

# Luminaires —

## Part 2-22: Particular requirements — Luminaires for emergency lighting

ICS 29.140.40; 91.160.10

# National foreword

This British Standard is the UK implementation of EN 60598-2-22:1998+A2:2008, incorporating corrigenda December 2005 and October 2007. It is derived from IEC 60598-2-22:1997, incorporating amendment 2:2008. It supersedes BS EN 60598-2-22:1998+A1:2003 which will be withdrawn on 1 March 2011.

The CENELEC common modifications have been implemented at the appropriate places in the text. The start and finish of each common modification is indicated in the text by tags **[C]** **[C]**.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to IEC text carry the number of the IEC amendment. For example, text altered by IEC amendment 1 is indicated by **[A1]** **[A1]**.

The UK participation in its preparation was entrusted by Technical Committee CPL/34/4, Luminaires, to Subcommittee CPL/34/4/2, Luminaires for emergency lighting.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

**Compliance with a British Standard cannot confer immunity from legal obligations.**

## Amendments/corrigenda issued since publication

| Amd. No.                   | Date              | Comments                                                                                                                    |
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| 10562<br>Corrigendum No. 1 | December 1999     | Change to date of withdrawal (dow) of conflicting national standards                                                        |
| 14393                      | 20 June 2003      | See national foreword                                                                                                       |
| 16331<br>Corrigendum No. 2 | 30 June 2006      | Revision of Foreword, Annex ZA and Annex ZB                                                                                 |
| 17505<br>Corrigendum No. 3 | 31 December 2007  | Revision of EN foreword                                                                                                     |
|                            | 30 September 2008 | Implementation of IEC amendment 2:2008 with CENELEC endorsement A2:2008, and alignment of BSI and CENELEC publication dates |
|                            | 31 August 2010    | Inclusion of IEC amendment 2:2008 that was left out of previous amendment                                                   |

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English version

**Luminaires**  
**Part 2-22: Particular requirements**  
**Luminaires for emergency lighting**  
(IEC 60598-2-22:1997, modified)

Luminaires  
Partie 2-22: Règles particulières  
Luminaires pour éclairage de secours  
(CEI 60598-2-22:1997, modifiée)

Leuchten  
Teil 2-22: Besondere Anforderungen  
Leuchten für Notbeleuchtung  
(IEC 60598-2-22:1997, modifiziert)

This European Standard was approved by CENELEC on 1998-10-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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## CENELEC

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

## Foreword

The text of the International Standard IEC 60598-2-22:1997, prepared by SC 34D, Luminaires, of IEC TC 34, Lamps and related equipment, together with common modifications prepared by the Technical Committee CENELEC TC 34Z, Luminaires and associated equipment, was submitted to the formal vote and was approved by CENELEC as EN 60598-2-22 on 1998-10-01.

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The following dates were fixed:

2007-03-01

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1999-10-01
- latest date by which national standards conflicting with the EN have to be withdrawn (dow) 2008-03-01

Annexes designated "normative" are part of the body of the standard.

Annexes designated "informative" are given for information only.

In this standard, annexes A, B, C and ZA are normative and annexes D and ZB are informative.

Annexes ZA and ZB have been added by CENELEC.

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## Foreword to amendment A1

The text of document 34D/748/FDIS, future amendment 1 to IEC 60598-2-22:1997, prepared by SC 34D, Luminaires, of IEC TC 34, Lamps and related equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 60598-2-22:1998 on 2002-09-24.

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- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2009-10-01

Annexes designated "informative" are given for information only.

In this standard, annex ZB is informative.

Annex ZB has been added by CENELEC.

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## **Foreword to amendment A2**

The text of document 34D/883/FDIS, future amendment 2 to IEC 60598-2-22:1997, prepared by SC 34D, Luminaires, of IEC TC 34, Lamps and related equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A2 to EN 60598-2-22:1998 on 2008-03-01.

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- |                                                                                                                                                 |       |            |
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| – latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2008-12-01 |
| – latest date by which the national standards conflicting with the amendment have to be withdrawn                                               | (dow) | 2011-03-01 |

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## **Endorsement notice**

The text of amendment 2:2008 to the International Standard IEC 60958-2-22:1997 was approved by CENELEC as an amendment to the European Standard without any modification.

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## LUMINAIRES –

### Part 2-22: Particular requirements – Luminaires for emergency lighting

#### 22.1 Scope

This section of IEC 60598-2 specifies requirements for emergency lighting luminaires for use with electrical light sources on emergency power supplies not exceeding 1 000 V.

**A1** This section does not cover the effects of non-emergency voltage reductions on luminaires incorporating high pressure discharge lamps. **A1**

This section also includes relevant requirements and tests that shall be conducted and complied with for control gears, as specified in IEC 60924, that incorporate additional facilities such as remote control devices, indicators, changeover devices, etc.

##### 22.1.1 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of the ISO/IEC Directives. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of the ISO/IEC Directives are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

IEC 60073, *Basic and safety principles for man-machine interface, marking and identification – Coding principles for indication devices and actuators*

IEC 60079, *Electrical apparatus for explosive gas atmospheres*

IEC 60155, *Glow-starters for fluorescent lamps*

IEC 60285, *Alkaline secondary cells and batteries – Sealed nickel-cadmium cylindrical rechargeable single cells*

IEC 60364-5-56, *Electrical installations of buildings – Part 5: Selection and erection of electrical equipment – Chapter 56: Safety services*

IEC 60598-1, *Luminaires – Part 1: General requirements and tests*

IEC 60742, *Isolating transformers and safety isolating transformers – Requirements*

IEC 60896-2, *Stationery lead-acid batteries – General requirements and test methods – Part 2: Valve regulated types*

IEC 60924, *D.C. supplied electronic ballasts for tubular fluorescent lamps – General and safety requirements*

IEC 60928, *Auxiliaries for lamps – A.C. supplied electronic ballasts for tubular fluorescent lamps – General and safety requirements*

IEC 61046, *D.C. or a.c. supplied electric step-down convertors for filament lamps – General and safety requirements*

IEC 61056-1, *Portable lead-acid cells and batteries (valve regulated types) – Part 1: General requirements, functional characteristics – Methods of test*

ISO 3864, *Safety colours and safety signs*

## 22.2 General test requirements

The provisions of section 0 of IEC 60598-1 shall apply. The tests described in each appropriate section of IEC 60598-1 shall be carried out in the order listed in this section of IEC 60598-2.

When testing combined emergency luminaires according to the requirements of this section, the tests shall be limited to those parts of the luminaire which are involved with providing emergency lighting. The components and parts of the luminaires designed to provide only normal lighting shall be subjected to the tests according to the requirements of the relevant section of IEC 60598-2 (for example, if the luminaire is recessed, it shall be tested according to the requirements of the section dealing with recessed luminaires).

If some elements of an emergency luminaire are adjacent (within 1 m cable length) to the main part of the luminaire all the elements of the luminaire, including the means of inter-connection, shall satisfy the relevant requirements of this section.

## 22.3 Definitions

For the purpose of this section, the definitions of section 1 of IEC 60598-1, in addition to the definitions of the relevant IEC lighting publications and the following definitions apply:

☐ 22.3.1 **emergency lighting:** Lighting provided for use when the supply to the normal lighting fails. [CIE Publication 17.4]

22.3.2 **emergency escape lighting:** That part of emergency lighting that provides illumination for the safety of people leaving a location or attempting to terminate a potentially dangerous process before doing so. ☐

22.3.3 **standby lighting:** That part of emergency lighting that enables normal activities to continue substantially unchanged.

22.3.4 **high-risk task-area lighting:** The part of emergency lighting provided to ensure the safety of people involved in a potentially dangerous process or situation and to enable proper shut-down procedures for the safety of the operator and occupants of the premises.

22.3.5 **maintained emergency luminaire:** Luminaire in which the emergency lighting lamps are energized at all times when normal or emergency lighting is required.

**22.3.6 non-maintained emergency luminaire:** Luminaire in which the emergency lighting lamps are in operation only when the supply to the normal lighting fails.

**22.3.7 combined emergency luminaire:** Luminaire containing two or more lamps, at least one of which is energized from the emergency lighting supply and the others from the normal lighting supply. A combined emergency luminaire is either maintained or non-maintained.

**22.3.8 self-contained emergency luminaire:** Luminaire providing maintained or non-maintained emergency lighting in which all the elements, such as the battery, the lamp, the control unit and the test and monitoring facilities, where provided, are contained within the luminaire or adjacent to it (that is, within 1 m cable length).

**22.3.9 centrally supplied emergency luminaire:** Luminaire for maintained or non-maintained operation which is energized from a central emergency power system that is not contained within the luminaire.

**22.3.10 compound self-contained emergency luminaire:** Self-contained luminaire providing maintained or non-maintained emergency lighting and also providing emergency supply for operating a satellite luminaire.

**22.3.11 satellite emergency luminaire:** Luminaire for maintained or non-maintained operation which derives emergency operation supply from an associated compound self-contained emergency luminaire.

**22.3.12 control unit:** Unit or units comprising a supply changeover system, a battery charging device and, where appropriate, a means for testing.

NOTE – For tubular fluorescent lamp luminaires, this unit may also contain the lamp controlgear.

**22.3.13 normal supply failure:** Condition in which the normal lighting can no longer provide a minimum illuminance for emergency escape purposes and when the emergency lighting should become operative.

**22.3.14 emergency luminaire rated lumen output:** Lumen output as claimed by the luminaire manufacturer 60 s (0,5 s for high-risk task-area lighting luminaires) after failure of the normal supply, and continuously to the end of rated duration of operation. 

**22.3.15 rated duration of emergency operation:** Time, as claimed by the manufacturer, that the rated emergency lumen output is provided.

**22.3.16 normal mode:** State of a self-contained emergency luminaire that is ready to operate in emergency mode while the normal supply is on. In the case of a normal supply failure, the self-contained luminaire automatically changes over to the emergency mode.

**22.3.17 emergency mode:** State of a self-contained emergency luminaire that provides lighting when energized by its internal power source, the normal supply having failed.

**22.3.18 rest mode:** State of a self-contained emergency luminaire that has been intentionally extinguished while the normal supply is off and that, in the event of restoration of the normal supply, automatically reverts to normal mode.

**22.3.19 maximum overcharge rate:** Maximum continuous charge rate that may be applied to a fully charged battery.

**22.3.20 remote inhibiting facility:** Means for inhibiting remotely a luminaire associated with an emergency lighting system.

**22.3.21 remote inhibiting mode:** State of a self-contained emergency luminaire which is inhibited from operating by a remote device while the normal supply is on and in case of a normal supply failure the luminaire does not change-over to emergency mode.

## 22.4 Classification of luminaires

Emergency lighting luminaires shall be classified in accordance with the provisions of section 2 of IEC 60598-1 except that all emergency lighting shall be classified as suitable for direct mounting on normally flammable surfaces (F-marked).

Emergency lighting luminaires shall also be classified as specified in annex B.

## 22.5 Marking

**A2** The provisions of section 3 of IEC 60598-1 shall apply together with the requirements of 22.5.1 to 22.5.20 below. **A2**

**22.5.1** Luminaires shall be clearly marked with the rated supply voltage or voltage range(s).

**22.5.2** Luminaires shall be clearly marked with details of their classification according to 22.4 (see annex B).

**22.5.3** Luminaires shall be clearly marked with details of the correct replacement lamp in a position visible during lamp replacement. This ensures that the rated emergency lumen output can be achieved.

**A2** NOTE The information relating to correct lamp replacement may include the number, type, rated voltage and rated wattage, etc. Luminaires containing non-replaceable lamp(s) need not meet this subclause. **A2**

**22.5.4** Where appropriate, in addition to  $t_a$  marking, the range of ambient temperature shall be marked or given in the instruction leaflet supplied with the luminaire.

**22.5.5** Emergency luminaires employing replaceable fuses and/or replaceable indicator lamps shall be marked with the details of fuse ratings and/or details of the indicator lamps.

**22.5.6** Test facilities to simulate normal supply failure, where provided, shall be clearly marked so that the marking is visible during routine testing.

**22.5.7** Self-contained luminaires shall be clearly marked with the details of correct battery replacement including the battery type and rated voltage.

**A2** NOTE Luminaires containing non-replaceable battery need not meet this subclause.

For luminaires with non-replaceable batteries, such information shall be provided in a label to be observed during installation, according to 3.2b) of IEC 60598-1. **A2**