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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

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Application of GB/T 20145 for the assessment of blue light hazard to light sources and luminaires

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Foreword

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

The translation method used in this guiding technical document is equivalent to the IEC TR62778.2014 "Application of IEC 62471 Evaluation of Light Sources and Luminaires"

Blue Light Harm."

The Chinese documents that have a consistent correspondence with the normatively cited international documents in this guiding technical document are as follows.

---GB/T 2900 (all parts) Electrical terminology [IEC 60050 (all parts)]

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

This guiding technical document has made the following editorial changes.

---In order to be consistent with my country's standard system, the standard name is changed to "Applying GB/T 20145 to evaluate the blue light hazard of light sources and lamps

harm".

This guiding technical document was proposed by the China National Light Industry Council.

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

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1 Scope

This technical guidance document gives the blue light of all lighting products whose main radiant energy is in the visible light range (380nm~780nm).

Instructions and guidance for light hazard evaluation, through optical and spectral calculations, the photobiological safety measurement described in GB/T 20145 tells us

Product information, and if the product is intended to be a component of a higher-level lighting product, you can get how to use this information from the component (e.g.

LED packages, LED modules, or lamps) are delivered to higher-level lighting products (such as lamps).

Appendix C gives a summary of recommendations that help to consistently apply GB/T 20145 to evaluate the blue light hazards of light sources and luminaires.

Note. It is expected that the safety standards of HID and LED products will refer to this guiding technical document.

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 article

Pieces. For undated reference documents, the latest version (including all amendments) is applicable to this document.

GB/T 20145-2006 Photobiological safety of lamps and lamp systems [CIES009/E.2002(IEC 62471.2006),IDT]

IEC 60050 Electrotechnical Terms (all parts except 845) [InternationalElectrotechnicalVacabulary(alparts

except845)]

IEC 60050-845.1987 Electrical Engineering Terminology Lighting (InternationalElectrotechnicalVocabulary-Part 845.

Lighting)

CIES017/E.2011 International Lighting Vocabulary (ILV.InternationalLightingVocabulary)

3 Terms and definitions

IEC 60050-845.1987, GB/T 20145-2006 and CIES017/E.2011 defined and the following terms and definitions apply

In this document.

3.1

Blue light hazard efficiency of luminous radiation

KB,v

The ratio of the amount of blue light hazard to the corresponding light measure.

Note 1.The unit of blue light hazard efficiency of light radiation. W/lm.

Note 2.Philambda(lambda) in the relationship can be replaced with Llambda(lambda) or Elambda(lambda).

KB,v= integral Philambda lambda().B lambda().dlambda

Km.integral Philambda lambda().V(lambda).dlambda

In the formula. Km=683lm/W

Note 3.KB,v=LB/L=EB/E.

3.2

Bluelighthazardefficiencyofradiation

etaB

The ratio of the amount of blue light hazard to the corresponding amount of radiation.