

ESCAPE LIGHTING AND THE SITING OF LUMINAIRES

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EMERGENCY LIGHTING is a primary life safety system provided to assist occupants to evacuate in the case of an emergency and, if necessary, to permit certain tasks, such as a controlled shutdown, to be performed in safety. Emergency lighting includes standby lighting and emergency escape lighting. Escape lighting is further subdivided into escape route lighting, open area lighting and high risk task area lighting.

> **Emergency Escape Lighting** is emergency lighting provided to enable safe exit in the event of failure of the normal supply.

> **Standby Lighting** is emergency lighting provided to enable normal activities to continue in the event of failure of the normal mains supply.

> **Escape Route Lighting** is emergency lighting provided to enable safe exit for building occupants by providing

appropriate visual conditions and direction finding on escape routes and in special areas/locations, and to ensure that fire fighting and safety equipment can be readily located and used.

> **Open Area (or Anti-Panic Area) Lighting** is emergency escape lighting provided to reduce the likelihood of panic and to enable safe movement of occupants towards escape routes by providing appropriate visual conditions and direction finding.

> **High Risk Task Area Lighting** is emergency lighting provided to ensure the safety of people involved in a potentially dangerous process or situation and to enable proper shut down procedures to be carried out for the safety of other occupants of the premises.

Emergency lighting is provided to prevent a hazard in the event of the loss of supply to the normal lighting

At a final exit door and an emergency exit door to provide illumination of the escape route. Escape route corridors must be illuminated to at least 1 lux on the centre line of the escape route



Within 2m of a junction of corridors



Within 2m horizontal distance of a change of direction in an escape route



Within 2m horizontal distance of a change in floor level or any stair. Each tread of the stairs must receive direct light



Externally, within 2 metres horizontal distance of any final exit. The purpose is to provide sufficient light for a roll call



Within 2m horizontal distance of a fire alarm call points, fire fighting equipment and a first aid point. To illuminate safety signs.



installation. One of the most important functions of the emergency lighting is to provide reassurance to occupants and to allow orderly and speedy evacuation of a building, should this be necessary. While, in general, emergency lighting is considered to be escape lighting, all hazards that might arise as a result of loss of the normal lighting must be considered. Emergency lighting may be required to illuminate switchrooms and control rooms, to facilitate restoration of supplies or management of facilities to allow dangerous plant to be shut down.

Emergency lighting is provided by two basic types of luminaire – maintained and non-maintained.

- > **Maintained emergency lighting (M)** – a lighting system in which all emergency lighting lamps are in operation at all material times.
- > **Non-maintained emergency lighting (NM)** – a lighting system in which all emergency lighting lamps are in operation only when the supply to the normal lighting fails.

Categories

Luminaires are categorised by being maintained or non-maintained and by the duration or number of hours during which they can maintain their light output to an acceptable level after supply failure. For example, a non-maintained luminaire with a duration of two hours is given the designation NM/2 and a maintained luminaire with a duration of three hours is given the designation M/3.

To illuminate an escalator. An escalator should not be used as an escape route, but nonetheless requires illumination to protect people on it should the supply fail



In any toilet exceeding 8m² in area or where natural light is not present. All toilets for the disabled should be provided with emergency lighting



To provide emergency illumination in any lift



Escape lighting

Escape lighting must:

- 1) Indicate the escape routes,
- 2) Illuminate these escape routes,
- 3) Illuminate fire alarm call points and fire fighting equipment.

Escape lighting must be provided not only as a consequence of complete supply failure but also on local failure. For example, escape lighting must be available should a single lighting final circuit supplying luminaires in a stairwell fail.

Siting of escape luminaires

An escape lighting luminaire must be installed at each exit door including emergency exit doors and at any other location that will aid escape, facilitate initiation of alarm, and identification of fire equipment. Emergency lighting luminaires must be installed as illustrated below. ■

Further information

Information on emergency lighting systems is given in **BS EN 50172: 2004 Emergency escape lighting systems, BS 5266-1: 1999 Emergency lighting Part 1: Code of practice for the emergency lighting of premises other than cinemas and certain other specified premises used for entertainment** and the ICEL Group (The Industry Committee for Emergency Lighting) on www.icel.co.uk who offer the following downloadable publications:

ICEL: 1001: 1999. Scheme of Product and Authenticated Photometric Data Registration for Emergency Luminaires and Conversion Modules.

ICEL: 1004: 2003. Requirements for the Re-Engineering of Luminaires for Emergency Lighting Use. May 2003.

ICEL: 1006: 1999. Emergency Lighting Design Guide. Third Edition. May 1999

ICEL: 1008: 2001. Risk Assessment Guide. Third Edition. April 2001

ICEL: 1009: 2001. Emergency Lighting Central Power Supply Systems Standard and Registration Scheme

Emergency Lighting Pictorial Checklist: 2003.

We would like to thank ICEL for their considerable assistance in the production of this article.

To provide emergency illumination in a control room such as a motor generator control and plant room and a switchroom



To illuminate (i) an open areas, (ii) an open area with a particular hazard, (iii) an open area with an escape route passing through it and (iv) an open area larger than 60m² Open areas must be illuminated to at least 1lux average and 0.5lux in the central core of the area to within 0.5m of the walls



To illuminate an area of high risk. Such an area Should be illuminated to at least 10% of the normal lighting level or 15lux, whichever is greater. The risk assessment may identify the need for higher levels of illumination

