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Replaces GB/T 15766.1-2008

**Lamps and Light Sources for Road Vehicles—
Dimensional, Electrical and Luminous Requirements**
道路车辆灯泡和光源 尺寸、光电性能要求

(IEC 60809:2021, IDT)

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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 road illumination devices and/or light signaling 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, including dimensional, photoelectric characteristics, and corresponding measurement 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.

IEC 60810 specifies the performance requirements such as life, torsion strength, resistance to vibration and shock of the light source.

IEC 60983 specifies the requirements for miniature road vehicle lamps for supplementary purposes and not subject to legislation.

Note 1: The terms "lamp" and "light source" are 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" (GB/T 2900.65-2004, 845-07-04), "discharge lamp" (GB/T 2900.65-2004, 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, it means the lamp using one of the three technologies, 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: The term "device" used in this document refers to the equipment which is used as a luminaire, e.g., the equipment served as a headlight or signal light.

2 NORMATIVE REFERENCES

The following normative documents contain provisions which, through normative reference in this text, constitute essential provision of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendment) applies.

IEC 60050-845 International Electrotechnical Vocabulary - Part 845: Lighting

Note: GB/T 2900.65-2023, Electrotechnical terminology—Lighting (IEC 60050-845:2020, IDT)

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

Note: GB/T 1406 (all parts), Types and dimensions of lamp caps (IEC 60061-1)

IEC 60061-2 Lamp caps and holders together with gauges for the control of interchangeability and safety - Part 2: Lamp holders

Note: GB/T 19148, Types and dimensions of lamp holders (IEC 60061-2)

IEC 60810:2017 Lamps, light sources and LED packages for road vehicles - Performance requirements

Note: GB/T 15766.2-2016, Lamps for road vehicles-Performance requirements (IEC 60810:2013, MOD)

CIE 015:2018 Colorimetry

UN R48 Uniform provisions concerning the approval of vehicles with regard to the installation of lighting and light-signaling devices

R.E.5 United Nations Consolidated Resolution on the common specification of light source categories (R.E.5)

3 TERMS AND DEFINITIONS

For the purposes of this document, the terms and definitions given in IEC 60050-845, IEC 60810, R.E.5 and UN R48 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1 ageing period

preconditioning period of the light source before initial values are taken

[Source: IEC 60050-845:2020, 845-27-108, modified - "period" has been added to the term and the note to entry has been deleted]

3.2 category

basic design of standardized light sources

Note: Each specific designation, for example P21/5W, H4, D2R forms a category. Most of these designations are taken from the R.E.5.

3.3 conformity of production

compliance of the series production of a given type with the requirements of the relevant specification

Note: Local regulations may require checking the conformity of production by a government agency.

3.4 dipped beam; passing beam; low beam

headlight designed to illuminate the road ahead of the vehicle without causing undue glare to people in front of the vehicle, particularly to the drivers of oncoming vehicles

Note: The term used in the UN regulations is "passing-beam".

3.5 initial luminous flux

luminous flux measured at the end of the ageing period

3.6 life B10

time during which 10% of the tested light sources of the same type have reached the end of their individual lives

Note: In general, the Weibull distribution method is used.

3.7 limiting value

lowest and/or highest value for a characteristic with which the light source has to comply when operated under specified conditions

3.8 luminous flux maintenance factor

ratio of the luminous flux of a light source at a given time in its operational life to its initial luminous flux, the light source being operated under specified conditions

Example: 70% after 500h.

Note 1: In IEC 60810, "luminous flux maintenance" is used with the same meaning

[Source: IEC 60050-845:2020. 845-27-114, modified - "electric light source" has been replaced with "light source" and the 3 notes to entry have been replaced with a new note to entry and example.]



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