

# THORN

## Emergency Lighting Design Guide

Additional information



# Emergency lighting data sheet

## How to read an emergency lighting data sheet

- 1 When the luminaire is lighting an escape route, use the spacing data in this table. Pick the relevant mounting height and find the correct spacing data.
- 2 If the luminaire is to be used for open area lighting, use the spacing data in the 'Open area' table.
- 3 If the luminaire is suitable for high risk task lighting, the relevant information will be set out in this part of the sheet.
- 4 Obtain the glare figures from the 'Disability glare data' section.
- 5 When using software to calculate luminaire spacing, the 'Emergency design factors' information is required to work out the correct emergency lighting design lumens figure.

- a) Take the relevant ELDL figure (the first number is for a maintained fitting after 3000 hours; the figure in brackets is the initial lumen output for a non-maintained fitting).
- b) Multiply the ELDL figure by the Maintenance Factor (MF) for the whole scheme. Do not use the MF value for an individual fitting.
- c) Multiply this figure by the lowest value of F5, F60 or FEND.\*

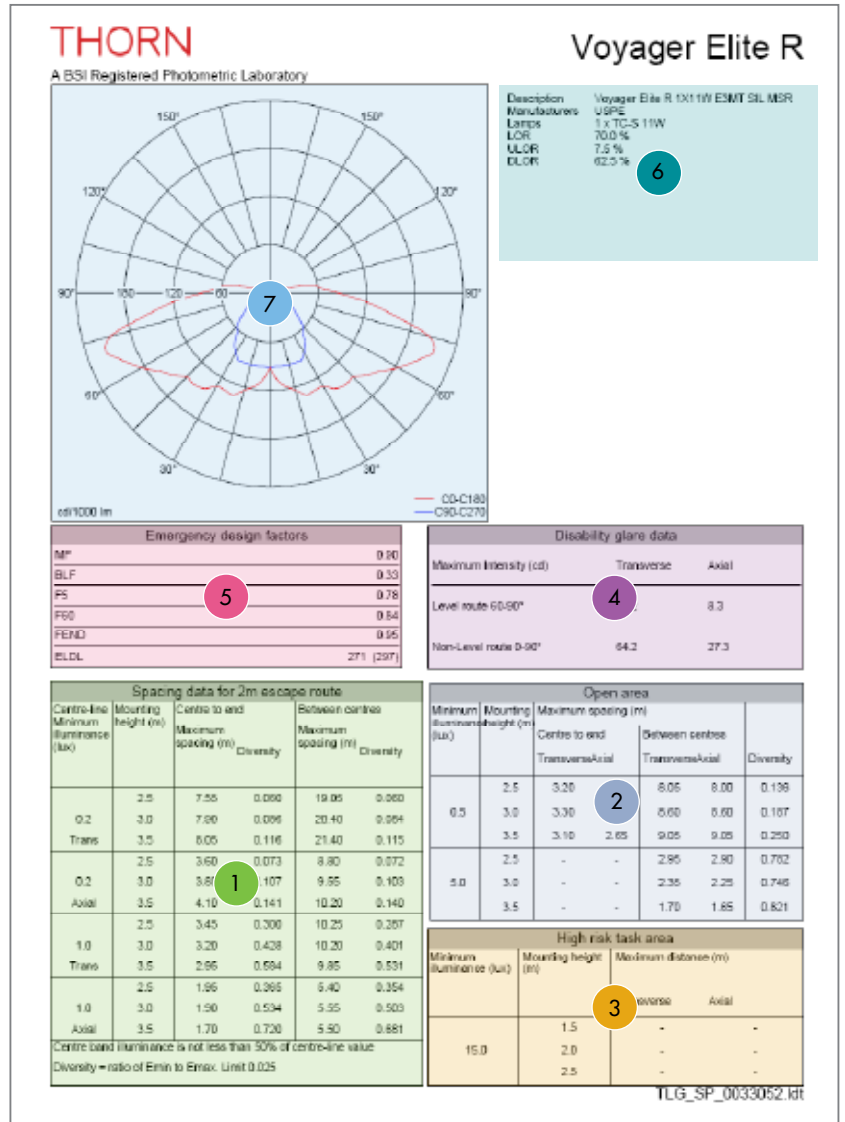
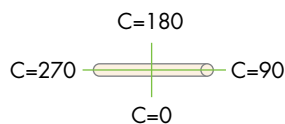
For a maintained version of the Voyager Elite R, in a scheme with an MF value of 0.8:

$$271 \times 0.8 \times 0.78 = 169.1 \text{ Lumens}$$

\*F5: light output from the lamp after being switched on for 5 seconds; F60: light output after 60 seconds; FEND: light output at the end of the battery life (typically a minimum of 3 hours).

Remember to use the higher value of F5, F60 and FEND when checking the glare calculation.

- 6 Calculations for operation in the mains mode require the LOR, ULOR and DLOR values.
- 7 The drawing below illustrates the orientation of the lamp in the luminaire, as shown in the polar curve diagram. The light distribution is shown in the axial (C90, C270) and transverse (C0, C180) planes.



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## Specific UK requirements

# Specific requirements for emergency lighting in the United Kingdom

**The Workplace Directive (89/654 EEC)** lays down the detailed requirements for emergency lighting in the UK. This covers most buildings where five or more people are employed. The directive states that an emergency plan for the safe evacuation of the premises should be prepared following the completion of a full risk assessment.

There are special requirements for hotels with 20 or more paying guests.

**The Regulatory Reform (Fire Safety) Order 2005** has shifted the responsibility for fire safety from the fire officer to the individual responsible for the building – usually the building owner or the person running the business. Certain premises will continue to be covered by fire certification.

This affects all non-domestic premises in England and Wales. An individual is responsible for compliance if they are:

- Responsible for business premises with 5 or more employees
- An employer or self-employed person with business premises with 5 or more employees
- Managing a charity or voluntary organisation with 5 or more employees
- A contractor with a degree of control over any premises of 5 or more employees

A fire risk assessment will check safe and adequate provision of emergency lighting, fire alarms, fire extinguishers and sprinklers.

The government has produced a number of checklists that list the key requirements for different business sectors. These lists are available from [www.communities.gov.uk/fire](http://www.communities.gov.uk/fire)

Emergency signage must comply with the **Safety Signs Directive**. This ruling requires all signs to be in the form of a pictogram. Exit signs only containing text should have been removed and replaced by an approved pictogram sign by the end of 1998.

**Health and Safety Executive – No. L64** outlines specific signage requirements.



**NB. It is essential that the latest legislation, directives and standards are checked and understood before an emergency lighting scheme is designed and specified.**

## Other useful sources of information

Fire Precautions Act 1971	ISBN 0-10-544071
Fire Precautions (Workplace) Regulations 1997 – SI 1997/1840	ISBN 0-11-064738-6
Fire Precautions in the Workplace – Information for Employees	ISBN 0-11-341169-3
Fire Precautions (Workplace) (Amendments) Regulations 1999 – SI 1999/1877	ISBN 0-11-082882-8
Fire risk management in the Workplace – The Loss Prevention Council	ISBN 0-902167 73-1
Fire Safety at Work – Home Office / The Scottish Office	ISBN 0-11-341161-8
Fire Safety – An Employers Guide	ISBN 0-11-341229-0
Guide to fire precautions in existing places of work that require a fire certificate – Home Office / Scottish Office	ISBN 0-11-341079-4
Guide to fire precautions in premises used as hotels and boarding houses which require a fire certificate	ISBN 0-11-341005-0
The Workplace (Health, Safety and Welfare) Regulations – SI 1992 / 3004	ISBN 0-11-034049-3
Workplace Health, Safety & Welfare – Approved code of practice	ISBN 0-7176-04313-6
Management of Health and Safety at Work – Approved code of practice	ISBN 0-7176-0412-8
The Health and Safety (Safety signs and signals) Regulations SI 1996 / 341	ISBN 0-11-054093-X
Safety Signs and Signals – Guidance on Regulations	ISBN 0-7176-0870-0
Building Regulations 1991 – Approved Document B	ISBN 1-851123-51-2
16th Ed. Wiring Regulations – Protection Against Fire – Guidance Note 4	ISBN 0-85296-868-X
Guide to Safety at Sports Grounds	ISBN 0-11-300095-2
BSEN 1838 / BS5266 Pt.7:1999 Lighting Applications – Emergency Lighting	–
BSEN 12193:1999 Light and Lighting – Sports lighting	–
BSEN 60598.2.22:1999 Specification for luminaires for emergency lighting	–
BS5266 Pt.1:1999 – Code of practice for the emergency lighting of premises other than cinemas and certain other specified premises used for entertainment	–
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 – Photo luminescent systems for emergency use – Photo luminescent systems	–
BS5499 Pt.3: 1990 Specification for internally illuminated fire safety signs	–
CP1007 Pt.2: 1995 Code of practice for the emergency lighting of cinemas, theatres and certain other specified places of entertainment	–
S 5499 Pt.1: 1990(1995) Specification for self-luminous fire safety signs	–
ICEL 1008: Emergency Lighting Risk Assessment Guide. – August 1998	–