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

GB/T 23863-2024

Specification for lighting design of museum

博物馆照明设计规范

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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 is required. This document replaces GB/T 23863-2009 "Museum Lighting Design Specifications". Compared with GB/T 23863-2009, except for the structural adjustment In addition to the integration and editorial changes, the main technical changes are as follows: The scope of the standard has been changed (see Chapter 1, Chapter 1 of the.2009 edition);

a) Deleted "optical radiation, local lighting, partitioned general lighting, direct glare, reflected glare, field of view, light curtain reflection, lamps Uncommon terms such as "shading angle, color temperature, diffuse lighting, directional lighting, duty lighting, guard lighting, daylight factor" (see 2009 edition 3.1, 3.12, 3.13, 3.17, 3.18, 3.19, 3.20, 3.21, 3.22, 3.26, 3.27, 3.31, 3.32, 3.33);

b) Added terms such as "color tolerance, color gamut index, sign lighting, lighting power density" (see 3.18, 3.20, 3.23, 3.26);

c) Changed the chapter "Basic Requirements" (see Chapter 4, 4.1 of the.2009 edition);

d) Added a chapter on "Lighting Device Selection" and supplemented the requirements for LED lighting (see Chapter 5, 4.3 of the.2009 edition);

e) The requirements for color temperature and color have been refined (see 6.5,

6.3 of the.2009 edition);

f) Changed the lighting standard values for museum-related places (see Chapter 7,

5.2.2 of the.2009 edition);

g) The protection requirements for exhibits or collections have been changed (see Chapter 8,

5.2.1 and Chapter 7 of the.2009 edition);

1 Scope

GB/T 23863-2024 is the Chinese specification for museum lighting design, and it is written around a conflict that no other lighting standard has to resolve: the visitor needs enough light to see the object, and the object is damaged by every photon that falls on it. Chinese museums hold a great deal of silk, paper, lacquer and dyed textile, which are among the most light-sensitive materials there are. The standard sets the basic requirements, the general provisions, the lighting methods and the illuminance and exposure limits by material sensitivity class expressed as an annual exposure, then the colour temperature and colour rendering appropriate to exhibits, the limits on ultraviolet and infrared content, the control of glare and of veiling reflections on cases and glazing, the uniformity and the contrast between the exhibit and its surround, the lighting of the circulation and of the display cases, the daylight control, the emergency and security lighting, and the control systems, commissioning and maintenance. It took effect on 23 August 2024.

This document specifies the basic requirements for museum lighting, lighting fixture selection, lighting quantity and quality, lighting standard values, exhibits or collections protection, exhibition hall lighting layout and setting requirements, natural lighting design, lighting energy saving, lighting power supply and control, lighting maintenance and management, etc. and acceptance and evaluation. This document is applicable to the lighting design of museums that are newly built, renovated, expanded, or use ancient buildings and historical buildings as their sites.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies. in this document.

GB/T 5699 Daylighting measurement method

GB/T 5700 Lighting measurement methods

GB/T 5702-2019 Evaluation method for color rendering of light sources

GB 7000.1 Luminaires Part

3 Terms and definitions

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

3.1 visible radiation Optical radiation with a wavelength ranging from 380 nm to 780 nm that can directly cause visual sensation.

3.2 infrared radiation Optical radiation having wavelengths longer than those of visible radiation.

Note. Infrared radiation with a wavelength range between 780 nm and 1 mm is usually subdivided into IRA 780 nm~1 400 nm, IRB 1.4 μm ~ 3 μm , IRC 3 μm ~1 mm.