

Lamps and light sources for road vehicles -
Dimensional, electrical and luminous requirements

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 60809:2021 sisaldab Euroopa standardi EN IEC 60809:2021 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 60809:2021 consists of the English text of the European standard EN IEC 60809:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
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English Version

**Lamps and light sources for road vehicles - Dimensional,
electrical and luminous requirements
(IEC 60809:2021)**

Lampes et sources lumineuses pour véhicules routiers -
Exigences dimensionnelles, électriques et lumineuses
(IEC 60809:2021)

Lampen und Lichtquellen für Straßenfahrzeuge - Maße,
elektrische und lichttechnische Anforderungen
(IEC 60809:2021)

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European foreword

The text of document 34A/2232/FDIS, future edition 4 of IEC 60809, 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 60809:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2022-02-12 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2024-05-12 document have to be withdrawn

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

IEC 60983	NOTE	Harmonized as EN 60983
IEC 62504	NOTE	Harmonized as EN 62504

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 60050-845	-	International Electrotechnical Vocabulary. - Lighting	-	-
IEC 60051-1	-	Direct acting indicating analogue electrical measuring instruments and their accessories - Part 1: Definitions and general requirements common to all parts	EN 60051-1	-
IEC 60061-1	-	Lamp caps and holders together with gauges for the control of interchangeability and safety. Part 1: Lamp caps	EN 60061-1	-
IEC 60810	2017	Lamps, light sources and LED packages for road vehicles - Performance requirements	EN IEC 60810	2018
+ A1	2019		+ A1	2019
CIE 015	-	Colorimetry	-	-

INTERNATIONAL STANDARD



**Lamps and light sources for road vehicles – Dimensional, electrical and
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INTERNATIONAL STANDARD



**Lamps and light sources for road vehicles – Dimensional, electrical and
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

LAMPS AND LIGHT SOURCES FOR ROAD VEHICLES – DIMENSIONAL, ELECTRICAL AND LUMINOUS REQUIREMENTS

FOREWORD

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IEC 60809 has been prepared by subcommittee 34A: Electric light sources, of IEC technical committee 34: Lighting. It is an International Standard.

This fourth edition cancels and replaces the third edition published in 2014, Amendment 1:2017, Amendment 2:2017 and Amendment 3:2019. This edition constitutes a technical revision.

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

- a) Introduction of a light technical measurement on LED light sources intended for use in front-lighting applications.
- b) As the original data sheets and some figures from previous editions were not available in an editable format, they have been reproduced from their old format, following the current drafting rules and are now in single language format. Some reproductions constitute minor (obvious) editorial changes of the original text sections and original figures; no technical changes were introduced.

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

Draft	Report on voting
34A/2232/FDIS	34A/2235/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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LAMPS AND LIGHT SOURCES FOR ROAD VEHICLES – DIMENSIONAL, ELECTRICAL AND LUMINOUS REQUIREMENTS

1 Scope

This document is applicable to electric light sources (see Note 1) for use in automotive applications, for example in road illumination devices and/or light signalling devices for road vehicles.

It is especially applicable to light sources listed in UN Resolution R.E.5 and light sources subject to other legislations.

This document specifies the technical requirements for interchangeability for example dimensional, electrical and photometrical characteristics, and includes test methods.

For the light sources listed in this document, the data sheets are contained either in this document or are included by reference to UN Resolution R.E.5.

Performance requirements are specified in IEC 60810, for example life, torsion strength, resistance to vibration and shock.

The requirements for miniature light sources for supplementary purposes, not subject to legislation, are specified in IEC 60983.

NOTE 1 The terms "lamp" and "light source" are both used in this document to mean the same product, so the two terms are interchangeable throughout this document.

NOTE 2 In various vocabularies and standards, different terms are used for "incandescent lamp" (IEC 60050-845:1987, 845-07-04), "discharge lamp" (IEC 60050-845:1987, 845-07-17) and "LED lamp". In this document "filament lamp", "discharge lamp" and "LED light source" are used, however, where only "lamp" or "light source" is written, all light sources, independent of the technology used, are meant, unless the context clearly shows that it applies to one kind of technology only. In the UN Regulations, the word "light source" is used for the products specified in this document.

NOTE 3 Wherever the term "device" is used, it is meant to designate equipment which is used as a luminaire. It can for instance take the form and purpose of a headlight or signal light.

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 60051-1, *Direct acting indicating analogue electrical measuring instruments and their accessories – Part 1: Definitions and general requirements common to all parts*

IEC 60061-1, *Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 1: Lamp caps* (available at <http://std.iec.ch/iec60061>)

IEC 60810:2017, *Lamps, light sources and LED packages for road vehicles – Performance requirements*
IEC 60810:2017/AMD1:2019

CIE 015:2018, *Colorimetry*

United Nations, Vehicle Regulations – 1958 Agreement, *Agreement concerning the Adoption of Harmonized Technical United Nations Regulations for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these United Nations Regulations (Revision 3)*¹

Available at: www.unece.org/trans/main/wp29/wp29regs.html (website checked 2021-01-18)

Addendum 3: Regulation No. 4, *Uniform provisions concerning the approval of devices for the illumination of rear registration plates of power-driven vehicles and their trailers*

Addendum 5: Regulation No. 6, *Uniform provisions concerning the approval of direction indicators for power-driven vehicles and their trailers*

Addendum 6: Regulation No. 7, *Uniform provisions concerning the approval of front and rear position lamps, stop-lamps and end-outline marker lamps for motor vehicles and their trailers*

Addendum 22: Regulation No. 23, *Uniform provisions concerning the approval of reversing and manoeuvring lamps for power-driven vehicles and their trailers*

Addendum 36: Regulation No. 37, *Uniform provisions concerning the approval of filament lamps for use in approved lamp units of power-driven vehicles and of their trailers*

Addendum 37: Regulation No. 38, *Uniform provisions concerning the approval of rear fog lamps for power-driven vehicles and their trailers*

Addendum 47: Regulation No. 48, *Uniform provisions concerning the approval of vehicles with regard to the installation of lighting and light-signalling devices*

Addendum 49: Regulation No. 50, *Uniform provisions concerning the approval of front position lamps, rear position lamps, stop lamps, direction indicators and rear-registration-plate illuminating devices for vehicles of category L*

Addendum 76: Regulation No. 77, *Uniform provisions concerning the approval of parking lamps for power-driven vehicles*

Addendum 86: Regulation No. 87, *Uniform provisions concerning the approval of daytime running lamps for power-driven vehicles*

Addendum 90: Regulation No. 91, *Uniform provisions concerning the approval of side-marker lamps for motor vehicles and their trailers*

Addendum 98: Regulation No. 99, *Uniform provisions concerning the approval of gas-discharge light sources for use in approved gas-discharge lamp units of power-driven vehicles*

Addendum 100: Regulation No. 101, *Uniform provisions concerning the approval of passenger cars powered by an internal combustion engine only, or powered by a hybrid electric power train with regard to the measurement of the emission of carbon dioxide and fuel consumption and/or the measurement of electric energy consumption and electric range, and of categories M₁ and N₁ vehicles powered by an electric power train only with regard to the measurement of electric energy consumption and electric range*

Addendum 118: Regulation No. 119, *Uniform provisions concerning the approval of cornering lamps for power-driven vehicles*

Addendum 127: Regulation No. 128, *Uniform provisions concerning the approval of light emitting diode (LED) light sources for use in approved lamp units on power-driven vehicles and their trailers*

Addendum 147: Regulation No. 148, *Uniform provisions concerning the approval of light-signalling devices (lamps) for power-driven vehicles and their trailers*

¹ Also known as *The 1958 Agreement*. In the text of this document the regulations under this agreement are referred to as, for example, UN Regulation 37 or R 37.