



SLOVENSKI STANDARD
SIST EN 60598-2-22:1996

01-februar-1996

Luminaires - Part 2: Particular requirements - Section 22: Luminaires for emergency lighting (IEC 598-2-22:1990, modified)

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

Leuchten -- Teil 2: Besondere Anforderungen -- Hauptabschnitt 22: Leuchten für Notbeleuchtung

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

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Ta slovenski standard je istoveten z: EN 60598-2-22:1990

ICS:

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Svetila

Luminaires

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EUROPEAN STANDARD

EN 60598-2-22

NORME EUROPEENNE

July 1990

EUROPÄISCHE NORM

UDC 628.978.6:621.32

Descriptors: Electrical equipment, emergency lighting, luminaire,
particular requirement

ENGLISH VERSION

LUMINAIRES
PART 2: PARTICULAR REQUIREMENTS
SECTION TWENTY-TWO: LUMINAIRES
FOR EMERGENCY LIGHTING
(IEC 598-2-22:1990, modified)

Luminaire
Deuxième partie: Règles particulières
Section vingt-deux: Luminaires
pour éclairage de secours
(IEC 598-2-22:1990, modifiée)

Leuchten
Teil 2: Besondere Anforderungen
Hauptabschnitt Zweiundzwanzig:
Leuchten für Notbeleuchtung
(IEC 598-2-22:1990, modifiziert)

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This European Standard was approved by CENELEC on 1990-03-05.
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.

CENELEC members are the national electrotechnical committees of Austria, Belgium,
Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg,
Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

Central Secretariat: rue Bréderode 2, B-1000 Brussels

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BRIEF HISTORY

The CENELEC Questionnaire Procedure, performed for finding out whether or not IEC 598-2-22:1990 could be accepted without textual changes, has shown that some CENELEC common modifications were necessary for the acceptance as European Standard (EN). The Reference Document in manuscript form was submitted to the CENELEC members for formal vote and acceptance by CENELEC.

TECHNICAL TEXT

The text of the International Standard IEC 598-2-22:1990, modified, was approved by all CENELEC members with the exception of Sweden on 5 March 1990 as a European Standard.

Annexes designated "normative" are part of the body of the standard. Annexes designated "informative" are given only for information.

In this standard, annexes ZA and ZB are normative and annexes ZC and ZD are informative.

The following dates are applicable:

- latest date of announcement
of the EN at national level (doa) : 1990-09-01
- date of latest publication of
a new harmonized standard (dop) : 1991-09-01
- date of withdrawal of conflicting
national standards (dow) : 1992-09-01

For products which have complied with the relevant national standard before 1992-09-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 1997-09-01.

Endorsement notice

IEC 598-2-22 (second edition, 1990) applies taking into account the following modifications.

Clause No. of R D	Clause heading	Common modification	Justification
22.3	Definitions	In item 7, delete the note	To harmonize requirements in CENELEC countries
22.4	Classification of luminaires	Sub-clause 22.4.1. Delete the text of Note 1 and substitute the following: 'The situation in CENELEC countries regarding luminaires with rest mode facility is given in annex ZB.' Delete Note 2.	To draw attention to special national conditions in annex ZB.
22.6	Construction	Sub-clause 22.6.1. Add to the end of the first paragraph: '... and the starter shall not be in the circuit in the emergency mode.' Sub-clause 22.6.5. Delete the text of this sub-clause and substitute 'No requirement'.	Clarification To harmonize requirements in CENELEC countries.

Clause No. of R D	Clause heading	Common modification	Justification
		<p>Sub-clause 22.6.13. Delete the second sentence of the first paragraph (including the formulae) and substitute the following:</p> <p>'This protection shall be achieved by incorporation of an electronic system that limits further battery discharge to the current specified in a) below when the battery voltage has fallen to V_{\min} determined in b) below:</p> <p>a) - For lead-acid batteries $10^{-5} \times C_{20}$ Amperes where C_{20} is the battery capacity in ampere hours for a 20 h constant current discharge;</p> <p>- for nickel-cadmium batteries $0,0015 \times C_5$ Amperes where C_5 is the battery capacity in ampere hours for a 5 h constant current discharge.</p> <p>b) $V_{\min} = X.n$</p> <p>where n = number of cells</p> <p>and, for lead acid batteries</p> <p>$X = 1.6$ V for 1 h duration or less</p> <p>$X = 1.7$ V for greater than 1 h duration</p> <p>and, for nickel-cadmium batteries</p> <p>$X = 0.8$ V for all duration values.</p>	<p>Clarification</p>
		<p>Sub-clause 22.6.18. Delete the text of the first indent (for lead acid batteries) and substitute the following:</p> <p>' - for lead acid batteries $4 \times 10^{-5} \times C_{20}$ Amperes where C_{20} is the battery capacity in ampere hours for a 20 h constant current discharge;'</p> <p>Sub-clause 22.6.19. In line 2, delete '20 %' and substitute '30 %'.</p>	<p>To align with current battery technology.</p> <p>To enable more consistent test results to be achieved.</p>

Clause No. of R D	Clause heading	Common modification	Justification
22.12	Endurance test and thermal tests	<p>Sub-clause 22.12.1.1. In the second paragraph, delete the two references to 'rated supply voltage' and substitute 'maximum rated supply voltage (range)'.</p> <p>Sub-clause 22.12.4. In table 1, in the headings for columns 2 and 3, delete '1 h duration' and '3 h duration' and substitute 'Up to 1 h duration and 'Greater than 1 h duration' respectively.</p> <p>Sub-clause 22.12.7. Delete '0.9 times-rated supply voltage' and substitute '0.9 times minimum rated supply voltage (range)'.</p>	<p>To provide requirements for luminaires marked with a supply voltage range.</p> <p>Clarification</p> <p>To provide requirements for luminaires marked with a supply voltage range.</p>
22.15	Resistance to heat, fire and tracking	<p>Sub-clause 22.15.1. Delete the note.</p>	<p>To harmonize requirements in CENELEC countries.</p>
22.16	Photometric performance	<p>Sub-clause 22.16.1.</p> <p>Delete the third paragraph and substitute the following: 'Compliance shall be checked by measurement for self-contained luminaires, during operation from the internal batteries after a 24 h charge at 0.9 times minimum rated voltage (range) and for centrally supplied luminaires, during operation at 0.9 times minimum rated voltage (range)'.</p> <p>After the third paragraph, add the following note:</p> <p>'NOTE. The luminaire manufacturer has no control over the batteries which may be used with a centrally supplied luminaire and the 10 % reduction allows for the typical voltage drop in an installation. The battery voltage could be up to 15 % lower at the end of rated duration and the consequential effect on light output should be taken into account when using the rated lumen output figure of the luminaire for the calculation of photometric installation data.'</p>	<p>To provide requirements for luminaires marked with a supply voltage range and to allow for both the typical voltage drop in centrally supplied luminaire installations and the reduction in battery voltage.</p>

Clause No. of R D	Clause heading	Common modification	Justification
22.17	Changeover operation	<p>Sub-clause 22.17.1. Delete the note commencing, 'At the present time</p> <p>Sub-clause 22.17.2. In the first paragraph, delete 'rated supply voltage' and substitute 'minimum rated supply voltage (range)'. In the first sentence of the third paragraph, delete '(at rated voltage)' and substitute '(at 0.85 times minimum rated supply voltage-range)'.</p>	To harmonize requirements in CENELEC countries.
			<p>To provide requirements for luminaires marked with a supply voltage range.</p> <p>To provide requirements for luminaires marked with a supply voltage range and to provide a compliance test for the '0.85' requirement in Sub-clause 22.17.1.</p>

Clause No. of R D	Clause heading	Common modification	Justification
22.18	High temperature operation	<p>Delete the text of this clause and substitute the following:</p> <p>'Luminaires shall be capable of operating satisfactorily in the emergency mode at an ambient temperature of 70 °C.</p> <p>Compliance shall be checked by the following test:</p> <p>Self-contained luminaires shall be charged for 24 h at t_a in a draught-free enclosure and at maximum rated supply voltage (range). The luminaire, while still connected to maximum rated supply voltage (range), shall then be placed in a pre-heated enclosure at 70 °C except that for maintained and combined luminaires, the lamp(s) shall be switched off. After 1 h at this higher temperature the luminaire shall be changed over to emergency mode.</p> <p>Centrally supplied luminaires shall be placed in a pre-heated enclosure at 70 °C and after 1 h connected to maximum rated supply voltage (range).</p> <p>The luminaires shall operate with a lamp current not less than 50 % of the normal emergency mode lamp current (measured at t_a) for at least 50 % of rated duration for self-contained luminaires and for at least 1.5 h for centrally supplied luminaires.'</p>	To introduce a more practical test.
22.19	Battery chargers for self-contained luminaires	<p>Sub-clause 22.19.1. Delete '90 % to 106 % of the rated supply voltage' and substitute the following '0.9 times the minimum rated supply voltage (range) and 1.06 times the maximum rated supply voltage (range)'.</p>	To provide requirements for luminaires marked with a supply voltage range.

Annex ZA (normative)

OTHER INTERNATIONAL PUBLICATIONS QUOTED IN THIS STANDARD

When the international publication has been modified by CENELEC common modifications (mod = modified by CENELEC common modifications) the relevant EN/HD applies.

IEC Publications	EN/HD	Date of issue of EN/HD
79 Electrical apparatus for explosive gas atmospheres	-	
81 Tubular fluorescent lamps for general lighting service	EN 60 081	1989-12-15
155, mod Starters for tubular fluorescent lamps	EN 60 155	1989-06-20
598-1, mod Luminaires Part 1: General requirements and tests	EN 60 598-1	Sliding, latest edition
742, mod Isolating transformers and safety isolating transformers - Requirements	EN 60 742	1989-01-13
920 Ballasts for tubular fluorescent lamps. General and safety requirements	prEN 60 920	1989-01-13
924 DC supplied electronic ballasts for tubular fluorescent lamps General and safety requirements	prEN 60 924	
925 DC supplied electronic ballasts for tubular fluorescent lamps. Performance requirements	EN 60 925	

CIE Publication

24
Photometry of indoor type luminaires with tubular fluorescent lamps.

Annex ZB (normative)

SPECIAL NATIONAL CONDITIONS

The following special national condition exists in the countries mentioned.

Clause No. of R D	Special national condition	Justification
22.4	<p>Sub-clause 22.4.1 (Note 1)</p> <p>For self-contained luminaires: rest mode facility is allowed in the following countries:</p> <p>Austria Belgium Finland‡ France* Greece* Italy Luxemburg Norway Portugal Spain Switzerland</p> <p>rest mode facility is not allowed in the following countries:</p> <p>Denmark Germany+ Finland‡ Iceland Ireland Netherlands Sweden United Kingdom</p>	<p>Differing national practice with regard to isolation of power supplies when buildings are not in use.</p>
<p>* In France and Greece, it is a legal requirement that a rest mode facility is provided.</p> <p>+ In Germany, there is a legal requirement which prohibits a rest mode facility.</p> <p>‡ In Finland, a rest mode facility is allowed for standby lighting but there is a legal requirement which prohibits a rest mode facility for escape lighting.</p>		

Annex ZC (informative)

NATIONAL DEVIATIONS

The following national deviations are designated A-deviations which means:

A-deviation: A national deviation due to regulations, the alteration of which is - at least for the time being - outside the competence of the CEN/CENELEC member.

Clause in EN 60 598-2-22	National deviation
22.3 (item 7)	France. Regulation for fire hazard safety for buildings open to public. Clause EL 3 § 2 and EL 15 § 2. No separation is allowed.
22.4.1 Note 2	France. Regulation for fire hazard safety for buildings open to public. Clause EL 3 § 2b Combined luminaires are not allowed to be used for escape lighting. Circuits energizing luminaires for escape lighting are required to be independent of other electrical circuits.
22.15.1	France. Regulation for fire hazard safety for buildings open to public Clause EC 4 § 2 For centrally supplied luminaires, a glow wire temperature of 850 °C and an extinguishing time of 5 s is required. For self-contained luminaires, a glow wire temperature of 750 °C and an extinguishing time of 5 s is required.