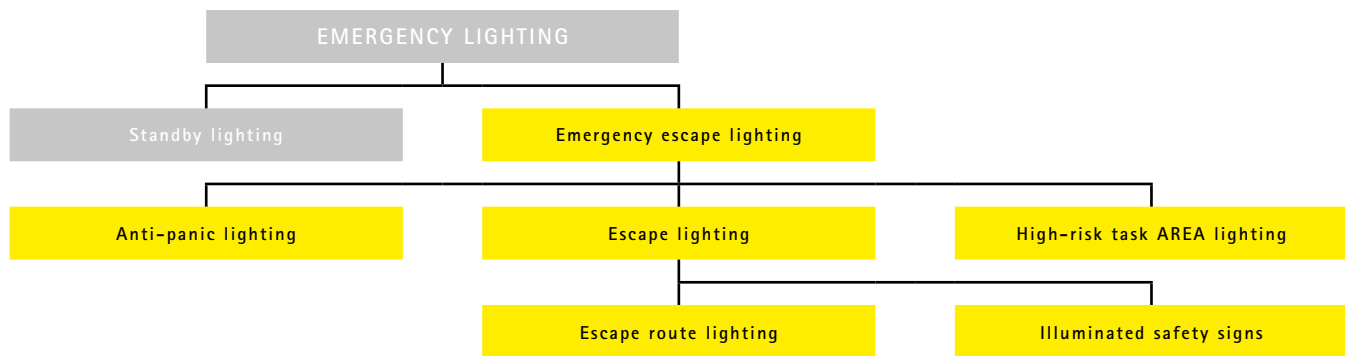


Standards emergency lighting

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

EUROPEAN STANDARD EN 1838

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



EMERGENCY LIGHTING

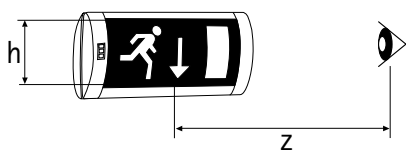
This is the lighting that comes on when the supply to the normal lighting fails. It allows people to safely evacuate the building without panic.

ANTI-PANIC LIGHTING

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

ESCAPE LIGHTING

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



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

$z = 100$ for an externally lit safety sign

$z = 200$ for an internally lit safety sign

$d = z \times h$

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

HIGH-RISK TASK AREA LIGHTING

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

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

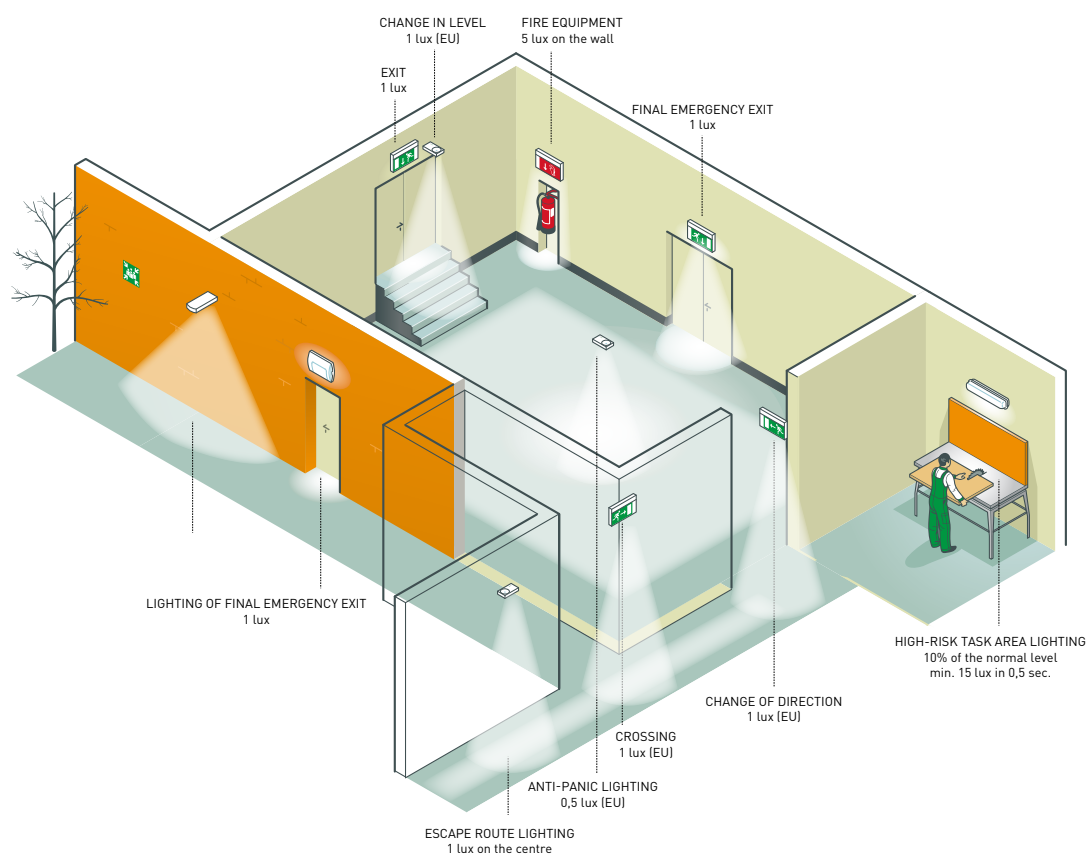


Standards emergency lighting

EUROPEAN STANDARD EN 1838

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

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



EUROPEAN STANDARD: EN 50172

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

RELATED EUROPEAN AND NATIONAL STANDARDS AND REGULATIONS

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

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