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FINAL VERSION

VERSION FINALE

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

Luminaires –
Partie 2-22: Règles particulières – Luminaires pour éclairage de secours

IEC 60598-2-22:2014+AMD1:2017-09 CSV(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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LUMINAIRES –

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

FOREWORD

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This Consolidated version of IEC 60598-2-22 bears the edition number 4.1. It consists of the fourth edition (2014-06) [documents 34D/1119/FDIS and 34D/1131/RVD], its corrigenda 1 (2015-03) and 2 (2016-04), and its amendment 1 (2017-09) [documents 34D/1296/FDIS and 34D/1304/RVD]. The technical content is identical to the base edition and its amendment.

This Final version does not show where the technical content is modified by amendment 1. A separate Redline version with all changes highlighted is available in this publication.

International Standard IEC 60598-2-22 has been prepared by subcommittee 34D: Luminaires of IEC technical committee 34: Lamp and related equipment.

This fourth edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) Clause 22.3, addition of definitions for PELF and Self-contained portable emergency luminaire;

b) Clause 22.5, updated with the introduction of requirements for non-replaceable lamp and batteries;

c) Clause 22.6, improved requirements to confirm that the charge indication is correctly connected to the circuit together with other clarifications regarding the controlgear and the remote box with its connecting cabe to the emergency luminaire;

d) Clause 22.12, improved requirements to ensure that the luminaire shall not become unsafe;

e) Clause 22.16, full revision of the photometric testing to align with ISO and CIE;

f) Clause 22.17, now only references the requirements which are now covered in IEC 61347-2-7;

g) Clause 22.19, now only references the requirements which are now covered in IEC 61347-2-7;

h) Annex A, now includes nickel metal hydride batteries and reference to cell types in IEC 61951-1;

i) Annex B, minor changes to the classifications;

j) Annex C, Figure C.1 deleted in favour of a revised text;

k) Annex E, the additional requirements covering self-contained portable emergency luminaires

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

This standard is to be read in conjunction with IEC 60598-1 *Luminaires – Part 1: General requirements and tests*.

A list of all parts in the IEC 60598 series, published under the general title *Luminaires*, can be found on the IEC website.

In this standard, the following print types are used:

– requirements: in roman type

– *test specifications: in italic type*

– notes in small roman type.

The committee has decided that the contents of the base publication and its amendment will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION to Amendment 1

The light output of LED light sources depends also on the temperature at which it is operated. Typically the temperature is controlled by a heat sink on which it is mounted (e.g. luminaire surface).

For this reason, the calculation of the ratio of the electrical parameter (EOF_x) will be introduced in the LED controlgear standards IEC 61347-2-13 and IEC 61347-2-7, as the direct measurement of EBLF is not practicable.

In particular EOF_I is defined as the ratio of the current in emergency mode from constant current controlgear divided by the nominal current of LED ($I_{normal\ mode}$):

$$EOF_I = I_{emergency} / I_{normal\ mode}$$

Knowing that the light output of an LED light source is nearly[1] directly proportional with the foreward current flowing through it, it is possible to calculate the luminous flux of the luminaire in emergency mode by using the EOF_I or $I_{emergency}$ from constant current controlgear.

This document contains a proposal for the modification of IEC 60598-2-22 to use the factor EOF_I or $I_{emergency}$ in the luminaire.

1 *Any non-linearity due to the increased efficacy at lower operation temperature leads to an increased tolerance of the light output in the emergency mode but always positive.*

LUMINAIRES –

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

22.1 Scope

This part of IEC 60598 specifies requirements for emergency luminaires for use with electrical lamps on emergency power supplies not exceeding 1 000 V.

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

This part gives general requirements for emergency lighting equipment.

This part continues to use the term “lamp” which also includes “light source(s)" where appropriate.

22.2 Normative references

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

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

IEC 60155, *Glow-starters for fluorescent lamps*

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

IEC 60896-21, *Stationary lead-acid batteries - Part 21: Valve regulated types - Methods of test*

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

IEC 61347-2-2, *Lamp controlgear - Part 2-2: Particular requirements for d.c. or a.c. supplied electronic step-down convertors for filament* lamps

IEC 61347-2-3, *Lamp control gear - Part 2-3: Particular requirements for a.c. and/or d.c. supplied electronic control gear for fluorescent* lamps

IEC 61347-2-7, *Lamp controlgear – Part 2-7; Particular requirements for battery supplied electronic controlgear for emergency lighting (self-contained)*

IEC 61347-2-12, *Lamp controlgear - Part 2-12: Particular requirements for d.c. or a.c. supplied electronic ballasts for discharge lamps (excluding fluorescent lamps)*

IEC 61347-2-13, *Lamp controlgear - Part 2-13: Particular requirements for d.c. or a.c. supplied electronic controlgear for LED* modules