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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 5699-2025

Replacing GB/T 5699-2017

Method of daylighting measurements

采光测量方法

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document replaces GB/T 5699-2017 Daylighting Measurement Methods. Compared with GB/T 5699-2017, except for structural adjustments and editorial In addition to the modifications, the main technical changes are as follows.

a) Deleted the conformity determination (see 6.5, 7.3, 8.2.2, and 9.2.4 of the 2017 edition);

b) Added requirements on measurement content (see 4.3);

c) Added requirements for image luminance meters (see 5.2);

d) Added requirements for gloss meters (see 5.4);

e) Added the requirements for the observation positions of window brightness and background brightness when measuring the discomfort glare index of windows (see 8.1);

f) Added physiological equivalent illuminance measurement requirements (see 9.1);

g) Added the measurement requirements for field of view (see 9.2);

h) Added the requirements for specular gloss measurement (see 10.4);

i) Added measurement point layout requirements for school classrooms and rooms connected to balconies in residential buildings (see Appendix B).

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document is proposed and coordinated by the National Technical Committee on Ergonomics Standardization (SAC/TC7).

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The previous versions of this document and the documents it replaces are as follows.

- GB/T 5699-1985 was first issued in 1985;

- In the first revision in 2005, the contents of GB/T 13378-1992 "Methods for measuring daylighting on sunny days" were incorporated;

- 2017 was the second revision;

- This is the third revision. Daylight measurement methods

1 Scope

This document specifies the general requirements for daylighting measurement, measuring instruments and daylighting factor, daylighting standard area ratio, brightness, physiological equivalent illuminance, visual Measurement method of field and material optical parameters.

This document is applicable to the daylighting measurements of all types of buildings with top or side lighting, including the daylighting measurements of buildings using light pipe lighting systems.

2 Normative references

GB/T 5702

GB/T 20148

JJG211

JJG245

JJG696

3 Terms and Definitions

The terms and definitions defined in JGJ/T 119 and the following apply to this document.

3.1

A lighting system that collects natural light and transmits it through pipes into the room for natural lighting.

Note. A light pipe lighting system usually consists of a light collector, a light pipe and a diffuser.

3.2 (Light) illumination iluminance

The quotient of the luminous flux dPhi incident on the surface element containing the point divided by the area dA of the surface element. Note. The unit is lux (lx).

[Source. GB/T 50034-2024, 2.0.7]

3.3 luminance

The luminous flux per unit area and per unit solid angle of the luminous surface in a specified direction. It is determined by the formula L=d2Phi/(dA-costheta-domega) The unit is candela per square meter (cd/m2). Where.

dPhi ---The luminous flux transmitted by the beam element at a specified point within the solid angle domega containing the specified direction, in lumen (lm);

dA---the cross-sectional area of the beam including the given point, in square meters (m2);