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Irish Standard
I.S. EN 62031:2008&A1:2013&A2:2015

LED modules for general lighting - Safety specifications

I.S. EN 62031:2008&A1:2013&A2:2015

Incorporating amendments/corrigenda/National Annexes issued since publication:

EN 62031:2008/A1:2013
EN 62031:2008/A2:2015

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EUROPEAN STANDARD

EN 62031:2008/A2

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2015

ICS 29.140.99; 31.080.99

English Version

**LED modules for general lighting - Safety specifications
(IEC 62031:2008/A2:2014)**

Modules de DEL pour éclairage général - Spécifications de
sécurité
(IEC 62031:2008/A2:2014)

LED-Module für Allgemeinbeleuchtung -
Sicherheitsanforderungen
(IEC 62031:2008/A2:2014)

This amendment A2 modifies the European Standard EN 62031:2008; it was approved by CENELEC on 2014-10-24. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

The text of document 34A/1771/FDIS, future IEC 62031:2008/A2, prepared by SC 34A "Lamps" of IEC/TC 34 "Lamps and related equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62031:2008/A2:2015.

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- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2015-07-24
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-10-24

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This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

Endorsement notice

The text of the International Standard IEC 62031:2008/A2:2014 was approved by CENELEC as a European Standard without any modification.

In the Bibliography of EN 62031:2008, the following note has to be **added** for the standard indicated:

IEC 62471 NOTE Harmonized as EN 62471.

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 62031/A1

February 2013

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**LED modules for general lighting -
Safety specifications
(IEC 62031:2008/A1:2012)**

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Spécifications de sécurité
(CEI 62031:2008/A1:2012)

LED-Module für Allgemeinbeleuchtung -
Sicherheitsanforderungen
(IEC 62031:2008/A1:2012)

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CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 34A/1608/FDIS, future edition 1 of IEC 62031:2008/A1, prepared by SC 34A, "Lamps", of IEC TC 34, "Lamps and related equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62031:2008/A1:2013.

The following dates are fixed:

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- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-12-03

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This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

Endorsement notice

The text of the International Standard IEC 62031:2008/A1:2012 was approved by CENELEC as a European Standard without any modification.

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 62031

September 2008

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English version

**LED modules for general lighting -
Safety specifications
(IEC 62031:2008)**

Modules de DEL pour éclairage général -
Spécifications de sécurité
(CEI 62031:2008)

LED-Module für Allgemeinbeleuchtung -
Sicherheitsanforderungen
(IEC 62031:2008)

This European Standard was approved by CENELEC on 2008-07-01. 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.

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CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 34A/1237/FDIS, future edition 1 of IEC 62031, prepared by SC 34A, Lamps, of IEC TC 34, Lamps and related equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62031 on 2008-07-01.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2009-04-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2011-07-01

NOTE In this standard, the following print types are used:

- Requirements proper: in roman type.
- *Test specifications: in italic type.*
- Explanatory matter: in smaller roman type.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62031:2008 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 60968 | NOTE Harmonized as EN 60968:1990 (modified). |
| IEC 62384 | NOTE Harmonized as EN 62384:2006 (not modified). |

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60598-1 (mod)	2003	Luminaires - Part 1: General requirements and tests	EN 60598-1 + corr. August	2004 2007
A1	2006		A1	2006
IEC 60838-2-2	- ¹⁾	Miscellaneous lampholders - Part 2-2: Particular requirements - Connectors for LED modules	EN 60838-2-2	2006 ²⁾
IEC 61347-1 (mod)	2007	Lamp controlgear - Part 1: General and safety requirements	EN 61347-1	2008
IEC 61347-2-13	2006	Lamp controlgear - Part 2-13: Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules	EN 61347-2-13	2006
IEC 62471 (mod)	2006	Photobiological safety of lamps and lamp systems	EN 62471	2008
ISO 4046-4	2002	Paper, board, pulps and related terms - Vocabulary - Part 4: Paper and board grades and converted products	-	-

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

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IEC 62031

Edition 1.0 2008-01

INTERNATIONAL STANDARD

NORME INTERNATIONALE

LED modules for general lighting – Safety specifications

Modules de DEL pour éclairage général – Spécifications de sécurité





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INTERNATIONAL STANDARD

NORME INTERNATIONALE

LED modules for general lighting – Safety specifications

Modules de DEL pour éclairage général – Spécifications de sécurité

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

LED MODULES FOR GENERAL LIGHTING – SAFETY SPECIFICATIONS

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.
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International Standard IEC 62031 has been prepared by subcommittee 34A: Lamps, of IEC technical committee 34: Lamps and related equipment.

The text of this first edition is based on the following documents:

FDIS	Report on voting
34A/1237/FDIS	34A/1256/RVD

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

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

NOTE In this standard, the following print types are used:

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The committee has decided that the contents of this publication will remain unchanged until the maintenance result 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

The first edition of a safety standard for LED modules for general lighting applications acknowledges the need for relevant tests for this new source of electrical light, sometimes called “solid state lighting”.

The provisions in the standard represent the technical knowledge of experts from the fields of the semiconductor industry and those of the traditional electrical light sources.

Two types of LED modules are covered: with integral and external control gear.

LED MODULES FOR GENERAL LIGHTING – SAFETY SPECIFICATIONS

1 Scope

This International Standard specifies general and safety requirements for light-emitting diode (LED) modules:

- * LED modules without integral control gear for operation under constant voltage, constant current or constant power;
- * self-ballasted LED modules for use on d.c. supplies up to 250 V or a.c. supplies up to 1 000 V at 50 Hz or 60 Hz.

NOTE 1 The safety requirements for separate control gear are specified in IEC 61347-2-13. The performance requirements for separate control gear are specified in IEC 62384.

NOTE 2 Requirements for LED modules with integrated control gear and equipped with a lamp cap (self-ballasted lamp), intended for mains voltage general lighting service retrofit applications (thereby replacing existing lamps with identical lamp caps) are specified in IEC 60968 (an amendment to the present edition or a new edition with extended scope is in preparation).

Requirements for LED modules with integrated control gear and equipped with a lamp cap (self-ballasted lamp), intended for non-mains voltage general lighting service retrofit applications (thereby replacing existing lamps with identical lamp caps) are under consideration.

NOTE 3 Where in the requirements of this standard both types of LED modules, with and without integral control gear, are addressed, the word “modules” is used instead. Where only the expression “LED module(s)” is used, it is understood to refer to the type without integral control gear.

2 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.

IEC 60598-1:2003, *Luminaires, Part 1: General requirements and tests*¹⁾
Amendment 1 (2006)

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

IEC 61347-1:2007, *Lamp controlgear – Part 1: General and safety requirements*

IEC 61347-2-13:2006, *Lamp controlgear – Part 2-13: Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules*

IEC 62471:2006, *Photobiological safety of lamps and lamp systems*

ISO 4046-4:2002, *Paper, board, pulp and related terms – Vocabulary – Part 4: Paper and board grades and converted products*

¹⁾ A consolidated 6.1 (2006) exists, that includes IEC 60598-1 (2003) and its Amendment 1 (2006).

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