

Emergency Lighting Design

BS 5266 parts 1 & 7 and EN 1838 Lighting - Emergency Lighting, outline the requirements for emergency lighting in three primary areas:

1. Points of emphasis 2. Escape routes 3. Open areas (anti-panic) 4. High risk areas

1. Points of Emphasis (POE)

These are mandatory locations to cover specific hazards and to highlight safety equipment and signs. Emergency lighting should be installed within 2m (horizontal distance) of a POE, regardless of whether the area is an emergency escape route or defined as an open area as follows:

- a. Near stairs (On long flights of stairs more than one luminaire will be required to avoid treads falling in shadow,
- b. Near changes of level
- c. Near each change of direction
- d. To illuminate Exit doors and safety signs.
- e. Near each piece of fire fighting equipment or call point.
- f. Outside and near to each final exit
- g. Near each first aid point
- h. Near each intersection of corridors.

2. Escape Routes

In addition to luminaires at the points of emphasis, further luminaires are usually required to meet the requirements for 2m wide escape routes (wider routes should be treated as open areas or as additional 2m wide strips).

Both BS 5266 and EN 50172 recommend using a larger number of low power luminaires rather than a few high power units. In this way, no part of the escape route is lit

by just one luminaire. Thus, if a luminaire fails, the route will not be plunged into darkness.

Requirements: Route centreline - 1 lux minimum
 Central band - 0.5 lux minimum

3. Open Areas (anti-panic)

Emergency lighting is required for areas greater than 60m². Figures are specified for the core floor area, excluding 0.5m around the perimeter of the space.

Shadowing effects from the room contents are discounted from any calculations.

Requirements: BS 5266 - 1 lux average over area
 EN 1838 - 0.5 lux minimum in area

Additionally, these figures should also be applied to:

Toilet facilities or any open tiled areas exceeding 8m² and all disabled toilets.

All parts of schools that either do not have natural light or are used outside normal school hours.

4. High Risk Areas

In areas where potentially hazardous situations exist, emergency standby lighting should be as high as the task demands and should be assessed on a case-by-case basis. However, EN 1838 does stipulate the following minimum figures:

Requirements: Not less than 10% of normal illuminance or 15 lux, whichever is the greater.

Emergency lighting should be provided within 0.5 seconds and persist for as long as the hazard exists.