infrastructure and still benefit from the energy savings that come from ensuring that light points dim down when pedestrian and automotive traffic levels are low.



EMERGENCY LIGHTING

A SAFE WAY OUT

Our Voyager range of emergency luminaires are designed, manufactured and tested to meet the latest European standards regarding safety and electromagnetic compatibility.

The purpose of emergency lighting is to allow people to make their way safely out of buildings in the event of an emergency, for example during a black out. Emergency safety lighting and illuminated exit signage ensures able bodied people can safely evacuate a building to a place of safety. In these situations, lighting can save lives and keep people calm.

It goes without saying that emergency lighting must comply with all relevant rules and regulations. But the best emergency lighting goes further, incorporating flexible luminaires with ease of installation and maintenance, long life and energy efficiency. Thorn's 90+ years of experience and reputation for quality are your guarantee of an optimal emergency lighting solution.

All emergency lighting should be specified and designed in accordance with local and/or national regulations

EN 60598-1 LED emergency luminaires
EN 60598-2-2 Graphical symbols. Safety colours and safety signs.
ISO7010 Registered safety signs.



VOYAGER SQUARE



VOYAGER SOLID



VOYAGER ONE



OUTDOOR LIGHTING SOLUTIONS

LIGHT THAT ELEVATES EFFICIENCY

ISARO PRO

Brings comfort and safety to any road



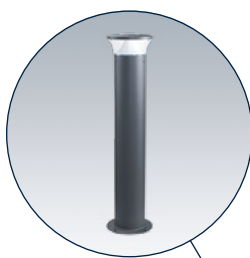
PIAZZA

Lighting with minimal light pollution



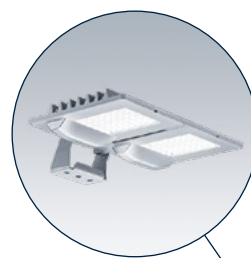
THOR BOLLARD

Comfortable visual guidance



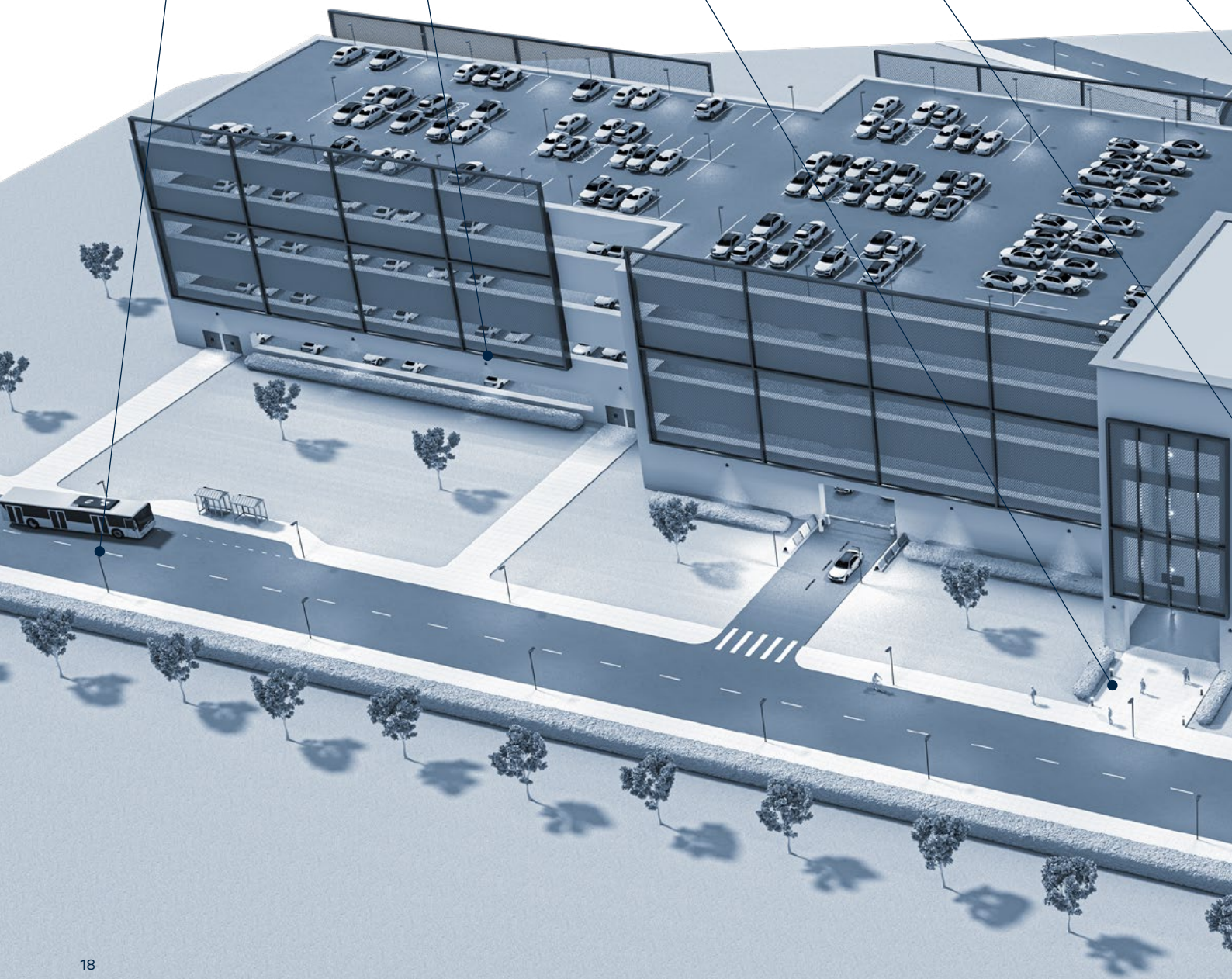
LEDFIT

Ultra lightweight, reliable and efficient



ORUS

Ideal for low level mounting



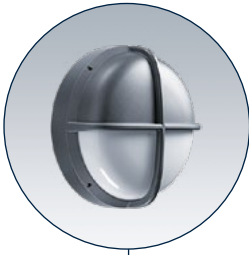
FORCELED

Compact and durable with a unique diffuser



EYEKON

Robust and energy efficient bulkhead



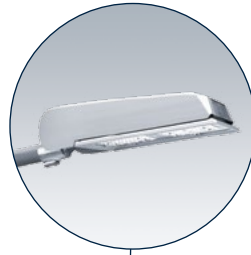
CARAT

Enhancing facial recognition



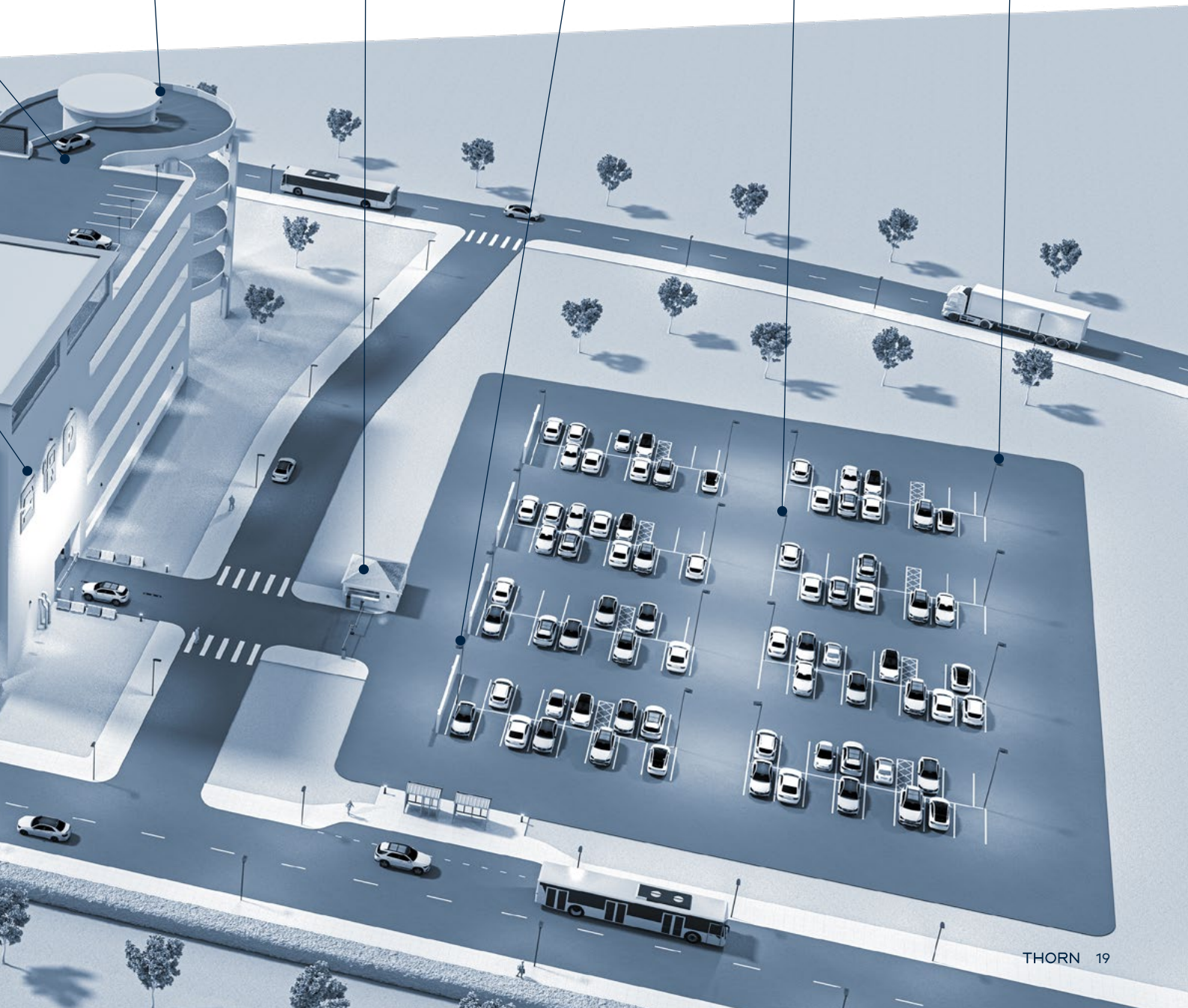
CIVITEC

Cost-effective LED road lighting solution



PLURIO

High performance with obtrusive light avoidance

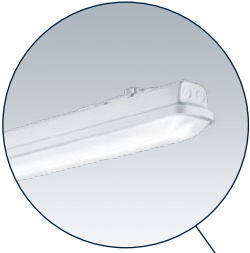


INDOOR LIGHTING SOLUTIONS

LIGHT THAT ELEVATES EFFICIENCY

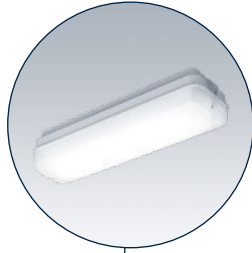
AQUAFORCE PRO

Durability and versatility at its core



ESCORT

A robust and durable bulkhead for surface mounting, sealed to IP65



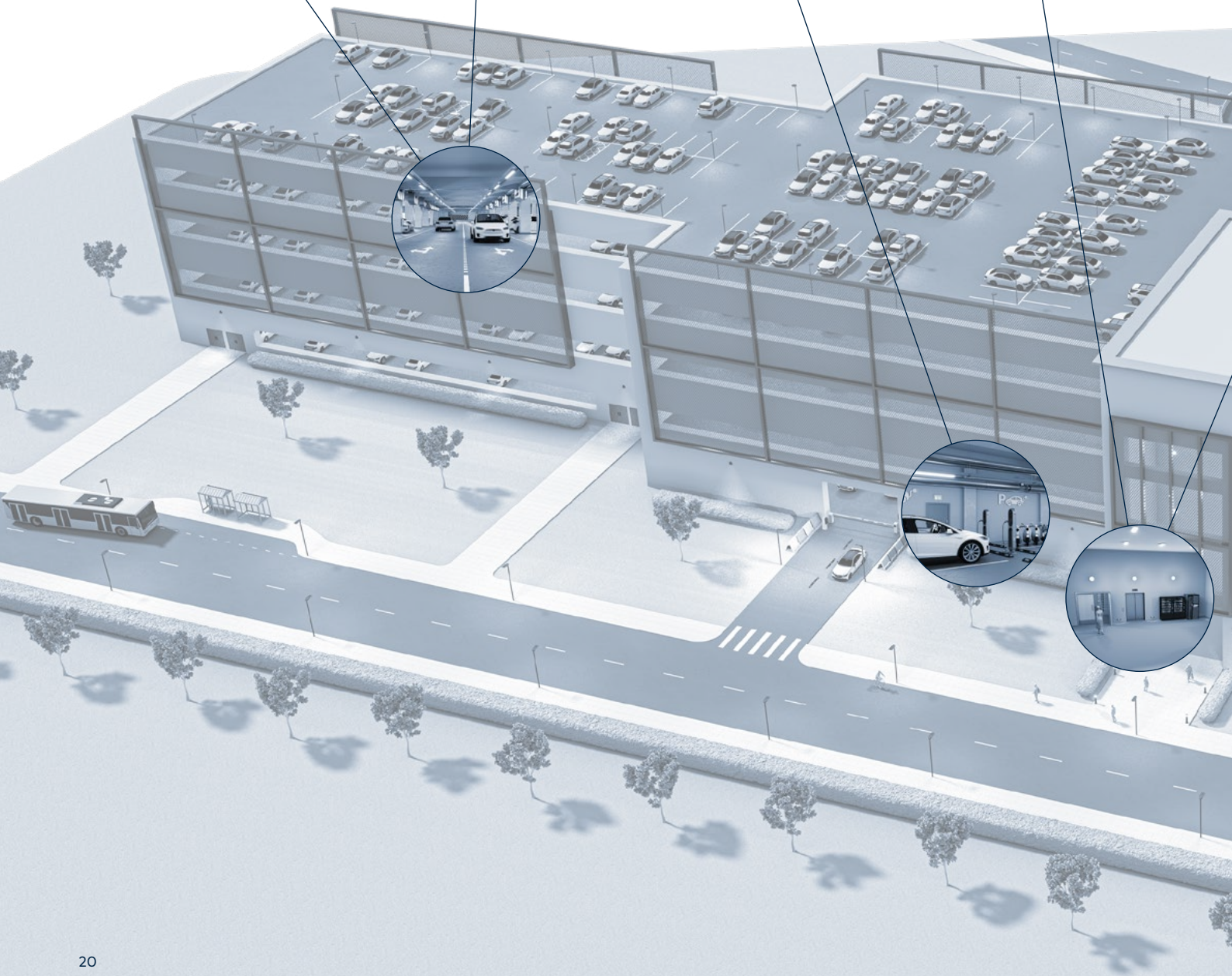
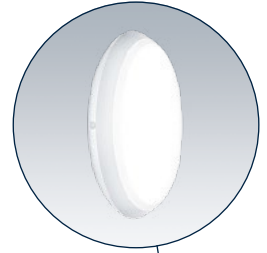
FORCELED

Compact and durable with a unique diffuser



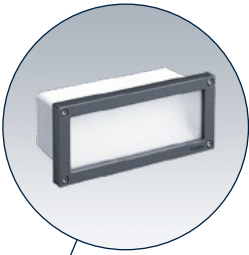
KATONA

The primary choice for secondary areas



LINN

A complete wall recessed pathway luminaire



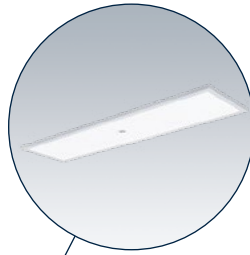
COLLEGE

Enhanced light comfort



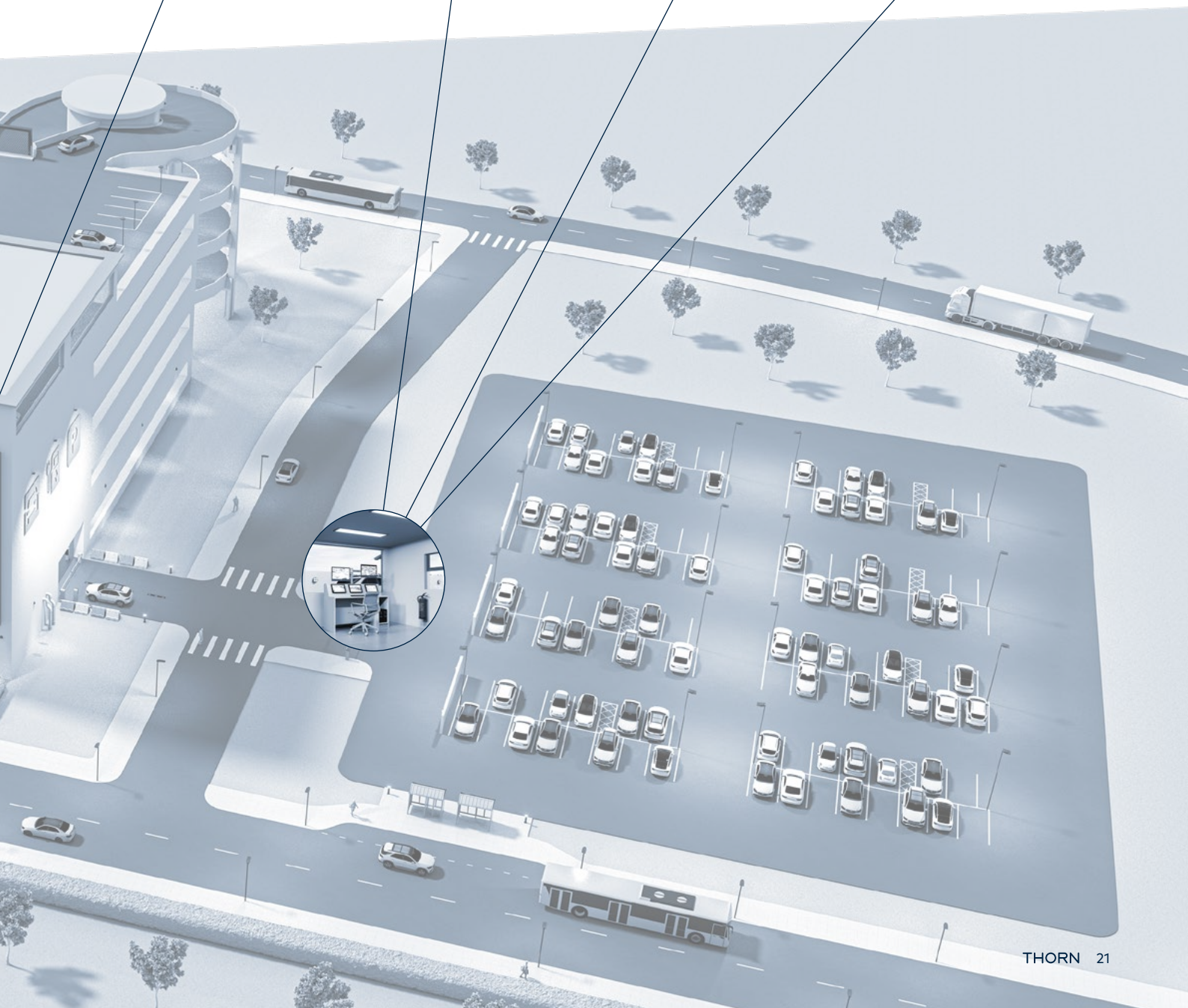
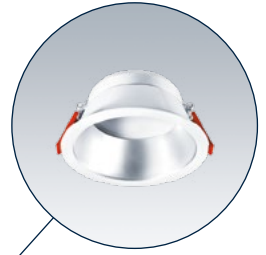
OMEGA PRO 2

Immersive variable light control



CHALICE PRO

High performance, exceptional efficiency



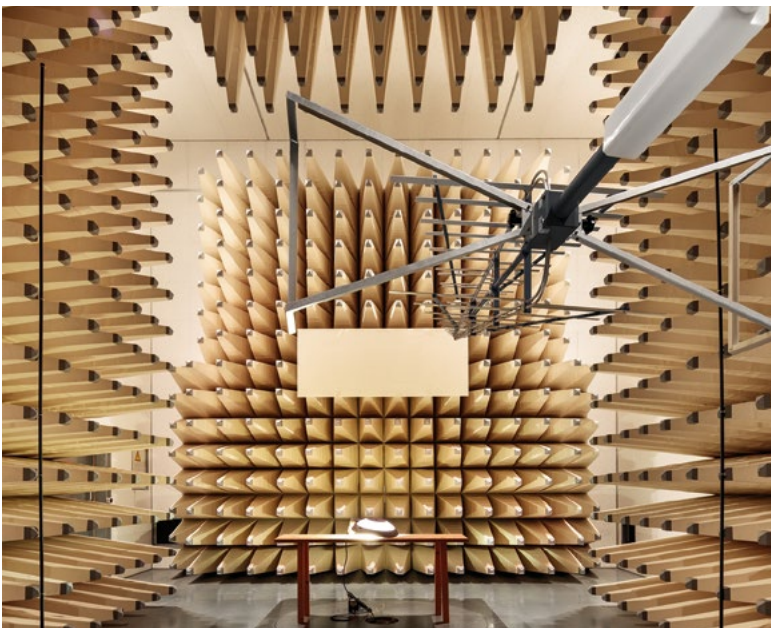
THE BENEFITS

OF WORKING WITH THORN

01

OVER 90 YEARS' EXPERIENCE

Yes, we really have passed the 90-year mark! Thorn has had nearly a century to develop its unique knowledge and expertise. And the best part is that we can build on this knowhow to make sure that we are always ahead of the game with the latest technology, the most reliable services and a price that works for everyone.



ELECTROMAGNETIC COMPATIBILITY (EMC) TESTING LABORATORY

02

CONSTANT RESEARCH AND INNOVATION

Thorn has been at the forefront of lighting technology for decades, and continues to push the boundaries. Our investment in R&D and innovation aims to bring customers the very best performance, thanks to the latest advanced engineering in light and electronics, with in-house development.

03

EXTENSIVE TESTING AND CERTIFICATION

Thorn's products undergo demanding tests for compliance, safety and performance. With Thorn, you can be sure that your lighting product does what it says it will do, meets all relevant standards and regulations, and comes with a guarantee of quality and safety.

04

ENVIRONMENTAL PRODUCT DECLARATION (EPD)



At Thorn we provide EPDs as a standard service. The EPD for each specific product details its impact on the environment throughout its lifecycle. The EPDs are based on EN ISO 14025 and EN 15804. The information given by an EPD is relevant not only for environmental certifications such as LEED, BREEAM or ÖGNI. EPDs form the data basis for an environmental building assessment.

05

BEST-IN-CLASS OPTICS

Thorn's product range benefits from our class-leading optical systems. They offer several precision light distributions to fulfil various requirements, with excellent uniformity and glare control.



06

QUALITY FROM THORN'S SPENNYMOOR FACTORY

Thorn's products go through intensive quality manufacturing, assuring the best processes to develop better products all the way. In addition, we are one of the first companies in the UK to be certified to ISO 14001 – the standard for environmental management. We have also successfully been recommended for certification to ISO 50001:2018 for energy management. Our factory at Spennymoor in the UK has achieved a reduction of approximately 25% in significant energy uses and 14% in electricity use compared to the previous year.

07

FIVE YEAR GUARANTEE

All Thorn products carry a five year guarantee.



5 YEAR
GUARANTEE

08

ZUMTOBEL GROUP MEMBER

The Zumtobel Group is an international lighting group and a leading supplier of innovative lighting solutions, lighting components and associated services. With its core brands, Zumtobel, Thorn and Tridonic, the Group offers its customers around the world a comprehensive portfolio of products and services.

GET IN TOUCH

www.thornlighting.com/contactus

WE
MAKE
LIGHT
WORK