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# INTERNATIONAL STANDARD

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**Organic light emitting diode (OLED) Light sources for general lighting – Safety –  
Part 1: General requirements and tests**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## 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.
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- 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) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

**This consolidated version of the official IEC Standard and its amendment has been prepared for user convenience.**

**IEC 62868-1 edition 1.1 contains the first edition (2020-05) [documents 34A/2177/FDIS and 34A/2185/RVD] and its amendment 1 (2025-02) [documents 34A/2421/FDIS and 34A/2433/RVD].**

**In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.**

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.

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

A list of all parts in the IEC 62868 series, published under the general title *Organic light emitting diode (OLED) light sources for general lighting – Safety*, can be found on the IEC website.

In this document, the following print types are used:

- requirements: roman type,
- *test specifications: italic type*,
- notes: smaller roman type.

The committee has decided that the contents of this document and its amendment will remain unchanged until the stability date indicated on the IEC website under [webstore.iec.ch](http://webstore.iec.ch) in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

## INTRODUCTION

This part of IEC 62868 provides a set of general safety requirements and tests of OLED light sources which are applicable to general indoor lightings. This document specifies the requirements and tests for simple OLED light sources which do not include active electronic components and consist of rigid substrates. It applies to the common requirements and tests to verify the safety of all types of OLED light sources such as OLED modules and flexible OLED panels. This document applies to OLED panels and tiles which consist of rigid substrates. It also applies to any OLED light sources which are not specified in IEC 62868-2 (all parts)<sup>1</sup>.

The parts which make up the IEC 62868-2 series, in referring to any clauses of this document, specify the extent of application of this document; they also include additional requirements and tests as necessary.

Where the requirements of any clauses of this document are referred to in the various parts that make up the IEC 62868-2 series by the phrase "The requirements of Clause n of IEC 62868-1 apply", this phrase will be interpreted as meaning that all requirements of the clauses in question of this document apply, except any which are clearly inapplicable to a particular type of OLED light source covered by the Part n of the IEC 62868-2 series concerned.

The safety requirements of this document are intended to ensure that electrical lightings constructed in accordance with this document do not endanger the safety of users or properties when the light sources are properly installed, maintained and used in applications.

Particular requirements and tests for OLED light sources which include any active electronic components and consist of flexible substrate will be the subject of a separate standard, as the need arises.

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<sup>1</sup> Under preparation. Stage at the time of publication IEC AFDIS 62868-2-1:2020, IEC AFDIS 62868-2-2:2020 and IEC ACDEV 62868-2-3:2020.

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

## Part 1: General requirements and tests

### 1 Scope

~~This part of IEC 62868 specifies general safety requirements of OLED products for use on DC supplies up to 1000 V or AC supplies up to 1000 V at 50 Hz or 60 Hz for indoors and similar general lighting purposes.~~

~~This document applies to any OLED light sources which are not covered by IEC 62868-2 (all parts).~~

~~NOTE 1 Only test methods for DC operated OLED light sources are provided in this document. Provisions for AC operated OLED products are under consideration.~~

~~NOTE 2 The construction of OLED tiles and panels is illustrated in Figure A.1 to Figure A.4 in Annex A.~~

~~NOTE 3 The OLED lighting system consisting of OLED panels or modules is illustrated in Annex D.~~

~~NOTE 4 This document applies to OLED light sources (tiles, panels, modules) which are composed of OLED luminaires or OLED lamps, and it is intended so that the OLED light source in accordance with this document fits in IEC 60598 (all parts) as a component of lighting equipment, in combination with other components.~~

~~NOTE 5 Where an appropriate Part 2 of IEC 62868 for an OLED light source does not exist, the nearest applicable Part 2 of IEC 62868 can be used as a guide to the requirements and tests.~~

This part of IEC 62868 specifies general safety requirements of organic light emitting diode (OLED) light sources (tiles, panels and modules and OLED lamps) for use on DC supplies up to 1 000 V or AC supplies up to 1 000 V at 50 Hz or 60 Hz for indoors and similar general lighting purposes.

Where an appropriate part of the IEC 62868-2 series for an OLED light source does not exist, the applicable part with the nearest configuration of the IEC 62868-2 series can be used as a guide to the requirements and tests in conjunction with this document.

NOTE 1 The OLED lighting system consisting of OLED panels or modules is illustrated in Annex D.

NOTE 2 This document applies to OLED light sources (tiles, panels, modules and lamps), and it is intended so that the OLED light source in accordance with this document fits in the IEC 60598 series as a component of lighting equipment, in combination with other components.

### 2 Normative references

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.

IEC 60598-1:2014/2020, *Luminaires – Part 1: General requirements and tests*  
~~IEC 60598-1:2014/AMD1:2017~~

IEC 60068-2-6:2007, *Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60598 (all parts), *Luminaires*

IEC 60838-2-2, *Miscellaneous lampholders – Part 2-2: Particular requirements – Connectors for LED-modules*

IEC 62504, *General lighting – Light emitting diode (LED) products and related equipment – Terms and definitions*

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*



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- 9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

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<sup>1</sup> Under preparation. Stage at the time of publication IEC AFDIS 62868-2-1:2020, IEC AFDIS 62868-2-2:2020 and IEC ACDV 62868-2-3:2020.

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## Part 1: General requirements and tests

### 1 Scope

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Where an appropriate part of the IEC 62868-2 series for an OLED light source does not exist, the applicable part with the nearest configuration of the IEC 62868-2 series can be used as a guide to the requirements and tests in conjunction with this document.

NOTE 1 The OLED lighting system consisting of OLED panels or modules is illustrated in Annex D.

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