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

GB 14887-2011

Replacing GB 14887-2003

Road traffic signal lamps

道路交通信号灯

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Foreword

The standard 4.2, Chapter 5 (except 5.1.1,5.2.3,5.10,5.11,5.12,5.14.7), Chapter 7,

8.1 is mandatory, its It was recommended. This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard replaces GB 14887-2003 "Road traffic lights." This standard compared with GB 14887-2003, the main amendments are as follows:

--- Delete the words "This standard can be used for product certification" (Chapter 1 of the 2003 edition);

--- Remove the "optical system", "colored sheet" and other terms and definitions (2003 version 3.1, 3.4);

--- Added "mask", "power adapter", "emitting cell", "smooth", "phantom", "housing lights", "start response Room, "" off response time "," turn signal "," blind man across the street audible alert device "and other terms and definitions; (see 3.1, 3.3, 3.4,3.5,3.8,3.9,3.10,3.11,3.12,3.13);

--- Modify the "functional classification" (see 414, 2003 version 4.1.4.);

--- The "appearance, shape, size, composition, classification, naming and identification" to "General requirements", delete the words "composition, classification, nomenclature and Identification "(see 51, 2003 version 5.1.);

- The "lights along the cover" requirement incorporated "dimensions and angles" requirements (see 513, 2003 edition 5.10.);
- Remove the "lights of colors, patterns and effect" requirement (2003 version 5.2);
- Modify the "no signal pattern" requirement, modify the classification, grading requirements, deletion of the requirement N-shaped light intensity distribution (see 5.2.1, 2003 version 5.3.1);
- Modify the "patterned light" requirements, improve the patterned lights brightness, luminous intensity and the reference axis brightness performance ratio Value requirements, increased brightness, luminous intensity limit requirements, remove the brightness gradient requirements (see 5.2 2, 2003 edition of 5.3.2);
- Added "optical properties after use" requirements (see 5.2.3);
- Modify the "phantom" requirement, colorless and colored masks masks are proposed requirements (see 53, 2003 version 5.4.);
- Modify the "color performance," adds phantom chromaticity requirements (see 54, 2003 version 5.5.);

1 Scope

GB 14887 is the product standard for the traffic signal lamp itself. It classifies the lamps and sets their model designation, then the requirements: the luminous intensity and its distribution, the chromaticity of red, amber and green, the visibility in sunlight and the phantom effect that makes an unlit lamp appear lit, the ingress protection, the electrical safety and the endurance, followed by the test methods, the inspection rules, the nameplate and the packaging. Its annexes fix the pattern and dimensions of the lamp and the chromaticity diagram. Issued on 30 December 2011, in force since 1 July 2012, replacing GB 14887-2003 and its 2006 amendment. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the edition it replaces are taken from there. The clause text, the tables and the numeric limits are not reproduced on this page - they are in the document itself, which is delivered in full in English translation.

This standard specifies the road traffic lights (hereinafter referred to as lights) terms and definitions, classification and preparation of model rules, requirements, testing Methods, inspection rules, nameplates and signs, packaging, transportation and storage. This standard applies to the use of lights on the road.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references,

the latest edition (including any amendments) applies to this document.

GB/T 2423.1 Environmental testing for electric and electronic products Part 2. Test methods Test A. Cold (IEC 60068-2-1)

GB/T 2423.2 Environmental testing for electric and electronic products Part 2. Test methods Test B. Dry heat (IEC 60068-2-2)

GB/T 2423.3 Environmental testing for electric and electronic products Part 2. Test methods - Test Cab. Damp heat test (IEC 60068-2-78)

GB/T 2423.10 Environmental testing for electric and electronic products Part 2. Test methods Test Fc. Vibration (sinusoidal) (IEC 60068-2-6)

GB/T 2423.17 Environmental testing for electric and electronic products Part 2. Test methods - Test Ka. Salt (IEC 60068-2-11)

GB 4208 housing protection (IP Code) (IEC 60529)

GB 7000.1-2007 Lamps - Part 1. General requirements and tests (IEC 60598-1:2003)

GB/T 8417 color light signals (CIE S004.4)

GB/T 10111 random number generation and its application in product quality sampling in

GB 14886-2006 road traffic lights setup and installation specifications

GB/T 16422.2 Plastics - Methods of exposure to laboratory light sources - Part 2. Xenon arc lamps (ISO 4892-2)

3 Terms and Definitions

GB 14886-2006 define the following terms and definitions apply to this document.

3.1 Mask surfaceshield You can use visible light transmission member made of a material to protect signal source.

3.2 Reference axis geometricaxis Perpendicular to the surface of the horizontal plane of projection surface and a straight line through the geometric center.

3.3 Power adapter poweradapter 220V AC voltage signal is converted to a voltage source means to meet work requirements.

3.4 Light emitting unit photicsunit By the light source, mask, back cover, seal (circles, pads) and other components, to produce a specific brightness, color and geometry of the closed optical signal overall. NOTE. If you need to use the signal light source power adapter, power adapter should be included in the light emitting unit.

3.5 The smooth iluminatingsurface The light emitting unit lights projected on a vertical axis perpendicular to the reference surface and the mask plane tangential to the outer. The

periphery of the projection made by the Light emitted from the light unit determines the spot formed on the surface of the projection.

3.6 Cover along visor Lights installed in the outer edge of the light-emitting unit, for reducing signal interference due to the external light source optical effects, the increase of the signal light and shade Baffle saturation ratio and color.

3.7 Cover along side angle side inclination of visor The apex angle of the line along with a glossy cover line connecting the centers of the horizontal cross-section through the center of the surface intercepted.

3.8 Phantom phantom Because some of the optical signal emitting element unit (such as a mask, a light source, mirrors, etc.) surface reflecting sunlight or ambient light produced And the identification signal operating state interference optical phenomena.

3.9 Lights housing shell of traffic signal lamp For mounting a plurality of light-emitting elements or lights for different uses means.

3.10 Start response time turn on time Rated working voltage applied to signal input from the light emitting unit starts to the reference axis of the luminous intensity reaches the minimum standards required To time.

3.11 Off response time turn off time Cut off from the power supply signal to the reference axis no time visible light output.

3.12 Turn lights turn around traffic signals From red, yellow, green three discrete geometry within a group of lights, "" shaped pattern composed of circular unit for instructing Vehicle U-turn.

3.13 Blind man across the street sound prompting device
zebra crossing acoustics device for the blind A specific voice prompts to guide a blind man across the street crosswalk lights auxiliary device.

4.1 Classification

4.1.1 Classification by mask specifications Press the lights mask size classification, can be divided into $\phi 200\text{mm}$ specifications lights, $\phi 300\text{mm}$ specifications lights, $\phi 400\text{mm}$ specifications letter Lights.

4.1.2 classification by housing material Press the lights shell material classification can be divided into metal shell lights, non-metallic housing lights.

4.1.3 Classification according to the type of light source Press signal source species classification, can be divided into incandescent, low voltage halogen lamps, light emitting diode (LED) and other sources.

4.1.4 functional classification Lights by functional classification, can be divided into motor vehicle lights, non-motor vehicle lights, turn left non-motor vehicle lights, crosswalk signal