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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 14634.2-2010

Replacing GB/T 14634.2-2002

Test methods of rare earth three-band phosphors for fluorescent lamps - Part 2: Determination of emission dominantpeak and chromaticity

灯用稀土三基色荧光粉试验方法 第2部分：发射主峰和色度性能的测定

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Foreword

GB/T 14634 "light rare earth trichromatic phosphors Test Method" is divided into seven sections.

--- Part 1. Determination of relative brightness;

--- Part 2. Determination of emission peak and color performance;

--- Part 3. Determination of thermal stability;

--- Part 4. Electric sensing particle size distribution measurement;

--- Part 5. Determination of density;

--- Part 6. Determination of specific surface area;

--- Part 7. Determination of thermal quenching. This is Part 2. This part is GB/T 14634.2-2002 "light rare earth trichromatic phosphors Test Method for Determination of emission spectra and colorimetric properties." Amendments. This section compared with the GB/T 14634.2-2002, the main changes are as follows:

--- Range changed to "This section applies to light emission peak trichromatic phosphors, chromaticity coordinates, color rendering index, chromaticity of Capable of measuring "parameter;

--- Normative references added CIE15 colorimetry, CIE1931 standard colorimetric observer, CIE1976L * u * v * color space Room and u ', v' uniform chromaticity scale diagram;

--- Adjust some analysis condition;

--- Increasing the precision of the terms;

--- Standard text made editorial changes. Appendix A of this section is an informative annex. This part of the National Standardization Technical Committee rare and centralized. This section is responsible for drafting units. Jiangmen Branch Hang Industrial Co., Ltd.. Participated in the drafting of this section. Shanghai Yuelong New Material Co. Ltd.,

Hangzhou distance Photoelectric Information Co., Ltd., Hangzhou Daming fluorescent material Ltd., Xiamen Topstar New Materials Co., Ltd., Institute of Rare Earth New Materials Co., Ltd., Shaanxi Rainbow fluorescent materials company. The main drafters of this section. Luger mountain, Huang Rui sweet. The drafters of some of the participants. Hui-new, aryl Min Sheng, He Haiyan, Daisy Ling, He Tao, Wang Wu Po. This part of the standard replaces the previous editions are.

--- GB/T 14634.2-1993, GB/T 14634.2-2002. Test methods of rare earth trichromatic phosphor lamps Part 2. Determination of emission peak performance and chroma

1 Scope

GB/T 14634.2-2010 is the Chinese national standard on test methods of rare earth three-band phosphors for fluorescent lamps - part 2: determination of emission dominantpeak and chromaticity, in the field of metallurgy. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 9 August 2010 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 May 2011. Classification: ICS 77.120.99, CCS H14. 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 issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

GB/T 14634 This part provides light emission measuring method and chrominance peak performance trichromatic phosphors. This section applies to light emission peak trichromatic phosphor was measured chromaticity coordinates, color rendering index, chromaticity performance parameters.

2 Normative references

The following documents contain provisions which, through reference in this text, constitute provisions of this part. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this section, however, encourage the parties to this part of the research agreement Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 5702 light color evaluation method CIE15-2004 colorimetry CIE1931 standard colorimetric observer CIE1976 L * u * v * color space and u ', v' uniform chromaticity scale diagram

3 PRINCIPLE OF THE METHOD

Sample 253.7nm UV excitation emit visible light, the spectral radiation tester spectroscopic and photoelectric conversion, the monochromatic letter No. converted into electrical signals, and then by standard light correction to obtain an electrical signal corresponding to the light intensity value; at a certain wavelength interval measured the entire visible spectrum, The sample obtained in the entire visible light emission relative spectral power distribution, and then calculate various performance parameters chroma CIE15-2004.

4.1 Measurement System devices

4.1.1 Spectral radiation tester, the tester must meet the following requirements indicators.

4.1.1.1 Wavelength uncertainty. the standard deviation is less than 0.5nm;

4.1.1.2 Wavelength Reproducibility. standard deviation of not more than 0.2nm;

4.1.1.3 Measurement standard lamp. Press CIE1976 chromaticity coordinates u ', v', standard reproducibility better than 0.0003, the stability of a standard A light source itself u ', v' than 0.0001;

4.1.1.4 Measurement phosphor sample. Press CIE1976 chromaticity coordinates u ', v', the standard deviation is less than 0.0005 (three times or more).

4.1.2 excitation test conditions. excitation (irradiation) light and the sample (or diffuse white) surface normal direction 45 °, to accept the direction perpendicular to the test Like surface (45/0); or excitation light perpendicular to the sample surface, and accept the direction normal to the sample surface 45 ° (0/45).

4.1.3 Diffuse whiteboard requirements. measurement department calibrated repression AR BaSO4.

4.2 excitation member 253.7nm ultraviolet low pressure mercury increase with the filter, filter peak transmission ratio should be greater than 10%, 300nm ~ 800nm \u200b\u200bthrough the Shoot ratio not greater than 0.01%, 253.7nm radiation intensity stability better than 0.2%/10min, otherwise, should be added to compensate.

4.3 correction means

4.3.1 wavelength calibration lamp. wavelength 404.66nm, 435.88nm, low pressure mercury 546.07nm characteristic lines, in addition there should be greater than 600nm spectral lines. The wavelength spectrum 656.10nm deuterium or wavelength of He-Ne laser 632.80nm or mercury-argon lamp 600nm ~ 800nm \u200b\u200bbetween the lines and the like.