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Part 1: Emergency lighting of premises # Code of practice

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Introduction

Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international and European standards, comments will be reviewed by the relevant UK national committee before submitting the consensus UK vote and comments. If the draft standard is approved, it is usual for the resulting published standard to be adopted as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

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BS 5266-1:2025

Emergency lighting – Part 1: Emergency lighting of premises – Code of practice

Foreword

Publishing information

This part of BS 5266 is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 October 2025. It was prepared by Subcommittee EL/1/1, *Emergency lighting*, under the authority of Technical Committee EL/1, *Light and lighting applications*. A list of organizations represented on these committees can be obtained on request to the committee manager.

Supersession

This part of BS 5266 supersedes BS 5266-1:2016, which is withdrawn.

Relationship with other publications

This part of BS 5266 is intended for use in conjunction with BS EN 1838:2024.

BS 5266 is published in the following parts:

- Part 1: *Emergency lighting – Part 1: Emergency lighting of premises – Code of practice*;

The following topics are covered in BS EN 50172:2024 and BS EN 1838:2024

- general requirements for emergency escape lighting;
- escape route lighting;
- open area (anti-panic) lighting;
- high risk task area lighting;
- local area lighting;
- standby lighting.

Detailed guidance on fire risk assessments is given in PAS 79, in a series of guides published by the Department for Communities and Local Government [1–11], and in guidance published by the Justice Department of the Scottish Government [12–21].

Guidance on risk assessments for health and safety is given in HSE publication INDG 163 [22].

A summary of the hierarchy of standards covering the different aspects of emergency lighting systems is given in Annex A.

Information about this document

This is a full revision of the document, and introduces the following principal change:

- an expansion of the scope to cover local area lighting and standby lighting, as well as emergency escape lighting.

The aim of this standard is to promote wider understanding of the different types of emergency lighting system which may be employed, and to give guidance on their correct application to the varied requirements of different categories of premises.

The recommendations given in this standard have been drawn up to encourage uniformity of application, based on providing adequate safety to people in the event of interruption of the normal lighting, and having due regard to the hazard level and degree of familiarity of occupants with particular premises.

The standard recognizes that, in addition to ensuring safe unobstructed means of escape from the premises at all times, an important function of emergency lighting is to make possible the immediate location and operation of fire alarm call points and fire-fighting equipment, and another is to minimize the chance of panic arising in enclosed spaces, such as lifts.

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Users may substitute any of the recommendations in this part of BS 5266 with practices of equivalent or better outcome. Any user claiming compliance with this part of BS 5266-1 is expected to be able to justify any course of action that deviates from its recommendations.

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Presentational conventions

The provisions of this document are presented in roman (i.e. upright) type. Its recommendations are expressed in sentences in which the principal auxiliary verb is “should”.

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

The word “should” is used to express recommendations of this document. The word “may” is used in the text to express permissibility, e.g. as an alternative to the primary recommendation of the clause. The word “can” is used to express possibility, e.g. a consequence of an action or an event.

Notes and commentaries are provided throughout the text of this document. Notes give references and additional information that are important but do not form part of the recommendations.

Commentaries give background information.

Where words have alternative spellings, the preferred spelling of the Shorter Oxford English Dictionary is used (e.g. “organization” rather than “organisation”).

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Compliance with a British Standard cannot confer immunity from legal obligations.

Particular attention is drawn to legal requirements in respect of emergency lighting. Further guidance is given in the Building Regulations 2010, Approved Document B [23] and its equivalents in Wales [24], Scotland [25] and Northern Ireland [26].

0 Introduction

UK legislation imposes a duty on persons, including employers and other persons with control of premises, to carry out risk assessments and to take such precautions as to ensure as far as reasonably practicable the safety of the occupants. These measures include the provision of safe means of escape, including emergency escape routes and exits, together with, where necessary, signs indicating them. Legislation also states that suitable and sufficient emergency lighting needs are to be provided, where people are particularly exposed to danger, in the event of failure of the supply to the normal lighting.

There is increasing recognition of the application of emergency lighting to assist the safety of occupants who stay in a building during a mains supply failure. In many instances, particularly in places with frequently occurring power cuts, it might not be necessary or appropriate to evacuate the premises in the event of failure of the supply to the normal lighting, but precautions need to be taken to enable occupants to remain on the premises in safety. Borrowed light is not included in this British Standard as it cannot be relied on.

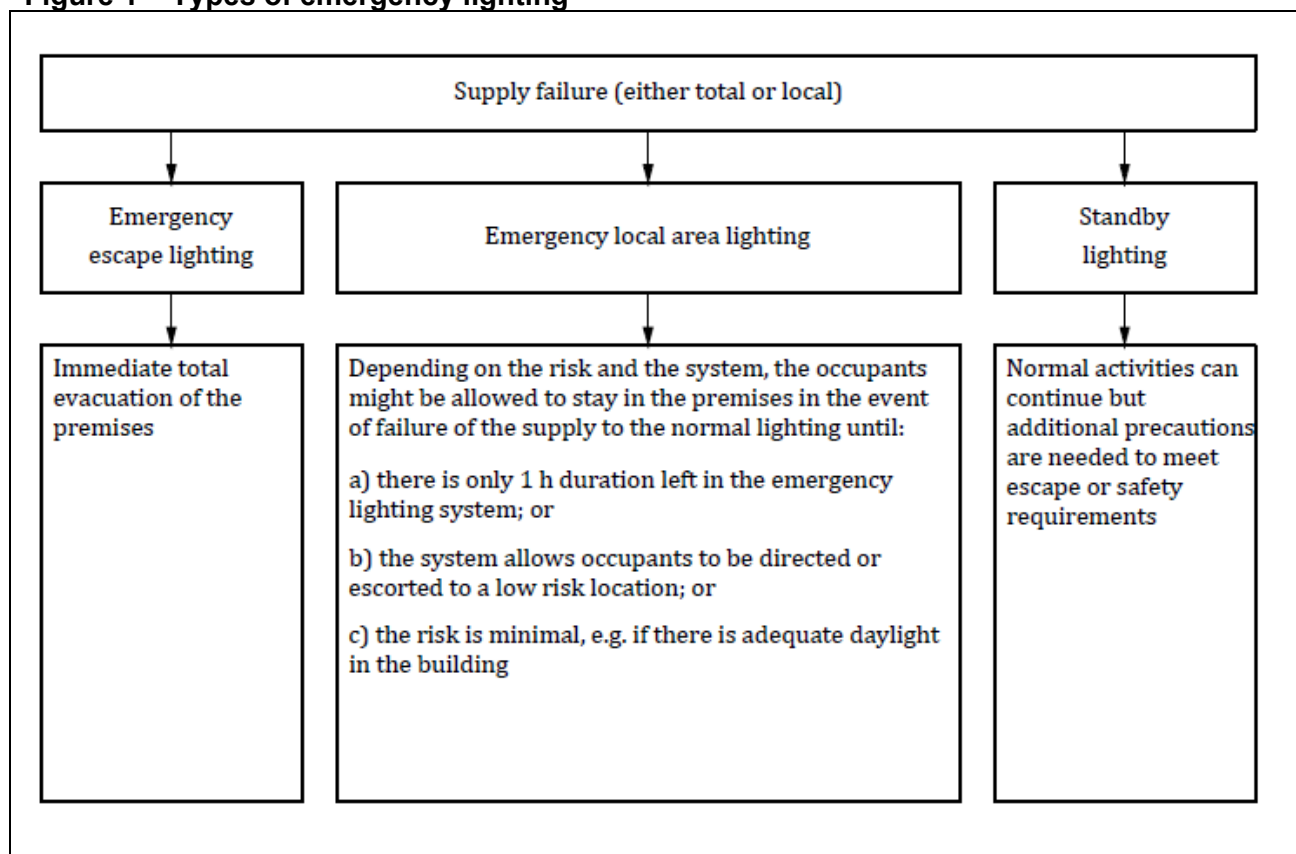
Some guidance on developments in emergency lighting application and technology is given in Annex B.

Emergency lighting can perform the following functions, some of which can be combined into a single system:

- a) emergency escape lighting, which provides illumination of escape routes, signs and points of emphasis to assist occupants to evacuate the premises;
- b) emergency local area lighting, which provides lighting for safe movement in the premises when the occupants need not evacuate the premises immediately;
- c) standby lighting, powered by an alternative power supply, which provides sufficient lighting to operate the premises normally in the event of a total failure of the main power supply.

The different types of emergency lighting are illustrated in Figure 1. Guidance on the application of emergency lighting systems is given in Annex C.

Figure 1 – Types of emergency lighting



1 Scope

This part of BS 5266 gives recommendations and guidance on the factors that need to be taken into account in the design, installation and wiring of electrical emergency lighting systems, in order to provide the lighting performance needed for safety of people in the building in the event of failure of the supply to the normal lighting.

This British Standard applies to emergency lighting systems used to:

- a) assist occupants to leave a building during an emergency;
- b) help protect occupants if they stay in a building during an emergency;
- c) help occupants to continue normal operations in the event of failure of the supply to the normal lighting.

This part of BS 5266 also gives recommendations for lighting in areas with fixed seating.

This part of BS 5266 is not applicable to dwellings; however, its provisions are applicable to common access routes within blocks of flats or maisonettes.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes provisions, or limits the application, of this document¹⁾. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 5499-4:2013, *Safety signs – Part 4: Code of practice for escape route signing*

¹⁾ Documents that are referred to solely in an informative manner are listed in the Bibliography.

BS 5499-10:2014+A1:2023, *Guidance for the selection and use of safety signs and fire safety notices*

BS 7273-4, *Code of practice for the operation of fire protection measures – Part 4: Actuation of release mechanisms for doors*

BS 7629-1, *Electric cables – Specification for 300/500 V fire resistant, screened, fixed installation cables having low emission of smoke and corrosive gases when affected by fire – Part 1: Multicore cables*

BS 7671, *Requirements for electrical installations – IET Wiring Regulations*

BS 7846, *Electric cables – Thermosetting insulated, armoured, fire-resistant cables of rated voltage 600/1 000 V for fixed installations, having low emission of smoke and corrosive gases when affected by fire – Specification*

BS 8434-2, *Methods of test for assessment of the fire integrity of electric cables – Part 2: Test for unprotected small cables for use in emergency circuits – BS EN 50200 with 930 °C flame and with water spray*

BS 8519:2020, *Selection and installation of fire-resistant power and control cable systems for life safety and fire-fighting applications – Code of practice*

BS 8592, *Electric cables – Thermosetting insulated, non-armoured, fire-resistant, single core non-sheathed cables of rated voltage 450/750 V, having low emission of smoke and corrosive gases when affected by fire – Specification*

BS EN 81-20, *Safety rules for the construction and installation of lifts – Lifts for the transport of persons and goods – Part 20: Passenger and goods passenger lifts*

BS EN 1838:2024, *Lighting applications – Emergency lighting*

BS EN 50171:2021, *Central power supply systems*

BS EN 50172:2024, *Emergency escape lighting systems*

BS EN 50200:2015, *Method of test for resistance to fire of unprotected small cables for use in emergency circuits*

BS EN 60529, *Degrees of protection provided by enclosures (IP code)*

BS EN 60702-1, *Mineral insulated cables and their terminations with a rated voltage not exceeding 750 V – Part 1: Cables*

BS EN 60702-2, *Mineral insulated cables and their terminations with a rated voltage not exceeding 750 V – Part 2: Terminations*

BS EN 61386-1 (all parts), *Conduit systems for cable management – Part 1: General requirements*

BS EN IEC 60598-2-22:2022, *Luminaires – Part 2 -22: Particular requirements – Luminaires for emergency lighting*

BS EN IEC 62485, *Safety requirements for secondary batteries and battery installations – Part 5: Safe operation of stationary lithium ion batteries*

BS EN ISO 7010:2020+A6:2023, *Graphical symbols – Safety colours and safety signs – Registered safety signs*

BSI ISO 23601, *Safety identification – Escape and evacuation plan signs*

BS ISO 3864-3, *Graphical symbols – Safety colours and safety signs – Part 3: Design principles for graphical symbols for use in safety signs*

BS ISO 3864-4:2011, *Graphical symbols – Safety colours and safety signs – Part 4: Colorimetric and photometric properties of safety sign materials*

IEC 60331-3, *Tests for electric cables under fire conditions – Circuit integrity – Part 3: Test method for fire with shock at a temperature of at least 830 °C for cables of rated voltage up to and including 0,6/1,0 kV tested in a metal enclosure*

IEC 60364-5-56:2018, *Low-voltage electrical installations – Part 5-56: Selection and erection of electrical equipment – Safety services*

3 Terms and definitions

For the purposes of this part of BS 5266, the terms and definitions given in BS 4422, BS EN 1838:2024, BS EN 50171:2021, BS EN 50172:2024, BS EN IEC 60598-2-22:2022 and the following apply.

3.1 activation time (of an emergency lighting system)

time between failure of the supply to the normal lighting and emergency lighting reaching the required level of illuminance

[SOURCE: BS EN 1838:2024, **3.20**]

3.2 automatic test system

automated test system that may be manually initiated, consisting of parts (such as timers, current detectors, light detectors, changeover switches) which, when connected together, make a system that can carry out the routine testing requirements of emergency luminaires, and indicate the test results

[SOURCE: BS EN 62034:2012, **3.1**, modified – “emergency lighting luminaires” was replaced by “emergency luminaires”]

3.3 borrowed light

light obtained from any source other than the buildings emergency lighting

3.4 centrally supplied emergency luminaire

luminaire for maintained or non-maintained operation which is energized from a central emergency power system that is not contained within the luminaire

[SOURCE: BS EN IEC 60598-2-22:2022, **22.3.9**]

3.5 competent person

person with the relevant current training and experience, and with access to the requisite tools, equipment and information, and capable of carrying out a defined task

3.6 electrical source for safety services (ESSS)

electrical source intended to be used as part of an electrical supply system for safety services

[SOURCE: IEC 60364-5-56:2018, **560.3.2**, modified – “ESSS” has been added as admitted term.]

3.7 emergency exit

way out that is used during an emergency

[SOURCE: BS EN 50172:2004 (withdrawn), **3.8**]

3.8 emergency escape lighting

part of emergency lighting that provides illumination for visibility of the escape route and of safety signage for fire-fighting and safety equipment and for the guidance and the safety of people leaving a location to a place of safety or attempting to terminate a potentially hazardous process or situation before doing so

[SOURCE: BS EN 12665:2024, **3.5.36**]

3.9 emergency lighting

lighting provided for use when the power supply to the normal electric lighting fails

[SOURCE: BS EN 12665:2024, **3.5.6**]

3.10 emergency local area lighting

part of emergency lighting that provides illumination for people allowed to remain temporarily in a premises during a mains supply failure if it is risk assessed for the activities that are allowed to be performed.

[SOURCE: BS EN 12665:2024, **3.5.101**, modified – “emergency” added in the term]

3.11 fixed seating

seating fixed to the floor

NOTE Fixed seating is usually used in large places of entertainment.

3.12 high-risk task area lighting

part of emergency lighting that provides illumination for 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 building

[SOURCE: BS EN 12665:2024, **3.5.50**]

3.13 maintained emergency luminaire

luminaire in which emergency lighting lamps are energized at all times when normal or emergency lighting is required

[SOURCE: BS EN IEC 60598-2-22: 2022, **22.3.5**]

3.14 non-maintained emergency luminaire

luminaire in which the emergency lighting lamps are in operation only when the supply to the normal lighting fails

[SOURCE: BS EN IEC 60598-2-22: 2022, **22.3.6**]

3.15 responsible person

delegated individual who is responsible for the provision and operation of appropriate emergency escape lighting

NOTE This might not necessarily be the same as the responsible person as defined in the Regulatory Reform (Fire Safety) Order 2005 [27].

3.16 sign height

diameter of a circular geometric shape or height of a rectangular or triangular geometric shape

[SOURCE: BS ISO 3864-1:2011, **3.13**]

3.17 standby lighting

part of emergency lighting provided to enable normal activities to continue substantially unchanged

[SOURCE: BS EN 12665:2024, **3.5.74**, modified – spelling standby lighting is used]

3.18 system duration (of an emergency lighting system)

minimum period of time for which the luminous requirements of the emergency lighting system are met

NOTE A system can consist of a single luminaire.

[SOURCE: BS EN 1838:2024, **3.19**]

4 Consultation and records

4.1 Consultation

Consultation between the responsible person, the owner/developer and/or occupier of the premises, the architect, the lighting engineer, the installation contractor, the enforcing authorities (e.g. the building control body), the electricity supplier/distributor and any others concerned should be arranged at a very early stage.

The consultation stage should define the way in which the system is intended to operate, including information as to whether the premises are to be evacuated immediately in the event of failure of the supply to the normal lighting, or whether occupants are likely to stay in the building.

If a “stay put” strategy is agreed as part of the emergency plan for the premises, procedures for maintaining safety should be determined, including:

- a) actions to be taken as the end of emergency duration approaches;
- b) how to warn the occupants if they then need to evacuate the premises; and
- c) how to direct or escort the occupants to safe refuges, if these are to be used.

The testing procedures should be agreed that meet the recommendations in Clause **12** and are suitable for the premises.

Other relevant factors, such as the areas and types of premises to be covered, the numbers and location of occupants and the location of exit routes, should be given to the system designer.

An assessment of potential risks to occupants in a building, in the event of failure of the supply to the normal lighting, should be made and compensating safety provisions should be determined.

NOTE 1 Some guidance on developments in emergency lighting application and technology, which might assist in determining the most appropriate design option, is given in Annex B.

NOTE 2 There might be statutory requirements and/or local conditions that apply to the premises in question, including the need for a risk assessment (see Introduction).

NOTE 3 In premises where occupants are expected to stay in place through a supply failure, an automatic test system might be used to avoid risks.

NOTE 4 Where the escape route leaves the building, the escape route may continue to a place of ultimate safety.

4.2 Supply of plans

Plans of the premises should be available at an early stage to assist the consultation stage and system design. These should include:

- a) escape routes;
- b) open areas;
- c) escape route signs;
- d) high-risk task areas;
- e) safety equipment, including fire safety equipment, safety signs and any other aspects identified by risk assessment;
- f) details of normal lighting and its control system; and
- g) special locations.

NOTE 1 For special locations, see 5.2.8.1.

NOTE 2 The supply of plans is specified in BS EN 50172:2024, 5.1.

4.3 Records

Records of the emergency lighting system should be kept, including the location and type of emergency lighting system components, e.g. luminaires, test devices and any central power units and their associated electrical documentation in accordance with BS 7671.

Copies of these records should be passed to the responsible person to assist with future investigations, and to assist in the design of any extensions or modifications to the premises or the emergency lighting system.

NOTE 1 The supply of drawings and logbook is specified in BS EN 50172:2024, Clause 6.

NOTE 2 Records need to be archived in an electronic format wherever possible.

5 Illumination for emergency lighting conditions

COMMENTARY ON CLAUSE 5

The safe movement of people along escape routes towards and through the exits provided to a place of ultimate safety depends upon the illumination and the ability to see hazards, changes of level and direction.

The stimulus for vision is not the light which falls on objects, but the light reflected to the eyes. Different objects are distinguished by contrast of the changes in light reflected to the eyes. A light-coloured object on a dark background can be made conspicuous with far less light than a dark coloured object on a dark background.

The amount of light falling on an object (illuminance) is affected not merely by the power and position of the lamps used for illumination, but also by reflection from the surroundings. In many interior spaces, a high proportion of the light falling on any surface comes from the light sources reflected by other surfaces in the room.

Where the walls, floor and ceiling are light in colour, up to 60% of the illuminance at floor level might have been reflected from the walls or ceiling.

In a room where the decorative finishes are dark in colour (i.e. have low reflectance), the contribution of reflected light to the illuminance is much smaller. The reflected light might be negligible in, say, a club or restaurant, where the carpets, walls and ceiling have been deliberately kept dark in colour to produce a feeling of intimacy and relaxation.

In restricted spaces such as corridors, light coloured decoration throughout is an advantage. Prominent edges to vertical surfaces at changes of direction can assist emergency evacuation.

All potential obstructions or hazards on an escape route need to be light in colour with contrasting surround. Such hazards include the nosings of stair treads, barriers and walls at right angles to the direction of movement.

5.1 General

For all premises offering escape or safety protection, the building should be protected in accordance with BS EN 1838:2024 and the relevant recommendations given in BS 5266-1.

5.2 Illumination for safe escape – Emergency escape lighting

COMMENTARY ON 5.2

Visual acuity varies considerably from one person to another with regard to the amount of light required to perceive an object clearly and the time taken to adapt to changes in the illuminance (visual adaptation). In general, older people and those with impaired vision need more light to follow an escape route and have longer visual adaptation times.

The maximum period which needs to be allowed to elapse between failure of the normal supply and the switch-on of the emergency lighting depends upon:

- a) *whether panic can arise amongst a significant number of people, which in turn depends upon factors such as the type of building and the people themselves (knowledge, training, physical and mental conditions); and*
- b) *the time taken to adapt to the new, and normally much lower, illuminance provided by the emergency lighting.*

The illuminances in this British Standard have been determined from experience and practical test.

Further guidance is given in BRE Information Paper 9/97 [28], which identifies conditions that benefit from a minimum illuminance of 3 lx on the centre line of the escape route.

Guidance on the application of emergency lighting systems is given in Annex C.

5.2.1 General

In the event of a failure of the supply to the normal lighting, emergency escape lighting should be available to assist occupants to evacuate a building safely by:

- a) locating and identifying exit signs at doors and escape route direction signs;
- b) using the escape routes; and
- c) conducting safety measures prior to evacuation, such as shutting equipment down safely or checking that all personnel have vacated the premises.

The duration of the emergency escape lighting should include time to evacuate disabled occupants or to release anyone trapped in a lift.

If evacuation is not immediate in the event of a failure of the supply to the normal lighting, emergency local area lighting should be provided in accordance with **5.3**, as well as standby lighting in accordance with **5.4**.

5.2.2 Design conditions

The recommended illuminances that are given as a minimum (escape routes and open areas) or average (high-risk task areas) should be regarded as the lowest value acceptable during the rated duration, taking into account the effects of reduction in voltage, voltage drop in the system wiring, battery ageing, lamp ageing and the accumulation of dirt and dust.

Calculations of illuminance should be made ignoring reflectance. However, with lighting systems such as indirect luminaires and uplights, where the luminaire works in conjunction with a reflecting surface, the first reflection should be taken as the direct light output and subsequent reflections should be ignored.

Where the occupants are allowed to remain in the building during periods without normal lighting, local area lighting should be provided.

NOTE 1 Guidance on the measuring of illuminance of emergency lighting is given in Annex D.

NOTE 2 Further guidance on design can be found in CIBSE/SLL publication LG 12 [29] and BS EN 1838:2024.

5.2.3 Uniformity and diversity of illuminance

Measures should be taken to avoid abrupt variation between excessively bright and dark areas on the floor of the escape route and open areas, and the locations of high-risk hazards.

NOTE Uniformity and diversity of illuminance are specified in BS EN 1838:2024.

5.2.4 Disability glare

High luminous intensity emergency luminaires that interfere with observation of emergency exit signs, routes and obstructions (disability glare) should be located at least 30° out of direct line of sight when observing the escape route. Directional luminaires should be directed such that they do not cause disability glare.

NOTE Limitation of disability glare is specified in BS EN 1838:2024.

5.2.5 Defined escape routes

To assist escape routes to be used at all times, the horizontal illuminance on the floor should be not less than 1 lx and borders of 0.5 m of the perimeter of the escape route area should be excluded. For escape routes less than 2 m, borders of ¼ of the escape route width should be excluded.

NOTE The provision of appropriate illuminance at points of emphasis is given in 5.2.8.

5.2.6 Open areas

Rooms with a floor area greater than 60 m², or those having been risk assessed as needing emergency lighting, should be provided with horizontal illuminance of not less than 0.5 lx at the floor level of the area, excluding a border of 0.5 m around the perimeter.

Where an escape route passes through an open area, but is not clearly defined, the whole area should be treated as an escape route. Where an escape route passes through an open area, emergency escape lighting should be a minimum of 1 lx at the floor level.

NOTE 1 Illuminances for open areas are given in BS EN 1838:2024.

NOTE 2 Typical factors for consideration in a risk assessment are underground or windowless areas, high levels of occupancy, an escape route passing through the area or the need to switch off other equipment before leaving.

NOTE 3 Figure 2 shows an example of areas requiring emergency lighting.

5.2.7 High-risk task areas

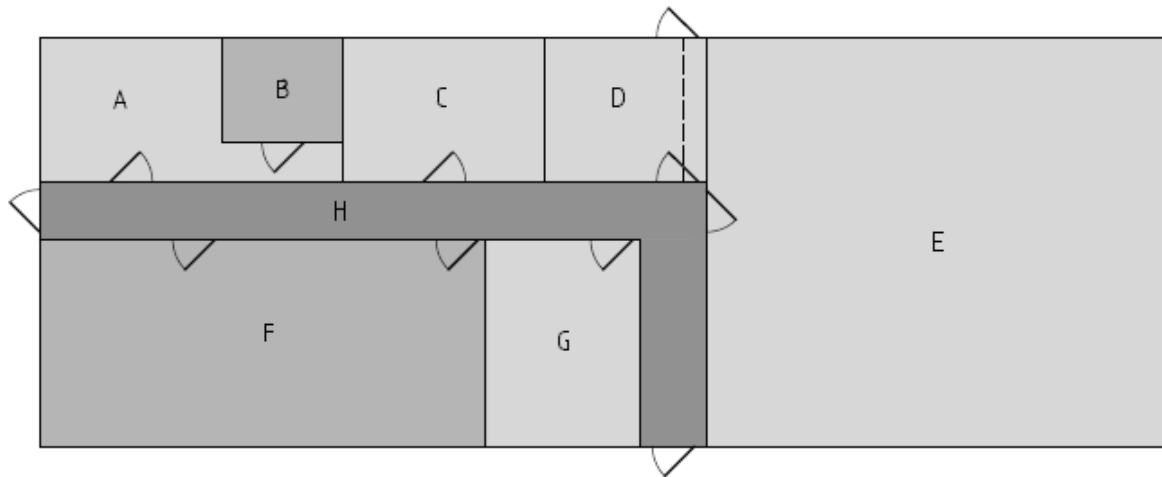
If emergency escape lighting is required to provide illumination for the safety of people involved in a potentially dangerous process or situation, and to enable proper shut-down procedures for the safety of the operator and other occupants, the illuminance value should be not less than 10% of the average of the normal lighting at the location of the point of the risk.

NOTE 1 Some activities might need considerably higher illuminances than the minimum value. Requirements for high risk task area lighting are specified in BS EN 1838:2024.

Because the presence of dangerous processes makes the initial period important, the time taken for the full emergency escape lighting to activate should be not more than 0.5 s.

NOTE 2 Guidance on appropriate levels for activities that need to be terminated but are not assessed as potentially dangerous is given in Annex E.

Figure 2 – Example of rooms requiring emergency lighting



Key Rooms	Area	Dimensions	Function and relevant considerations	Emergency lighting needed
A	Room with inner room	$(9 \times 3) \text{ m} = 27 \text{ m}^2$	Small office in which the office becomes the escape route of the inner room and needs emergency lighting	Yes
B	Inner room	$(2 \times 4) \text{ m} = 8 \text{ m}^2$	Inner room with no risks	No
C	Room	$(3 \times 4) \text{ m} = 12 \text{ m}^2$	Kitchen needing emergency lighting in the risk assessment for the premises	Yes
D	Room with escape route through	$(3 \times 4) \text{ m} = 12 \text{ m}^2$	Small office, escape route passes through this open area	Yes
E	Large room	$(8 \times 10) \text{ m} = 80 \text{ m}^2$	Main office larger than 60 m^2 floor area	Yes
F	Room	$(11 \times 5) \text{ m} = 55 \text{ m}^2$	Medium office smaller than 60 m^2 floor area	No
G	Room	$(5 \times 6) \text{ m} = 30 \text{ m}^2$	Toilet larger than 8 m^2 floor area	Yes
H	Defined escape route	$(2 \times 17) \text{ m}$	Corridor leading to exits; luminaires required at change of direction, exits and outside building to place of ultimate safety	Yes

5.2.8 Siting of luminaires and special locations

COMMENTARY ON 5.2.8

Emergency lighting luminaires not only provide illumination, but their presence identifies points of emphasis of both safety equipment and hazard points in the building. Consequently, their physical location is important both for the use of the escape route and for safe occupation prior to evacuation.

5.2.8.1 gives general recommendations for siting of luminaires, and 5.2.8.2 to 5.2.8.7 give recommendations for siting of luminaires in specific locations. Other hazards might be present in locations where activities that are safe with normal mains illumination can be a risk in a supply failure and activities need to be illuminated prior to evacuation. Typical levels of emergency lighting for such hazards are given in Annex E.

5.2.8.1 General

Siting and illuminance levels of emergency escape lighting luminaires should be in accordance with BS EN 1838:2024.

Emergency escape lighting should be provided in escape routes, open areas, high-risk task areas, and points of emphasis including:

- a) externally illuminated escape route signs, escape route direction signs and other safety signs needing to be illuminated under emergency lighting conditions;
- b) near each exit door intended to be used in an emergency;
- c) near stairs so that each flight of stairs receives direct light;
- d) near any other change in level;
- e) at each change of direction;
- f) at each intersection of corridors;
- g) near to each final exit and outside the building to a place of safety;
- h) near manual release controls provided to release electronically locked doors as recommended in BS 7273-4;
- i) near the call point where an alarm call is received from a passenger lift car and the associated lift winding facilities;
- j) corridors from all passenger lift doors to the nearest escape route;
- k) near each piece of fire-fighting equipment and call point so that at least 5 lx vertical illuminance should be provided at the fire alarm call points, fire-fighting equipment, panel, also escape and rescue plans as defined in BS ISO 23601;
- l) near each first aid post so at least 5 lx vertical illuminance should be provided at the first aid box;
- m) near escape equipment provided for people with disabilities; and
- n) near refuges and call points, including two-way communication systems and disabled toilet alarm call position.

NOTE 1 For the purpose of this subclause, “near” is normally within 2 m measured horizontally.

NOTE 2 For the purpose of this subclause, “at” means that the emergency luminaire illuminates in both directions at the change of direction or intersection.

5.2.8.2 External areas in the immediate vicinity of exits

Emergency illumination should be provided near to each final exit and outside the building to a place of safety. This route should form an integral part of the escape route.

NOTE 1 Illumination of these areas is specified in BS EN 1838:2024 and BS EN 50172.

NOTE 2 Illumination to an ultimate place of safety and on to an assembly point does not necessarily form part of the escape route.

The performance recommendations for the illumination to any ultimate place of safety and onto an assembly point should be taken into account and specified within the building's fire risk assessment and evacuation plan, and delivered accordingly.

Existing installations that have used external street lighting to illuminate external exits should be re-assessed to confirm whether the streetlights are still illuminated at all times the premises are in use; if they are not, alternative arrangements should be made.

5.2.8.3 Evacuation lift cars

Emergency illumination within evacuation lift cars should be provided as specified in BS EN 81-20.

NOTE BS 9999 gives guidance on lifts used as a means of escape.

5.2.8.4 Moving stairways and walkways

Moving stairways and walkways should be illuminated as if they were part of an escape route.

5.2.8.5 Toilet facilities and changing rooms

Toilet facilities and changing rooms exceeding 8 m² gross floor area should be provided with open area (anti-panic) lighting. Toilet lobbies should be provided with emergency escape lighting to the levels required for escape routes.

In toilets, shower cubicles within toilet facilities, or changing rooms and single occupancy toilets with baby changing facilities, a minimum horizontal illuminance of 1 lx on the floor should be provided from one or more luminaires. For single occupancy toilets with baby changing facilities, however, a minimum horizontal illuminance of 5 lx should be provided on the changing table. For illuminated toilet alarms, a minimum of 5 lx vertical illuminance should be provided.

NOTE 1 For toilet lobbies less than 8 m² floor area, light from an internally illuminated emergency exit sign can contribute to meeting the system integrity requirements.

In designated facilities for differently abled person(s), a minimum of 5 lx horizontal illuminance should be provided on the floor.

Facilities for use by people with additional needs and/or any multiple closet facilities should have emergency illumination from at least one luminaire.

NOTE 2 Provision of emergency lighting in accordance with this subclause does not necessitate the provision of emergency lighting in toilets designed to accommodate only a single able-bodied person, or in en-suite toilets or bathrooms in hotel bedrooms.

5.2.8.6 Motor generator, control, plant and switch rooms

Emergency lighting should be provided for all motor generator rooms, control rooms, plant rooms and switch rooms, adjacent to main control equipment associated with the provision of normal and emergency lighting to the premises.

To be able to access the equipment in the room, the horizontal illuminance should be at least 0.5 lx on the floor.

To be able to operate equipment in the room, the illuminance on main control equipment and switchboards associated with the provision of normal and emergency escape lighting to the building should be at least 5 lx in the plane of the visual task.

5.2.8.7 Covered car parks

Pedestrian escape routes from covered and multi-storey car parks should be provided with emergency lighting. The risk assessment should identify the extent and location of the pedestrian escape route. The emergency lighting should be to the same standard as that on defined escape routes and open areas (see **5.2.5** and **5.2.6**).

5.2.8.8 Public indoor swimming pools

For increased safety in swimming pools, the emergency lighting level should be increased to 5 lx horizontal illuminance on the water surface and at floor level on circulation routes of the pool surrounds and the access routes to diving boards or flumes.

NOTE Higher illuminance levels during the first period after power failure on the water are required in BS EN 12193:2019-07, 6.7.

5.2.9 Safety signs

5.2.9.1 Escape route signs

5.2.9.1.1 General

Escape route signs should be located and operated in accordance with BS 5499-4:2013. The signs designated as E001 and E002 in BS EN ISO 7010:2020+A6 should be used, with the appropriate directional arrow type D from BS ISO 3864-3 in accordance with BS 5499-4:2013, Table 1.

Measurement of sign height of BS EN ISO 7010:2020+A6 E001 or E002 should be in accordance with BS 5499-4:2013, Figure 5. Measurement of height of supplementary direction arrows should be in accordance with BS 5499-4:2013, Figure 6. The direction arrow should be the same height as the graphical image BS EN ISO 7010:2020+A6 E001 or E002.

NOTE 1 The E001 and E002 originals in BS EN ISO 7010:2020+A6 are in a uniform 70 mm size with corner marks to enable accurate enlargement and reduction scaling. A border is not shown.

System design should be in accordance with BS 5499-4:2013, Clause 4.

Signs should be sited conspicuously within the normal field of vision to assist the evacuee to predict the location of successive signs.

NOTE 2 Recommendations on location of signs are given in BS 5499-4:2013, 4.5.

NOTE 3 Recommendations on mounting height are given in BS 5499-4:2013, 4.6.

Duration of the emergency lighting should meet the designated duration for the location.

5.2.9.1.2 Colorimetric and photometric characteristics

Escape route signs should have the following colorimetric and photometric characteristics:

- a) internally illuminated escape route signs, when powered, should comply with BS EN 1838:2024, 6.3;
- b) internally illuminated escape route signs, when unpowered, during normal lighting conditions, should meet the colorimetric and photometric requirements of BS ISO 3864-4:2011, Table 1 for externally illuminated escape route signs; and

NOTE As this condition might reduce the sign viewing distance, a maintained sign can be used.

- c) externally illuminated escape route signs should meet the colorimetric and photometric requirements of BS ISO 3864-4:2011, Table 1. The provided emergency lighting should comply with BS EN 1838:2024, Clause 5 and BS EN 1838:2024, 6.3.2 to provide vertical illuminance of at least 5 lx at the sign.

5.2.9.1.3 Distance factors and viewing distance for sign identification

Distance factors and viewing distances for sign identification should depend upon the type of sign and have the following characteristics:

- a) internally illuminated signs, when powered: distance factors z_0 according to BS 5499-4:2013, Table 3 should be used according to the mean luminance of white of signs complying with BS EN 1838:2024, 6.3;

NOTE 1 The value of distance factor z_0 of 200 given in BS EN 1838:2024, 6.4 is applicable when the mean luminance of the white contrast colour is at least 100 cd/m². The lowest range of luminance of white of a sign complying with BS EN 1838:2024, 6.3 is 10 cd/m² to 15 cd/m², for which the applicable value of z_0 is 150.

NOTE 2 Viewing of signs is mainly at an angle to the normal to the sign such that the viewing distance for sign identification is reduced.

NOTE 3 Differences in height between the horizontal viewing plane and the horizontal plane of the sign can be taken into account by viewing from within a wide area or viewing a sign on a side wall.

NOTE 4 The effect of angle of viewing can be taken into account to determine size of sign, using the guidance given in BS 5499-4:2013, Annex C. Under emergency lighting conditions, an internally illuminated sign with a value of z_0 of 170 may be in accordance with BS 5499-4: 2013, Figures C1 to C3 and C5 (excluding lettering).

- b) internally illuminated signs, when unpowered: distance factors z_0 according to BS 5499-4: 2013, Table 2 should be used according to the vertical illuminance on the sign; and
- c) externally illuminated signs: distance factors z_0 according to BS 5499-4:2013, Table 2 should be used according to the vertical illuminance on the sign.

NOTE 5 The effect of angle of viewing can be taken into account in accordance with BS 5499-4:2013, Annex C. Under emergency lighting conditions, BS 5499-4:2013, Figures C6 to C7 may be used.

5.2.9.2 Other externally illuminated safety signs

The safety signs, other than escape route signs, their format and meaning using BS EN ISO 7010:2020+A6, should be in accordance with BS 5499-10:2014+A1 for normal and emergency lighting conditions.

Signs should meet the colorimetric and photometric requirements of BS ISO 3864-4:2011, Table 1.

Signs should be mounted and operated in accordance with BS 5499-10:2014+A1.

NOTE Recommendations on positioning of signs are given in BS 5499-10:2014+A1, 4.9.

The need for specific safety signs to be illuminated under emergency lighting conditions should be established during the risk assessment of the premises using the recommendations given in BS 5499-10:2014+A1.

The provided emergency lighting should comply with BS EN 1838:2024, Clause 5 and BS EN 1838:2024, 6.3.2 to provide vertical illuminance of at least 5 lx at the sign.

5.3 Illumination for safety in the building – Emergency local area lighting

COMMENTARY ON 5.3

If a building is not evacuated immediately, additional measures to those recommended in 5.2 might be included in the risk assessment. These might include, for example, a need for emergency lighting in rooms where occupants are able to stay put, and also higher light levels.

If the risk assessment allows occupants to stay in the building, measures to maintain safety might be necessary as the end of the emergency approaches.

Guidance on the application of emergency lighting systems is given in Annex C.

5.3.1 General

If a risk assessment shows that emergency local area lighting is needed, it should meet the recommendations given in 5.3.2 and 5.3.3.

5.3.2 Minimum illuminance

The minimum illuminance over the area where people might have to move during a failure of the supply to the normal lighting should be not less than 1 lx on the floor area of the escape routes.

NOTE 1 The minimum illuminance required for safe movement in the building overall under normal conditions is specified in the Health and Safety Executive publication HSG 38 [30].

NOTE 2 A higher illuminance might assist people with visual impairments. Guidance is given in BRE information paper 9/97 [28]; see also the Commentary on 5.2.

5.3.3 Safety signs

Escape route signs should be identifiable and in accordance with 5.2.9.1. Other safety signs should be identifiable and in accordance with 5.2.9.2.

5.4 Illumination for continued activity – Standby lighting

COMMENTARY ON 5.4

Some premises use standby power supplies to replace the input power to the luminaires if the normal mains supply fails.

Standby lighting powered by an alternative power supply source, such as a generator, should provide the same lighting conditions as those provided by the normal lighting system. This lighting should permit occupants to operate the premises normally.

If standby lighting is to form the emergency escape or emergency local area lighting, the equipment, wiring and installation should be in accordance with the recommendations given in Clause 6, Clause 7 and Clause 8.

6 Emergency lighting design

COMMENTARY ON CLAUSE 6

Emergency lighting is provided for use when the power supply to normal lighting fails and has therefore to be powered from a source independent of that supplying the normal lighting.

6.1 System integrity

To provide emergency lighting when required, failure of the final circuit supply to the normal lighting should activate non-maintained emergency luminaires.

6.2 Failure of individual normal lamp

Wherever possible, the condition of individual normal lighting lamps or luminaires or their failure should not prejudice the safety of occupants, so their condition does not need to activate the emergency lighting. If failure of an individual normal luminaire prejudices safety, maintained emergency luminaires should be used in the area.

6.3 Failure of emergency lighting luminaire

The risk of occupants being in total darkness in the event of failure of individual emergency lighting luminaires should be minimized by verifying that illumination from at least two luminaires or emergency exit signs with a usable downward light element is visible in:

- a) each room (open areas) requiring emergency lighting; and
- b) the escape route.

This should be determined on the basis that all doors are shut.

NOTE 1 Glazed panels allowing sufficient illumination from an adjacent part of the escape route might be acceptable.

NOTE 2 System integrity is specified in BS EN 1838:2024, 5.1.8.

6.4 Mounting height of luminaires

The normal height for luminaires should be at least 2 m, but the mounting height should be adjusted for the application, taking into account the effects of glare, the need to be below the possible build-up of smoke in smoke reservoirs, conditions in specific buildings (e.g. heritage buildings), or to highlight specific hazards such as stairs.

NOTE System mounting heights are specified in BS EN 1838:2024.

6.5 Spacing between luminaires

A larger number of low light output luminaires placed close together should therefore be used in preference to a few high light output units spaced further apart, to minimize glare and in case a single light source fails.

6.6 Classification of operation of emergency lighting systems

For inspection and to assist those working on emergency lighting systems, the systems should be identified with their classification.

NOTE For details in classifications, see Annex F.

6.7 Choice of appropriate emergency lighting systems

6.7.1 Selection of appropriate emergency lighting luminaires

COMMENTARY ON 6.7.1

A highly reliable illuminance on escape routes is to be provided.

Emergency lighting luminaires can be either self-contained emergency luminaires or centrally supplied emergency luminaires complying with the relevant product standards. Both may be used for escape route signs or emergency lighting.

For certain applications, the luminaire itself should have satisfactory protection against the ingress of foreign bodies or moisture, using the appropriate IP classification as defined in BS EN 60529.

Details of the approvals and performance should be confirmed with the user and full documentation added to the system records.

NOTE 1 If used in hazardous areas, attention is drawn to luminaires certified to national or international standards by a notified body which are constructed to a protection method appropriate to its location within the hazardous area (see BS EN 60079-14).

NOTE 2 BS EN 50172:2024, 5.2.2 specifies a requirement for emergency escape lighting luminaires to be designed and constructed in accordance with BS EN IEC 60598-2-22:2022. It also specifies a requirement for them to be selected to be appropriate for their location.

NOTE 3 A number of locations might be identified as needing emergency lighting to conduct specific tasks in the event of a supply failure prior to evacuation. Guidance on these locations is given in Annex E, and guidance on calculations for these locations is given in Annex G.

6.7.2 Classification of system

The type, mode of operation, facilities and duration of the system to be used should be selected on the basis of the size, function and risk assessment of the premises.

NOTE 1 The available options for emergency lighting systems are described in Clause 5 and Clause 10. Classifications are given in Annex F.

NOTE 2 For many types of premises there are regulatory requirements relating to emergency lighting.

6.7.3 System duration

COMMENTARY ON 6.7.3

The time required to evacuate premises depends upon their size and complexity. The duration is dependent not only on the time to evacuate the premises but also on whether they are evacuated immediately on a supply failure and whether they are reoccupied immediately that the supply is restored.

BS EN 1838:2024, 5.1.5 and 5.2.5 specify a minimum system duration of the emergency escape lighting of 1 h.

A minimum duration of 3 h should be used for emergency lighting if the premises are not expected to be evacuated immediately in the event of a supply failure, such as sleeping accommodation or places of entertainment, or if the premises are expected to be reoccupied when the supply is restored without waiting for batteries to recharge.

A minimum duration of 1 h should be used only if the premises are expected to be evacuated immediately on supply failure and not reoccupied until full capacity has been restored to the batteries.

7 Power supplies and equipment used as electrical sources for safety (ESSS)

COMMENTARY ON CLAUSE 7

ESSS are intended to serve the exclusive function of supplying electrical power to emergency escape lighting during a normal power supply failure.

7.1 Power supplies ESSS

7.1.1 General

An ESSS should remain operational even if a circuit fault occurs during an emergency situation. If a circuit fault occurs in a dedicated safety circuit, it should not interrupt any other circuit dedicated to a safety service.

NOTE An ESSS can serve other safety services, as long as it does not compromise the availability of each individual safety service.

Independent feeders of a supply network should not be used as ESSS unless the two supplies do not fail concurrently.

The system designer should apply independent ESSS for each safety service, in case of any impairment in the functionality of the safety service.

The system should be designed to provide the required output load in Watts and VA for the power factor of the load and it should also be capable of providing the starting surge from the load. If the load is changed during system life, these values should be re-calculated and the records kept.

7.1.2 Central safety power supply systems

The appropriate type of power source should be operated, tested and serviced in accordance with the manufacturer's instructions.

Power supplies used as a source for safety should be in accordance with BS EN 50171:2021.

7.1.3 Uninterruptible power supplies (UPS)

The appropriate type of power source should be operated, tested and serviced in accordance with the manufacturer's instructions.

The uninterruptible power supply (UPS) should be used in accordance with IEC 60364-5-56:2018, **560.6.11**.

The manufacturer should declare the maximum size of the protective device for the inverter/converter to disconnect without the aid of the bypass circuit in emergency conditions.

Power supplies used as a source for safety should be in accordance with BS EN 50171:2021.

7.1.4 Location of power supplies for sources for safety and central safety power supply systems

Power supplies and equipment for sources of safety and the associated batteries should be located in an area of low fire risk.

The power supplies and equipment for sources of safety should be installed in a safe location and be accessible only to skilled or instructed person(s), and should be segregated from other sources. The location should be properly and adequately ventilated in accordance with BS EN IEC 62485.

7.2 Batteries for emergency lighting

7.2.1 General

Batteries should be selected specifically for use in emergency lighting applications in accordance with the manufacturer's instructions. Batteries should be replaced in accordance with the manufacturer's specifications and recommendations, which depend on the type and model of the battery. To avoid any risks, the user should consult the emergency lighting manual or contact the manufacturer before replacing the battery.

NOTE 1 Using an incompatible or inferior battery can result in reduced performance, shorter lifespan, or even fire hazards.

NOTE 2 Attention is drawn to legislative requirements concerning the disposal of batteries at the end of their service life.