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PEOPLE'S REPUBLIC OF CHINA**

GB/T 28197-2011

**Methods for characterizing tristimulus colorimeters for
measuring the colour of light
(English Translation)**

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Appendix A (informative) This standard reg number control situation CIE179-2007

Annex B (informative) for measuring the spectral responsivity of the standard lamp and filter data

Annex C (informative) measuring light color with tristimulus colorimeters implementation of

Annex D (normative) Calibration and measurement principles

Appendix E (normative) Calibration uncertainty

Foreword

This standard is based on GB/T 1.1-2009 and GB/T 20000.2-2009 provisions prepared.

This standard uses redrafted law revision adopted CIE179-2007 "measuring method characterized by light color colorimeter tristimulus values." this standard CIE179-2007 compared with more adjustments in the structure, listed in Appendix A of this standard and CIE179-2007 Reg number control list.

The standard proposed by China National Light Industry Council.

This standard by the National Standardization Technical Committee Lighting optical radiation measurement Technical Committee (SAC/TC224/SC3) centralized.

This standard was drafted. Hangzhou distance Optoelectronic Information Co., Ltd., China Testing Technology Research Institute, Hangzhou Quality and Technical Supervision Inspection Institute, Guangdong Product Quality Supervision and Inspection Institute, China Institute of Metrology, Ministry of Public Security Traffic Management Science Institute.

Introduction

This standard is intended to measure the color of the light with the tristimulus provide objective performance evaluation method colorimeters. In the tri-stimulus values of the colorimeter Energy parameters, some value can be quantified, some can not be quantified, can only be described qualitatively.

This standard gives a number of sources of measurement error.

Potential users of this standard can be used as tristimulus colorimeters, the user and the manufacturer's instructions or guidelines for evaluation of the quality of the instrument.

The performance parameters of this standard may also be listed as a guide for manufacturers to improve colorimeter instrument.

Light source color values using tristimulus colorimeter Characterization

1 Scope

This standard specifies the measuring light source chromaticity coordinates of tristimulus values and characterization method colorimeter.

This standard applies to all kinds of offers illuminance or luminance values measured with light color tristimulus colorimeters with built-in light source for measuring Reflective and transmissive material color chromaticity instrument is not within the scope of this standard.

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.

JJF1059-1999 Evaluation and Expression of Uncertainty in Measurement CIE15-2004 colorimetry (Colorimetry) CIE17.4-1987 International Lighting Vocabulary (International lighting vocabulary) CIE69-1987 luminance meter light meter and characterization methods (Methods of characterising illuminance meters and luminance meters)

3 Terms and Definitions

CIE17.4-1987 define the following terms and definitions apply to this document.

(Optical radiation) detector (of optical radiation) the incident radiation into a measurable physical effect (usually electrical quantities) of the apparatus.

Chroma probe colorimeter head Colorimeter photosensitive receiving portion comprises a detector for correction and spectral detector, the spatial response of the device.

Note: A typical color probe contains several separate detectors and the corresponding filters, for example, a color filter and a detector combined with a color letter the number of matches.

Axis chrominance optical axis of the colorimeter head probe Illuminance measuring input optical system. the probe is perpendicular to the entrance window surface and color through its center axis.

Luminance measurement input optical system. the field of view through the central axis of the incident.

Tristimulus colorimeters tristimulus colorimeter Using multiple broadband input channel measuring instrument color stimuli tristimulus values.