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

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The measurement of luminous flux

光通量的测量方法

(English Translation)

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Foreword

This standard is equivalent to using CIE84-1989 "luminous flux measurement method" (in English).

This standard is equivalent translation CIE84-1989.

For ease of use, this standard made the following editorial changes.

The term a) "The technical report" to the "standard";

b) with a decimal point "." instead of as a decimal point "." Appendix A of this standard is an informative annex.

The standard proposed by China National Light Industry Council.

This standard by the National Standardization Technical Committee of electrical lighting (SAC/TC224) centralized.

This standard was drafted. National Electric Light Source Quality Supervision and Inspection Center (Beijing), Hangzhou distance Photoelectric Information Co., Ltd., China conformity assessment Set National Accreditation Centre, the National Development and Reform Commission, Guangdong TECHNOLOGY INC, Guangdong Wright Electric Co., Zhongshan City, Australia Keshi Lighting Appliance Co., Ltd.

Introduction

The purpose of this standard is the main methods of flux measurements currently used are discussed. A method in which (according to the illuminance and a luminance distribution calculation) is primarily used by a national standards laboratory, another method (measured using an integrating sphere) is widely used in industrial industry. However, there are individual laboratories of industrial enterprises to adopt a third measurement method. Use goniophotometer measurement light intensity distribution. each One way users are most concerned about their own methods currently used in the field, therefore, it is necessary to

make some radical flux measurements Foundation work, so that it can cover these major test methods, and make contact with each other.

Flux measuring method

1 Scope

This standard defines the term flux measurements. It relates to the principle of flux measurements, describing the calculation method of the illuminance distribution, product use Methods ball photometer flux and flux methods defined by brightness, light intensity and illuminance measurements.

2.1 Optical Measurement

2.1.1

Luminous flux (F_v ; F) luminousflux (F_v ; F) According to the role of radiation on the CIE standard photometric observer, derived from radiant flux F_e light measure. For clear vision, there $\Phi_{iv} = K \int_{\lambda} V(\lambda) d\Phi_{ie}(\lambda) d\lambda$

· $V(\lambda) d(\lambda)$ (1) where.

$dF_e(\lambda)/d\lambda$ --- spectral distribution of the radiant flux;

$V(\lambda)$ --- spectral luminous efficiency.

Unit. lm.

2.1.2

(Light in the specified direction) luminous intensity (I_v ; I) luminousintensity (ofasource, inagivendirection) (I_v ; I) from the light source containing the specified direction within a solid angle element $d\Omega$ transmission $d\Phi_{iv}$ flux divided by the solid angle element suppliers, namely $I = d\Phi_{iv}/d\Omega$ (2) Unit. cd = 1m/sr.

2.1.3

(On the surface at a certain point) illuminance (E_v ; E) iluminance (atapointofasurface) (E_v ; E) $D F_v$ flux bin containing the projected point on the surface element divided by the area dA of the business, namely $E_v = d\Phi_{iv}/dA$ (3) Unit. lx = lm · m⁻².

2.1.4

(In the specified direction on actual or imaginary surface at a given point) luminance (L_v , L) luminance (inagivendirection, ata givenpointofarealorimaginarysurface) (L_v , L) Volume defined by a formula.

$L_v = d\Phi_{iv}/dA \cdot \cos\theta \cdot d\Omega$ (4) where.

$d\Phi_{iv}$ --- is the result of luminous flux at a given point in the beam element solid angle

element dohm containing the specified direction of propagation;

dA --- contains the given point of the beam cross-sectional area;