



BSI Standards Publication

Organic light emitting diode (OLED) Light sources for general lighting — Safety

Part 1: General requirements and tests

National foreword

This British Standard is the UK implementation of EN IEC 62868-1:2021+A1:2025. It is identical to IEC 62868-1:2020, incorporating amendment 1:2025. It supersedes BS EN IEC 62868-1:2021, which will be withdrawn on 30 April 2028.

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 to Technical Committee CPL/34/1, Electric lamps.

A list of organizations represented on this committee can be obtained on request to its committee manager.

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient’s own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

© The British Standards Institution 2025
Published by BSI Standards Limited 2025

ISBN 978 0 539 28426 3
ICS 29.140.99

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

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 November 2021.

Amendments/corrigenda issued since publication

Date	Text affected
30 April 2025	Implementation of IEC amendment 1:2025 with CENELEC endorsement A1:2025

English Version

Organic light emitting diode (OLED) Light sources for general
lighting - Safety - Part 1: General requirements and tests
(IEC 62868-1:2020)

Sources lumineuses à diodes électroluminescentes
organiques (OLED) destinées à l'éclairage général -
Sécurité - Partie 1: Exigences générales et essais
(IEC 62868-1:2020)

Organische Licht emittierende Dioden (OLED) Lichtquellen
für die Allgemeinbeleuchtung - Sicherheit - Teil 1:
Allgemeine Anforderungen und Prüfungen
(IEC 62868-1:2020)

This European Standard was approved by CENELEC on 2021-09-15. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 34A/2177/FDIS, future edition 1 of IEC 62868-1, prepared by SC 34A "Electric light sources" of IEC/TC 34 "Lighting" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62868-1:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2022-05-05
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2024-11-05

This document supersedes EN 62868:2015 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a Standardization Request given to CENELEC by the European Commission and the European Free Trade Association.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 62868-1:2020 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60050 (series)	NOTE	Harmonized as EN IEC 63223 (series) ¹
IEC 60598 (series)	NOTE	Harmonized as EN 60598 (series)
IEC 62868-2 (series)	NOTE	Harmonized as EN IEC 62868-2 (series) ²

¹ To be published. Stage at the time of publication: prEN IEC 63223 (series).

² To be published. Stage at the time of publication: FprEN IEC 62868-2 (series).

European foreword to Amendment 1

The text of document 34A/2421/FDIS, future edition 1 of IEC 62868-1/AMD1, prepared by SC 34A "Electric light sources" of IEC/TC 34 "Lighting" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62868-1:2021/A1:2025.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2026-04-30 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2028-04-30 document have to be withdrawn

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 62868-1:2020/AMD1:2025 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-2-6	2007	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	2008
IEC 60598-1	2020	Luminaires - Part 1: General requirements and tests	EN IEC 60598-1	2021
IEC 62504	-	General lighting - Light emitting diode (LED) products and related equipment - Terms and definitions	EN 62504	-
IEC TR 62854	2014	Sharp edge testing apparatus and test procedure for lighting equipment - Tests for sharpness of edge	-	-
IEC TS 62972	-	General lighting - Organic light emitting diode (OLED) products and related equipment - Terms and definitions	-	-
ISO 4046-4	2016	Paper, board, pulps and related terms - Vocabulary - Part 4: Paper and board grades and converted products	-	-
IEC 60598	series	Luminaires	EN IEC 60598	series
IEC 60838-2-2	-	Miscellaneous lampholders - Part 2-2: Particular requirements - Connectors for LED-modules	EN 60838-2-2	-

CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms and definitions	8
4 General	9
4.1 General requirements	9
4.2 General test requirements.....	9
5 Marking	10
5.1 Contents and location	10
5.2 Durability and legibility of marking.....	10
6 Construction	11
6.1 General.....	11
A1 6.2 Mechanical strength.....	11
6.2.1 Requirements	11
6.2.2 Vibration test	11 A1
6.3 Internal short circuit.....	11
6.4 Wireways	12
6.5 Resistance to dust, solid objects and moisture.....	12
7 Mechanical hazard	12
A1 8 Fault conditions	12
8.1 General.....	12
8.2 Overload condition	13
8.3 Input stability test.....	13 A1
A1 9 Insulation resistance and electric strength	13
9.1 General requirements	13
9.2 Insulation resistance	13
9.3 Electric strength.....	13 A1
10 Thermal stress.....	13
11 Creepage distances and clearances	14
12 Resistance to heat and fire	14
12.1 Resistance to heat	14
A1 12.2 Resistance to flame and ignition	14 A1
13 Photobiological safety.....	14
14 Terminals	14
15 Information for luminaire design.....	15
A1 16 Protection against accidental contact with live parts	15
17 Screws, current-carrying parts and connections.....	15
18 Resistance to corrosion	15
19 Provisions for protective earthing.....	15 A1
Annex A (informative) A1 Text deleted A1	16
Annex B (informative) Information for luminaire design	17
Annex C (normative) Method of provoking an internal short circuit.....	18
C.1 Method for an OLED panel with glass substrates	18

C.2 Method for an OLED panel with flexible plastic substrates	18
Annex D (informative)  OLED lighting system overview 	19
Annex E (informative)  <i>Text deleted</i> 	20
Bibliography	21
Figure D.1 – Schematic diagram of OLED lighting system consisting of OLED panel or module.....	19
Table 1 – Contents and location of marking	10

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ORGANIC LIGHT EMITTING DIODE (OLED) LIGHT SOURCES FOR GENERAL LIGHTING – SAFETY –

Part 1: General requirements and tests

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62868-1 has been prepared by subcommittee 34A: Lamps, of IEC technical committee 34: Lamps and related equipment.

This first edition cancels and replaces IEC 62868 published in 2014.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
34A/2177/FDIS	34A/2185/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

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