

## Experience selected products in 3D thanks to augmented reality



## 1. Load the TRILUX AR app

Scan the QR code or enter "TRILUX AR" into the search field of the App Store and download the free augmented reality app.

#### 2. Activate the app

To use the augmented reality function, start the AR app. Now use the camera to scan the application pages and product pages marked with the AR symbol in this brochure. The 3-D model is displayed as soon as the angle and distance are correct. Click on the symbols and let the TRILUX world surprise you!

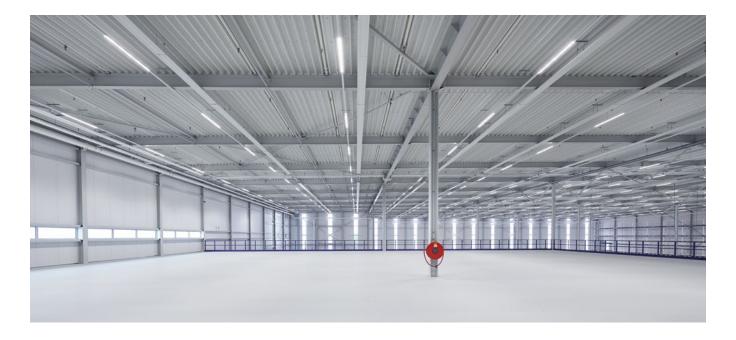
## 3. Experience TRILUX

Experience TRILUX luminaires with augmented reality on your mobile device. Explore detailed 3-D models of the products from all sides, experience the variety and flexibility of our lighting systems and see, for example, how Human Centric Lighting creates light spaces where people feel comfortable at any time of the day.

AR<sup>+</sup>



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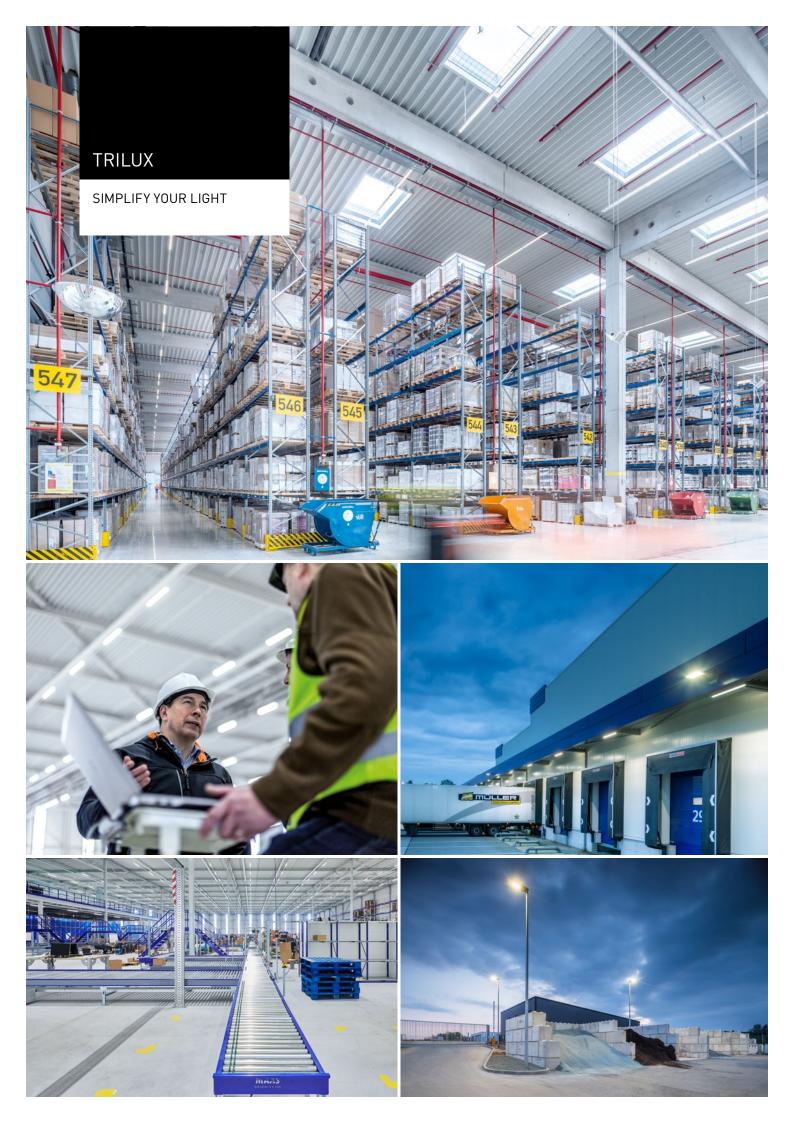
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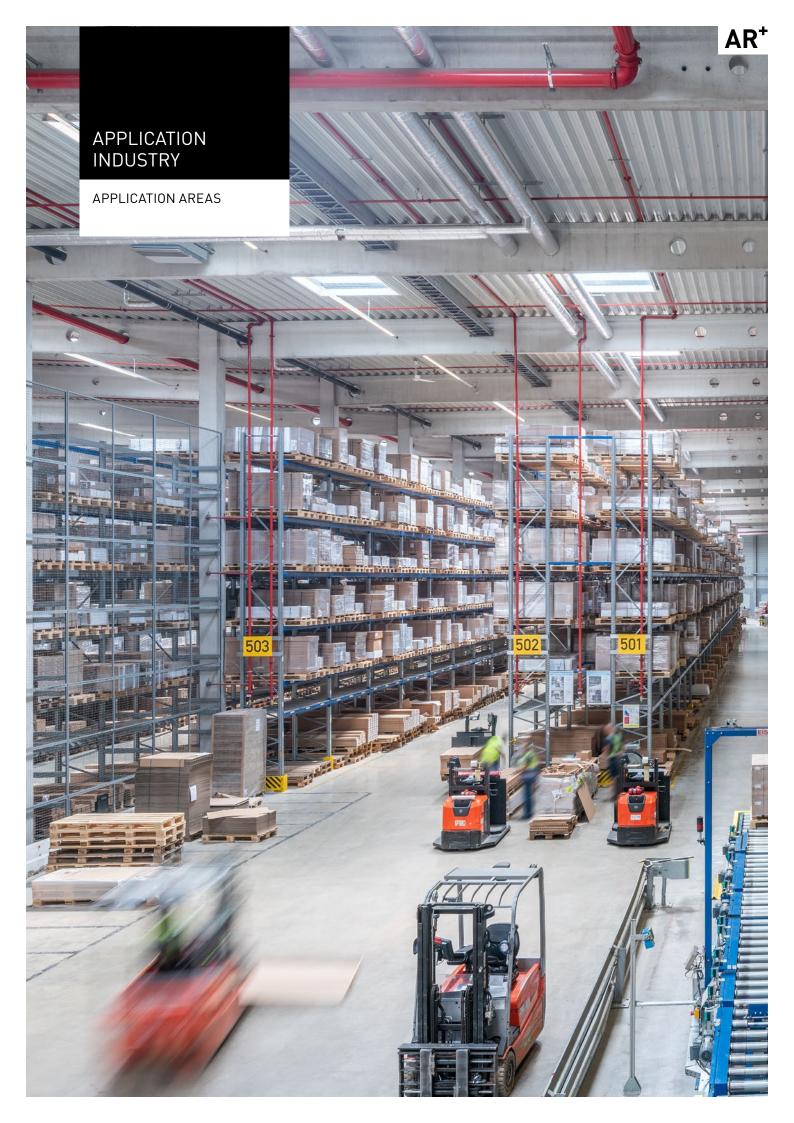






TRILUX SIMPLIFY YOUR LIGHT represents the simplest and most reliable path to customised, energy-efficient and future-proof lighting solutions. In the dynamic and ever increasingly complex lighting market, customers are provided with optimal advice, ideal orientation and perfect light. To ensure this, TRILUX offers a wide portfolio of technologies and services as well as high-performance partners and companies in the TRILUX Group. The lighting specialist combines single components to create custom-designed complete solutions – always perfectly tailored to the customer's requirements and specific applications.

This way, complex and extensive projects can be simply and rapidly implemented from a single supplier. According to the principle of SIMPLIFY YOUR LIGHT, simple planning, installation and ease of use is focused on for customers in addition to quality and efficiency.





# Production halls – light for safety and productivity

Depending on the industrial sector, luminaires in production halls have to face up to a wide variety of challenges such as humidity, dust, vibrations and temperature fluctuations. In the food industry, there is the added requirement of maximum hygiene standards. TRILUX solutions can be perfectly adapted to almost any application due to the broad product portfolio – while ensuring consistently optimum visual conditions. [page 28]



## Warehouses – glancing upwards without glare

Large, windowless halls with high racking and relatively narrow aisles: welcome to the classic warehouse. Employees must be able to move quickly and safely in the aisles. Either on foot or by forklift truck. They must also not be subjected to glare during sorting and picking of the merchandise. The ideal lighting solution: highly efficient, high-lumen output and durable luminaires with narrow or narrow-wide distribution optics and high glare control. For areas with low activity, operating costs can be further reduced by use of a light management system with presence detection. (page 32)



# Special areas – our expertise for challenging industrial situations

Dust, heat, cold, humidity and vibrations – industry places high and often very specific requirements on lighting. TRILUX responds to this with a broad portfolio of standard and special solutions for a wide variety of applications. Whether maximum hygiene requirements in the food industry, corrosive atmospheres in tyre warehouses, intensive animal husbandry or especially high quality light for the quality inspection of paints in the automotive industry: TRILUX lighting solutions are the means of choice. (page 36)

## **SMART INDUSTRY**

LIGHTING NETWORKS
AS INFRASTRUCTURE

#### **INDUSTRY 4.0 - DIGITALISATION STARTS WITH LIGHTING**

You want to advance digitalisation in your company by a huge step, with minimum effort and risk? Start with lighting! Networked lighting not only provides enormous improvements regarding energy efficiency, comfort and intelligence, the light points' power supply can also be used for non-lighting Industry 4.0 applications. This way, the lighting network creates the perfect infrastructure for innovative Smart Factory applications.

TRILUX supports companies in their digital transformation with a three-step approach. The degree of networking and lighting intelligence can be adapted precisely to individual requirements and framework conditions.

Each step brings more opportunities – and larger improvements.

**FUTURE-SAFE** 

# **HEAT MAPPING**

**DIGITAL TRANSFORMATION** 

1

# SMART FACTORY

### Simple LED transformation - but with DALI, please

The simple change to LED lighting already improves energy efficiency and quality of light enormously. In terms of technology, companies can choose between switchable LEDs and dimmable, DALI-based LEDs. TRILUX recommends DALI luminaires, since the DALI protocol has become established as the standard for controlling luminaires and lighting networks. This provides future-proof planning. DALI luminaires can also be networked and functionally upgraded at a later time without difficulty – and thus form the basis for all further transformation steps.

## Networking - individual light points form an intelligent lighting network

With the LiveLink light management system, DALI luminaires can be connected quickly and simply to form an intelligent network. This opens up entirely new possibilities regarding luminaire control, analysis and optimisation. Sensors for presence detection and constant light control on request minimise energy consumption, and sophisticated, automated light scenes like Human Centric Lighting bring daylight into production halls. The next step leads to the cloud: with TRILUX Monitoring Services, companies can monitor, analyse and optimise operating data for any individual luminaire in real time via the LiveLink Cloud. This way, maintenance cycles can be adapted to actual requirements, therefore reducing costs as well as the risk of production downtime due to surprising lighting maintenance needs (predictive maintenance).

# **ASSET TRACKING**

CONNECTIVITY

INTERNET OF THINGS

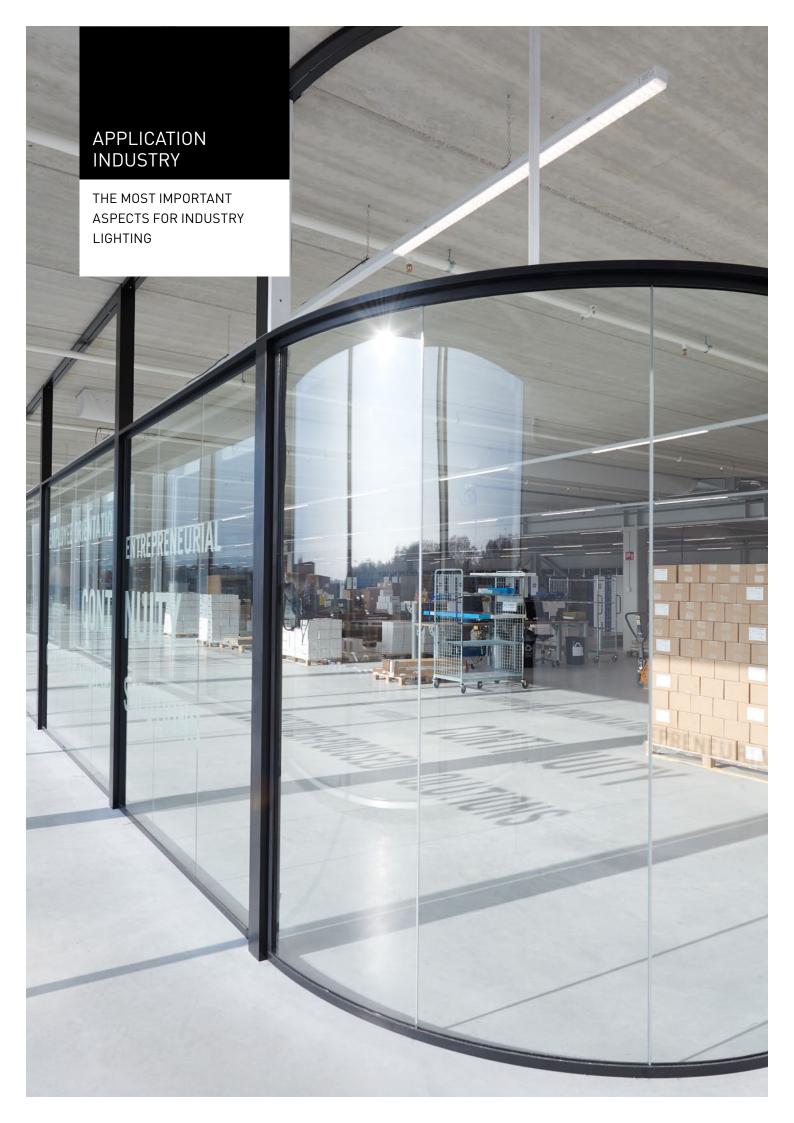




## **AUTONOMOUS VALUE CHAIN**

## More than just light – lighting networks as Industry 4.0 infrastructure

Lighting networks across entire buildings create the perfect infrastructure for innovative Smart Factory applications and networking industrial processes. TRILUX DALI luminaires are IoT-ready and can be flexibly connected with Industry 4.0 components (even retrospectively). This also facilitates location-based services such as asset tracking and heat mapping. And there is more: multi-sensor systems, which can be integrated into the lighting network, can seamlessly transfer their data to downstream building automation systems. Light points become data nodes for building management and Smart Factory applications and thus accelerate digitalisation in industrial operations.



Competition is constantly increasing for companies in all sectors. The maxim of "higher, faster and further" applies in the fight for customers and specialist employees. Companies at all levels are looking for ways to reduce costs, improve working conditions for employees and optimise processes. One central, often underestimated starting point is industrial lighting. With TRILUX as an expert partner at their side, industrial companies can quickly, reliably and easily exploit the potential of digital, intelligent and networked lighting solutions. Together with you, we develop holistic and individual solutions for every application – ranging from production halls, warehouses, corridors and stairwells to office workstations and outdoor areas around buildings. The following aspects play a major role in this:



#### **Energy efficiency**

Maximum yield with minimum use of resources – nowhere are the demands on business efficiency higher than in the industrial sector. This also applies to the industrial lighting. TRILUX luminaires score points with their excellent energy efficiency and above-average service life. The low operating costs make converting to LED technology especially attractive. [page 10]



#### Refurbishment

Reducing operating costs and increasing quality of light, comfort and sustainability – while simultaneously setting the course for the future with an intelligent, networked lighting system. It's simple – with TRILUX refurbishment solutions for the industrial sector. [page 12]



#### Services

"TRILUX – SIMPLIFY YOUR LIGHT" represents the simplest path to intelligent, customised light. TRILUX provides support with extensive information and consulting as well as holistic service concepts regarding financing, project management as well as digital and technical services. [page 18]



#### Quality

From material selection and design to installed lighting technology – TRILUX lighting solutions fulfil the highest demands in terms of product, data, design and light quality. Industry lighting solutions support work processes, consider individual employee needs and create an atmosphere of well-being, all according to workstation and requirements. [page 24]



High energy costs, limited resources and increased awareness for environmental concerns: energy efficiency is more important than ever in industry. This also applies to lighting, since it is responsible for nine percent of industrial energy costs. Lighting systems with high energy efficiency guarantee permanently low operating costs and thus enhance competitive capacity. In addition, the lowered energy consumption reduces the  $CO_2$  footprint, contributing to achieving sustainability targets.

## Energy efficiency – would you like a little more?

Energy efficiency as a focus topic is the thread that runs through the entire portfolio of TRILUX products and services. Our experts provide qualified consulting, present you with all options and possibilities from simple LED solutions with pioneering technology to completely networked, cloud-based lighting systems – and, on request, will take care of all services in terms of planning and implementation.

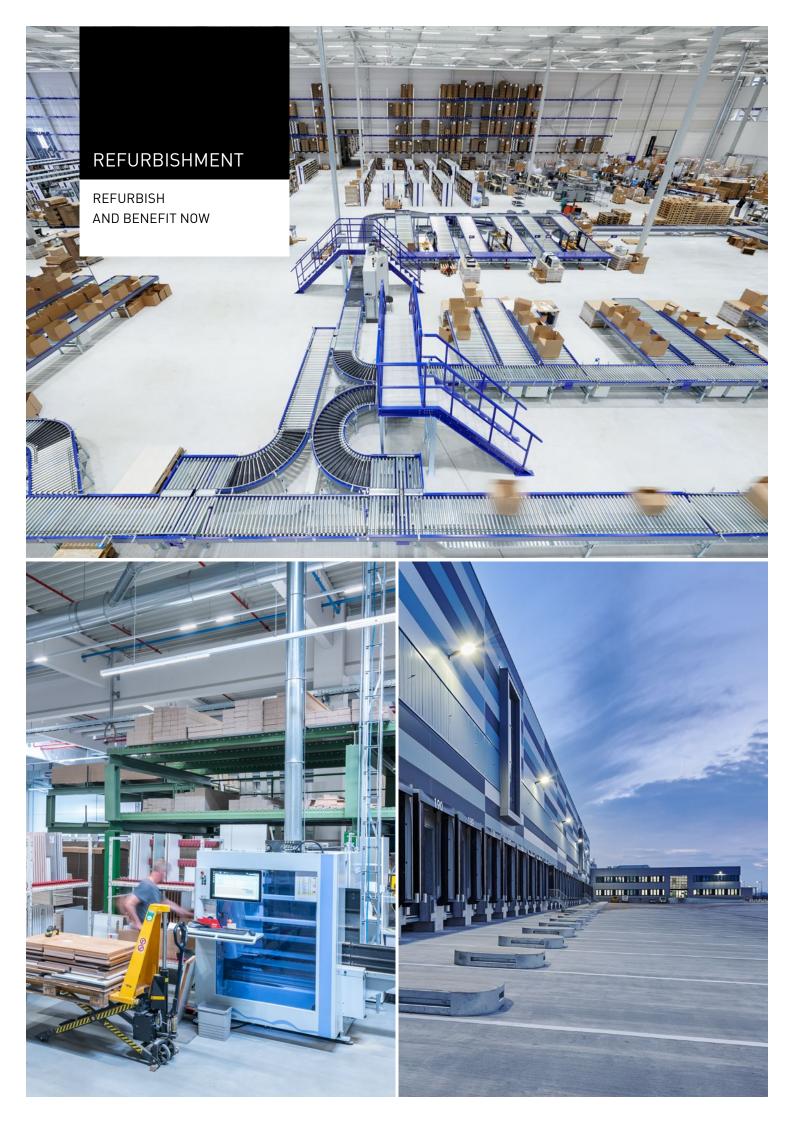
## TRILUX efficiency expertise – luminaires and systems with optimised technology

Our claim: generating, distributing and controlling light as efficiently as possible via solutions. To achieve that, for instance, we combine our efficiency research in the Innovation Centre of the TRILUX Group. The results are solutions with market-leading technology which continuously set the benchmark in terms of lumen output per watt.

## Sustainability - lighting as a component for building certifications

Sustainable lighting reduces the overall energy consumption of a building – and thus makes an important contribution for sustainable building certifications such as BREEAM, LEED and the Well Building Standard. TRILUX lighting systems fulfil even the highest requirements in terms of sustainability.





### Refurbishment - small investment, large profit

Reducing operating costs and increasing quality of light, comfort and sustainability – while simultaneously setting the course for the future with an intelligent, networked lighting system. It's simple – with TRILUX refurbishment solutions for the industrial sector. Based on your individual requirements, we develop a customised refurbishment solution for you – and support your conversion from start to finish. There is no simpler or quicker way.

### Fully calculated - a plus in terms of profitability

Refurbishing an obsolete lighting system with LED technology reduces energy costs by up to 67 percent. If the lighting is combined with a light management system and sensor control (presence detection and constant light control), savings of up to 85 percent become possible. This means that the refurbishment can often finance itself through the savings in terms of operating costs. Saving real money from day one.

### Refurbishment solutions – for smooth replacement

TRILUX luminaires are designed for quick and simple refurbishment at all levels. Smart housing geometry facilitates the use of existing fixing points of the previous lighting installation – not only previous generations of the new luminaires. Flexible luminous flux options make it possible to replace one-to-one without new light planning. A wide range of smart accessories and solutions makes refurbishment even simpler. Where DALI control lines are missing, luminaires can simply be networked via radio with LiveLink WiFi. The refurbishment classic: a conventional E-Line unit (T5 or T8) is converted to highly efficient LED technology within 44 seconds.

#### Networking – the future begins here

The lighting of the future is intelligent and networked. And provides users with enormous optimisation potential on all levels thanks to features like dimming, sensor control, Human Centric Lighting or cloud monitoring. And there is more: a networked lighting installation creates the necessary infrastructure for optimising client data communication and thus forms the foundation for the Smart Factory of the future today.

## Subsidies - brought to light for you

The government supports LED refurbishments with a wide range of national and regional development programmes. Our experts know exactly which programme is right for you at which point – and will support you from applying all the way to implementation.

#### Modernising a conventional T8 system with an efficient E-Line Next LED continuous line (using the example of 8,400 lm)

| Warehouse                        | Old installation           | New installation A                      | New installation B                      |  |  |
|----------------------------------|----------------------------|---|---|--|--|
|                                  |                            | (without LM)                            | (with LM, energy savings 35 %)          |  |  |
| Luminaire                        | Continuous line luminaire, | 7651Fi HE LN 80-840 ETDD L150 01 (IP64) | 7651Fi HE LN 80-840 ETDD L150 01 (IP64) |  |  |
|                                  | T8, 3x58W, ECG, IP50       |   |   |  |  |
| System power per luminaire       | 198 W                      | 47 W                                    | 47 W                                    |  |  |
| Number of luminaires in the room | 40                         | 40                                      | 40                                      |  |  |
| Total system power               | 7,920 W                    | 1,880 W                                 | 1,880 W                                 |  |  |
| Energy consumption p.a.          | 31,680 kWh/a               | 7,520 kWh/a                             | 4,888 kWh/a                             |  |  |
| Energy costs p.a.                | € 9,702/a                  | € 2,303/a                               | € 1,497/a                               |  |  |
| Energy savings potential         |                            | 76%                                     | 85 %                                    |  |  |
| Saved energy p.a.                |                            | 24,160 kWh/a                            | 26,792 kWh/a                            |  |  |
| Energy cost savings p.a.         |                            | € 7,399/a                               | € 8,205/a                               |  |  |
| CO₂ savings p.a.                 |                            | 11.75 t/a                               | 13.02 t/a                               |  |  |

Based on an average rate of € 0.25 per kWh in 2020 and an annual price increase rate of 3 % over a service life of 15 years with 4,000 operating hours per year. (LM: light management)

At www.trilux.com/efficiency-calculator you can calculate your LED refurbishment project regarding energy efficiency, CO<sub>2</sub> savings, costs and pay-back periods. Our light experts would love to support you with optimised planning and implementation. Simply contact us!







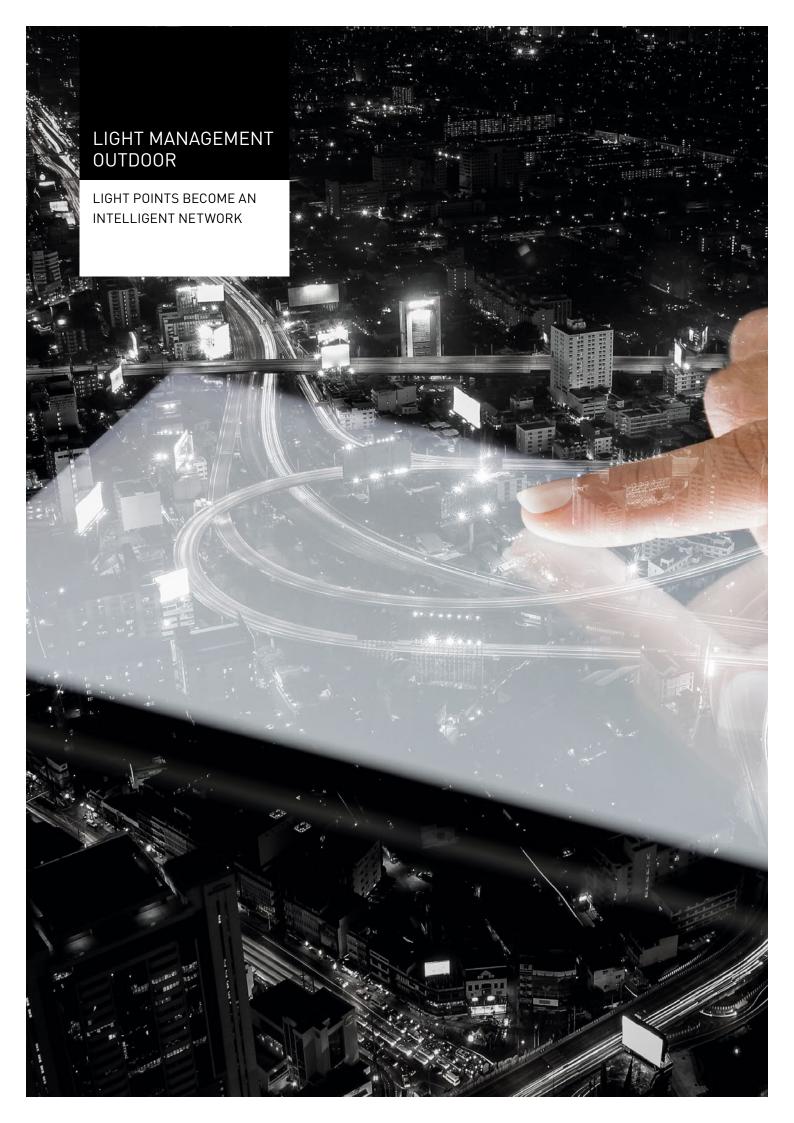
# LiveLink Wifi – the smart and high-performance all-rounder

Light management has never been more reliable and quicker to plan, install and operate than it is with LiveLink. With just one control device and the convenient commissioning app, individually definable spaces can be configured in next to no time. In addition to fully automatic control via intelligent sensors, the luminaires or luminaire groups can also be controlled via conventional installation push-buttons or via mobile app on a tablet or smartphone. With only a few clicks, IoT-capable DALI luminaires can be connected to the LiveLink Cloud which provides the user with a complete, real-time overview of relevant lighting data.



# LiveLink Premium as a customised project solution

Large projects can feature several thousand luminaires which are controlled via one system. The server-based LiveLink solution makes it possible to implement nearly any individual customer requirement with little effort. Commissioning and control are carried out comfortably and simply via an app. Monitoring the lighting installation as well as predictive maintenance are possible via simple networking with the LiveLink Cloud – and a suitable data interface facilitates integration into superordinate building management systems.



## TRILUX LMS Outdoor - for tomorrow's Smart Cities

Broadband internet access, mobile data, the Internet of Things and cloud computing – the future is networked and connectivity is one of the major trends in the near future.

The use of TRILUX LED luminaires with light management systems enables savings exceeding 80% compared to obsolete lighting installations. Remote street lighting management and control provide greater efficiency and increased public safety. Various dimming profiles and other settings can also be created and modified at any time and from anywhere.

#### Your advantages with TRILUX LMS Outdoor



#### **Smart City-compatible**

Open interfaces (APIs) enable the integration of third-party software and hardware.



### Light according to needs

Sensors help save more energy and avoid unnecessary light pollution.



## Control, regulate, monitor

Simple remote management of the complete lighting system via a web-based software.



#### Safe communication

Protected against system failures and unauthorised access.



#### Simple installation

Quick installation and commissioning (with GPS location).

Modifications to the existing lighting infrastructure are not required.



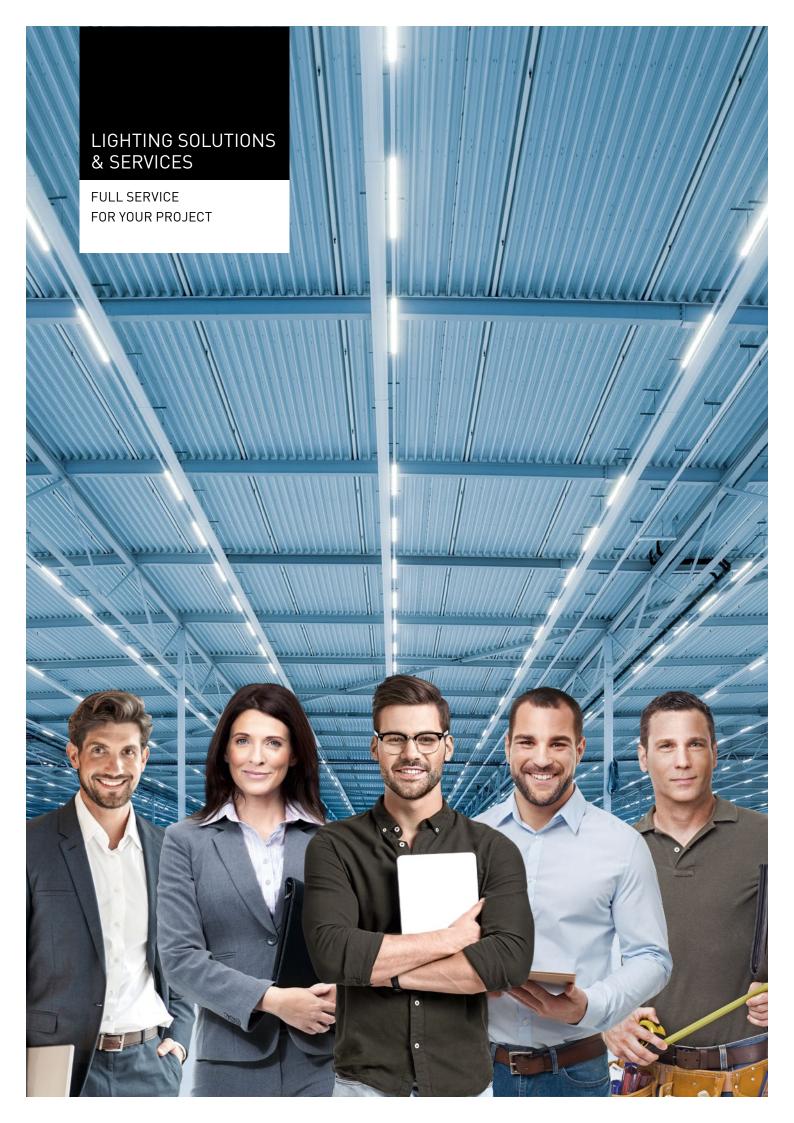
## **Proactive maintenance**

Automatic communication of error reports and status reports via web-based software.



#### Software features

- Readout of current luminaire status
- Setting of dimming profiles
- Grouping of luminaires
- Display and positioning of luminaires on a map
- Energy consumption readout for individual luminaires or luminaire groups
- Display of current traffic density



### Achieving perfect light has never been simpler

The lighting market has changed enormously due to LED transformation, increasing digitalisation and social mega-trends such as connectivity and big data. On the one hand this provides various opportunities. On the other, lighting solutions are becoming increasingly complex and their selection, configuration and operation more complicated.

TRILUX makes this complexity manageable thanks to intelligent solutions that set new standards in terms of energy efficiency and quality of light, and also by offering a wide range of customer-oriented services.



## **ORIENTATION & SAFETY**

Increasingly complex lighting solutions mean that the knowledge applied over many years is changing. They also place new demands on all participants with regard to the efficiency, quality, performance and service life of lighting solutions. Furthermore, new challenges placed on the building flow into the planning process – as a result future construction projects will not only become more intelligent but will also be designed more sustainably.

We clarify together with you which technologies and products are most suited to your needs.



#### LIGHTENING THE LOAD

Large building and refurbishment projects demand foresight and a corresponding overview, as well as appropriate resources with the planning, implementation and operation of a new building. Upon request we take on all tasks concerning lighting, ranging from technological consultation and custom financing concepts to installation work and extensive digital services. This provides you with the required flexibility to concentrate on your own business.



#### SAVINGS

An efficiently planned lighting solution not only considers costs, potential savings and financing options. TRILUX offers various financing models to customers who wish to realise their systems in a balance-neutral way to protect their own capital and maintain their handling flexibility.

We draw up individual concepts in agreement with you to fulfil your precise requirements.



#### **ENVIRONMENTAL AWARENESS AND SUSTAINABILITY**

The lighting solution is a central part of sustainable building management and has a major influence on gaining certifications such as Green Building. Greenhouse gas emissions can be sustainably reduced via environmentally protective lighting installations based on state-of-the-art LED technology and intelligent control solutions. Digital services from TRILUX also enable the monitoring of operationally relevant data such as energy consumption during operation.

We are also here for you after commissioning.



#### **TECHNICAL SERVICES**

#### Technical Services from TRILUX - we'll take care of that for you!

Things have never been simpler. With Technical Services from TRILUX, you can put all the tasks regarding your new lighting installation in the hands of TRILUX and our partner network – starting with disassembly and correct disposal of the obsolete system all the way to the installation of the new system in cooperation with our partners. On request, our experts will also take care of networking as well as programming and commissioning of the LiveLink light management system for you.



#### PROJECT MANAGEMENT

#### Coordination of large projects to help lighten the customer's workload

Today's modern buildings must be intelligent, sustainable and flexibly usable. They are often individually adapted to the needs of the client.

- Full-service principle for the customer: TRILUX acts as a general contractor with all lighting issues.
- Implementation of all coordination tasks by TRILUX Project Management: from lighting design
  consultations to the integration of various lighting-related systems such as indoor, outdoor and
  emergency lighting, light management including sensor technology, distribution, supply, mounting,
  installation and maintenance.



#### **FINANCING**

#### Various possibilities, extensive advice

LED renting or purchase, hire purchase or leasing? Together with you we draw up your ideal financing solution.

- Balance-neutral realisation of lighting projects without own investments: greater scope for action by protecting the equity capital.
- Cost-covering for a new lighting solution often from the first day by reducing operating costs.
- Pay per Use: the all-round carefree package. Customers can also only rent the light of a new lighting system that is actually needed. The monthly rate depends on the actual consumption. In addition to installation and financing, the price also includes system monitoring with the Monitoring Services.



#### **DIGITAL SERVICES**

#### Lots of added value with minimal effort

Digitalisation provides many new options for the lighting solution, data monitoring and other services. The result: reduced costs, greater transparency and increased comfort. TRILUX Digital Services enable you to exploit the potential of a modern lighting solution without difficulty. Connection to the LiveLink cloud can be easily implemented with the intelligent plug & play solution. The integration of further sensors makes the luminaire a technology carrier with added benefits.

#### Energy and Light Monitoring: full control of the entire lighting system

With the monitoring services, you gain access to all relevant operating data of the lighting solution via LiveLink. In addition to the optimisation of energy consumption, maintenance cycles can also be adapted to genuine requirements because the system detects the need for maintenance in advance. This form of predictive maintenance is significantly less complex and therefore also more economical than fixed maintenance intervals.

#### Monitoring services supply data on:

- Dimming and operating status (on or off)
- Energy consumption and operating duration
- Error notifications and temperature of the ECG
- Predictive maintenance

#### Location Based Services: the next level for your business

Determining the position of people or objects offers you optimisation potential which leads to cost reductions and increases in sales. Location-based services enable new relevant customer benefits by integrating Bluetooth transmitters into the luminaires:

- Reduced search and setup times through asset tracking
- More targeted positioning of merchandise through knowledge of customer movements in the retail sector
- Opening up of new communication channels via push messages directly to your customer's smartphone



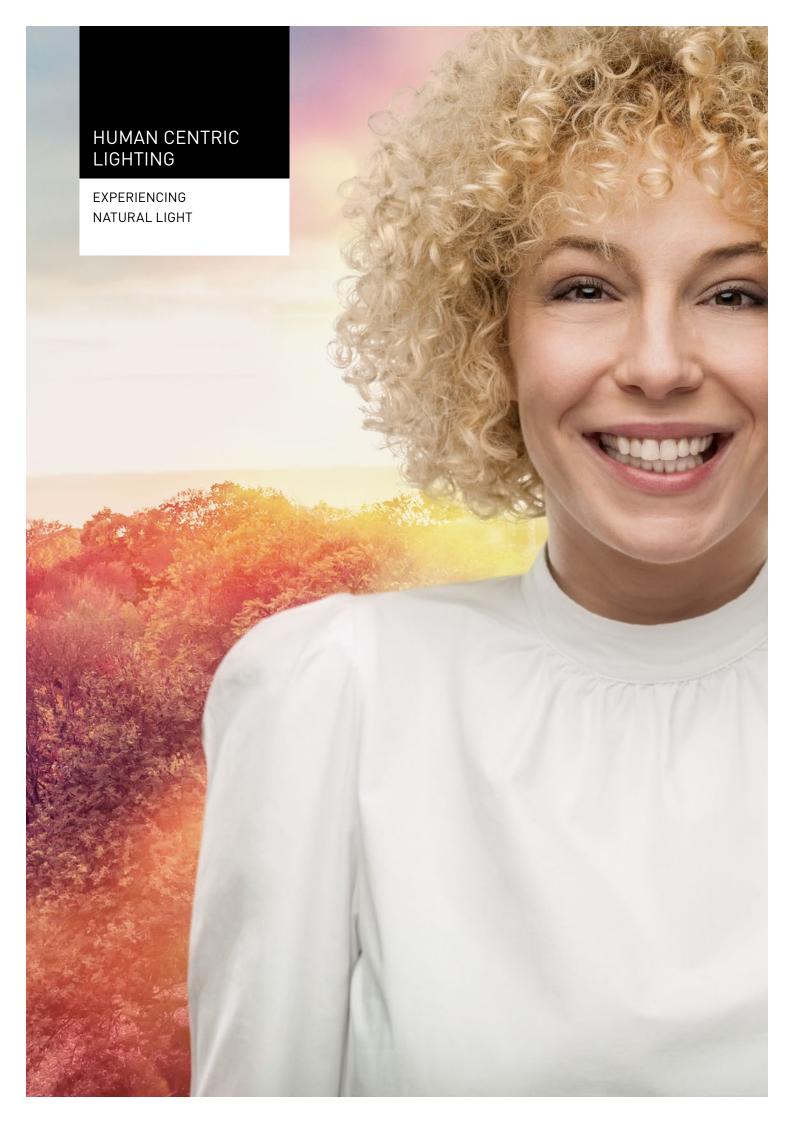
#### PAY PER USE - THE COMBINED SERVICE MODEL

#### The simplest way to your luminaire upgrade

With the Pay-per-Use financing model, TRILUX offers a flexible option for obtaining an energy-efficient LED lighting solution without tying up capital. This approach makes it possible for companies to finance the new lighting installation through a monthly, consumption-based rate: this way, they remain flexible and preserve investment leeway for their core business. The usage-based portion of the monthly costs is only due if the system is actually being used. If the installation is switched off, e.g. on bank holidays or weekends, only the base rate becomes due.

Furthermore, the new LED lighting systems generate significant savings in terms of energy and maintenance costs. From the very first month, savings of up to 80% compared to the obsolete system are possible. Subtracting the expenses for the monthly base rate, there is still an overall cost reduction of up to 20%

In addition, the installation of the new lighting system as well as the disassembly and correct disposal of the obsolete system are included in the TRILUX Pay-per-Use scope of services. Via predictive maintenance, systems can be monitored and corresponding maintenance intervals can be planned without difficulty. This prevents disruptions in operation and expensive downtimes.

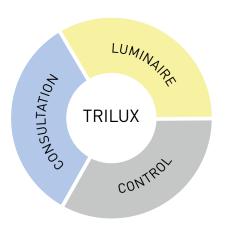


Light has many facets that need to be considered when designing future-proof lighting solutions. At TRILUX we offer important added value: we place people with their specific needs at the centre. For TRILUX customers this consistent targeting of the solution to the user is the foundation of good light.

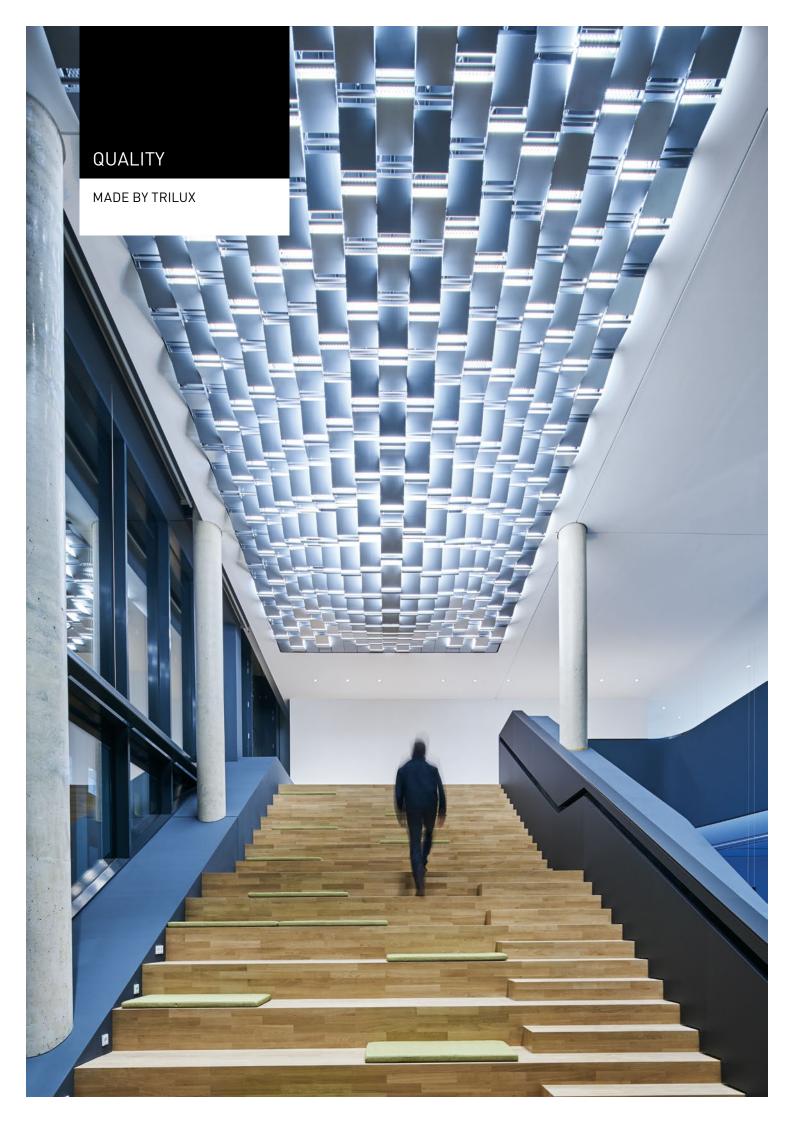
Good light must provide more than just optimum visual conditions complying with appropriate standards. Light colour and lighting intensity for example influence mood, well-being and the capability to perform. The biological rhythm of people can also be improved by adapting the light colour and intensity of lighting to the natural course of daylight. This can even be achieved automatically with intelligent light control – the right light at the right time.

A Human Centric Lighting solution is always based on a professionally planned lighting concept where all components are precisely matched to customer requirements and the specific application. This enables high-performance, customised systems that optimally support people in their range of tasks. According to its brand promise of Simplify Your Light, TRILUX ensures that using such solutions is as simple as possible.

A TRILUX HCL lighting solution always consists of three components: luminaire, control and light consultation.



Only in this way do customers receive optimum advice, and light ideally adapted to their needs. TRILUX offers a wide portfolio of cutting-edge technologies and products to achieve this, and brings together single components to create customised, complete solutions.



German engineering, customised solutions and innovative designs – this all indicates "Made by TRILUX". We place great importance on high-class workmanship and products with maximum quality that adapt to the individual needs of users and the diverse range of applications. TRILUX offers not only standard solutions, but in close cooperation with the customer develops atmospheric and simultaneously functional lighting concepts complying to current standards. This is ensured by the use of premium materials, in-house developed optics, extensive data records and outstanding efficiency levels. Made by TRILUX is your guarantee for the highest level of quality across the board.

#### **PRODUCT QUALITY**



TRILUX means customer-specific configurations, developing products with and for its customers oriented precisely to their needs. TRILUX offers market-compliant and future-proof lighting solutions matched to the specific requirements of the various applications.

#### **DESIGN QUALITY**



TRILUX lighting concepts adapt to the overall architectural concept of a building. It is a matter of complementing the architecture with good lighting. We develop our products in close cooperation with renowned lighting designers, and such products are regularly awarded design prizes.

## **LIGHT QUALITY**

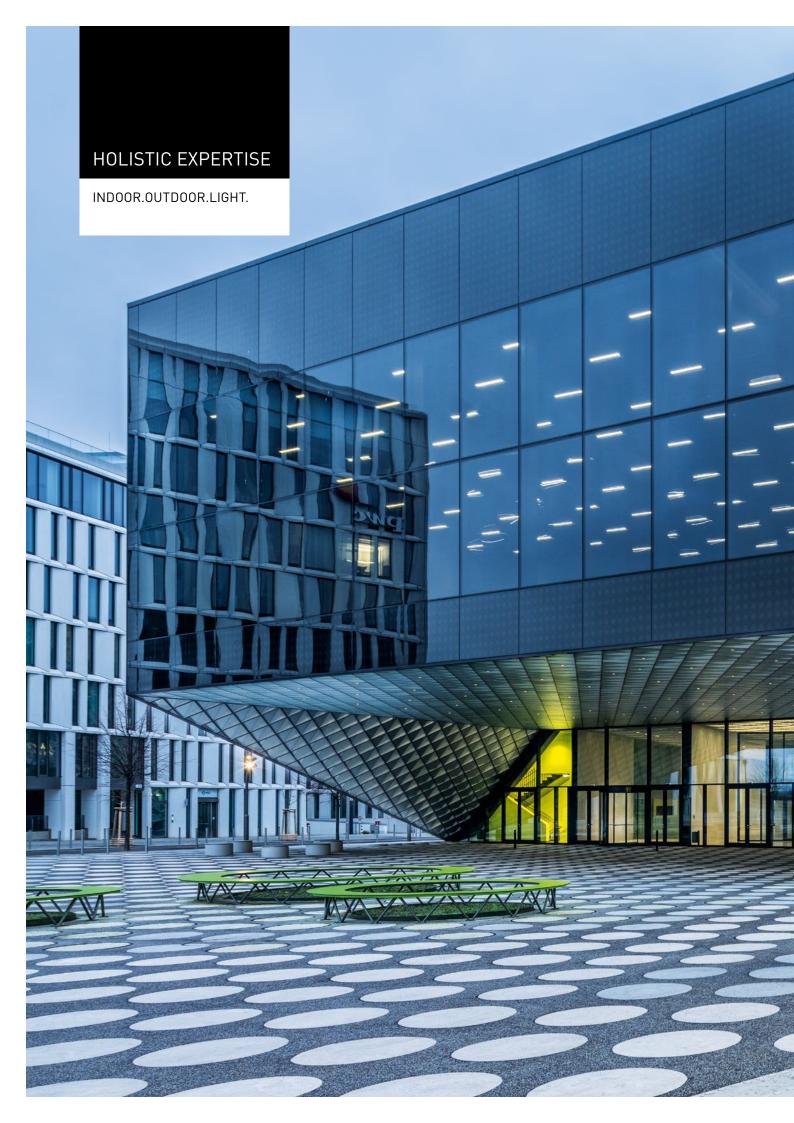


TRILUX lighting solutions offer much more than just standard compliant lighting. They can be adapted individually to very different needs, supporting users in their daily work tasks.

## DATA QUALITY



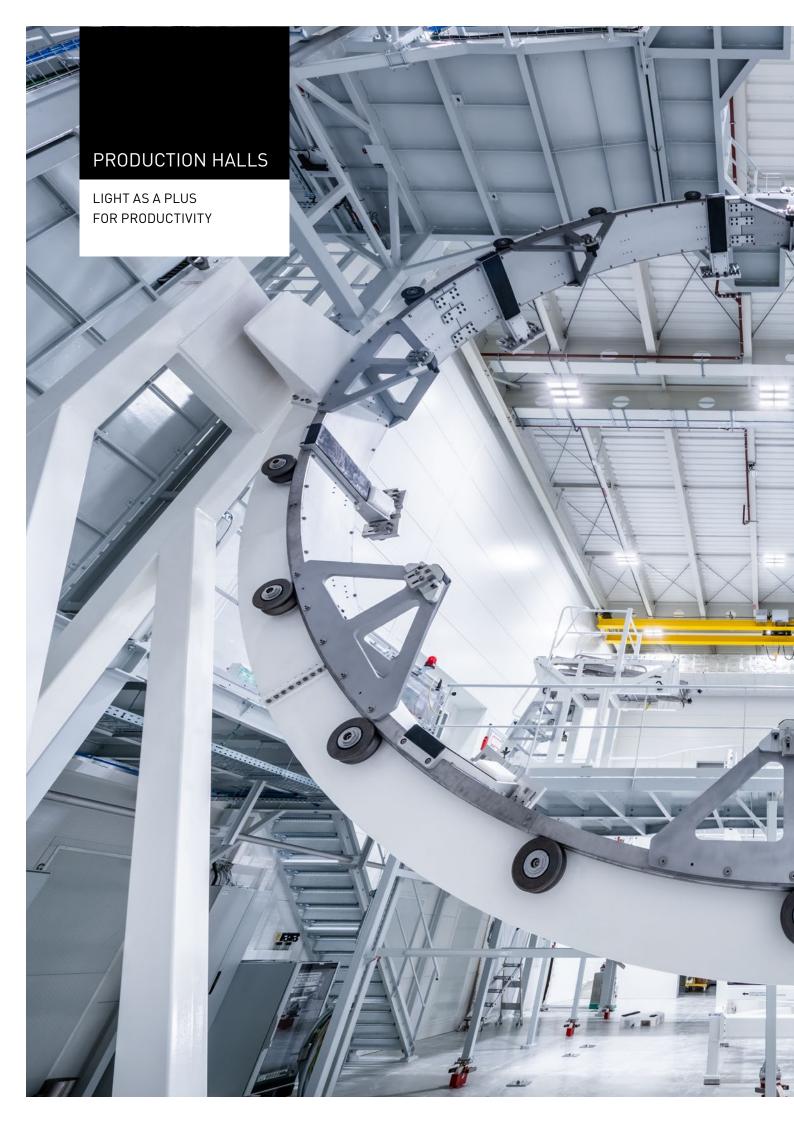
TRILUX accompanies and drives forward this transformation in the planning of building constructions with BIM by providing extensive product documentation. Such documentation leads the way in the industry.

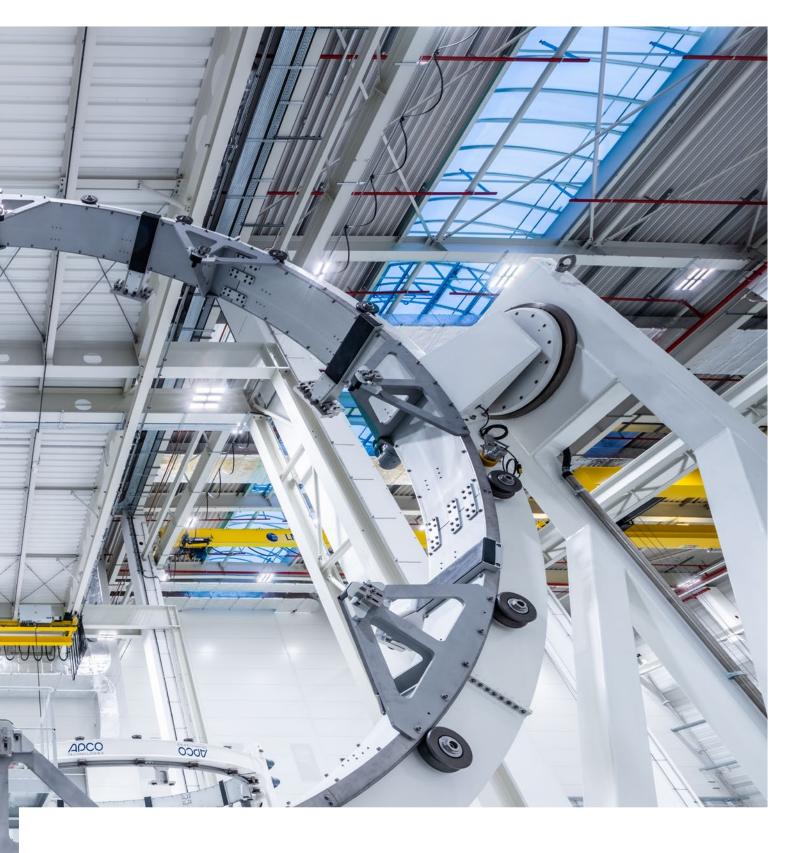




Entrance areas, stairways, corridors and offices, car parks, paths and facades also require tailored lighting solutions. TRILUX always examines buildings in a holistic way, including all areas inside the building as well as outdoor areas around buildings in any planning consideration. The result: customised lighting concepts with technology and design from a single cast.

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#### Light that knows only winners

Dust, heat, low temperatures, humidity and vibrations – maximum and highly diverse demands are placed on light in industrial environments. TRILUX lighting solutions fulfil the complete range of specifications. This also applies to special cases. For this reason the TRILUX portfolio also contains systems for maximum hygiene requirements (e.g. the food industry), corrosive atmospheres (tyre warehouses and intensive animal husbandry) or for especially high-quality and completely glare-free light as needed, for example, with the quality inspection of coatings in the automotive industry.

In combination with typical TRILUX reliability, which prevents annoying and expensive business interruptions caused by maintenance work, the right light increases productivity levels in industry by 13%. This is verified by a current survey carried out by A.T. Kearney. Simultaneously, the number of accidents is reduced by 11% compared to conventional, obsolete lighting installations. With light like this, there are only winners.

## PRODUCTION HALLS









#### E-Line Next LED

E-Line NEXT LED makes it all possible. The modular system offers previously unknown flexibility in terms of optics, lumen packages, lengths, protection classes, etc. With maximum quality of light and efficiency of up to 190 lm/W, it's the ideal choice for all continuous line projects. All modules are HCL-capable to e.g. support the wellbeing of employees, especially during shift work.

www.trilux.com/e-line-next

#### E-Line Next IP64 LED

Simply unstoppable: as an IP64 variant the E-Line NEXT LED shows its robust side, ideal for areas with high safety requirements or harsh conditions such as cold stores, industrial production facilities or technical rooms.

Mirona Fit LED + E-Line Next LED

In addition to the classic gear trays, the Mirona Fit LED highbay spotlight (module length 1,500 mm or 2,250 mm) can also be inserted into the trunking of the E-Line Next LED. This way, special applications such as halls with particularly high ceilings or extreme temperatures can also be equipped.

Mirona Fit LED

The Mirona Fit LED highbay luminaire is a reliable lighting solution for demanding conditions in industry. Even at high ambient temperatures of 55 °C the tough luminaire provides a long, low-maintenance service life. With up to 150 lm/W, Mirona Fit LED is especially energyefficient and reduces operating costs.

www.trilux.com/e-line-next

www.trilux.com/mirona-fit-led

www.trilux.com/mirona-fit-led

#### Ideal quality of light for ideal results – recommendations for using E-Line Next LED optics

Production hall/Assembly workstation

| All solutions available                                     | Lens               |              |                |                             |                                     |  |  | Diffuser                      |                     |                    |                               |
|---|--------------------|--------------|----------------|-----------------------------|-------------------------------------|--|--|-------------------------------|---------------------|--------------------|-------------------------------|
| with Ra > 80,<br>Ra > 90 and as<br>Active versions<br>(HCL) | Very wide<br>(LVW) | Wide<br>(LW) | Narrow<br>(LN) | Very narrow<br>(LVN)<br>HRL | Extremely<br>narrow<br>(LEN)<br>HRL | Double<br>asymmetric<br>wide<br>(LDAW) | Double<br>asymmetric<br>narrow<br>(LDAN) | Asymmetric<br>narrow<br>(LAN) | Wide (19)<br>(LW19) | Lambertian<br>(DL) | Slim –<br>Lambertian<br>(DSL) |
|   | Ā                  | Ā            | Ā              | 1                           | Ţ                                   | 7                                      | 7  | 7                             | •                   | •                  | •                             |
| Installation<br>height recom-<br>mendation                  | 3-6 m              | 4-8 m        | 8-12 m         | 8-12 m                      | 12-16 m                             | 2.8-3.5 m                              | 3.6-5.0 m                                | 2.8-3.5 m                     | 3-6 m               | 2.5-4 m            | 2.5-4 m                       |
| Production<br>hall instal-<br>lation height<br>6-10 m       |                    | <b>(√)</b>   | ✓              | ✓                           |                                     |  |  |                               | <b>(√)</b>          |                    |                               |
| Assembly<br>workstation<br>installation<br>height 2.5-6 m   | ✓                  | ✓            | <b>(√)</b>     |                             |                                     |  |  |                               | ✓                   | <b>(√)</b>         | <b>(√)</b>                    |

(\*): Optics can be used as planning alternatives as required. Evaluating the precise requirements for application is still necessary (e.g. required glare limitation UGR, specified luminaire positions, ...).

Products shown represent only a small selection of our lighting solutions. See the complete product portfolio at: www.trilux.com.

## PRODUCTION HALLS







#### Nextrema G3 LED

The Nextrema G3 LED featuring a high quality die-cast aluminium body is especially robust, providing highly reliable operation even in extreme conditions. Once installed, its above-average service life of 85,000 hours makes it extremely low-maintenance. In combination with energy efficiency of up to 150 lm/W, the luminaire guarantees low total operating costs.

#### Aragon Fit LED

The new level for weather-proof luminaires: Aragon Pro LED combines the highest quality of light and efficiency, and can be perfectly adapted to on-site requirements thanks to its modular design. To achieve minimum energy consumption and maximum convenience the luminaires can be quickly and easily networked, either via DALI or radio.

## Oleveon Fit LED

Oleveon Fit LED with 3-D prismatic technology provides glarefree and energy-efficient light. Functional and fit for refurbishments: its high product quality, diverse range of variants and simple networking with the Livelink light management system make Oleveon Fit LED the ideal fit for damp rooms.

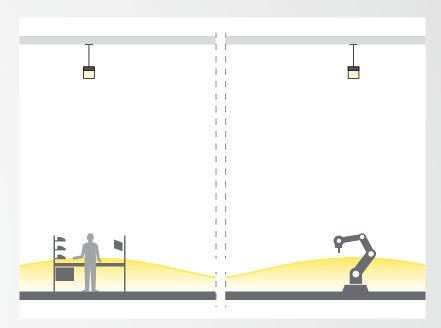
www.trilux.com/nextrema-g3-led

www.trilux.com/aragon-fit-led

www.trilux.com/oleveon-fit-led

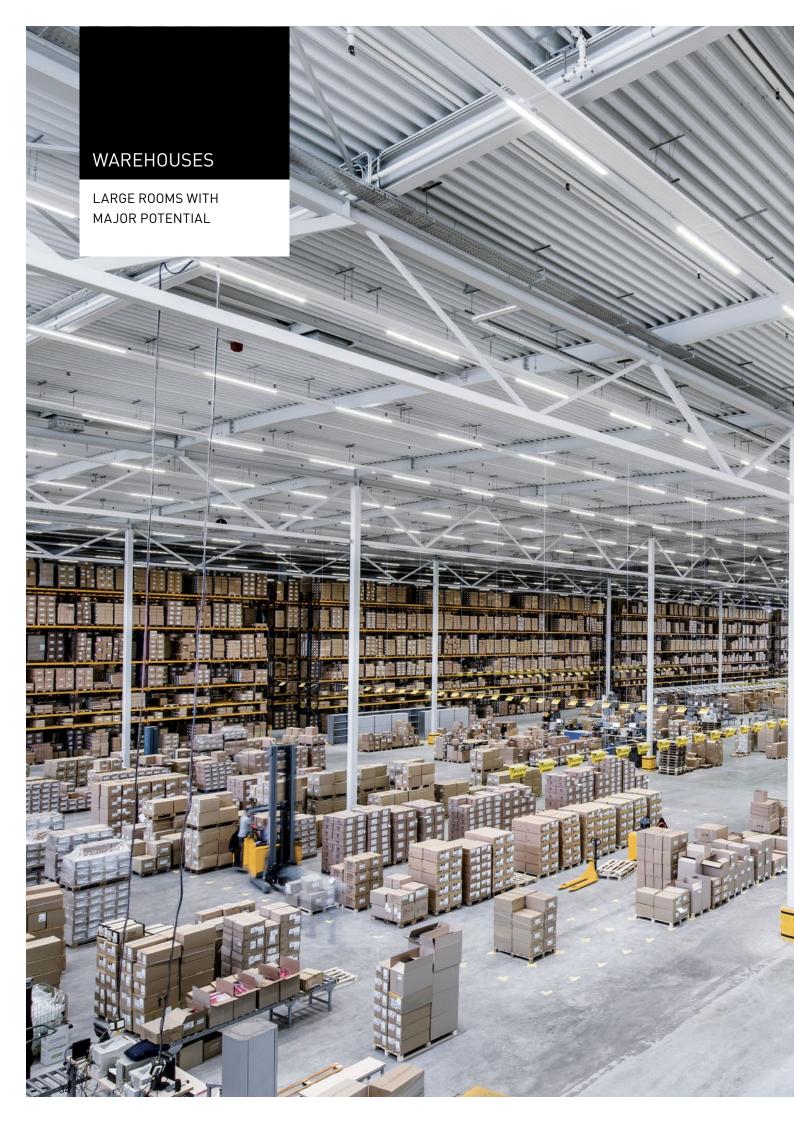
## AR<sup>+</sup>

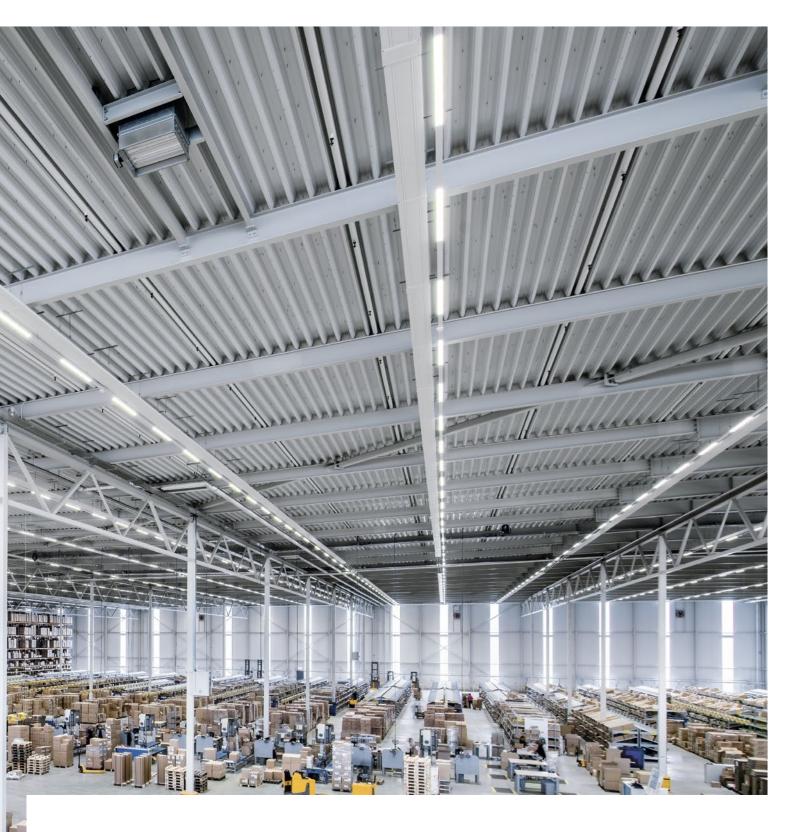




Information regarding the respective standard requirements can be found in the TRILUX Lighting Practice: www.trilux.com/lighting-practice

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### Intelligent lighting for all types of warehouses

Warehouses are a world of their own – large, windowless halls with high racking and relatively narrow aisles where workers need to move quickly and safely. Ideal lighting solutions are high-performance and durable luminaires with narrow or narrow-wide distribution reflectors and high levels of glare reduction. Optimum visual conditions must exist when looking up towards the hall ceiling as well, for example, when sorting goods at high levels with forklift trucks.

Warehouses are also typically large areas only entered for short periods of time and infrequently. To save energy, LED lighting solutions with light management systems featuring presence detection are recommended: luminaires are only switched on when people are in the detection range.

**A tip:** specifically developed refurbishment solutions such as the TRILUX E-Line Next LED luminaire allow conventional lighting installations with T8 lamps to be simply and quickly upgraded.

## **WAREHOUSES**









### E-Line Next LED

E-Line NEXT LED makes it all possible. The modular kit system provides previously unimaginable flexibility in optics, lumen packages, lengths, protection ratings etc. With optical systems for rack heights of up to 16 m, module lengths of up to 2.25 m and efficiency of up to 190 lm/W, it's the ideal choice for all continuous line projects.

www.trilux.com/e-line-next

### E-Line Next IP64 LED

Simply unstoppable: as an IP64 variant the E-Line NEXT LED shows its robust side, ideal for areas with high safety requirements or harsh conditions such as cold stores, picking and canopied outdoor areas. Thanks to its variety of lens optics, it can also be used with ceiling heights of up to 16 m.

www.trilux.com/e-line-next

### Mirona Fit LED + E-Line Next LED

In addition to the classic gear trays, the Mirona Fit LED highbay spotlight (module length 1,500 mm or 2,250 mm) can also be inserted into the trunking of the E-Line Next LED. This way, special applications such as halls with particularly high ceilings or extreme temperatures can also be equipped.

www.trilux.com/mirona-fit-led

### Mirona Fit LED

The Mirona Fit LED highbay luminaire is a reliable lighting solution for demanding conditions in industry. Even at high ambient temperatures of 55 °C the tough luminaire provides a long, low-maintenance service life. With up to 150 lm/W, Mirona Fit LED is especially energy-efficient and reduces operating costs.

www.trilux.com/mirona-fit-led

### Ideal quality of light for ideal results – recommendations for using E-Line Next LED optics

Warehouses/High bay racking

| All solutions<br>available with<br>Ra > 80,<br>Ra > 90 and as<br>Active versions<br>(HCL) | Lens               |              |                |                          |                                  |  |  | Diffuser                      |                     |                    |                               |
|---|--------------------|--------------|----------------|--------------------------|----------------------------------|--|--|-------------------------------|---------------------|--------------------|-------------------------------|
|   | Very wide<br>(LVW) | Wide<br>(LW) | Narrow<br>(LN) | Very narrow<br>(LVN) HRL | Extremely<br>narrow<br>(LEN) HRL | Double<br>asymmetric<br>wide<br>(LDAW) | Double<br>asymmetric<br>narrow<br>(LDAN) | Asymmetric<br>narrow<br>(LAN) | Wide (19)<br>(LW19) | Lambertian<br>(DL) | Slim –<br>Lambertian<br>(DSL) |
|   | Ā                  | Ā            | Ā              | <b>T</b>                 | T                                | 7                                      | 7  | 7                             | Ī                   | •                  | •                             |
| Installation<br>height recom-<br>mendation  | 3-6 m              | 4-8 m        | 8-12 m         | 8-12 m                   | 12-16 m                          | 2.8-3.5 m                              | 3.6-5.0 m                                | 2.8-3.5 m                     | 3-6 m               | 2.5-4 m            | 2.5-4 m                       |
| High bay<br>racking<br>ceiling height<br>12-16 m  |                    |              |                | (✓)                      | ✓                                |  |  |                               |                     |                    |                               |
| Storage areas<br>ceiling height<br>5-12 m   |                    |              |                | ✓                        |                                  |  |  |                               |                     |                    |                               |

(\*): Optics can be used as planning alternatives as required. Evaluating the precise requirements for application is still necessary (e.g. required glare limitation UGR, specified luminaire positions, ...).

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# **WAREHOUSES**





Once installed, Nextrema LED G3 with an above-average lifespan of 85,000 hours is extremely low-maintenance. The narrow-wide distribution variant with low glare is perfect for warehouses and cold stores and promotes e.g. occupational safety for fork-lift truck drivers. In addition, it reduces the number of required light points.

www.trilux.com/nextrema-g3-led



### Aragon Fit LED

The new level for weather-proof luminaires: Aragon Pro LED combines the highest quality of light and efficiency, and can be perfectly adapted to on-site requirements thanks to its modular design. To achieve minimum energy consumption and maximum convenience the luminaires can be quickly and easily networked, either via DALI or radio.

www.trilux.com/aragon-fit-led

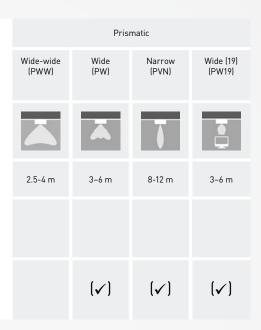


### Oleveon Fit LED

Oleveon Fit LED with 3-D prismatic technology provides glarefree and energy-efficient light. Functional and fit for refurbishments: its high product quality, diverse range of variants and simple networking with the Livelink light management system make Oleveon Fit LED the ideal fit for damp rooms.

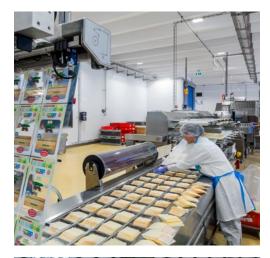
www.trilux.com/oleveon-fit-led

AR<sup>+</sup>





Information regarding the respective standard requirements can be found in the TRILUX Lighting Practice: www.trilux.com/lighting-practice



### **FOOD INDUSTRY**

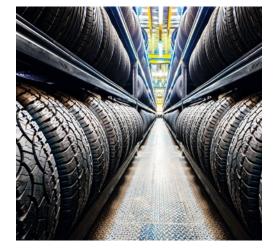
There are only a few applications where safety is so important as in the foodstuff industry. The luminaires for such purposes must have special capabilities: they must be glass-free, breakage-resistant, easy to clean and resistant against humidity, low temperatures, vibrations and chemical cleaning agents – as are Nextrema G3 LED, Duroxo LED, E-Line Next LED + Mirona Fit LED, Aragon Fit LED.



### **HEAVY INDUSTRY**

When "the going gets tough", the light itself must also face the challenge. Lighting solutions that make the grade feature high failure safety and optimum visual comfort – even in high halls. TRILUX systems are also ideally equipped for extreme conditions such as oily vapours and metallic dust. Our recommendations for this application:

Mirona Fit LED, E-Line Next LED, Nextrema G3 LED.



### **CORROSIVE ATMOSPHERES**

In some areas gasproof lighting is the only solution. Aggressive ammonia emissions continuously attack the lighting systems in livestock sheds, as does sulphur in tyre warehouses. If these were to penetrate the luminaire interior the phosphor coating of the LEDs would suffer. The construction design of the TRILUX system sustainably prevents this. Furthermore, "aggressive" cleaning agents or the use of high pressure cleaners have no negative impact. This system stays (gas-)tight: **Duroxo LED.** 



### **AUTOMOTIVE INDUSTRY**

Perfect coatings are mandatory in the automotive industry, and quality control without compromises is therefore indispensable. Lighting significantly contributes in such cases by limiting any disturbing light reflections. Flexibility is what counts: variable illuminance values and adjustable light colours support employees in really "shining" here. This system creates the optimum preconditions for such applications: **E-Line Next PW LED.** 



### **CLEANROOMS**

Only those that are familiar with the complex demands of cleanroom luminaires are able to fulfil them. Whether in the manufacture of microchips or in the pharmaceutical industry, the Fidesca series offers the ideal solution for all application sectors and is as diverse as the demands placed upon it. **Fidesca PM LED, Fidesca SD LED.** 



### **COLD STORE**

Temperatures down to -40 °C are a real challenge for the technology used. This also applies to the light in cold stores. For this reason TRILUX luminaires are "as tough as they come": extremely low temperatures, humidity, dust and knocks have no effect – and for a long period of time. This is because the products have far higher than average, almost maintenance-free lifespans. HACCP compliance is a matter of course for luminaires such as E-Line Next IP64 LED, Nextrema G3 LED and Aragon Fit LED.



### TIMBER, PAPER, TEXTILE INDUSTRY

The risk of fire increases if the air is burdened with high levels of dust and fibres. Wood, paper and textile-processing companies must therefore only use systems that "keep a cool head" because flammable materials may collect on the luminaire surface. TRILUX systems ensure that temperatures at these locations are reliably limited. Seen this way light is able to actively contribute to fire protection, as with this system: **E-Line Next IP64 LED.** 



### E-Line Next IP64 LED

Simply unstoppable: as an IP64 variant the E-Line NEXT LED shows its robust side, ideal for areas with high safety requirements or harsh conditions. Thanks to D labelling and HACCP compliance it is especially suitable for food and heavy industry application as well as work places exposed to fire hazards.



#### Mirona Fit LED + E-Line Next LED

In addition to the classic gear trays, the Mirona Fit LED highbay spotlight (module length 1,500 mm or 2,250 mm) can also be inserted into the trunking of the E-Line Next LED. This way, special applications such as halls with particularly high ceilings or extreme temperatures can also be equipped.



#### Mirona Fit LED

Mirona Fit LED is the perfect lighting solution for harsh and demanding industrial environments. Thanks to its large variety of versions, it is suitable for use e.g. in warehouse and distribution halls in the heavy and food industries, providing reliably uniform, glare-free light.



#### **Duroxo LED**

Duroxo G2 LED is completely gas-proof, resisting sulphur and ammonia vapours as easily as water and cleaning chemicals. As a result the luminaire with a service life of 100,000 h (L80 at tq 35 °C) provides high quality, energy-efficient light in challenging surroundings such as tyre warehouses and vehicle wash lines.

www.trilux.com/e-line-next

www.trilux.com/mirona-fit-led

www.trilux.com/mirona-fit-led

www.trilux.com/duroxo-led

### Ideal quality of light for ideal results - recommendations for using E-Line Next LED optics

Production hall heavy industry/Automotive/Cold Store/Timber, paper and textile industry

| All solutions available  | Lens               |              |                |                             |                                     |  |  | Diffuser                      |                     |                    |                               |
|--|--------------------|--------------|----------------|-----------------------------|-------------------------------------|--|--|-------------------------------|---------------------|--------------------|-------------------------------|
| with Ra > 80,<br>Ra > 90 and as<br>Active versions<br>(HCL)                              | Very wide<br>(LVW) | Wide<br>(LW) | Narrow<br>(LN) | Very narrow<br>(LVN)<br>HRL | Extremely<br>narrow<br>(LEN)<br>HRL | Double<br>asymmetric<br>wide<br>(LDAW) | Double<br>asymmetric<br>narrow<br>(LDAN) | Asymmetric<br>narrow<br>(LAN) | Wide (19)<br>(LW19) | Lambertian<br>(DL) | Slim –<br>Lambertian<br>(DSL) |
|  |                    | Ā            | Ā              | Ī                           | Ţ                                   | 7                                      | <b>7</b>                                 | 7                             | •                   | •                  | •                             |
| Installation<br>height recom-<br>mendation   | 3-6 m              | 4-8 m        | 8-12 m         | 8-12 m                      | 12-16 m                             | 2.8-3.5 m                              | 3.6-5.0 m                                | 2.8-3.5 m                     | 3-6 m               | 2.5-4 m            | 2.5-4 m                       |
| Production<br>hall heavy<br>industry<br>installation<br>height 6-10 m                    | <b>(√)</b>         | ✓            | ✓              |                             |                                     |  |  |                               | <b>(√)</b>          | <b>(√)</b>         | <b>(√)</b>                    |
| Production<br>hall installa-<br>tion automo-<br>tive instal-<br>lation height<br>2.5-6 m | ✓                  | <b>(√)</b>   |                |                             |                                     |  |  |                               | ✓                   | <b>(√)</b>         | <b>(√)</b>                    |
| Production<br>hall* cold<br>store instal-<br>lation height<br>2.5-6 m                    | ✓                  | <b>(√)</b>   |                |                             |                                     | <b>(√)</b>                             | <b>(√)</b>                               | <b>(√)</b>                    | ✓                   | ✓                  | ✓                             |
| Production<br>hall* timber/<br>paper/textile<br>installation<br>height 2.5-10 m          | ✓                  | ✓            | <b>(√)</b>     |                             |                                     |  |  | <b>(√)</b>                    | ✓                   | ✓                  | ✓                             |

<sup>\*</sup> All lens variants are available as IP64 variants.

<sup>(&</sup>lt;): Optics can be used as planning alternatives as required. Evaluating the precise requirements for application is still necessary (e.g. required glare limitation UGR, specified luminaire positions, ...).

# SPECIAL AREAS







### Nextrema G3 LED

The Nextrema G3 LED as the third generation of the tried and tested TRILUX weather-proof luminaire is a specialised, highefficiency lighting solution for industrial environments. Its extremely robust die-cast aluminium body makes the luminaire extremely resistant to low and high temperatures, humidity, dust, knocks and impacts. The LED luminaire also provides a significantly higher lifespan than average with almost no maintenance.

### Aragon Fit LED

The new level for weather-proof luminaires: Aragon Pro LED combines the highest quality of light and efficiency, and can be perfectly adapted to on-site requirements thanks to its modular design. Its housing can be cleaned quickly and reliably and is permanently resistant to a variety of cleaning agents.

#### Fidesca PM LED

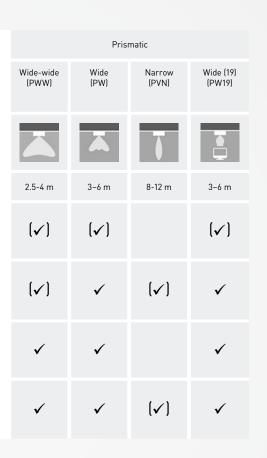
Only those that are familiar with the complex demands of clean-room luminaires are able to fulfil them. Whether in the manufacture of microchips or in the pharmaceutical industry, the Fidesca series offers the ideal solution for all application sectors and is as diverse as the demands placed upon it.

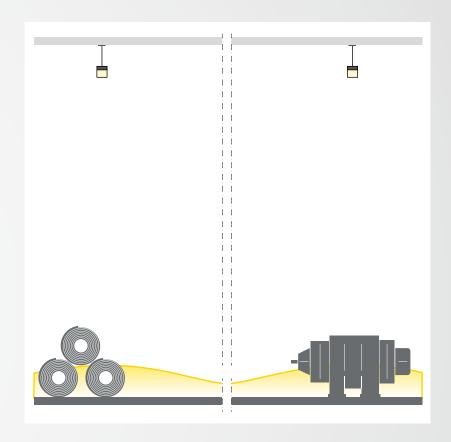
www.trilux.com/nextrema-g3-led

www.trilux.com/aragon-fit-led

www.trilux.com/fidesca

# AR<sup>+</sup>





Information regarding the respective standard requirements can be found in the TRILUX Lighting Practice: www.trilux.com/lighting-practice

Products shown represent only a small selection of our lighting solutions. See the complete product portfolio at: www.trilux.com.





### The ultimate plus in safety

Outdoor luminaires must not only withstand bad weather but also dust, dirt and vibrations. No problem at all for robust TRILUX lighting solutions thanks to their high protection ratings and safety classes. They take even the most adverse conditions in their stride without losses in terms of service life or quality of light. In transition areas from the inside to the outside a danger often lurks that is also frequently underestimated: the abrupt change from bright to dark or vice versa hampers visual acuity, even if it is only for a short time. The eyes need to accommodate again to the new light conditions. This can be a problem particularly for forklift operators driving quite quickly, even if their visual perception is only impaired for a few moments. This can be overcome by partially raising the lighting level – providing the ultimate plus in safety.



#### Jovie LED

Thanks to Multi-Lens Technology (MLT<sup>10</sup>) and different switching variants, Jovie LED adapts perfectly to individual, project-specific requirements, e.g. as a Smart-Lighting-Ready version with Zhaga interfaces for a light management system. Ideally suited for retrofitting as well.





#### Lumena Fit LED

Lumena Fit LED is a high lumenoutput wide beam projector for illuminating the industrial sector, warehouse and logistics areas and parking lots. The robust high-output projector scores with excellent quality of light, high energy efficiency (≥ 120 lm/W) and a long 100,000 hour service life

www.trilux.com/lumena-fit



#### Lumega IQ LED

Thanks to a wide selection of optics and LED systems, the Lumega IQ LED post luminaire can be used to illuminate nearly any outdoor area in an energy-efficient and standard-compliant way. The post-top and bracket-mounted luminaire is made particularly efficient in combination with high-performance light management systems and intelligent switching systems.

www.trilux.com/lumega-iq-led



#### Cuvia 40/60 LED

The modular design of the Cuvia 60 LED provides maximum flexibility with luminous flux levels and optical systems. The highly efficient post-top and bracket-mounted luminaires score points from purchasing to operating costs and maintenance.

www.trilux.com/cuvia



### Mirona Fit LED

Mirona Fit LED is the perfect lighting solution for harsh and demanding industrial environments. Thanks to its large variety of versions and its high protection rating (IP65), it is suitable for use e.g. in canopied outdoor areas, providing reliably uniform, glare-free light.

www.trilux.com/mirona-fit-led



### E-Line Next IP64 LED

Simply unstoppable: as an IP64 variant the E-Line NEXT LED shows its robust side, ideal for areas with high safety requirements or harsh conditions such as canopied outdoor storage facilities, picking areas and truck ramps.

www.trilux.com/e-line-next



### Nextrema G3 LED

Nextrema G3 LED withstands even extreme weather conditions and its PMMA version with increased UV resistance can also be used in outdoor areas around buildings without roofing. This way, loading zones and outdoor areas around parking garages benefit from uniform design with constant high light and product quality.

www.trilux.com/nextrema-g3-led



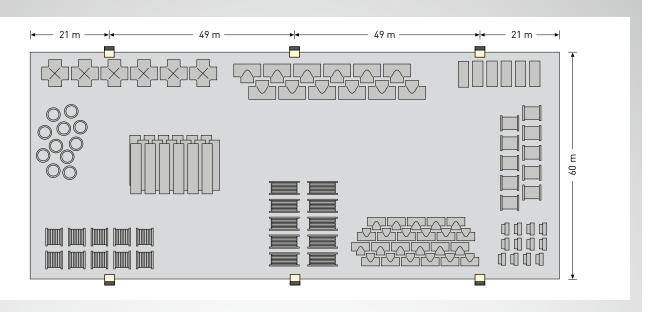
### Aragon Fit LED

The new level for weather-proof luminaires: Aragon Pro LED combines the highest quality of light and efficiency, and can be perfectly adapted to on-site requirements thanks to its modular design. To achieve minimum energy consumption and maximum convenience the luminaires can be quickly and easily networked, either via DALI or radio.

www.trilux.com/aragon-fit-led

# Planning example:

Outdoor storage facility



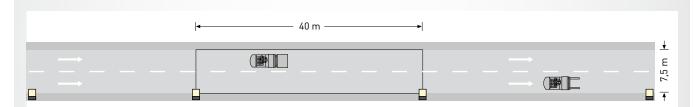
### Basis for the planning example:

| Size:                | 140 m x 60 m                            |
|----------------------|---|
| Luminaires:          | 6 x LnFit 50-AM11L/39000-740 1G1L ETDD* |
| TOC:                 | 72 187 51                               |
| Angle of attack:     | 15°                                     |
| Post height:         | 12 m                                    |
| Average illuminance: | 20.0 lux                                |
| Uniformity Uo:       | 0.51                                    |

<sup>\*</sup> For fixing the luminaire to single or multiple-configuration posts, this application must be supplemented with separately ordered accessories (cross-arms). The fixing chain for suspended applications as well as post installation is included in the scope of delivery.

### Planning example:

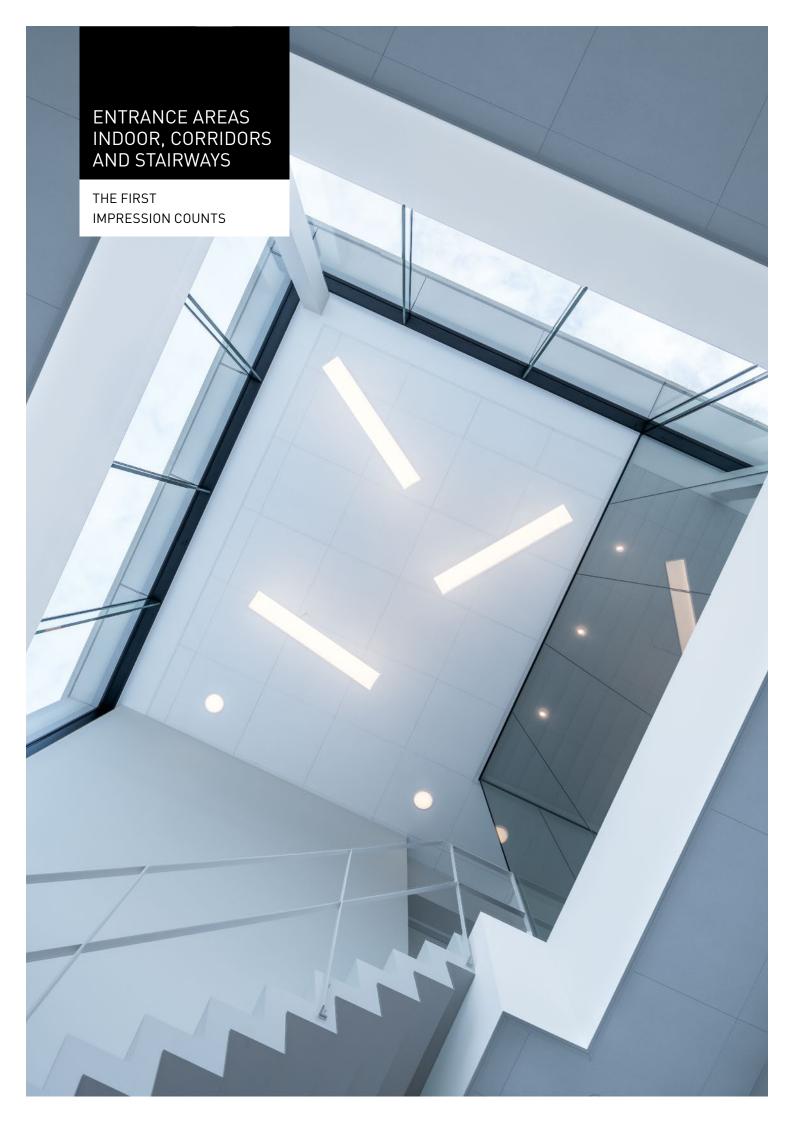
Industrial road



### Basis for the planning example:

| Road width:          | 7.5 m                             |
|----------------------|-----------------------------------|
| Luminaires:          | Jovie 70-AB7L-LR/8200-740 8G1 ET* |
| TOC:                 |                                   |
| Angle of attack:     | 5°                                |
|                      | 40 m                              |
| Post height:         | 8 m                               |
|                      | 0.5 m                             |
| Average illuminance: | 10.0 lux                          |
|                      | 0.42                              |
|                      |                                   |

<sup>\*</sup> To be used as a post-top luminaire (spigot measurement  $\varnothing$  76 mm, Jovie Z MB D76 26) or bracket-mounted luminaire (spigot measurement  $\varnothing$  42 mm, Jovie A Z MB D42 26) in combination with the post fixing to be ordered separately.





### Showcased entrance areas for a warm welcome

There are various reasons for illuminating entrance areas leading to a company buildings. An attractively illuminated entrance zone not only points the way for visitors and employees, but also provides improved orientation and illuminates possible tripping hazards such as stairs, thereby increasing safety. With the right lighting, any entrance is transformed into a real eye-catcher and creates an inviting atmosphere

### An attractive welcome for business partners, guests and employees

In many cases the entrance area is the first point of personal contact with a company and the prestigious importance of this is correspondingly high. The right light and suitable luminaires are decisive factors in achieving a harmonious overall impression. Entrance areas require a high and simultaneously uniform lighting level that facilitates orientation for visitors and employees without causing glare. Current trends are planar light and light systems enabling individual and decorative designing with colours using RGB colour mixing. TRILUX offers a wide range of lighting solutions with premium lighting effects and designs that offer new levels of flexibility for prestigious industrial architecture.

# ENTRANCE AREAS INDOOR, CORRIDORS AND STAIRWAYS



#### Parelia LED

Offices with modern lighting: Parelia LED is ideal for lighting parallel to the building axis, without reflected glare from the direct component. The continuous line also illuminates challenging floor plans and the lateral light line creates an attractive impression.



#### Sonnos LED

One luminaire range and countless options: Sonnos LED downlights provide high quality general lighting in offices, and thanks to their different designs and mounting options can be ideally integrated into individual office designs.



#### Solvan Flow LED

Be it recessed, surface-mounted or suspended: thanks to its flat design, Solvan Flow LED does not only fit in ideally with any environment, it is also enormously flexible. A selection of lumen packages, optical systems and distribution characteristics make it a versatile lighting solution.



#### Inplana/Onplana LED

Inplana and Onplana LED are the first in the downlight segment to provide glare-free planar light. Thanks to their modern, reduced design, the luminaires blend in perfectly with any environment. Minimised direct glare and planar light emission make them suitable for wall mounting, which opens up new planning and design possibilities.

www.trilux.com/parelia-led

www.trilux.com/sonnos-led

www.trilux.com/solvan-flow-led

www.trilux.com/inplana-onplana



### Solegra LED

Perfect for new worlds of work: the flexible Solegra LED series of round luminaires enhances the room with its modern design – and provides ideal visual conditions anywhere, from VDU workstations to creative zones. On request, the luminaire can be controlled via the LiveLink light management system.

www.trilux.com/solegra-led



### 74R/Q LED

The elegant luminaires 74R and Q LED score points with their flat, softly shaped luminaire housings which facilitate direct as well as indirect light components. Various sizes and equipment options make it the ideal light solution for corridors, stairways or prestigious entrance areas.

www.trilux.com/74rq-led



#### 74 RS I FD

Prestigious and functional light for stairways and creative zones as well as executive offices: the HCL-capable wall and ceiling luminaires of the 74 series enhance any room with their excelent quality of light and classic high-quality design – ideal e.g. for new office worlds of work.

www.trilux.com/74rs-led



### Lateralo Ring LED

Maximum functionality paired with representative design – this is what Lateralo Ring LED stands for. Its interplay of direct and indirect light components provides maximum visual comfort and illuminates rooms in a bright, soft and shadow-free way. Its timeless design makes it an eyecatcher, even when switched off.

www.trilux.com/lateralo-ring-led

# ENTRANCE AREAS INDOOR, CORRIDORS AND STAIRWAYS







#### Polaron IQ LED

The basis element of the Polaron IQ LED range is a filigree, round light profile providing maximum planning flexibility and enabling countless combinations within the series – this enables lighting and luminaire design to be perfectly adapted to specific applications. RGB versions further expand the design flexibility.

у.

### Arimo Slim Sky LED

The design of the new Arimo Slim CDP LED SKY was conceived with an emphasis on classic, square lay-in ceilings. With its three-dimensional quality the luminaire gives the impression of a recessed rooflight – this helps to break open the often rigid spatial effect of grid ceilings. The result is optimum lighting conditions and an office atmosphere with a genuine wow-effect.

Oyamo LED

Oyamo LED is a unique style element and a functional light solution at the same time. Its soft design and homogeneous lighting effects make it an eye-catcher which ideally showcases prestigious spaces. Optionally, an Active version is also available.

www.trilux.com/polaron-iq-led

www.trilux.com/arimo-slim-sky

www.trilux.com/oyamo-led





### Agira Plus LED

As a high-performance recessed directional LED spotlight, Agira Plus rounds off the Agira product family - in that way concepts with different ceiling heights and area sizes can be easily implemented with one luminaire type. The spotlights can be turned through 355° and tilted in two directions through 30° in each case - which is ideal for targeted and flexible illumination of goods. Agira Plus combines the advantages of a gimbal-mounted luminaire with those of a classic recessed spotlight.





#### Sonnos LED

One luminaire range and countless options: Sonnos LED downlights provide high quality general lighting in offices, and thanks to their different designs and mounting options can be ideally integrated into individual office designs.





#### B.Veo LED

Small, fine and high-powered: the flexible accent spotlight B.Veo for the entry-level segment convinces with its small spotlight head, simple design and tailor-made light with high lumen packages. Generates a calm ceiling pattern with an excellent lighting effect.



#### Twingle Series

Six white light colours, three modules, one concept: directed, additive light with a low luminance emphasises goods and architectural elements without dazzling the observer. In that way you create a pleasant sales atmosphere with elegant and highclass effects.

www.oktalite.com/bveo

www.oktalite.com/twingle



### Miova LED

The elegant wallwasher Miova redefines elegance in retail lighting. With mini standard dimensions of 300 x 50 mm this recessed luminaire can be integrated almost invisibly into the ceiling and flush with it. It generates homogeneous wall illumination that is ideally suited to the reduced style of today's premium stores

www.oktalite.com/miova



### Solegra LED

Perfect for new worlds of work: the flexible Solegra LED series of round luminaires enhances the room with its modern design and provides ideal visual conditions anywhere, from VDU workstations to creative zones. On request, the luminaire can be controlled via the LiveLink light management system.

www.trilux.com/solegra-led



### Limba LED

A timeless vintage look, individual style options and modern optics make Limba LED ideal for creating unique and sophisticated atmospheres. A great range of LED elements as well as an opal acrylic ring for perfect glare reduction generate ideal illumination with a personal touch.

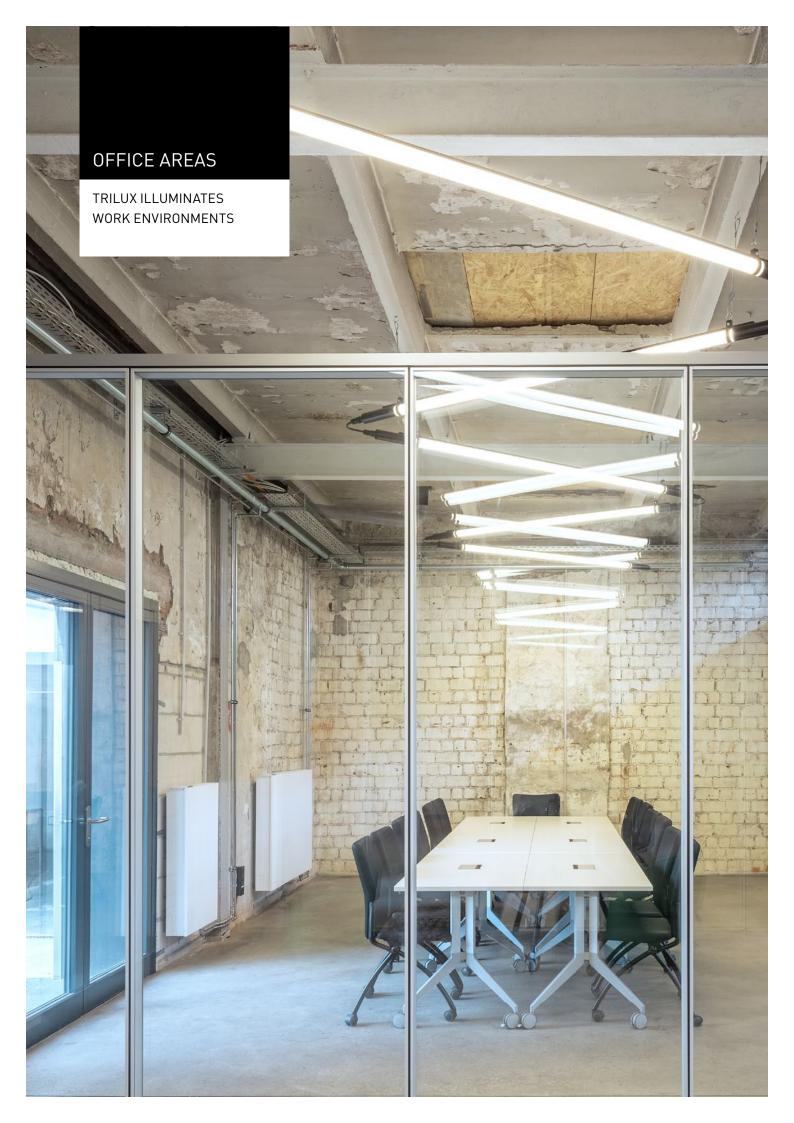
www.oktalite.com/limba



### In.Vola LED

The suspended luminaire In. Vola LED catches the attention of employees and visitors alike with its translucent, coloured shade and represents the company at the same time with its attractive and simply customisable design. On request, the shade, which is available in two shapes, can be adapted to any corporate design in terms of colour.

www.oktalite.com/invola



Digitalisation, demographic change, individuality and work-life balance are changing modern work structures as well as office design. Project work, networking and informal communication are increasingly shaping everyday office work and require new work and room concepts. This also increases the demands made on lighting as a decisive factor for productive work and motivated employees – both with classic office environments and flexible New Work concepts.



# Classic office environments are characterised by spatial and functional divisions.

- These usually include:
   Open-plan offices
- Single or twin offices
- Meeting rooms

With the options provided by intelligent light, accent light, light management, high quality of light, Human Centric Lighting (HCL) and modern luminaire design, these work areas can be optimised to achieve maximum comfort focused on the user.



The innovative office concepts of **New Work** focus on openness and flexible functional zones that promote communication, creativity and concentration. These include:

- Open spaces
- Home offices
- Co-working spaces
- Meeting points

Modern office lighting has to support changing room concepts and, the delineation of work zones, using accent lighting for example, as well as guaranteeing optimum lighting for individual tasks. In such cases the benefits of Human Centric Lighting (HCL) can be especially valuable.



#### Parelia LED

Offices with modern lighting: Parelia LED is ideal for lighting parallel to the building axis, without reflected glare from the direct light component. The continuous line also illuminates challenging floor plans and the lateral light line creates an attractive impression.



#### Luceo Slim LED

Whether as a continuous line, individual luminaire, suspended or surface-mounted version. Luceo Slim LED with its wide, uniformly illuminated light emission surface creates outstanding, glare-free planar light in offices – and also upgrades the atmosphere with its timelessly attractive design.



#### Sonnos LED

One luminaire range and countless options: Sonnos LED downlights provide high quality general lighting in offices, and thanks to their different designs and mounting options can be ideally integrated into individual office designs.



#### Belviso C1 LED

With completely uniform illumination, the Belviso C1 LED recessed luminaire creates high levels of well-being with its shadow-free light and provides lighting for computer screen workstations in accordance with standards. Active variants with white-white control emit relaxing or activating light according to needs.

www.trilux.com/parelia-led

www.trilux.com/luceo-slim-led

www.trilux.com/sonnos-led

www.trilux.com/belvisoc1



### Arimo Slim Sky LED

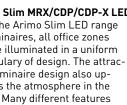
The design of the new new Arimo Slim CDP LED SKY was conceived with an emphasis on classic, square lay-in ceilings. With its three-dimensional quality the luminaire gives the impression of a recessed rooflight - this helps to break open the often rigid spatial effect of grid ceilings. The result is optimum lighting conditions and an office atmosphere with a genuine wow-effect.

www.trilux.com/arimo-slim-sky



### Arimo Slim MRX/CDP/CDP-X LED

With the Arimo Slim LED range of luminaires, all office zones can be illuminated in a uniform vocabulary of design. The attractive luminaire design also upgrades the atmosphere in the room. Many different features support the work of tomorrow's digital workplaces - today.



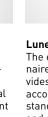
www.trilux.com/arimo-slim-led



### **Bicult LED**

One desktop luminaire for any application: the glare-free indirect light component of Bicult LED generates pleasant general lighting, and standard-compliant illumination of the workstation with the direct component. The light can be individually set by the user via an app or push-button.

www.trilux.com/bicult-led



### Lunexo LED

The exclusive suspended luminaire with visible light edge provides pleasant, glare-free light according to UGR19 and sets standards regarding comfort and aesthetics. Light colour and intensity as well as direct and indirect components can be adjusted flexibly and light management system integration is also possible.

www.trilux.com/lunexo-led

Products shown represent only a small selection of our lighting solutions. See the complete product portfolio at: www.trilux.com.



Maximum functionality paired

for. Its interplay of direct and

indirect light light component

soft and shadow-free way. Its

with representative design - this

is what Lateralo Ring LED stands

provides maximum visual comfort

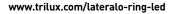
and illuminates rooms in a bright,

timeless design makes it an eye-

catcher, even when switched off.

# Lateralo Ring LED Lateralo Plus LED

Even when switched off the extremely flat suspended luminaire with a transparent cover blends stylishly into all interiors. But the Lateralo Plus LED's real strength is in operation: it supplies maximum visual comfort and almost shadow-free, planar light. This is made possible thanks to the innovative light direction with an especially wide indirect light component.



www.trilux.com/lateralo-plus-led



#### E-Line Next LED

E-Line Next LED is the answer to a trend towards linear lighting systems in modern offices. With two different HCL-capable, VDU-compliant optics and spotlights as well as a colour rendering index of Ra > 90, the system ensures maximum visual comfort and employee well-being. Its attractive design is particularly well suited for example to office concepts with an industrial look.

www.trilux.com/e-line-next



#### Coriflex LED

Efficient light for pleasant-free work: in the office sector, Coriflex LED also scores points with numerous features. Thanks to MRX (Micro-Reflector Technology), it generates glare-free lighting effects and provides standard-compliant lighting for VDU work-stations. Its direct-indirect distribution optics and integrated light management system make it an effective and energy-efficient light solution.

www.trilux.com/coriflex



### Solegra LED

Perfect for new worlds of work: the flexible Solegra LED series of round luminaires enhances the room with its modern design – and provides ideal visual conditions anywhere, from VDU workstations to creative zones. On request, the luminaire can be controlled via the LiveLink light management system.

www.trilux.com/solegra-led



### Inplana/Onplana LED

Inplana and Onplana LED are the first in the downlight segment to provide glare-free planar light. Thanks to their modern, reduced design, the luminaires blend in perfectly with any environment. Minimised direct glare and planar light emission make them suitable for wall mounting, which opens up new planning and design possibilities

www.trilux.com/inplana-onplana



### So-Tube LED

The tube-shaped So-Tube LED brings together robust industrial charm with a filigree design. Restored industrial halls, rustic office complexes and creative open spaces benefit in this way from modern lighting without needing to make compromises in terms of atmosphere and design.

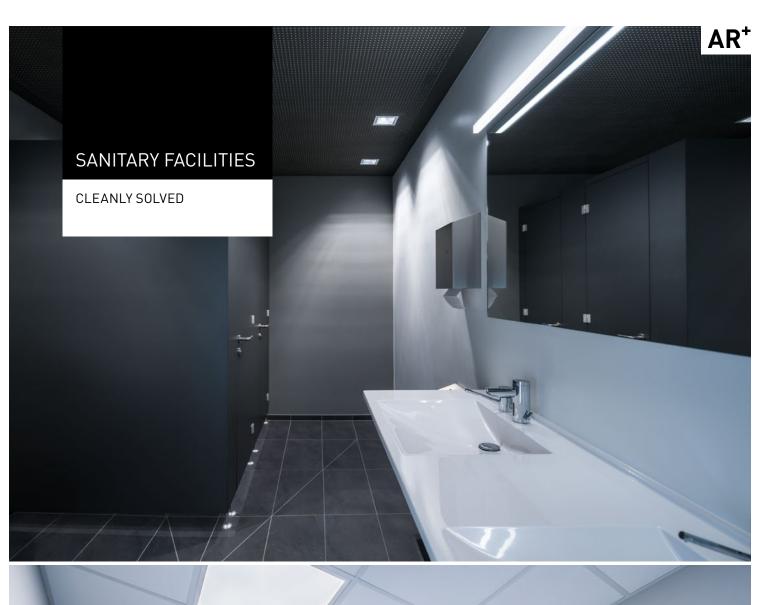


### Limba LED

A timeless vintage look, individual style options and modern optics make Limba LED ideal for creating unique and sophisticated atmospheres. A great range of LED elements as well as an opal acrylic ring for perfect glare reduction generate ideal illumination with a personal touch.

onplana www.trilux.com/so-tube-led

www.oktalite.com/limba





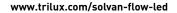
### Glare-free solutions for sanitary areas

Sanitary areas should look clean, bright and friendly. The challenge lies in the fact that tiled walls and floors easily communicate an excessively bright and sterile impression. Avoiding light reflections in mirrors also requires designing expertise – and the right products. Modern LED technology enables sanitary facilities to be illuminated without glare and can also create pleasant atmospheres, by individually specifying the light colour for example. Reasonable: sanitary areas are often only used on an ad-hoc basis, meaning energy costs for lighting can be significantly cut by intelligent light management systems with presence sensors. Active luminaire versions with daylight sequences provide ideal solutions for the often windowless sanitary areas.



### Solvan Flow LED

As recessed luminaire, Solvan Flow LED does not only fit in ideally with any environment thanks to its flat design, it is also enormously flexible. A selection of lumen packages, optical systems and distribution characteristics make it a versatile lighting solution for sanitary areas.





### Sonnos LED

One luminaire range and countless options: Sonnos LED downlights provide high quality general lighting in offices, and thanks to their different designs and mounting options can be ideally integrated into individual office designs.

www.trilux.com/sonnos-led

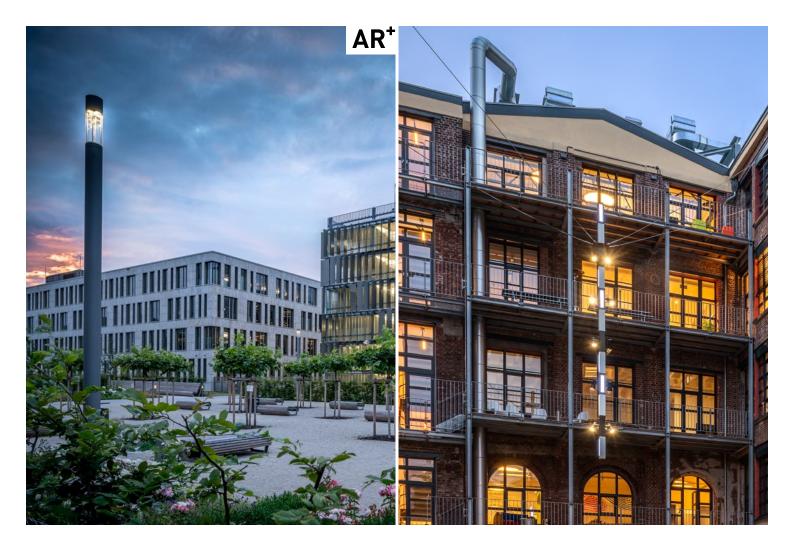


#### Acuro LED

The wall-mounted mirror luminaires with IP44 protection emit especially soft light thanks to a finely structured opal diffuser. The Active version is ideal for frequently windowless sanitary areas, supporting the natural day-night rhythm of people thanks to white-white control.

www.trilux.com/acuro





### Lighting on parking areas for greater safety and security

Safety and orientation have top priority when illuminating car parks and parking garages. Lighting solutions must also be capable of withstanding highly adverse weather conditions. In this area, TRILUX luminaires score points with innovative lighting technology, high quality of light and robust constructions. This way, both visitors and employees easily find their way around and gain a positive initial impression at the same time. The function of running light also enables energy to be saved because light is only active where movement is detected.

### Illuminated paths for a feeling of greater security

Path lighting has the primary aim of safely and securely accompanying visitors and employees during hours of darkness. An elevated protection rating and good material quality are essential for resisting adverse weather conditions in the long run. Furthermore, luminaires should blend harmoniously into any architecture and complement outdoor concepts in terms of light, style and design. A task that TRILUX luminaires fulfil with distinction.

### Accented facades for an attractive appearance

Outdoor lighting that serves to showcase, not only to illuminate. Whether it comes to accentuating architectural details or highlighting complete buildings and objects – TRILUX facilitates contemporary facade illumination with a variety of products that effectively meet requirements strikingly, with high levels of energy efficiency. At the same time, visitors are provided with rapid and reliable orientation through the illumination of signage and entrance areas.

## CAR PARKS, PATHS, FACADES AND ENTRANCE AREAS OUTDOOR



#### Jovie LED

Thanks to Multi-Lens Technology [MLT<sup>10</sup>] and different switching variants, Jovie LED adapts perfectly to individual, project-specific requirements, e.g. as Smart-Lighting-Ready version with Zhaga interfaces for a light management system. Ideally suited for retrofitting as well.





#### ConStela LED

ConStela IQ, the intelligent version of a proven classic among light columns, is fit for the networked future. The luminaire features not only the series-typical modular design and corresponding enormous flexibility in terms of lighting technology and optics. ConStela IQ is also equipped with a wide selection of function modules, e.g. an e-charging station, Wi-Fi or sensor technology.

www.trilux.com/constela-iq



#### 8841 LED

The decorative LED bollard luminaires 8841... LED score points with simple installation and maintenance. The modular luminaire construction enables upgrading to more efficient LED generations.

www.trilux.com/8841



#### Skeo Q Bollard LED

Its linear, clear design makes the Skeo Q LED bollard luminaire the ideal lighting solution for outdoor areas around buildings with sophisticated architecture. Be it entrance areas or passages – the decorative bollard luminaire provides visual accents during the day and ideal light at night.

www.trilux.com/skeo-q-led



### Skeo Circ LED/Pura LED

Round or square, robust and prestigious: Skeo Circ/Pura LED creates perfect visual conditions around buildings and attractively showcases facades and entrance areas. The luminaires are available in two sizes each and provide great design flexibility thanks to various covers.

www.trilux.com/skeo-circ-led www.trilux.com/skeo-pura-led



### Faciella LED

Available in three construction sizes, the high performance, energy-efficient Faciella LED spot illuminates objects and buildings of various types and sizes in a uniform design. Various luminous flux levels and beam angles provide suitability for a variety of lighting tasks, enabling custom-designed light.

www.trilux.com/faciella-led



### Skeo Q/R LED

As squares or rectangles, the surface-mounted wall and ceiling luminaires Skeo Q LED and Skeo R LED skilfully showcase entrance areas. Their variety of versions enable flexible adaptation to lighting requirements, blending in harmoniously with the building architecture thanks to their reduced design.

www.trilux.com/skeo-q-led www.trilux.com/skeo-r-led



### Lutera 90/100/200 LED

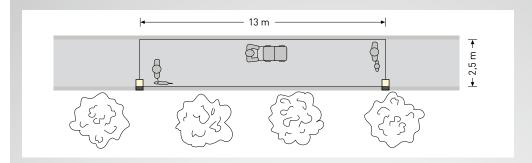
The low recess depth of the Lutera 90/100/200 LED ground-recessed spotlight enables use both indoors and outdoors. Differing beam angles and light colours ideally illuminate both objects and buildings and the intelligent sealing concept guarantees long-term, disturbance-free operation even in extreme conditions.

www.trilux.com/lutera

Products shown represent only a small selection of our lighting solutions. See the complete product portfolio at: www.trilux.com.

### Planning example:

Path



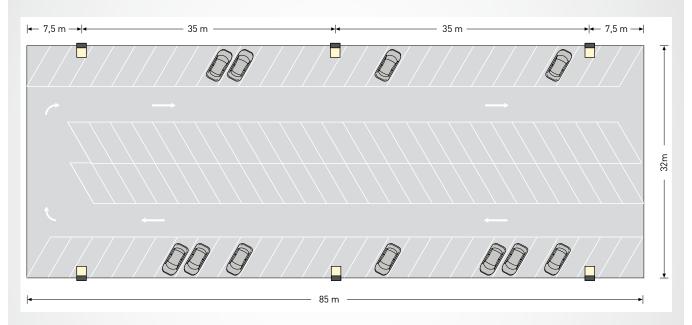
### Basis for the planning example:

| Path width:             | 2.5 m                         |
|-------------------------|-------------------------------|
| Luminaires:             | 8841 AB14L/850-740 2G1S ETDD* |
|                         |                               |
| Distance:               | 13 m                          |
| Light point projection: | 0.5 m                         |
| Average illuminance:    | 8.27 lux                      |
|                         | 1.04 lux                      |
|                         |                               |

<sup>\*</sup> Bollard head unit with a circular opal PMMA reflector cone. To be used in various versions and heights in combination with supporting columns to be ordered separately.

### Planning example:

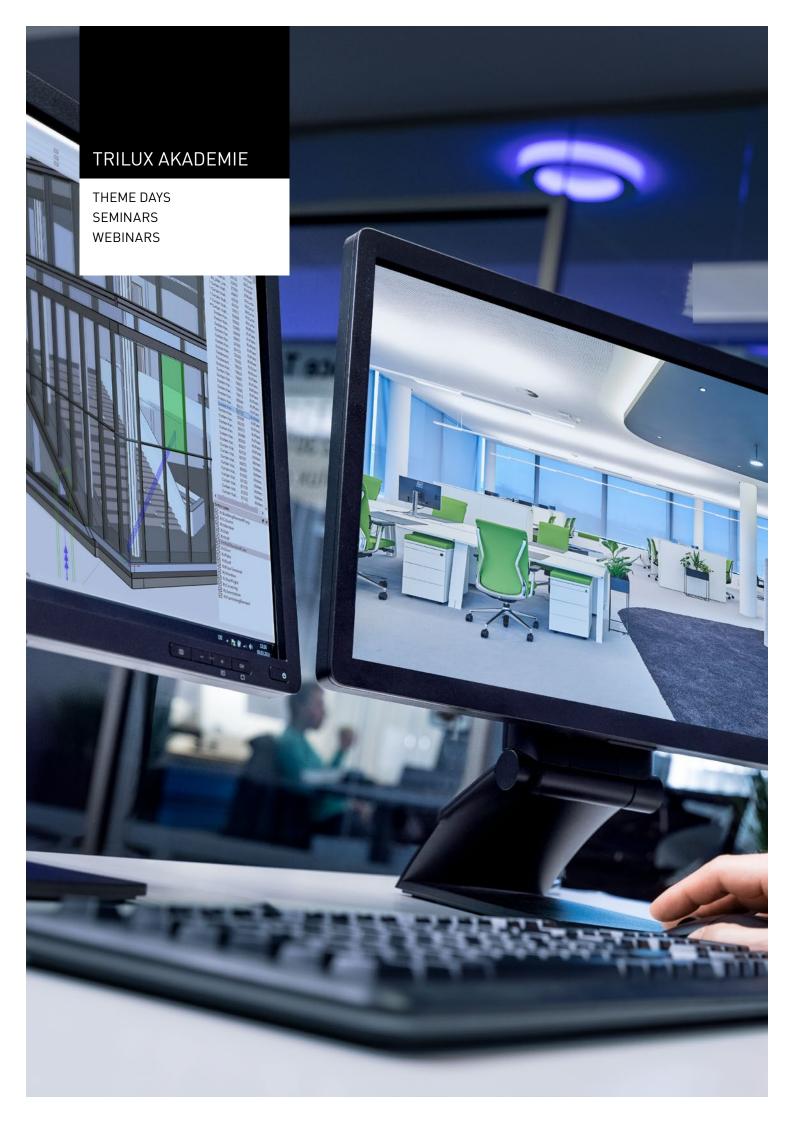
Car park

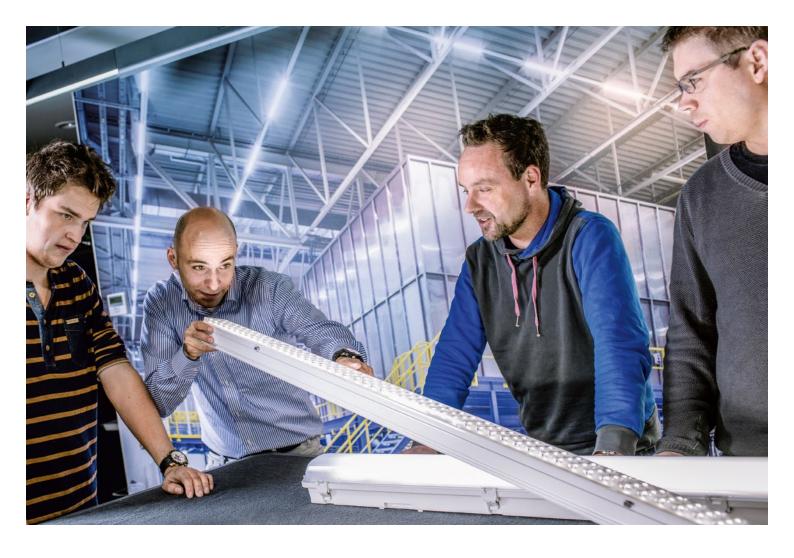


### Basis for the planning example:

| Size:  | 85 m x 32 m                           |
|--|---------------------------------------|
| Luminaires:  | 6 x Jovie 50-AB2L-LR/6800-740 6G1 ET* |
| TOC:   |                                       |
| Angle of attack:   | 15°                                   |
|  |                                       |
| Average illuminance:                                     | 10.0 lux                              |
|  |                                       |
| Angle of attack:<br>Post height:<br>Average illuminance: |                                       |

<sup>\*</sup> To be used as a post-top luminaire (spigot measurement  $\varnothing$  76 mm, Jovie Z MB D76 26) or bracket-mounted luminaire (spigot measurement  $\varnothing$  42 mm, Jovie A Z MB D42 26) in combination with the post fixing to be ordered separately.

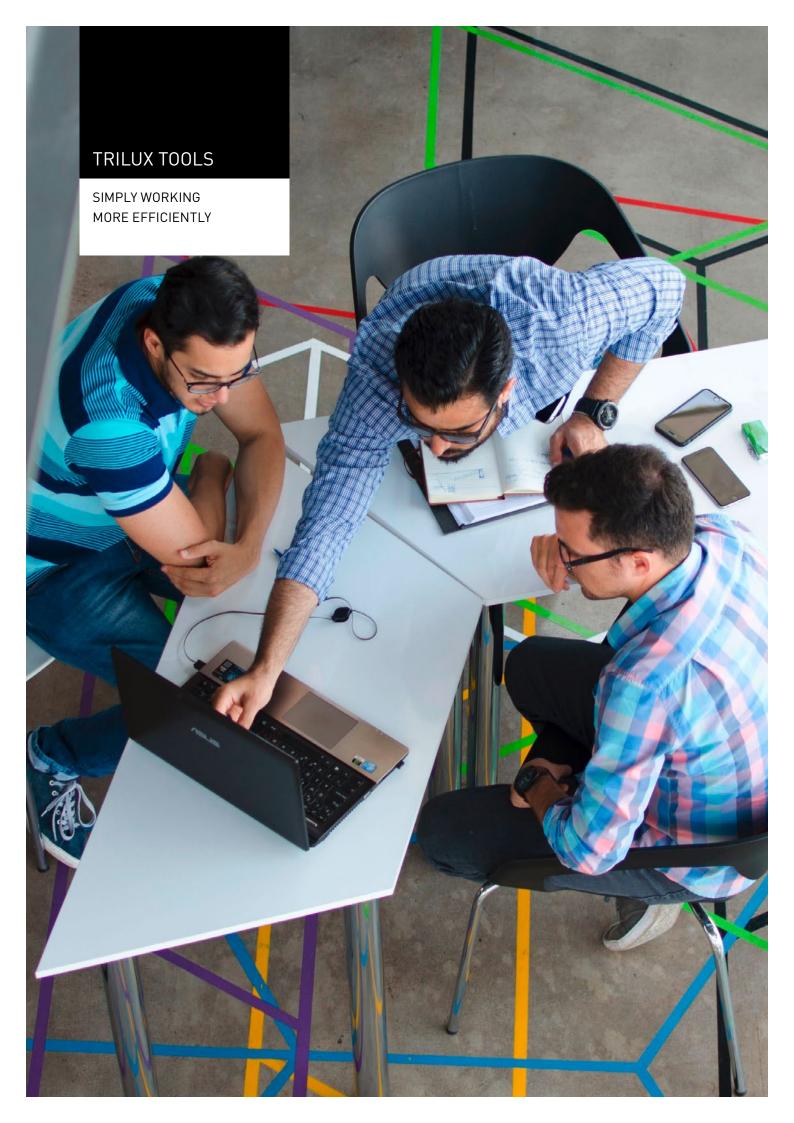




The TRILUX Akademie is the qualification partner for everyone professionally concerned with light. Light becomes intelligent, activating, relaxing or transforms into experiences. The latest specialist knowledge is therefore vital to optimally exploit the possibilities created by new products and applications.

The TRILUX Akademie communicates technical knowledge in the form of various training formats for any training need. The wide-ranging programme of theme days, seminars and webinars enables experienced lighting professionals to stay up-to-date. For starters in the profession, we offer courses that establish a solid foundation for subsequent activities. The highly modern didactic concept is based on dialogue-oriented exchange and a diversity of methods. Webinars, seminars and theme days convey relevant industry knowledge even for seasoned light experts.

Find the current Akademie programme at www.trilux-akademie.com.





### TRILUX Efficiency Calculator – comparing profitability

Especially in terms of lighting, modernising obsolete systems can generate enormous savings potential. With the TRILUX Efficiency Calculator, you can compare up to five systems regarding energy efficiency, CO<sub>2</sub> savings, costs and pay-back times.

www.trilux.com/efficiency-calculator



# TRILUX ONE – your access to the digital world of TRILUX

TRILUX ONE is your central login for the latest tools and services with which TRILUX simplifies your work with light. All functions are available to you at any time – whether you're in the office, on the road or at home. The intuitive user interface has once again been optimised and supports you on desktop PCs, tablets and smartphones.

www.trilux.com/one



# TRILUX Lifetime Calculator – convert service life specifications and calculate specific maintenance factors

You would like to know how much the service life of an LED luminaire changes in other ambient temperatures? Or by how much the service life of a L80 LED luminaire increases under L70 conditions? With the TRILUX Lifetime Calculator, you can convert the average rated service life (consisting of drop in luminous flux and hours) as well as ambient temperatures.

www.trilux.com/lifetime

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All technical data including dimensional and weight specifications have been checked carefully. Errors excepted. Possible colour deviations are due to printing processes. We reserve the right to modify in the interest of progress. Luminaires are partly shown with accessories that must be ordered separately. Images of installations may show custom manufactured luminaires. Printed on PEFC-certified paper in an environmentally friendly way.

www.trilux.com 19/41-GB-int. 102 232 56