

ETAP tomorrow's light





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Technical specifications table from the laptop screen:

Light Distribution	Beam Spread	Beam Angle	Beam Diameter	Beam Length	Beam Area	Beam Volume
U3	100°	100°	100°	100°	100°	100°
U3	100°	100°	100°	100°	100°	100°
U3	100°	100°	100°	100°	100°	100°
U3	100°	100°	100°	100°	100°	100°
U3	100°	100°	100°	100°	100°	100°
U3	100°	100°	100°	100°	100°	100°
U3	100°	100°	100°	100°	100°	100°
U3	100°	100°	100°	100°	100°	100°
U3	100°	100°	100°	100°	100°	100°
U3	100°	100°	100°	100°	100°	100°





This brochure is intended to be a source of inspiration and a tool to reach the solution you are after for your general and/or emergency lighting system. At times the properties of LED luminaires change faster than it takes the ink to dry on this document, which is why we always post products' up-to-date codes and specific technical details on the website at www.etaplighting.com. In the tables and project images you will find QR codes, which when scanned will take you straight to the desired webpage. We hope that you will experience this as a user-friendly tool. Should you have any suggestions for future improvements, please let us know.



www.etaplighting.com

A QR reader app can be downloaded via the App Store or Google Play



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YOUR RELIABLE PARTNER IN LIGHTING & EMERGENCY LIGHTING

ETAP is a European company founded in Antwerp in 1949. ETAP develops and produces energy-efficient, flexible and comfortable lighting solutions for any professional environment, from office buildings to hospitals to schools and industrial workplaces. For these same buildings we provide reliable emergency lighting solutions, finished to the finest details. We support our customers from A to Z with a comprehensive set of services.





LIGHTING AT THE HUMAN LEVEL

ETAP deploys its know-how to create lighting at the human level – lighting that provides them with comfort and promotes productivity. We use our technological expertise in order to achieve this. Thanks to our in-depth knowledge of all things lighting, we provide light exactly where people need it and create a pleasant atmosphere where people like to stay. We always keep in mind that every space has its own specific needs – a supermarket requires completely different lighting from a hospital, an office or production hall. With our broad range and our flexible custom work, we have the right solution available for every application.



SUSTAINABILITY IN THE GENES

From ETAP's foundation, sustainability – long before it became trendy – has been the guiding principle in development, production and HR policy.

Made in Europe

ETAP luminaires are designed and manufactured in Malle, Belgium. This local presence does not come without obligations. You can count on European quality and our personnel can rely on European working conditions.

Energy-efficient production

Our luminaires have always been 'best of class' when it comes to energy efficiency. In our production we also keep a close eye on sustainability parameters. We endeavour to continuously decrease the use of electricity, water and gas. With great success, just read all about it in our sustainability report!

BREEAM, LEED & WELL

ETAP has many years' experience with BREEAM, LEED and WELL regulations for construction projects. For WELL we developed optimized human centric solutions. We have our product range analysed by an official assessor on a regular basis.



Further information on BREEAM, LEED and our sustainability report can be found on the website:

www.etaplighting.com/en/downloads/general



SAFETY GUARANTEED

ETAP has been developing and manufacturing emergency lighting since 1970. Emergency lighting ensures that people can safely finish their tasks and leave the building during power outages. Uncompromising quality and reliability feature heavily in this context.

Quality and reliability

Advanced electronic designs, in-depth quality control, local and central testing and monitoring systems and nearly 50 years' experience assure reliability. Quality is guaranteed due to the use of high-quality components and materials. Our engineers are experts in electronics, product design, optical design and IT. Our own research and measurement labs and in-house production line contribute to guaranteed quality. Our specialist staff closely monitors new developments and standards and translates them into robust solutions.

Safe can be beautiful

From a cosmetic point of view, architects want anti-panic and escape route lighting to be discreet, on the other hand they feel that signage must seamlessly fit into the decor. ETAP calls on the assistance of external product designers to create its luminaires. We have received the IF award for good design for several products. You can choose from the following options for escape route and anti-panic lighting: discreet luminaires, LED modules, recessed emergency units with batteries or luminaires connected to a central battery system.



K1R lenses deliver a never-before-seen optical performance



K2 luminaire IP test

Innovation

ETAP was the first supplier of automatic self-tests for autonomous emergency lighting on the European market. Together with universities and scientific research institutes we are constantly in search of groundbreaking innovations. The result is lenses with square and rectangular light distributions to achieve greater inter-distances for anti-panic and escape route lighting respectively. ETAP closely monitors developments with respect to the various battery technologies in order to be able to offer technologies that are least damaging for the environment.

Emergency lighting must work when it matters

You never know when there will be a power outage, and in order to be able to safely leave the building at that time, the installation must have been properly maintained. ETAP emergency lighting always comes with an automated self-test. As an option, ETAP emergency lighting can be linked to the ETAP Safety Manager, an automated monitoring and control system. This applies to self-contained luminaires, central luminaires, recessed units, wired and wireless systems as well as combinations thereof!

Application knowledge, optimised solutions and services

Together with you we will develop an optimised solution based on national and international legislation on the application of emergency lighting. With our optional ESM system, you have all the tools to monitor and report on the maintenance of your emergency lighting system. We can also take over this responsibility from you with a maintenance contract.



K9 won the IF Product Design Award



Emergency lighting can be integrated seamlessly

HASSLE-FREE LIGHTING

You have to be able to rely on your lighting every day. This starts by making the right choices. Our advisors will support you every step of the way towards lighting that fully meets your needs. With a detailed lighting plan for every space, you will be perfectly aware of where you stand. We also factor in the financial aspect. Because there is more to it than just the purchase price of the luminaires. We do the maths for you with the total cost of ownership for your installation – no unpleasant surprises, but a reliable and predictable cost. After the installation we make sure that everything works perfectly: we test operation, check all settings and can also handle further maintenance. In addition, ETAP grants a five-year warranty on all emergency luminaires including their batteries and on all general lighting. Read the full warranty terms and conditions on our website at www.etaplighting.com.



www.etaplighting.com

> Downloads

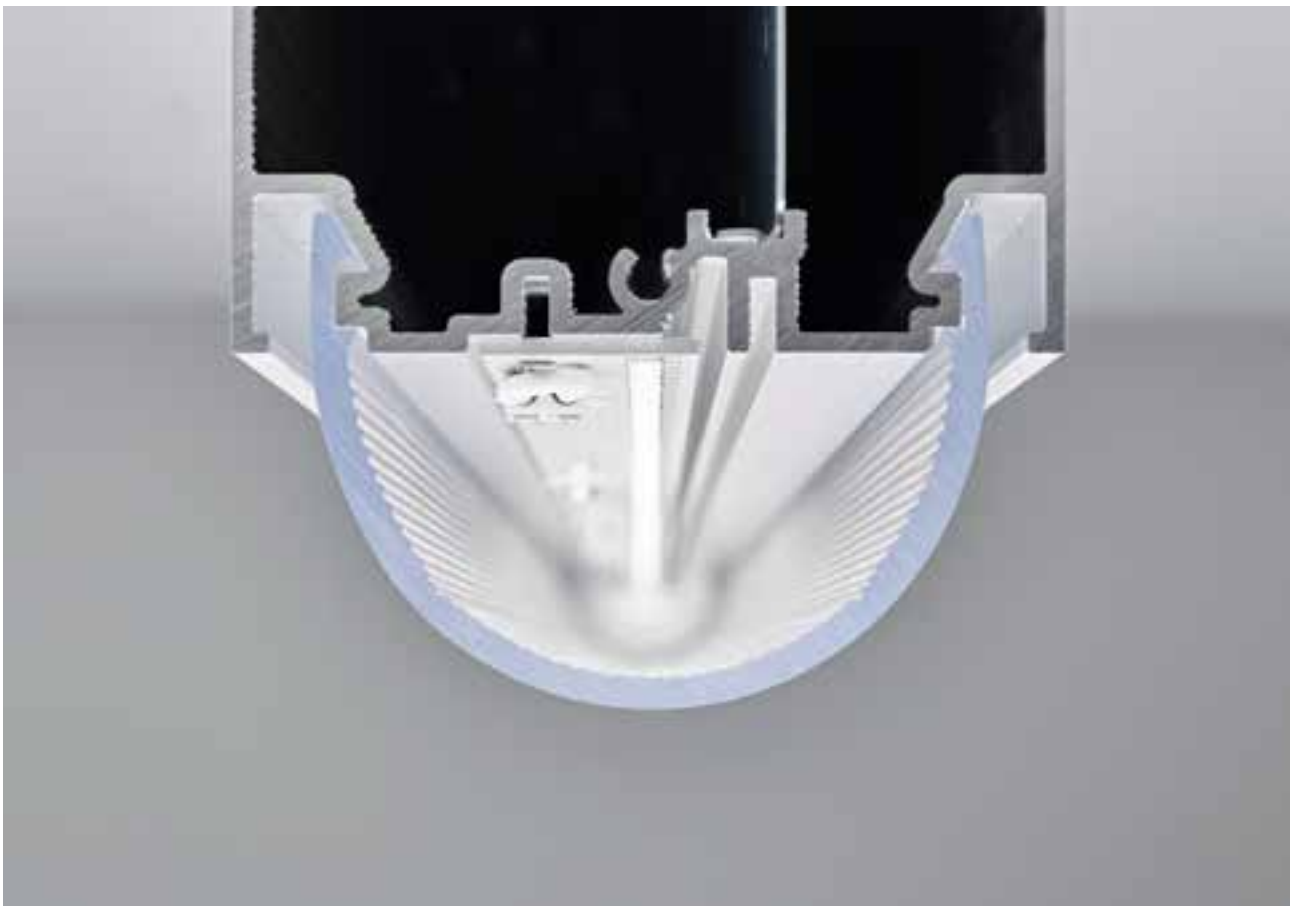
> General

> ETAP Warranty policy



Innovation is in our DNA, and that is not just an empty slogan. Back in 2003, ETAP was one of the first in the industry to introduce LEDs in its emergency lighting. In 2014 we were the first to market emergency lighting with OLEDs.

But we did not come to a standstill: Smart lighting and connected lighting are increasingly gaining in importance, which is why ETAP runs an R&D department that closely monitors this development and is working on future-proof lighting solutions. Thus enabling us to continue to offer the very best lighting solutions.



BESPOKE SOLUTIONS

With our experienced development team and flexible production line, we are able to flexibly capitalise on your demand for custom-made general and emergency lighting. Design, colour, photometry, air-handling, dimensions, mounting or electrical connection can be specified in accordance with your own requirements. We have supplied adapted or bespoke luminaires for countless projects.

Renovation

In renovations where (part of) the ceiling remains in place, ideally luminaires fit exactly into the ceiling cut-outs. In addition to dimensions, you can also choose colour and possible options.

Specific photometrics

Some applications call for special photometrics. Just think of the maintenance of railway trains or a paint tunnel in the automotive industry: ETAP analyses the problem and provides ready-made solutions.

Electrical or electronic adjustments

Do you have a different voltage or mains frequency, or other specific requirements for your emergency or general lighting system? Together we will examine the options and look for an adequate solution.

Air-handling in lighting

ETAP considers lighting, air-handling and sound control as one integrated whole. Air supply or air extraction through the luminaire results in fewer recesses in the ceiling and possibly also lower installation costs. ETAP offers various options and accessories. Specific scenarios can be tested and demonstrated in the ETAP simulation labs.



Lighting solutions with integrated emergency lighting

General and emergency lighting are often considered separately, but this is not necessary. ETAP provides various solutions in which general and emergency lighting are integrated. The emergency lighting becomes invisible, as it were.

- **Emergency units built into general lighting**

In this case the light source for general lighting is also used to provide light in emergencies.

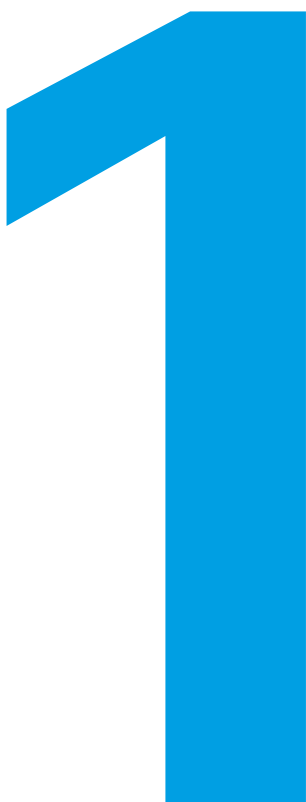
- **LED modules built into luminaires**

An LED module is inconspicuously integrated into a luminaire. In emergency mode, this LED provides the necessary light.

Symbiosis between ceiling and lighting

If you are looking for a lighting system that takes your ceiling into account as much as possible, ETAP will supply custom luminaires. We are able to specifically adapt the luminaires for integration into your chosen ceiling. Just think of cooling and panelled ceilings. In consultation with the ceiling manufacturer, we cut holes in the ceiling so that it appears that the lighting no longer has a separate housing, an ultimate symbiosis ... At the same time, we can meet your specific needs with respect to photometrics, air-handling, lighting control or emergency lighting.





1 > RECESSED LUMINAIRES





RECESSED LUMINAIRES

Diffuser

U2



p. 20

Shielded Lens

U3



p. 24

LED+LENS™

U7



p. 30

Softlight

US



p. 34

US3



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Diffuser luminaires represent a tried-and-tested solution for the general lighting of offices, schools, public buildings and care institutions. U2, the best of both worlds. LED diffuser luminaires combine comfortable lighting with high efficiency, making them suitable for the most demanding of office environments. The U2 comes in 2 versions, each with its own specific properties. U23 luminaires, with very shallow built-in height, are available with opal optics or with a microprism and optionally in IP 54 version (on the bottom). The U25 combines the MesoOptics™ diffuser with a clear glass cover plate.

All luminaires offer sophisticated light distribution and high efficiency, and additionally feature a sleek design finished to a high standard. The U2 series is available in rectangular and square versions with several luminous flux options.

U23

Square

U23



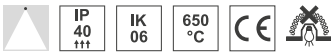
Rectangular

U23



Options

U23 with mounting frame



	U23 (PMMA)	
	opale optics	microprism
Light distribution		
Medium wide-angle	•	•
Colour		
RAL 9016 traffic white	•	•
Light colour		
3000K	•	•
4000K	•	•
Lumen packages		
3200 to 3400 lumen		•
3300 to 3600 lumen	•	
UGR		
≤ 19		•
≤ 22	•	
Dimensions (L x W x H) in mm		
596 x 596 x 14	•	•
1196 x 296 x 14	•	•
621 x 621 x 14	•	•
Driver		
DALI	•	•
Accessories		
Mounting frame for plasterboard and wooden ceilings - M300	•	•
Mounting frame for plasterboard and wooden ceilings - M600	•	•
Options		
IP54 from below	•	•
Integrated daylight sensor ELS	•	•
Emergency unit	•	•
Customization	•	•



Other combinations are possible, please
consult our website:
www.etaplighting.com/series/U23

Square

Rectangular

Options

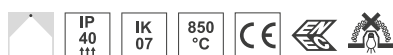
U25



U25



U25 with integrated daylight sensor ELS



U25 (glass)

MesoOptics™

Light distribution

Wide-angle

•

Colour

White

•

Light colour

3000K

•

4000K

•

Lumen packages

2650 to 5150 lumen

•

UGR

≤ 16

•

≤ 19

•

Dimensions (L x W x H) in mm

596 x 596 x 85

•

1196 x 296 x 85

•

621 x 621 x 85

•

Driver

Not dimmable

•

DALI

•

Accessories

Mounting frame for plasterboard and wooden ceilings - M300

•

Mounting frame for plasterboard and wooden ceilings - M600

•

Options

Integrated daylight sensor ELS

•

Integrated EMD sensor (daylight and movement)

•

Integrated LED module for emergency lighting

•

Emergency unit

•

Customization

•



LIGHT MANAGEMENT

Save up to 75% energy
> p.172-203



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/U25





The innovative Shielded Lens technology provides the U3 with a high degree of visual comfort. The lenses shield the LED light and prevent glare. Thanks to the Shielded Lens units there is little contrast between the luminaire's and the ceiling's luminance, which results in a smooth and calming appearance. These properties make the U3 suitable for a variety of applications in offices, classrooms and commercial centers, among others.

The U3 comes in square and rectangular versions, with two light distributions and various luminous fluxes, the shielding units are available in white (RAL 9003) or vaporised aluminium versions.

U3

Square

U3 – 2 units



U3 – 4 units



U3 – 6 units



Rectangular

U3 – 2 units



U3 – 4 units



U3 – 6 units



Options

U3 with integrated daylight sensor
ELS



U3 with integrated EMD sensor
(daylight and movement)



U3 with integrated LED module for
emergency lighting



Other combinations are possible, please
consult our website:
www.etaplighting.com/series/U3



U3

Light distribution

Medium wide-angle
Very wide-angle

•
•

Optics

Shielded Lens - white shielding units
Shielded Lens - evaporated aluminium shielding units

•
•

Colour

RAL 9003 signal white

•

Light colour

3000K
4000K

•
•

Lumen packages

2250 to 6950 lumen

•

UGR

≤ 16
≤ 19

•
•

Dimensions (L x W x H) in mm

596 x 596 x 58
621 x 621 x 58
1196 x 296 x 58
1246 x 308 x 58

•
•
•
•

Driver

Not dimmable
DALI

•
•

Accessories

Mounting frame for plasterboard and wooden ceilings - M300
Mounting frame for plasterboard and wooden ceilings - M600

•
•

Options

Integrated daylight sensor ELS
Integrated EMD sensor (daylight and movement)
Integrated LED module for emergency lighting
Emergency unit
Canalised air extraction
Customization

•
•
•
•
•
•



LIGHT MANAGEMENT
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> p.172-203









U7 luminaires use LED+LENS™ technology whereby the LED light is directed through individual lenses. The lenses' patented surface structure softens the LED light with minimum light loss and retention of light distribution, which results in efficient and comfortable lighting.

Thanks to this wide choice of lumen packages and light distributions, with the U7 you can develop an optimal lighting solution for any application in offices, public buildings and shopping centres.

The luminaires are available in square and rectangular versions and in a compact version for corridors or sanitary spaces.

U7

Square

U7 – mini



U7 – 24 LEDs



Rectangular

U7 – 36 LEDs



U7 – 48 LEDs



Options

U7 with integrated daylight sensor
ELS



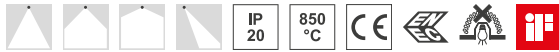
U7 with integrated LED module for
emergency lighting



U7 with air extraction



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/U7



	U7	U7 mini
Light distribution		
Medium wide-angle	•	•
Wide-angle	•	
Very wide-angle	•	
Asymmetric-beam	•	
Colour		
RAL 9003 signal white	•	•
Light colour		
3000K	•	•
4000K	•	•
Lumen packages		
950 to 1000 lumen		•
2500 to 6500 lumen	•	
UGR		
≤ 16	•	
≤ 19	•	•
≤ 22	•	•
Dimensions (L x W x H) in mm		
596 x 596 x 50	•	
621 x 621 x 50	•	
1196 x 296 x 50	•	
1246 x 308 x 50	•	
1720 x 296 x 50	•	
180 x 180 x 50		•
Driver		
Not dimmable	•	•
DALI	•	
Accessories		
Mounting frame for plasterboard and wooden ceilings - M300	•	
Mounting frame for plasterboard and wooden ceilings - M600	•	
Options		
Integrated daylight sensor ELS	•	
Integrated EMD sensor (daylight and movement)	•	
Integrated LED module for emergency lighting	•	
Emergency unit	•	
Canalised air extraction	•	
Customization	•	•



LED+LENS™



LIGHT MANAGEMENT
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The softlight luminaires shield the light source and largely diffuse the light into the space through secondary optics, which prevents direct view into the light source as well as glare.

The luminaires create brightly illuminated spaces and give off soft and pleasant light, making Softlights comfortable lighting in hospitals, care homes and offices.

US luminaires are available in 3 built-in heights, in several luminous fluxes and in square or rectangular versions.

Square

US01 – mounting depth 120 mm



US11 – mounting depth 40 mm



US21 – mounting depth 80 mm



Rectangular

US21 – mounting depth 80 mm



Options

US11 with Integrated daylight sensor
ELS



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/US



	US01	US11	US21
Light distribution			
Wide-angle	•	•	•
Colour			
White	•	•	•
Light colour			
3000K	•	•	•
4000K	•	•	•
Lumen packages			
2250 to 4050 lumen			•
2450 to 4050 lumen		•	
2950 to 4050 lumen	•		
UGR			
≤ 19	•	•	•
≤ 22	•	•	•
Dimensions (L x W x H) in mm			
596 x 596 x 120	•	•	•
596 x 596 x 80	•	•	•
596 x 596 x 40	•	•	•
620 x 620 x 120	•	•	•
620 x 620 x 80	•	•	•
620 x 620 x 40	•	•	•
1195 x 295 x 100			•
Driver			
Not dimmable	•	•	•
DALI	•	•	•
Accessories			
Mounting frame for plasterboard and wooden ceilings - M300			•
Mounting frame for plasterboard and wooden ceilings - M600	•	•	•
Glow wire test			
650°C	•	•	•
850°C	•	•	•
Options			
Integrated daylight sensor ELS		•	•
Integrated EMD sensor (daylight and movement)		•	•
Integrated LED module for emergency lighting		•	•
Emergency unit	•	•	•
Customization	•	•	•



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US3 softlight luminaires provide 100% indirect lighting, the light source is fully shielded and the light is directed through secondary optics. The shielded light source allows US3 luminaires to add ergonomic value to applications where lighting comfort takes precedence.

Square and rectangular luminaires provide pleasant and comfortable lighting in examination or therapy rooms, but also in corridors, shops, libraries or offices.

US3

Square

US31

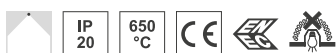


Rectangular

US31



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/US3



US3

Light distribution

Wide-angle

•

Colour

White

•

Light colour

3000K

•

4000K

•

Lumen packages

2250 to 3850 lumen

•

UGR

≤ 19

•

≤ 22

•

Dimensions (L x W x H) in mm

596 x 596 x 90

•

1195 x 295 x 95

•

Driver

Not dimmable

•

DALI

•

Accessories

Mounting frame for plasterboard and wooden ceilings - M300

•

Mounting frame for plasterboard and wooden ceilings - M600

•

Options

Integrated daylight sensor ELS

•

Emergency unit

•

Customization

•

**LIGHT MANAGEMENT**Save up to 75% energy
> p.172-203

2



2 > SURFACE MOUNTED- AND SUSPENDED LUMINAIRES





SURFACE MOUNTED- AND SUSPENDED LUMINAIRES

Shielded Lens

R3



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LED+LENS™

R7



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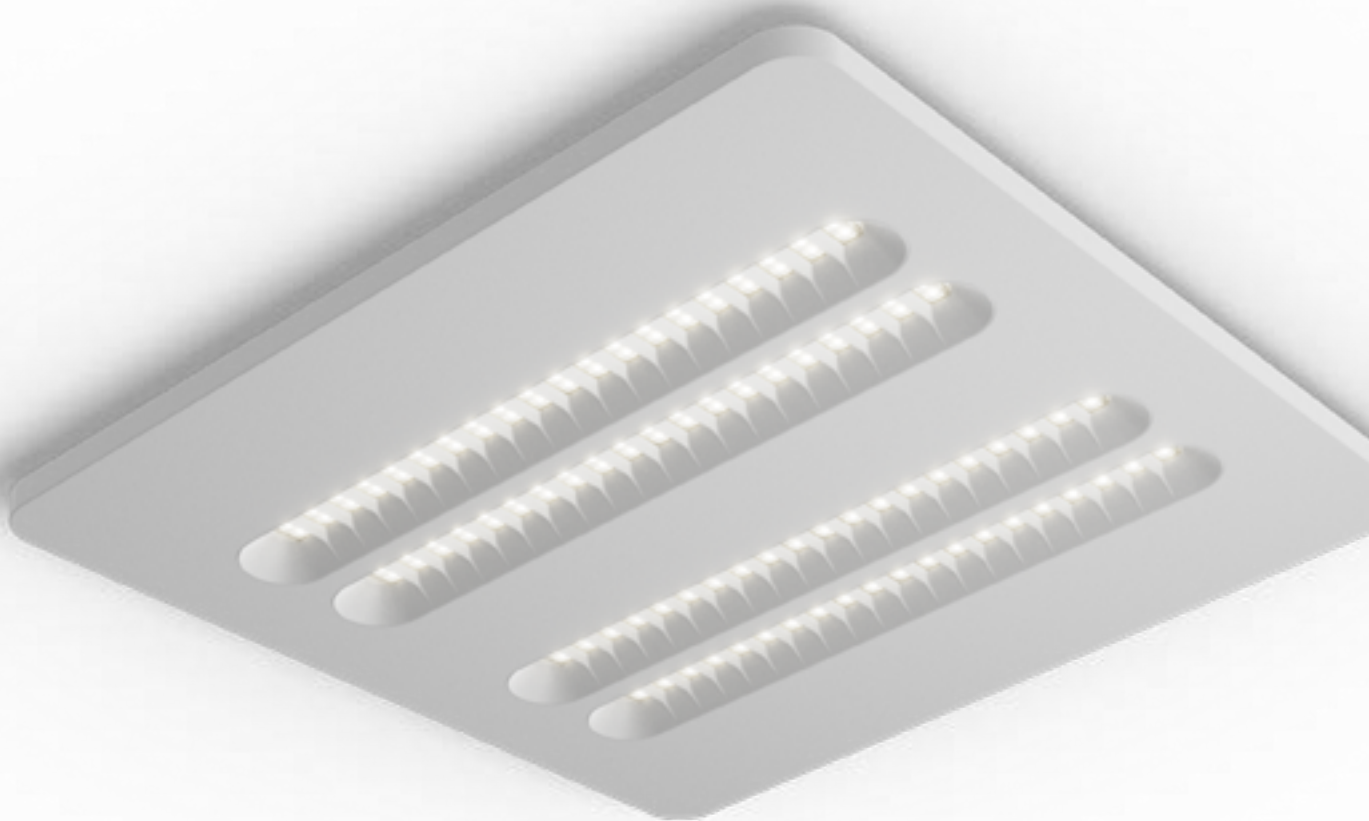
Diffuser

R8



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The R3 series combines unique design with the innovative Shielded Lens technology. Due to the use of shielded units the LED light is shielded and glare is prevented.

Surface-mounted and suspended luminaires feature a visible housing of a mere 20 mm high. The luminaires' compact and elegant design is softened by the rounded corners and make the R3 a stylish luminaire suitable for a variety of applications such as reception areas, offices and public spaces.

The R3 offers an extensive choice of square and rectangular surface-mounted luminaires or individual and in-line suspended luminaires. For each version you can choose from various luminous fluxes and shielding units in white (RAL 9003) or vaporised aluminium versions.

Surface mounted

R3 square - 4 units



R3 rectangular - 4 units



Suspended

R3 rectangular - 2 units



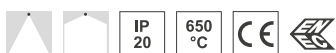
R3 rectangular - 4 units



R3 rectangular, in-line



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/R3



	R3 surface mounted	R3 suspended
Mounting		
Individual	•	•
In-line		•
Light distribution		
Medium wide-angle	•	•
Very wide-angle	•	•
Optics		
Shielded Lens - white shielding units	•	•
Shielded Lens - evaporated aluminium shielding units	•	•
Colour		
RAL 9003 signal white	•	•
Light colour		
3000K	•	•
4000K	•	•
Lumen packages		
2150 to 5450 lumen		•
3000 to 4950 lumen	•	
UGR		
≤ 16	•	•
≤ 19	•	•
Dimensions (L x W x H) in mm		
Individual - 630 x 630 x 36	•	
Individual - 1380 x 260 x 36	•	
Individual - 1380 x 180 x 34		•
Individual - 1380 x 260 x 34		•
In-line - end-module - 1340 x 180 x 35		•
In-line - end-module - 1340 x 260 x 35		•
In-line - centre -module - 1300 x 180 x 35		•
In-line - centre -module - 1300 x 260 x 35		•
Driver		
DALI	•	•
Accessories		
Suspension set with ceiling cap		•
Minimalist suspension set		•
Options		
Integrated daylight sensor ELS	•	•
Integrated EMD sensor (daylight and movement)	•	•
Integrated LED module for emergency lighting	•	•
Emergency unit	•	•
Separate switching of direct/indirect component		•
Customization	•	•



LIGHT MANAGEMENT
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The luminaires' unique LED+LENS™ technology and slim housing make the R7 a stylish and contemporary series. The luminaires provide comfortable and efficient lighting due to the fact that the LED light is shielded and directed through the individual lenses with patented surface structure.

Whether suspended or surface-mounted, square or rectangular, individual or in-line and this with several luminous fluxes and light distributions, the R7 offers a wide range of options for the illumination of offices, schools, reception areas, etc.

Surface mounted

R7 Surface mounted mini



R7 Surface mounted square



R7 Surface mounted rectangular



R7 Surface mounted in-line



Suspended

R7 Suspended square



R7 Suspended rectangular



R7 Suspended in-line



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/R7



R7 surface mounted R7 suspended R7 mini

Mounting			
Individual	•	•	•
In-line	•	•	
Light distribution			
Medium wide-angle	•	•	•
Wide-angle	•	•	
Very wide-angle	•	•	
Asymmetric-beam	•	•	
Colour			
RAL 9003 signal white	•	•	•
RAL 9006 white aluminium	•	•	•
Light colour			
3000K	•	•	•
4000K	•	•	•
Lumen packages			
950 to 1000 lumen			•
2200 to 6650 lumen	•		
2200 to 6500 lumen		•	
UGR			
≤ 16	•	•	
≤ 19	•	•	•
Dimensions (L x W x H) in mm			
180 x 180 x 49			•
600 x 600 x 55	•		
600 x 600 x 47		•	
1500 x 75 x 50		•	
1500 x 150 x 50	•	•	
1680 x 150 x 50	•	•	
Driver			
Not dimmable	•	•	•
DALI	•	•	•
Accessories			
Suspension set with ceiling cap		•	
Minimalist suspension set		•	
Options			
Integrated daylight sensor ELS	•	•	
Integrated EMD sensor (daylight and movement)	•	•	
Integrated LED module for emergency lighting	•	•	
Emergency unit	•	•	
Separate switching of direct/indirect component		•	
Customization	•	•	•



R7 with integrated daylight sensor ELS



R7 with integrated EMD sensor



LIGHT MANAGEMENT

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> p.172-203





The R8 series combines unique design with high-spec finish and excellent performance. The round HaloOptics diffuser ensures uniform illumination without dark patches. The optics are illuminated from all sides and only measure 80 mm in diameter.

The refined design adds architectural value to the R8 in the most diverse environments like entrance halls, conference rooms or showrooms, businesses, schools, stores, offices and hospitals. The luminaires are available in surface-mounted or suspended versions, both connected or individual. You can choose from several lengths and lumen packages, which will allow you to use the luminaires for accent or general lighting.

Surface mounted

R8 787 mm



R8 1162 mm



R8 1542 mm



Suspended

R8 787 mm



R8 1162 mm



R8 1542 mm



R8 in-line



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/R8



	R8 surface mounted	R8 suspended
Mounting		
Individual	•	•
In-line		•
Light distribution		
Wide-angle	•	•
Colour		
RAL 9003 signal white	•	•
Light colour		
3000K	•	•
4000K	•	•
Lumen packages		
1450 to 5500 lumen	•	•
UGR		
≤ 22	•	•
≤ 25	•	•
Dimensions (L x W x H) in mm		
787 x 80 x 121	•	
1162 x 80 x 121	•	
1542 x 80 x 121	•	
787 x 80 x 80		•
1162 x 80 x 80		•
1542 x 80 x 80		•
Driver		
Not dimmable	•	•
DALI	•	•
Accessories		
Suspension set with ceiling cap		•
Options		
Emergency unit	•	•
Customization	•	•



LIGHT MANAGEMENT
 Save up to 75% energy
 > p.172-203

3



3 > MODULAR LIGHT SYSTEMS







With the Ley modular lighting system, you can consistently use the same profile throughout the building for your lighting: short or long lines, straight or angular, suspended or surface-mounted, wall- or ceiling-mounted.

The lines can be created using high-quality light modules; modules with diffuser optics for general or office lighting, modules with Shielded Lens technology for comfortable lighting and uplight modules to illuminate ceilings.

With Ley all manner of architectural light lines can be created for diverse applications, individual surface-mounted and suspended luminaires complete the series. All versions are available in aluminium colour, white or black paint.

Concept

The light lines are created by connecting profiles in standard lengths. The lines with diffuser optics can be adjusted in 280 mm sections, making nearly any configuration possible. 456 mm sections are possible with Shielded Lens optics. Whenever the configuration must respect the architecture, but no light is required, the profiles can be closed with cover plates.

Design

The light lines can be easily configured by means of an online configurator on the ETAP website. The tool compiles a parts list and installation manual for all continuous lines with T-connection or right angles. For special versions, please consult our ETAP advisors.

Delivery and installation

Individual luminaires are packaged and delivered as a whole, light lines are assembled in situ by connecting profiles with preassembled modules. The profiles are conveniently connected to a coupling system and the pre-assembled wiring is connected to a plug-and-play connection. The diffuser optics, supplied in rolls, are installed with a snap-fit just like the cover plates.

Finishing touch

The basis of the Ley is a modern profile of extruded aluminium, available in white, black or aluminum color. Upon request the lines can be produced in all possible RAL colours. The suspended version is hung from thin cables, the surface-mounted lines are installed using a handy click system.

The light modules can be installed individually or in-line, continuous diffusers create uniform continuous light lines, which will enable you to respect and highlight the building's architecture.





Versions

Ley surface mounted



Ley suspended



Ley wall mounted

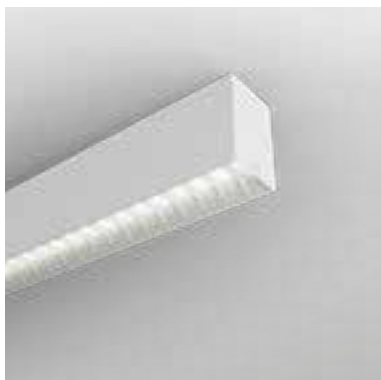


Lighting modules

Ley diffuser



Ley Shielded Lens

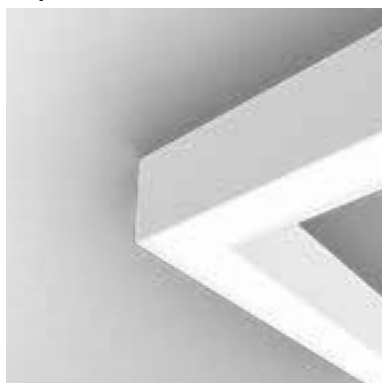


Ley uplight



Technical modules

Ley 90° corner connector



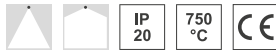
Ley T-connector



Ley with integrated LED module for emergency lighting



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/Ley



Ley surface mounted	Ley suspended	Ley wall mounted
---------------------	---------------	------------------

Light distribution			
Medium wide-angle	•	•	•
Very wide-angle	•	•	•
Optics			
Diffuser	•	•	•
Shielded Lens	•	•	•
Uplight		•	•
Mounting			
Individual	•	•	•
In-line	•	•	•
Colour			
RAL 9003 signal white	•	•	•
RAL 9005 jet black	•	•	•
Aluminium	•	•	•
Light colour			
3000K	•	•	•
4000K	•	•	•
Lumen packages			
1000 to 3000 lumen / m	•	•	•
UGR			
≤ 19	•	•	•
≤ 22	•	•	•
Dimensions (L x W x H) in mm			
Individual diffuser: 840 x 60 x 90	•	•	•
Individual diffuser: 1120 x 60 x 90	•	•	•
Individual diffuser: 1400 x 60 x 90	•	•	•
Individual diffuser: 1680 x 60 x 90	•	•	•
Individual diffuser: 1960 x 60 x 90	•	•	•
Individual diffuser: 2240 x 60 x 90	•	•	•
Individual diffuser: 2520 x 60 x 90	•	•	•
Individual diffuser: 2800 x 60 x 90	•	•	•
Individual Shielded Lens: 912 x 60 x 90	•	•	•
Individual Shielded Lens: 1368 x 60 x 90	•	•	•
Individual Shielded Lens: 1824 x 60 x 90	•	•	•
Individual Shielded Lens: 2280 x 60 x 90	•	•	•
Individual Shielded Lens: 2736 x 60 x 90	•	•	•
Diffuser in-line: (1120 + n x 280) x 60 x 90	•	•	•
Shielded Lens in-line: (1368 + n x 456) x 60 x 90	•	•	•
Driver			
Not dimmable	•	•	•
DALI	•	•	•
Accessories			
90° corner connector	•	•	•
T-connector	•	•	•
Cover plate	•	•	•
Options			
Integrated daylight sensor ELS	•	•	•
Integrated EMD sensor (daylight and movement)	•	•	•
Integrated LED module for emergency lighting	•	•	•
Emergency unit	•	•	•
Separate switching of direct/indirect component		•	
Customization	•	•	•



LIGHT MANAGEMENT
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4







Reflector

D1



p. 72

D2



p. 74

D3



p. 76

LED+LENS™

D4



p. 80

Reflector

D9



p. 82





D1 downlights use chip-on-board technology (COB) and feature an aluminium reflector with smooth satin-anodised or specular finish with facets. The high-quality reflectors ensure wide-angle light distribution and shield the compact light source.

D1 downlights are available in several lumen packages and can be produced with frosted glass plate or ring or IP44 cover glass. The grey or white downlights can in this way be used as functional or decorative lighting in corridors, sanitary spaces, offices and conference rooms.

I See table on p. 85 for an overview of versions, accessories and options.



D1 with glass ring



D1 with a frosted glass plate





The D2 is a stylish downlight for ceilings where recessed luminaires are impossible. The D2 is the surface-mounted version of the D1 downlights and uses the same technology (COB) and aluminium reflectors with smooth satin-anodised or specular finish with facets.

The D2 is available in white or grey and with various lumen packages. With its timeless design, the luminaire lends itself to all manner of applications.

I See table on p. 85 for an overview of versions, accessories and options.





The square D3 downlights feature an aluminium reflector in a smooth satin-anodised finish. Luminaires with wide-angle light distribution can be installed where round luminaires cannot be used to their full advantage.

The D3 uses chip-on-board technology. The downlights are available in white or grey and in several luminous fluxes. The D3 can be used as functional lighting in corridors or public spaces and as accent lighting in offices or conference rooms. Optionally, the downlights can be fitted with an IP44 cover plate for applications in sanitary spaces.

I See table on p. 85 for an overview of versions, accessories and options.



Ontwerp Holistic Architecture 50 | 5, realisatie THV Mandala







The D4 is one of the most characteristic downlights on the market. LED+LENS™ technology, wrapped in a unique design, sets the D4 apart from traditional downlights. The downlight's design perfectly fits in with the U7 recessed and R7 surface-mounted series.

The individual lenses with patented surface structure ensure efficient and comfortable lighting. The luminaries can be used in projects where comfort and design take centre stage. The downlights are available in 2 diameters, several colour combinations and luminous fluxes.



See table on p. 85 for an overview of versions, accessories and options.



D4 with 18 LEDs



D4 with integrated daylight sensor ELS





D9 downlights, with chip-on-board technology, are available with 3 different reflectors: one specular reflector with facets for the best performance, a satin-anodised reflector for a more serene ceiling appearance and a white reflector for diffuse lighting.

With their wide-angle light distribution and shallow built-in depth, downlights are suitable for the lighting of corridors or - combined with an IP54 cover plate - they can also be installed in sanitary facilities or kitchens. The downlights with high-gloss or satin-anodised reflector are available in a comfort version, which allows them to also be used in offices. In addition, the luminaires can be fitted with a frosted glass cover plate and you can choose from several lumen packages.

I See table on p. 85 for an overview of versions, accessories and options.



D9 with cover glass - IP54 from below



D9 with specular reflector and integrated LED module for emergency lighting

Downlights

Recessed mounted

D1



D3



D4



D9






























Surface mounted

D2





																																																																																																																																
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Other combinations are possible,
please consult our website:
www.etaplighting.com/series/



D1



D2



D3



D4



D9

LIGHT MANAGEMENT
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5









Flare spots provide high-quality accent lighting. These spots feature medium and wide-angle light distribution and are available in fixed and directional versions. This makes them ideal for highlighting objects and details in the decor.

Furthermore they can also be used for general lighting in reception areas, hotel rooms or stores. Flare spots are available in several luminous fluxes and colour combinations.

Flare

Flare 3 LEDs



Flare 4 LEDs



Flare 7 LEDs



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/Flare





	Flare fixed	Flare directional
Light distribution		
24°	•	•
36°	•	•
Colour		
RAL 9003 signal white Et RAL 9005 jet black	•	•
RAL 9003 signal white	•	•
RAL 9005 jet black	•	•
RAL 9006 white aluminium	•	•
Light colour		
3000K	•	•
4000K	•	•
Lumen packages		
500 to 920 lumen		•
510 to 1270 lumen	•	
Dimensions (L x W x H) in mm		
98 x 98 x 63	•	
98 x 98 x 93		•
Driver		
1 - 10V	•	•
Not dimmable	•	•
DALI	•	•
Options		
Springs for concrete ceilings	•	•
Customization	•	•



Flare directional in standard white (RAL 9003)



Flare directional in standard black (RAL 9005)



LIGHT MANAGEMENT
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6



6 > LIGHT LINE SYSTEMS AND LUMINAIRES FOR LARGE SPACES





LIGHT LINE SYSTEMS AND LUMINAIRES FOR LARGE SPACES

LIGHT LINE SYSTEMS

DUAL•LENS™

E4



p. 98

E5



p. 102

Multilens

E5



p. 102

LED+LENS™

E7



p. 108

LUMINAIRES FOR LARGE SPACES

LED+LENS™

E8



p. 112









The E4 series offers considerable flexibility on all fronts: dimensions, mounting systems, light distributions and luminous flux. In addition to individual luminaires, the range also provides the option of creating continuous, perfectly illuminated light lines. The white painted extruded aluminium housing ensures efficient thermal management and makes for a sleek look.

The DUAL•LENS™ technology was specifically developed for the E4 series. The unique surface structure of this linear lens creates a dual effect. The structure on the inside determines the desired light distribution for a wide array of applications: wide and narrow-angle, but also asymmetric and double asymmetric for the directional lighting of vertical surfaces such as workstations and store shelves. The structure on the outside of the lens for its part reduces the luminance of the LEDs ($UGR \leq 22$ or ≤ 25).

E4 luminaires are available with 4 different lumen packages, depending on your specific lighting needs: 2000, 3000, 4000 or 6000 lumen per metre.

Surface mounted

E4 in-line



E4 individual



Suspended

E4 in-line



E4 individual



Options

E4 with integrated EMD-sensor
(daylight and movement)



E4 with integrated daylight sensor
for large heights



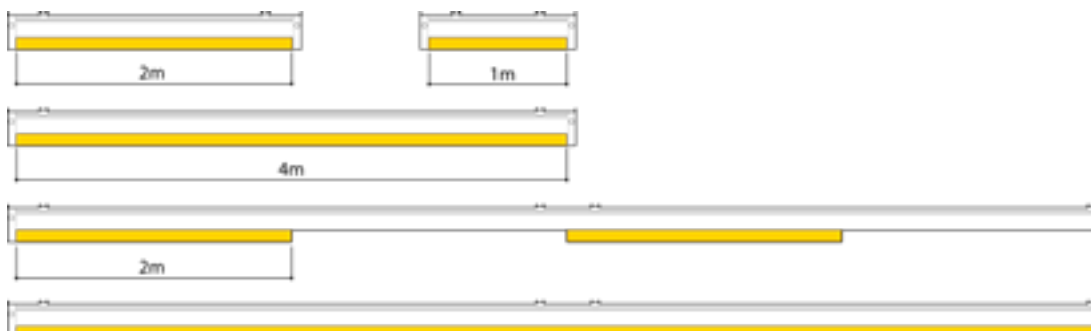
E4 with integrated LED module for
emergency lighting



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/E4



	E4 individual	E4 in-line
Mounting		
Surface mounted	•	•
Suspended	•	•
Light distribution		
Narrow-angle distribution	•	•
Wide-angle	•	•
Asymmetric-beam	•	•
Double asymmetric	•	•
Light colour		
3000K	•	•
4000K	•	•
Lumen packages		
2000-6000 lumen / m	•	•
UGR		
≤22		•
≤25	•	•
Dimensions (L x W x H) in mm		
1060 x 60 x 124	•	
1560 x 60 x 124	•	
2060 x 60 x 124	•	
1000 x 60 x 124		•
2000 x 60 x 124		•
4000 x 60 x 124		•
Driver		
Not dimmable	•	•
DALI	•	•
Accessories		
Line end piece		•
Connector, 7-pole		•
Mounting brackets for ceiling mounting	•	•
Mounting brackets for mounting with threaded rod	•	•
Mounting brackets for mounting with chain	•	•
Mounting brackets for mounting with steelwire	•	•
Options		
Integrated daylight sensor ELS	•	•
Integrated daylight sensor ELS for large heights	•	•
Integrated EMD sensor (daylight and movement)	•	•
Integrated LED module for emergency lighting	•	•
Emergency unit	•	•
Customization	•	•



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The E5 consists of a continuous profile on which separate LED modules can be installed. Intervals between modules are completely up to you, based on your lighting needs and the layout of your space. Will you need more light later? Just add extra modules. Does your space layout change? Just move the modules.

The E5 series consists of a version with DUAL•LENS™ such as the E4, and a version with Multilens. These highly efficient lens solutions provide a great range of light distributions.

Multilens

E5 surface mounted, in-line



E5 surface mounted, individual



E5 suspended, double width



DUAL•LENS™

E5 in-line - DUAL•LENS™










EASY SWITCH FROM FLUORESCENT TO LED

In renovation projects, existing E3 or E5 luminaires with fluorescent lamps can be easily replaced by LED modules. The principle is simple: we remove the E3 or E5 fluorescent luminaires and install LED modules on the existing profile. This takes place on the basis of a new lighting study, which will determine the best possible illuminance for your specific scenario, which means that you can switch from fluorescent to LED without adjustments to the ceiling and that you can immediately enjoy the benefits: no more lamp replacement and up to 50% savings on your energy bill.



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/E5

										E5 Multilens	E5 DUAL•LENS™
      											
Mounting											
Surface mounted										•	•
Suspended										•	•
Light distribution											
Narrow-angle distribution										•	•
Medium wide-angle										•	
Wide-angle										•	•
Very wide-angle										•	
Asymmetric-beam										•	•
Double asymmetric										•	•
Light colour											
3000K											•
4000K										•	•
Lumen packages											
2000 - 14500 lumen / m										•	
2000 - 6000 lumen / m											•
UGR											
≤ 16										•	
≤ 19										•	
≤ 22										•	•
≤ 25										•	•
Dimensions (L x W x H) in mm											
1152 x 78 x 31										•	
1152 x 126 x 31										•	
1500 x 78 x 31										•	
1500 x 126 x 31										•	
1500 x 60 x 100											•
1550 x 60 x 100											•
Driver											
Not dimmable										•	•
DALI										•	•
Basic profiles with through-wiring and phase selector plugs											
5-pole, 5 x 2,5 mm ²										•	•
7-pole, 7 x 2,5 mm ²										•	•
8-pole, 8 x 2,5 mm ²										•	•
9-pole, 9 x 2,5 mm ²										•	•
10-pole, 10 x 2,5 mm ²										•	•
11-pole, 11 x 2,5 mm ²										•	•
IK classification											
IK03										•	
IK06											•
Accessories											
Mounting brackets for ceiling mounting										•	•
Mounting brackets for mounting with threaded rod										•	•
Mounting bracket for Telemecanique Canalis KLE										•	•
Section for emergency lighting										•	•
Coupling piece										•	•
Line end piece										•	•
Connector										•	•
Options											
Customization										•	•



LIGHT MANAGEMENT
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The E7 features the light comfort of the LED+LENS™ system in a robust yet elegant industrial version. As a result, the light can be perfectly geared to the lighting needs of the people who work or practise sports below it.

The combination of high-power LEDs and advanced lenses results in sophisticated light distribution and optimal efficiency. Driver, wiring and optics form a single integrated unit. The housing is made from anodised aluminium, which contributes to optimal heat dissipation.

The E7 achieves luminous flux ranging from 5,000 to 10,000 lumen per metre. A special ball-proof version is available for sports halls.

Surface mounted

E7 in-line



E7 individual

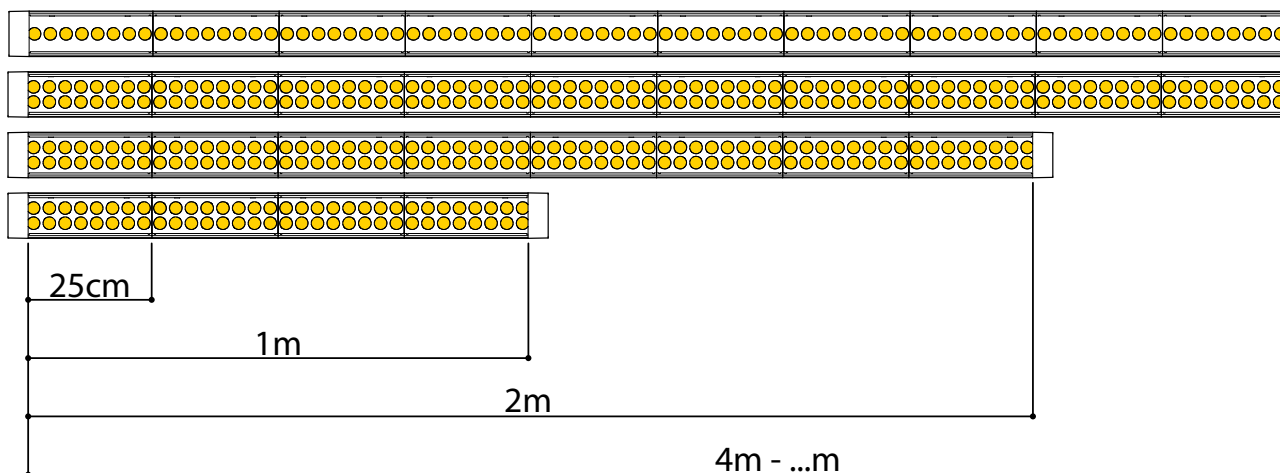


Suspended

E7 in-line



E7 individual



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/E7



	E7 individual	E7 in-line
Mounting		
Surface mounted	•	•
Suspended	•	•
Light distribution		
Narrow-angle distribution	•	•
Medium wide-angle	•	•
Wide-angle	•	•
Asymmetric-beam	•	•
Light colour		
3000K	•	•
4000K	•	•
Lumen packages		
5000 lumen / m	•	•
10000 lumen / m	•	•
UGR		
≤ 19	•	•
≤ 22	•	•
≤ 25	•	•
Dimensions (L x W x H) in mm		
1000 x 90 x 88		•
1070 x 90 x 88	•	
2000 x 90 x 88		•
2070 x 90 x 88	•	
4000 x 90 x 88		•
Driver		
Not dimmable	•	•
DALI	•	•
Accessories		
Polycarbonate cover plate	•	•
Mounting brackets for ceiling mounting - individual luminaires	•	
Mounting brackets for mounting with threaded rod, chain, ... - individual luminaires	•	
Mounting brackets for individual luminaires - ball impact proof	•	
Mounting brackets for ceiling mounting - in-line luminaires		•
Mounting brackets for mounting with threaded rod, chain,... - in-line luminaires		•
Mounting brackets for in-line luminaires - impact test		•
Line end piece		•
Line end piece IK08	•	•
Options		
Ball impact proof version	•	•
Customization	•	•



E7 ball impact proof version



LIGHT MANAGEMENT
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With the E8 you will take lighting to a higher level. We designed this LED+LENS™ solution for spaces from 8 to no less than 20 metres in height. Thanks to the high luminous flux (up to 32000 lm) and the sophisticated light distribution you will get the illuminance you need, without compromising on comfort.

The luminaires are fitted with industrial drivers, which offer better resistance against disruptions on the network and high temperatures. E8 luminaires are suitable for surface and suspended mounting. If you wish you can also tilt the luminaires. For example, in a sport hall they can be suspended over the playing area without blinding the players.

As an option we can deliver the E8 with a polycarbonate cover plate, which not only provides extra protection (IP41 and IK08), but also makes the optics much easier to clean.

E8

Surface mounted

E8



Suspended

E8



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/E8



E8

Mounting

Surface mounted
Suspended

•
•

Light distribution

Narrow-angle distribution
Medium wide-angle
Very wide-angle

•
•
•

Light colour

4000K
5000K

•
•

Lumen packages

22000-32000 lm

•

UGR

≤ 22
≤ 25
≤ 28

•
•
•

Dimensions (L x W x H) in mm

510 x 510 x 160

•

Driver

Not dimmable
DALI

•
•

Accessories

Polycarbonate cover plate
Surface mounting brackets
Suspension set

•
•
•

Options

Ball impact proof version
Customization

•
•



LIGHT MANAGEMENT
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7 > HIGH PROTECTION FACTOR LUMINAIRES





HIGH PROTECTION FACTOR LUMINAIRES

Linear lens

E2



p. 122

E6



p. 126










The E2 satisfies the most stringent lighting requirements in demanding environments. The robust, painted aluminium housing is resistant against numerous aggressive chemicals. Additionally the LEDs, which are sensitive to corrosion, are safely enclosed in a sealed compartment (compliant with corrosion test EN60038-2-60). A series of impactresistant (IK07), dust-proof and watertight (IP66 & IP69) luminaires that furthermore operate trouble-free in a wide temperature range. (-25°C - +35°C). A larger temperature range is possible with an industrial driver. Please consult your ETAP adviser.

E2 uses a linear lens which combines comfort and efficiency with great flexibility in terms of light distribution, which allows for each space to be optimally illuminated. E2 luminaires are available in three different lengths.

In gas and dusty environments, high temperatures and sparks can give rise to explosion risks. That is why it is important to use adapted lighting in critical environments. The E2 series is therefore available in an ATEX-certified version for safe use in such environments, including service stations, flourmills, sawmills, petrochemistry and powdering and painting facilities. All components and materials for the ATEX luminaires have been extensively tested by independent agencies. Our production chain for ATEX luminaires has also been certified. The luminaires are delivered with all documentation required for inspection bodies. Our ATEX luminaires carry the following labels:

 II 2D Ex tb IIIC T80 Db

 II 3G Ex ec IIC T4 Gc

Surface mounted

E2 620 mm



E2 1120 mm



E2 1620 mm



Options

E2 with integrated daylight sensor
ELS



E2 ATEX-certified version



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/E2



E2

Light distribution

Medium wide-angle
Wide-angle
Asymmetric-beam

•
•
•

Colour

RAL 7035 light grey

•

Light colour

4000K

•

Lumen packages

3000 - 10000 lm

•

UGR

≤ 25
≤ 28

•
•

Dimensions (L x W x H) in mm

620 x 80 x 135
1120 x 80 x 135
1620 x 80 x 135

•
•
•

Driver

Not dimmable
DALI

•
•

Options

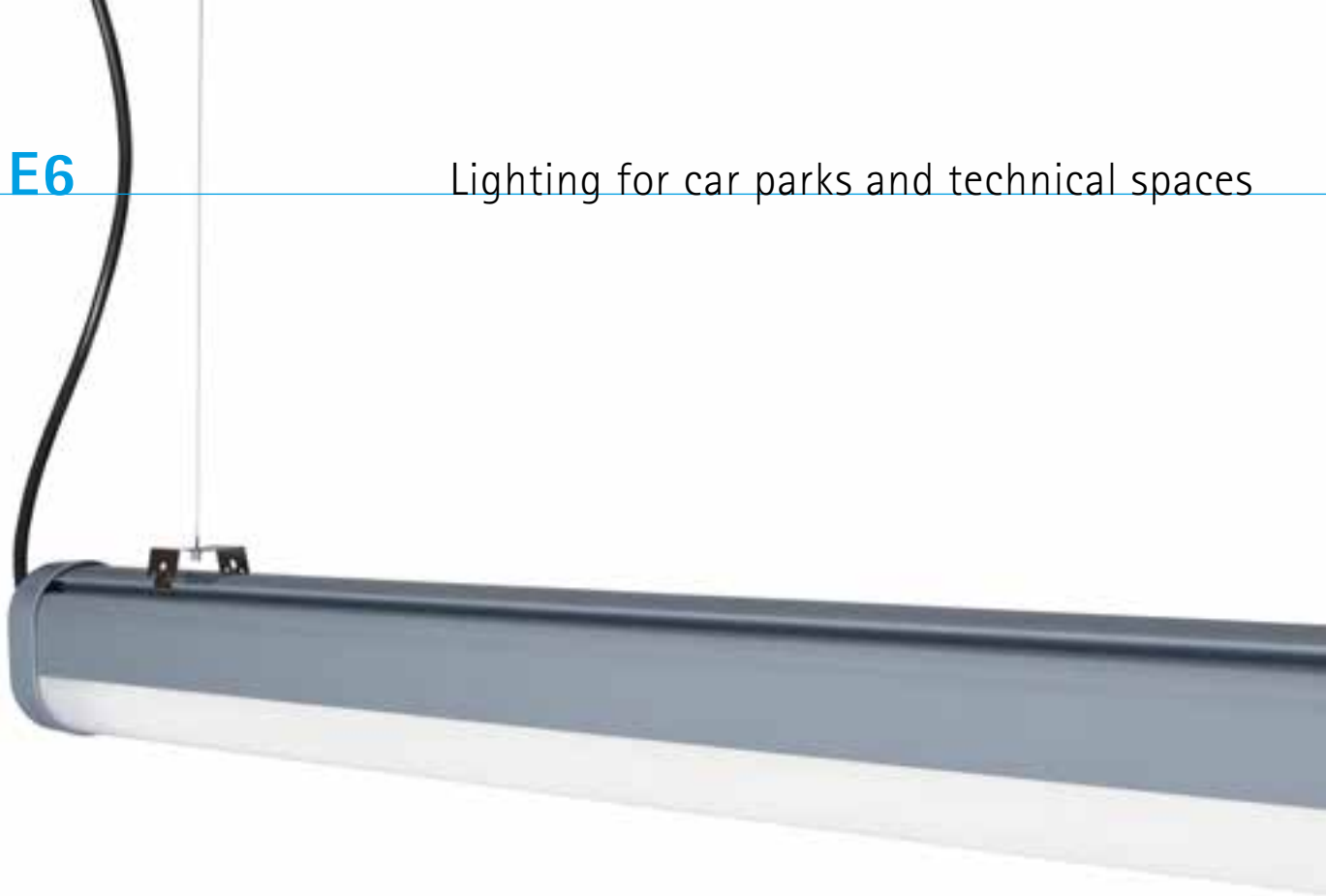
ATEX II 2D Ex tb IIIC T80 Db
ATEX II 3G Ex ec IIIC T4 Gc
Integrated daylight sensor ELS
With industrial driver
Through wiring, 3 x 2,5 mm²
Through wiring, 5 x 2,5 mm²
Chlorine-resistant version
Customization

•
•
•
•
•
•
•
•



LIGHT MANAGEMENT
Save up to 75% energy
> p.172-203





The E6 series has not only been specifically designed for general lighting in car parks, technical spaces and basements, but also for light industry and sheltered outdoor spaces such as discharging quays or platforms. The luminaire is fully geared to demanding environments: the robust polycarbonate housing is impact-resistant (IK08), dust- and waterproof (IP66) and resistant to exhaust fumes. The smooth surface prevents dust from accumulating and makes the luminaires easy to clean.

The E6 series is available as standard in a surface-mounted version for ceiling and wall applications. A suspended set is also available as an option. The luminaires are available in three different lengths and luminous fluxes – a perfect solution for every lighting level or application.

E6

Surface mounted

E6 880 mm



E6 1260 mm



E6 1640 mm

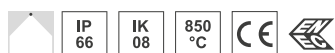


Suspended

E6



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/E6



E6

Mounting

Surface mounted
Suspended

•
•

Light distribution

Wide-angle

•

Colour

RAL 7035 light grey

•

Light colour

4000K

•

Lumen packages

3000 - 6000 lm

•

UGR

≤ 28

•

Dimensions (L x W x H) in mm

880 x 56 x 80
1260 x 56 x 80
1640 x 56 x 80

•
•
•

Driver

Not dimmable
DALI

•
•

Options

Through wiring, 3 x 2,5 mm²
Through wiring, 5 x 2,5 mm²
Customization

•
•
•



LIGHT MANAGEMENT
Save up to 75% energy
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8







EMERGENCY LIGHTING

K1R



p. 134

K9



p. 156

K1



p. 140

LED MODULE



p. 164

K2



p. 146

RENOVATION



p. 166

KE2



p. 152





Signage, escape route and anti-panic lighting, recessed and surface-mounted, in sleek designs, with a contemporary look and feel and a great eye for detail, sums up the K1R series. With its streamlined yet robust polycarbonate housing, the range is suitable for any type of environment, including light industry (IP42).

K1R luminaires are available as surface-mounted (square) or recessed (square and round) luminaires. The lens on the anti-panic lighting provides nearly square light distribution, escape route lighting provides 1 lux on the escape route axis. In this way, rooms can be lit extremely efficiently with the fewest possible luminaires.

Signage luminaires are designed with your convenience in mind. A single luminaire provides several mounting options. Near perfect illumination of the pictogram guarantees recognition in an emergency.

K1R

Escape route lighting

K1R square



K1R round



Increased luminous flux

K1R square



Anti-panic lighting

K1R square



K1R round



Comfort

K1R linear



Accessories

K1R right angle wall



K1R impact resistant housing



K1R recessed mounted



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/K1R



	square	round	linear
Function			
Anti-panic lighting	•	•	•
Escape route lighting	•	•	•
Comfort			•
Increased luminous flux	•		
Optics			
Lens	•	•	
Diffuser			•
Version			
Self-contained - self test EST+	•	•	•
Self-contained - ETAP Safety Manager wired	•	•	•
Self-contained - ETAP Safety Manager wireless	•	•	•
Self-contained - DALI IEC62386-202 Ed. 2009	•	•	•
Centrally supplied - central battery system	•	•	•
Colour			
RAL 9003 signal white	•	•	•
Mounting			
Ceiling surface mounted	•		•
Ceiling recessed mounted	•	•	•
Wall surface mounted	•		•
Dimensions (L x W x H) in mm			
152 x 152 x 38	•		
110 x 110 x 70		•	
315 x 33 x 219			•
Accessories			
Mounting frame K1R square	•		
Mounting frame K1R linear			•
Right angle wall bracket K1R square	•		
Protective cover - ballproof - K1R square	•		
Protective cover - K1R linear			•
Test button set	•	•	•
Accessory for through wiring and/or surface mounted cabling			•
Options for self-contained luminaires			
3 hour autonomy	•	•	•
8 hour autonomy	•	•	•
Remote control	•	•	•
LiFePO4 batteries	09/2019	09/2019	09/2019
DALI	•	•	•
Version for combination with E5-in-line system	•		
Customization	•	•	•
Options for centrally supplied luminaires			
DALI	•	•	•
ETAP Safety Manager	•	•	•
KCFLEX2 EBS-module	•	•	•
Version for combination with E5-in-line system	•		
Customization	•	•	•



K1R anti-panic lighting



K1R escape route lighting



K1R increased luminous flux



LIGHT MANAGEMENT
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K1R

Single sided signage

K1R linear



Single and double sided signage

K1R linear



K1R square



Accessories

K1R linear - recessed mounted



K1R linear - right angle wall



K1R linear - suspended



K1R linear - surface mounted cabling



K1R square - right angle wall



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/K1R

	LiFePO4	NiMH	EBS	ESM	EST+	•••	IP 42	IK 04	850 °C		CE		square	linear
Function														
Single and double sided signage													•	•
Version														
Self-contained - self test EST+													•	•
Self-contained - ETAP Safety Manager wired													•	•
Self-contained - ETAP Safety Manager wireless													•	•
Self-contained - DALI IEC62386-202 Ed. 2009													•	•
Centrally supplied - central battery system													•	•
Colour														
RAL 9003 signal white													•	•
Viewing distance														
15 m													•	
29 m														•
Mounting														
Ceiling surface mounted													•	•
Ceiling recessed mounted													•	•
Wall surface mounted													•	•
Dimensions (L x W x H) in mm														
152 x 152 x 38													•	
315 x 33 x 219														•
Accessories														
Recessed frame K1R square													•	
Right angle wall bracket K1R square													•	
Test button set													•	
Recessed frame K1R linear														•
Right angle wall bracket K1R linear														•
Adaptation plate for K5 renovation														•
Suspension set, 0,5 m for K1R linear														•
Suspension set, 1 m for K1R linear														•
Suspension set, 2 m for K1R linear														•
Protective cover - K1R linear wall mounted														•
Accessory for through wiring and/or surface mounted cabling														•
Options for self-contained luminaires														
3 hour autonomy													•	•
8 hour autonomy													•	•
Remote control													•	•
LiFePO4 batteries													09/2019	09/2019
DALI													•	•
Version for combination with E5-in-line system													•	
Integrated light module														07/2019
Customization													•	•
Options for centrally supplied luminaires														
DALI													•	•
ETAP Safety Manager													•	•
KCFLEX2 EBS-module													•	•
Version for combination with E5-in-line system													•	
Integrated light module														07/2019
Customization													•	•
Pictogram														
Pictogram of your choice (cfr. table p. 170)													•	•



LIGHT MANAGEMENT
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The K1 series is able to cope with the most diverse environments (offices, public spaces, light industry,...). The luminaires are designed with optimum light processing and are perfectly geared to the application, whether it be lighting or signage.

The K1 mounting plate guarantees easy assembly, for both surface-mounted and recessed installation. With the matching mounting brackets (recessed, square and suspended), K1 emergency lighting can be installed anywhere.

Escape route, anti-panic & comfort lighting

K1



Accessories

K1 suspended



K1 right angle wall



K1 with decorative end pieces



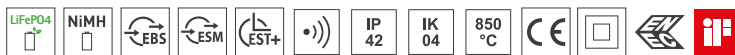
K1 recessed



K1 parallel wall mounted



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/K1



K1 lighting

Function

Anti-panic lighting	•
Escape route lighting	•
Comfort	•

Optics

Fresnel lens	•
Diffuser	•

Version

Self-contained - self test EST+	•
Self-contained - ETAP Safety Manager wired	•
Self-contained - ETAP Safety Manager wireless	•
Self-contained - DALI IEC62386-202 Ed. 2009	•
Centrally supplied - central battery system	•

Colour

RAL 9018 papyrus white	•
------------------------	---

Mounting

Ceiling surface mounted	•
Ceiling recessed mounted	•
Wall surface mounted	•

Dimensions (L x W x H) in mm

304 x 155 x 73	•
----------------	---

Accessories

Recessed frame	•
Recessed mounting template for recessed frame	•
Parallel wall mounting bracket	•
Right angle wall bracket	•
Suspension set	•
Mounting plate for mounting on rough surfaces	•
Accessory for through wiring and/or surface mounted cabling	•
Decorative end pieces (RAL9006)	•
Decorative end pieces (RAL9003)	•
Protective cover	•

Options for self-contained luminaires

3 hour autonomy	•
8 hour autonomy	•
Remote control	•
LiFePO4 batteries	09/2019
Version for combination with E5-in-line system	•
DALI	•
Customization	•

Options for centrally supplied luminaires

Version for combination with E5-in-line system	•
DALI	•
ETAP Safety Manager	•
KCFLEX2 EBS-module	•
Customization	•



LIGHT MANAGEMENT
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K1

Single sided signage

K1



Single and double sided signage

K1



Accessories

K1 double sided – recessed



K1 single sided – right angle wall



K1 double sided – right angle wall



K1 single sided – suspended



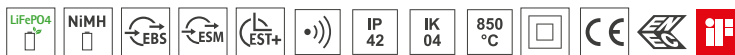
K1 double sided – suspended



K1 single sided – parallel wall mounted



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/K1



K1 signage

Function

Single sided signage	•
Single and double sided signage	•

Version

Self-contained - self test EST+	•
Self-contained - ETAP Safety Manager wired	•
Self-contained - ETAP Safety Manager wireless	•
Self-contained - DALI IEC62386-202 Ed. 2009	•
Centrally supplied - central battery system	•

Colour

RAL 9018 papyrus white	•
------------------------	---

Viewing distance

26 m	•
------	---

Mounting

Ceiling surface mounted	
Ceiling recessed mounted	•
Wall surface mounted	•

Dimensions (L x W x H) in mm

304 x 155 x 73	•
----------------	---

Accessories

Recessed frame	•
Recessed mounting template for recessed frame	•
Parallel wall bracket	•
Right angle wall bracket	•
Suspension set single sided signage	•
Suspension set double sided signage	•
Mounting plate for mounting on rough surfaces	•
Accessory for through wiring and/or surface mounted cabling	•
Decorative end pieces (RAL9006)	•
Decorative end pieces (RAL9003)	•
Protective cover	•

Options for self-contained luminaires

3 hour autonomy	•
8 hour autonomy	•
Remote control	•
LiFePO4 batteries	09/2019
Version for combination with E5-in-line system	•
DALI	•
Customization	•

Options for centrally supplied luminaires

Version for combination with E5-in-line system	•
DALI	•
ETAP Safety Manager	•
KCFLEX2 EBS-module	•
Customization	•

Pictogram

Pictogram of your choice (cfr. table p. 170)	•
----------------------------------------------	---



LIGHT MANAGEMENT
Excellum2 - ESM - EBS
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K2 is a dust and waterproof (IP65) luminaire that can take a punch (IK10). An excellent solution for emergency lighting in public spaces and in industrial indoor and outdoor applications. With its robust and easy to clean construction, it is also eminently suitable in environments with high dust concentrations and high levels of humidity.

Thanks to the specially designed Fresnel lens, K2 anti-panic and escape route lighting provides wide-angle light distribution. K2 for signage is available in either a single- or double-sided version. A light window under the pictogram ensures sufficient light under the luminaire.

The K2 comes with quick mounting brackets as standard. Special K2 mounting brackets (recessed, right angle and suspended) allow you to install your emergency lighting wherever you like. Irregularities on the wall surface can easily be eliminated using the adjustment system specially designed for this purpose.

Escape route & anti-panic lighting

K2



Increased luminous flux

K2



Comfort

K2



Final emergency exit

K2



Accessories

K2 recessed



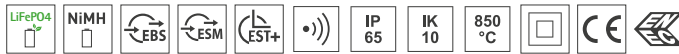
K2 right angle wall



K2 suspended



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/K2



K2 lighting

Function

Anti-panic lighting	•
Escape route lighting	•
Comfort	•
Increased luminous flux	•
Final emergency exit	•

Optics

Lens	•
Diffuser	•

Version

Self-contained - self test EST+	•
Self-contained - ETAP Safety Manager wired	•
Self-contained - ETAP Safety Manager wireless	•
Self-contained - DALI IEC62386-202 Ed. 2009	•
Centrally supplied - central battery system	•

Colour

RAL 9018 papyrus white	•
------------------------	---

Mounting

Ceiling surface mounted	•
Ceiling recessed mounted	•
Wall surface mounted	•

Dimensions (L x W x H) in mm

359 x 180 x 100	•
-----------------	---

Accessories

Recessed frame	•
Right angle wall bracket	•
Ceiling / wall mounting bracket	•
Suspension set	•
Protective cover	•
Mounting plate for mounting on rough surfaces	•
Aesthetic cover	•

Options for self-contained luminaires

Through wiring	•
3 hour autonomy	•
8 hour autonomy	•
Remote control	•
LiFePO4 batteries	09/2019
Version for combination with E5-in-line system	•
DALI	•
Version for outdoor use (up to -20°C)	•
Customization	•

Options for centrally supplied luminaires

Through wiring	•
Version for combination with E5-in-line system	•
DALI	•
ETAP Safety Manager	•
KCFLEX2 EBS-module	•
Version for outdoor use (up to -20°C)	•
Customization	•



LIGHT MANAGEMENT
Excellum2 - ESM - EBS
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Single sided signage

K2



Single and double sided signage

K2



Accessories

K2 double sided – recessed



K2 single sided – right angle wall



K2 double sided – right angle wall



K2 single sided – suspended



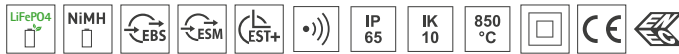
K2 double sided – suspended



K2 single sided – ceiling bracket



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/K2



K2 signage

Function

Single sided signage	•
Single and double sided signage	•

Version

Self-contained - self test EST+	•
Self-contained - ETAP Safety Manager wired	•
Self-contained - ETAP Safety Manager wireless	•
Self-contained - DALI IEC62386-202 Ed. 2009	•
Centrally supplied - central battery system	•

Colour

RAL 9018 papyrus white	•
------------------------	---

Viewing distance

26 m	•
------	---

Mounting

Ceiling surface mounted	•
Ceiling recessed mounted	•
Wall surface mounted	•

Dimensions (L x W x H) in mm

359 x 180 x 100	•
359 x 180 x 225	•

Accessories

Recessed frame	•
Right angle wall bracket	•
Ceiling / wall mounting bracket	•
Suspension set double sided signage	•
Suspension set single sided signage	•
Protective cover	•
Mounting plate for mounting on rough surfaces	•

Options for self-contained luminaires

Through wiring	•
3 hour autonomy	•
8 hour autonomy	•
Remote control	•
LiFePO4 batteries	09/2019
Version for combination with E5-in-line system	•
DALI	•
Version for outdoor use ($\geq -20^{\circ}\text{C}$)	•
Customization	•

Options for centrally supplied luminaires

Through wiring	•
Version for combination with E5-in-line system	•
DALI	•
ETAP Safety Manager	•
KCFLEX2 EBS-module	•
Version for outdoor use ($\geq -20^{\circ}\text{C}$)	•
Customization	•

Pictogram

Pictogram of your choice (cfr. table p. 170)	•
----------------------------------------------	---



LIGHT MANAGEMENT
Excellum2 - ESM - EBS
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The KE2 is the ATEX-certified solution par excellence for your emergency lighting. These luminaires are suitable for safe use in gas-rich and dusty environments such as service stations, flourmills, sawmills, petrochemical and powder coating and lacquering facilities.

The aluminium luminaires have been extensively tested and certified and bear the following markings:



II 2D Ex tb IIIC T80 Db
II 3G Ex ec IIC T4 Gc



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/KE2

Escape route, anti-panic, comfort lighting & Increased luminous flux

KE2



KE2 ATEX

Function

Anti-panic lighting	•
Escape route lighting	•
Comfort	•
Increased luminous flux	•

Optics

Diffuser	•
----------	---

Version

Self-contained - self test EST+	•
Self-contained - ETAP Safety Manager wired	•
Self-contained - DALI IEC62386-202 Ed. 2009	•
Centrally supplied - central battery system	•

Colour

RAL 7035 light grey	•
---------------------	---

Mounting

Ceiling surface mounted	
Wall surface mounted	•

Dimensions (L x W x H) in mm

423 x 80 x 135	•
----------------	---

Options for self-contained luminaires

Through wiring	•
3 hour autonomy	•
Remote control	•
DALI	•
Version for outdoor use ($\geq -20^{\circ}\text{C}$)	•

Options for centrally supplied luminaires

Through wiring	•
DALI	•
ETAP Safety Manager	•
Version for outdoor use ($\geq -20^{\circ}\text{C}$)	•



LIGHT MANAGEMENT
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K9 proves that emergency lighting can be both attractive and discreet. Minimalist design, compact execution and high-quality finish ensure that signage and luminaires can be perfectly integrated into any environment. K9 signage blends pure and simple design and strong performance. It guarantees high recognition and long service life. The pictograms are easily recognisable, which leads to maximum safety.

K9 provides compliant solutions for escape-route, anti-panic and staircase lighting. For each application, the K9 has a specific lens, which always delivers top performance. Thus, enabling you to achieve the desired light levels with the fewest possible luminaires. For the escape route version for mounting heights over 2.7 m, the spacing is 20 m or more.

Escape route lighting

K9 square - unpainted



K9 round - signal white



K9 mini without trim



Anti-panic lighting

K9 square - signal white



K9 round - white aluminium



K9 mini with trim



Staircase lighting

K9 square - white aluminium



K9 round - signal white

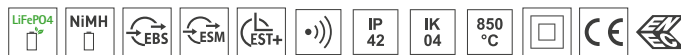


Accessories

K9 square - recessed



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/K9



	K9 square	K9 round	K9 mini
Function			
Anti-panic lighting	•	•	•
Escape route lighting	•	•	•
Staircase lighting	•	•	
Optics			
Lens	•	•	•
Version			
Self-contained - self test EST+	•	•	•
Self-contained - ETAP Safety Manager wired	•	•	•
Self-contained - ETAP Safety Manager wireless	•	•	•
Self-contained - DALI IEC62386-202 Ed. 2009	•	•	•
Centrally supplied - central battery system	•	•	•
Colour			
RAL 9003 signal white	•	•	•
RAL 9006 aluminium white	•	•	
Unpainted	•		
Mounting			
Ceiling surface mounted	•		
Ceiling recessed mounted	•	•	•
Dimensions (L x W x H) in mm			
20 x 20 x 32 (without trim)			•
90 x 90 x 70		•	
152 x 152 x 32	•		
160 x 160 x 45	•		
Accessories			
Recessed mounting template for recessed frame	•		
Adapter plate for installation in soft ceilings	•		
Test button set	•	•	•
Options for self-contained luminaires			
3 hour autonomy	•	•	•
8 hour autonomy	•	•	•
Remote control	•	•	•
LiFePO4 batteries	09/2019	09/2019	09/2019
DALI	•	•	•
Customization	•	•	•
Options for centrally supplied luminaires			
DALI	•	•	•
ETAP Safety Manager	•	•	•
KCFLEX2 EBS-module	•	•	•
Customization	•	•	•



K9 anti-panic lighting



K9 escape route lighting



K9 staircase lighting



LIGHT MANAGEMENT
Excellum2 - ESM - EBS
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Single sided signage

K9 linear – signal white



Single and double sided signage

K9 linear – white aluminium



K9 square – unpainted



Accessories

K9 linear – recessed



K9 linear – right angle wall



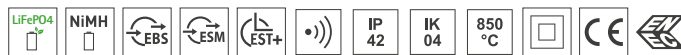
K9 linear – suspended



K9 square – recessed



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/K9



K9 square

K9 linear

Function

Single sided signage		•
Single and double sided signage	•	•

Version

Self-contained - self test EST+	•	•
Self-contained - ETAP Safety Manager wired	•	•
Self-contained - ETAP Safety Manager wireless	•	•
Self-contained - DALI IEC62386-202 Ed. 2009	•	•
Centrally supplied - central battery system	•	•

Colour

RAL 9003 signal white	•	•
RAL 9006 white aluminium	•	•
Unpainted	•	•

Viewing distance

15 m	•	
26 m		•

Mounting

Ceiling surface mounted	•	•
Ceiling recessed mounted	•	•
Wall surface mounted		•

Dimensions (L x W x H) in mm

152 x 152 x 32	•	
160 x 160 x 45	•	
325 x 58 x 186		•
325 x 27 x 224		•
325 x 46 x 220		•

Accessories

Suspension set (RAL9003-white)		•
Recessed mounting template for recessed frame		•
Adapter plate for installation in soft ceilings K9 linear		•
Recessed mounting template for recessed frame	•	
Adapter plate for installation in soft ceilings K9 square	•	
Test button set	•	•

Options for self-contained luminaires

3 hour autonomy	•	•
8 hour autonomy	•	•
Remote control	•	•
LiFePO4 batteries	09/2019	09/2019
DALI	•	•
Customization	•	•

Options for centrally supplied luminaires

DALI	•	•
ETAP Safety Manager	•	•
KCFLEX2 EBS-module	•	•
Customization	•	•

Pictogram

Pictogram of your choice (cfr. table p. 170)	•	•
----------------------------------------------	---	---



LIGHT MANAGEMENT
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ETAP has developed an LED module for escape-route and anti-panic lighting, which can be seamlessly integrated into any ETAP luminaire. The module has a diameter of barely 20 mm. The housing is transparent, the heat sink is anodised grey. It is an excellent alternative for the use of emergency power units, whereby general lighting is deployed as emergency lighting.

Despite its compact size this new generation performs very well. For example, for escape routes, interdistances up to 18 m are possible, for a mounting height of 2.8 metres (interdistances up to 30 m are possible for a mounting height of 6 m).

The module is fitted with the EST+ selftest system. You can opt for autonomous versions (with batteries) or connect the module to the central ETAP battery system. Connection to the ETAP Safety Manager (ESM) central management system is possible.



Other combinations are possible,
please consult our website:
www.etaplighting.com
> Downloads > General
> LED module for emergency lighting

Escape route & anti-panic lighting

LEDMODULE



LED module

Function

- Anti-panic lighting
- Escape route lighting

Optics

- Lens

Version

- Self-contained - self test EST+
- Self-contained - ETAP Safety Manager wired
- Self-contained - DALI IEC62386-202 Ed. 2009
- Centrally supplied - central battery system

Mounting

- Ceiling surface mounted
- Ceiling recessed mounted

Dimensions (L x W x H) in mm

- 20 x 20 x 32

Options for self-contained luminaires

- 3 hour autonomy
- Remote control
- LiFePO4 batteries
- DALI
- Customization

Options for centrally supplied luminaires

- DALI
- ETAP Safety Manager
- Customization



LIGHT MANAGEMENT
Excellum2 - ESM - EBS
> p. 172-203





To ensure the safety in your building, maintenance to your emergency lighting installation is necessary.

With the K1, K2 & K3 renovation modules you carry out an upgrade to your luminaire in one operation; battery, lamp and electronics will be renewed. This renovation module is available in 2 different versions for K1-K2: a version with LED strip and one with light guide. For K3 1 version is available.

In addition, both renovation modules contain a long-life NiMH battery and a led interior, which will reduce the frequency of maintenance in the future.



Renovation module K1-K2 with LED strip



Renovation module K1-K2 with light guide



Renovation module K3



Other combinations are possible,
please consult our website:
www.etaplighting.com/series/K-renovation-module

RENOVATION

Taking into account the fast evolution of technology, sometimes it is not possible to deliver luminaires out of fluorescent ranges.

For these situations ETAP has developed LED renovation solutions whereby existing connection points can be reused for installation of new luminaires, without having to adapt ceilings/walls. These solutions are available as standard for bigger ranges. On demand renovation kits for other luminaires (or ranges) can be developed.



K1 8W fluorescent



K1 with adaptation set



K2 8W fluorescent



K1 with adaptation set

OR



K2 with adaptation set



K2 13W fluorescent



K1 with adaptation set

OR



K2 with adaptation set



K8 8W fluorescent



K1 with adaptation set

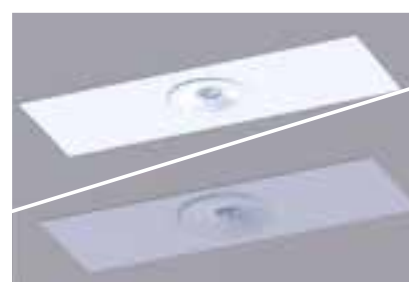


K5 8W lighting luminaire



K9 mini with adaptation set

OR



K1R spot or K9 spot with adaptation set



K5 8W fluorescent signage



K9 with adaptation set

OR



K1R with adaptation set



K5 8W wall mounted lighting luminaire



Customized LED solution



















Other combinations are possible, please consult our website:
www.etaplighting.com
 > Downloads > General
 > Renovation solutions for fluorescent ETAP luminaires
 or contact your ETAP adviser.



LIGHT MANAGEMENT
 Excellum2 - ESM - EBS
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K1R				K1		
square		linear		wall mounted	ceiling mounted	
distance of recognition = 15 m		distance of recognition = 29 m		distance of recognition = 26 m	distance of recognition = 26 m	
single sided	double sided	single sided	double sided	single sided	single sided	double sided

PICTOGRAMS FOR SAFETY SIGNAGE

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INFORMATIVE PICTOGRAMS



In addition to the standard range, ETAP can produce pictograms to your specification.
Contact your ETAP-adviser for more information.

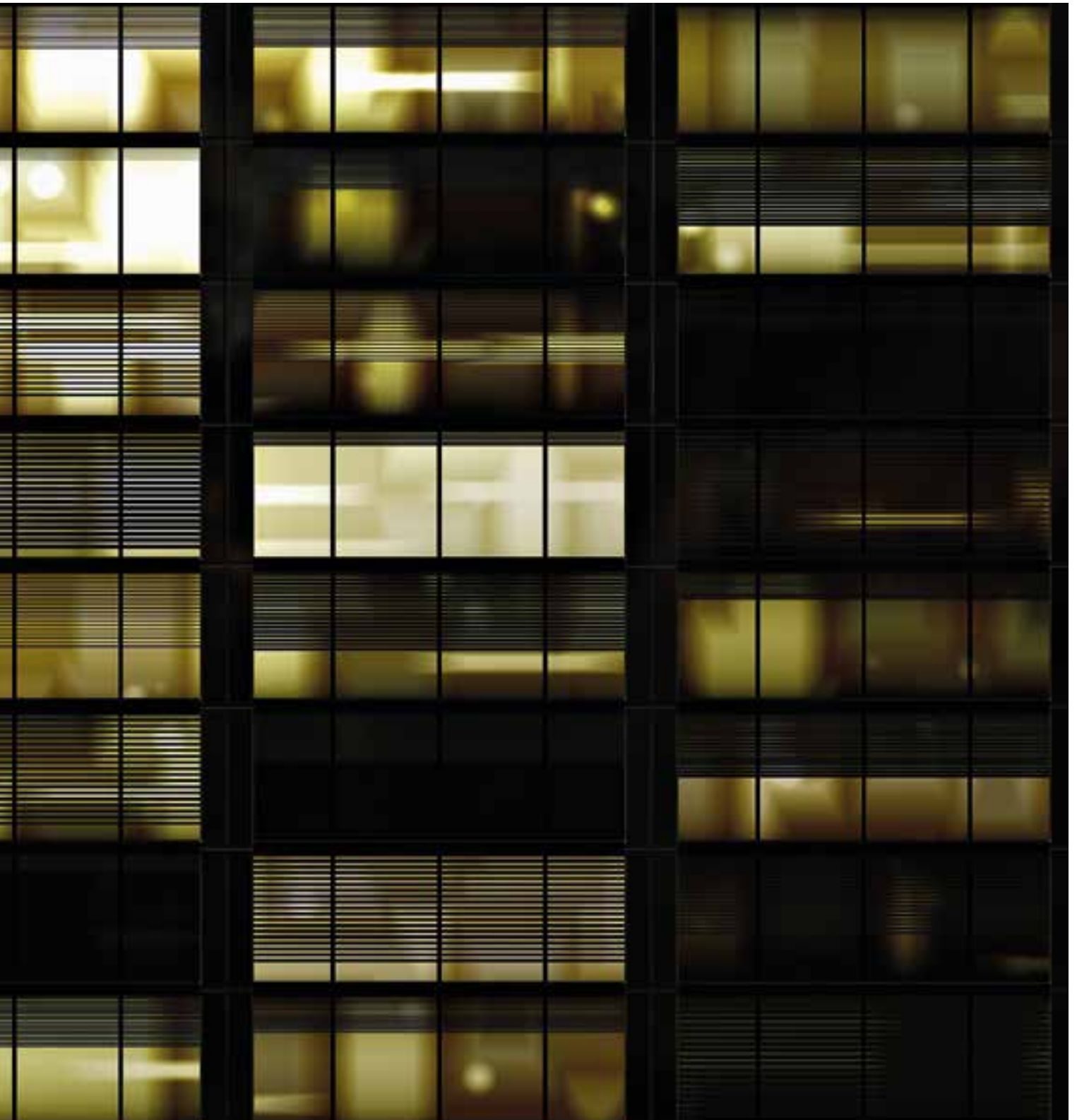
K2			K9			
wall mounted	ceiling mounted		square		linear	
distance of recognition = 26 m	distance of recognition = 26 m		distance of recognition = 15 m		distance of recognition = 26 m	
single sided	single sided	double sided	single sided	double sided	single sided	double sided

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9



9 > SYSTEMS FOR LIGHTING AND EMERGENCY LIGHTING





SYSTEMS FOR LIGHTING AND EMERGENCY LIGHTING

Systems for lighting

ELS



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EMD



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EasyDim2



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Excellum2



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Systems for emergency lighting

ESM



p. 196

EBS



p. 200

TEN STRATEGIES

Light control is the ideal solution to make the most of your lighting. Light control systems result in energy-savings and maximum flexibility. ETAP has many years' experience in the development of light control systems; both sensors (whether integrated into the luminaires or not) and extensive management systems that allow you to have the right light in the right place at the right time.

ETAP defines **ten strategies** that can be used as a guideline to choose the light control system that best meets your needs. Application of these strategies results in maximum energy savings and flexibility.

ETAP can help you to apply these strategies. We always start with your specific needs and support you during all the stages of the project, from initial choice through planning and completion to management.



PRESENCE DETECTION

Sensors only switch on the lights once someone has entered the space and switch them off automatically when no one is around.



ADJUSTMENT TO THE TASK

You will prevent waste by setting standard lighting levels, depending on specific tasks or applications. The European standard EN 12464-1 lays down several lighting strengths depending on the task.



DAYLIGHT LINKING

With daylight sensors the intensity of artificial light changes depending on incident daylight.



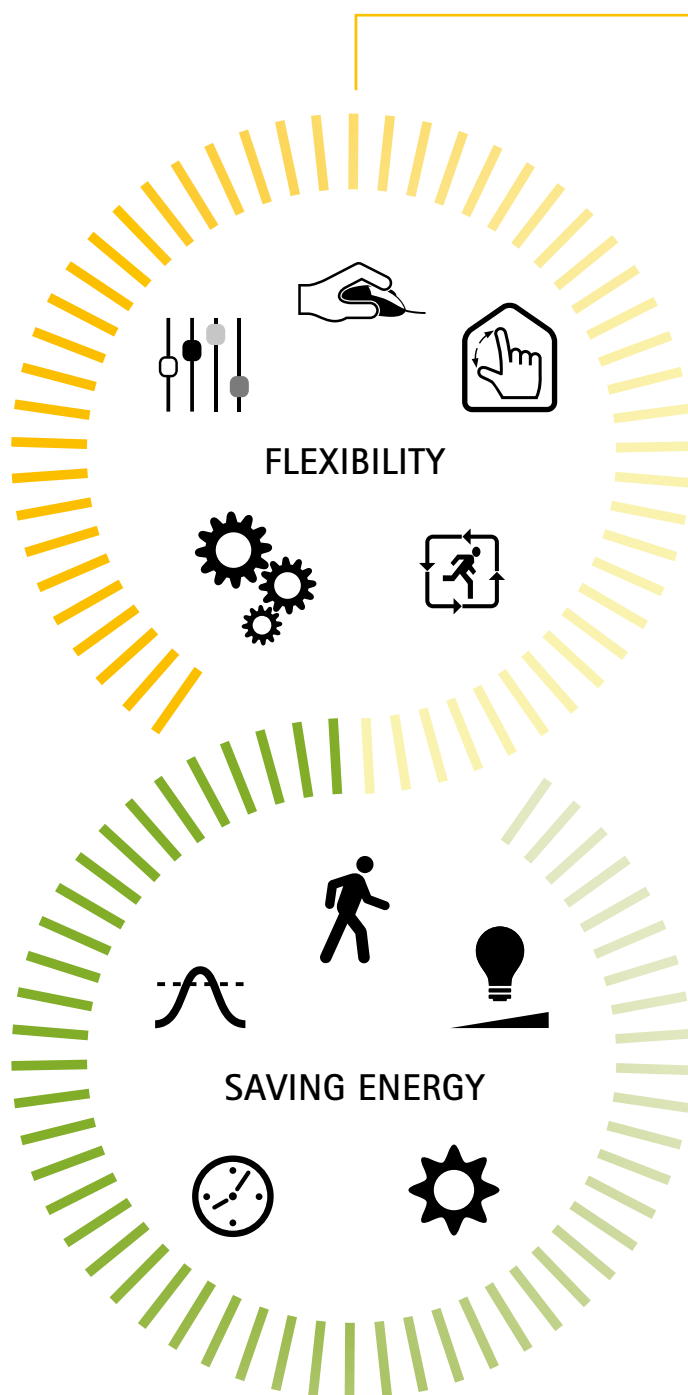
INTELLIGENT TIME CONTROL

Lighting automatically adjusts to previously set schedules. A simple example is the switching on and off of lighting at the beginning and end of the working day.



LIMITATION OF PEAK CAPACITY

Depending on the recorded energy consumption, the lighting can be temporarily dimmed or switched off in locations chosen by you in order to limit total peak load.



EVOLVING WITH THE BUILDING

Lighting can be easily and quickly adjusted when the buildings or work places are given a new purpose; for example an open-plan office is converted into individual offices.



PERSONAL CONTROL

You can adjust illuminance to your needs and preferences in your workstation at any time. For detailed graphic work you will probably opt for higher illuminance, whilst for less straining tasks lower illuminance will suffice.



SCENE SETTING

By defining scenarios the lighting easily adjusts to the various functions in the same room. Just think of an auditorium with adjusted lighting for video presentations, group discussions, maintenance, etc.



INTEGRATION WITH OTHER TECHNOLOGIES

By opting for a light control system that can be easily integrated into other systems (building management systems, alarm systems, etc.), for example, you can also control heating, ventilation and air-conditioning using the lighting system's motion sensors. Furthermore you ensure that your light control is future-proof and is able to evolve with technological developments.



EMERGENCY LIGHTING MANAGEMENT

You always need to be able to rely on the emergency lighting. That is why correct monitoring is essential – and often also required by law. A lighting control system helps with this. The building administrator is able to check the status of the luminaires at all times. He does not have to be in the building for this: the software also gives a warning in case of a safety problem.



The compact ELS sensor, integrated into the luminaire, constantly measures the light quantity on the work surface under the luminaire. Depending on the total amount of light the sensor will dim the lamp: should more daylight come in, the luminaire will produce less artificial light and use less power. ELS comes with either analogue (1-10V or LED driver) or digital sensor and ETAP stocks ELS sensors for LED and fluorescent luminaires. For higher ceilings (up to 20 m) a specific ELS sensor is available with DALI and analogue connection in one housing. This sensor can be controlled by infrared remote control.



ENERGY FRIENDLY

With daylight control, a saving of up to 25% of the lighting installation's total consumption is possible within a building. The sensors' consumption is negligible.

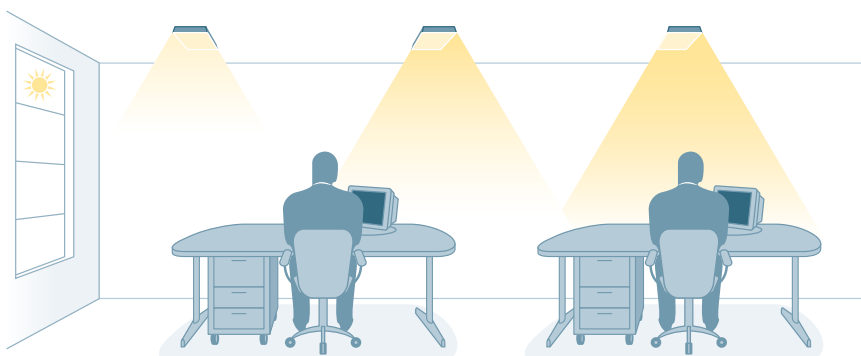
COMFORTABLE

The unique ELS control strategy combines high energy savings with excellent user acceptance. ELS reacts immediately to changing light incidence, both for increasing and decreasing lighting levels. In this way dimming goes nearly unnoticed. The light sensor's sensitivity is adjustable.

EASY INSTALLATION

The installation time for luminaires with or without ELS is the same, because no additional connections have to be made. The ELS sensor is configured in the factory. Should you wish to adjust the lighting levels later, just change the settings in situ.

For more information, contact your ETAP adviser.



How much energy you save depends, among other things, on daylight entry and the orientation of the building.



please consult our website:
www.etaplighting.com/ELS

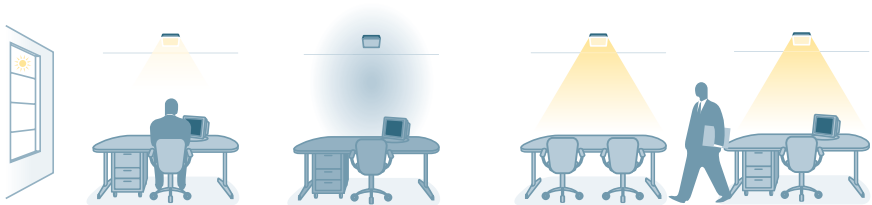


ETAP's EMD sensors combine several sensors in a single compact housing.

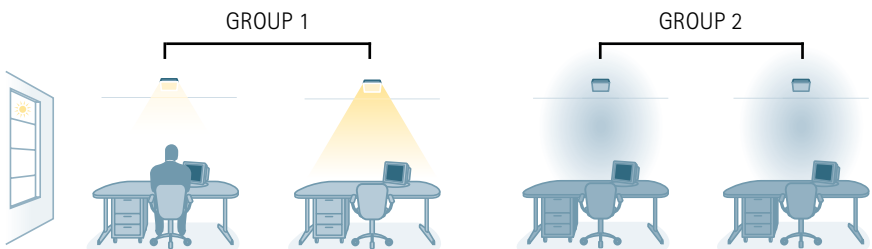
In addition to the motion detector and the light sensor, the EMD also has an IR receiver. So you can, if desired, control your lighting via a remote control. EMD has 2 DALI connections.



	Movement Detection	Daylight dependent detection	Push-button control	IR remote control	Switching	Dimming	Scenes
EMD + push buttons and/or IR	•	•			DALI	1%	
EMD DALI + Controller	•	•	•	•	DALI	1%	4



The light is controlled as a function of the incident daylight and movement.



The luminaires are grouped. As long as one luminaire detects any movement within the group, the whole group of luminaires remains active.

ENERGY FRIENDLY

EMD minimises the luminaire's power consumption. Thanks to the automatic control depending on daylight and presence, unnecessary energy consumption is prevented. Parasitic energy consumption, which is the consumption of the sensor itself, is minimised. The EMD uses 0.8W.



FLEXIBLE AND COMFORTABLE

With EMD in your luminaires you will be prepared for changes in the future.

Using a specific remote control, you can choose several predefined operating modes or configure your sensor as needed. In addition, the EMD allows to control several groups of luminaires with a single sensor and to dim the inside of a room differently depending on daylight.

EASY INSTALLATION

Just as for the ELS, the EMD is pre-configured by ETAP, so that light control immediately works correctly after installation of the luminaires. Extra wiring is not necessary. The sensor can be built into the luminaire housing on request.

EMD FOR CORRIDORS AND OPEN SPACES

Open spaces and corridors require special motion sensors. In corridors motion must be detected across the entire length, so that sensors with elongated detection zones are required. Large, open spaces call for sensors that can also detect the slightest motion at great distances. ETAP also offers a full range of EMD sensors for this application.



please consult our website:
www.etaplighting.com/emd-multidetector



☼ Light sensor

🚶 Movement sensor

Status LED

📶 Bluetooth interface



Smartphone - EasyDim2 App

VERSATILE LOCAL LIGHT CONTROL

EasyDim2 is a local light control system that makes it easy for you to save energy. It is the perfect solution for:

- Classrooms
- Offices
- Corridors
- Sanitary spaces
- ...

EasyDim2 automatically adjusts the light level as a function of entering daylight and human activity. It helps you save energy via movement detection and daylight-dependent control. You can manually adjust the light level via push-buttons or a smartphone.

CHARACTERISTICS

- For autonomous applications with DALI luminaires, such as a classroom, meeting room, auditorium, landscape office, individual office, sanitary space, corridors, etc.
- Up to 63 luminaires, 10 movement detectors and 6 push button interfaces can be connected.
- Preconfigured by ETAP in mode 'classroom'. The installer can easily select another mode (auditorium, small office, large office, corridor/storage, cantina/coffee corner, washrooms/toilets/douches) in function of the application via his smartphone.



COMPONENTS

INTELLIGENT SENSOR WITH BUILT-IN CONTROL UNIT

- Three functions: daylight-dependent control, motion detection, Bluetooth for remote control
- sensor range to 25 m² for higher sensitivity (e.g., office) and 48 m² for lower sensitivity (e.g., classroom) for a maximum height of 4 m.
- LED indicator displaying the system's status

PLUG-IN INSTALLATION BOX (FOR RECESSED MOUNTING ONLY)

- Wieland connectors, provided with clear labels
- Three connections for luminaires, depending on the application, are connected to these lines
- Expansion sensors and/or pushbuttons
- Voltage

SURFACE-MOUNTED HOUSING



EasyDim2 controller with built-in multisensor and Bluetooth radio

RECESSED MOUNTING

The basis of this EasyDim2 system consists of an intelligent control unit with connected multisensor that receives and processes local signals, and a plug-in installation box.

EasyDim2 – recessed (multisensor/installation box/cable)

SURFACE MOUNTING

The base of this EasyDim2 system consists of an intelligent sensor with built-in control unit that receives and processes local signals. The sensor is fitted in a rigid surface-mounted housing.

EasyDim2 – surface mounting (multisensor with surface-mounted housing)

Input

EXPANSION SENSORS

An EasyDim2 system can be expanded with maximum 9 additional motion sensors for an increased detection range.

Expansion sensor for motion detection – recessed

Expansion sensor for motion detection – surface-mounted

PUSHBUTTON CONTROL

EasyDim2 operates fully automatically and autonomously, but also allows you to control the lighting manually, e.g., using pushbuttons. These pushbuttons can be connected to the EasyDim2 system by means of a pushbutton interface.

Pushbutton interface

Pushbutton panel, 4 commands and text field





APP FOR INSTALLERS AND USERS

If you wish to change the factory settings, the app will help you to configure the EasyDim2, to calibrate the lighting level and set the parameters.

App for Android

AVAILABLE

App for iOS

2019 Q3

ACCESSORIES

CONNECTION ACCESSORIES

With the connection accessories your EasyDim2 is 'plug & play', thus making installation easier.

230V connection

2-metre flex 3 x 1.5 mm² with CEE7 mains plug and GST18 bus

3-metre extension cord, 3 x 1.5 mm² with GST18 plug and GST18 bus (black)

T-piece GST18, 3-pin, 1 x IN, 2 x OUT (black)

Distribution block GST18, 3-pin, 1 x IN, 3 x OUT (white)

Distribution block GST18, 3-pin, 1 x IN, 5 x OUT (white)

Connector GST18, 3-pin

Luminaire connection

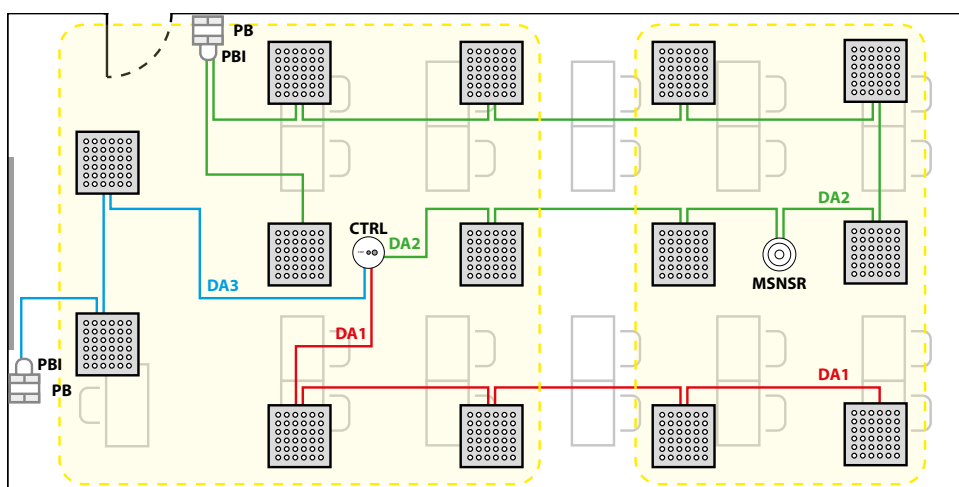
3-metre extension cord, 5 x 1.5 mm² with GST18 plug and GST18 bus (blue)

T-piece GST18, 5-pin, 1 x IN, 2 x OUT (blue)

APPLICATIONS & SETTINGS

APPLICATION MODES

EasyDim2 can be used for various applications. Each of these applications has specific requirements in terms of light control. That is why EasyDim2 can be delivered with one of the standard application modes. These modes include various parameters, which are set according to the application requirements.



Schematic diagram EasyDim2 - application classroom



please consult our website:
www.etaplighting.com/easydim2









The Excellum2 light control system allows your lighting installation to perform optimally. You can control individual or groups of luminaires in zones. The system dims and switches the lighting on and off in accordance with preconfigured settings.

CUSTOM-MADE SYSTEM

All of Excellum2's intelligence is housed in a discreet and stylish small controller. We always deliver Excellum2 ready for use. You choose which functionalities you need, we supply the relevant software. This makes Excellum2 suitable for all types of projects, from medium-sized spaces to large buildings with several floors.

ADVANTAGES

Excellum2 will add significant value to your lighting installation and your building, as it is based on three principles:

- Ease of use and management by users and administrator
- Maximum energy savings: the light only switches on when necessary and dims whenever possible
- Maximum flexibility: you can always adjust the light to your preferences

EASE OF USE AND MANAGEMENT

The system is user-friendly for facility managers: you determine the various illuminances in the various spaces; as well as the various scenarios; time settings, etc. It is easy to manage all parameters on a PC, on an internal network or the Internet. Therefore you do not have to be present in the building to manage your lighting installation. The interface is based on the building's blueprints, so that you can check the status of the luminaires and other components in the various zones at a glance. You do not have to be a computer wizard to adjust the settings. For example, you can assign sensors to a zone with the drag and drop function. Adjustments to calendar control are no more difficult than the management of an Outlook calendar.

A simple interface with a limited number of functionalities will delight users. They can set the desired lighting level on a touchscreen or call up preconfigured scenarios, which can be done on a PC, tablet or smartphone.



ENERGY SAVING

The most energy-efficient lighting is lighting that is switched off. Excellum2 only switches the light on when and where necessary and dims the light or switches it off whenever possible. To do so the system uses several strategies: daylight harvesting, occupancy detection, smart time control, adjustment to task which results in a limitation of peak load. Thanks to a smart combination of these strategies you can save up to 75% energy. As a matter of fact, Excellum2 will keep you apprised of actual savings at all times: an energy meter in the controller measures actual consumption. Excellum2 keeps you continuously informed of savings through built-in data logging.

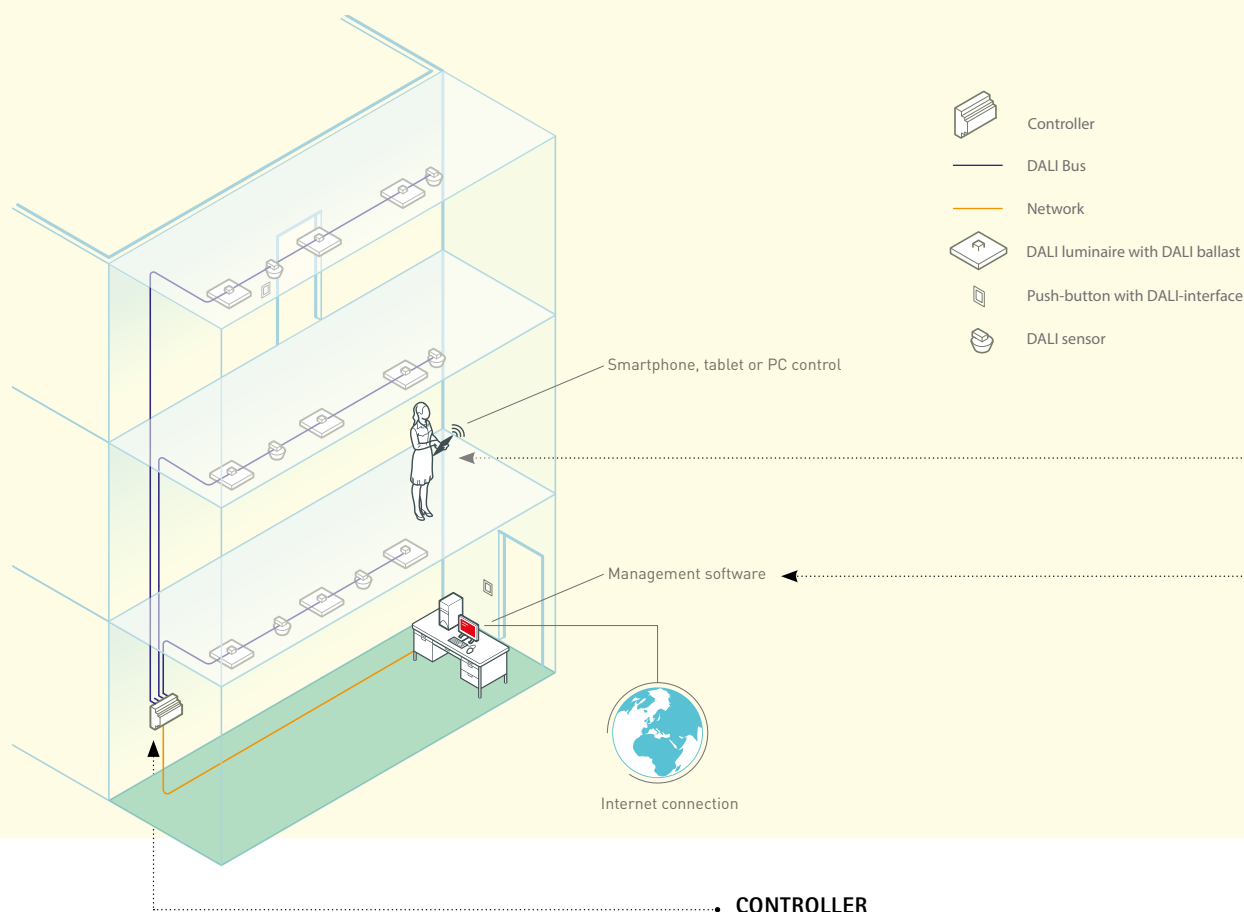
FLEXIBILITY

Excellum2 adjusts the lighting based on your preferences and needs, providing you with the right light at the right time in the right place. Whenever these preferences change, the lighting can be adjusted without major alterations. These strategies result in your lighting installation being flexible in time and space: integration with other technologies, evolving with the building, personal control and scene-setting.



System structure

ETAP has kept the Excellum2 system architecture as simple as possible. The luminaires and components communicate through a controller. Control and management of the system takes place through an intuitive, user-friendly interface.



CONTROLLER



The controller has 4 DALI lines, which can each individually control up to 64 addresses. For large projects, up to five controllers can be linked.

The controller is Excellum2's central, intelligent unit. The controller has 4 DALI lines, which can each individually control up to 64 addresses (luminaires, sensors or other components). Each controller therefore manages up to 256 components. Up to five controllers can be linked, which makes Excellum2 suitable for large buildings with several floors. For smaller lighting projects (classrooms, conference rooms, etc.), preconfigured controllers are also available.

MOBILE INTERFACE FOR USERS

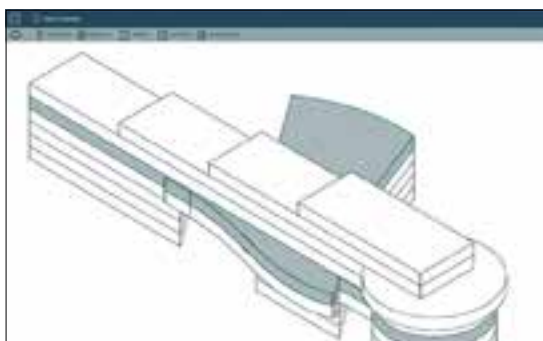
The intuitive mobile interface enables users to adjust the lighting to their needs and preferences. This can be their own workstation, but also conference rooms, communal areas, etc. Users can switch lighting on and off, dim it or call up previously configured scenes, controlled on PC, tablet or smartphone.



MANAGEMENT SOFTWARE

A 3D graphic interface exists for facility managers, based on the building's blueprints. You can easily navigate through the building and the various spaces to configure and adjust Excellum2 to your preferences. You can address individually or group luminaires and components and assign them to a zone by using the drag and drop function. Here you can also configure and adjust the calendar, define scenarios, etc.

Excellum2 also features extensive reporting functions, on energy use and lamp defects, among others.

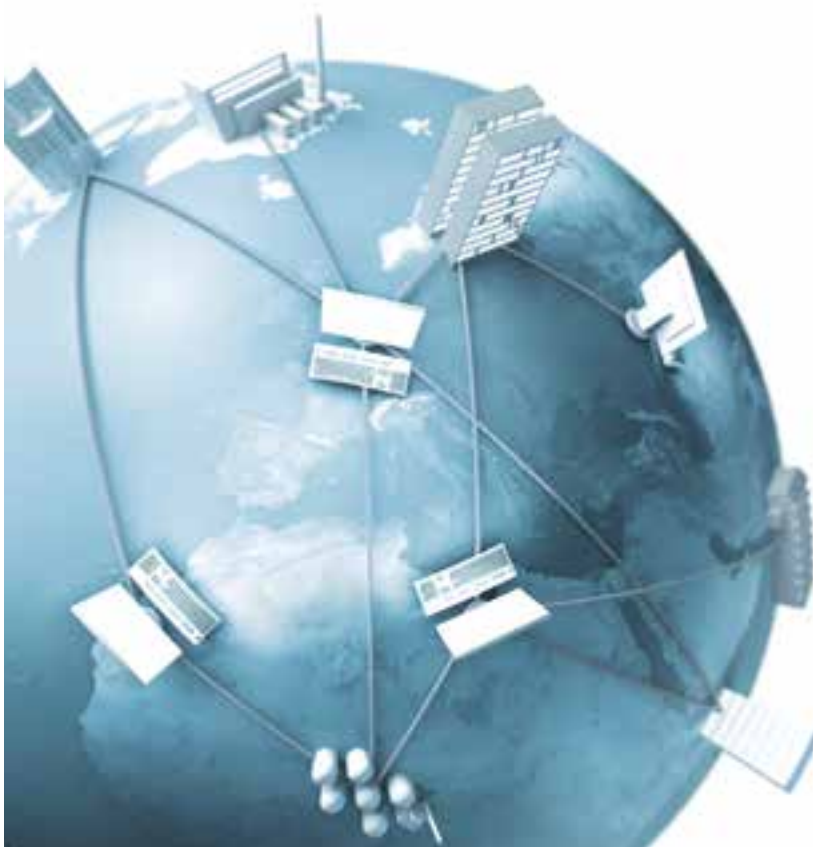


The 3D graphic interface is based on the building's blueprints. Using the drag and drop function, luminaires and components can be assigned to a zone.



please consult our website:
www.etaplighting.com/Excellum2





ETAP Safety Manager (ESM) is a management system that assists you with the monitoring, configuration and maintenance of your emergency lighting.

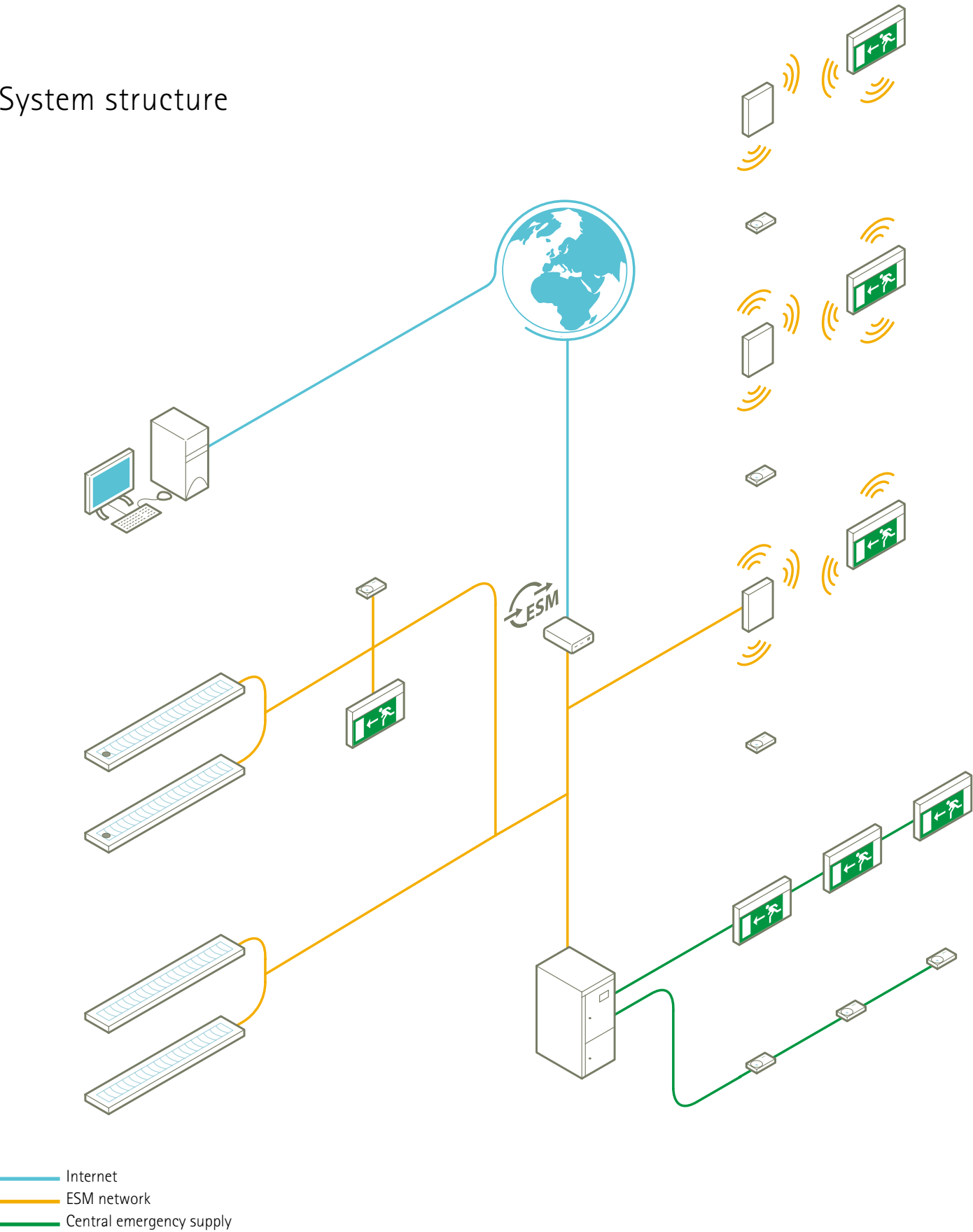
For this purpose, each device connected to your ESM network is allocated a unique code. This allows ESM to easily identify each luminaire and to automatically report if each luminaire is functioning properly. You can choose a wired or a wireless network, or a combination of both. With ESM you manage not only your self-contained and central battery emergency lighting luminaires, but also any emergency units or K9 LED emergency modules that are integrated with the luminaires.

You can connect your ESM network to the internet, to have complete access from anywhere on the world wide web at any time.

ESM offers nothing but advantages and adds value to your emergency lighting:

- You get extra safety.
- You save money and time by efficiently managing your emergency lighting, anywhere, anytime in line with the EN50172.
- You have a multitude of options: a versatile solution for any building or system configuration.
- ESM is a user friendly system.
- ESM grows flexibly along with your needs.
- You are in good company: ESM has for years proved its quality and stability at hundreds of companies throughout Europe.

System structure



ESM system features

LUMINAIRE – MESSAGES

- Luminaire errors: lamp, battery, electronics
- Network problem: BUS communication or radio communication problem
- Luminaire: identification data of self-contained luminaires

SOFTWARE – COMMANDS (INDIVIDUAL / GROUP / INSTALLATION)

- Remote switching of the maintained lamp (manual/periodic automatic)
- Adjustable test moment
- Search function
- Activate/deactivate rest mode (only for wired)
- Manual test function

SOFTWARE – OVERVIEW

- System status:
 - current operating mode (standby/test/rest/emergency)
 - lamp status, test settings (moment/cycle)
 - lamp burning hours (only self-contained luminaires)
 - battery duration (luminaires via Emergency Unit Gateway and EBS systems only indicate whether the specified duration has been met)
- Error messages: lamp, battery, electronics, network communication error
- Maintenance: maintenance orders and information on luminaire, lamp and battery
- Statistics: status report, history
- System reports: installation report, test settings, status report, maintenance report (in accordance with EN 50172)

SYSTEM – EXTERNAL CONNECTIONS

- Automatic export of status information (ASCII)
- Alarm signalling via potential free contact module
- Automatic fault signalling via e-mail
- Access via a PC with an internet or network connection



please consult our website:
www.etaplighting.com/ESM



In a number of situations a central supply is recommended for emergency lighting. Just think of environments where the luminaires are difficult to reach for battery replacements or environments where higher lighting levels are required. But also in buildings in which the escape route and antipanic lighting is fully integrated into the general lighting, buildings whose evacuation requires a lot of time and a long autonomy is desirable, or in environments with a highly changeable ambient temperature. Also in installations with autonomous luminaires where, in compliance with EN1838, the route to the outdoor assembly point must be provided with emergency lighting and a small central battery system is the appropriate solution.

The advantages of a central battery system

- Simply battery maintenance – easily accessible central battery maintenance. A tour along the individual luminaires is not necessary.
- Robust – the luminaires themselves contain no batteries, which means they can also be used in areas with extreme temperatures, for instance.
- Smart – ETAP's central battery systems give status notifications of the individual luminaires and make it easier to detect errors. They can also be integrated with other systems such as fire alarm installations and safety systems, without extra communication cabling of the luminaires.



PRODUCT OVERVIEW CENTRAL BATTERY SYSTEMS

EBS Superior Compact	
Availability	standard
Maximum power	350VA / 1h ; 350VA / 3h ; 250VA / 8h
Switching circuits	4
Emergency voltage	230V AC
Subdistributor	can be a subdistributor
Placement batteries	in cabinet or in expansion cabinet
Circuit monitoring	standard
Individual luminaire monitoring	optional
Switching of power circuits	programmable
FLEX technology	optional
Connection to ESM	optional
Web interface	standard
Replacement power source	batteries
Battery set	2 x 12V / 4 x 12V
IP	IP22
Dimensions (in mm)	610/880/1420 x 410 x 205
Housing material	lacquered sheet steel / brushed aluminum



	EBS Static	EBS Superior
Availability	on demand	on demand
Maximum power	unlimited	unlimited
Switching circuits	unlimited	unlimited
Emergency voltage	24V / 216V DC	230V AC / 216V DC
Subdistributor	possible	possible
Placement batteries	near the control unit	independent of control unit
Circuit monitoring	standard	standard
Individual luminaire monitoring	optional	optional
Switching of power circuits	fixed wired	programmable
FLEX technology	-	optional
Connection to ESM	-	optional
Web interface	-	optional
Replacement power source	batteries	batteries/emergency generating set/ 2nd mains supply
Battery set	18 x 12V	18 x 12V
IP	IP20	IP20
Dimensions (in mm)	project-dependent	project-dependent
Housing material	lacquered sheet steel	lacquered sheet steel



please consult our website:
www.etaplighting.com/EBS

10



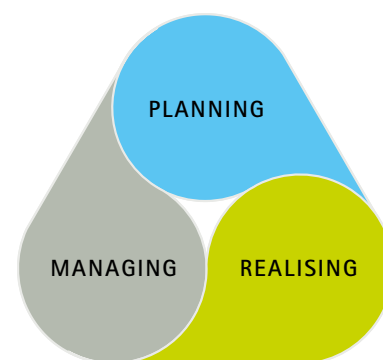


SERVICES

ETAP provides a wide range of services: implementation, configuration, start-up, maintenance, etc. We make sure your installation always operates optimally – even after delivery.

ETAP's Services department is VCA-certified. VCA stands for "Health, Safety and Environment Contractors' Checklist" and proves that all works carried out by ETAP for you, are completed safely. The VCA certificate is valid for a period of 10 years. Our staff keeps their knowledge up-to-date through regular refresher courses.

All our service tasks are also carried out in accordance with valid standards and legislation. In this way, customers are sure that they comply with regulations.



LUMINAIRES

PLANNING

Type		Description
Advice	<i>Lighting</i>	ETAP sales reps are first and foremost advisers and perfectly trained lighting specialists. They will discuss your wishes and needs with you and will work with our Research and Development Department to develop a lighting plan that meets all your expectations as well as standard EN12464-1.
	<i>Emergency lighting</i>	A dependable safety plan, compliant with standard EN1838, is of vital importance for every building. Together with you, ETAP specialists can draw up such an emergency lighting plan for your building, in compliance with valid standards and fire regulations. Your plan will include: escape routes, calculation of numbers needed, all drawn in AutoCAD on your blueprints.



MANAGING

Type		Description
Stock-taking	<i>Lighting and emergency lighting</i>	ETAP can take stock of the current status of your lighting installation. Several features are recorded for each luminaire (location, status, etc.). Subsequently the data is indicated on the plans and ETAP draws up a report with the status of the installation and comprehensive recommendations, based on valid regulations.
Maintenance and cleaning	<i>Lighting and emergency lighting</i>	On request and if desired in consultation with your home installer, ETAP can provide tailored periodic maintenance for your installation. All functional system parts are then inspected and maintained in accordance with the relevant standards.
Repair	<i>Lighting and emergency lighting</i>	If, despite all the proper care, something goes wrong with the luminaires, ETAP will correct the problem as soon as possible. We have our own specialised repair service at your disposal.



SYSTEMS

PLANNING





Type	Description
Needs analysis	The installation of light control starts with an in-depth needs analysis, on the basis of conversations with the customer, studying the plans or examining the building. ETAP tests the various flexibility and energy-saving strategies against the building's features and the customer's needs. ETAP advises the customer expertly at the beginning of the project and discusses all light control options. Only in this way will the result continue to meet all expectations.
Concept	On the basis of the needs analysis, a concept study will define light control in the various sections of the building. This analysis forms the basis for a budget assessment and further development of the plan.
Elaboration	The concept is tweaked into a detailed proposal. consisting of a detailed plan with the exact location of luminaires, sensors and other components. In addition, the customer will receive a technical overview of the system and more descriptive information on the concept behind the light control system and the applied strategies. Lastly, a bill of materials is added with exact numbers and types of material and a detailed cost estimate.



REALISING

Type	Description
Execution	ETAP's support is also possible during the installation of light control. The installer is thoroughly briefed and will receive training, where necessary. In the majority of cases it is recommended to carry out the necessary tests before start-up in order to detect and correct faults or irregularities in a timely manner. After execution the installer will provide the exact plans and a detailed spec sheet to the customer, since they may deviate from the original plans and bill of materials.


SERVICES

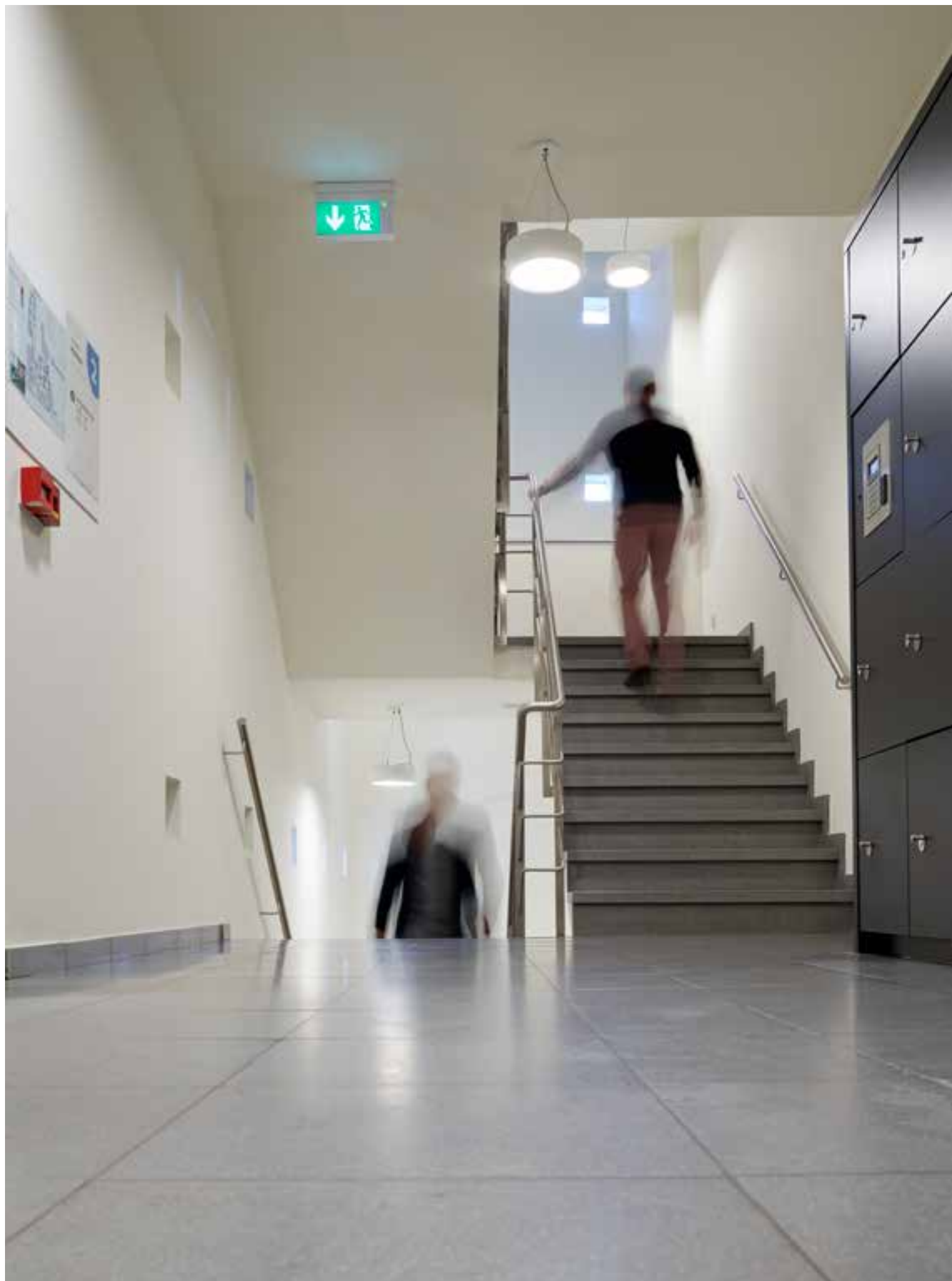
Type	Description
Commissioning	Depending on the project's complexity, ETAP also supports the start-up of the light control system. Some settings are not pre-preconfigured and have to be configured in situ.
<div>ESM</div> <div>ETAP Safety Manager</div> <div></div>	<p>In order to ensure an efficient and smooth installation, the installer is provided with the necessary information before the installation. Subsequently, an on-site ETAP technician ensures the startup of the ESM system and provides training for the end-user.</p> <p><i>This excludes ESM software en hardware, installation and cabling for the ESM installation.</i></p>
<div>EBS</div> <div>ETAP Battery System</div> <div></div>	<p>The start-up includes the configuration of the full EBS system (switching units, test scenarios, etc.), configuration of the EBS control software and/or connection to the ESM system.</p> <p><i>This service does not include the installation and connection of the EBS system itself.</i></p>



MANAGEMENT



Type	Description	
Training	ETAP familiarises facility manager, building manager or technicians responsible for lighting with the operation of the light control system. If requested by the customer, the building manager can be trained to carry out adjustments to the light control system.	
Services	Building managers or facility managers do not always have the time or technical knowledge to manage and maintain the light control system. which is why ETAP offers a service contract. In this case customers will be certain that they will be assisted immediately upon any failure or irregularity, in order for the system to continue to run optimally. An extensive service contract can also consist of a regular audit of the system and reporting and analysis of its operation and of the achieved savings.	
Maintenance	<i>EBS</i> <i>ETAP Battery System</i>	Annual maintenance in accordance with the requirements of standard EN50172. This includes, among other things, check of the batteries, switching and discharge current, complete or partial simulations of the emergency operation, and check of the ventilation system.
Support and back-up	 <i>ESM</i> <i>ETAP Safety Manager</i>	During office hours telephone support is provided for ESM. Queries or problems can be resolved quickly because ETAP has a copy of the customer's ESM database. If a problem occurs with the hardware or software, it can be reloaded.



LIGHT AS A SERVICE

OUTSOURCE YOUR LIGHTING.

WHAT IS LAAS?

LAAS stands for 'Light As A Service'. You are guaranteed high-quality lighting for a fixed period and you pay a previously agreed price for this purpose. During this period, ETAP continues to be responsible for the lighting's smooth operation. After completion, you can conclude an agreement for a subsequent period. Would you prefer not to? In that case the luminaires will be returned to ETAP.

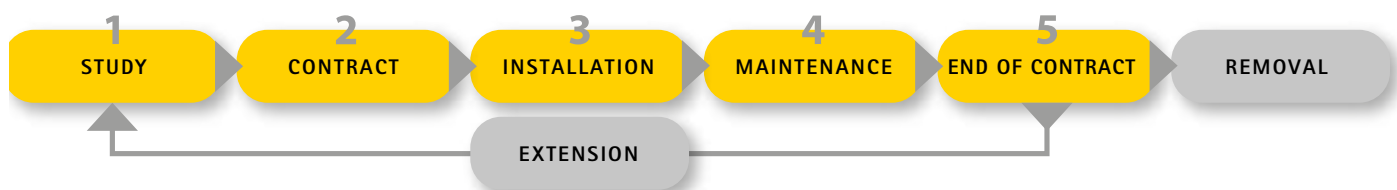
WHY OPT FOR LAAS?

LAAS is a total service. ETAP is responsible for the lighting installation's design, financing, installation and maintenance during the full term of the contract. Therefore you won't have to worry about investments or future maintenance costs - you know perfectly well in advance what the annual cost will be for your lighting. In addition, a new lighting installation also goes with a considerable drop in energy consumption. In the majority of cases this saving will offset the fixed payment for the lighting. LAAS is the ideal path to circular use, as the product remains ETAP's property. And we have the know-how, the means and the market channels to give the product a second, a third and subsequent lives.

WHY CHOOSE ETAP?

As a lighting specialist, ETAP has an age-old tradition of superior light quality, low energy consumption and excellent reliability. Our LED solutions are first and foremost designed with a view to sustainability. Thanks to high-quality LEDs and sophisticated electrical, thermal and optical design, ETAP's luminaires represent high efficiency and long service life. For lighting studies, we start with an in-depth knowledge of the lighting applications and our own products. We guarantee that you will achieve the expected results. Light control systems are also in our DNA: our systems to manage general and emergency lighting have stood the test of time. ETAP started with LAAS in Belgium. Ask your ETAP adviser about the availability in your country.

How does a LAAS project work?



- 1 Your needs and wishes are translated into a full lighting design.
- 2 Based on the anticipated number of burning hours we propose a contract term and conclude a LAAS agreement together.
- 3 We handle the installation and startup for the entire system.
- 4 After delivery we will visit you once a year for maintenance purposes. We will discuss the results together and we will suggest improvements, where necessary. Do you experience problems somewhere? We will obviously be ready to further assist you.
- 5 After termination of the contract, we offer the following options:
 - Extension of the contract. ETAP will preventatively replace a number of critical components.
 - Removal of the luminaires. ETAP undertakes to give the luminaires a new purpose as part of the circular economy.







EUROPEAN STANDARDS

All ETAP luminaires are constructed in accordance with electrical safety standards EN 60598-1 and EN 60598-2.

The ENEC approval mark, granted by independent certification authorities (DEKRA, VDE, SGS CEBEC, LCIE, etc.), and which is especially based on testing results of the IEC CTF3 recognized ETAP labs, guarantees conformity with the above standards and applies to most countries of the European Union. This catalogue indicates for each series whether the ENEC approval mark applies. The luminaires' internal wiring is halogen-free and with diminished smoke production in accordance with European standard EN50525-3-41.

EUROPEAN DIRECTIVES

The CE marking certifies that ETAP luminaires conform to

- the low-voltage directive (2014/35/EU)
- the electromagnetic compatibility directive (2014/30/EU)
- the Radio Equipment Directive (2014/53/EU)
- the requirements for waste electrical and electronic equipment (AEEA, 2012/19/EU)
- the requirements for the use of certain hazardous substances in electrical and electronic equipment (ROHS, 2011/65/EC)
- the requirements for energy related products (ERP – EC 1194/2012, EC 245/2009 and EC 347/2010)

Also, there are products available that conform to the requirements of

- the ATEX directive (2014/34/EU) for application in explosive surroundings



The major application standard is European standard EN12464-1. This standard deals with the various quality aspects of a lighting installation for workstations and their immediate environment:

DEFINITION OF WORKSTATION AND PERIPHERAL ZONES

The standard distinguishes between the work plane (the task) and the environment. It describes a number of methods for defining your workstation. The standard defines the minimum illuminance, E_m , on the work plane for a variety of visual tasks and for the complete application time of the lighting installation.

ADDITIONAL ILLUMINANCE REQUIREMENTS

In order to ensure that the room is not experienced as too dark, the standard also sets minimum illuminance levels for the walls (50-75lx), for ceilings (30-50lx), and (when applicable) a cylindrical illuminance of 50-150lx for objects and face recognition. If the visual requirements are higher than normal, it may also be necessary to increase the illuminance E_m . Some examples (critical visual work, the task is carried out for a long time, the visual capacity of the employee is lower than average).

LUMINANCE CONTROL ON COMPUTER SCREENS

Also on modern computer screens lighting can be a source of disturbance. The standard therefore contains requirements for the control of average luminances. For standard workstations, a limit of 1000 cd/m² until 3000 cd/m² applies, depending on the situation and the screen. This limit applies for angles from 65° all round. For critical VDU work or variable screen inclination, limits on corners are made smaller than 65° (e.g., 55°) are to be considered.

DIRECT GLARE

The standard prescribes two measures to reduce direct glare. First, a minimum shielding angle in all directions, depending on the lamp luminance, is prescribed. In addition, a maximum Unified Glare Rating (UGR) is specified for each visual task. The UGR is an approximative model that expresses the probability of glare; the standard values range from UGR 16 to UGR 28. The website indicates the reference UGR category for each luminaire.

COLOUR RENDERING

For the colour rendering index, R_a , the standard imposes minimum requirements as a function of the task. The higher the number, the better the colour rendering. The choice of lamp is the determining factor here. In rooms where people stay for a long time, lamps with an R_a of at least 80 are required.

FLICKER

Lighting systems must be designed to avoid flicker and stroboscopic effects.

ENERGY EFFICIENCY

The standard specifies explicitly that when working out a lighting solution, the energy consumption is also important: the lighting requirements should be met without waste of energy. However, it is important not to compromise the visual aspects of a lighting installation simply to reduce energy consumption. In this respect, the use of control systems is an ideal way to meet visual comfort and low energy demands.

NON IMAGE FORMING EFFECTS OF LIGHT ON HUMANS

Light is important to people's health and wellbeing. Light affects the mood, emotion and mental alertness of people. It can also support and adjust the circadian rhythms and influence people's physiological and psychological state. The non-image-forming effects will depend on quantity and time of light exposure, spectral power distribution, duration of exposure and individual parameters like circadian phase, light history and others. It is important to create a day-night rhythm, but this - of course - is very personal and not only dependent on the light in the workplace.

Maintenance factor

MAINTENANCE FACTOR OF LED PRODUCTS

MAINTENANCE FACTOR

= factor with which pollution, ageing and lower light output of light sources is taken into account in lighting calculations.

The maintenance factor is calculated by means of four parameters (*in accordance with CIE97 publication for indoor lighting*)

$$MF = LLMF * LSF * LMF * RMF$$

- LLMF: Lamp Lumen Maintenance Factor
- LSF: Lamp Survival Factor
- LMF: Luminaire Maintenance Factor
- RMF: Room Maintenance Factor

1. Indicative maintenance factors

We take into account the following data for the calculation of indicative maintenance factors:

- LLMF = lowest values per product range (see overview)
- LSF = 1. We take into account the immediate replacement of the luminaire (= spot replacement). This implies that in the event of a luminaire failure (as a result of a driver failure or defect) the defective luminaire is replaced.
- LMF = 0.95 for clean office environments; 0.89 for normal industrial environments
- RMF = 0.94 for clean office environments (reflection factor 70/50/20) or 0.95 for normal industrial environments (reflection factor 50/30/20), subject to three-yearly cleaning. (in accordance with CIE97 publication for indoor lighting)

For the LMF and RMF values we publish typical values for a specific space. Exact values, which take into account various degrees of dust pollution, different cleaning intervals or reflection factors can be consulted in the CIE97 standard.

All data is calculated for an ambient temperature $T_a = 25^\circ\text{C}$.

Overview of lowest LLMF per product range and indicative maintenance factors for 50,000-hour period of use.

	LLMF	MF	
Luminaire	50.000 h	Application	50.000 h
D1	95%	Office	85%
D2	95%	Office	85%
D3	95%	Office	85%
D4	98%	Office	88%
D9	95%	Office	85%
E2	96%	Industry	81%
E4	95%	Industry	80%
E5 DUAL•LENS™	94%	Industry	79%
E5 Multilens	84%	Industry	71%
E6	89%	Industry	75%
E7	97%	Industry	82%
E8	92%	Industry	78%
FLARE	95%	Office	85%
LEY	2019 Q3	Office	2019 Q3
R3	98%	Office	88%
R7	98%	Office	88%
R8	92%	Office	82%
U23	90%	Office	80%
U25	98%	Office	88%
U3	98%	Office	88%
U7	97%	Office	87%
US	92%	Office	82%
US3	96%	Office	86%



For the last update of this table, please consult our website: www.etaplighting.com
 > Downloads > General
 > Maintenance factors for LED luminaires

2. Accurate maintenance factors

ETAP makes data available to calculate **accurate maintenance factors**, depending on the intended **period of use**. For example, no overdimensioned lighting studies are offered and it is possible to ensure that an installation will continue to meet the specified lighting levels up to the intended period of use.

- You can consult the LLMF for several periods of use on the website
- We also take $LSF = 1$ (spot replacement) into account for accurate studies, as we assume that the luminaires will be replaced immediately in the event of a defect.
- For each product and for a specific period of use, we publish Cx values indicating the expected failure rate. These Cx values will enable you to schedule potential maintenance on the installation.

U712R1/LEDN2430D, LLMF and Cx values per period of use

Time (khrs)	LLMF (%)	Cx (%)
10	100	2
20	99	4
30	99	6
40	98	8
50	98	10
60	98	12

If 100 luminaires are installed, 2 luminaires will need to be replaced after 10,000 burning hours. Ten luminaires can potentially become defective after 50,000 burning hours.

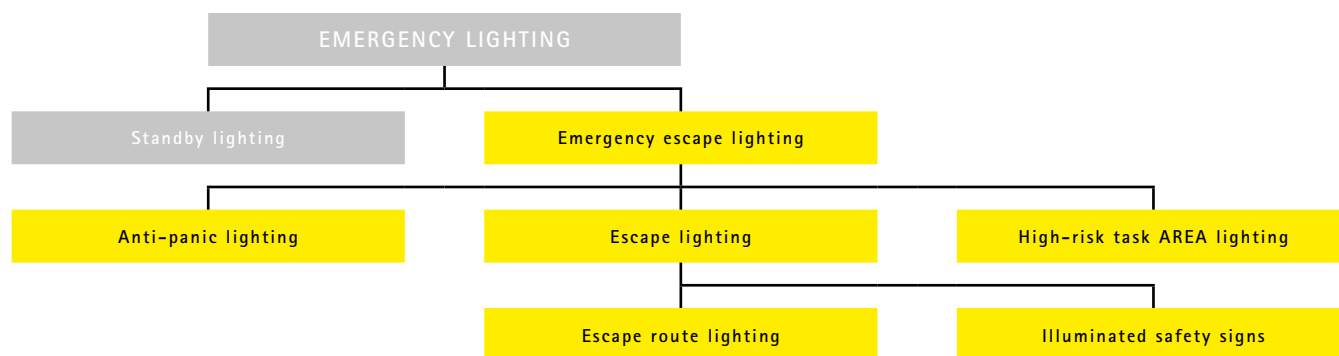
Cx values are based on driver failure. The reason for this assumption can be found in the Lighting Europe guide. (www.lightingeurope.org)

Standards emergency lighting

When and how emergency lighting needs to be applied has been laid down by law. The technical aspects of emergency lighting are governed by numerous rules and regulations.

EUROPEAN STANDARD EN 1838

European standard EN 1838 (Lighting applications – Emergency lighting) specifies the minimum requirements that emergency installations should meet. Below is a summary of these properties.



EMERGENCY LIGHTING

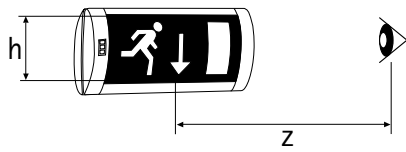
This is the lighting that comes on when the supply to the normal lighting fails. It allows people to safely evacuate the building without panic.

ANTI-PANIC LIGHTING

Sometimes known as open area lighting provides illumination for people to safely reach a place where an escape route can be identified.

ESCAPE LIGHTING

- *Escape route lighting*
Is a defined route which allows people to safely make their way out of a building.
- *Illuminated safety signs*
Illuminated safety signs indicate the closest escape route. Good visibility and rapid recognition of the safety signs can be a matter of life-and-death in emergency situations. ISO 7010 sets out the requirements in terms of size and viewing distance, whilst the colour must be in accordance with ISO 3864.



Internally lit safety signs are easier to recognise from a distance than externally lit safety signs. EN 1838 contains a formula that determines the viewing distance (d) depending on the height of the sign (h) and a constant value (z), whereby:

$z = 100$ for an externally lit safety sign

$z = 200$ for an internally lit safety sign

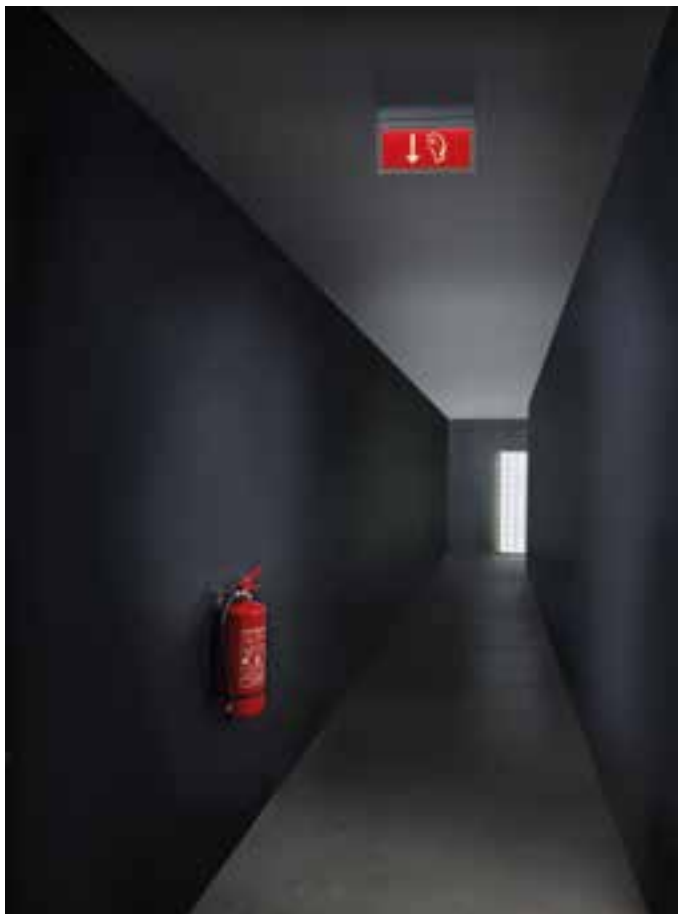
$d = z \times h$

All ETAP emergency signage comply with European directives. We also have a wide range of uniform images for customised signs to indicate where telephones, lifts, etc. can be found. In addition personalised signs can be produced in your house style to indicate areas or specific items.

HIGH-RISK TASK AREA LIGHTING

The aim of the emergency lighting here is to provide illumination for the safety of people involved in a potentially dangerous process or situation such as moving machinery or where noxious vapours are released. To enable proper shut down procedures for the safety of the operator and other occupants of the premises.

EN 1838 also specifies the minimum uniformity of emergency lighting: anti-panic lighting (1/40), escape route lighting (1/40), high-risk task lighting (1/10) and illuminated safety signs (1/10)

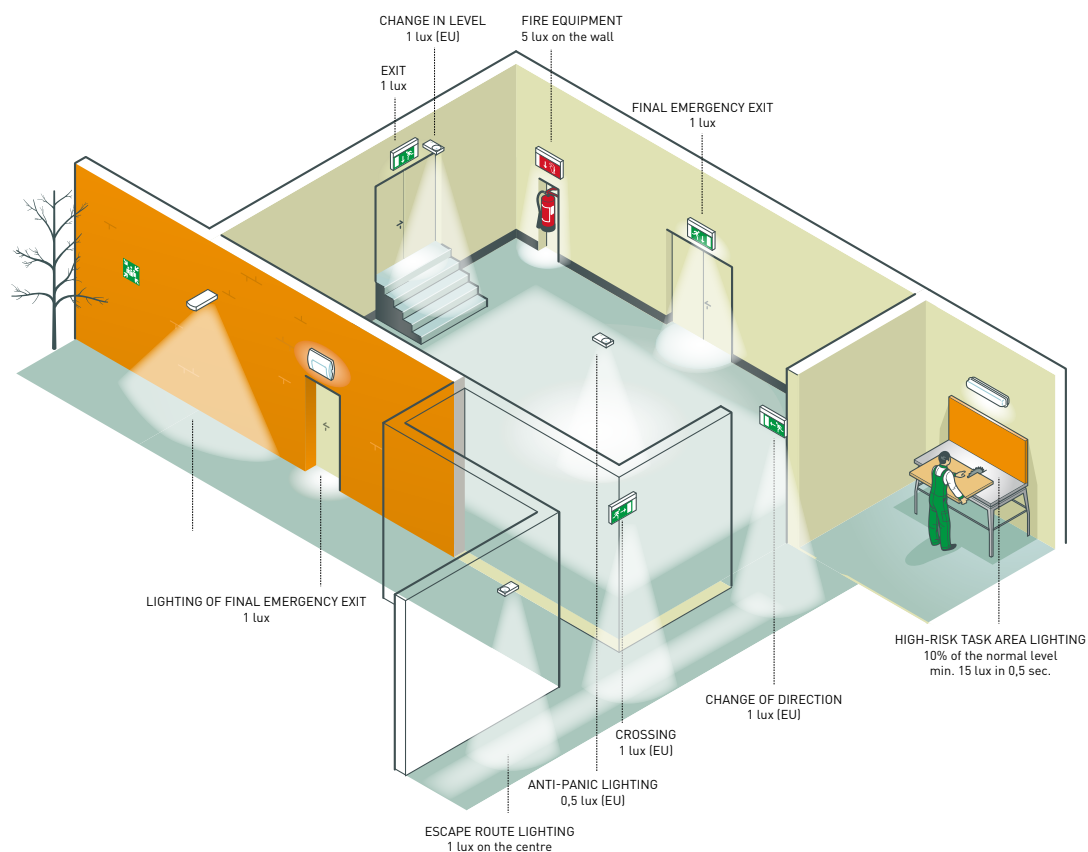


Standards emergency lighting

EUROPEAN STANDARD EN 1838

This drawing shows the required EN1838 minimum horizontal illuminance on the floor according to location and function in a building. In addition to escape routes and (emergency) exits, NBN-EN1838 highlights the following places:

- every exit to be used in case of an emergency
- stairs in order to make sure that every step is directly lit
- other differences in level
- prescribed emergency exits and signs
- any change of direction
- any crossroads of corridors
- on the outside and in the proximity of the final exits
- every first aid station
- fire fighting equipment and fire alarms
- an emergency lighting luminaire is required in these locations.



EUROPEAN STANDARD: EN 50172

European standard EN 50172 calls for a monthly function test and an annual duration test of the emergency lighting as well as registration of the monitoring and maintenance in a logbook. ETAP Safety Manager (ESM), our self-testing luminaires and intelligent monitoring and management system for self-contained emergency lighting, meets this European standard.

RELATED EUROPEAN AND NATIONAL STANDARDS AND REGULATIONS

ETAP luminaires meet all relevant European and national safety standards and regulations. More so: ETAP is an emergency lighting specialist and contributes actively to the study groups that discuss these standards and regulations. Below is a summary of these properties.

INTERNATIONAL REQUIREMENTS		EU STANDARDS AND PROJECTS		IEC STANDARDS	
EU directives		Safety		Safety	
89/654/EEC	Council Directive concerning the minimum safety and health requirements for the workplace	EN 60 598-1	Luminaires: part1 - General requirements and tests	IEC 60364-5-56	Low-voltage electrical installations - Part 5-56: Selection and erection of electrical equipment - Safety services
92/58/EEC	Council Directive on the minimum requirements for the provision of safety and/or health signs at work	EN 60 598-2.22	Luminaires: part 2.22 - Particular requirements : Luminaires for emergency lighting		
2011/65/EU	Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment	EN 61347-2-7	Specification for lamp control gear: Part 2-7 Particular requirements for DC supplied Electronic ballasts for emergency lighting		
2012/19/EU	Directive on waste electrical and electronic equipment (WEEE)	EN 62034	Automatic test systems for battery powered emergency escape lighting		
2006/66/EG	Directive on batteries and accumulators	EN 50171	Central power supply systems		
2014/35/EU	Directive relating to the making available on the market of electrical equipment designed for use within certain voltage limits	EN 50172	Emergency escape lighting systems		
		EN 62493	Assessment of lighting equipment related to the human exposure to electromagnetic fields		
2014/30/EU	Directive relating to electromagnetic compatibility (recast)	EMC			
2014/53/EU	Directive relating to the making available on the market of radio equipment	EN 55015 + A1	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment		
		EN 61000-3-2	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A / phase)		
		EN 61000-3-3	Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A / phase and not subject to conditional connection		
		EN 61547	Equipment for general lighting purposes - EMC immunity requirements		
		Photometry			
		EN 1838	Lighting applications: Emergency lighting		
		EN 12464	Light and lighting - Workplace lighting - Part 1: Workplaces interior		
		EN 13032-3	Measurement and representation of photometric data of lamps and luminaires Part 3: Data representation for emergency lighting luminaires		
				ISO STANDARDS	
				ISO 3864-1	Graphical symbols - Safety colours and safety signs - Part 1: Design principles for safety signs and safety markings
				ISO 3864-3	Graphical symbols - Safety colours and safety signs - Part 3: Design principles for graphical symbols for use in safety signs
				ISO 16069	Graphical symbols - Safety signs - Safety way guidance systems
				ISO 7010	Graphical symbols - Safety colours and safety signs - Registered safety signs
				ISO 30061	Emergency Lighting - Luminous requirements
				NATIONAL STANDARDS WITH ADDITIONAL TECHNICAL REQUIREMENTS WITH RESPECT TO THE EU SYSTEM	
				UK	
				BS 5266	Emergency Lighting - code of practice for the emergency lighting of premises
				BS 5499	Safety signs, including fire safety signs: Part 5 : Compilation of safety signs, including fire safety signs



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