

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



**Lamps, light sources and LED packages for road vehicles – Performance requirements**

**Lampes, sources lumineuses et LED encapsulées pour véhicules routiers – Exigences de performances**



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# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



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# LAMPS, LIGHT SOURCES AND LED PACKAGES FOR ROAD VEHICLES – PERFORMANCE REQUIREMENTS

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**IEC 60810 edition 5.2 contains the fifth edition (2017-09) [documents 34A/2021/FDIS and 34A/2033/RVD], its amendment 1 (2019-04) [documents 34A/2106/CDV and 34A/2129/RVC] and its amendment 2 (2022-04) [documents 34A/2272/FDIS and 34A/2277/RVD].**

**In this Redline version, a vertical line in the margin shows where the technical content is modified by amendments 1 and 2. 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 60810 has been prepared by subcommittee 34A: Lamps, of IEC technical committee 34: Lamps and related equipment.

This fifth edition constitutes a technical revision.

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

- a) update and clarification of the title and scope;
- b) introduction of new LED light sources;
- c) introduction of requirements for LED light sources;
- d) introduction of guidelines on LED package robustness validation for LED packages.

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

The committee has decided that the contents of the base publication and its amendments 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

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# LAMPS, LIGHT SOURCES AND LED PACKAGES FOR ROAD VEHICLES – PERFORMANCE REQUIREMENTS

## 1 Scope

This document is applicable to filament lamps, discharge lamps, LED light sources and LED packages to be used in road vehicles, i.e. in headlamps, fog-lamps, signalling lamps and interior lighting. It is especially applicable to those lamps and light sources which are listed in IEC 60809.

It specifies requirements and test methods for the measurement of performance characteristics such as lamp life, luminous flux maintenance, torsion strength, glass bulb strength and resistance to vibration and shock. Moreover, information on temperature limits, maximum lamp outlines and maximum tolerable voltage surges is given as guidance for lighting and electrical equipment design.

For some of the requirements given in this document, reference is made to data given in tables. For lamps not listed in such tables, the relevant data are supplied by the lamp manufacturer or responsible vendor.

The performance requirements are additional to the basic requirements specified in IEC 60809. They are, however, not intended to be used by authorities for legal type-approval purposes.

NOTE 1 In the various vocabularies and standards, different terms are used for "incandescent lamp" (IEC 60050-845:1987, 845-07-04) and "discharge lamp" (IEC 60050-845:1987, 845-07-17). In this document, "filament lamp" and "discharge lamp" are used. However, where only "lamp" is written both types are meant, unless the context clearly shows that it applies to one type only.

NOTE 2 This document does not apply to luminaires.

NOTE 3 In this document, the term LED light source is used, in other standards the term LED lamps can be used to describe similar products.

## 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 60050-845, *International Electrotechnical Vocabulary – Part 845: Lighting* (available at <http://www.electropedia.org>)

IEC 60061-1, *Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 1: Lamp caps*

IEC 60068-2-14, *Environmental testing – Part 2-14: Tests – Test N: Change of temperature*

IEC 60068-2-43, *Environmental testing – Part 2-43: Tests – Test Kd: Hydrogen sulphide test for contacts and connections*

IEC 60068-2-58, *Environmental testing – Part 2-58: Tests – Test Td: Test methods for solderability, resistance to dissolution of metallization and to soldering heat of surface mounting devices (SMD)*