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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 18408-2015

**Photometric characteristics of devices for the illumination of
rear registration plates of motor vehicles and their trailers**

汽车及挂车后牌照板照明装置配光性能

(English Translation)

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Foreword

All technical content of this Standard is mandatory.

This Standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This Standard replaces GB 18408-2001 Photometric characteristics of devices for the illumination of rear registration plates of motor vehicles and their trailers.

Compared with GB 18408-2001, the main changes are as follows.

- modified Clause 2 "Normative references" of the previous edition;
- modified Clause 3 from "Definitions and classification" to "Terms and definitions" of the previous edition;
- modified Clause 4 from "General requirements" of the previous edition to Clause 5 "Requirements";
- added Clause 4 "Classification and different forms of illumination devices";
- deleted Clause 5 "Photometric characteristics" of the previous edition; added relevant content into "5.4 Photometric requirements" in Clause 5 of this edition;
- deleted Clause 6 "Light color" of the previous edition; added relevant content into "5.3 Light color requirements" in Clause 5 of this edition;

- deleted Clause 7 "Provisions on bulbs" of the previous edition; added relevant content into "5.2 Light source requirements" in Clause 5 of this edition;
- deleted Clause 8 "Brightness test method" of the previous edition; added relevant content into Clause 6 "Test methods" of this edition;
- deleted Clause 9 "Light color testing methods" of the previous edition; added relevant content into Clause 6 "Test methods" of this edition;
- modified Clause 10 "Inspection rules" of the previous edition to Clause 7 "Inspection rules" of this edition;
- added Clause 8 "Transitional requirements";
- added requirements for light source module;
- added test methods for photometric characteristics of devices of use light source module.

This Standard was proposed by China Ministry of Industry and Information Technology.

This Standard shall be under jurisdiction of China National Automotive Standardization Technical Committee (SAC/TC 114).

Drafting organizations of this Standard. Changzhou Xingyu Automotive Lighting Systems Co., Ltd., Ministry of Public Security Traffic Management Research Institute.

Main drafter of this Standard. Zhu Caiping, Huang Limin, Hu Xinwei.

This Standard replaces the following previous standard.

- GB 18408-2001.

Photometric characteristics of devices for the illumination of rear registration plates of motor vehicles and their trailers

1 Scope

This Standard specifies general requirements, light source requirements, light color requirements, photometric characteristics as well as its test methods and inspection rules of devices for the illumination of rear registration plates of motor vehicles and their trailers.

This Standard is applicable to devices for the illumination of rear registration plates of motor vehicles and their trailers.

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.

GB 4785 Prescription for installation of the external lighting and light signalling devices for motor vehicles and their trailers

GB 15766.1 Lamps for road vehicles - Dimensional electrical and luminous requirements

ECE R37 Uniform provides concerning the approval of filament lamps for use in approved lamp units of power-driven vehicles and of their trailers

3 Terms and definitions

For the purposes of this document, the terms and definitions given in GB 4785 and GB 15766.1 apply.

4.1 Classification of illumination devices

Divide devices for the illumination of rear registration plates into category 1, 2,

4.2 Different forms of illumination devices

Devices for the illumination of rear registration plates are mainly different in the following aspects.

5.1 General requirements

c) Illumination area of category 3 device is 300 mm x 165 mm

5.1.1 Devices for the illumination of rear registration plates shall make the entire surface of the registration plate visible within the angle given in Figure 2.

5.1.2 The manufacturer of illumination device shall stipulate the spatial position of one or more illumination devices to registration plate. The mounting of illumination device shall make the angle of incidence of any point on the illumination surface not exceed 82°.

5.1.3 The device must not emit direct light backwards, except the combination with other lights and combined emitted red light.

5.3 Light color requirements

The light color of device for the illumination of registration plate shall ensure that there is no obvious change in the color of registration plate.

6.1.1 Laboratory darkroom should be no light leakage. Its environmental conditions shall not affect beam transmission performance and instrument accuracy.

6.1.4 Colorless diffuse surface shall be mounted at the normal position of registration plate and the position 2 mm before fixing plate.

6.2.1 Filament bulb's lighting test shall use standard bulb. It shall be measured under reference luminous flux.

6.2.5 The brightness value of each measurement point after lighting for 1 min can be calculated through the brightness ratio of any point after lighting for 1 min and 30 min.