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ICEL 1008: EMERGENCY LIGHTING – RISK ASSESSMENT GUIDE

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Foreword – what is ICEL?

The Industry Committee for Emergency Lighting (ICEL) was originally formed in the UK in 1978 by the Emergency Lighting sections of the British Electrical and Allied Manufacturers Association (BEAMA) and the Lighting Industry Federation (LIF). It was formed as an industry committee to respond to a demand for national standards for Emergency Lighting equipment and is now an independent division of the LIF.

Since its inception, ICEL has been publishing guidance documents and standards for Emergency Lighting Products and Installations to ensure the best practices available are employed. ICEL continues to provide expert advice and guidance to all specifiers and users on the requirements for Emergency Lighting.

Formed with an independent regulatory committee of representatives from government departments, public authorities and larger end users, ICEL exists to help and guide users, specifiers and contractors in all matters, which touch upon the Emergency Lighting Industry world-wide. ICEL has become the foremost UK authority on Emergency Lighting and its representatives serve on BSI committees and represent UK interests within European Committees dealing with Emergency Lighting.

The guides and standards published by ICEL since 1978 are well known and respected world-wide and form the basis of many National Standards prior to the harmonisation of European Standards.

ICEL is the leading UK authority on Emergency Lighting and is also probably the most experienced authority on the subject in Europe.

1. The Need to Carry Out and Document Fire Risk Assessments

The Fire Safety Order 2005 for England and Wales and the equivalent legislation for Scotland and Northern Ireland revokes the Fire Precaution Act and replaces it with a system based on risk assessment to be performed by the ‘responsible person’ The requirement for emergency lighting, its type location and maintenance are all defined through the risk assessment which uses provision of fire precaution equipment as a method of compensating for the risks in a building and reducing the risk to tolerable levels.

Employers will normally be the ‘responsible person’ they must carry out fire precautions risk assessments even if they previously had fire certificate. For premises in which 5 or more persons are employed there is a legal requirement to document significant findings of the risk assessment together with details of the measures taken to deal with risks identified. If less than 5 persons are employed, there is still a requirement to carry out a risk assessment, although it may not need to be formally recorded.

Occupants	Old Fire precautions act	Fire safety Order 2005
20 + on ground floor	Fire certificate required	Documented risk assessment required
10 + above ground floor	Fire certificate required	Documented risk assessment required
6 + sleeping risk	Fire certificate required	Documented risk assessment required
5 or more	No requirements	Documented risk assessment required
1 or open to public	No requirements	Risk assessment (can be undocumented)

Figure 1 Changes of premises that must now comply with the Fire Safety Order

Implications of the new legislation not only are smaller premises now required to provide adequate fire precautions but as the Fire Precautions Act (and hence Fire Certificates) existing premises now have to meet current safety standards

Other risks apart from fire. The fire safety guides state that fire is only one of many safety issues with which management must concern them to minimise the risk of injury or death to staff or the public. Many of the measures needed impact upon other safety issues and vice versa. For emergency lighting this is particularly true of the risks that can occur when occupants are suddenly plunged into darkness in the event of a supply failure, so this consideration should be taken into account in the design of the systems installed.

Further advice is given in the new British Standard BS 5266-10:2008 Guide to the design and provision of emergency lighting to reduce the risks from hazards in the event of supply failure of the normal supply.

Contents include:

Specific recommendations of light levels, response and duration times to be considered for specific locations that are at risk in a supply failure.

Guidance on appropriate testing procedures should demonstrate that the system is operating correctly.

A checklist and explanation of the points that should be checked on an existing installation to ensure that current safety levels are met

1.1. Premises Covered by Fire Certificates

A small number of high risk premises will continue to be covered by fire inspections or other regulations as listed in Appendix A.

Where this is the case the risk assessment must still have been carried out by the responsible person this will then be part of the items audited by the inspecting authority.

1.2 Areas of Premises Controlled by Others

For business premises where areas of premises are controlled by others, such as the common access areas controlled by a landlord, it is the responsibility of the landlord to ensure compliance with the fire precautions requirements including carrying out a risk assessment. However, they must co-operate with the individual tenants who must have their own assessments for their own businesses to ensure the assessments are compatible.

For housing with multiple occupancy, the landlord is responsible for the risk assessment of the common areas.

2. What is a Risk Assessment?

The Fire Safety risk assessment is a process by which the responsible person for premises (normally the employer) conducts an evaluation of the risks to occupants and uses fire precautions to limit these risks to tolerable levels.

There are different formats of assessment but the guides list a five-fold process:-

Step 1 Identify Fire Hazards

By checking types of construction and the adequacy of escape routes, the presence of inflammable material and heat generating processes

Step 2 Identify People at Risk in Fire

Particular care should be taken to consider sleeping occupants or those with disabilities, lone workers or large numbers of occupants.

Step 3 Evaluate the Risks including:

Is Means of Escape adequate?

Is Employee Training adequate?

Are the fire precautions adequate to enable occupants to leave the premises safely –

For emergency lighting this means provision should be made to enable occupants to see the exit signs and leave the building safely in any premises used outside daylight hours or if the building has central escape routes without natural light. An appropriate testing system is needed and the test log must be kept up to date?

Is Maintenance & Testing adequate? Carry Out Improvements Necessary.

Step 4 Record Findings and Action

An action plan should be drawn up with acceptable time scales identified for the changes needed.

Step 5 Keep Assessment under Review

The assessment should be brought up to date if any changes are made to the building or work processes but anyway it is recommended that the assessment should be repeated at least every 12 months.

Other fire precautions such as passive fire protection, active fire detection and alarm requirements of the premises must also have been considered.

3. The Need for Emergency Lighting

The procedures described here deal specifically with the requirements for emergency lighting and should be considered as a part of an assessment of the means of escape in case of fire. Emergency lighting is a primary life safety system to assist the occupants of premises to evacuate in case of an emergency. Emergency lighting should be constructed in accordance with appropriate standards, correctly installed in accordance with authenticated performance data, regularly tested and maintained as specified. Emergency lighting can and does save lives.

The Workplace Directive (89/654/EEC). This requires in clause 4.7 that Emergency routes and exits requiring illumination must be provided with emergency lighting of adequate intensity in case the lighting fails

In the UK this is covered by our fire safety legislation, the guides for compliance recommend that people in premises must be able to find their way to a place of total safety if there is a fire by using escape routes that have enough lighting. Where any escape routes are internal and without windows, or premises are used during periods of darkness, including early darkness on winter days, then some form of backup to the normal escape route lighting (emergency escape lighting) is likely to be required to ensure safety.

Checklist Questions to be considered

- Are your premises used during periods of darkness?
- Will there always be sufficient lighting to safely use escape routes?
- Do you have back-up power supplies for your emergency lighting?

The effectiveness of the escape routes can be very much affected by the provision of correct emergency lighting which is properly maintained and so as a part of the overall fire precautions risk assessment, the emergency lighting installation(s) must be examined.

For a complete guide to designing emergency lighting see ICEL 1006: Emergency Lighting Design Guide.

4. Government Publications Providing Further Guidance on Fire Precautions in the Workplace:

These publications are approved by Ministers and have official status
Guides to Fire Safety Order for England and Wales –
Specific documents and different applications are available for download from
www.firesafetyguides.communities.gov.uk. The following are covered:

- Shops and Offices
- Factories and warehouses
- Sleeping accommodation
- Residential care premises
- Educational Premises
- Small and Medium Places of assembly
- Large places of assembly
- Cinemas and Theatres
- Outdoor Events
- Healthcare premises
- Transport premises
- Animal premises and stables
- Means of escape for disabled persons

Equivalent legislation and guides are available for Scotland and can be downloaded from www.scotland.gov.uk

Guides are currently being developed for Northern Ireland

5. Main Points regarding Emergency Lighting (from the application guides)

Full detail of the application guides for England and Wales can be downloaded from www.firesafetyguides.communities.gov.uk

Scotland and Northern Ireland equivalent guides are available or being developed

Means of Escape Checklist

‘Are all escape routes easily identifiable, free from obstructions and adequately illuminated?’

Maintenance and Testing

‘Emergency lighting must have regular checks and maintenance – any defects should be put right quickly.’

This is best done using a competent person who is someone ‘who has the necessary knowledge, training, experience and abilities to carry out the work’.

Maintenance and testing Checklist

‘Do you regularly check escape routes and associated lighting and signs?’

‘Are those who test and maintain the equipment properly trained to do so?’

Table 1: Maintenance of Emergency Lighting

MONTHLY – Check all systems and units for state of repair and test for apparent working order.

ANNUALLY – Full check and test of systems and units by a competent service engineer.

6. Reducing the Risk using Engineering Solutions

Many situations in premises increase the risk of fire and threaten the escape route for people in these situations. ICEL recommends that engineering solutions are provided to reduce that risk, for example:

- a) If the incoming mains electrical supply to the premises is not in an area of low risk, then staff may be exposed to unacceptable risk from lighting failure and emergency lighting should be provided in any area of the premises (not just the escape routes) to reduce that risk.
- b) If the lighting final circuits do not correspond with the fire compartmentation, then the non-maintained emergency lighting may not operate when required and maintained emergency lighting should be used to reduce that risk.
- c) The normal level of illuminance for emergency lighting to cover all risks, including use by older people and the presence of obstructions is a minimum of 1 Lux* along the centre line of escape routes (0.2 Lux is still allowable in the UK, as an A deviation in BS5266 Pt.7: BSEN 1838, but only for escape routes that will certain to be permanently unobstructed at all times its use is not recommended).
- d) If there are potential obstructions on the escape route such as stair treads, barriers and walls at right angles without contrasting colours, then BS5266 -1 advises that the I Lux value should be used.
- e) If there is likely to be a presence of high physical risk, then a further increase in emergency illuminance and a rapid response time will reduce that risk. The illuminance on the reference plane (Note this is not necessarily the floor), shall be not less than 10% of the normal illuminance or 15 Lux, whichever is the greater. It shall be provided within 0.5 seconds of failure of the normal lighting supply and continue for as long as the hazard exists (see ICEL 1006).
- f) If there is the possibility of arson, then intruder and fire detection and alarm systems in addition to appropriate emergency lighting will reduce that risk.
- g) If the length of the escape route is excessive, taking into account the fire risk involved and the number of people using the escape route, then the emergency lighting and signage should be assessed.
To assess the escape route it may be helpful if the people are timed in escaping from the building during a fire practice in mains failure conditions. If necessary, higher illuminance or repeat signage may reduce the escape time.
- h) If people such as the public or temporary workers unfamiliar with the layout of the building are likely to be present then higher illuminance or more signs may be required.
- i) If the escape route passes through open areas, emergency lighting and signage should be installed (see ICEL 1006). A minimum emergency illuminance of 1 Lux* should be provided along the centre line of the escape route.
- j) If an area is larger than 60m², emergency lighting and signage should be installed (see ICEL 1006). A minimum emergency illuminance of 0.5 Lux* is

required for the core area.

- k) If the premises are used outside the normal hours of daylight (including twilight in winter months) or if there are areas without normal daylight, it is recommended that the emergency lighting should be provided by an installation of fixed luminaires which are automatically switched on upon failure of the normal lighting supply. Advice on the suitability and location of the escape routes can be obtained by consulting the appropriate Fire Safety guides.

** These are the requirements in the European standard BSEN 1838 (BS5266 Pt.7:BSEN1838) but Higher Levels of Illumination may be Appropriate. See BS5266 Pt.1 and Pt 10*

7. Emergency Lighting in High Risk Task Areas

Failure of the normal lighting supply in an area of high risk (e.g. areas in which there is moving machinery, moving vehicles, flammable materials or control rooms for potentially dangerous processes) may not mean that the supply to the hazard(s) has also failed. The hazard(s) may continue after failure of the normal lighting supply or may take a long period to subside.

In these areas, known as High Risk Task Areas, at least 10% of the normal mains lighting level or 15 Lux shall be provided within 0.5 seconds of failure of the normal supply. This emergency illuminance level is to be maintained as long as the hazard(s) continue. High Risk Task area lighting shall be provided to enable the safe termination of processes and to enable the evacuation of persons from the area without undue risk from the process. (Refer to ICEL 1006 for further information)

Some applications requiring higher levels of illumination than for normal escape but do not need the levels for high risk task areas are currently being considered by BSI. Until these are published ICEL members will be pleased to offer the latest advice.

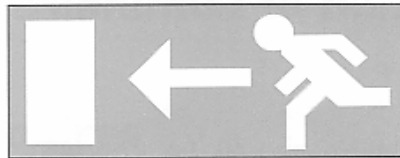
8. Risk Assessment of Signs

The Fire Safety Guides provide the latest advice on assessing the acceptability of signs to provide adequate information as to the location of escape routes by ensuring that they are of a suitable format and are positioned correctly. See also the HSE guidance document 'Safety Signs and Signals –Guidance on Regulations' (See Appendix A1) and ICEL1006.

BS5266 requires signs at all exits, emergency exits and on escape routes, such that the position of any exit or route to it, are easily recognised and followed in an emergency. Installed signs shall comply with the Health and Safety (Safety Signs and Signals) Regulations 1996. This required all text only, EXIT, EMERGENCY EXIT and FIRE EXIT signs to be replaced by 24 December 1998 with pictogram signs complying with the formats shown in the Directive.



Text only sign -
should have been
replaced by 24th
December 1998



Signs Directive
Format complying
with Health and
Safety Regulations
for all installations

Figure 2 – Examples of the Format Signs

8.1 Maximum Viewing Distances of Signs

The maximum allowable viewing distances (D) for BS5499 signs and signs of the Signs Directive format are:-

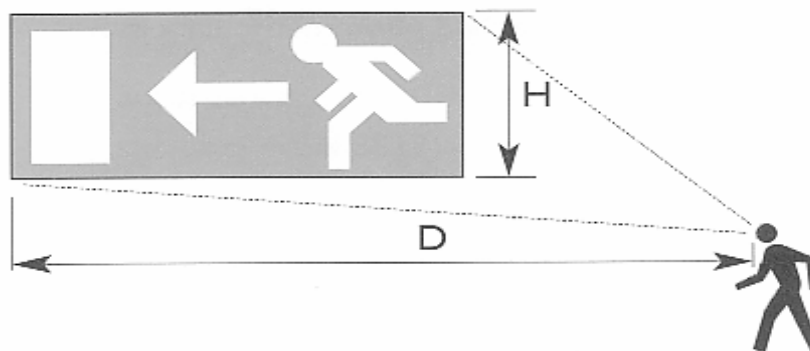


Figure 3 - Maximum Viewing Distances of Signs

- 200 x Legend panel height (H) if self illuminated or
- 100 x Legend panel height (H) if remotely illuminated

9. Adequacy of Emergency Lighting Installations

The Fire Safety Guides recommend that emergency lighting should be designed, installed and maintained by competent persons in accordance with BS5266. Emergency lighting luminaires should be permanently connected to un-switched supply circuits to maintain the batteries in a state of charge in readiness for operation. Maintained operation circuits may be switched but must not affect the supply to the battery charging circuits.

An easy to follow guidance document ICEL 1006, describing how to install emergency lighting in accordance with BS5266 requirements is available from ICEL. Some of the key points are dealt with in the following sections, but for full compliance refer to ICEL 1006 and BS5266.

9.1 Location of Luminaires

BS5266 Part 1 provides detailed guidance on where luminaires shall be installed, what minimum levels of illuminance shall be achieved on escape routes and in open areas and what minimum period of duration shall be achieved after failure of the normal mains lighting. Further details are available in ICEL 1006. In any 'lighting compartment' on the escape route a minimum of 2 luminaires should contribute to the illuminance level required to ensure that the area is not plunged into darkness in case of failure of one of the luminaires (see ICEL 1006 – Stage 4: Illuminance requirements for escape routes).

9.2 Verification of Luminaire Performance

Illuminance levels should be checked, either by taking measurements or by calculation from authenticated data (i.e. ICEL 1001). The data is usually presented in the form of spacing tables similar to the examples shown in Appendix C.

If photometric data is not available the tables shown in Figures 3, 4 and 5 in Appendix C may be used to provide typical data. Light output from signs shall not be considered unless verified photometric data is available.

For mains lighting luminaires converted for emergency use, the organisation responsible for the conversion should provide photometric data. If this is not available use the data contained in figs. 3 and 5 of Appendix C.

Luminaire performance will be adversely affected by the build up of dirt and inadequate maintenance.

Existing luminaires should be checked to ensure lamps and lighting controllers are clean, undamaged and not blackened.

Luminaire markings should be checked to establish certification marking and ambient temperature limits, as well as any stated IP rating of the luminaire.

Note: ICEL Authenticated spacing tables are easy to use and their data is tested by an approved test house and manufactures published tables are checked to ensure that they are accurate and use adequate de-rating factors to ensure that the lighting levels will be obtained through the product life as required by BS EN 1838. Alternatively computer programs can be used to demonstrate compliance but then the appropriate de-rating factors must be applied.

9.3 System Type and Duration

The required system type and minimum duration of the emergency lighting after the supply to the normal lighting has failed is specified in BS5266. The system type and duration required will depend upon the type of premises and the associated risks.

Luminaires should be assessed for system type (Non Maintained / Maintained / Combined) and subjected to a discharge test to establish their full duration capability.

9.4 Luminaire Quality and the ICEL Product Registration Scheme

ICEL provides a scheme of product registration through which luminaire performance is authenticated and assured. All ICEL registered luminaires, as well as being photometrically verified, are approved for safety and performance by an accredited test laboratory such as BSI.

Emergency lighting luminaires used on escape routes are required to be fire retardant (850°C glow wire tested). Registration of products through the ICEL Product Registration Scheme assures compliance with this requirement. It also assures the user that the products have been certified to EN 60598-2-22: 1999 and are manufactured within a facility operating a scheme of quality assurance approved to BS EN ISO 9001 or BS EN ISO 9002.

Details of the ICEL product registration schemes are provided within ICEL 1001. Brief details are included in section A3 of Appendix A.

9.5 Conversions of Mains Lighting Luminaires

To provide assurance of the suitability and quality of converted mains lighting luminaires, ICEL operates a registration scheme, ICEL 1004. Brief details are provided in Section A4 of Appendix A.

9.6 Central Power Supply Systems (Central Battery Systems)

Central Power Supply Systems (Central Battery Systems) provide the emergency power to a number of connected (slave) luminaires. The Central Power Supply Systems (Central Battery Systems) should be connected to the luminaires via a fire protected cable as specified in BS5266.

Due to the complex nature of Central Power Supply installations (Central Battery installations) it is strongly recommended that the complete installation is reviewed by a competent person, fully trained in such installations.

Central Power Supply Systems (Central Battery Systems) are deemed to comply with the requirements of the Fire Precautions (Workplace) Regulations 1997 if:

- 1) They are designed and manufactured in accordance with the appropriate product standard EN 50171.
- or
- 2) Checked and validated by a competent person as fit for purpose and installed in accordance with the requirements of BS5266.

ICEL provides a scheme of product registration for Central Power Supply Systems (Central Battery Systems), ICEL 1009. Assuring users that products carrying the ICEL registration mark, produced by the registered organisation, have been designed in accordance with the requirements of EN 50171, batteries are correctly specified to achieve the full rated discharge for their design life and that the equipment has been manufactured in a facility operating a suitable scheme of quality assurance. See Section A6 of Appendix A.

10. Routine System Testing

All emergency lighting systems should be regularly inspected and tested. Results obtained and details of any corrective action should be entered into a log book which is held on site. An appropriate printout of computer data from an automatic testing device also meets this requirement.

Test procedures in accordance with the recommendations of the Fire Safety Guides and the Code of Practice are detailed in Appendix D.

Risk assessment of an existing installation should include a full system test and the results should be entered on assessment sheets. When carrying out a test, simulating a mains failure, safe procedures must be followed:-

- a) Do not switch off other essential services or equipment.
- b) Do not fully discharge a system if the building has to be re-occupied before re-charge is completed (typically 24 hours).
- c) Do not test by removing fuses. This practice is not acceptably safe. Purpose designed test switches or systems should be utilised.

11. Routine Maintenance

Existing luminaires should be regularly checked to ensure lamps and lighting controllers are clean, undamaged and not blackened. Clean as required and lamps should be replaced as required. For Central Power Supply Systems (Central Battery Systems), batteries should regularly be cleaned and inspected. Electrolyte levels must also be checked and topped up within the cells, if appropriate.

12. Declaration of Conformity

If the emergency lighting system is found fully compliant, an installation declaration of conformity should be produced as a part of the risk assessment documentation. A model declaration form can be found in Appendix F.

Appendix A - Standards, ICEL Registration Schemes

A1 Emergency Lighting Legislative Requirements

In the UK the following documents refer to legislation affecting emergency lighting and provide information about the interpretation of legislation:

England and Wales

- Regulatory Reform (Fire Safety) Order 2005, SI 2005/1541. 2005 ISBN 0 11 072945 5
- The Building Regulations 2000: Approved Document B fire safety. ISBN 0 11 753911 2

Scotland and Northern Ireland have equivalent legislation and guides available or under review

- Fire (Scotland) Act 2005: Part 3, as amended
- Scottish Statutory Instrument 2006 No. 456
- The Fire Safety (Scotland) Regulations 2006 - ISBN 0-11-082882-8

A2 Standards Applicable to Emergency Lighting

In order to ensure compliance with legislative requirements appropriate current standards for the installation and maintenance of Emergency Lighting must be used. In addition installed equipment must also comply with current standards to ensure full compliance to requirements. Current installation and product standards applicable to emergency lighting in the UK are:

- BS5266 Pt.1: 2005- Code of practice for the emergency lighting of premises (now also includes cinemas and certain other specified premises used for entertainment. this standard replaces CP1007 which is now withdrawn)
- BS5266 Pt.2: 1998 - Emergency Lighting - Code of Practice for electrical, low mounted way guidance systems for emergency use
- BS5266 Pt.4: 1999 - Emergency Lighting – code of practice for design, installation, maintenance and use of optical fibre systems
- BS5266 Pt.5: 1999 - Emergency Lighting - specification for component parts of optical fibre systems
- BS5266 Pt.6: 1999 - Emergency Lighting – code of practice for non-electrical, low mounted way guidance systems for emergency use – Photo luminescent Systems
- BS5266 Pt.7: BSEN1838: 1999 - European standard - lighting applications - emergency lighting
- BS5266-10:2008 Guide to the design and provision of emergency lighting to reduce the risks from hazards in the event of failure of the normal lighting supply
- CP1007: 1955 (Now withdrawn replaced by BS 5266-1 2005)
- BSEN60598-2-22: 1999 European standard specification for luminaires for emergency lighting
- BS 5266-8 2004: BS EN50172 - Emergency Escape Lighting Systems
- BS5499 Pt.1: 1990(1995) Specification for self- luminous fire safety signs
- BS5499 Pt.3: 1990 Specification for internally illuminated fire safety signs
- BS EN50171 - Central Power Supply Systems for Essential Safety Equipment

A3 The ICEL 1001 Scheme of Product and Photometric Registration for Emergency Lighting Luminaires

The Harmonised European Emergency Lighting Luminaire product standard EN 60598-2-22 covers most points of safety and performance of Emergency Luminaires. However because of the difficulties in obtaining international agreement, two important elements are not yet covered. Therefore ICEL provides a scheme of product registration which requires additional testing to provide evidence of satisfactory compliance with the following items:-

- Fire retardance of external parts of Luminaires - luminaires to be suitable for use on defined escape routes the housings should be manufactured in fire retardant materials.
- Photometric Data - To enable the positioning of luminaires to achieve the required illuminance, the relevant photometric data and third party authenticated spacing tables are required.

Developments and changes in the product standard have adopted the 850°C glow wire test for fire retardance with the publication of BS EN 60598-2-22: 1999.

The scheme gives confidence that the product tested and data provided is representative of production.

Products registered under the scheme may be marked with the ICEL 1001 Product and Photometric Registration Scheme label, including a unique Registration Scheme number.

A4 The ICEL 1004 Scheme of Registration of Modified Mains Luminaires for Emergency Lighting Applications

The modification of mains luminaires has become a common method of providing an emergency lighting facility. Here too ICEL offers a scheme of registration covering this important area.

The Scheme registers manufacturers' ability to modify mains lighting luminaires for emergency lighting applications to demonstrate compliance with the requirements of the ICEL 1004 guide entitled 'The Use or Modification of Mains Luminaires for Emergency Lighting Applications'. Luminaires modified within the requirements of the scheme, may be marked with the distinctive ICEL 1004 label which will carry a unique registration number. As with the ICEL Scheme of Product Registration, the aims of the ICEL 1004 Scheme of Registration are to direct users to products which are of assured reliability, quality and performance, through the adoption of suitable practices during the process of luminaire modification.

A5 The ICEL 1006 Emergency Lighting Design Guide

This design guide is prepared to promote a wider understanding of different types of emergency lighting and to give guidance on their correct application. The guide considers the requirements of all current emergency lighting standards and codes of practice. It also considers new European standards that are to be adopted in the near future. Although some of these standards are in draft form, their content is reasonably well established and it is thought, unlikely to materially, change.

A6 The ICEL 1009 Scheme of Product Registration for Central Power Supply Systems (Central Battery Systems)

ICEL provides a scheme of product registration for Central Power Supply Systems (Central Battery Systems) for emergency lighting. The scheme, ICEL 1009, is intended to assure specifiers and users of the good design practices and full compliance to relevant standards incorporated into registered systems. Systems designed in accordance with the requirements of EN 50171, incorporating batteries designed to provide the full rated performance for a design life of at least 10 years and manufactured in a facility operating an appropriate system of quality assurance, approved to BS EN ISO 9001 or BS EN ISO 9002, may be marked with the ICEL 1009 mark to demonstrate compliance.

ICEL 1009 marks are unique to the registered company who are responsible for maintaining comprehensive design and manufacturing records for all registered systems in addition to the mandatory technical files for CE marking.

Details of the ICEL product registration schemes can be obtained from the ICEL Technical Manager E-mail info@icel.co.uk

Appendix B - List of Areas where the Regulations and Special Requirements are not Applicable

- B1 Workplaces to which the Fire Precautions (Workplace) Regulations 1997 do not apply or which are exempt from their requirements include:
- Workplaces used only by the self employed
 - Private dwellings
- B2 The following areas are also covered by their own specific requirements:
- Workplaces to which Fire Certificates (Special Premises) Regulations 1976 apply
 - Mine shafts and mine galleries
 - Workplaces covered by a safety certificate issued under the Safety of Sports Grounds Act 1975 or the Fire Safety and Safety of Places of Sport Act 1987 whilst they are being used for a purpose covered by the certificate (See EN12193 for special requirements for safety of occupants)
 - Construction sites [any workplace to which the Construction (Health, Safety and Welfare) Regulations 1996 apply]
 - Ships within the meaning of the Docks Regulations 1988 (including those under construction or repair)
 - Means of transport used outside of the workplace and workplaces in means of transport
 - Agricultural or forestry land situated away from the undertaking's main buildings
 - Offshore installations [workplaces to which the Offshore Installations and Pipelines Work (Management and Administration) Regulations 1995 apply]

Appendix C – Luminaire Spacing Tables – For use when Authenticated Spacing Tables are not Available

In the absence of authenticated specific data the maximum luminaire spacings shown in the following tables should be used.

Typical Spacing Performance Charts					
Should only be considered as a guide when authenticated data is not available					
Escape route spacing (m) to 1 lux minimum on centre line					
Fluorescent Luminaire type	MTG Ht.	Transverse to Wall	Transverse to Transverse	Axial to Axial	Axial to Wall
3 cell 4 AH battery Clear prismatic diffuser	2.5	2	6	5.1	1.7
	3	1.8	5.9	5.1	1.5
	4				
2 Cell 4 AH Opal diffuser	2.5	1.5	5	4	1
	3		3.8	3.4	
	4				
Open Area spacing (m) to 0.5 lux minimum in core area					
	MTG Ht.	Transverse to Wall	Transverse to Transverse	Axial to Axial	Axial to Wall
3 cell 4 AH battery Clear prismatic diffuser	2.5	2.2	6	4.8	1.9
	3	2.2	6.2	5	1.7
	4	2	6.3	5.3	1.7
2 Cell 4 AH Opal diffuser	2.5	1.8	5.5	4.5	1.8
	3	1.3	5	4.3	1.2
	4				
<i>Figure 4 – Luminaire Spacing Table for Emergency Escape Routes – Fluorescent Luminaire</i>					
<i>Figure 5 – Example of Luminaire Spacing Table for Open Areas</i>					

Escape Route Luminaire Maximum Spacing - For Maintained multiply distances by 0.9

Appendix D – Routine Testing and Maintenance of Emergency Lighting

It is important that equipment is properly tested and maintained if it is to function correctly when required in an emergency. All emergency lighting should be regularly checked and maintained by a competent person in accordance with manufacturers' recommendations. The following table shows a suggested procedure for the routine testing of emergency lighting equipment.

Table for a Suggested Procedure For The Routine Testing of Emergency Lighting Equipment	
Daily	<ul style="list-style-type: none"> • Visually check that all maintained lamps are operating and that all system healthy indicators on Central Power Supply Systems (Central Battery Systems) are illuminated. • Check that any system fault recorded is given urgent attention and record all corrective actions in the log book provided.
Monthly	<ul style="list-style-type: none"> • Check all luminaries and other emergency lighting equipment is in a good condition, all lamps and light controllers are clean, undamaged and not blackened. • Briefly test all emergency lighting equipment by simulating a failure of the normal lighting supply. The test should not exceed a quarter of the equipment rated duration. Check that all equipment functions correctly. • Check that, upon restoring the mains supply, all supply healthy indicators are again illuminated.
Annually *	<ul style="list-style-type: none"> • A full system test should be conducted by a competent service engineer including a full rated duration test of the system. • Compliance of the installation and system with the requirements of BS5266/BSEN 1838 should be considered and documented.

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