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Emergency Lighting Design Handbook revision 4



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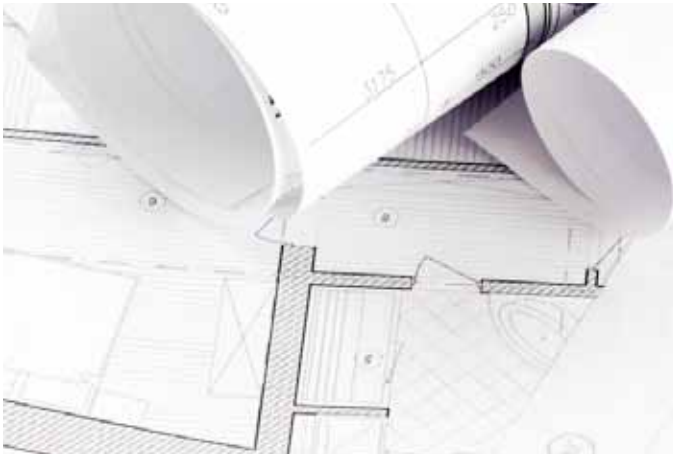
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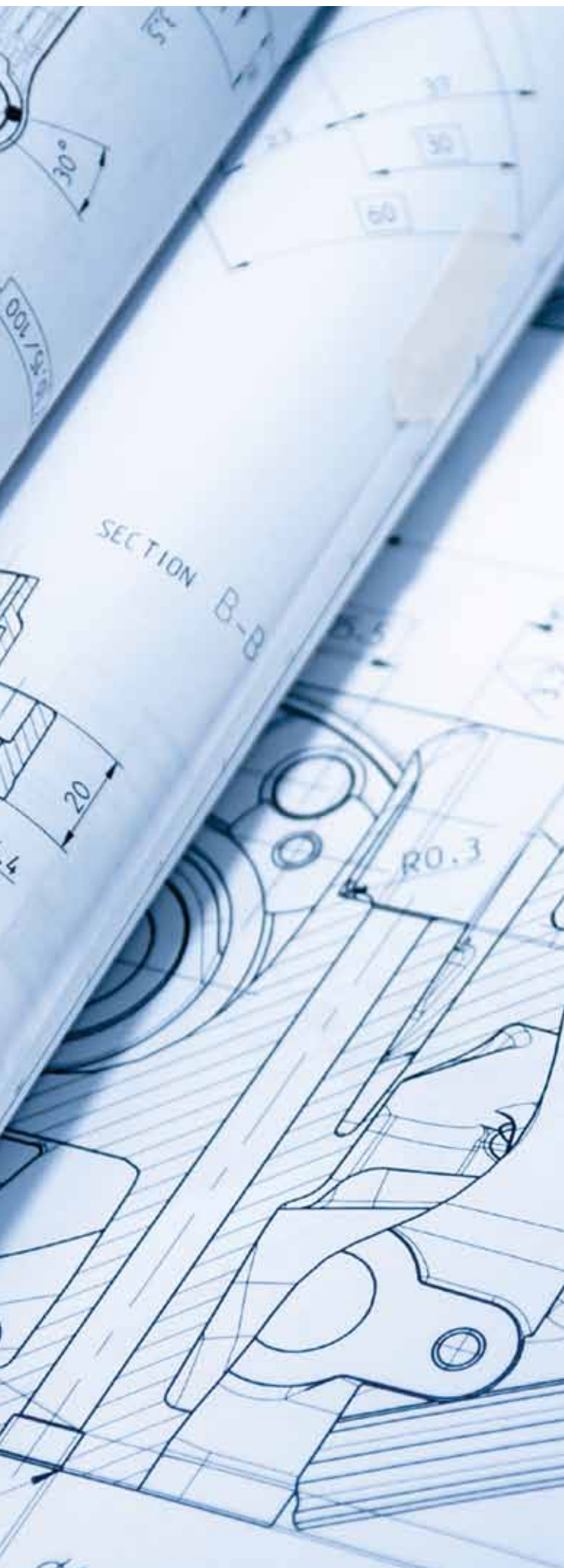
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Lengthy power cuts – blackouts – are not rare. And in an increasingly networked world, the risk of their occurrence will grow. When general lighting fails due to a power outage, emergency lighting kicks in. It guards against panic and accidents.

A power outage can paralyse whole regions: trams stop running, computers crash and lights are instantly extinguished.

Most power outages are more localised, however, and do not last for hours. Power failures occur for a wide variety of reasons: violent storms, high winds, earthworks, excavation operations, fires and system overloads are some indicative examples of many possible causes.

Safety lighting

No electricity means no lighting. This is when mains-independent emergency lighting needs to kick in. In a building suddenly plunged into darkness, panic can quickly spread – especially if a large number of people are present and some are not familiar with the surroundings. A blackout in an unknown place for an unknown reason triggers fear.

Escape sign luminaires identify routes out of a building, supplementary safety lighting along escape routes facilitates orientation and reduces risk of accident. Safety lighting is a must. Where safety lighting is required by law, responsibility for installing and maintaining it resides with the operator of the establishment; ensuring that a new or modernised installation complies with regulations is the responsibility of the designer. Failure to comply with the stipulations set out in standards may be judged hazardous building practice.

Every power failure presents hazards. Sudden darkness triggers fear: the reason for the blackout is unknown and people have difficulty getting their bearings, especially those who are not familiar with the building. This is why it is mandatory for many buildings to be equipped with mains-independent escape route signs and supplementary safety lighting.



Escape signs

A white stick man on a green background or a stylised green man on a white background? There are two escape signs currently in use. Which one is correct? Newly installed emergency lighting systems should incorporate the new sign (shown to the left), which complies with all European Working Directives.

But the old escape sign remains valid. Eaton advises against mixing old and new signs in an existing system.

New escape sign



Old escape sign



When general artificial lighting fails after a power outage, the emergency lighting system takes over. Where there is a risk of accident after a power failure, safety lighting needs to be activated.



Emergency and safety lighting ensures that a minimum level of brightness is guaranteed after a failure of the general lighting. But it also helps in other emergencies. Where a building needs to be evacuated, for example, it plays a key role in helping people unfamiliar with the building to get their bearings and find their way to safe areas along escape routes.

Emergency and safety lighting is covered by a variety of standards, stipulations and guidelines. Employers, facility operators, lighting designers and installers need to know the relevant requirements. They also need to be familiar with the terminology of this special area of supplementary lighting.

In international standards and European directives, “emergency lighting” is now used as the umbrella term for mains-independent supplementary lighting. It is activated whenever mains voltage fails or falls. Emergency lighting includes:

- safety lighting and
- standby lighting.

The term “safety lighting” is used to denote mains-independent supplementary lighting installed to ensure that a building can be evacuated safely or to enable potentially dangerous work operations to be terminated. Under the Occupational Health and Safety Act, employers need to conduct a hazard assessment of the workplaces they offer. If this reveals that a general lighting failure is likely to present a hazard, safety lighting is required to be installed.

Standby lighting denotes mains-independent supplementary lighting that is installed where no hazard for employees is anticipated. It provides light where there is no actual risk after a power failure but light is still needed to allow key operations to be Maintained.

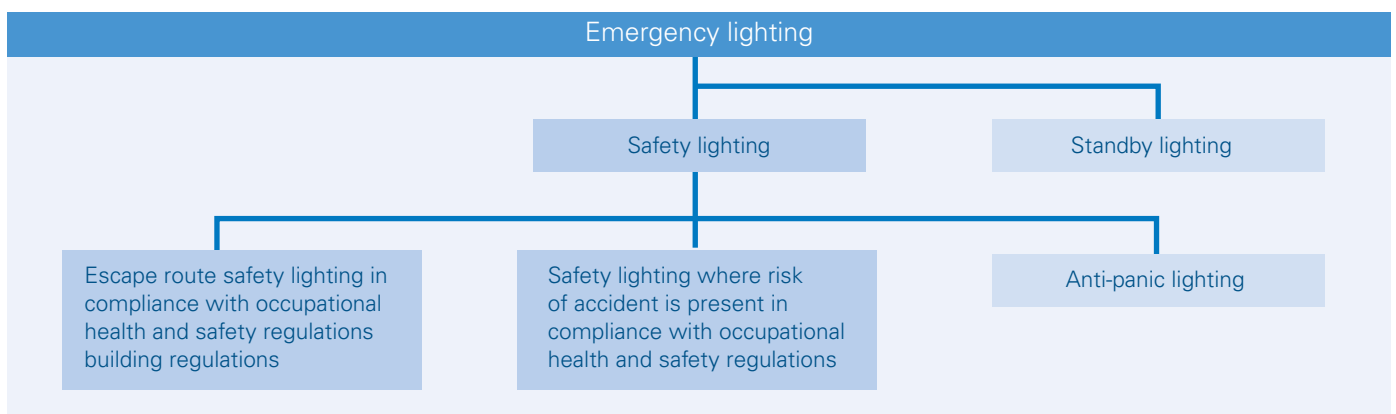
Subdivisions of safety lighting

Safety lighting, in turn, is divided into:

- escape route safety lighting and signs,
- safety lighting for particularly hazardous work areas and
- anti-panic lighting.

The requirements that safety lighting needs to meet are spread over various standards. EN 1838 sets out the requirements for safety lighting in emergency operation, i.e. in the event of a power failure.

Overview of emergency and safety lighting



Safety lighting must come on whenever there is a failure of general lighting that may prevent the safe evacuation of a building and thus present a risk of accident.

Safety lighting ensures that work operations with a high accident risk potential can be terminated safely and persons unfamiliar with the premises are able to exit the affected rooms and areas safely in the event of a general power failure. National building regulations as well as occupational health and safety rules need to be observed at the design and installation stages.

Safety lighting is divided into:

- escape route safety lighting, including escape route signs,
- safety lighting for particularly hazardous workplaces and
- anti-panic lighting.

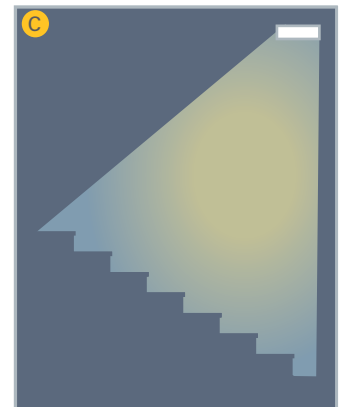
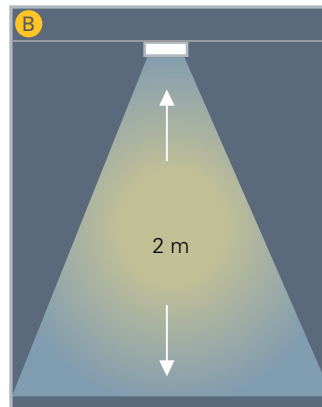
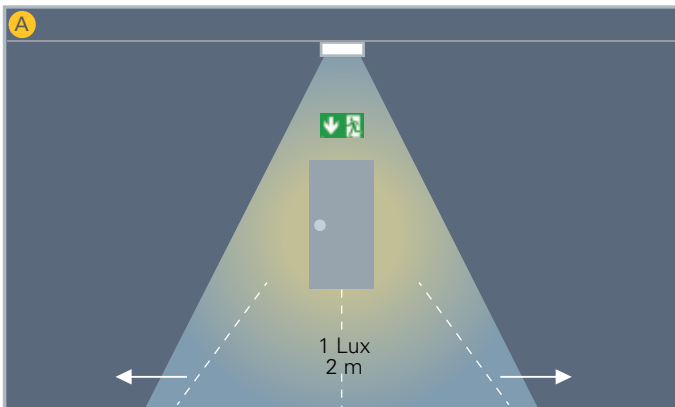
Features of safety lighting

- Luminaires for illuminating and identifying an escape route need to be mounted at least 2 metres above floor level.
- All escape signs at emergency exits and at exits along escape routes are illuminated or back-lit.
- Where an emergency exit is not directly visible, one or more illuminated and/or back-lit escape signs need to be positioned along the escape route.

The standard EN 1838 requires more than just good general illumination for escape routes. It stipulates that supplementary lighting should be provided for other safety-relevant areas and potential hazard sites. So safety luminaires also need to be positioned at the following points:

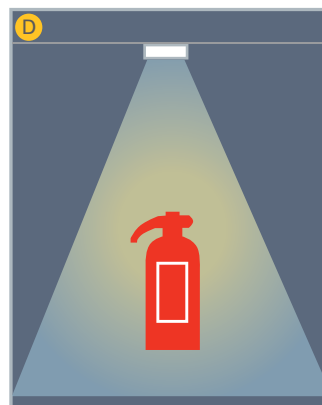
- at exit doors that need to be used in an emergency
- near stairs, single steps or any other change of level
- at emergency exits and safety signs
- at any point where there is a change of direction
- at any point where corridors or aisles cross
- near any First Aid post, fire-fighting facility or alarm device
- near final exits
- outside the building up to a safe distance from each exit.

EN 1838 defines “near” as no more than two metres away.

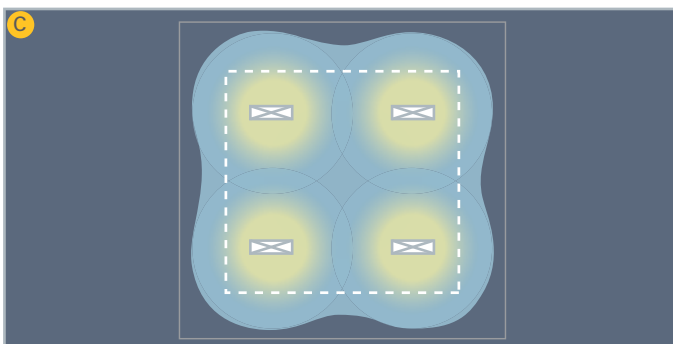
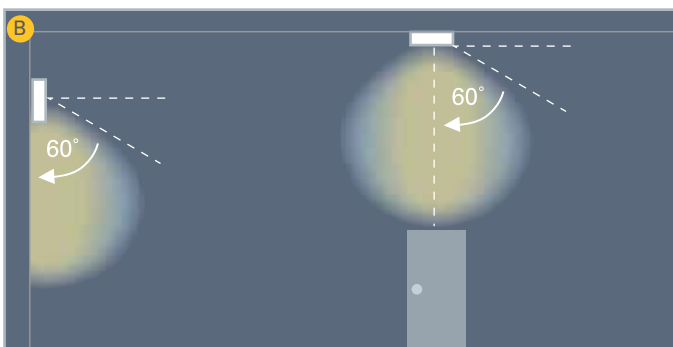
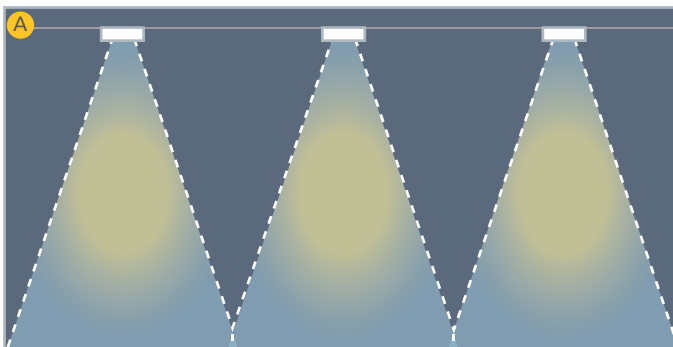


A On escape routes up to 2 metres wide, the horizontal illuminance on the central axis must be at least 1 lux (measured at a height of two centimetres above floor level). Among other things, luminaires for safety lighting need to be positioned as below:

- B** at least two metres above floor level.
- C** near (max. two metres from) stairs to ensure direct illumination of each tread.
- D** near (max. two metres from) any First Aid post, fire-fighting facility or alarm device.
- E** outside the building near (max. two metres from) every final exit.



Escape route safety lighting needs to ensure adequate conditions for clear vision along escape routes and in adjoining areas of the building. Fire extinguishing and security equipment needs to be easy to locate and use.



To ensure that employees and visitors can reach safety as quickly as possible in an emergency, escape route lighting and signage need to be standard-compliant. This calls for:

- escape sign luminaires or illuminated escape signs for marking the escape route
- luminaires for illuminating the escape route.

All employers are also required to position escape and rescue plans where they are clearly visible to everyone: employees and visitors must have an opportunity to memorise escape routes so that emergency stairs and emergency exits can always be found. Escape and rescue plans also serve as an orientation aid for emergency teams such as the fire service.

Lighting requirements

According to EN 1838, escape route safety lighting is the part of a safety lighting system that enables emergency facilities to be clearly identified and safely used where persons are present. Workplace regulation also stipulates that where safe evacuation of the workplace is not guaranteed in the event of a general lighting failure, escape routes need to be fitted with safety lighting.

Where the standards refer to an escape route, it is always a strip two metres wide. Wider routes need to be treated as more than one two-metre strip or need to be fitted with anti panic lighting (see page 27).

The most important lighting requirements set out in EN 1838 and technical workplace regulations are:

- The horizontal illuminance along the central axis of an escape route needs to be at least one lux – measured at a point up to 20 centimetres, preferably no more than two centimetres (EN 1838) above floor level. On the left and right of the central axis, the illuminance is allowed to decrease to 50 percent at a distance of 50 centimetres from the axis.
- Safety lighting must reach 100% of its rated output within 15 seconds of the general lighting failing. Because most generating sets with combustion engines have a 15-seconds withcover time, however, battery-based systems are the only suitable power source.
- The minimum colour-rendering index for escape signs is Ra 40; this enables coloured escape signs to be recognised quickly and clearly.

A Consistent luminaire design: general and safety lighting can also be incorporated in a single unit. Appropriate lighting management systems ensure that the general and safety lighting are separately switched and dimmed.

B In the case of horizontal escape routes, luminous intensity must not exceed certain limits at any azimuth angles between 60° and 90° to the vertical.

C The ratio of highest to lowest illuminance along the central axis must not exceed 40:1. This avoids light/dark contrasts that interfere with the visual task.

1.4

Emergency lighting system design guide

Escape route safety lighting

1 Lighting uniformity

The ratio of highest to lowest illuminance along the central axis must still not exceed 40:1 –not even in the worst-case scenario, e.g. between two luminaires at the end of their rated operating time. This is because excessively bright/dark patches make obstacles and the escape route ahead harder to make out.

The time lag between the moment the general artificial lighting fails at the start of a power outage and the moment the required illuminance is reached should be as short as possible. The operating time of safety lighting for work premises needs to be guaranteed for at least an hour.

Glare limitation – an often underestimated factor

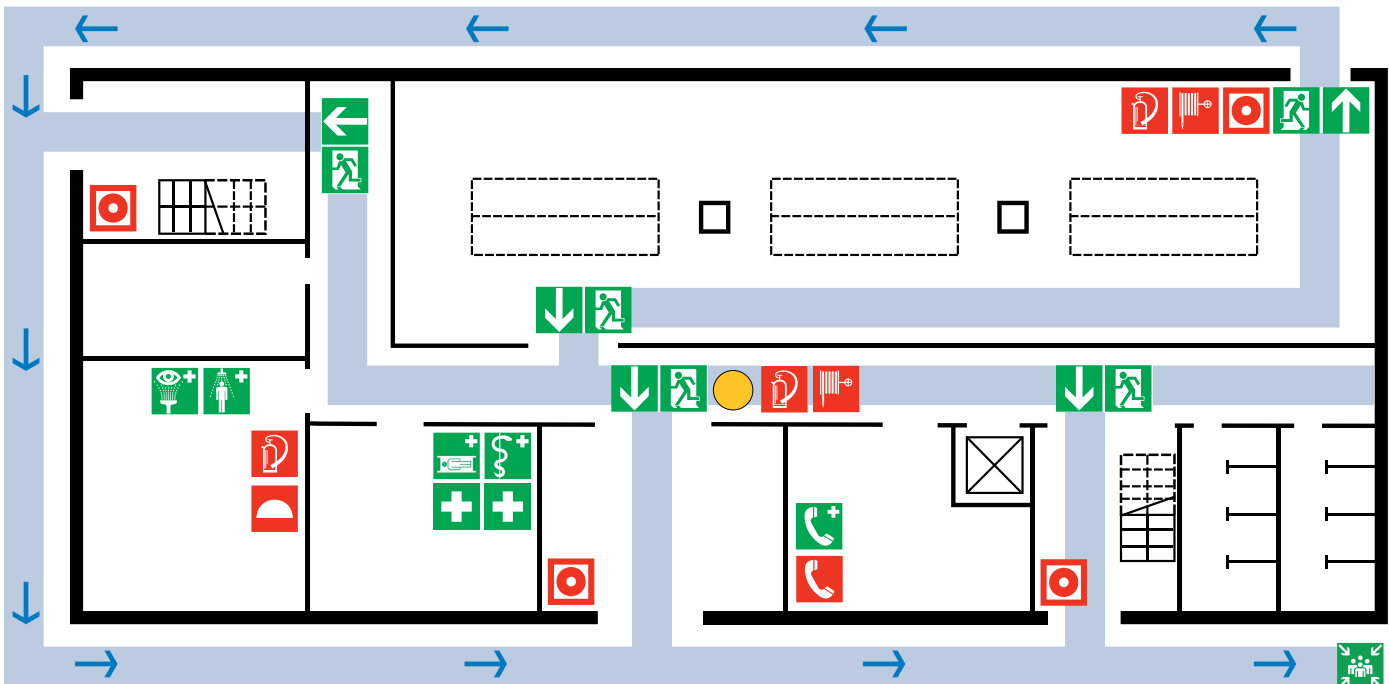
Excessively intense light can cause physiological (disability) glare. In escape route lighting, it presents a problem in that it prevents obstacles or escape signs being recognised. The risk of this is greater where general diffuse lamps are used.

In the case of horizontal escape routes, luminous intensity must not exceed certain limits at any azimuth angles between 60° and 90° to the vertical. For all other escape routes and zones, the limits must not be exceeded at any angle (see illustrations on page 11, drawing B).















Escape route signage is also important. The lighting requirements in the event of a power failure are set out in EN 1838. It should also be noted that the escape sign luminaires defined in DIN4844 must be clearly identifiable even under general lighting conditions and therefore need to be operated at a higher luminance level.

For emergency operation, the luminance at any point on the green surface should be $\geq 2 \text{ cd/m}^2$ while for mains operation, the average luminance of the entire sign should be $\geq 200 \text{ cd/m}^2$.

The ground plan shows a typical escape and rescue plan.



Escape and rescue plan

	Fire extinguisher		Fire-fighting media and equipment		Emergency shower		Assembly point
	Fire hose		Direction indicator		Eye wash station		Location
	Fire alarm, manual		Escape route/emergency exit		Doctor		
	Fire alarm phone		Emergency phone		Stretcher		

Employers are obliged to protect the health and safety of their employees. Among other things, this involves conducting a hazard assessment at all workplaces. One question it needs to address is whether all employees can safely evacuate their workplaces in the event of a lighting system failure.

Occupational health and safety for employees is governed by EU-wide regulations. This forms the basis for statutory instruments, which sets out the basic health and safety standards required. Its individual stipulations are concretised in technical workplace regulations.

The rules require employers to protect their employees from potential sources of harm at the workplace. This includes protecting them against general accident risks. If lights go off as a result of a power failure, even a caretaker may be exposed to danger if he cannot find the way out in the dark or if he falls and sustains injury on the escape route as a result of being unable to see. Safeguards are provided here by safety lighting.

Responsibility resides with employers

Whether safety lighting is necessary or not needs to be established by employers on the basis of a hazard assessment. This and the measures subsequently taken need to be documented.

The key question is whether safe evacuation of the workplace is possible. And an affirmative answer to that question can normally be given only if sufficient light is available even in the event of a power failure – i.e. in work premises with windows or skylights during the day. During winter, however, it gets dark early, leaving insufficient light for orientation even in the afternoon. So safety lighting is almost always necessary. It needs to deliver at least one lux illuminance. In rooms that can be safely evacuated by every employee, only exits need to be signed.

Employers must also ensure that employees and visitors can safely evacuate the building after a power failure. Where there is a heightened risk of accidents – e.g. on stairs, because of obstacles that would be hard to make out in darkness or because the escape route is complicated – escape route safety lighting needs to be installed.

At particularly hazardous workplaces, the risk of accident in a room suddenly plunged into darkness is considerably higher.

Employers must ensure that employees and visitors are able to leave the building safely after a power failure. Safety lighting is mandatory for “particularly hazardous workplaces”.

Where such workplaces are present, safety lighting systems need to deliver at least 15 lux illuminance to enable work operations to be terminated safely. Where workplaces and escape routes could fill with smoke, an additional hazard is present in the event of a fire. An optical safety guidance system needs to be installed in such areas, in addition to safety lighting.

Particularly hazardous work areas

The risk of accident is particularly high in “particularly hazardous work areas” and at “particularly hazardous workplaces” (EN 1838). These include, for example:

- Laboratories where risk is increased as a result of experiments. High risks may be explosions or fire, the release of pathogens or toxic, highly toxic or radioactive substances in dangerous quantities.
- Workplaces that need to be kept dark for technical reasons.
- Electrical operating areas and building systems rooms that need to be accessed in the event of the failure of artificial lighting.
- Areas with moving machinery that can continue running for a long time after a power failure. Examples include facing lathes, where additional accident risks arise if lights fail.
- Control points for systems that require constant monitoring, such as switchboard galleries and control panels for power stations, chemical and metallurgical plants as well as workplaces with isolating or regulating equipment that needs to be operated to interrupt or terminate production processes safely during normal or disrupted plant operations.
- Workplaces near hot baths or casting pits that cannot be properly secured by guard rails or barriers for production reasons.
- Areas around work pits that cannot be covered for operational reasons.
- Construction sites.



1 Lighting requirements

Safety lighting in “particularly hazardous work areas” needs to meet higher requirements. Illuminance needs to be at least 15 lux. Technical workplace regulation and EN standard both focus on that. A preferable level is 10% of the illuminance of the normal general lighting – which is what is recommended – because the brighter the lighting, the more unlikely an accident due to the prolonged darkness in the wake of a power failure.

This is also the reason for the stipulation that the illuminance required needs to be reached within 0.5 seconds. For many light sources, however, this is possible only with safety lighting in Maintained operation. Lighting uniformity in these work areas should be lower than 10:1.

The nominal operating time needs to be at least as long as the hazard exposure after a power failure. This operating time is established when a hazard assessment is conducted.

Construction sites

Construction sites are mentioned explicitly in the regulation because of their particularly hazardous nature as a workplace. The regulation states that safety lighting is absolutely essential where daylight fails to provide a minimum of one lux illuminance for escape route lighting and site workers thus cannot evacuate their workplace safely.

So any construction site where work continues into the evening or night must at least have escape route safety lighting installed. For basement levels, a higher lighting level is required – e.g. a minimum of 15 lux illuminance, which is also required for tunnelling work.

Optical safety guidance systems

Safety lighting is enhanced by optical safety guidance systems, which facilitate escape if orientation in a room or along escape routes is impaired by smoke. It is important to note that optical guidance systems are not a substitute for standard compliant safety lighting; they are installed in addition to it.

Safety lighting at “particularly hazardous workplaces” is required to deliver at least 15 lux illuminance. Where there is a risk of workplaces and escape routes filling with smoke in the event of a fire, an optical safety guidance system must additionally be installed.

A distinction is made between:

- photoluminescent guidance systems (signs),
- electrical guidance systems (connected to a safety power source),
- dynamic guidance systems – ‘smart’ systems incorporating direction indicators that change according to the location of the hazard site.

Direction signs and other guidance systems are mounted on the wall at a maximum height of 40 centimetres above floor level. This type of marking makes it possible to identify escape routes with direction indicators. In comparison to escape sign luminaires, optical safety guidance systems have the disadvantage that they are not positioned at eye level. An evacuee’s view of the low level markers is obscured by the bodies of persons ahead.

Where there is a risk of accidents, safety lighting is essential. Nothing else helps to effectively identify differences in levels, stairs and obstacles in front of escape routes, therefore protecting against dangerous falls.

Photoluminescent signs

In comparison to illuminated escape signs, photoluminescent signs have one disadvantage: they need to be sufficiently and constantly illuminated before the emergency occurs. Despite this excitation light – which, incidentally, is not subject to any regulation – the time during which a photoluminescent sign is identifiable is limited. Its luminance – i.e. its brightness as perceived by the human eye quickly diminishes. So the distance from which it is recognised decreases.

Eaton points out that, where a risk of accident exists, optical safety guidance systems may be used only to supplement signage and safety lighting with escape sign luminaires. Optical systems are mandatory – again as a supplementary measure – where the risk of smoke cannot be ruled out in the event of fire and escape routes are wider than 3.6 metres.



Particularly hazardous workplaces (EN 1838)

Illuminance:	$E_{min} = 10\%$ of the Maintained illuminance required for the task > 15 lx														
Uniformity:	$E_{max} : E_{min} \leq 10 : 1$														
Glare limitation:	<table border="1"> <tr> <td>h/m</td> <td>< 2.5</td> <td>$2.5 \leq h < 3$</td> <td>$3 \leq h < 3.5$</td> <td>$3.5 \leq h < 4$</td> <td>$4 \leq h < 4.5$</td> <td>≥ 4.5</td> </tr> <tr> <td>I_{max}/cd</td> <td>1,000</td> <td>1,800</td> <td>3,200</td> <td>5,000</td> <td>7,000</td> <td>10,000</td> </tr> </table> <p>The values in this table must not be exceeded at any azimuth angle between 60° and 90° to the vertical.</p>	h/m	< 2.5	$2.5 \leq h < 3$	$3 \leq h < 3.5$	$3.5 \leq h < 4$	$4 \leq h < 4.5$	≥ 4.5	I_{max}/cd	1,000	1,800	3,200	5,000	7,000	10,000
h/m	< 2.5	$2.5 \leq h < 3$	$3 \leq h < 3.5$	$3.5 \leq h < 4$	$4 \leq h < 4.5$	≥ 4.5									
I_{max}/cd	1,000	1,800	3,200	5,000	7,000	10,000									
Colour rendering:	$R_a \geq 40$ Safety colours need to be clearly recognised														
Rated operating time for escape routes:	as long as a hazard exists														
Power-on delay:	0.5 seconds														

Anti-panic lighting is the third category of safety lighting alongside escape route safety lighting and safety lighting for particularly hazardous workplaces. The light it provides is intended to reduce hysteria and panic in an emergency.

At sporting events, rock concerts or major university lectures – wherever people assemble in large numbers, panic can quickly arise if the lights suddenly go out as a result of a power failure. People seeking to escape may be injured or even killed in the ensuing crush.

Anti-panic lighting makes for a greater sense of security. Its purpose is to reduce the likelihood of panic and create the visual conditions needed to enable people to reach escape routes safely.

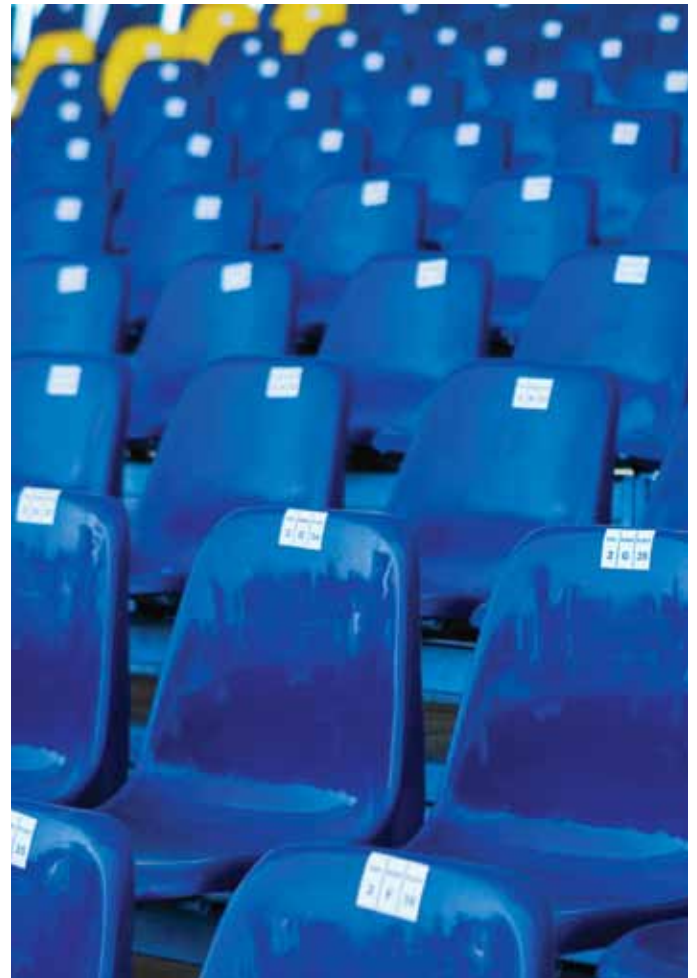
Anti-panic lighting needs to be installed where escape routes are not clearly defined – in large halls, for example – or where the entire hall space may be used as an escape route. It is also required in conference rooms with an area of more than 60 square metres and no signed escape routes as well as in smaller enclosed spaces where crowding could give rise to panic. Such spaces include, for example, lift cabins.

Lighting criteria

Anti-panic lighting should be directed straight downwards and illuminate obstacles up to two metres above the reference plane.

Furthermore, EN 1838 stipulates that

- because of persistence of vision, the ratio of highest to lowest illuminance should be no greater than 40:1. This avoids excessive differences in brightness that interfere with the visual task.
- the colour rendering index of light sources should be at least Ra 40 so that safety signs and their colours can be clearly identified.
- 50% of required illuminance must be reached within five seconds, 100% within 60 seconds.
- glare limitation requirements are the same as for escape route safety lighting (see table on page 11, drawing B).



Anti-panic lighting helps prevent an outbreak of panic in the event of a power failure.

Standby lighting provides the light needed to keep essential work processes running during a power failure



Standby lighting is the second type of emergency lighting alongside safety lighting (see diagram on page 9).

Safety lighting must always be installed where a risk of accidents exists. Standby lighting, on the other hand, may be installed only if a hazard for employees and visitors can be categorically ruled out.

So standby lighting systems are not primarily designed to avoid accidents. They are installed for operational reasons, e.g. to avoid production downtime due to a failure of the general artificial lighting. In that event, mains-independent standby lighting guarantees that light remains available.

If a standby lighting system is to perform the tasks of emergency lighting, it needs to meet all the relevant requirements. Essential activities can then continue. However, if the lighting level is lower than the minimum illuminance of the general lighting, the standby lighting may be used only to power down or terminate work processes.

1.8

Emergency lighting system design guide

Safety signs: quality is crucial

1 Safety signs for escape routes can be either illuminated escape signs, i.e. with an external light source, or back-lit escape signs with an internal light source.

Safety signs mark escape routes and identify the location of fire protection equipment. According to the regulation, a safety sign is a sign that combines geometrical shape and colour with a graphical symbol to convey a particular health and safety message. Safety signs for escape routes are referred to as escape signs. They are used to mark the course of escape routes and indicate emergency exits and First Aid stations. It is important to ensure that at least one escape sign is identifiable from every possible observation point.

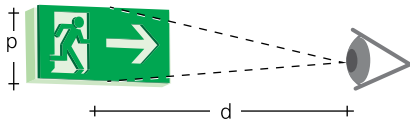
In 2007, a new escape sign was approved by European regulations. Introduced for safety reasons, it features a pictogram in which the direction arrow is clearer and more instantly recognisable. Existing old signs need not be replaced but should not be incorporated in new installations. Eaton advises against using the two signs together, at least within the same part of a building.



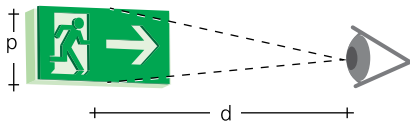
Lighting parameters

EN 1838 and the current DIN 4844-1 present different requirements for illuminated and back-lit safety signs in terms of the lighting parameters to be met for the different operating

Formula for calculating sign height



The formula for calculating the height of back-lit signs is: $l = z \times h$ (where $z = 200$)
e.g. height = 15 cm Δ viewing distance 30 m



The formula for calculating the height of illuminated signs is: $l = z \times h$ (where $z = 100$)
e.g. height = 15 cm Δ viewing distance 15 m

Explanation of symbols:

l = viewing distance, h = height of pictogram, z = distance factor

conditions. For escape sign luminaires in emergency operation, EN 1838 requires a much lower brightness for the sign as a whole than DIN 4844-1. DIN 4844-1 deals with normal operation and takes into account that when the general lighting is on, escape signs need to stand out against brightly lit surroundings, so they need to be brighter than in emergency operation.

Luminance, uniformity of illumination and contrast are key criteria for judging a good escape route luminaire and the safety it can then provide. The table on the right summarises the requirements of the two relevant standards.

Mounting height of escape signs

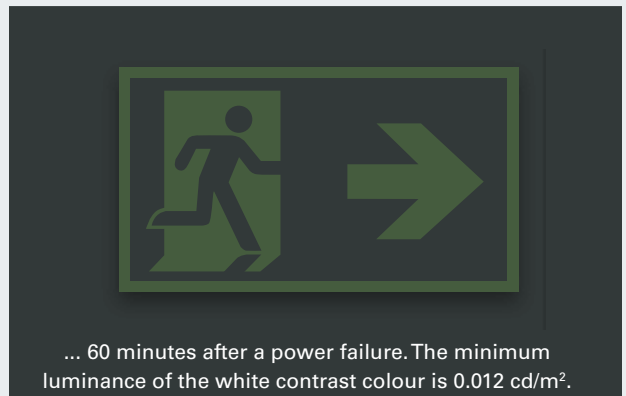
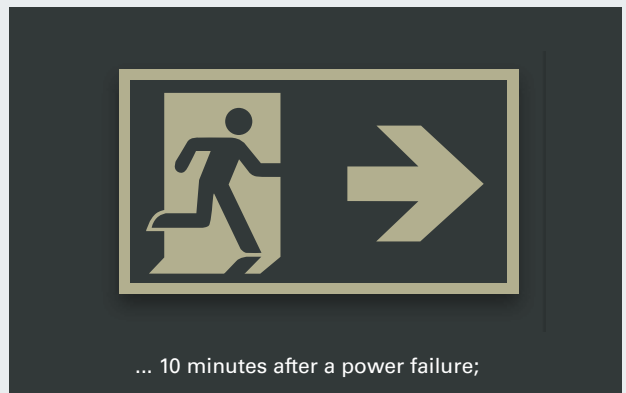
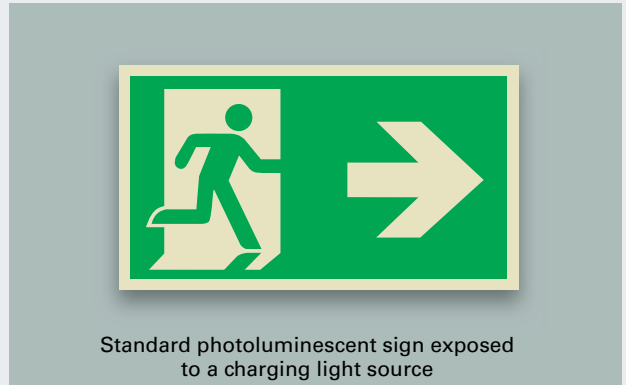
Because a back-lit sign is easier to recognise from a greater distance than a sign that is only illuminated, EN 1838 and DIN 4844 stipulate that different distance factors need to be applied to establish the standard-compliant viewing distance (see Fig.1).

To be equally recognisable from the same distance, an illuminated sign needs to be twice as high as a back-lit sign. Back-lit signs are always the better choice because they are also recognisable for much longer and from a greater distance if smoke is present. Illuminated or backlit escape signs should not be mounted more than 20 degrees above horizontal sight lines (measured at the maximum viewing distance).

Comparison of lighting requirements

	DIN 4844-1	EN 1838
Environment	bright and dark	dark
Mains/emergency power	mains	emergency
Maintained operation	yes	not specified
Green safety colour	acc. to DIN 4844-1	acc. to ISO 3864-4
White contrast colour	acc. to DIN 4844-1	acc. to ISO 3864-4
Uniformity of green/white surfaces	$g \geq \frac{L_{min}}{L_{max}} 0.2$	$g \geq \frac{L_{min}}{L_{max}} 0.1$
Luminance contrast between green and white surfaces	$k = \frac{L_{white}}{L_{green}} = 5:1 \text{ to } 15:1$	
Average luminance of white contrast colour	$\geq 500 \text{ cd/m}^2$	not specified
Luminance of green safety colour	not specified	$\geq 2 \text{ cd/m}^2$
Calculated average luminance of the sign as a whole	$\geq 200 \text{ cd/m}^2$	$\geq 5 \text{ cd/m}^2$
Illuminance of the illuminated sign	$\geq 50 \text{ lx}$ (preferably $\geq 80 \text{ lx}$)	not specified

Fig.1



- 1 Escape sign luminaires are easier to recognise than ordinary photoluminescent signs. There are several reasons for this, one of which is that the green safety colour is clearly identifiable even in emergency operation.



Escape sign luminaires are easily and correctly identified. The green safety colour is clearly recognisable even in emergency operation, as required by EN 1838. Standard signs with photoluminescent pigments, however, appear dark after a power failure: the green safety colour is usually no longer recognisable as a colour and the white contrast colour generally has a yellowish green appearance.

Efficiency

Emergency powered luminaires operate regardless of the operational status of the general lighting. Photoluminescent materials, on the other hand, need to be sufficiently and continuously charged ahead of an emergency. Light sources with a predominantly red spectral content (e.g. incandescent lamps) and high-pressure sodium vapour lamps are not suitable sources for charging.

Luminance

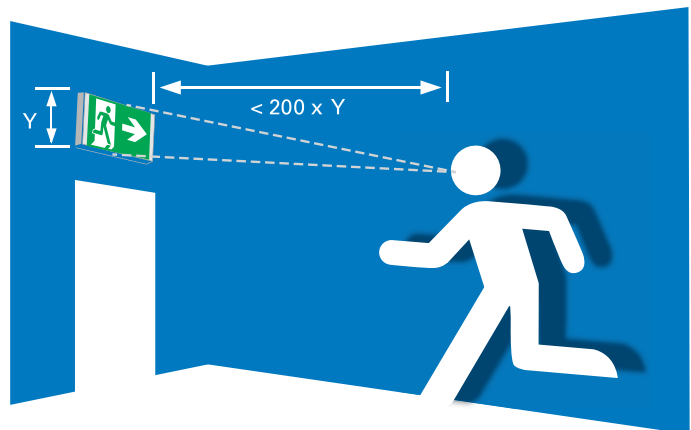
The luminance of an escape sign luminaire remains constant from the beginning to the end of the operating time, which is at least one or three hours. The impression of brightness created by a photoluminescent sign, however, diminishes within minutes. After 60 minutes of operation, the luminance of an escape sign luminaire is up to a thousand times greater than that of a photoluminescent sign.

Viewing distance

As luminance decreases, so does the sharpness of vision and the signs become harder to identify. A 20 cm high illuminated escape sign luminaire is clearly identifiable from a distance of 20 metres: an escape sign luminaire of the same height achieves the same degree of identifiability at twice that distance: it can be easily recognised from a distance of 40 metres.

By contrast, the afterglow of a similarly sized photoluminescent sign weakens so fast that the viewing distance usually decreases to around five metres within 10 minutes. After 60 minutes,

the content of the sign can generally be recognised only from immediately in front of the sign. The luminance of the white areas of the sign needs to be at least 0.012 cd/m² for compliance with European Directives. With an escape sign luminaire, the viewing distance remains constant.



Safety lighting is necessary

“Photoluminescent safety guidance systems do not meet the requirements in terms of colour rendering or illuminance. They can only be used in conjunction with a standard-compliant safety lighting system, e.g. as floor markings, or as a supplementary safety measure in areas where safety lighting is not required.”

All ordinances, guidelines and regulations require safety lighting if there is a foreseeable risk of accident in the event of a general lighting failure.

Ordinances, guidelines and regulations set out only minimum requirements. Experts all agree, however, that safety lighting should be installed wherever there is a risk of accidents.

In certain cases, additional requirements may need to be met to secure planning permission or other official approvals and expertises may need to be obtained, e.g. on fire protection or panic risk.

The application examples on the following pages present solutions based on model laws and guidelines whose contents may differ from the country-approved laws and guidelines in force. They are also based on the standard EN 1838, which applies right across Europe, as well as the DIN standard which it is advisable to observe.

Places of assembly

The regulation defines places of assembly as facilities or parts of facilities built to accommodate large numbers of people simultaneously attending events – especially educational, commercial, social, cultural, artistic, political, sports or entertainment events – as well as catering establishments. Sports facilities and restaurants are dealt separately because they each present additional requirements.

Escape route marking and safety lighting in places of assembly reduce the risk of accidents in the wake of a general lighting failure.

Standard-compliant safety lighting is mandatory.

A place of assembly may also consist of a number of assembly rooms if they are connected within a building by doors or shared escape routes. Areas that are not accessible to visitors are not included in the calculation.

The regulation covers

- assembly rooms which singly or jointly accommodate at least 200 persons, e.g. assembly halls, foyers, lecture theatres, cinemas and studios but not school classrooms.
- places of assembly for at least 1.000 persons with open performance areas (areas less than 20 m² are not classed as performance areas).
- sports stadiums accommodating more than 5.000 spectators with stands for visitors and with non-roofed sports areas.

The regulation does not cover rooms reserved for religious services, museum exhibition rooms or temporary buildings.

Visitor numbers are calculated on the basis of established formulas:

- for seating at tables: one visitor per m² of assembly room floor area
- for seating in rows and for standing space (two visitors per m² of assembly room floor area)



1

- for standing space on terraces: two visitors per metre of terrace length
- for exhibition rooms: one visitor per m² of assembly room floor area.

Safety lighting

Safety lighting needs to be provided

- in necessary stairwells, in rooms between necessary stairwells and external exits and in necessary corridors.
- in assembly rooms as well as in all other rooms for visitors (e.g. foyer, cloakroom, toilets).
- for stages and performance areas.
- in rooms for participants and employees with a floor area of more than 20 m², excluding offices.
- in electrical operating areas, in rooms for building service installations as well as in lighting and projector rooms.
- in outdoor places of assembly and sports stadiums used at night.
- for safety signs marking exits and escape routes.
- for step lighting, but not in the case of corridors in assembly rooms with changeable seating configurations or in the case of sports stadiums with safety lighting.

In assembly rooms that are darkened for operational purposes, on stages and in performance areas, safety lighting needs to be available in Non-Maintained operation.

What the European Regulation sets out as a mandatory requirement is still recommended: Non-Maintained safety lighting must not automatically switch off when mains power returns. Systems installed in rooms that are darkened for operational purposes are required to have manual resets on the safety lighting control panel and at another point in the control room.

Restaurants are places of assembly.

Accommodation establishments: safety lighting is required for all buildings with more than 12 beds for guests.

The safety lighting must not be deactivated until sufficient general lighting has been restored. Exits, corridors and steps in an assembly room must be identifiable even when the room is darkened, regardless of whether other safety lighting is activated or not.

Restaurants

The regulation adopted in June 2005 also covers catering establishments, so bars or restaurants accommodating more than 200 guests need to meet the same safety lighting requirements as other places of assembly.

The number of guests that can be accommodated is calculated on the basis of the following formulas:

- for establishments with seating: one visitor per m² of public room floor area (excluding counter area), i.e. from 200 m² floor area upwards.
- for establishments with standing space, e.g. discotheques: two visitors per m² of floor area, i.e. from 100 m² floor area upwards.

Safety lighting

Safety lighting needs to be provided

- in necessary stairwells, in rooms between necessary stairwells and external exits and in necessary corridors.
- in public rooms as well as in all other rooms for visitors, e.g. foyer, cloakroom and toilets.
- in rooms for operators and staff with a floor area of more than 20 m², excluding offices.
- in electrical operating areas and in rooms for building service installations.
- in outdoor restaurants that are used at night.
- for safety signs marking exits and escape routes.
- for step lighting, but not in the case of corridors in public rooms with changeable seating configurations.





Sales premises

Sales premises – often referred to as stores in earlier standards – are defined as buildings or parts of buildings which

- are used wholly or partially for the sale of merchandise,
- have at least one salesroom and
- are not trade fair buildings.

The regulation covers all sales premises – both retail and wholesale and from department stores to supermarkets, to shopping centres – which incorporate salesrooms and shopping streets, including their built structures, with a total area of more than 2.000 m². Shopping streets are defined as enclosed or covered areas that are flanked by salesrooms and act as circulating areas for shoppers.

Safety lighting

Safety lighting needs to be provided

- in salesrooms.
- in stairwells, stairwell extensions and shopping streets as well as in corridors needed for shoppers.
- in work and break rooms for staff.
- in toilet facilities of any size.
- in electrical operating areas and in rooms for building service installations.
- for signs indicating exits and for step lighting.

Health and safety rule of 2001 contains different stipulations, requiring safety lighting for work rooms and salesrooms with an area of more than 500 m² and a high ratio of visitors to staff.

Accommodation establishments

The European regulation adopted in December 2000 defines accommodation establishments as all buildings with more than 12 beds for guests. This does not apply to accommodation establishments in high-rise buildings.

Safety lighting

Safety lighting needs to be provided

- in necessary corridors and necessary stairwells.
- in rooms between necessary stairwells and external exits.
- for safety signs indicating exits.
- for steps in necessary corridors.

The standard regulation requires that where the rated operating time of the power source for safety services is only three hours, switched Maintained operation should be provided in conjunction with illuminated pushbutton switches and timed lighting. The safety lighting must automatically switch off after the pre-defined time has elapsed.

If this is not the case, the capacity of the power source for safety services needs to be designed for eight hours operation.

A Safety lighting is essential for sales premises with an area of more than 2.000

B Tall buildings (over 13 metres high) and high-rise buildings (over 22 metres high) require safety lighting regardless of whether they are designed for office or residential occupancy.





Safety lighting for sports facilities falls within the scope.

Sports facilities

Sports facilities fall within the scope of the regulation adopted in June 2005. Sports stadiums are places of assembly with stands for visitors and non covered areas for sporting activities. This applies to sports stadiums designed to accommodate more than 5.000 visitors.

Because the distinction between 'sport' and 'performance' is becoming increasingly blurred, the requirements may also apply to outdoor sports facilities if they

- are designed to accommodate more than 1.000 visitors,
- feature performance areas and
- have a visitor area consisting entirely or partly of built structures.

Visitor areas bounded by barriers consist "entirely or partly of built structures" and thus fulfil this criterion.

Safety lighting

Apart from the requirements of the European regulation, sports facilities are also governed by EN 12193. This standard requires safety lighting for participants in sporting events.

The safety of participants is assured if an event can be brought to an orderly conclusion. Ending it without lighting entails considerable risk of accident. The safety lighting required thus needs to respond "instantly".

The level of safety lighting required depends on the type of sport in question; it is expressed as a percentage of the lighting level normally required for the sport:

- swimming – 5% for at least 30 seconds
- gymnastics, indoor facility – 5% for at least 30 seconds

- equestrian sports, indoor and outdoor facility – 5% for at least 120 seconds
- speed skating – 5% for at least 30 seconds
- bobsleigh and luge – 10% for at least 120 seconds
- ski-jumping, take-off and landing zone – 10% for at least 30 seconds
- downhill skiing – 10% for at least 30 seconds
- cycling (track racing) – 10% for at least 60 seconds.

Tall and high-rise buildings

According to the Emergency lighting regulation, buildings more than 13 metres high (tall buildings) also require safety lighting in necessary stairwells, necessary corridors and elevator lounges. In the past, these requirements applied only to high-rise buildings, which the regulation defines as buildings over 22 metres high.

In both cases, height is measured from ground level to the finished floor level of the highest storey suitable for accommodation.

Safety lighting

In a high-rise residential building, the standard requires that where the rated operating time of the power source for safety services is only three hours, switched Maintained operation should be provided together with illuminated pushbutton switches and timed lighting. The safety lighting must automatically switch off after the pre-set time has elapsed. Otherwise, the capacity of the power source for safety services needs to be designed for eight hours operation.

Enclosed parking facilities

The European Regulation adopted in May 2008 requires safety lighting for all indoor parking facilities with a net area of more than 1.000 m² except for single-storey parking facilities with regular users. The net area of a parking facility is the sum of all interconnecting parking spaces plus circulation areas.

Escape routes generally include:

- driving lanes
- pathways alongside vehicle entrances and exits
- staircases and routes leading to pedestrian exits.

Schools

The European regulation adopted in 2009 applies to general and vocational schools, provided they are not used exclusively for adult education. However, the guideline does not cover universities, higher technical colleges, academies, adult education centres, music, dance or driving schools or educational establishments of a comparable nature.

Safety lighting is required in halls through which escape routes run, in necessary corridors, necessary stairwells and windowless common rooms.

Hospitals

European regulation requires safety lighting for various areas in hospitals and clinics, doctors' and dental surgeries and medical supply centres. In addition, standards require safety lighting in sanatoria and convalescent hospitals, retirement and nursing homes, medical centres, polyclinics, outpatient centres and outpatient facilities (occupational health, sports and other physicians).

Safety lighting is necessary for

- escape routes,
- escape signs,
- rooms with switchgear assemblies > 1kV,
- rooms with switch and control gear, safety power source, main distribution boards for general and safety power supply,
- rooms where vital services are maintained,
- Group 1 and 2 rooms: for some of the luminaires, at least two different power sources for two circuits need to be available, one of the circuits being connected to the safety power supply. Group 1 rooms include examination and treatment rooms, Group 2 rooms operating theatres and intensive care units.
- fire alarm and monitoring equipment points.

Apart from these stipulations, European countries, have ordinances setting out additional requirements for hospital buildings.

Safe parking: safety lighting is required for enclosed parking facilities (1.000 m² net area).



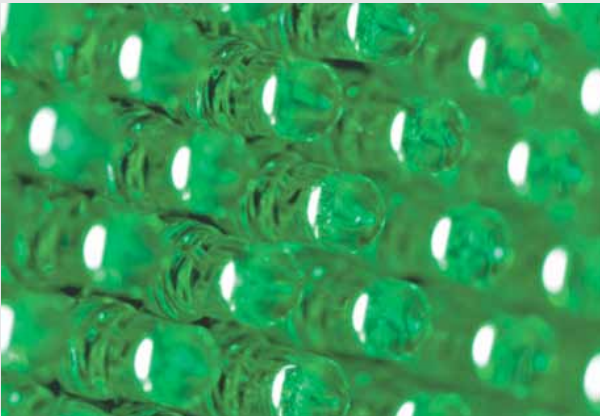
1 Small dimensions, low power consumption and a long life mean that LEDs offer more scope for luminaire design and reduce operating costs. They also deliver instant, non-flickering light – which makes for safety and meets all relevant standards.

The first rule of safety lighting is that light needs to be made available immediately in the event of a power failure so that the hazard zone can be evacuated safely. This does not call for high illuminance; a few lux suffice.

LEDs are an ideal light source for safety lighting and have swiftly conquered the market. They are robust, they have a high switching resistance and they are efficient – especially at low wattages and luminous flux ratings. Most quality LED systems today have impressive lifespans up to more than 60.000 hours. Some achieve even longer periods of service. This saves maintenance costs for the operator.

For safety lighting, special complete systems comprising LED module and luminaire are recommended. Their modules and operating devices are specifically designed for operation on a standby power source. Retrofit lamps, which are frequently used in general lighting, are less suitable for safety lighting.

How LEDs work



LEDs are tiny electronic chips of semiconductor crystals. Light emitting diodes consist of a negative base semiconductor with a surplus of electrons. This is “doped” with a thin layer of p type semiconductor material that has a deficit of electrons, called “holes”.

When current is applied, the surplus electrons and “holes” migrate towards one another and recombine in what is known as the pn junction or depletion layer. The energy released is converted into radiation, i.e. light.

To protect the semiconductor crystals from environmental influences, they are encased in a plastic housing that simultaneously improves light output. Reflectors ensure that the light radiates into the upper part of the housing at angles up to 180°. It is then directed by lenses.

To produce white light, a very thin layer of phosphor material is applied to a blue LED chip. Quality LEDs offer uniform white tones and good colour rendering.

LED life

Unlike conventional lamps, LEDs practically never fail. But the intensity of their light diminishes over time. So the end of an LED’s life needs to be defined for the relevant application. As a rule, that life is deemed to end when an LED delivers only 70% of the original luminous flux emitted.

The life of an LED depends to a large extent on operating and ambient temperatures.

The colder the environment, the more efficiently LEDs work. They do not like high temperatures; their luminous flux gradually diminishes and their life can be significantly shortened.

So effective heat dissipation is particularly important for the development of efficient LED systems. Good thermal management is a distinguishing feature of quality systems, which are also designed with sufficient reserve capacity to take account of the decrease in luminous flux that occurs as an LED ages. Alternatively, some systems have what is known as a maintenance function: this dims the LEDs to around 70% output at the outset and then uses processors to increase it gradually to 100%.

Modules and quality features

LED luminaire production requires not only a great deal of development and manufacturing expertise but also the use of highgrade materials. Efficient solutions call for modules, secondary optics (lenses, reflectors or diffusers) and luminaire housings that are finely tuned for optimal performance; they always form a complete system. Lighting control, optical design and thermal management are other issues that need to be effectively – and compactly – addressed.

Thermal management, in particular, crucially influences how well luminaires and modules perform in terms of luminous flux and lifespan. Reputable manufacturers thus always indicate a maximum ambient temperature for their LEDs so that the heat generated within the semiconductor can be dissipated.

Another area in which manufacturer competence counts is the conversion of punctual LED luminance into a uniformly luminous surface. To meet the relevant standards, escape signs need to be clearly recognisable even when general lighting is on.

Safety and photobiological requirements are set out in EN 62031, performance requirements in EN 62717. Like electromagnetic compatibility (EMC), they are verified and certified by the European relevant institutes.

There is a wide range of LED luminaires available – but not every product on the market lives up to its promise. Inferior lighting quality and poor thermal management are often not apparent until after the luminaires have been installed. So it is all the more important – especially the area of in safety lighting – to make sure that the manufacturer guarantees uniform high quality. Energy efficiency, long life and low maintenance costs mean that a higher initial outlay is recouped in the space of a few years.

Disposal of spent lamps

Most European countries required that spent fluorescent and gas discharge lamps should be recycled. Spent lamps can be handed in at municipal recycling centres and voluntary collection points free of charge. Major industrial consumers can also arrange for lamps to be collected from their premises.

Safety lighting ensures that a building can be swiftly evacuated in an emergency. The requirements that lighting installations need to meet are set out in standards and ordinances underlying building regulations and health and safety rules.

Technical regulations governing “Emergency lighting”

	Electrical	Non-electrical /lighting
International	IEC	ISO / CIE
Europe	CENELEC	CEN
Germany	DIN /VDE	DIN

IEC = International

Electrotechnical Commission
CENELEC = Comité Européen de Normalisation Electrotechnique (European Committee for Electrotechnical Standardization)

DIN = Deutsches Institut für Normung (German Institute for Standardization)

VDE = Verband der Elektrotechnik, Elektronik und

Informationstechnik (Association for Electrical, Electronic and Information Technologies)

ISO = International Organization for Standardization

CIE = Commission Internationale de l’Eclairage (International Commission on Illumination)

CEN = Comité Européen de Normalisation (European Committee for Standardisation)

Lighting requirements

ISO 30061 (2007) Emergency lighting
EN 60598-1 (09/2009)
EN 60598-2-22

CIE S 020 (2007) Emergency lighting

EN DIN 1838 (07/1999) and EN DIN 1838 (05/2011) Lighting applications – Emergency lighting

EN DIN 13032-3 (12/2007) Light and lighting – Measurement and presentation of photometric data of lamps and luminaires – Part 3: Presentation of data for emergency lighting of work places

DIN 5035-6 (05/2006) Artificial lighting – Part 6: Measurement and evaluation

EN DIN 4844-1 (06/2011) Graphical symbols – Safety colours and safety signs –Part 1: Observation distances and colorimetric and photometric requirements

Electrical requirements

EN DIN 50172 (01/2005) Emergency escape lighting systems (VDE 0108 Part 100)

DIN VDE 0100-710 (11/2002) and E DIN VDE 0100-710 (06/2004) Erection of low-voltage installations – Requirements for special installations or locations – Part 710: Medical locations

DIN VDE 0100-560 (03/2011) Low-voltage electrical installations – Part 5-56: Selection and erection of electrical equipment – Safety services

DIN VDE 0100-718 (10/2005) Erection of low-voltage installations – Requirements for special installations or locations – Part 718: Installations for gatherings of people

EN DIN 60598-1 (09/2009) Luminaires – General requirements and tests (VDE 0711 Part 1)

EN DIN 60598-2-22 (10/2008) Luminaires – Part 2-22: Particular requirements – Luminaires for emergency lighting (VDE 0711 Part 2-22 (IEC 60598-2-22))

EN DIN 50171 (11/2001) Central power supply systems

EN DIN 50272-2 (12/2001) Safety requirements for secondary batteries and battery installations

EN DIN 62034 (06/2007) Automatic test systems for battery powered emergency escape lighting (IEC 62034:2006)

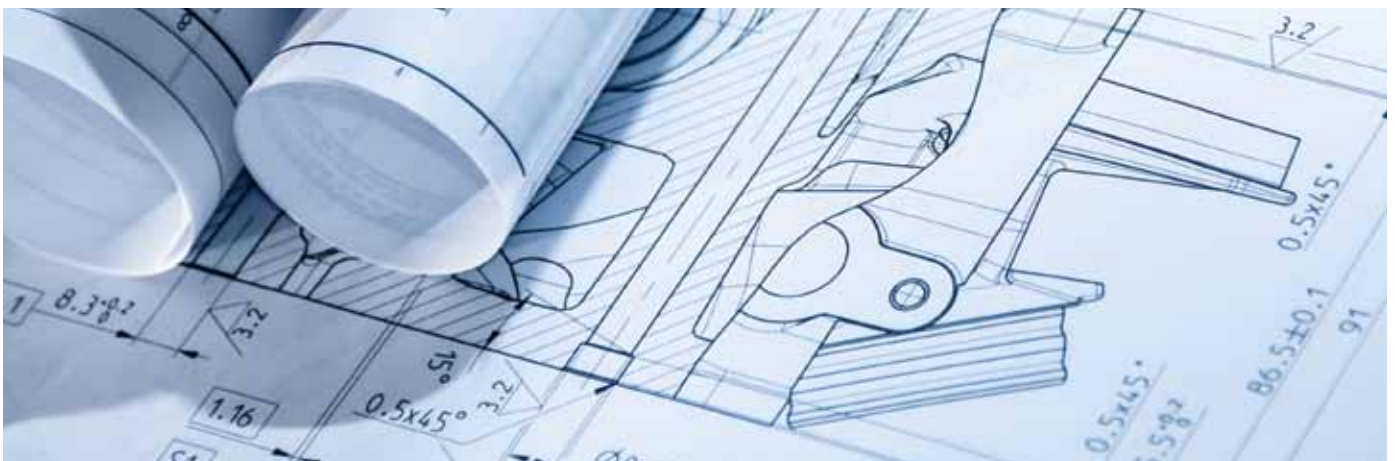
Occupational health and safety

ASR A1.3 (04/2007) Technical workplace regulation on health and safety signs

ASR A2.3 (08/2007) Technical workplace regulation on escape routes, emergency exits, escape and rescue plan

ASR A3.4/3 (06/2011) Technical workplace regulation on safety lighting, optical safety

BGR 216 (07/2001) Rule adopted by statutory accident insurance institutions on optical safety guidance systems (including safety lighting)



















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Indoor emergency lighting

		Indoor	Recessed	Outdoor	Ni-Cd	Ni-Mh	Li-Ion	Maintained	Non-Maintained	Autotest	Hospitals	Hotels	Cinemas/Theaters	Schools	Offices	Industrial	Warehouse
		Installation		Battery			Operation			Applications							
GuideLED		●	●				●	●	●	●	●	●	●	●	●		
NexiTech LED		●	●	●	●			●	●	●	●	●	●	●	●	●	●
Planete 400 Disc		●	●			●			●	●		●	●		●		
Micropoint 2 Surface		●	●			●				●	●	●	●		●		
Micropoint 2		●	●			●				●	●	●	●		●		
Halo-pack 2		●	●			●					●	●	●		●		
Ledus		●	●		●			●	●		●	●	●	●	●		
Sirios LED		●	●	●	●	●		●	●	●	●	●	●	●	●	●	●
Sirios		●	●	●	●			●	●	●	●	●	●	●	●	●	●
Star22		●	●		●			●	●	●	●	●	●	●	●	●	●
Cronus8W		●	●		●			●	●	●	●	●	●	●	●	●	●
Cronus6W		●	●		●				●		●		●	●	●	●	

The information given in this brochure is accurate at the time of compilation (errors and omissions excepted), however due to Eaton philosophy of constant product development we reserve the right to change specifications without prior notice.

2.1

Indoor emergency lighting

GuideLED

2



- Innovative emergency lighting with the use of LED technology
- Conforms with regulation EN60598-2-22
- Lithium Ion batteries
- Selectable autonomy of 1h, 3h and 8h
- Available for ceiling mounting and recessed applications

Light Source:

High power LEDs 2x1,6 Watt with a life expectancy of 50.000 hours

Construction:

White polycarbonate
Aluminium reflector (heat sink)
Module housing with steel sheet

Operation:

Maintained & Non-Maintained
Selectable emergency duration of 1h, 3h, 8h

Installation options:

Flush mounting in false ceiling
Model 138x1 composed by an optical part and by a separate container for batteries and electronics
Wall ceiling model 138x2

Versions:

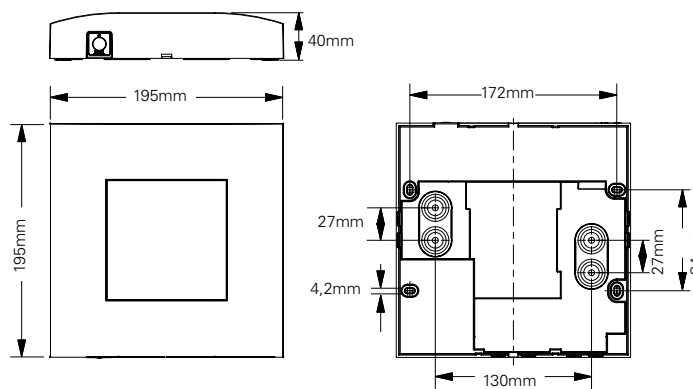
Autotest and CBS models available
With test button for manual testing

Applications:

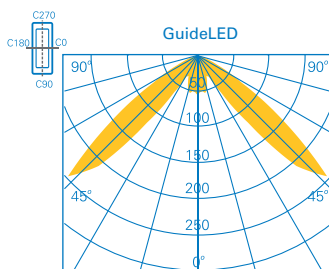
Hotels, offices, cinemas, theaters, museums

GuideLED self-contained lighting fixtures have a unique and innovative design using LED technology. Available for wall or ceiling installation with a flush mount option, these LED emergency lights have a 50.000 hour lifetime and the internal circuit technology diagnostics performs a self-test and checks the operating emergency autonomy.

Together with long life Lithium batteries, the sophisticated electronics allow a considerable energy saving and autonomy in emergency for up to 8 hours. The self-contained series are available with optical GuideLED symmetric uniform illumination for open anti-panic spaces, and asymmetric lighting for escape routes.

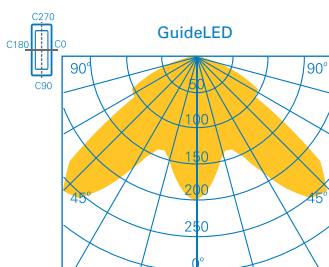


Light distribution for escape route illumination



Model	Height (m)	Distance for 1 Lux			
13821	03,00	04,50	09,40	03,40	09,40
13822	04,00	03,50	11,00	03,40	11,00
Symmetric	05,00	01,40	12,20	01,40	12,20

Light distribution for open area illumination



Model	Height (m)	Distance for 1 Lux	
13811	03,00	06,60	15,00
13812	04,00	08,10	18,00
Asymmetric	05,00	09,40	20,90

Lithium ion battery technology

Lithium ion batteries require much less space than NiCd or NiMh cells of equal capacity, allowing more space in a compact design for cable routing. The Lithium ion batteries also don't suffer from the so-called memory effect associated with NiCd and NiMh cells.

Permanent safety

Capacity losses from ageing have been considered by corresponding dimensioning of the cells.

A multiple protective circuit, intergrated in the batteries ensures safe operation and high reliability. NiCd and NiMh batteries have a significantly higher self-discharge and are therefore permanently charged. This is no longer necessary with the new GuideLED luminaries, saving additional energy costs.

Equipped for all situations

With all GuideLED luminaries, selection can be made between Maintained and Non-Maintained mode of operation as well as 1h, 3h and 8h emergency light duration as standard. As such, all accommodation establishments and homes can be equipped with self contained luminaires.

If the the escape sign luminaires are operated in surroundings with low background brightness, these can be adapted to such conditions by dimming to 30% or 10% brightness via the testing button.

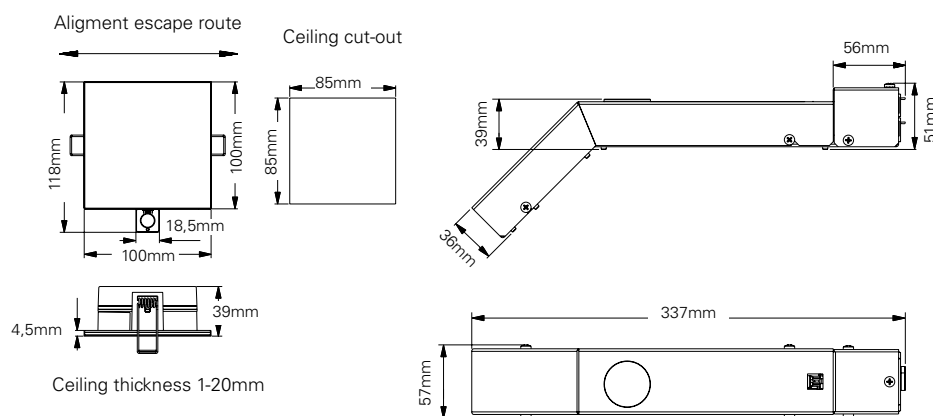
Powered by Lilon

- Low spacial requirement
- No memory effect
- Environmentally friendly

Rated duration of emergency operation and its application

- 1h** e.g. escape routes in places of work
- 3h** e.g. escape of assembly,
- 8h** sales areas, restaurants, schools, exhibition halls

GuideLED recessed



Required height in cavity ceiling for recessing through ceiling cut-out: 150 mm

Order code	Description					
40071353093	GuideLED SL 13811, recessed asymmetric	LED 2x1,6W	204 Lm	1h, 3h, 8h	Lilon 3.7V 4Ah	Maintained / Non-Maintained
40071353092	GuideLED SL 13811, recessed symmetric	LED 2x1,6W	204 Lm	1h, 3h, 8h	Lilon 3.7V 4Ah	Maintained / Non-Maintained
40071353091	GuideLED SL 13912, wall mount asymmetric	LED 2x1,6W	204 Lm	1h, 3h, 8h	Lilon 3.7V 4Ah	Maintained / Non-Maintained
40071353090	GuideLED SL 13912, wall mount asymmetric	LED 2x1,6W	204 Lm	1h, 3h, 8h	Lilon 3.7V 4Ah	Maintained / Non-Maintained

2.2

Indoor emergency lighting

NexiTech LED

2



- Emergency lighting luminaire
- Conform to EN60598-2-22
- ENEC Certification
- Autotest and Mains 230V version
- From 100 to 500lm output flux
- Comparable to 8, 11 and 24W fluorescent lamp
- Ni-Cd HT high quality batteries

Light Source:

High efficiency LEDs up to 50.000h life cycle

16, 29 and 48 LEDs depending on model

Construction:

Base and reflector white polycarbonate

Diffuser clear polycarbonate

Protection degree IP40 and IP65 with the accessory kit

Operation:

Maintained and Non-Maintained mode on all version

Fixed 60lm output in Maintained mode for all variants for high energy saving

1h, 1,5h and 3h duration

Rest Mode and Tests via remote command

12h recharge period (24h for 3h versions)

Installation options:

Wall and ceiling mounting

Surface or recessed installation in false ceiling and bricks wall

Single side glue-less ISO7010 pictograms with

20m viewing distance

Double side ISO7010 panels with 30m of viewing distance

Versions:

AT Autotest, according to EN50171 and EN62034, slave and CBS models available

Applications:

Schools, universities, commercial malls, stores, offices, public administration and all indoor generic environments

Safety antipanic lighting and escape route lighting

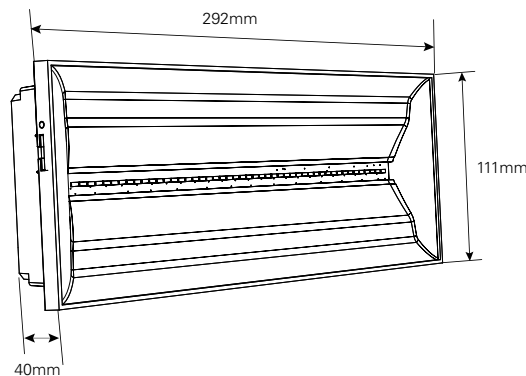
Exit sign with single and double side signalization

Hi-bay environments

Reliability and continuity of service was the main consideration in the development of the new NexiTech LED Emergency lighting range.

The modern style, the simplicity of the shapes and the high quality surfaces make NexiTech LED ideal for any architectural context, while the precision of the mechanics and the sophisticated electronics guarantee a full unmatched reliability.

The latest generation of LED light source and the careful study of the refractive parts allow a uniform light distribution without light waste.



Autotest is now for all

The reliability and the guarantee of operation are now within everyone's reach. We chose to design LED NexiTech starting directly from models with built-in diagnostic functions, all the self-contained versions (with battery on board) are equipped with a self-test system that performs automatic tests in accordance with standard EN62034 and EN50172.

Top level signalization

The pictograms, optional and available upon request, conform to the international standard ISO7010, have no glue and can be repositioned at will and with ease, without a complex installation. They are placed between the diffuser and reflector creating a translucency which finds its maximum aesthetic applications when recessed into the wall.



NexiTech LED with IP65 protection kit

The IP65 kit is compatible with all the variants.
Only surface mounting.
Dimension 308x125x53 mm



With double-side pictograms



Viewing distance: 30m

With single-side pictograms



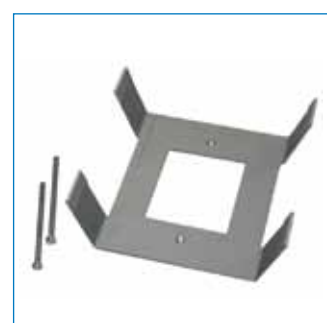
Viewing distance: 20m

Recessed base for bricks wall








Order code: NEXI-RB
Cut-out: 277x100 mm

False ceiling adapter



Order code: NEXI-FC
Cut-out: 272x95 mm

Order code	Description					
Autotest versions						
NEXI100-AT	NexiTech LED 8W 1,5h AT	12 LED	100 Lm	90'	3,6V - 0,8Ah NiCd	Non-Maintained
NEXI150-AT	NexiTech LED 11W 1h AT	16 LED	150 Lm	60'	3,6V - 0,8Ah NiCd	Maintained / Non-Maintained
NEXI250-AT	NexiTech LED 24W 1,5h AT	48 LED	250 Lm	90'	7,2V - 1,7Ah NiCd	Maintained / Non-Maintained
NEXI400-AT	NexiTech LED 24W Ultra 1,5h AT	48 LED	400 Lm	90'	7,2V - 1,7Ah NiCd	Maintained / Non-Maintained
NEXI100-AT-3H	NexiTech LED 8W 3h AT	12 LED	100 Lm	180'	3,6V - 2,0Ah NiCd	Non-Maintained
NEXI150-AT-3H	NexiTech LED 11W 3h AT	16 LED	150 Lm	180'	3,6V - 2,0Ah NiCd	Maintained / Non-Maintained
NEXI250-AT-3H	NexiTech LED 24W 3h AT	48 LED	250 Lm	180'	7,2V - 1,7Ah NiCd	Maintained / Non-Maintained
NEXI250-230	NexiTech LED 250lm Mains	48 LED	250 Lm			Mains
NEXI500-230	NexiTech LED 500lm Mains	48 LED	500 Lm			Mains

Accessories

NEXI-IP	IP65 protection kit
NEXI-RB	Bricks wall recessed base (cut-out 277x100mm)
NEXI-FC	False ceiling adapter (cut-out 272x95mm)
LUM10312	Rest-Mode and Test telecommand

Single-side glue-less pictograms

NEXI-PICTO-D	Pictogram Down ISO7010 single-side 20m
NEXI-PICTO-L	Pictogram Left ISO7010 single-side 20m
NEXI-PICTO-R	Pictogram Right ISO7010 single-side 20m
NEXI-PICTO-U	Pictogram Up ISO7010 single-side 20m

Double-side panels

Lite version - standard uniformity

NEXI-PLEXL-DD	Lite Double side panel Down/Down ISO7010 30m
NEXI-PLEXL-LR	Lite Double side panel Left/Right ISO7010 30m
NEXI-PLEXL-DB	Lite Double side panel Down/Blind ISO7010 30m

Ultra version - high uniformity

NEXI-PLEX-DD	Double side panel Down/Down ISO7010 30m
NEXI-PLEX-LR	Double side panel Left/Right ISO7010 30m
NEXI-PLEX-DB	Double side panel Down/Blind ISO7010 30m

2.3

Indoor emergency lighting

Planete 400 Disc

2



- Seamlessly integrates with the pure architectural lines of the building.
- Fits into the all-round light-theme concept.
- Shares the same standard diameter as most popular downlights.
- The standby-mode LED lighting (when mains-connected) is soft with a minimal glare.
- Recessed-mounting integration (close-fit mounting < 2mm thick - colors on request).

Light Source:

100 white LED of 1,5W

Materials:

High-performance micro-lens light diffuser

Installation:

Screwless terminal strips: automatic connectors.

Built-in housing for quick and easy mounting of the safety baffle hanger (metal cable thread)

Recessed-mounting trim options for structural or dropped ceilings:

- diameter 200 mm down light hole saw
- Shallow 65 mm recess

Operation:

Maintained operation with 360 lumen output in emergency operation

Disk delivers uniform down lighting: Homogeneous illumination for optimal visual comfort ($L_{max}/L_{min} < 1,5$)

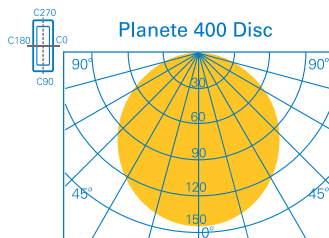
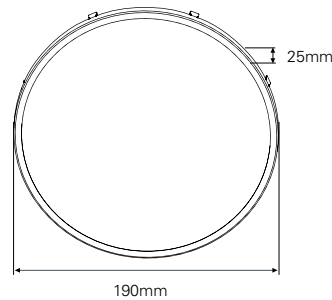
Applications:

Recessed applications on offices, hotels

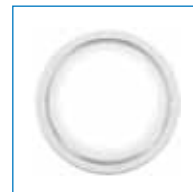
Planete 400 Disc for all projects with 360 lumens in a disc of diameter 190 and slim 25mm. Discrete, it respects the original design of the architecture of the building and fits perfectly into the overall lighting concept.

Its diameter is equal to that of the most common down lights normal lighting. The illumination LEDs in standby (in the presence sector) is discrete and non-aggressive.

The optional mounting frame allows a perfect integration ceiling.

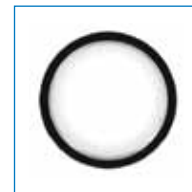


LUM10541



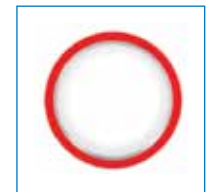
Recessed-mounting trim

LUM10541COL



Recessed-mounting trim in black

LUM10541COL



Recessed-mounting trim in red

Model	Height (m)	Escape route ceiling mounting 2m wide, 1 Lux				Open area ceiling mounting 2m wide, 1 Lux			
		Diagram 1	Diagram 2	Diagram 3	Diagram 4	Diagram 5	Diagram 6	Diagram 7	Diagram 8
LUM17044	02,50	04,40	10,80	04,40	10,80	03,50	08,30	03,50	08,30
	02,80	04,60	11,30	04,60	11,30	03,60	08,80	03,60	08,80
	03,00	04,70	11,60	04,70	11,60	03,70	09,00	03,70	09,00
	03,50	04,90	12,40	04,90	12,40	03,80	09,70	03,80	09,70
	04,00	05,00	13,00	05,00	13,00	03,90	10,10	03,90	10,10
	05,00	04,60	12,40	04,60	12,40	04,10	11,00	04,10	11,00
	06,00	04,60	12,90	04,60	12,90	04,10	11,70	04,10	11,70
	07,00	04,30	13,10	04,30	13,10	04,00	12,10	04,00	12,10

Order code	Description	Light Source	Output	Beam Angle	Power	Operation
LUM17044	Planete 400 Disc	100 LED 1,5W	360 Lm	60°	10 x 1,2 V / 0,6 Ah	Maintained
LUM22133	Planete 400 Disc mains	100 LED 1,5W	360 Lm			Mains

Accessories

LUM10541	Recessed-mounting trim
LUM10541COL	Recessed-mounting trim in colour



- Versatile multi functional use (escape and open area anti-panic)
- IP44 ingress protection suitable for bathrooms and wet environment
- First fix base for ease of installation
- 60,000 hour life LED for reduced maintenance
- Environmentally friendly NiMh battery

Light Source:

1 x High power 1W white LED
 Consumption (Maintained)
 6.9VA/5W
 Consumption (Non-Maintained) 3.6VA/2.5W

Materials:

Luminaire Enclosure
 Polycarbonate
 Battery NiMh (self-contained version)

Installation:

Flush & Surface mount
 20mm Conduit entry on all four sides
 BESA box entry on base

Operation:

Self-contained Maintained luminaire can be operated in Non-Maintained mode
 Can be used as security light with 4 pre-set light levels
 Self contained, slave and CBS models available

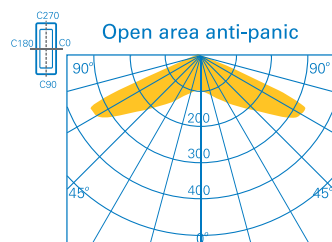
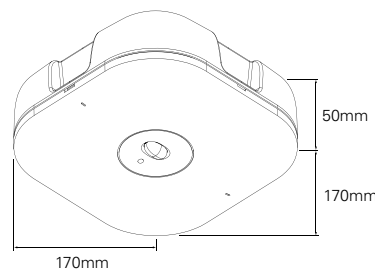
Applications:

Hotels, offices, cinemas, theaters, museums and hospitals

Micropoint 2 is a high specification competitively priced surface mounted emergency LED luminaire utilising the latest LED and optic technology to provide an unobtrusive, high quality, high performance luminaire for indoor use where aesthetics are prime importance.

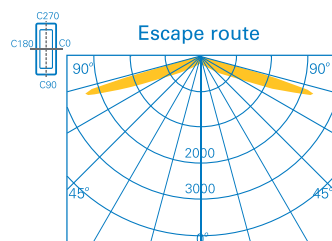
The Micropoint 2 has been designed for ease of installation, reduced power consumption, minimal maintenance, reducing the TCO (total cost of ownership) without compromising aesthetics. The innovative optic design used in the Micropoint 2 utilises light efficiently from the LED to provide a uniform distribution in either an escape route or open area anti-panic emergency lighting, improving the performance and reducing the electrical power consumption.

Micropoint 2 utilises a touch sensitive keypad to improve ingress protection against water and dust.



Open area (Symmetric)

Mode	Mount height (m)	Lux level directly under	Open area 1 Lux min			
Self contained						
	02,50	01,70	04,30	09,40	09,40	04,30
	02,80	01,40	03,30	09,30	09,30	03,30
	03,00	01,20	03,20	09,20	09,20	03,20



Escape optic (Asymmetric)

Mode	Mount height (m)	Lux level directly under	Escape route 2m wide, 1 Lux min			
Self contained						
	02,50	02,70	-	-	16,60	07,50
	02,80	02,20	-	-	18,10	08,10
	03,00	01,90	-	-	19,10	08,30

Order code	Description					
MP2SO3H	Micropoint2 Surface Open Area	1 x 1W	30 Lm	180'	4,8V - 2Ah NiCd	Maintained
MP2SE3H	Micropoint2 Surface Escape Route	1 x 1W	30 Lm	180'	4,8V - 2Ah NiCd	Maintained
MP2SOS230	Micropoint2 Surface Mains Open Area	1 x 1W	30 Lm			Mains

2.5

Indoor emergency lighting

Micropoint 2

2



- Versatile multi functional use (escape and open area anti-panic)
- Low power consumption reducing cost of ownership
- Excellent spacing reducing the quantity of fittings required
- 60.000 hour life LED for reduced maintenance
- Self-contained, self test and Easichck2 models
- Environmentally friendly NiMh Battery

Light Source:

1 x High power 1W white LED
Consumption (Maintained)
6.9VA/5W

Consumption (Non-Maintained) 3.6VA/2.5W

Materials:

Luminaire body:
Aluminium, luminaire Head:
Polycarbonate, remote gear
pod: flame retardant ABS

Battery, NiMh (self-contained version)

Installation:

Flush mounting

Spring retaining clips for surface installation (install from below ceiling)

Plug and play socket for mains supply

No disassembly required during installation

Operation:

Maintained luminaire can be operated in Non-Maintained mode

Can be used as security light with 3 pre set light levels

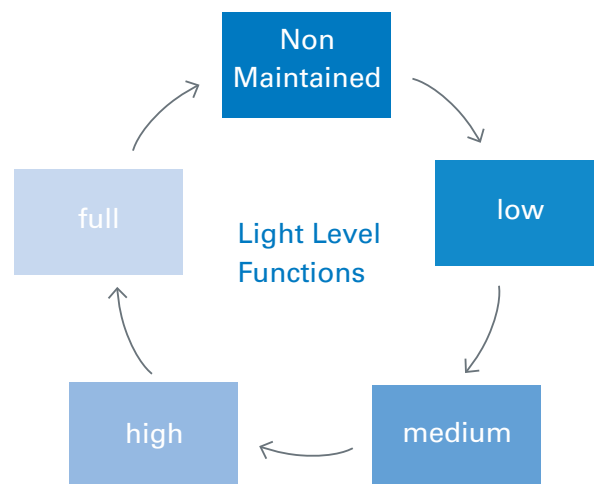
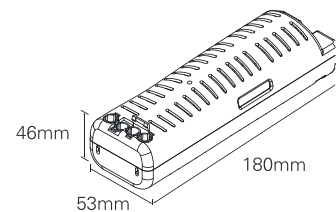
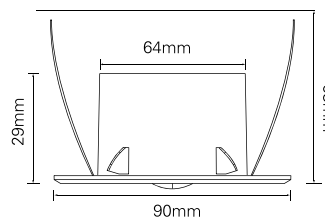
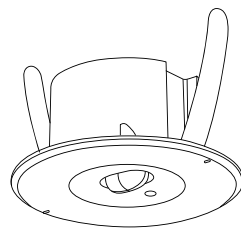
Self contained, slave and CBS models available

Applications:

All recessed indoor applications

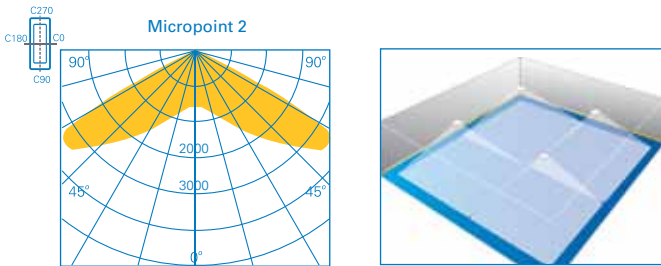
Micropoint 2 is a high specification competitively priced emergency LED luminaire. Micropoint 2 utilises the latest LED and optic technology to provide an unobtrusive, high quality, high performance luminaire for indoor use where aesthetics are of prime importance.

The Micropoint 2 has been designed for ease of installation, reduced power consumption, minimal maintenance, reducing the TCO (total cost of ownership) without compromising on aesthetics. The innovative optic design used in the Micropoint 2, developed and produced by Eaton's Safety business utilises light efficiently from the LED to provide a uniform distribution in either an escape route or open area anti-panic emergency lighting, improving the performance and reducing the electrical power consumption.



Preset light levels can be adjusted in Maintained mode to operate as security light, adjustable using touch sensitive button on luminaire fascia.

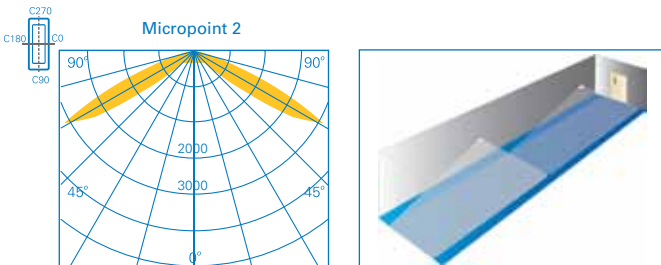
Micropoint 2 advanced optics with rectangular distribution
Luminaire with 'no' optics require overlap to eliminate dark spots



Escape Route (Asymmetric 1 Lux)

Model	Height (m)	Distance for 1 Lux (escape route 2m wide)			
MP2E3H (Escape Route)					
	02,50	-	-	07,80	17,10
	02,80	-	-	08,40	18,60
	03,00	-	-	08,60	19,60

The high power, high efficiency LED light source provides uniform illumination with asymmetric and symmetric light patterns for escape or open area use.



Open Area (Symmetric 0.5 Lux)

Model	Height (m)	Distance for 1 Lux			
MP2O3H (Open Area Anti-Panic)					
	02,50	04,30	09,40	01,70	09,40
	02,80	03,30	09,30	01,40	09,30
	03,00	03,20	09,20	01,20	09,20



Order code	Description					
MP2O3H	Micropoint2 Open Area	1 x 1W	30 Lm	180'	4,8V - 2Ah NiCd	Maintained / Non-Maintained
MP2E3H	Micropoint2 Escape Route	1 x 1W	30 Lm	180'	4,8V - 2Ah NiCd	Maintained / Non-Maintained
MP2ES230	Micropoint2 Mains Escape Route	1 x 1W	30 Lm			Mains
MP2OS230	Micropoint2 Mains Open Area	1 x 1W	30 Lm			Mains

2.6

Indoor emergency lighting

Halo-Pack 2

2



- Suitable for both solid and exposed grid ceilings as the gear pod fits through the head unit installation aperture
- Adapter plate for retrofit and shallow ceiling applications
- 3 year warranty for peace of mind
- Up to 50.000 hour life LED for reduced maintenance
- Low power consumption reducing cost of ownership
- Environmentally friendly NiMH battery

Light Source:

1 x high power 3W white LED

Materials:

Luminaire head, remote gear and adaptor plate - polycarbonate and ABS blend

Battery - NiMH

Installation:

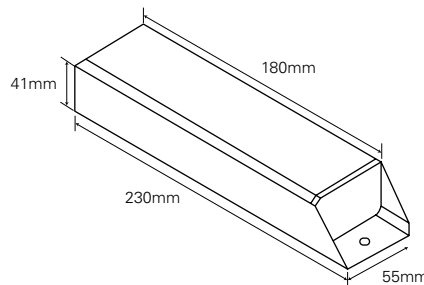
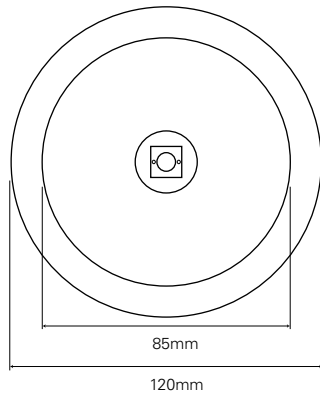
Flush mounting

Spring retaining clips for surface installation (install from below ceiling)

Plug and play socket for mains supply

No disassembly required during installation

Halo-Pack 2 combines the latest in LED technology with an ultra-low profile, providing emergency lighting where aesthetics and reliability are of prime importance. Installation into an existing ceiling is fast and simple to complete.



Operation:

Non-Maintained operation

Applications:

All recessed indoor applications



For retrofit and/or shallow ceiling applications an optional adapter plate is provided as standard

Model	Height (m)	Lux level directly under	Escape route 2m wide, 1 Lux min				Open (anti-panic) area 0,5 Lux min			
HPLED3H										
	02,50	05,32	03,20	08,70	03,20	08,70	03,60	09,70	03,60	09,70
	02,80	05,00	03,30	09,00	03,30	09,00	03,70	10,00	03,70	10,00
	03,00	04,36	03,30	09,10	03,30	09,10	03,80	10,20	03,80	10,20
	04,00	02,40	03,10	09,30	03,10	09,30	03,90	11,30	03,90	11,30
	05,00	01,08	01,09	08,50	01,00	08,50	03,60	12,50	03,60	12,50

Order code	Description					
HPLED3H	Halo Pack 2	1 x 3W LED	30 Lm	180'	4,8V - 2Ah NiCd	Non-Maintained



- Easy to install
- IP rating IP42
- High temperature batteries Ni-Cd
- Opal diffuser version
- Low power consumption

Light Source:

16 LEDs of 2 Watt total consumption (Ledus16)

8 LEDs of 1 Watt total consumption (Ledus8)

Construction:

Base, mounting plate and cover, fire retardant

ABS, lens optical grade acrylic

Operation:

Maintained & Non-Maintained (selectable operation)

2 hours emergency duration

Night light mode operation

Applications:

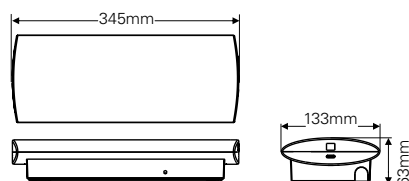
Residential applications, offices, hotels, restaurants, schools

Ledus family is a compact low profile range of luminaires with a stylish design which offers an attractive emergency lighting solution for a wide variety of areas.

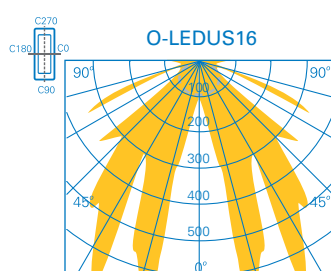
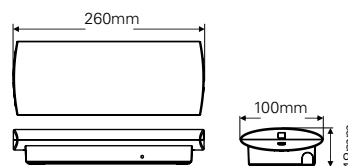
Two variants of LED strips of 16 and 8 LED of 2W & 1W relevant consumption are available along with 2 different housings per occasion. Suitable for small discrete applications up to normal antipanic emergency light installations.

A full range of accessories, including a recessed base for wall or flush mounting and a plexiglass sign for installing the luminaire as an exit sign are available, as well as the opal diffuser version.

Ledus16



Ledus8



Model Height (m) Distance for 1 Lux

Model	Height (m)	Distance for 1 Lux			
O-LEDUS16					
	02,60	02,79	05,78	01,30	04,36
	02,80	02,90	06,22	01,13	04,38
	03,00	02,90	06,66	00,94	04,36
	03,20	02,78	07,01	00,66	04,22
	03,50	00,00	07,51	00,00	03,88
	04,00	00,00	08,28	00,00	03,12

Order code	Description					
O-LEDUS16	Ledus16	16 LED 2W	95 Lm	120'	3,6V - 1,7Ah NiCd	Maintained / Non-Maintained
O-LEDUS8	Ledus8	8 LED 1W	55 Lm	120'	4,8V - 2,2Ah NiCd	Maintained / Non-Maintained
O-LEDUS8-3H	Ledus8	8 LED 1W	55 Lm	180'	4,8V - 2,2Ah NiCd	Maintained / Non-Maintained
O-LEDUS8-ES	Ledus8 with Opal diffuser	8 LED 1W	-	120'	4,8V - 2,2Ah NiCd	Maintained / Non-Maintained

Accessories

O-EL6PSLR	Double side exit sign (Left/Right)
O-EL6PSD	Double side exit sign (Down)
O-EL6RB	Recessed base (both for wall or flush mounting)

2.8

Indoor emergency lighting

Sirios LED



- Anti-panic and exit sign in one
- Easy mounting
- Complete range of accessories
- Certified family of emergency lights in accordance to EN 60 598-2-22
- ENEC certificate
- IP rating IP42 with the ability to upgrade it to IP65

Light Source:

24 white LED 1.5W

Materials:

White polycarbonate base and reflector

Clear polycarbonate diffuser

Operation:

Maintained & Non-Maintained (user selectable)

Autonomy from 1h up to 3h

Functional test integrated into the diffuser

Inhibition and Rest Mode

Autotest & slave models available

Installation:

Wall and Ceiling Installation kit for recessed wall and ceiling

Base for quick mounting (accessory)

Panel, double-sided printed for reporting security (optional)

Protection Kit IP65 for outdoor use

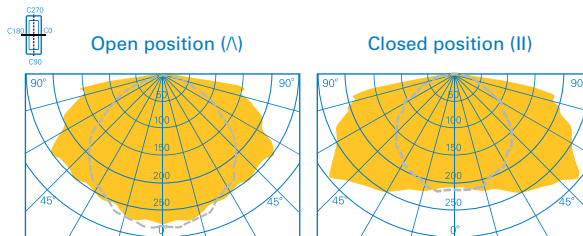
Applications:

Schools, universities, public administration, commercial environments



Sirios LED is a low profile range of emergency lights, designed and equipped with technical solutions and accessories for a wide range of applications such as offices, restaurants, hotels, hospitals and general commercial applications.

The range of accessories includes a recessed base for installation to walls and false ceilings, a weatherproof kit an exit sign label as well as a variety of light distribution options.



Summary

Application	Exit Sign	Antipanic	Escape Route
Open (Λ)	Best*	Best**	Good
Closed ()	Good	Good	Best***

* Better uniformity on sign

** Bigger covering area

*** Longer distance in smaller heights, lower diversity (min to max illuminance ratio) along the route path.

	Height (m)		Distance for 1 Lux				Distance for 0,5 Lux				
O-SLED open position (Λ) 	open										
	02.50	03.44	08.66	02.88	07.14	04.83	11.24	04.07	08.66		
	02.80	03.46	09.32	02.90	07.44	05.16	12.00	04.22	09.32		
	03.00	03.33	09.24	02.90	07.68	05.12	11.78	04.34	09.60		
	03.50	03.26	09.64	02.83	08.06	05.32	12.62	04.53	10.00		
	04.00	03.01	09.54	02.80	08.00	05.27	12.80	04.50	10.62		
04.50	02.70	09.32	02.90	08.10	05.16	13.34	04.55	11.12			
O-SLED closed position () 	closed										
	02.50	03.44	09.04	02.50	06.40	05.02	11.76	03.70	08.20		
	02.80	03.58	09.32	02.44	06.68	05.16	12.00	03.84	08.64		
	03.00	03.57	09.24	02.43	06.68	05.12	12.40	03.84	08.80		
	03.50	03.38	09.64	02.27	07.00	05.32	12.60	04.00	08.96		
	04.00	02.90	09.88	02.04	06.96	05.44	13.30	03.98	09.20		
04.50	02.39	10.00	01.55	06.78	05.50	13.34	03.89	09.64			

In Sirios LED, both led positions are suitable to use for exit sign according to EN1838.

Order code	Description					
O-SLED	Emerg. Light Sirios 24LEDs M 2H	24 LED 1.5W	120 Lm	120'	NiCd 1,7Ah / 4,8V	Maintained / Non-Maintained
O-SLED-3H	Emerg. Light Sirios 24LEDs M 3H	24 LED 1.5W	120 Lm	180'	NiCd 1,7Ah / 4,8V	Maintained / Non-Maintained
O-SLED-AT	Emerg. Light Sirios AT 24LEDs M 1H	24 LED 1.5W	120 Lm	60'	NiMH 1,2Ah / 4,8V	Maintained / Non-Maintained
O-SLED-AT-3H	Emerg. Light Sirios AT 24LEDs M 3H	24 LED 1.5W	120 Lm	180'	NiMH 2,2Ah / 4,8V	Maintained / Non-Maintained
O-SLED-MAINS	Emerg. Light Sirios 24LEDs MAINS	24 LED 1.5W	120 Lm			Mains

Accessory

O-SLED-STRIFE	LED stripe accessory for Sirios LED (service LED for replacement)
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- Easy mounting
- Complete range of accessories
- Certified family of emergency lights in accordance to EN 60 598-2-22
- ENEC certificate
- IP rating IP42 with the ability to upgrade it to IP65

Light Source:

Lamp. 8W fluorescent G5, 2G7 11W, 18W and 24W/2G11

Materials:

Base and reflector unit in white ABS
Clear polycarbonate diffuser

Operation:

Maintained, Non-Maintained and Sustain versions

Autonomy from 1h up to 3h

Functional test integrated into the diffuser

Inhibition and Rest Mode

Autotest, slave and CBS models available

Ultra Models with lumens flow up to 350lm

Low consumption in Maintained operation, with a power save of 33% of the nominal output of the lamp

Installation:

Wall and Ceiling Installation kit for recessed wall and ceiling

Base for quick mounting (accessory)

Panel, double-sided printed for reporting security (optional)

Distance view of 30 meters provides the ability to use fewer products and less power consumption per coverage area of an application

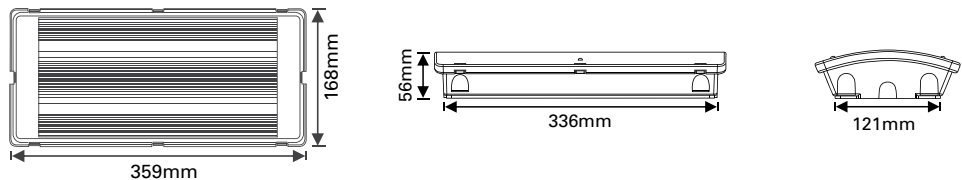
Protection Kit IP65 for outdoor use

Applications:

Schools, universities, public administration, commercial environments

Sirios range of emergency lights are low profile, designed and equipped with technical solutions and accessories for a wide range of applications such as offices, restaurants, hotels, hospitals and general commercial applications.

The range of accessories includes a recessed base for installation to walls and false ceilings, an IP65 weatherproof kit an exit sign label as well as a variety of lamp options (8, 2x8, 11, 18, 24W).



Test Point



Just by pressing the plastic diffuser on all Sirios models you can test the lamp operation, the battery and electronic circuit switching

Recessed Base



Recessed base for false ceiling and wall recessed applications

IP65 kit



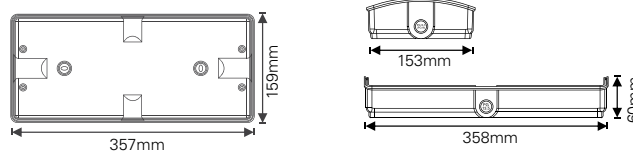
Retrofit IP65 weather proof kit provides an upgrade from IP42 to IP65 installations

Sirios Exit sign plexiglass

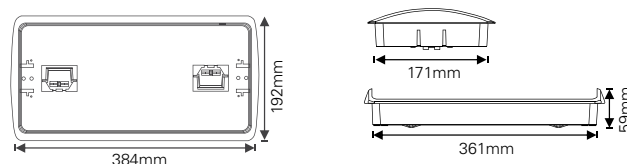


30m viewing distance reduces the quantity of fittings required and in turn reduces power consumption

Weatherproof base








Recessed base








Range: Multi






2

Order code	Description					
O-S8	Sirios Non-Maintained 8W 1h30	FL8WG5	85 Lm	90'	2,4V-1,7Ah NiCd	Non-Maintained
O-S8-3H	Sirios Non-Maintained 8W 3h	FL8WG5	85 Lm	180'	2,4V-1,7Ah NiCd	Non-Maintained
O-S11	Sirios Non-Maintained 11W 1h30	FL11W2G7	180 Lm	90'	4,8V-1,7Ah NiCd	Non-Maintained
O-S11-3H	Sirios Non-Maintained 11W 3h	FL11W2G7	180 Lm	180'	3,6V-4Ah NiCd	Non-Maintained
O-S18	Sirios Non-Maintained 18W 1h30	FL18W2G11	268 Lm	90'	6V-1,7Ah NiCd	Non-Maintained
O-S18-3H	Sirios Non-Maintained 18W 3h	FL18W2G11	268 Lm	180'	4,8V-4Ah NiCd	Non-Maintained
O-S24	Sirios Non-Maintained 24W 1h30	FL24W2G11	330 Lm	90'	4,8V-2,2Ah NiCd	Non-Maintained
O-S24-3H	Sirios Non-Maintained 24W 3h	FL24W2G11	330 Lm	180'	6V-4Ah NiCd	Non-Maintained
O-S8M	Sirios Maintained 8W 1h30	FL8WG5	85 Lm	90'	2,4V-1,7Ah NiCd	Maintained
O-S8M-3H	Sirios Maintained 8W 3h	FL8WG5	85 Lm	180'	2,4V-4Ah NiCd	Maintained
O-S11M	Sirios Maintained 11W 1h30	FL11W2G7	180 Lm	90'	4,8V-1,7Ah NiCd	Maintained
O-S11M-3H	Sirios Maintained 11W 3h	FL11W2G7	180 Lm	180'	3,6V-4Ah NiCd	Maintained
O-S18M	Sirios Maintained 18W 1h30	FL18W2G11	268 Lm	90'	6V-1,7Ah NiCd	Maintained
O-S18M-3H	Sirios Maintained 18W 3h	FL18W2G11	268 Lm	180'	4,8V-4Ah NiCd	Maintained
O-S24M	Sirios Maintained 24W 1h30	FL24W2G11	330 Lm	90'	4,8V-2,2Ah NiCd	Maintained
O-S24M-3H	Sirios Maintained 24W 3h	FL24W2G11	330 Lm	180'	6V-4Ah NiCd	Maintained
O-S8S	Sirios Sustain 8W 1h30	2 x FL8WG5	85 Lm	90'	2,4V-1,7Ah NiCd	Sustain
O-S8S-3H	Sirios Sustain 8W 3h	2 x FL8WG5	85 Lm	180'	6V-1,7Ah NiCd	Sustain
O-S8MAINS	Sirios Mains 8W	FL8WG5				Mains
O-S11MAINS	Sirios Mains 11W	FL11W2G7				Mains
O-S18MAINS	Sirios Mains 18W	FL18W2G11				Mains
O-S24MAINS	Sirios Mains 24W	FL24W2G11				Mains

Range: Ultra

Order code	Description					
O-S8U	Sirios Non-Maintained 8W 1h	FL8WG5	230 Lm	60'	6V-1,7Ah NiCd	Non-Maintained
O-S8U-PLUS	Sirios Non-Maintained 8W 1h	FL8WG5	320 Lm	60'	3,6V-4Ah NiCd	Non-Maintained
O-S8U-3H	Sirios Non-Maintained 8W 3h	FL8WG5	210 Lm	180'	6V-4Ah NiCd	Non-Maintained
O-S11U	Sirios Non-Maintained 11W 1h	FL11W2G7	350 Lm	60'	3,6V-4Ah NiCd	Non-Maintained
O-S8MU	Sirios Maintained 8W 1h	FL8WG5	230 Lm	60'	6V-1,7Ah NiCd	Maintained
O-S8MU-PLUS	Sirios Maintained 8W 1h	FL8WG5	320 Lm	60'	6V-1,7Ah NiCd	Maintained
O-S8MU-3H	Sirios Maintained 8W 3h	FL8WG5	210 Lm	180'	3,6V-4Ah NiCd	Maintained
O-S11MU	Sirios Maintained 11W 1h	FL11W2G7	350 Lm	60'	6V-4Ah NiCd	Maintained

Range: Autotest

Order code	Description					
O-S8-AT	Non-Maintained Sirios 8W Autotest 1h	FL8WG5	200 Lm	60'	6V-1,7Ah NiCd	Non-Maintained
O-S8-AT-3H	Non-Maintained Sirios 8W Autotest 3h	FL8WG5	100 Lm	180'	3,6V-4Ah NiCd	Non-Maintained
O-S11-AT	Non-Maintained Sirios 11W Autotest 1h	FL11W2G7	220 Lm	60'	6V-1,7Ah NiCd	Non-Maintained
O-S11AT-3H	Non-Maintained Sirios 11W Autotest 3h	FL11W2G7	110 Lm	180'	3,6V-4Ah NiCd	Non-Maintained
O-S18-AT	Non-Maintained Sirios 18W Autotest 1h	FL18W2G11	230 Lm	60'	6V-1,7Ah NiCd	Non-Maintained
O-S18-AT-3H	Non-Maintained Sirios 18W Autotest 3h	FL18W2G11	120 Lm	180'	3,6V-4Ah NiCd	Non-Maintained
O-S24-AT	Non-Maintained Sirios 24W Autotest 1h	FL24W2G11	330 Lm	60'	6V-1,7Ah NiCd	Non-Maintained
O-S24-AT-3H	Non-Maintained Sirios 24W Autotest 3h	FL24W2G11	330 Lm	180'	6V-4Ah NiCd	Non-Maintained
O-S8M-AT	Maintained Sirios 8W Autotest 1h	FL8WG5	200 Lm	60'	6V-1,7Ah NiCd	Maintained
O-S8M-AT-3H	Maintained Sirios 8W Autotest 3h	FL8WG5	100 Lm	180'	3,6V-4Ah NiCd	Maintained
O-S11M-AT	Maintained Sirios 11W Autotest 1h	FL11W2G7	220 Lm	60'	6V-1,7Ah NiCd	Maintained
O-S11M-AT-3H	Maintained Sirios 11W Autotest 3h	FL11W2G7	110 Lm	180'	3,6V-4Ah NiCd	Maintained
O-S18M-AT	Maintained Sirios 18W Autotest 1h	FL18W2G11	230 Lm	60'	6V-1,7Ah NiCd	Maintained
O-S18M-AT-3H	Maintained Sirios 18W Autotest 3h	FL18W2G11	120 Lm	180'	3,6V-4Ah NiCd	Maintained
O-S24M-AT	Maintained Sirios 24W Autotest 1h	FL24W2G11	330 Lm	60'	6V-1,7Ah NiCd	Maintained
O-S24M-AT-3H	Maintained Sirios 24W Autotest 3h	FL24W2G11	330 Lm	180'	6V-4Ah NiCd	Maintained

Accessories

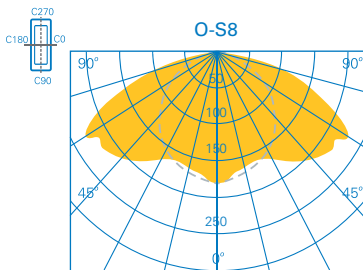
Order code	Description
O-S-WB	Wall mounting base
O-S-RB	Recessed base
O-S-IP	Weatherproof base
171-000-032	Vertical metal base (O-MP41)
171-000-035	Horizontal metal base (O-PU41)
O-S-LGD100	Exit sign Left ISO format
O-S-LGD200	Exit sign Right ISO format
O-S-LGD300	Exit sign Down ISO format

Sirios wall mount base for fast installation

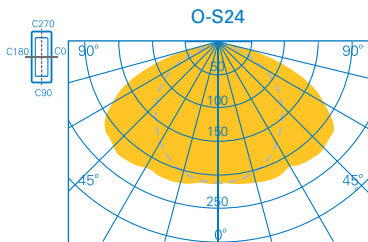


O-S-WB

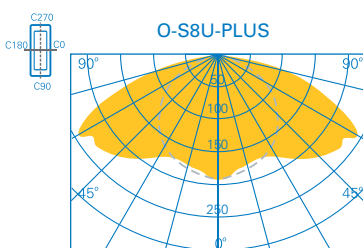
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Model	Height (m)	Distance for 1 Lux				Distance for 0,5 Lux				
O-S8										
	02,60	03,02	08,86	02,21	06,20	04,93	11,15	03,60	07,71	
	02,80	02,94	08,76	02,19	06,26	04,88	11,48	03,63	08,00	
	03,00	02,83	08,67	02,13	06,34	04,83	11,78	03,67	08,26	
	03,20	02,67	08,68	02,06	06,40	04,84	12,04	03,70	08,43	
	03,50	02,33	08,68	01,92	06,32	04,84	12,37	03,66	08,64	
04,00	01,49	08,26	01,50	06,16	04,63	12,23	03,58	08,88		



Model	Height (m)	Distance for 1 Lux				Distance for 0,5 Lux			
O-S24									
	02,60	04,65	11,68	03,59	08,83	06,34	13,41	04,91	10,66
	02,80	04,77	11,90	03,72	09,14	06,45	13,86	05,07	10,99
	03,00	04,88	12,25	03,80	09,42	06,62	14,49	05,21	11,28
	03,20	04,97	12,56	03,85	09,67	06,78	15,08	05,33	11,64
	03,50	05,09	12,89	03,94	10,00	06,95	15,72	05,50	12,12
04,00	05,23	13,53	04,01	10,58	07,26	16,85	05,79	12,90	



Model	Height (m)	Distance for 1 Lux				Distance for 0,5 Lux			
O-S8U-PLUS									
	02,60	05,58	13,55	03,91	09,46	07,27	15,82	05,23	11,31
	02,80	05,74	13,86	04,00	09,82	07,43	16,26	05,41	11,79
	03,00	05,89	14,49	04,13	10,15	07,74	16,94	05,57	12,30
	03,20	06,04	15,00	04,25	10,44	08,00	17,58	05,72	12,56
	03,50	06,26	15,50	04,32	10,78	08,25	18,33	05,89	13,17
04,00	06,30	16,40	04,49	11,43	08,70	19,80	06,21	13,86	



2.10

Indoor emergency lighting

Star22

2



- Low profile
- Unique elegant design
- Easy to install
- Certificated by ENEC Kema Keur
- IP rating IP42
- High temperature batteries Ni-Cd
- Autotest version
- Wide range of different models

Light Source:

Lamp. 8W fluorescent G5, 2G7 11W and 2G11 18W

Materials:

Base and reflector unit in white ABS

Operation:

Maintained, Non-Maintained and Sustained versions

Autonomy from 1h up to 3h

Self contained, Autotest, Inhibition and Rest Mode slave and CBS models available

Star22 family of emergency luminaires has been developed to include a wide range of versions depending on the emergency duration, the functionalism and the type of lamps. This impressive variety, offers useful flexibility to the installer, offering several different choices that fulfil any requirements for effective emergency lighting, from a range of simple residential applications to specific industrial ones.

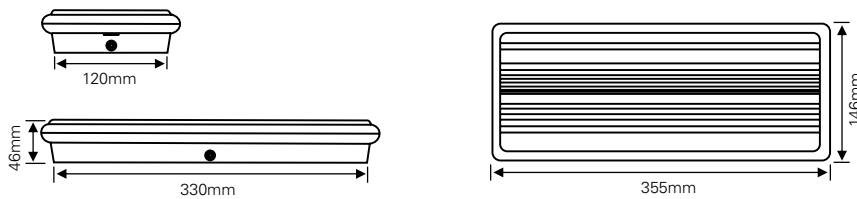
A full range of accessories are available. These include a recessed base for wall or flush mounting, and a plexiglass sign for deploying the luminaire as an exit sign.

Installation:

Wall, ceiling and recessed installations

Applications:

Schools, offices, hotels, restaurants, warehouses



O-EL20PSD



Slim plexi glass diffuser for exit signs

O-DS20

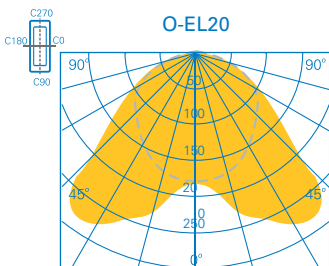


Plastic cone diffuser for exit signs

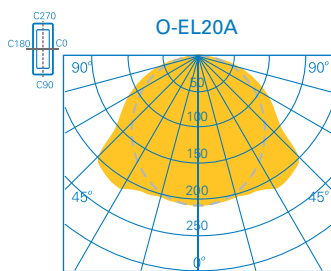
O-EL20RB



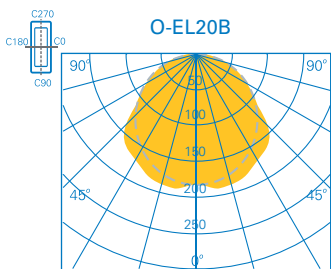
Recessed bases for ceiling and wall mount applications



Model	Height (m)	Distance for 1 Lux				Distance for 0,5 Lux			
		↔	↔	↔	↔	↔	↔	↔	↔
O-EL20	02,60	02,69	06,68	02,05	05,98	03,84	08,45	03,49	07,92
	02,80	02,80	06,92	02,00	06,01	03,96	08,66	03,50	08,09
	03,00	02,90	07,05	01,95	06,00	04,02	08,90	03,50	08,26
	03,20	02,98	07,13	01,85	05,97	04,07	09,14	03,48	08,34
	03,50	03,04	07,51	01,69	05,87	04,25	09,29	03,44	08,43
	04,00	02,95	08,00	01,24	05,60	04,50	09,81	03,30	08,55



Model	Height (m)	Distance for 1 Lux				Distance for 0,5 Lux			
		Wall	Wall	Open	Open	Wall	Wall	Open	Open
O-EL20A	02,60	03,29	08,29	02,96	07,71	04,69	10,38	04,35	09,54
	02,80	03,34	08,62	03,00	07,82	04,81	10,71	04,41	09,82
	03,00	03,40	08,83	03,02	07,96	04,91	11,05	04,48	10,11
	03,20	03,44	08,97	03,07	08,16	04,99	11,31	04,58	10,32
	03,50	03,50	09,19	03,05	08,28	05,09	11,65	04,64	10,74
	04,00	03,76	09,50	03,03	08,55	05,25	11,32	04,77	11,09



Model	Height (m)	Distance for 1 Lux				Distance for 0,5 Lux			
		Wall	Wall	Open	Open	Wall	Wall	Open	Open
O-EL20B	02,60	03,75	09,42	03,73	09,30	05,21	11,68	05,15	11,15
	02,80	03,85	09,70	03,85	09,62	05,35	12,01	05,31	11,48
	03,00	03,92	09,99	03,94	09,87	05,49	12,30	05,43	11,93
	03,20	03,97	10,24	03,98	10,12	05,62	12,62	05,56	12,40
	03,50	04,04	10,46	04,05	10,38	05,73	13,17	05,69	12,79
	04,00	04,24	10,93	04,14	10,93	05,97	13,86	05,97	13,58

Order code	Description	Light Bulb	Lumen	Beam Angle	Battery	Maintenance
O-EL20	Star22 8W NM 90min	FL8WG5	70 Lm	90°	2,4V-1,5Ah NiCd	Non-Maintained
O-EL20-3H	Star22 8W NM 180min	FL8WG5	100 Lm	180°	6V-1,5Ah NiCd	Non-Maintained
O-EL20A	Star22 11W NM 90min	PL11W2G7	130 Lm	90°	3,6V-1,5Ah NiCd	Non-Maintained
O-EL20A-3H	Star22 11W NM 180min	PL11W2G7	100 Lm	180°	6V-1,5Ah NiCd	Non-Maintained
O-EL20B	Star22 18W NM 90min	PL18W2G11	210 Lm	90°	6V-1,5Ah NiCd	Non-Maintained
O-EL20C	Star22 18W NM 180min	FL 2X8WG5	240 Lm	90°	6V-1,5Ah NiCd	Non-Maintained
O-EL20M	Star22 8W M 90min	FL8WG5	70 Lm	90°	2,4V-1,5Ah NiCd	Maintained
O-EL20M-3H	Star22 8W M 180min	FL8WG5	100 Lm	180°	6V-1,5Ah NiCd	Maintained
O-EL20AM	Star22 11W M 90min	PL11W2G7	130 Lm	60°	3,6V-1,5Ah NiCd	Maintained
O-EL20AM-3H	Star22 11W M 180min	PL11W2G7	100 Lm	180°	6V-1,5Ah NiCd	Maintained
O-EL20BM	Star22 18W M 90min	PL18W2G11	210 Lm	90°	6V-1,5Ah NiCd	Maintained
O-EL20SU	Star22 8W S 90min	PL11W2G7	75 Lm	90°	2,4V-1,5Ah NiCd	Sustained
O-EL20SU-3H	Star22 8W S 180min	PL18W2G11	75 Lm	180°	6V-1,5Ah NiCd	Sustained
O-EL28-AUT	Star22 8W NM Autotest 60min	FL8WG5	230 Lm	60°	6V-1,5Ah NiCd	Non-Maintained
O-EL28A-AUT	Star22 11W NM Autotest 60min	PL11W2G7	230 Lm	60°	6V-1,5Ah NiCd	Non-Maintained
O-EL28B-AUT	Star22 18W NM Autotest 60min	PL18W2G11	230 Lm	60°	6V-1,5Ah NiCd	Non-Maintained
O-EL28M-AUT	Star22 8W M Autotest 60min	FL8WG5	230 Lm	60°	6V-1,5Ah NiCd	Maintained
O-EL20 MAINS	Star22 8W Mains	FL8W G5				Mains
O-EL20A MAINS	Star22 11W Mains	PL11W 2G7				Mains
O-EL20B MAINS	Star22 18W Mains	PL18W 2G11				Mains

Accessories

O-EL20RW	Wall mounting base
O-EL20RB	Flush mounting base
O-DS20	Double side diffuser
O-EL20PS	Diffuser & legend (blank)
O-EL20PSD	Diffuser & legend (down)
O-EL20PSLR	Diffuser & legend (left/right)

2.11 Indoor emergency lighting

Cronus8W

2



- Compliant to EN 60 598-2-22
- Certificated by ENEC Kema Keur
- IP rating IP40
- High temperature batteries Ni-Cd
- Autotest & models

Light Source:

8W FL8W G5

Cronus 8W is a modern stylish emergency luminaire that utilises an 8 watt fluorescence lamp, able to provide suitable luminosity to several types of installations.

Construction:

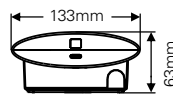
Base, mounting plate and cover, fire retardant ABS, lens optical grade acrylic

A discreet test button is built in to the luminaire giving the opportunity for a quick and easy functional test to be undertaken by anyone that needs to check the luminair's status.

A full range of accessories are available. These include a recessed base for wall or flush mounting and a plexiglass sign for installing the luminaire as an exit sign.

Operation:

Maintained, Non-Maintained, Autotest, slave and CBS models available



Applications:

Residential applications, offices, hotels, restaurants and schools

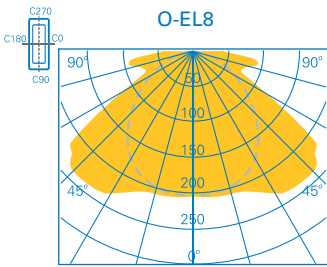
Button for manual test



O-EL8RB



O-EL8PSLR



Model	Height (m)	Distance for 1 Lux				Distance for 0,5 Lux			
O-EL8									
	02,60	03,33	07,98	02,42	06,33	04,49	09,01	03,67	07,86
	02,80	03,34	08,30	02,43	06,44	04,65	09,54	03,72	08,03
	03,00	03,34	08,57	02,43	06,64	04,78	09,99	03,82	08,26
	03,20	03,37	08,81	02,41	06,70	04,90	10,24	03,85	08,49
	03,50	03,29	09,29	02,36	06,81	05,14	10,78	03,90	08,77
	04,00	03,04	09,43	02,13	06,95	05,22	11,82	03,98	09,20

Order code	Description					
O-EL8	Cronus 8W NM 90min	FL8WG5	100 Lm	90'	2,4V-1,5Ah NiCd	Non-Maintained
O-EL8-3H	Cronus 8W NM 180min	FL8WG5	115 Lm	180'	6V-1,5Ah NiCd	Non-Maintained
O-EL8C	Cronus 2x8W NM 90min	FL2x8WG5	250 Lm	90'	6V-1,5Ah NiCd	Non-Maintained
O-EL8M	Cronus 8W M 90min	FL8WG5	100 Lm	90'	2,4V-1,5Ah NiCd	Maintained
O-EL8M-3H	Cronus 8W M 180min	FL8WG5	115 Lm	180'	6V-1,5Ah NiCd	Maintained
O-EL8SU	Cronus 8W S 90min	FL8WG5	85 Lm	90'	2,4V-1,5Ah NiCd	Sustained
O-EL8SU-3H	Cronus 8W S 180min	FL8WG5	100 Lm	180'	6V-1,5Ah NiCd	Sustained
O-EL8-AUT	Cronus 8W NM Autotest 60min	FL8WG5	240 Lm	60'	6V-1,5Ah NiCd	Non-Maintained
O-EL8M-AUT	Cronus 8W M Autotest 60min	FL8WG5	240 Lm	60'	6V-1,5Ah NiCd	Maintained
O-EL8MAINS	Cronus 8W Mains	FL8W G5				Mains

Accessories

O-EL8PSLR	Double side exit sign (Left/Right)
O-EL8PSD	Double side exit sign (Down)
O-EL8RB	Recessed base (both for wall or flush mounting)



- Low profile 4.8cm height
- Unique elegant design
- Easy to install
- Compliant to EN 60 598-2-22
- Certificated by ENEC Kema Keur
- IP rating IP42
- High temperature batteries Ni-Cd
- Opal diffuser version (EL5)
- Autotest version

Light Source:

6W FL6WT5

Construction:

Base, mounting plate and cover, fire retardant ABS, lens optical grade acrylic

Operation:

Maintained and Non-Maintained

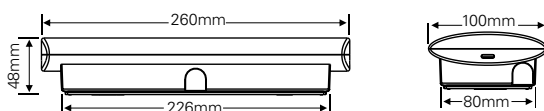
Applications:

Residential applications, offices, hotels, restaurants, schools

Cronus 6W is a compact low profile luminaire with a stylish design which offers an attractive emergency lighting solution for a wide variety of areas.

An additional small incandescence lamp is embodied in Cronus 6W indicating the normal charging mode while providing a smart night light solution.

A full range of accessories are available. These include a recessed base for wall or flush mounting, a plexiglass sign for installing the luminaire as an exit sign, as well as the opal diffuser version.



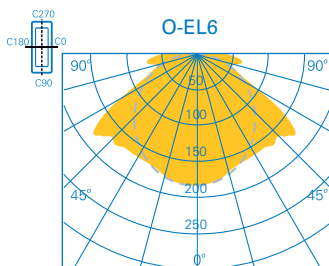
O-EL5



O-EL8RB



O-EL8PSLR



Model	Height (m)	Distance for 1 Lux				Distance for 0,5 Lux			
O-EL6									
	02,60	02,32	06,95	01,96	05,58	03,98	08,32	03,29	07,16
	02,80	02,22	07,17	01,92	05,62	04,08	08,62	03,31	07,35
	03,00	02,03	07,25	01,85	05,65	04,13	08,90	03,33	07,46
	03,20	01,89	06,98	01,75	05,68	03,99	09,24	03,34	07,63
	03,50	01,56	06,62	01,56	05,65	03,81	09,63	03,32	07,77
	04,00	00,89	06,18	00,92	05,40	03,59	10,20	03,20	08,00








Order code	Description					
O-EL5	Cronus 6W NM 90min with Opal diffuser	FL6W T5		90'	2,4V-1,5Ah NiCd	Non-Maintained
O-EL6	Cronus 6W NM 90min	FL6W T5	60 Lm	90'	2,4V-1,5Ah NiCd	Non-Maintained
O-EL6-3H	Cronus 6W NM 180min	FL6W T5	70 Lm	180'	6V-1,5Ah NiCd	Non-Maintained
Accessories						
O-EL6PSLR	Double side exit sign (Left/Right)					
O-EL6PSD	Double side exit sign (Down)					
O-EL6RB	Recessed base (both for wall or flush mounting)					





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3.4	Planete 60D	59
3.5	UltraLED 45	60
3.6	Britesign 2	61
3.7	EvoLED	62
3.8	Via	63

Emergency lighting exit signs

		Indoor	Recessed	Suspended	Ni-Cd	Ni-Mh	Li-Ion	Self contained Maintained	Autotest	Viewing Distance in meters	Hospitals	Hotels	Cinemas/Theaters	Schools	Offices	Industrial	Warehouse	
		Installation			Battery			Operation			Applications							
GuideLED		●	●	●			●		●	20/30	●	●	●	●	●			
Velos		●	●	●	●	●		●	●	30/40	●	●	●	●	●	●	●	●
Euro X LED		●					●		●	20	●	●	●	●	●	●	●	●
Planete 60D		●	●		●				●	21	●	●	●	●	●			
UltraLED 45		●	●		●				●	21	●	●	●	●	●			
Britesign 2		●			●			●	●	33	●	●	●		●	●	●	
EvoLED		●			●				●	28	●	●	●	●	●			
Via		●		●	●			●		30	●	●	●	●	●			

The information given in this brochure is accurate at the time of compilation (errors and omissions excepted), however due to Eaton philosophy of constant product development we reserve the right to change specifications without prior notice.

3.1

Emergency lighting exit signs

GuideLED

3



- Unit with innovative LED technology
- Complies with EN60598-2-22 and En1838
- Lithium Batteries
- Range selectable 1h, 3h and 8h
- Push button for test operation
- Wall, ceiling, suspension
- Version 20m and 30m visibility
- Selectable autonomy of 1h, 3h and 8h
- Available for ceiling mounting and recessed applications

Light Source:

LED Strip with 3-chip technology with a lifetime of 50.000 hours

Consumption of 4.1W for models from 20m and 4.7W for models from 30m

Construction:

Housing unit in light grey polycarbonate

Panel polymethylmethacrylate PMMA

Brackets for steel suspension

Operation:

Maintained (M) and Non-Maintained (NM) and CBS models available

Adjustable brightness function, standing at 100%, 30% and 10%

Range selectable 1h, 3h and 8h

Installation options: Wall, ceilings and recessed

Ceiling, recessed, stiff suspension and cable versions

External push button for manual execution of test

Applications:

Hotels, restaurants, meeting rooms, offices, shops, cinemas, theaters, museums

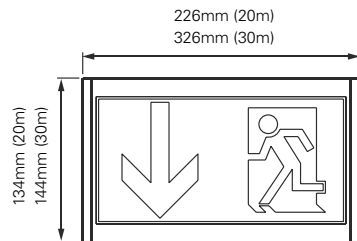
Particularly suitable for local public performance by adjusting the brightness

GuideLED, demonstrates that compliance with regulations, and multiple mounting options does not exclude an exemplary design. It has been developed in accordance with the provisions of ISO 3864-1, including the requirement of 500cd/m² within the white surface, ensuring optimal recognition and a high level of safety.

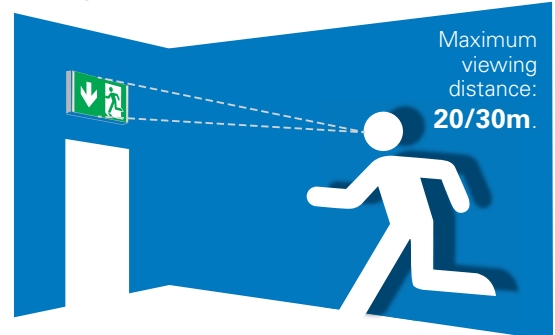
The highly developed Lightguide technology transforms the high point-sourced luminance of an LED into an illuminated surface with absolute uniform brightness. The 3-chip LEDs used in this process ensure a high level of operational safety and with a service life of 50.000 hours, significantly reduce maintenance efforts.

Its minimised power consumption of up to 60% below a comparable luminaire with fluorescent lamp also ensures a distinct reduction in operating cost.

The wide variety of versions available make the GuideLED escape sign luminaire a versatile solution. Featuring viewing distances of 20m or 30m, single-sided or double-sided options and multiple mounting types, they are ideal for a variety of room sizes and applications. Concealed connections and a slim-line construction also offer users an innovative solution and design.



Viewing distance



3-Chip LEDs for increased safety

Longevity, instant start up, high efficiency and compact size are the features that make LEDs especially suitable for emergency and safety lighting. Precise matching along with low temperatures and low operating current guarantees high luminous efficiency with maximum service life.

Up to 48 LEDs optimally illuminate the GuideLED pictogram. Three LEDs are encapsulated in a common housing to form each light point. If one of the three LEDs fails, the intact LEDs illuminate more brightly. This ensures excellent illumination on a permanent level.



1 LED Lightguide technology

- Perfect, standard compliant illumination
- Low energy requirements
- 3-Chip LEDs for increased safety with 50.000 hours service life

2 CGLine LED electronics

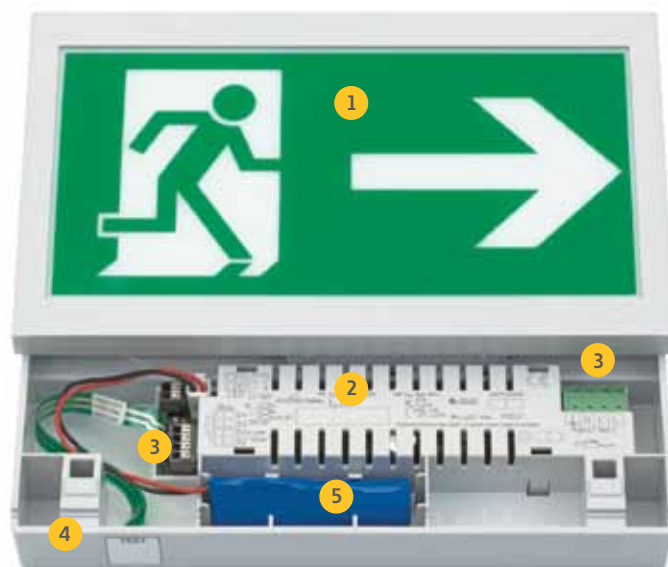
- Can be used for Maintained mode and Non-Maintained mode
- Fully automatic function test (weekly) or duration test (every 6 months)
- 1 minute switch-back delay to normal operation after mains return
- Blocking function prevents unintentional discharge during idle operating times (via CG controller CGLine 400 or CGLine WEB interface)
- Convenient and concise central monitoring in combination with CG Controller, CG Web interface or CG Vision visualisation Software

3 Optimised connection technology

- Spacious insertion areas
- Equipped for through-wiring of mains cable and CGLine bus live double terminals and 4 cable terminals

4 Display and test unit

- Testing button for manual triggering of function test and duration test
- Simple fault analysis with bicolor LED (light source charging or battery fault) and status display (operation, function test, duration test)
- Setting of dimming level in mains operation (100%, 30%, 10%)



5 Innovative Lilon technology

- Large capacity with compact design
- 1 version for 1h, 3h and 8h emergency lighting operation
- No memory effect
- Environmental friendly: no heavy metals and energy-optimized charging process due to low self-discharge
- Simple replacement via polarity reversal protected plug-in contacts and snap mounting

Lightguide technology for optimal illumination

The highly developed Lightguide technology converts the high point-sourced luminance of the LED into an illuminated surface with absolute uniform brightness, with luminance of over 50 cd/m² on white surface. Therefore the escape sign always remains easily recognisable even with poor visibility conditions or in bright surroundings.

Despite the very good photometric values, the new Lightguide technology with particularly efficient LEDs requires up to 60% less energy compared to previous escape sign luminaires with fluorescent lamps.

Photometric requirements for escape sign

DIN 4844-1 (2005-05) and ISO 3864-1 (2002):

$L_m \geq 500 \text{ cd/m}^2$ (white surface)

For applications in bright ambient conditions (mains operation)

ISO 30061 (2007):

$L_{min} = 10 \text{ cd/m}^2$ (green surface)

In smoky conditions. The luminaires should be suspended by at least 0.5m

EN 1838 (1999):

$L_{min} = 2 \text{ cd/m}^2$ (green surface)

Emergency lighting operation



Badly illuminated escape sign



GuideLED $\geq 100 \text{ cd/m}^2$ $\geq 500 \text{ cd/m}^2$

3.1

Emergency lighting exit signs

GuideLED

Wall Mount



GuideLED 10811 - 20m
GuideLED 11811 - 30m

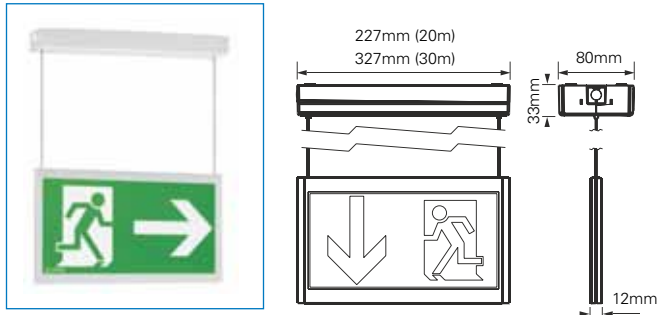
Wall Recessed



GuideLED 10812 - 20m
GuideLED 11812 - 30m

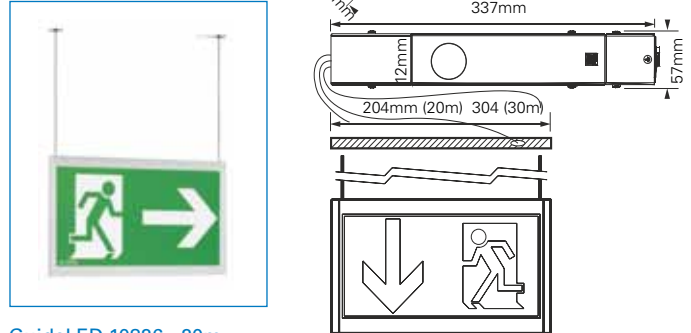
Order code	Description				
40071353080	Wall mounting set for GuideLED, 20m and 30m		1h-3h-8h	Lilon 3,7 / 2Ah	
40071353070	Recessed mounting set for GuideLED, 20m and 30m		1h-3h-8h	Lilon 3,7 / 2Ah	Maintained / Non-Maintained
40071353050	LED pictogram (left), 11x11/11x12, 20m	LED strip			
40071353051	LED pictogram (right), 11x11/11x12, 20m	LED strip			
40071353052	LED pictogram (down), 11x11/11x12, 20m	LED strip			
40071353150	LED pictogram (left), 11x11/11x12, 30m	LED strip			
40071353151	LED pictogram (right), 11x11/11x12, 30m	LED strip			
40071353152	LED pictogram (down), 11x11/11x12, 30m	LED strip			

Ceiling mounted Suspended



GuideLED 10825 - 20m
GuideLED 11825 - 30m

Ceiling mounted Suspended by cable



GuideLED 10826 - 20m
GuideLED 11826 - 30m

Order code	Description				
40071353065	Rope set 10825, intergated in canopy, 20m		1h-3h-8h	Lilon 3,7 / 2Ah	Maintained / Non-Maintained
40071353075	Rope set 10825, intergated in canopy, 30m		1h-3h-8h	Lilon 3,7 / 2Ah	Maintained / Non-Maintained
40071353081	Rope set 10826/11826, with ceiling holders, 20/30m		1h-3h-8h	Lilon 3,7 / 2Ah	Maintained / Non-Maintained
40071353450	LED pictogram (left/right), 10x25/10x26 (rope), 20m	LED strip			
40071353550	LED pictogram (left/right), 11x25/11x26 (rope), 30m	LED strip			
40071353451	LED pictogram (down), 10x25/10x26 (rope), 20m	LED strip			
40071353452	LED pictogram (down/blank), 10x25/10x26 (rope), 20m	LED strip			
40071353453	LED pictogram (left/blank), 10x25/10x26 (rope), 20m	LED strip			
40071353454	LED pictogram (right/blank), 10x25/10x26 (rope), 20m	LED strip			
40071353551	LED pictogram (down), 11x25/11x26 (rope), 30m	LED strip			
40071353552	LED pictogram (down/blank), 11x25/11x26 (rope), 30m	LED strip			
40071353553	LED pictogram (left/blank), 11x25/11x26 (rope), 30m	LED strip			
40071353554	LED pictogram (right/blank), 11x25/11x26 (rope), 30m	LED strip			



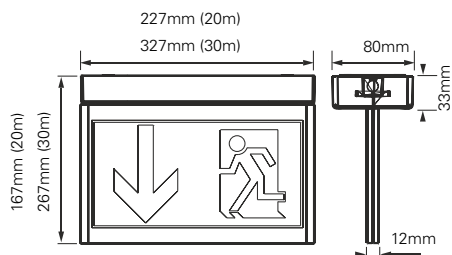
Rope installation with ceiling rope holders, LED supply and CGLine technology for mounting in cavity ceiling

Ceiling Mount



GuideLED 10821 - 20m

GuideLED 11821 - 30m

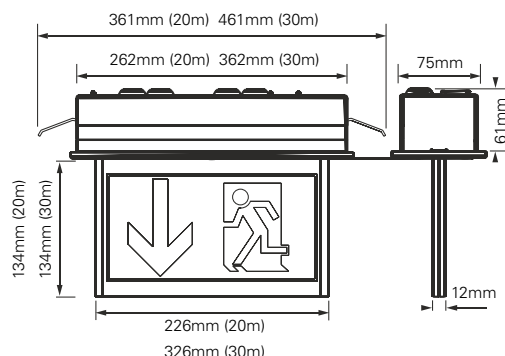


Ceiling Recessed



GuideLED 10824 - 20m

GuideLED 11824 - 30m



Ceiling Suspended

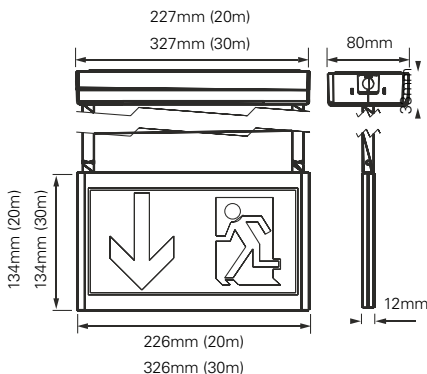


GuideLED 10822 - 20m - bracket 0,5m

GuideLED 11822 - 30m - bracket 0,5m

GuideLED 10823 - 20m - bracket 1,5m

GuideLED 11822 - 30m - bracket 1,5m



Order code	Description				
40071353061	Ceiling mounting set 10821, with canopy 20m		1h-3h-8h	Lilon 3,7 / 2Ah	Maintained / Non-Maintained
40071353062	Ceiling mounting set 10822, with canopy and 0,5m bracket, 20m		1h-3h-8h	Lilon 3,7 / 2Ah	Maintained / Non-Maintained
40071353063	Ceiling mounting set 10823, with canopy and 1,5m bracket, 20m		1h-3h-8h	Lilon 3,7 / 2Ah	Maintained / Non-Maintained
40071353064	Ceiling mounting set 10824, ceiling recessed housing, 20m		1h-3h-8h	Lilon 3,7 / 2Ah	Maintained / Non-Maintained
40071353071	Ceiling mounting set 11821, with canopy 30m		1h-3h-8h	Lilon 3,7 / 2Ah	Maintained / Non-Maintained
40071353072	Ceiling mounting set 11822, with canopy and 0,5m bracket, 30m		1h-3h-8h	Lilon 3,7 / 2Ah	Maintained / Non-Maintained
40071353073	Ceiling mounting set 11823, with canopy and 1,5m bracket, 30m		1h-3h-8h	Lilon 3,7 / 2Ah	Maintained / Non-Maintained
40071353074	Ceiling mounting set 11824, ceiling recessed housing, 30m		1h-3h-8h	Lilon 3,7 / 2Ah	Maintained / Non-Maintained
40071353250	LED pictogram (left/right), 10x21/10x22, 10x23, 10x24 20m	LED strip			
40071353251	LED pictogram (down/down), 10x21/10x22, 10x23, 10x24 20m	LED strip			
40071353252	LED pictogram (down/blank), 10x21/10x22, 10x23, 10x24 20m	LED strip			
40071353253	LED pictogram (left/blank), 10x21/10x22, 10x23, 10x24 20m	LED strip			
40071353254	LED pictogram (right/blank), 10x21/10x22, 10x23, 10x24 20m	LED strip			
40071353255	LED pictogram (left/right), 10x21/10x22, 10x23, 10x24 20m vertical	LED strip			
40071353256	LED pictogram (left/right), 10x21/10x22, 10x23, 10x24, 20m vertical	LED strip			
40071353 350	LED pictogram (left/right), 11x21/11x22, 11x23, 11x24 30m	LED strip			
40071353 351	LED pictogram (down/down), 11x21/11x22, 11x23, 11x24 30m	LED strip			
40071353 352	LED pictogram (down/blank), 11x21/11x22, 11x23, 11x24 30m	LED strip			
40071353 353	LED pictogram (left/blank), 11x21/11x22, 11x23, 11x24 30m	LED strip			
40071353 354	LED pictogram (right/blank), 11x21/11x22, 11x23, 11x24 30m	LED strip			
40071353 355	LED pictogram (left/right), 11x21/11x22, 11x23, 11x24 30m vertical	LED strip			
40071353 356	LED pictogram (left/right), 11x21/11x22, 11x23, 11x24 30m vertical	LED strip			

3.2

Emergency lighting exit signs

Velos

3



- Unit with innovative LED technology Certified family of emergency exit signs in accordance to EN 60598-2-22
- 3rd party certification
- Nickel Metal Hydride Batteries
- Push button for test operation
- Ceiling, wall, suspension, recessed and lateral installation
- Models of 30m and 40m visibility
- Test functions
- Complete range of accessories

Light Source:

LED Strip with a lifetime of more than 60.000 hours
24 LEDs producing 140 lumens

Materials:

Base and reflector unit in white Polycarbonate

Operation:

Maintained, slave and CBS models available
Autonomy from 1h up to 3h
Adjustable brightness function to 50% in mains operation
Functional test button
Telecommand, Inhibition operation
Autotest and Slave models available

Installation:

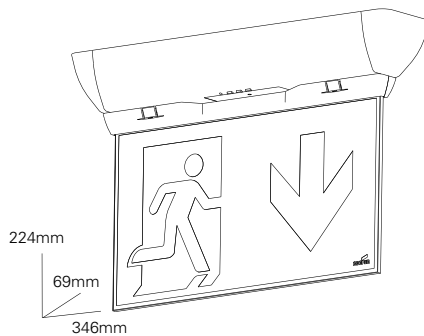
Ceiling, wall, recessed, suspended through rope or metal pipe and lateral installation
No special tools required

Applications:

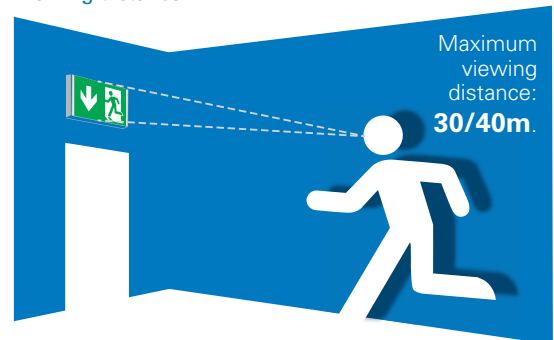
Schools, universities, public administration, commercial environments
Hotels, restaurants, meeting rooms, offices, shops, cinemas, theaters, museums
Areas with large heights and long distance view requirements

The new Velos family of emergency lighting is designed and equipped with technical solutions that make it suitable for a wide range of applications. A complete range of accessories such as the recessed base for false ceiling installations, lateral and back base as well as suspension options allow for a variety of mounting positions.

Together with the choice of ISO and EURO exit sign labels, the Velos LED range is appropriate for emergency lighting requirements in multiple of places such as offices, restaurants, hotels, hospitals and general commercial applications.



Viewing distance



Distance view of 30 / 40 meters provides the ability to use fewer products and less power consumption per coverage area of an application.



Power Supply Unit

- 1 • Easy to install with no use of special tools required.
 - Environmentally friendly: no heavy metals and energy-optimized charging process due to low self-discharge.
- 2 • Easy to connect power cables via screwless connectors for up to 2.5mm² cables.
- 3 • Multiple entrance points for power cables through base and main body of the power supply unit.
 - Construction Material: Polycarbonate.
 - Large capacity NiMH batteries with small construction size for compact luminaire design.

4 Velos electronics

- Fully automatic function test (weekly) or duration test (every 10 weeks).
- Testing button for manual triggering of function test.
- Autotest models available with simple fault analysis with two LED indication of battery / LED test and status display (operation, function test, duration test, failure).
- Easily set the level in mains operation to 50% or 100%.
- Increased product reliability with LED matrix orientation. By groups of 3, if one of the 24 LEDs fails, the intact LEDs will illuminate more brightly.



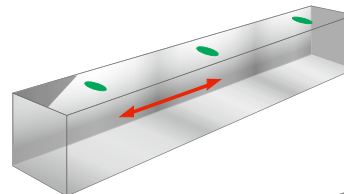
5 Velos Exit Sign

- Design life time: exceeding 60.000 hours lifetime expectancy using an EN1838 standard plate of 4mm thickness with 24 LED producing 140lm with minimum 240 cd/m² on white surface.
- 6 • Simple parts clicking with each other ensuring fast installation.

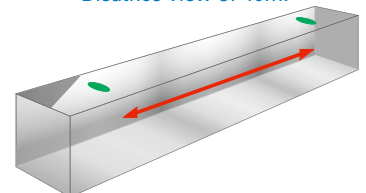
Velos distance view

- Velos provides a solution regarding distance view and emergency exit signs
- Distance view from 30 up to 40 meters, minimizing the number of lights into an installation, reducing the energy consumption of the emergency lighting in a building and installation and maintenance cost.
- Various accessories for ease of installation aiming to accommodate all possible applications and areas, with recessed base, wall mounting accessories, lateral direction base, suspended from ceiling either with rope or metal pipes.

Distance view of 20m.



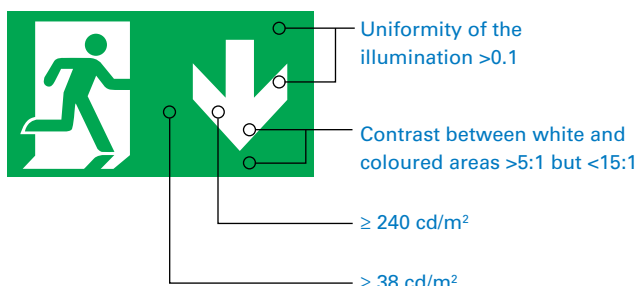
Distance view of 40m.



Velos optimal illumination

New exit sign plate used in Velos converts the high luminance of the LED into an illuminated surface with homogeneous brightness, with luminance of over 38 cd/m² on the white surface. As such the escape sign always remains easily recognisable even with poor visibility conditions or in bright surroundings.

Velos LEDs illuminate with a high efficiency of more than 112lm/W.



Photometric requirements for escape sign

EN 1838 (1999), Emergency lighting operation:

$L_{min} = 2 \text{ cd/m}^2$ (green surface) $L_{green} \geq 2 \text{ cd/m}^2$

$L_{white} \geq 10 \text{ cd/m}^2$

$5 \leq L_{white} / L_{green} \leq 15$

ISO 30061 (2007), When smoke is prime consideration:

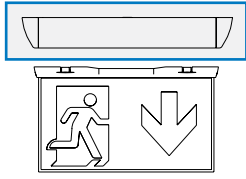
$L_{green} \geq 10 \text{ cd/m}^2$

$L_{white} \geq 50 \text{ cd/m}^2$

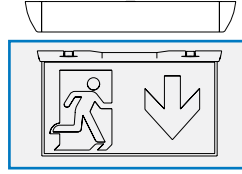
3.2

Emergency lighting exit signs

Velos



PSU unit of Velos (order separately)

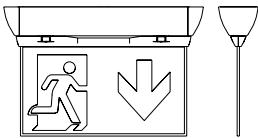


Exit sign of Velos (order separately)

Order code			
O-ESC	Velos PSU 1,5h NiCd	1,5h	4VTCs NiCd 1600mA
O-ESC-3H	Velos PSU 3h NiCd	1,5h	4VTCs NiCd 1600mA
O-ESMAINS	Velos PSU Mains		

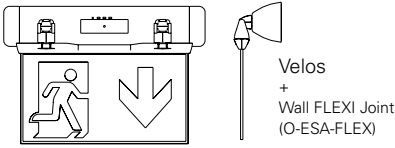
Order code			
O-ESM-AT	Velos PSU 1h NiMH Autotest	1h	4AA NiMH 1100mA
O-ESM-AT-3H	Velos PSU 3h NiMH Autotest	3h	4VTCs NiMH 2000mA

Ceiling mount



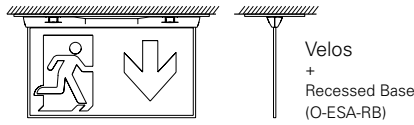
PSU + Exit Sign → Velos

Wall mount



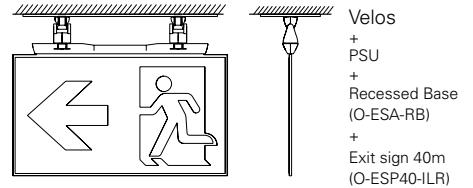
Velos + Wall FLEXI Joint (O-ESA-FLEX)

Recessed (30m)



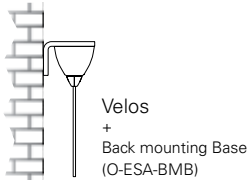
Velos + Recessed Base (O-ESA-RB)

Recessed (40m)



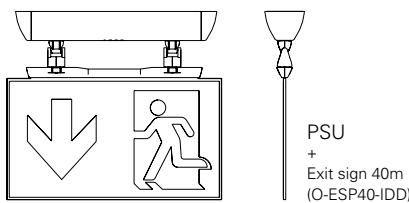
Velos + PSU + Recessed Base (O-ESA-RB) + Exit sign 40m (O-ESP40-ILR)

Back wall mount



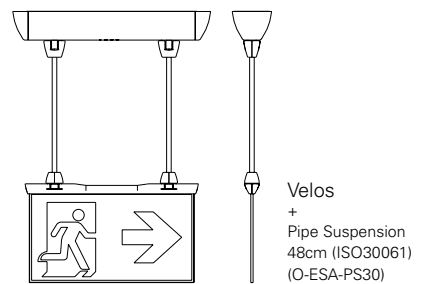
Velos + Back mounting Base (O-ESA-BMB)

Ceiling mount (40m)



PSU + Exit sign 40m (O-ESP40-IDD)

Suspended with metal pipes



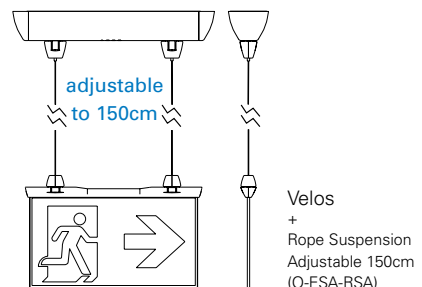
Velos + Pipe Suspension 48cm (ISO30061) (O-ESA-PS30)

Lateral mount



Velos + Lateral Base (O-ESA-LMB)


























Suspended with adjustable rope



Velos + Rope Suspension Adjustable 150cm (O-ESA-RSA)

Accessories

Order code	Description
O-ESA-RB	Velos Recessed base
O-ESA-FLEX	Velos Wall FLEXI Joint
O-ESA-RSA	Velos Rope Suspension adjustable 150cm
O-ESA-PS30	Velos Pipe Suspension 48cm (ISO30061)
O-ESA-LMB	Velos Lateral Mounting Base
O-ESA-BMB	Velos Back Mounting Base

Order code	Description		Dimensions	
O-ESP-ELR	Velos pictogram EURO LEFT/RIGHT 30m	24 LEDs	288x165	
O-ESP-ED	Velos pictogram EURO DOWN/BLANK 30m	24 LEDs	288x165	
O-ESP-EDD	Velos pictogram EURO DOWN/DOWN 30m	24 LEDs	288x165	
O-ESP-EU	Velos pictogram EURO UP/BLANK 30m	24 LEDs	288x165	
O-ESP-EUU	Velos pictogram EURO UP/UP 30m	24 LEDs	288x165	
O-ESP-E2R	Velos pictogram EURO Lateral to Room	24 LEDs	288x165	
O-ESP-E2W	Velos pictogram EURO Lateral to Wall	24 LEDs	288x165	
O-ESP-ILR	Velos pictogram ISO LEFT/RIGHT 30m	24 LEDs	288x165	
O-ESP-ID	Velos pictogram ISO DOWN/BLANK 30m	24 LEDs	288x165	
O-ESP-IDD	Velos pictogram ISO DOWN/DOWN 30m	24 LEDs	288x165	
O-ESP-IU	Velos pictogram ISO UP/BLANK 30m	24 LEDs	288x165	
O-ESP-IUU	Velos pictogram ISO UP/UP 30m	24 LEDs	288x165	
O-ESP-I2R	Velos pictogram ISO Lateral to Room	24 LEDs	288x165	
O-ESP-I2W	Velos pictogram ISO Lateral to Wall	24 LEDs	288x165	
O-ESP-RUS	Velos pictogram Russian Exit 30m	24 LEDs	288x165	
O-ESP40-ILR	Velos pictogram ISO LEFT/RIGHT 40m	24 LEDs	370x220	
O-ESP40-IDD	Velos pictogram ISO DOWN/DOWN 40m	24 LEDs	370x220	
O-ESP-H	Velos Hydrant pictogram 30m	24 LEDs	288x165	
O-ESP-FHD	Velos Fire hose down 30m	24 LEDs	288x165	
O-ESP-FH-EXT	Velos Fire hose & extinguisher 30m	24 LEDs	288x165	
O-ESP-WIRL	Velos pictogram Wheel ISO LEFT/RIGHT 30m	24 LEDs	288x165	
O-ESP-WIDD	Velos pictogram Wheel ISO DOWN/DOWN 30m	24 LEDs	288x165	
O-ESP40-WILR	Velos pictogram Wheel ISO LEFT/RIGHT 40m	24 LEDs	370x220	
O-ESP40-WIDD	Velos pictogram Wheel ISO DOWN/DOWN 40m	24 LEDs	370x220	



3.3

Emergency lighting exit signs

Euro X LED

3



- For wall and ceiling mounting
- Protection class IP54
- Including pictogram set
- Low operating costs via low connected load
- Environmentally-friendly lithium ion battery
- Automatic test functions
- LEDs with high service life

Light Source:

5 LED of 4,5W

Low operating costs via low connected load (3.2 W)

Minimum maintenance effort and increased safety via use of LEDs with high service life (50,000 hours)

Materials:

Polycarbonate body and diffuser

Installation:

Wall mounting, ceiling mounting

Universal use: The luminaire is universally suitable for wall and ceiling mounting and has IP54 protection rating, including pictogram set (arrow right, left and down) acc. to ISO 7010

3h emergency light duration with an environmentally-friendly lithium ion battery

Operation:

Maintained and Non-Maintained operation selectable via a sliding switch

LED self-contained luminaire with automatic test functions: Battery operation is tested once weekly and battery capacity twice yearly.

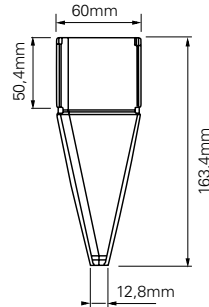
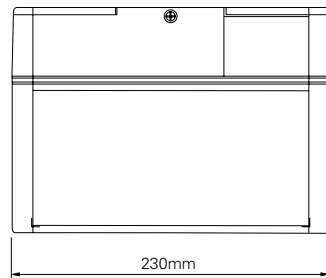
Test results are displayed via a dual colour LED.

Applications:

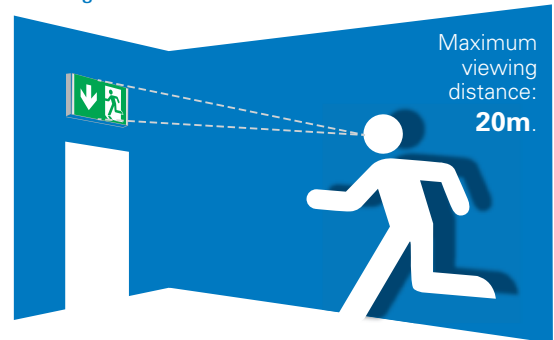
Hotels, restaurants, offices, shops, cinemas, theaters, museums

Euro X LED exit sign has been developed to meet a wide spectrum of requirements, with no compromises to quality or functionality despite the diversity of product features.

The self-contained luminaire features universal mounting, lithium ion technology and a high IP54 protection rating making it a flexible low maintenance solution with a long service life.





Viewing distance



Ceiling mounting



Wall mounting

Order code	Description				
40071354900	Euro X LED, 3h Autotest	5LED 3.2W	180'	3.7 V / 2.000 mAh	Maintained / Non-Maintained



- Unique elegant design
- Wall or ceiling
- Autotest
- Low energy consumption

Light Source:

2 white LED

No relamping: 100%-LED unit

Materials:

Interchangeable battery pack

Operation:

Maintained

Autotest in standard version

Automatic execution of all regulatory tests

Installation:

Wall and ceiling installations

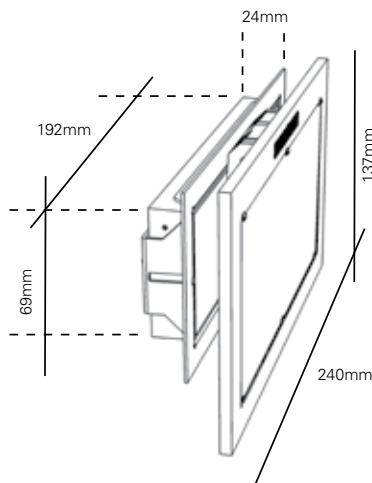
Applications:

Schools, offices, hotels, restaurants, warehouses

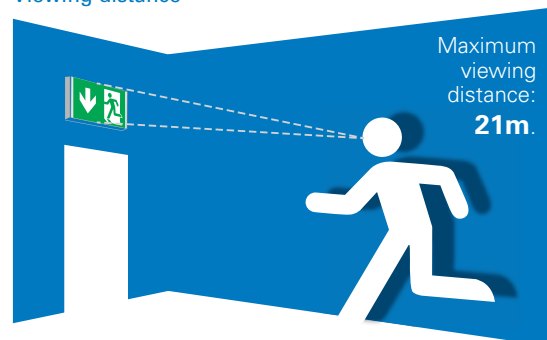
Planete 60 combines the long life and low maintenance benefits of LED technology along with a light design making the product applicable to almost all stylish applications where emergency light is used.

Energy efficient and autotest reliable operation assures the long life of the LED light source, which is monitored by an integral self test system.

Planete 60 can be mounted in wall and ceiling installations.



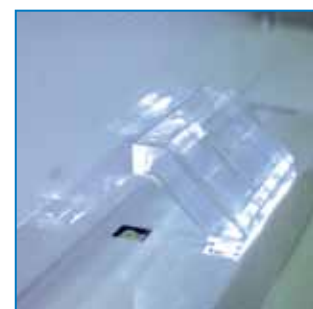
Viewing distance







Planete60, ceiling application



Planete60, wall application



Planete60, LED light distribution technology

Order code	Description				
LUM17002	Planete 60	2 white LED	60'	4x1,2V - 0,8Ah	Maintained
Accessories					
LUM10514	Recessed Base				
LUM10518	Legend Down				
LUM10517	Legend Left / Right				

3.5

Emergency lighting exit signs

UltraLED 45

3



- Unique elegant design
- Wall or ceiling
- Autotest
- Low energy consumption
- Weatherproof model available

Light Source:

2 x 1,6W Power LED

Reduced consumption (< 1.6W)

No relamping: 100%-LED unit

Materials:

Compact casing

Translucent honeycomb-shaped bracket for fast, universal fixing

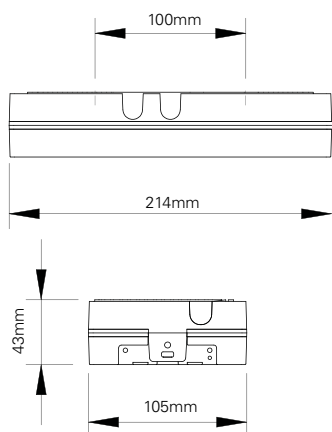
Non-polarised remote control entries

Interchangeable battery pack

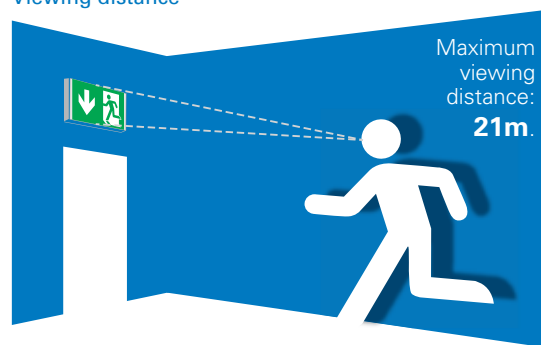
Connection to screwless terminals

Colour: white RAL 9010

UltraLED 45 is an exit sign which can be altered according to the user and application requirements. With the smart change of the exit sign pictograms, it can be used in horizontal or vertical orientation. It has a long life duration as well as low maintenance with its autotest reliable operation. UltraLED 45 can be mounted in wall installations.



Viewing distance



Installation:

Wall and ceiling mounting

Applications:

Domestic applications, houses, flats, offices



Easy installation and cabling



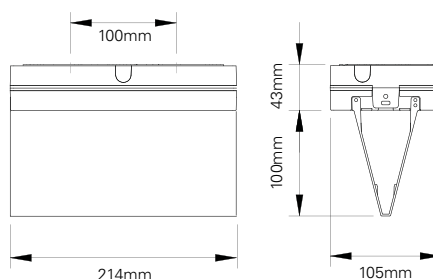
Exit sign orientation and easy mounting of the unit







LUM16005



Recessed installation and diffuser accessory



Order code	Description				
LUM16025	UltraLED 45	2 x 1,6W LED	60'	4X1,2V - 0,8Ah	Maintained
LUM16005	UltraLED 45 IP66	2 x 1,6W LED	60'	4X1,2V - 0,8Ah	Maintained

Accessories

LUM10534	Recessed Base
LUM10533	Double side diffuser



- Ultra low profile design
- 50.000 hour LED source for minimum maintenance
- EN1838 compliant legend panel
- Bezel colour options on request
- Autotest models available

Light Source:

High intensity 3W white LED strip

Materials:

Housing steel, powder coated in RAL9016 finish

Bezel die cast Aluminum, satin anodised or powder coated in RAL9016 finish

Legend panel clear acrylic with screen print legend

Installation:

Suitable for wall mounting

First fix body with rear BESA entry and 20mm conduit entry on top face

Direct fix via keyhole slots

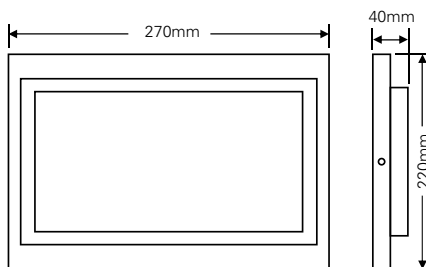
Bezel assembly screwed securely to base

Applications:

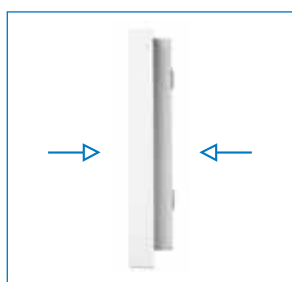
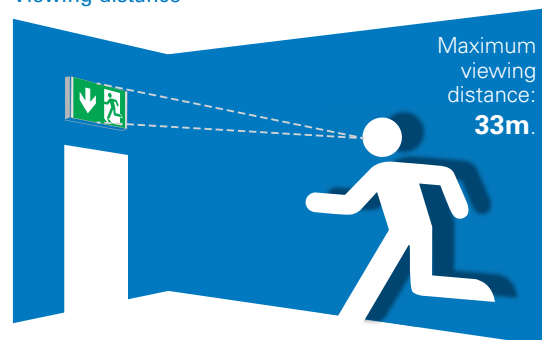
Hotels, restaurants, cinemas, theaters, schools and hospitals

Using the latest in LED technology Britesign 2 has been remodeled to suit most prestigious installations and commercial interiors. It has an ultra low profile of 40mm and the stepped bezel creates an even slimmer appearance which makes this LED exit sign blend unobtrusively into almost any environment.





The picture frame style die cast aluminum bezel is available in satin anodised finish as well as the ever popular white and houses a 33m viewing distance legend panel. The 50.000 hour long life LED source provides outstanding savings in lamp replacement and maintenance costs when compared to a traditional 8W lamp.



Viewing distance



40mm slim profile of Britesign 2 minimised further using stepped frame design

Order code	Description				
BS2M	Britesign 2, Maintained	3W LED strip	180'	4,8V - 1,6Ah	Maintained
BS2MIS	Britesign 2, Maintained, Autotest	3W LED strip	180'	4,8V - 1,6Ah	Maintained
BS2MA	Britesign 2, Maintained, Aluminum finish	3W LED strip	180'	4,8V - 1,6Ah	Maintained
BS2MAIS	Britesign 2, Maintained, Autotest, Aluminum	3W LED strip	180'	4,8V - 1,6Ah	Maintained
BS2S230	Britesign 2, Mains	3W LED strip			Mains
BSAD	Legend Down				
BSAL	Legend Left				
BSAR	Legend Right				

3.7

Emergency lighting exit signs

EvoLED



- Sleek modern looks blends into most environments
- 50.000 hour LED source for minimum maintenance
- Self-test as standard
- EN1838 compliant legend for uniformity of appearance
- White or silver finish

Light Source:

1W high output high efficiency side emitting white LED

Materials:

Body and housing polycarbonate

Legend panel clear acrylic with pre-applied screen printed legend

Batteries NiMH

Operation:

Maintained 1 or 3 hour duration
Choice of colour finishes

Installation:

Suitable for ceiling and wall mounting

Screwless snap together assembly

Legend panel has a self locking mechanism to prevent malicious removal

Push in connectors for mains supply cables

Applications:

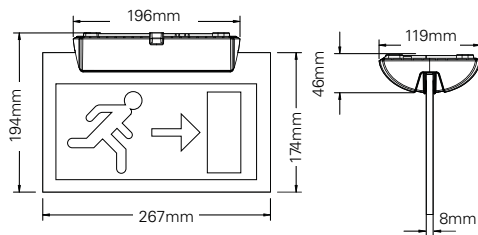
Hotels, cinemas, theaters, schools and hospitals

EvoLED combines the long life and low maintenance benefits of LED technology with energy efficient operation and prestigious styling to produce an exit sign suitable for almost any application.

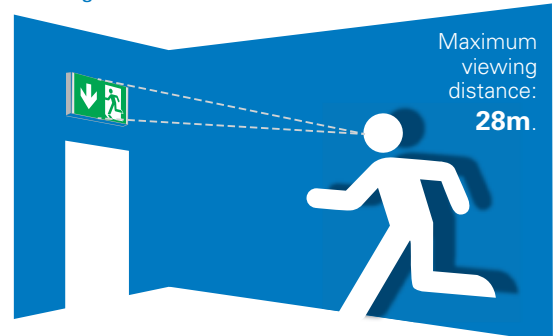
Available in a choice of either white or silver color finishes, EvoLED is quick and simple to assemble with a snap together design incorporating a self locking clip in legend panel.

Reliable operation is assured by the long life LED light source, which is monitored by an integral self test system.

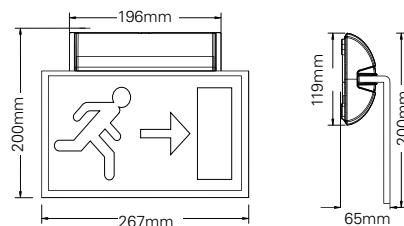
Thanks to the patented lighting technology EvoLED signage luminaires comply with only an LED light source all the required standards. EvoLED is available standard in white and aluminum.







Viewing distance



Wall mount plexiglass



Order code	Description				
100-001-105	EvoLED white, 1h, Autotest	1W LED	60'	4,8V - 1,25Ah	Maintained
100-001-115	EvoLED silver, 1h, Autotest	1W LED	60'	4,8V - 1,25Ah	Maintained
100-601-105	EvoLED white, 3h, Autotest	1W LED	180'	4,8V - 1,25Ah	Maintained
100-601-115	EvoLED silver, 3h, Autotest	1W LED	180'	4,8V - 1,25Ah	Maintained
175-000-050	Legend Right/Left				
175-000-062	Legend Down				
176-000-051	Legend Wall plex Right				
176-000-052	Legend Wall plex Left				



- Modern contemporary styling
- 50.000 hour LED source for minimum maintenance
- Easy to install
- Luminaire and legend supplied as one unit
- Adjustable height (up to 7cm)

Light Source:

8 x 1W white LED strip

Materials:

Body and housing ABS white finish

Legend clear acrylic with pre applied legend

Batteries sealed nickel cadmium NiCd

Installation:

Suitable for ceiling mounting

Screwless snap together assembly

Legend panel has self locking mechanism to prevent malicious removal

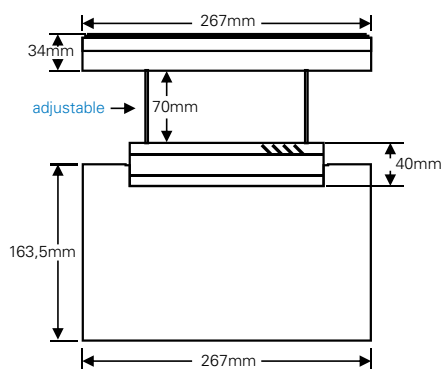
Luminaire and legend supplied together

Applications:

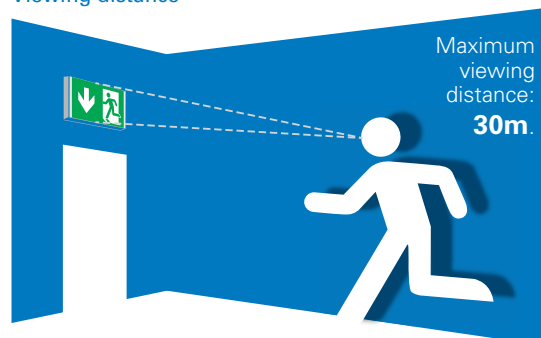
Commercial malls, cinemas and theaters, hotels, restaurants, conference areas, hospitals

Contemporary styling and high quality materials blend together perfectly to produce the attractive Via range of pendant exit signs.

Injection moulded parts help reduce weight and provide a distinctive sculptured appearance suitable for a wide variety of interiors and applications. Via also benefits from a frameless modern design of legend panel that offers a maximum viewing distance of 30m. The long life LED strip provides an excellent uniform illumination of the legend comfortably meeting the requirements of EN1838. Via has an LED source with a rated life of 50.000 hours ensuring reliable operation and minimising onsite maintenance costs



Viewing distance











Order code	Description					
O-VIA8-PSD	VIA8, 2h, legend Down	8 x 1W LED strip	120'	2,4V - 1,5Ah	Maintained	
O-VIA8-PSLR	VIA8, 2h, legend Left / Right	8 x 1W LED strip	120'	2,4V - 1,5Ah	Maintained	
O-VIA8-EXT	VIA8 LED 2h Exit	8 x 1W LED strip	120'	2,4V - 1,5Ah	Maintained	
O-VIA8-STD	VIA8 LED 2h Stairs Down	8 x 1W LED strip	120'	2,4V - 1,5Ah	Maintained	
O-VIA8-STU	VIA8 LED 2h Stairs Up	8 x 1W LED strip	120'	2,4V - 1,5Ah	Maintained	





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4.6	StarIP65	74
4.7	Zetalite 3	76
4.8	New Safe 8	77

Outdoor emergency lighting

	Indoor	Recessed	Outdoor	Ni-Cd	Ni-Mh	Li-Ion	Maintained	Non-Maintained	Autotest	Hospitals	Hotels	Cinemas/Theaters	Schools	Offices	Industrial	Warehouse
	Installation		Battery			Operation			Applications							
Atlantic LED 			●	●			●	●					●		●	●
Outdoor wall 			●	●			●	●					●		●	●
i-P65 			●	●			●	●	●	●	●	●	●		●	●
Alfalux Highbay LED 			●	●			●	●	●	●		●	●		●	●
Atlantic Plus LED 			●	●					●	●		●	●		●	●
StarIP65 		●	●	●			●	●	●	●	●	●	●	●	●	●
Zetalite 3 			●	●			●	●					●		●	●
New Safe 8 			●	●				●	●	●	●	●	●	●	●	●

The information given in this brochure is accurate at the time of compilation (errors and omissions excepted), however due to Eaton philosophy of constant product development we reserve the right to change specifications without prior notice.

4.1

Outdoor emergency lighting

Atlantic LED



- Innovative LED technology
- Complies with EN60598-2-22
- Rugged cast aluminum IK10
- Ni-Mh HT
- Suitable for industrial environments

Light Source:

Two high-brightness LEDs of 1.6W with loop life of 50.000 hours

Materials:

Cast aluminum housing unit in grey
White polycarbonate reflector
Clear polycarbonate diffuser

Operation:

Maintained and Non-Maintained versions and CBS models available

Autonomy 1h

Manual test with magnet

Installation:

Wall and ceiling installations

Applications:

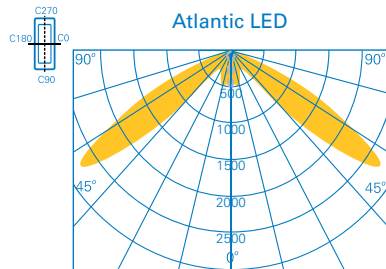
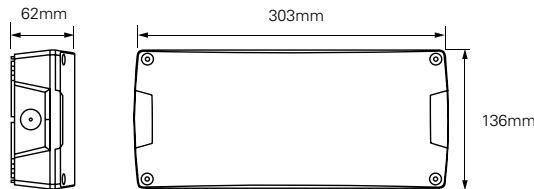
Factories, warehouses, underground car parks, workshops, tunnel

Escape routes, corridors

AtlanticLED is a device for lighting and signaling safety. The durable cast aluminum body along with the high IP65 protection rating, makes this unit particularly suited to industrial areas, underground car parks and tunnels.

The electronic circuit performs self-diagnosis functions and independent tests for functionality and autonomy duration.

AtlanticLED has internal jumpers that allows to switch between 200 lux or 75 lux light output. The optical asymmetric lens are optimally designed to spread light in corridors and escape routes.



Atlantic LED can be used as exit sign

Model	Height (m)	Distance for 1 Lux (open area)				Distance for 0,5 Lux (escape route)			
		Wall	Open	Open	Open	Wall	Open	Open	Open
Atlantic LED	03,00	03,00	07,90	07,50	16,70	15,00	06,60		
	03,50	02,30	08,02	08,30	18,60	16,60	07,40		
	04,00	04,00	08,40	09,10	20,40	18,00	08,10		

Order code	Description	Light Source	Light Output	Autonomy	Battery	Maintenance
100-052-023	ATLANTIC LED R-AD, (open area)	2 x 1 6W LED	200Lm	60'	4,8V-2,2Ah	Maintained / Non-Maintained
100-052-022	ATLANTIC LED R-AD, (escape route, double side)	2 x 1 6W LED	200Lm	60'	4,8V-2,2Ah	Maintained / Non-Maintained
100-052-021	ATLANTIC LED R-AD, (escape route, single side)	2 x 1 6W LED	200Lm	60'	4,8V-2,2Ah	Maintained / Non-Maintained

Accessories

155-000-001	Single side pictogram (right)
155-000-002	Single side pictogram (left)
155-000-003	Single side pictogram (down)
155-000-201	Double side pictogram (right)
155-000-202	Double side pictogram (left)
155-000-203	Double side pictogram (down)



- Innovative LED technology
- Complies with EN60598-2-22
- Rugged cast aluminum IK10
- Ni-Mh HT
- Suitable for emergency exits

Light Source:

Two high-brightness LEDs of 1.6W with loop life of 50.000 hours

Materials:

Cast aluminum housing unit in grey
White polycarbonate reflector
Clear polycarbonate diffuser

Operation:

Maintained and Non-Maintained versions and CBS models available

Autonomy 1h

Manual test with magnet

Installation:

Wall mounting over exits and escape routes versions

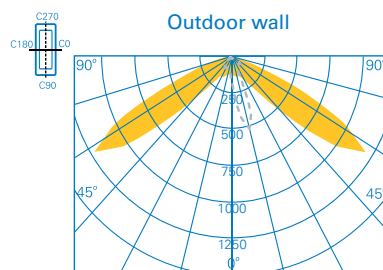
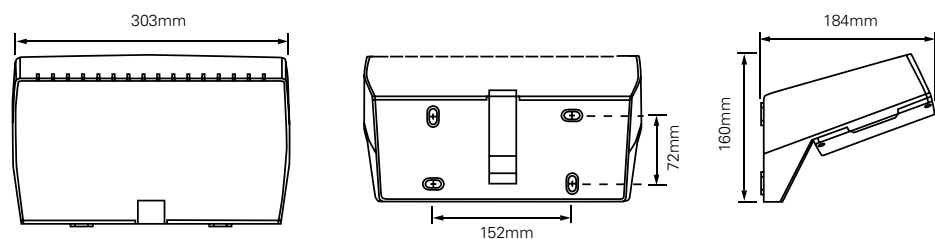
Applications:

Factories, warehouses, underground car parks, workshops, tunnel
Escape routes, corridors
Installation on emergency exits inside and outside buildings

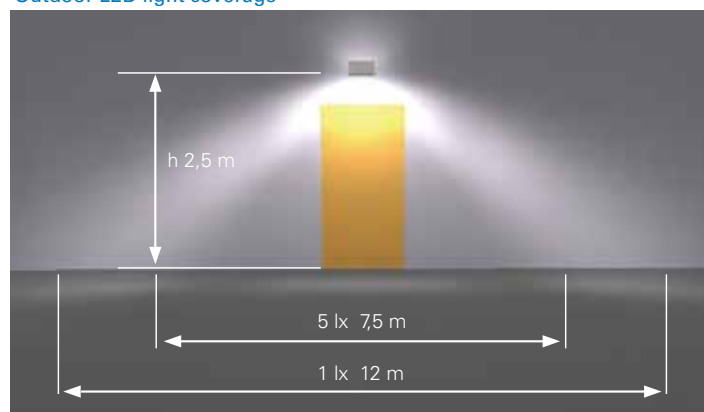
The durable cast aluminum along with the high degree of protection (IP65) makes this outdoor wall unit particularly suitable for industrial areas, underground car parks and tunnels.

Outdoor Wall has been developed to be mounted on the wall above the safety exits of a building both inside and outside, thanks to the special design which allows 90° installation and ensures the uniform illumination level required by law.

Outdoor Wall has an internal jumpers that allows to switch between 200 lux or 75 lux light output. The optical asymmetric lens are optimally designed to spread light in corridors and escape routes.



Outdoor LED light coverage



Order code	Description					
100-052-521	OUTDOOR WALL AD	2 x 1 6W LED	200Lm	60'	4,8V-2,2Ah	Maintained / Non-Maintained

4.3

Outdoor emergency lighting

i-P65



- Versatile multi functional use (escape, open area and exit sign use)
- Low power consumption reducing cost of ownership
- Ease of installation, reducing installation time and cost
- 60.000 hour life LED for reduced maintenance
- Autotest emergency versions available, reducing maintenance costs and offering ease of compliance with testing requirements
- Environmentally friendly NiMh battery

Light Source:

2 x high power 1W white LED

Materials:

Luminaire Body: Polycarbonate

Gear Tray: Polycarbonate

Battery: NiMh 4 cell

Operation:

Maintained luminaire can be operated in Non-Maintained model

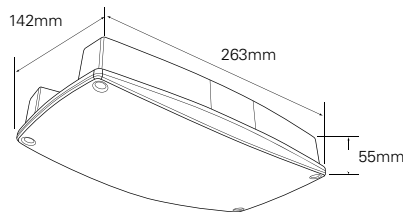
Slave and CBS models available

Optional ISO7010 or Euro pictogram exit legends

Temperature controlled battery heater kit for optimised performance in low ambient temperatures

i-P65 is a high specification competitively priced emergency LED bulkhead utilising the latest LED and optic technology to provide an attractive, good quality, functional luminaire for indoor and outdoor use. Boasting numerous features and benefits, the i-P65 can be used to provide escape route lighting, single sided exit sign or optional double sided exit sign with a common look and feel where aesthetics are a primary concern.

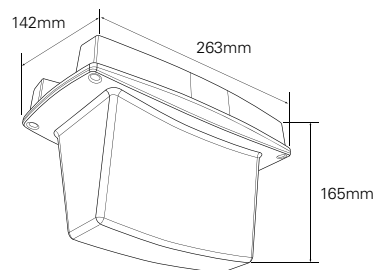
The i-P65 has been designed for ease of installation, reduced power consumption, minimal maintenance, reducing the TCO (total cost of ownership) with a compact attractive appearance. The innovative optic design used in the i-P65 utilises light from the LED source to provide uniform lighting distribution. For both escape route and open area antipanic emergency lighting applications, performance is improved and electrical power consumption is reduced.



Applications:

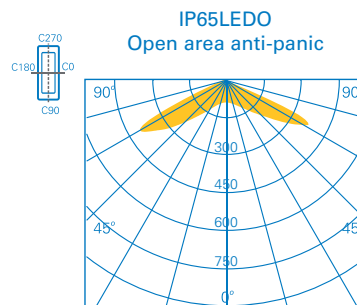
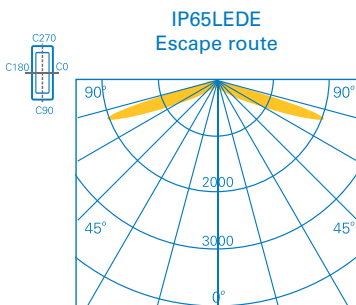
Hotels, cinemas, theaters, schools and hospitals

IP65LEDEX3H



IP65LEDO3H





Model	Height (m)	Distance for 1 Lux	
Escape optic	02,50		07,80 17,10
	02,80		08,40 18,60
	03,00		08,60 19,60

Model	Height (m)	Distance for 1 Lux		
Open area optic	02,50	05,30	10,50	05,30 10,50
	02,80	05,70	11,50	05,70 11,50
	03,00	05,90	12,20	05,90 12,20
	04,00	04,90	12,60	04,90 12,60

Order code	Description				
IP65LEDO3H	i-P65, 3h, open area	2x1W LED	180'	4,8V-2Ah NiMh	Maintained / Non-Maintained
IP65LEDE3H	i-P65, 3h, escape route	2x1W LED	180'	4,8V-2Ah NiMh	Maintained / Non-Maintained
IP65LEDO3HIS	i-P65, 3h, open area Autotest	2x1W LED	180'	4,8V-2Ah NiMh	Maintained / Non-Maintained
IP65LEDE3HIS	i-P65, 3h, escape area Autotest	2x1W LED	180'	4,8V-2Ah NiMh	Maintained / Non-Maintained
IP65LEDEX3H	i-P65, double side exit sign, 3h	2x1W LED	180'	4,8V-2Ah NiMh	Maintained / Non-Maintained
IP65LEDEX3HIS	i-P65, double side exit sign, 3h, Autotest	2x1W LED	180'	4,8V-2Ah NiMh	Maintained / Non-Maintained

Accessories

IP65LEG	Single side legend kit, European format
IP65LEG7010	ISO7010 single side legend kit
IP65DBLLEG7010	Double side legend panel kit, ISO7010
IP65DBLLEG	European format double side legend kit
IP65CONDHEAT	Low temperature battery heater

4.4

Outdoor emergency lighting

Alfalux Highbay LED



- 60,000 hour LED options
- Mid bay and high bay options for optimum luminaire efficiency reducing the number of fittings required
- Weatherproof IP65 ingress protection suitable outdoor and wet environment
- Vandal resistant die-cast housing with polycarbonate lens
- Hinged gear tray for ease of installation
- Self-contained, slave, self-test and addressable testing options

Light Source:

13W high power white LED

Materials:

Base - die-cast aluminium, finished in white powder coated paint

Diffuser - Clear polycarbonate

Battery - NiCd (self-contained version)

Operation:

Suitable for ceiling mounting

Designed for mounting heights of 6 - 25m

Twin BESA entry drill-outs on rear

20mm conduit entry on each end, with blanking plugs for ease of installation

Direct screw fix option, with fixing holes outside IP65 area for improved ingress protection

Geartray hinged, retained in closed position by single thumb screw

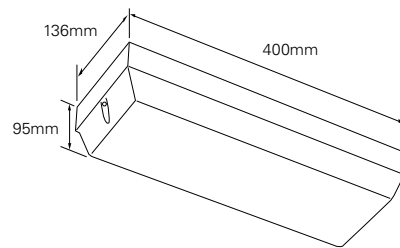
Terminal block, accommodating push-in wiring (solid or stranded cables)

Diffuser retained by allen key security screws

Applications:

Factories, warehouses, schools and hospitals

Designing emergency lighting for areas with high ceilings poses problems. Conventional bulkheads lack sufficient light output and often have inappropriate photometric distribution. Twin spot projectors are equally unlikely to provide the 0.5 lux minimum coverage over the entire core area for open areas as required for compliance with standards. Alfalux high bay provides a compact, simple to install solution suitable for mounting heights up to 25m. The Alfalux LED range is split into two variants with a mid-bay solution for low to medium height mounting and a hi bay solution up to 25m.



Model	Height (m)	Distance for 1 Lux (open area)				Distance for 0,5 Lux (escape route)			
Mtd/NMtd High Bay									
	06,00	03,50	08,20	05,80	12,20	03,70	07,30	06,10	11,60
	08,00	03,90	09,40	07,00	15,70	04,50	09,50	07,10	14,50
	10,00	04,10	10,50	07,50	18,30	05,00	11,00	07,90	17,30
	15,00	01,60	10,60	06,80	21,20	05,80	14,10	10,00	30,00
	20,00					03,20	14,60	10,00	30,00
Mtd/NMtd Mid Bay									
	02,50	04,30	09,40	01,70	09,40	05,30	10,50	01,70	10,50
	02,80	03,30	09,30	01,40	09,30	05,70	11,50	01,40	11,50
	03,00	03,20	03,20	01,20	09,20	05,90	12,20	01,20	12,20
	04,00					04,90	12,50	00,67	12,50

Order code	Description				
HLLLEDH3H	Alfalux HighBay LED 3H Hi	1 LED 13W	180'	2,1V 4Ah NiCd	Maintained / Non-Maintained
HLLLEDH3HIS	Alfalux HighBay LED 3H Autotest Hi	1 LED 13W	180'	2,1V 4Ah NiCd	Maintained / Non-Maintained
HLLLEDL3H	Alfalux HighBay LED 3H Low	1 LED 13W	180'	2,1V 4Ah NiCd	Maintained / Non-Maintained
HLLLEDL3HIS	Alfalux HighBay LED 3H Autotest Low	1 LED 13W	180'	2,1V 4Ah NiCd	Maintained / Non-Maintained
HLLLEDH230	Alfalux HighBay LED Mains Hi	1 LED 13W			Mains
HLLLEDL230	Alfalux HighBay LED Mains Low	1 LED 13W			Mains



- Verified light performance
- Weatherproof IP65 and vandal resistant
- High performance, wide spacing distribution
- Choice of standard or high light output circuits
- Time saving first fix base and plug-in gear tray
- Optional large format legend kit

Light Source:

High intensity 3W white LED strip

Materials:

Base gear tray and lens - polycarbonate

Batteries (self-contained versions) - NiCd

Installation Notes

Suitable for ceiling or wall mounting

First fix base with heavy duty connector

Operation:

Maintained and Non-Maintained operation, 3 hour duration

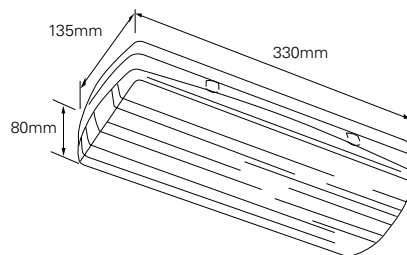
Atlantic Plus has an additional battery cell for enhanced light output

Self-test, Autotest and Mains models available

Applications:

Schools, offices, hotels, restaurants, warehouses

Weatherproof, stylish and robust, the Atlantic family is suitable for practically any application and location. The full range has excellent, high performance spacing characteristics, with a choice in self-contained for high output 3 cell Atlantic Plus, to maximize spacing and reduce the quantity of units required to achieve the latest European illumination requirements. All share the convenience of a first fix base, plug in gear tray and self-locking snap on vandal resistant lens which greatly speeds installation, saving time and cost. The robust, fully polycarbonate construction and IP65 rating provides enhanced protection for even the most vulnerable locations.



Self-adhesive legend ISO7010 format and European format available

Model	Height (m)	Lux level directly under	Distance for 1 Lux (escape route 2m wide)				Distance for 0,5 Lux (open anti-panic)			
Atlantic plus LED										
	02,50	04,70	01,30	06,20	01,80	04,80	02,10	07,50	02,30	04,80
	02,80	03,70	01,40	06,40	01,90	04,80	02,20	07,70	02,40	04,90
	03,00	03,20	01,40	06,40	01,90	04,90	02,20	08,00	02,50	05,00
	03,50	02,40	01,00	03,70	02,00	04,90	02,30	04,80	02,60	04,00

Order code	Description				
ATLM	Atlantic Plus LED	LED strip 3w	180'	4,8V-1,6Ah NiCd	Maintained / Non-Maintained
ATLMIS	Atlantic Plus LED Autotest	LED strip 3w	180'	4,8V-1,6Ah NiCd	Maintained / Non-Maintained
ATLS230	Atlantic Plus LED Mains	LED strip 3w			Mains

Accessories

LEXSABL	Alfalux HighBay LED 3H Autotest Low
LEXSABL-ISO	Alfalux HighBay LED Mains Hi

4.6

Outdoor emergency lighting

StarIP65



- Low profile
- Unique elegant design
- Easy to install
- Certificated by ENEC Kema Keur
- High temperature batteries Ni-Cd
- LED and Autotest models available

Light Source:

Lamp. 8W fluorescent G5, 2G7 11W and 2G11 18W
16 2W LED

Materials:

Base and reflector unit in white ABS

Operation:

Maintained, Sustain and Non-Maintained versions
Autonomy from 1h up to 3h
Autotest, Inhibition, Rest Mode, Slave and CBS models available

Installation:

Wall and ceiling installations
Panel, double-sided printed

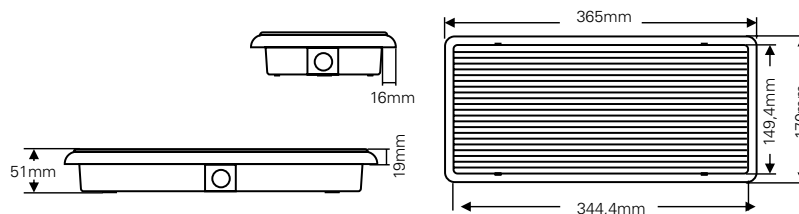
Applications:

Schools, offices, hotels, restaurants, warehouses

The StarIP65 family of emergency luminaires has been developed to provide a reliable solution to those installations that are exposed to humidity and weather conditions.

A wide range of products depending on the emergency duration, the functionalism and the type of lamp offers a useful flexibility to the installer, who now has several different choices that fulfil any requirements for effective emergency lighting, from simple residential applications to specific industrial ones.

A full range of accessories are available. These include several legend stickers, a recessed base for wall or flush mounting, and plexiglass signs for deploying the luminaire as an exit sign.



O-EL65-LED



StarIP65 is available in LED

O-DS65

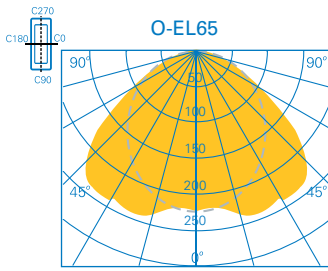


Plastic cone diffuser for using StarIP65 as exit sign

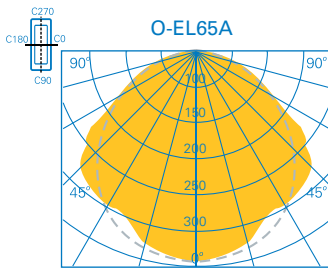
O-EL65RB



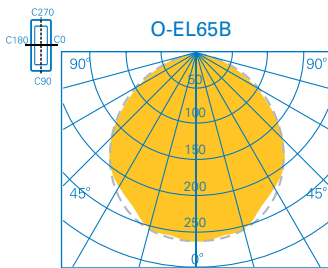
Recessed base for ceiling and wall applications



Model	Height (m)	Distance for 1 Lux				Distance for 0,5 Lux			
O-EL65									
	02,60	02,89	07,05	02,34	06,38	04,03	08,32	03,69	08,01
	02,80	02,91	07,32	02,35	06,44	04,16	08,62	03,72	08,24
	03,00	02,97	07,60	02,32	06,57	04,30	08,90	03,79	08,38
	03,20	02,98	07,85	02,27	06,63	04,42	09,14	03,81	08,59
	03,50	02,93	08,05	02,19	06,67	04,53	09,63	03,83	08,86
04,00	02,68	08,28	01,95	06,59	04,64	10,35	03,80	09,20	



Model	Height (m)	Distance for 1 Lux				Distance for 0,5 Lux			
O-EL65A									
	02,60	03,39	08,13	03,10	07,74	04,57	09,90	04,37	09,42
	02,80	03,46	08,37	03,21	08,00	04,68	10,23	04,50	09,70
	03,00	03,50	08,57	03,24	08,26	04,78	10,56	04,63	10,07
	03,20	03,55	08,91	03,31	08,46	04,95	10,87	04,73	10,36
	03,50	03,62	09,29	03,33	08,64	05,14	11,20	04,82	10,78
04,00	03,56	09,84	03,34	09,04	05,42	11,86	05,02	11,43	



Model	Height (m)	Distance for 1 Lux				Distance for 0,5 Lux			
O-EL65B									
	02,60	03,77	09,23	03,81	09,38	05,11	11,15	05,19	11,31
	02,80	03,93	09,51	03,88	09,70	05,25	11,53	05,35	11,74
	03,00	04,04	09,79	03,98	09,99	05,40	11,93	05,49	12,19
	03,20	04,13	10,05	04,10	10,24	05,52	12,29	05,62	12,56
	03,50	04,22	10,38	04,17	10,54	05,59	12,73	05,77	13,05
04,00	04,29	11,09	04,30	11,01	06,05	13,47	06,01	13,86	

Order code	Description					
O-EL65-LED	StarIP65 LED 60min	16 2W LED	90Lum	60'	3,6V-1,7Ah NiCd	Maintained / Non-Maintained
O-EL65-LED-3H	StarIP65 LED 180min	16 2W LED	90Lum	180'	4,8V-2,2Ah NiCd	Maintained / Non-Maintained
O-EL65	StarIP65 8W NM 90min	FL8W G5	80Lum	90'	2,4V-1,5Ah NiCd	Non-Maintained
O-EL65-3H	StarIP65 8W NM 180min	FL8W G5	80Lum	180'	6V-1,5Ah NiCd	Non-Maintained
O-EL65A	StarIP65 11W NM 90min	PL 11W 2G7	130Lum	90'	3,6V-1,7Ah NiCd	Non-Maintained
O-EL65A-3H	StarIP65 11W NM 180min	PL 11W 2G7	200Lum	180'	6V-1,5Ah NiCd	Non-Maintained
O-EL65B	StarIP65 18W NM 90min	PL 18W 2G11	220Lum	90'	6V-1,5Ah NiCd	Non-Maintained
O-EL65M	StarIP65 8W M 90min	FL8W G5	80Lum	90'	2,4V-1,5Ah NiCd	Maintained
O-EL65M-3H	StarIP65 8W M 180min	FL8W G5	80Lum	180'	6V-1,5Ah NiCd	Maintained
O-EL65AM	StarIP65 11W M 90min	PL 11W 2G7	200Lum	90'	3,6V-1,7Ah NiCd	Maintained
O-EL65AM-3H	StarIP65 11W M 180min	PL 11W 2G7	200Lum	180'	6V-1,5Ah NiCd	Maintained
O-EL65BM	StarIP65 18W M 90min	PL 18W 2G11	200Lum	90'	6V-1,5Ah NiCd	Maintained
O-EL65-AT	StarIP65 8W NM Autotest 60min	FL8W G5	80Lum	180'	6V-1,5Ah NiCd	Non-Maintained
O-EL65A-AT	StarIP65 11W NM Autotest 60min	PL 11W 2G7	130Lum	90'	3,6V-1,7Ah NiCd	Non-Maintained
O-EL65B-AT	StarIP65 18W NM Autotest 60min	PL 11W 2G7	200Lum	180'	6V-1,5Ah NiCd	Non-Maintained
O-EL65M-AUT-IT	StarIP65 18W M Autotest 60min	PL 11W 2G7	200Lum	180'	6V-1,5Ah NiCd	Non-Maintained
O-EL65 MAINS	StarIP65 8W Mains	FL8W G5				Mains
O-EL65A MAINS	StarIP65 11W Mains	PL 11W 2G7				Mains
O-EL65B MAINS	StarIP65 18W Mains	PL 18W 2G11				Mains

Accessories

O-DS65	Double side diffuser
O-EL65RB	Flush mounting base

4.7

Outdoor emergency lighting

Zetalite 3



- Versatile multi-functional use (escape, open area anti-panic and exit signage)
- Exit sign viewing distance of up to 20 meters
- IP65 ingress protection suitable for indoor and outdoor applications
- Low power consumption reducing cost of ownership
- Configurable as Maintained or Non-Maintained operation

Light Source:

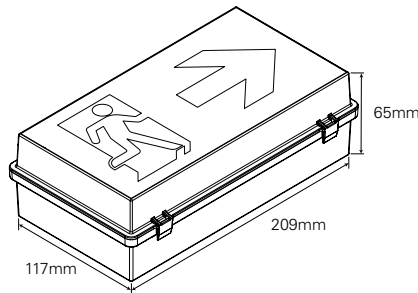
12 x 0.25W white LED
50,000 hour life LED (L80)
for reduced maintenance

Zetalite 3 is the first LED luminaire designed specifically for optimal performance from an LED light source. The result is exceptional performance, stunning uniformity and low energy usage at a traditional 8W bulkhead price point.

Zetalite 3 is suitable for use as an escape route, open area anti-panic emergency lighting and external over door lighting to provide safe way out of buildings. In addition to emergency lighting, Zetalite 3 is also suitable for use as an exit sign with the application of the optional stick on legend kit.

Materials:

Luminaire Body - flame retardant ABS
Luminaire Lens - clear polycarbonate
NiCd battery



Operation:

Maintained mode 5VA/4W
Non-Maintained mode 3.5VA/2.3W

Installation:

Luminaire can be operated in Maintained or Non-Maintained mode
Use either as emergency luminaire or exit sign



Self-adhesive legend ISO7010 format and European format available



Configurable as Maintained or Non-Maintained operation

Applications:

Industrial and all outdoor applications

Model	Height (m)	Lux level directly under	Distance for 1 Lux (escape route 2m wide)				Distance for 0,5 Lux (open anti-panic)			
			Diagram 1	Diagram 2	Diagram 3	Diagram 4	Diagram 5	Diagram 6	Diagram 7	Diagram 8
ZEL3ICEL	02,50	04,50	02,90	07,50	02,80	07,10	03,40	08,10	02,80	07,90
	02,80	03,80	02,90	07,80	02,90	07,40	03,50	08,50	02,90	08,30
	03,00	03,40	03,10	08,00	03,00	07,60	03,50	08,70	03,00	08,60
	04,00	02,00	02,60	08,50	02,60	08,20	03,40	09,80	02,60	09,60
	05,00	01,30	02,00	08,10	02,00	08,00	03,40	10,50	02,00	10,40

Order code	Description	Light Source	Life	Battery	Operation
ZEL3ICEL	Zeta III 3Hr	12 x 0,25W LED	180'	2,4V-4Ah NiCd	Maintained / Non-Maintained
Accessories					
ZELLEG	Euro Picto legend kit				
ZELLEG-ISO	ISO7010 Picto legend kit				



- Registered with verified light performance
- Easy to install, with snap-on lens
- Exit legend kit available

Light Source:

8WT5 fluorescent
3500°K G5 cap
3W LED strip

Materials:

Body and gear cover
polycarbonate, white finish
Lens clear polycarbonate
with linear prisms

Operation:

Maintained and Non-
Maintained operation,
3 hour duration
Autotest models available

Installation:

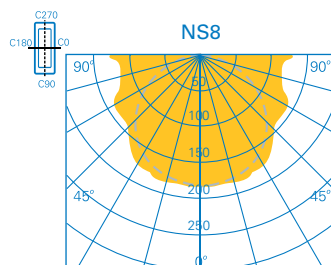
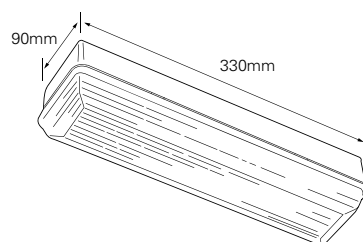
Suitable for ceiling or wall
mounting
BESA entry drilling
template on rear
Cable entries rear and end
Lens snap-fits into position

Applications:

Hotels, cinemas, theaters,
schools and hospitals

Suitable for both exterior and interior applications, New Safe 8 represents excellent value for money. Full third party approvals, via the BSI Kitemark and ICEL registration schemes, provide complete peace of mind that quality has not been compromised.

The luminaire is easy to install and is available with the latest stand alone or central addressable self-testing functionality as an option. New Safe 8 has an attractive, unobtrusive and compact profile that is suitable for a wide variety of applications, from offices and hotels to factory units. A semi-recessing bezel accessory is available to further enhance the appearance of this popular luminaire.



Model	Height (m)	Distance for 1 Lux				Distance for 0,5 Lux			
		Wall	Recess	Recess	Recess	Wall	Recess	Recess	Recess
NS8	02,60	02,42	07,16	02,28	06,26	04,08	09,78	03,63	08,07
	03,00	02,42	07,18	02,20	06,43	04,09	10,03	03,72	08,47
	04,00	01,85	06,88	01,62	06,36	03,94	10,20	03,68	09,01






Order code	Description	Light Source	Light Output	Beam Angle	Battery	Operation
NS8	New Safe 8, Non-Maintained, 3h	FL8WG5	80Lm	180°	2,4V-4Ah NiCd	Non-Maintained
NS8M	New Safe 8, Maintained, 3h	FL8WG5	80Lm	180°	2,4V-4Ah NiCd	Maintained
Accessories						
LEXSAS	European format self adhesive legend kit					





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5.5	Conversion Kit	86

Beam lights & conversion kits

	Indoor	Recessed	Outdoor	Ni-Cd	Lead Acid	Ni-Mh	Maintained	Non-Maintained	Autotest	Hospitals	Hotels	Cinemas/Theaters	Schools	Offices	Industrial	Warehouse
	Installation		Battery			Operation			Applications							
Planete 2000 	●	●			●		●	●	●	●	●	●	●		●	●
Beamlite 	●	●			●			●		●	●	●	●		●	●
Gemini Junior 	●	●			●			●		●	●	●	●		●	●
EL40 	●	●			●			●		●	●	●	●		●	●
Conversion Kit 	●			●						●	●	●	●	●	●	●

The information given in this brochure is accurate at the time of compilation (errors and omissions excepted), however due to Eaton philosophy of constant product development we reserve the right to change specifications without prior notice.

5.1

Beam lights & conversion kits

Planete 2000



- Optical polycarbonate food industry use
- Minimal Environmental impact
- Low consumption
- Automatic tests
- Large LED: visibility / speed reading
- Multiple cable entries
- Easy installation

Light Source:

LED

Intergrated light diffuser

No relamping

Low consumption

Materials:

Optics from polycarbonate

5 cables entries (IP42 model) and 3 cable entries (IP65 model)

Planete 2000 has been designed to provide the highest reliability for antipanic lighting. Equipped with 2 LED lamp heads, it can provide a light output of 2000 lumens, making Planete 2000 suitable for all applications of general emergency lighting.

It is suitable for warehoused and industrial use and is ideal for areas that require anti-panic light where a large amount of people may be such as in cinemas, shopping malls, stadiums and airports.

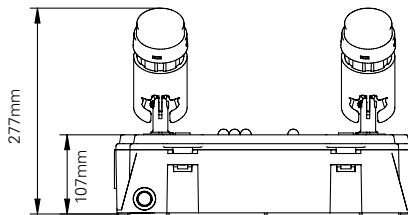
The high intensity light source provides efficient illumination of long, narrow escape routes, but can also provide general coverage of a specific area when positioned at any degree specified to each other, in locations where higher illumination is required.

Planete 2000 is equipped with a sophisticated technology with auto test and self diagnostics for the lamps and battery, keeping the cost of the unit low.

It is available in IP65 certified casing for all outdoor applications.

Applications:

Cinemas and theatres, factories, warehouses, shopping malls, industrial units, stadiums



Autotest diagnostics in all models



Weatherproof model available



LED technology of 2000 lumens light output

Order code	Description					
LUM17010	PLANETE2000, IP42	LED	2.000 Lm	60'	32 x1,2V - 1,5Ah	Non-Maintained
LUM17011	PLANETE2000, IP65	LED	2.000 Lm	60'	32 x1,2V - 1,5Ah	Non-Maintained



- High light output
- Robust construction with a long durable life
- Hinged front access door eases maintenance
- Multi-directional lamp heads for on site flexibility
- Weatherproof IP55 option
- Easy to install, with snap-on lens

Light Source:

12V, 21W tungsten BA15d cap

Materials:

Body IP20 sheet steel, powder coated in white/black finish

Body IP55 sheet steel, powder coated in grey finish

Lamp heads polycarbonate, finished black with clear front lens

Installation:

Suitable for wall mounting

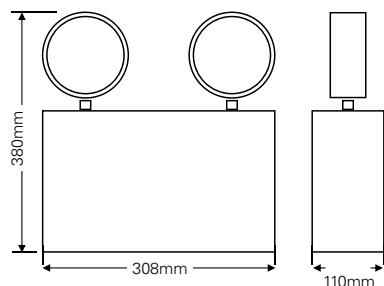
Cable entry on rear and top

Direct screw fixed with keyhole slots

Weatherproof version drilled on site for fixing and entry holes

Lamp heads swivel and tilt, locked in position by screws

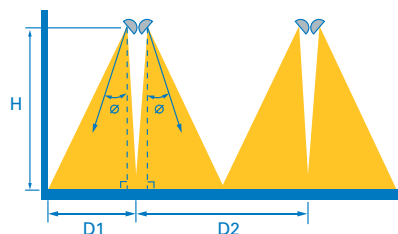
BeamLite can be used for a wide variety of interior emergency lighting applications, particularly for warehouses and high ceiling commercial areas. The high intensity light source provides efficient illumination of long, narrow escape routes, but can also provide general coverage of a specific area when positioned at 90° to each other, in locations where higher illumination is required. BeamLite keyhole slot screw fixing holes and a hinged front access door providing ease of installation, whilst the standard twin LED's give separate early warning of failure of each lamp, in addition to mains and charging status.



Applications:

Cinemas and theatres, factories, warehouses, shopping malls, industrial units, stadiums

BEN3



Model	Height (m)	Angle	D1(m)	D2(m)
BEN3 (2X21W)				
	04,00	45°	03,60	09,00
	06,00	18°	03,50	07,60
	08,00	14°	03,50	07,60
	10,00	11°	03,60	08,00
	15,00	8°	03,80	08,40

Notes:

1. Spacing achieves 1 lux min on centre line of escape route
2. Aiming angle at 4m height restricted by glare cut-off restriction

Order code	Description					
BEN3	BeamLite, 2x21W, IP20	12V, 2x21W	110 Lm	180'	Lead 2x12V-7,2Ah	Non-Maintained
BEN3W	BeamLite, 2x21W, IP55	12V, 2x21W	110 Lm	180'	Lead 2x12V-7,2Ah	Non-Maintained

5.3

Beam lights & conversion kits

Gemini Junior



5

- Competitive beam projector suits most budgets
- Easy to install keeps cost low
- Hinged front access door eases maintenance
- Top or side mounting of lamp heads
- Multi-directional lamp heads for on site flexibility
- Supplied with lamps

Light Source:

12V, 18W tungsten
- wedge base

Materials:

Body - Sheet steel, powder coated in white finish

Lamp heads - Polycarbonate, finished white with clear front lens

Batteries - Recombination lead acid, maintenance free

Installation:

Suitable for wall mounting

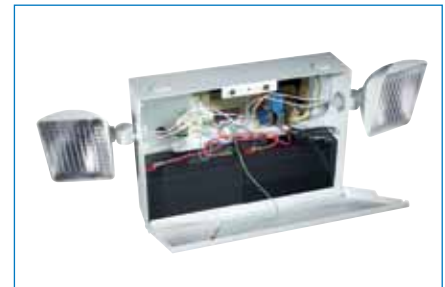
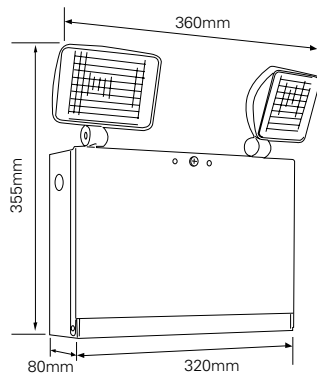
Cable entries on rear. Side and top cable entries, dependant on location of lamp heads

Direct screw fixed with keyhole slots

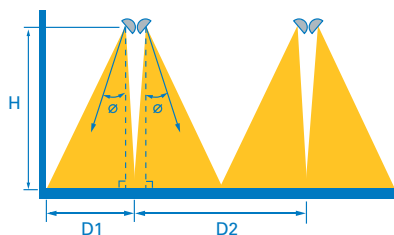
Lamp heads can be mounted on top or side of enclosure

Lamp heads swivel and tilt, locked in position by screws

Combining flexibility and ease of installation, Gemini Junior represents exceptional value for money. This competitive beam projector is suitable for a wide variety of installations, with a choice of top or side mounting of the lamp heads, with multi-directional swivel and tilt facility ensuring that exactly the right positioning is achieved. Internal components are accessed via the hinged front cover, permitting easy installation and maintenance. Twin indicator LEDs provide peace of mind, covering individual lamp failure in addition to mains and charging status. When cost is paramount, Gemini Junior is an excellent choice for factory and high ceiling applications.



Side mounted lamp heads and hinged access door



Model	Height (m)	Angle	D1(m)	D2(m)
	04,00	40°	05,90	12,30
	06,00	18°	04,20	08,90
	08,00	13°	04,40	08,80
	10,00	09°	04,20	09,20

Notes:

1. Spacing achieves 1 lux min on centre line of escape route
2. Aiming angle at 4m height restricted by glare cut-off restriction
3. K factor of 0.55 and S factor of 0.8 have been applied

Order code	Description					
GMRJ2183230240	Gemini Junior	2x18W	120 Lm	180°	Lead 2x12V - 7,2Ah	Non-Maintained



- Easy to install
- Portable
- Multi-directional lamp heads
- Lead battery
- Test button

5

Light Source:

12V, 21W

Materials:

Base and reflector unit in white ABS

Clear polycarbonate diffuser

Installation:

Suitable for wall mounting

Cable entry on rear and top

Direct screw fixed with keyhole slots

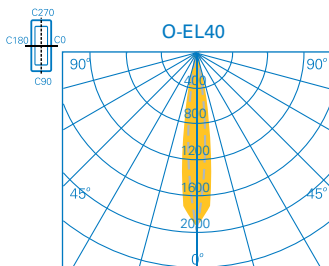
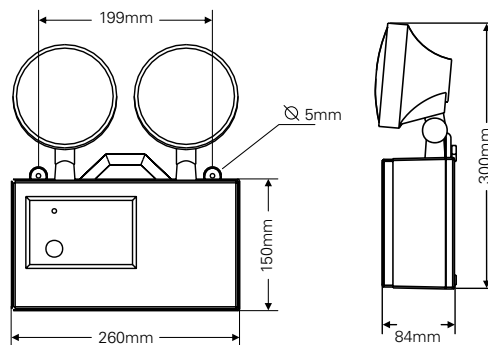
Lamp heads swivel and tilt, locked in position by screws

Applications:

Cinemas and theatres, warehouses, shopping malls

Smart design to provide a fully portable emergency beam light that suits a wide variety of applications. Using a pair of adjustable beam lights gives the ability to offer a high light output to even long narrow escape routes.

A built-in test button allows the user to directly check how the luminaire is functioning while at the same time offers the user the choice to disable one of the beams in order to double luminaire's emergency duration.



Model	Height (m)	Distance for 1 Lux				Distance for 0,5 Lux			
		↔	↔	↔	↔	↔	↔	↔	↔
O-EL40	02,60	02,60	06,95	02,34	05,58	03,98	09,12	03,29	09,38
	02,80	02,61	06,92	02,43	05,60	03,96	09,36	03,30	09,36
	03,00	02,63	06,90	02,61	05,79	03,95	09,60	03,40	07,44
	03,20	02,69	06,91	02,69	06,14	03,96	09,63	03,57	07,36
	03,50	02,40	07,25	02,83	06,46	04,12	10,00	03,73	07,67
	04,00	02,40	07,46	01,54	06,95	04,23	09,77	03,98	08,00

Order code	Description					
O-EL40	Beamlite, 2x21W	2x18W	115 Lm	90°	Lead 2x12V - 7,2Ah	Non-Maintained



- Easy to install
- Certificated by ENEC Kema Keur EN61347 and EN60925-2-4
- Compatible with T5 fluorescent lamps
- Suitable for electronic and electromagnetic ballasts
- LED indicator
- Charging time of 24 hours
- High temperature batteries Ni-Cd
- Fully compatible with high frequency circuits
- Extensive range, covering a diverse choice of fluorescent lamps
- Low profile design for easy integration

Light Source:

Series compatible with most fluorescent lamps (linear and compact)

Materials:

Body white ABS

Comes with LED status to be fixed to the body appliance

Batteries sealed nickel cadmium

Operation:

Non-Maintained

Autonomy of 1h and 3h

Installation:

Suitable for fitting integral to host luminaire, where thermal and electro-magnetic test results permit

Remote mounting of complete kit, or of batteries only.

Supplied complete with low profile end caps for mounting batteries and LED with 1000mm lead

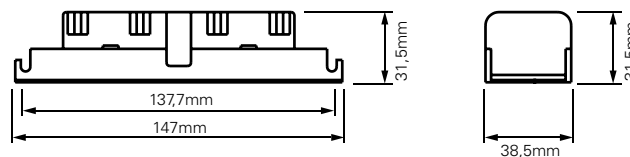
Applications:

Universities, supermarkets, warehouses, offices and where emergency lighting is required.

Lighting of escape routes and open areas.

This conversion kit is for the transformation of fluorescent lamp mains lighting apparatus to perform as emergency lighting in an emergency situation. Solutions like these are ideal for large venues such as universities, supermarkets, warehouses, offices and open spaces which are integrated with the existing ordinary lighting. The latest version of conversion kits delivers optimum performance for a diverse choice of fluorescence lamp types and wattages. Low profile modules and unique chamfered battery end caps easing integration into swallow luminaires, are standard throughout the whole range of the conversion kits particularly useful in the newest ranges of T5 lamp.

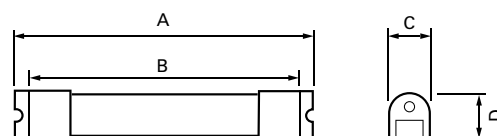
Conversion kit body



Technical specification

System Mode	Maintained or Non-Maintained
Normal light output (Maintained)	Full rated output of lamp
Recharge period	24 hours
Charging monitor	Green LED with cable 1m
Mains input voltage	230V ac / 50Hz
Power Consumption	Max 3VA@1H, 5VA@3H
Temperature ratings	Module 50°C - Battery 50°C
Dimensions L x W x H	148x39x31mm
Fixing centers of module	137-139mm
Certified to	EN 61347-2-7 & EN60925

Battery






Type of battery	A	B	C	D
3,6 1,5Ah	155	145	26	26
3,6 4,0Ah	210	200	35	35
4,8 1,5Ah	200	190	26	26
4,8 4,0Ah	280	270	35	35
6,0 1,5Ah	245	235	26	26
6,0 4,0Ah	340	330	35	35

Lamp	Battery	BK1 BK3		max 36W		CK1 CK3		max 58W		DK1 DK3		max 70W		TK1		max 80W	
		3,6V/1,7Ah 3,6V/4Ah		Discharge Current mA	Emergency Ballast Lumen Factor %	4,8V/1,7Ah 4,8V/4Ah		Discharge Current mA	Emergency Ballast Lumen Factor %	6V/1,7Ah 6V/4Ah		Discharge Current mA	Emergency Ballast Lumen Factor %	4,8V/4Ah		Discharge Current mA	Emergency Ballast Lumen Factor %
Watts	Diameter / Holder	Minimum Duration				Minimum Duration				Minimum Duration				Minimum Duration			
TLD 18W	T8-60cm	1h	3h	700	11	2h	3h	600	12	2h	3h	510	12	-	-	-	
TLD 30W	T8-90cm	1h	3h	990	9	1,5h	3h	790	10	2h	3h	700	10	-	-	-	
TLD 36W	T8-120cm	1h	3h	1010	8	1h	3h	810	9	1,5h	3h	760	13	-	-	-	
TLD 58W	T8-150cm	-	-	-	-	1h	3h	990	7,5	1h	3h	810	9	-	-	-	
TLD 70W	T8-180cm	-	-	-	-	-	-	-	-	1h	3h	1040	6	-	-	-	
TL5 24W	T5-55cm	1h	3h	1000	7	1,5h	3h	750	7	2h	3h	600	7	2h	1200	22	
TL5 39W	T5-85cm	-	2h	1350	7	-	2,5h	1050	7	1,5h	3h	820	7	1,5h	1720	18	
TL5 54W	T5-115cm	-	-	-	-	-	2,5h	1150	5	1h	3h	950	6	1h	2050	16	
TL5 80W	T5-145cm	-	-	-	-	-	-	-	-	-	-	-	-	1h	2400	12	
PLS 11W	2G7	1,5h	3h	730	11	2h	3h	600	15	2,5h	3h	450	16	-	-	-	
PLC 13W	G24q-1	1,5h	3h	780	15	2h	3h	624	19	2h	3h	500	20	-	-	-	
PLC 18W	G24q-2	1,5h	3h	870	12	1,5h	3h	725	16	2h	3h	580	18	-	-	-	
PLC 26W	G24q-3	1h	3h	920	10	1,5h	3h	830	13	2h	3h	690	15	-	-	-	
PLL 18W	2G11	2h	3h	670	12	2h	3h	540	14	2,5h	3h	430	15	-	-	-	
PLL 24W	2G11	1h	3h	885	11	2h	3h	680	12	2h	3h	550	13	-	-	-	
PLL 36W	2G11	-	2,5h	1021	9	1,5h	3h	820	10	2h	3h	690	11	-	-	-	
PLL 40W	2G11	-	-	-	-	1h	3h	950	7	1,5h	3h	760	8	-	-	-	
PLL 55W	2G11	-	-	-	-	-	-	-	-	1h	3h	920	7	-	-	-	
2D 16W	GR10q	1,5h	3h	860	12	2h	3h	670	15	2h	3h	540	16	-	-	-	
2D 28W	GR10q	1h	3h	950	9	1,5h	3h	730	11	2h	3h	680	13	-	-	-	
2D 38W	GR10q	-	-	-	-	1,5h	3h	833	8	1,5h	3h	750	9	-	-	-	

5

Note: Make sure that the terminals on the module cannot be touched when changing the lamp or starter by shrouding them with earthed metal or thermoplastic insulation kit

Order code	Description			
O-BK1	Conversion kit, BK1	up to 36W	60'	3,6V-1,5Ah
O-CK1	Conversion kit, CK1	up to 58W	60'	4,8V-1,5Ah
O-DK1	Conversion kit, DK1	up to 70W	60'	6,0V-1,5Ah
O-TK1	Conversion kit, TK1	up to 80W	60'	4,8V-1,5Ah
O-BK3	Conversion kit, BK3	up to 36W	180'	3,6V-1,5Ah
O-CK3	Conversion kit, CK3	up to 58W	180'	4,8V-1,5Ah
O-DK3	Conversion kit, DK3	up to 70W	180'	6,0V-1,5Ah

Anti-Panic (Open) - Area Lighting
The part of emergency escape lighting provided to avoid panic and provide illumination allowing people to reach a place where an escape route can be identified.

Ballast - The component that controls the operation of a lamp from a specified low or high voltage AC or DC source (typically between 12 and 240 volts).

Ballast Lumen Factor - The ratio of the light output of the lamp in emergency operation compared with the light output of the same lamp operated by a reference ballast at its rated voltage and frequency.

Battery - Secondary cells providing the source of power during mains failure.

Battery Capacity - The discharge capability of a battery, being a product of average current and time, expressed as Ampere-hours (Ah) over a stated duration. Note: At fast rates of discharge the full ampere hour capacity of the battery is not available.

Candela (cd) - The unit of luminous intensity.

Central Battery System - A system in which the batteries for a number of emergency luminaires are housed in one location. Usually for all the emergency luminaires on one lighting sub-circuit, but sometimes for all emergency luminaires in a complete building.

Colour Temperature (°K) - All materials emit light when heated (e.g. metal glows red through to white as the temperature increase). The temperature to which a full radiator (or 'black body') would be heated to achieve the same chromaticity (colour quality) of the light source being considered, defines the correlated colour temperature of the lamp, quoted in degrees Kelvin.

Combined Emergency

Luminaire - A luminaire containing two or more lamps, at least one of which is energised from the emergency supply and the remainder from the normal supply (If the emergency lamp is only illuminated in a mains failure condition this luminaire is regarded for Fire Authority approval as Non-Maintained).

Design Voltage - The voltage declared by the manufacturer to which all the ballast characteristics are related.

Discomfort Glare - Glare which causes visual discomfort.

Emergency Lighting - The lighting provided for use when the supply to the normal mains lighting installation fails.

Escape Route Lighting - Lighting provided to ensure that the means of escape can be effectively identified and safely used when a location is occupied.

Emergency Exit - The way out of a building, which is intended to be used at any time whilst the premises are occupied.

'F' Mark - Mark indicating that a luminaire is suitable for mounting on to normally combustible surfaces.

Final Exit - The terminal point of an escape route, beyond which point persons are no longer in danger from fire or any other hazard requiring evacuation of the building.

Glare - The discomfort or disability that occurs when there is an excessive change of luminance in the field of vision.

High Risk Task Area - Lighting Emergency lighting provided to ensure the safety of people involved in a potentially dangerous process or situation and to enable proper shut down procedures for the safety of the operator and other occupants of the premises.

Housing 850°C - Test Mandatory test for emergency luminaires used on escape routes, to establish that materials do not burn at a given temperature. Self-extinguishing grades of plastic must be used, or alternatively glass and/or steel.

Illuminance (lux) - The luminous flux density at a surface, indicated in lm/m^2 .

Ingress Protection (IP) - Number classification of the degree of protection a luminaire provides against the entry of solid foreign bodies and moisture (See page 90 for classification).

Isolux Diagram - Diagram showing contours of equal illuminance

K Factor - The ratio of the light output from the lamp in its worst condition, normally at end of discharge and with any cable volt drop, to the output at nominal voltage.

Light Output Ratio (LOR) - The ratio of the total light output of a luminaire, compared with total lamp light output.

Lumen (lm) - The unit of luminous flux used to describe the quantity of light emitted by a source or received by a surface.

Luminaire - Apparatus which distribute the light given by a lamp or lamps, including all the items necessary for fixing and protecting the lamps and for connecting them to the electrical supply.

Luminance (cd/m^2) - The perceived brightness of a surface, measured by the intensity of light emitted or reflected from a surface area in a given direction.

Luminous Efficacy (lm/W) - The ratio of light emitted, to the power consumed by a lamp.

Luminous Flux (lm) - The total light emitted by a lamp, measured in lumens.

Luminous Intensity (cd) - The power of a light source or illuminated surface to emit light in a given direction, measured in candela.

Lux - The unit of illuminance, equal to one lumen per square metre (lm/m^2)

Maintained Emergency

Luminaire - A luminaire containing one or more lamps, all of which operate from the normal supply or from the emergency supply at all material times.

Mounting Height - The vertical distance between the luminaire and the working plane. Note: For emergency lighting the floor is always taken to be the working plane.

Non-Maintained Emergency - Luminaire A luminaire containing one or more lamps, which operate from the emergency supply only upon failure of the normal mains supply.

Rated Duration - The manufacturers declared duration for a battery operated emergency lighting unit, specifying the time for which it will operate after mains failure. This may be for any reasonable period, but is normally one or three hours (when fully charged).

Rated Load - The maximum load which may be connected to the system which will be supplied for the rated duration.

Re-charge Period - The time necessary for the batteries to regain sufficient capacity to achieve their rated duration.

Self Contained Emergency

Luminaire - A luminaire or sign providing Maintained or Non-Maintained emergency lighting, in which all the elements such as battery, the lamp and the control unit are contained within the housing or within 1 metre of the housing.

Single Point Luminaire - See self-contained emergency luminaire.

Slave Luminaire - An emergency luminaire without its own batteries, which is designed to work in conjunction with a central battery system.

Spacing to Height Ratio (SHR) - The ratio of the distance between luminaire centres in relation to their height above the working plane. Maximum spacing to height ratio (SHRmax) is the maximum spacing of an array of luminaires that will achieve a ratio of min/max direct illuminance of at least 0.7.

Standby Lighting - The part of emergency lighting which may be provided to enable normal activities to continue in the event of a mains supply failure.

Sustained Emergency Luminaire - See combined emergency luminaire.

Uniformity - The ratio between minimum illuminance (or luminance) to average illuminance (or luminance), usually measured at the working plane.

Notes

Dotted lines for note-taking, consisting of 27 horizontal rows of small dots.

A series of horizontal dotted lines spanning the width of the page, providing a template for writing.

A series of 30 horizontal dotted lines spanning the width of the page, providing a template for handwritten text or notes.

A series of 30 horizontal dotted lines spanning the width of the page, intended for handwritten notes.

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