

**Reference:**

- A. British Standard 5266, 2005, Emergency Lighting: Part 1 - *Code of Practice for the emergency lighting of premises*
- B. British Standard EN 1838 1999 (BS 5266: Part 7): *Lighting Applications - Emergency Lighting*.

**INTRODUCTION**

- 1.0. One of the fundamental requirements of fire safety (and fire safety legislation) is to ensure that persons within the building can evacuate safely in the event of an emergency. Overriding all these factors is the usability of the escape route when required. This relies on occupants of the building being able to find the escape route and, as far as possible, safely traverse the route to a place of safety. For this reason, a lighting system should be available in an emergency such as in the event of a fire.
- 1.1. Reliance on natural lighting (i.e. daylight) is inappropriate as not all emergencies occur during daylight hours, and even if they did, many buildings are not properly lit internally by daylight in the first place. Reliance on the normal lighting system also has its basic weaknesses, namely that main power is likely to be lost in an emergency and the cable serving the lighting circuits may be destroyed. Consequently a form of emergency lighting is likely to be required as part of the overall fire safety provision.
- 1.2. Furthermore, the provision of Emergency Escape Lighting is also a legal requirement, which can have significant capital and maintenance costs over a twenty-year or so life. The guidance below reflects both capital costs and potential maintenance burden by UCL and therefore recommended for sound long term costing through experience.

**GENERAL**

- 2.0. **Standards** - The design, installation and positioning of emergency escape lighting must conform to Reference A and B.
- 2.1. **Self-contained Escape Lighting** - The generic form of emergency lighting is known as self-contained escape lighting. Escape lighting is designed to fulfil the simple but important task of allowing persons to escape, and can be divided into three main groups.
- 2.2. **Escape Route Lighting** - As its name suggests, this system is designed to guide persons to the appropriate exit route and to enable their safe exit. The system should also highlight fire safety provisions such as Manual Call Points and Portable Fire Extinguishers.

- 2.3. **Anti-Panic Area Lighting** - This is similar to escape route lighting but may cover a specific area (e.g. a public area) as well as the escape routes. The idea is to continue to supply adequate lighting to allow persons to orientate themselves and find the appropriate escape route, without causing panic in the process.
- 2.4. **High-Risk Task Lighting** - 3 hour non-maintained (3NM) high-risk task lighting as with standby lighting this form of lighting may be used in areas where dangerous processes take place; such that persons can complete a process, before evacuating the area i.e. in some laboratories, plant or switchgear rooms.

## UCL – INSTALLATIONS

- 3.0. Generally, in all UCL properties the following standard should be used:
- 3.1. 3 hour Maintained (3M) / 3-hour Non-Maintained (3NM) units are to be positioned as per Reference B (Section 4), which generally requires siting for light fittings (within 2m) as follows:
- a. At each exit door intended to be used in an emergency,
  - b. Near to stairs, so that each flight of stairs receives direct light,
  - c. Near any other change in level of escape route,
  - d. Mandatory emergency exits and safety signs,
  - e. At each change of direction,
  - f. At each intersection of corridors,
  - g. Outside and near to each final exit,
  - h. Near each first aid post,
  - i. Near to fire fighting equipment and fire alarm Manual Call Points,
- 3.2. 3 hour maintained (3M) unit should be used in conjunction with 3NM units to determine escape routes using illuminated signs in sleeping accommodation (e.g. Residences) or Places of Assembly (e.g. lecture theatres and seminar rooms).

## OTHER REQUIREMENTS

- 4.0. **Test Switches** - All emergency lighting units (except for Addressable types) are to connect to a 'fishtail' test key facility and wired, such that the operation of the test key acts as a local lighting circuit failure. All test switches are to be positioned in a clear logical location and mounted at a similar height to the normal lighting switch. Test key should be suitable identified.
- 4.1. **Records** - Full commissioning of all lights, test switches and functions must be carried out before handing over systems. In addition, records indicating date of installation, and locations is to be handed over with Commissioning Certificate (See specimen certificate templates at the annex of Reference A).

## ADDRESSABLE EMERGENCY LIGHTING SYSTEMS

- 5.0. In all new or completely refurbished properties, an addressable emergency lighting system is to be used to reduce maintenance costs substantially and provide accurate records of maintenance required under statutory regulations.
- 5.1. UCL preferred addressable emergency lighting system, is supplied by Advanced Ltd. Further information can be found at [www.advel.co.uk](http://www.advel.co.uk)
- 5.2. The Chief Engineer at UCL requires that even in whole or part floor refurbishments, addressable emergency lighting systems are to be installed with large capacity panels so that other parts of the building can be added as part of Long Term Maintenance funding in the future.
- 5.3. Each addressable panel requires (a Modem) and an internal telephone line or a BT external line to be provided to ensure connection to monitoring software operated by the Chief Engineer's staff.
- 5.4. Specific Design Information and other enquiries can be discussed with the following person (Data Sheet attached):

Dave Henderson Product Manager (LiTe) Advanced Electronics Limited Moorland Way, Nelson Park, Cramlington, NE23 1WE.	Tel: 01670 – 707111 Fax: 01670 - 707222 Mob: 07768 – 761614  Web: <a href="http://www.advel.co.uk">www.advel.co.uk</a>
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## ILLUMINATION OF EXTERNAL STEPS AND ROUTES

- 6.0. **Combined (Sustained) Emergency Luminaries** – are emergency lighting luminaries containing at least two lamps, one of which is energized from the normal lighting supply and the other from an emergency lighting supply. These luminaries are intended to provide sustained illumination at all material times and should be considered in areas where safe lighting is required, in addition to emergency lighting, for example: an external escape stair in sleeping accommodation where at night evacuation is required without necessarily a power failure of the local lighting circuit.
- 6.1. As a energy saving measurer it is recommended that the sustained lighting only comes on during the hours of darkness and switches it self off during daylight, which will extend bulb life and save energy. This can be achieved by using a light sensitive unit (Photoelectric Sensor) that switches on the lights when there is reduced daylight but switches the lighting off, when sufficient daylight becomes available. It is recommended that a key (fishtail type) be provided for maintenance/testing of the system during daylight hours.

## EMERGENCY LIGHTING PROVISION – LECTURE THEATRES

- 7.0. In a number of older lecture theatres, there are 'Fire Exit' signs, which are operated from the lighting controls at the lectern. This is NOT now an acceptable method of providing emergency lighting as generally the switching of emergency lighting was done due to excessive background lighting. Emergency lighting in lecture theatres **MUST NOT** have any local overrides, except for the provision of fishtail keys for testing the system.

- 7.1. However, it is recognised that in university lecture theatres that a considerable range of activities are demonstrated and to prevent the blocking off excessive light from maintained emergency fittings, a compromise is required. Design Engineers should consider the use of Cinema & Theatre type emergency lighting complying with the following:
- a. BS 5499: Part 3, 1990 - *Fire safety signs, notices and graphic symbols* Specification for internally illuminated fire safety signs, Section 5: Signs intended for use in cinemas and theatres:
    - o 5.1 Diffuser
    - o Where the graphics are illuminated, each sign shall incorporate, behind the front panel, a diffuser of opal or flashed opal glass or plastics material of similar diffusivity
    - o **NOTE:** Instead of the separate panel (with graphics) and diffuser an integral front panel and diffuser made of suitable plastics material may be used
    - o The overall dimensions of the diffuser shall be similar to those of the panel.
- 7.2. Three-hour maintained low-level lighting should also be considered to ensure background illumination of seating access steps.
- 7.3. Where particularly low lighting background lighting levels are required, the 3 hour Maintained (3M) fitting may be replaced with a Cine-lite unit as per Advanced Electronics Ltd ([www.advel.co.uk](http://www.advel.co.uk)) Cine-Lite Reference: NLS8/NM3/AD or NLS8/M3/ADM or similar.
- 7.4. In addition, normal 3 hour non-maintained (3NM) emergency lighting is to be provided at ceiling and or wall levels.

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