

Australian/New Zealand Standard™

Luminaires

Part 2.22: Particular requirements— Luminaires for emergency lighting (IEC 60598-2-22, Ed. 3.1(2002) MOD)



AS/NZS 60598.2.22:2005

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-041, Lamps and Related Equipment. It was approved on behalf of the Council of Standards Australia on 27 October 2005 and on behalf of the Council of Standards New Zealand on 4 November 2005.

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The following are represented on Committee EL-041:

Association of Consulting Engineers, Australia
Australian Chamber of Commerce and Industry
Australian Electrical and Electronic Manufacturers Association
Consumer Federation of Australia
Electrical Compliance Testing Association of Australia
Electrical Regulatory authorities council (Australia)
Energy Efficiency and Conservation Authority of New Zealand
Illuminating Engineering Society of Australia and New Zealand
International Accreditation of NZ (IANZ)
Ministry of Economic Development, New Zealand

Additional Interests:

LG-007 Committee

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-041, Lamps and Related Equipment in liaison with Committee LG-007, Emergency Lighting in Buildings.

The objective of this part of the Standard is to specify particular requirements for emergency lighting luminaires for use on emergency power supplies up to 1000 V.

With the publication of this Standard, it is also proposed that LG-007 revise the related parts of AS 2293 Standards for consistency with this proposed Standard.

This Standard is an adoption with national modifications and has been reproduced from IEC 60598-2-22, Ed. 3.1(2002), *Luminaires – Part 2-22: Particular requirements—Luminaires for emergency lighting*, and has been varied as indicated to take account of Australian/New Zealand conditions.

Variations to IEC 60598-2-22, Ed.3.1(2002) are indicated at the appropriate places throughout this standard. Strikethrough (**example**) identifies IEC text, tables and figures which, for the purposes of this Australian/New Zealand Standard, are deleted. Where text, tables or figures are added, each is set in its proper place and identified by shading (**example**). Added figures are not themselves shaded, but are identified by a shaded border.

This Standard is a section of Part 2 of a series dealing with luminaires. Currently this series consists of the following Parts; additional Parts will be added from time to time:

AS/NZS 60598	Luminaries
Part 1:	General requirements and tests
Part 2.1:	Particular requirements—Fixed general purpose luminaires
Part 2.2	Particular requirements—Recessed luminaires
Part 2.4:	Particular requirements—Portable general purpose luminaires
Part 2.5:	Particular requirements—Floodlights
Part 2.6:	Particular requirements—Luminaires with built-in transformers or convertors for filament lamps
Part 2.7:	Particular requirements—Portable luminaires for garden use
Part 2.8:	Particular requirements—Handlamps
Part 2.10:	Particular requirements—Portable child-appealing luminaires
Part 2.18:	Particular requirements—Luminaires for swimming pools and similar applications
Part 2.19:	Particular requirements—Airhandling luminaires (safety requirements)
Part 2.20:	Particular requirements—Lighting chains
Part 2.22:	Particular requirements—Luminaires for emergency lighting (this Standard).
Part 2.23	Particular requirements—Extra low voltage lighting systems for filament lamps
Part 2.25:	Particular requirements—Luminaires for use in clinical areas of hospitals and health care buildings.

Each Standard in Part 2 is intended to be read in conjunction with Part 1 in order to provide a complete Standard for that specific type of luminaire. Where a particular Clause of Part 1 is not mentioned in Part 2, that Clause applies as far as is reasonable.

The terms ‘normative’ and ‘informative’ are used to define the application of the annex to which they apply. A normative annex is an integral part of a standard, whereas an informative annex is only for information and guidance.

As this Standard is reproduced from an International Standard, the following applies:

- (a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.
- (b) In the source text ‘IEC 60598’ should read ‘AS/NZS 60598’.
- (c) A full point should be substituted for a comma when referring to a decimal marker.

In this Standard, the following print types are used:

- requirements proper: in arial type;
- *test specifications: in italic type;*
- explanatory matter: in smaller arial type.

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Australian/New Zealand Standard

Luminaires

**Part 2.22: Particular requirements—Luminaires for emergency lighting
(IEC 60598-2-22, Ed. 3.1(2002) MOD)**

Any table, figure or text of the international standard that is struck through is not part of this standard. Any Australian/New Zealand table, figure or text that is added is part of this standard and is identified by shading.

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.

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

This section also includes relevant requirements and tests that shall be conducted and complied with for control gears, as specified in the appropriate parts of AS/NZS 61347, that incorporate additional facilities such as remote control devices, indicators, changeover devices, etc.

This Section excludes photometric performance or functional safety.

22.1.1 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

References to international standards that are struck through in this clause are replaced by references to Australian or Australian/New Zealand Standards that are listed immediately thereafter and identified by shading. Any Australian or Australian/New Zealand Standard that is identical to the International Standard it replaces is identified as such.

AS 2293.1 *Emergency escape lighting and exit signs for buildings—System design, installation and operation*

AS 2293.3 *Emergency escape lighting and exit signs for buildings—Emergency luminaires and exit signs*

AS/NZS 2293.3:1995, *Emergency evacuation lighting for buildings—Emergency escape luminaires and exit signs*

AS/NZS 3000 *Electrical installations (known as the Australian/New Zealand Wiring Rules)*

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~~

AS/NZS 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~~

AS/NZS 60598.1, *Luminaires, Part 1: General requirements and test*

~~IEC 60742, Isolating transformers and safety isolating transformers — Requirements~~

AS/NZS 61558.2.6, *Safety of power transformers, power supply units and similar, Part 2.6: Particular requirements for safety isolating transformers for general use*

~~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~~

AS/NZS 61347.1, *Lamp controlgear—General and safety requirements*

AS/NZS 61347.2.2, *Lamp controlgear, Part 2.2: Particular requirements for d.c. or a.c. supplied electronic stepdown convertors for filament lamps*

AS/NZS 61347.2.3, *Lamp controlgear, Part 2-3: Particular requirements for a.c. supplied electronic ballasts for tubular fluorescent lamps*

AS/NZS 61347.2.4 *Lamp controlgear—Particular requirements for d.c. supplied electronic ballasts for general lighting*

AS/NZS 61347.2.5 *Lamp controlgear—Particular requirements for d.c. supplied electronic ballasts for public transport*

AS/NZS 61347.2.6 *Lamp controlgear—Particular requirements for d.c supplied electronic ballasts for aircraft lighting*

IEC 61347.2.7 *Lamp controlgear—Particular requirements for d.c. supplied electronic ballasts for emergency lighting*

~~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.

For the purposes of testing, if the rated maximum ambient temperature T_a is not declared by the manufacturer, it is taken as 25°C.

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 42 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 for use when the supply to the normal lighting fails; it includes **illuminated emergency exit signage**, emergency escape lighting, high-risk task-area lighting and standby lighting

22.3.1.1

illuminated emergency exit signage

those parts of an emergency lighting scheme intended to communicate the path of travel to a required exit by displaying appropriate images.

NOTES

- 1 In this Standard, the term 'exit sign' denotes 'illuminated emergency exit signage'.
- 2 Readers in Australia are advised to refer to AS 2293.3 for details of images.
- 3 Readers in New Zealand are advised to refer to AS/NZS 2293.3:1995 and the relevant New Zealand Building Code on signs.

22.3.2

emergency escape lighting

that part of emergency lighting that provides illumination for the safety of people leaving an area or attempting to terminate a dangerous process before vacating an area.

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 **all** 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 **all** 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. **The emergency lamp(s) in a combined emergency luminaire is/are maintained or non-maintained** ~~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 **2** 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 (0,25 s for high-risk task-area lighting luminaires) after failure of the normal supply, and continuously to the end of rated duration of operation~~