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

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Test method for LED lamps, LED luminaires and LED modules

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Foreword

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

The translation method used in this standard is equivalent to the CIES025/E.2015 "Test Methods for LED Lamps, LED Lamps and LED Modules".

The Chinese documents that have a consistent correspondence with the international documents of the normative reference documents in this standard are as follows.

---GB/T 24908-2014 Non-directional self-ballasted LED lamp performance requirements for general lighting (IEC 62612:2009, NEQ);

---GB/T 27418-2017 Measurement Uncertainty Evaluation and Expression (ISO /IEC Guide98-3:2008, MOD).

This standard has made the following editorial changes.

---The note in 4.3.1 is deleted;

---Added some references.

This standard was proposed by the China National Light Industry Council.

This standard is under the jurisdiction of the National Lighting Standardization Technical Committee (SAC/TC224).

Drafting organizations of this standard. Hangzhou Yuanfang Optoelectronics Information Co., Ltd., Hangzhou Yuanfang Testing and Calibration Technology Co., Ltd., Dongguan, Guangdong Province

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Process R&D and Industry Alliance, Guangdong Product Quality Supervision and Inspection Institute.

Introduction

This standard provides for the implementation of reproducible LED lamps, LED lamps and LED modules (collectively referred to as LED devices) for luminosity and color measurement.

The request was made and suggestions were made for the data report.

Reliable and accurate acquisition of photometric data of LED devices is a basic requirement for lighting system design and product performance evaluation. Passed in

Measuring these parameters under standardized conditions can ensure the consistency of data between laboratories (within the declared measurement uncertainty limit), and

Makes the performance comparison between different products possible.

This standard covers the relevant LED performance standards issued by national standards, and compliance with the luminosity and chromaticity requirements of LED devices

The measurement method of the test.

The shape, geometry and color of LED devices are rich and varied. For each LED device, its luminosity and chromaticity performance must be considered.

LED lights, LED lamps and LED modules
testing method

1 Scope

This standard specifies the requirements of LED lamps, LED lamps and LED modules that

are powered by AC or DC and may be equipped with LED control devices.

Measurement methods for electrical, photometric and chromaticity parameters. The LED light engine is similar to the LED module and can be implemented by reference. The light covered in this standard

Degree and chromaticity parameters include total luminous flux, luminous efficiency, partial luminous flux, light intensity distribution, central beam intensity, brightness and brightness distribution, chromaticity coordinates,

Correlated color temperature (CCT), color rendering index (CRI) and spatial color non-uniformity. This standard does not apply to LED packaging and organic-based LEDs (OLED) products.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this document.

For undated references, the latest version (including all amendments) applies to this document.

GB/T 19658-2013 Method for measuring central light intensity and beam angle of reflector lamps (IEC /T R61341.2010, IDT)

GB/T 20151-2006 Photometric CIE Physical Photometric System (CIES010/E.2004, IDT)

GB/T 22907-2008 Luminaire photometric test and distribution photometry (CIE121.1996, IDT)

GB/T 24826-2016 LED products and related equipment terms and definitions for general lighting (IEC 62504.2014, IDT)

GB/T 26178-2010 Measurement method of luminous flux (CIE84.1989, IDT)

GB/T 26180-2010 The expression and measurement method of light source color rendering (CIE13.3.1995, IDT)

ISO /IEC Guide98-3.2008 Measurement Uncertainty Part 3.Guidance on the Labeling of Measurement Uncertainty

ISO /IEC Guide98-4.2012 Measurement Uncertainty Part 4.The Role of Measurement Uncertainty in Conformity Assessment

ISO /IEC Guide99.2007 International Metrology Vocabulary Basic and General Concepts and Related Terms

IEC /T R60725.2012 The reference impedance and public power supply network resistance used to determine the interference characteristics of electrical equipment with rated current

per phase not exceeding 75A

IEC 62612 Non-directional self-ballasted LED lamp performance requirements for general lighting

IEC /PAS62717.2011 LED module performance requirements for general lighting

IEC /PAS62722-1.2011 Lamp Performance Part 1.General Requirements

IEC PAS62722-2-1.2011 Lamp Performance Part 2-1.Special Requirements for LED Lamps

ISO 11664-1.2007(E)/CIES014-1/E.2007 Chromaticity Part 1.CIE Standard Chromaticity Observer