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

GB/T 31897.201-2025

Replacing GB/T 31897.201-2016

**Luminaire performance - Part 2-1: Particular requirements - LED
luminaires**

灯具性能 第2-1部分：特殊要求 LED灯具

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 1 of GB/T 31897 "Performance of Luminaires". GB/T 31897 has the following parts published.

---Part 1: General Requirements (GB/T 31897.1-2025);

This document supersedes GB/T 31897.201-2016 "Luminaire performance - Part 2: Particular requirements for LED luminaires", and is consistent with GB/T 31897.201-2016. Compared to 2016, aside from structural adjustments and editorial changes, the main technical changes are as follows.

---C-type lighting fixtures have been removed (see Chapter 1 of the 2016 edition);

---The term "LED luminaire family" has been removed (see 3.2 in the 2016 edition), and the terms "effective lifetime" and "mutation failure rate" have been added (see 3.3).

and 3.6);

---General requirements have been added (see Chapter 5);

---The temperature requirements for luminous flux maintenance tests have been changed (see 10.2 and Appendix B, 10.2 and Appendix A in the 2016 edition);

---Added calculation and testing methods for extended electrical and photometric data parameters (see Appendix C).

This document is modified to adopt IEC 62722-2-1:2023 "Luminaire performance - Part 2-1. Particular requirements for LED luminaires".

This document has undergone the following structural adjustments compared to IEC 62722-2-1:2023.

---Appendix A corresponds to Appendix B of IEC 62722-2-1:2023;

---Appendix B corresponds to Appendix A of IEC 62722-2-1:2023.

The technical differences between this document and IEC 62722-2-1:2023, and the reasons therefor, are as follows.

---IEC 62717 (see Chapters 3, 6, 10.2, and 10.3) has been replaced with the normatively referenced GB/T 24823 to adapt to my country's national standards.

Technical conditions, increasing operability;

---IEC 62722-1 (see Chapter 5, 6.4) has been replaced with the normatively referenced GB/T 31897.1 to adapt to my country's technical requirements.

Add components to increase operability;

---The performance temperature range for maintaining the ambient temperature during the test has been changed from (rated t_q , rated t_{q-2}) to (rated $t_{q\pm 5^\circ\text{C}}$) (see...) 10.2), to adapt to my country's technical conditions and increase operability.

The following editorial changes have been made to this document.

---IEC 62442-3 has been replaced with GB/T 32483.3, which is used for informational purposes.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

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

This document is under the jurisdiction of the National Technical Committee on

Standardization of Lighting Appliances (SAC/TC224).

Introduction

Lighting technology is constantly evolving, with new technologies and products emerging continuously. Updating performance standards ensures the performance and safety of these new technologies.

Energy efficiency is fully considered. Energy conservation has become a global trend, and lighting performance standards require new luminaires to be superior in energy efficiency.

Reduce energy consumption and carbon footprint. Both international and domestic standards for standby power consumption testing have been updated to ensure more accurate measurement.

To measure standby power consumption and ensure the comparability of test results, this document urgently needs to be supplemented and improved. Environmental regulations are constantly evolving, requiring updates to performance standards.

This could encourage lighting manufacturers to use more environmentally friendly materials and processes.

GB/T 31897 "Performance of Luminaires" consists of the following parts.

---Part 1: General Requirements. The purpose is to specify the performance requirements for luminaires using electric light sources and power supplies with a voltage not exceeding 1000V.

Environmental protection requirements.

---Part 2-1. Special Requirements for LED Luminaires. The purpose is to specify the performance requirements for LED luminaires, as well as the test methods and procedures. condition.

Luminaire Performance Part 2-1. Special Requirements LED lighting fixtures

1 Scope

This document specifies the performance requirements, test methods, and conditions for LED luminaires.

This document applies to LED luminaires used for general lighting.

Semi-light fixtures are not covered by this document.

For certain luminaires (such as decorative or household luminaires), the performance data requirements specified in this document do not apply.

The LED lighting fixtures in this document include the following types.

Type A - Luminaires using LED modules that demonstrate compliance with GB/T 24823;

Type B - Luminaires using LED modules that do not specify compliance with GB/T 24823;

Luminaires using LED lights are covered by GB/T 31897.1 and are not within the scope of this document.

The requirements in this document pertain only to type testing.

This document covers LED luminaires that use LED modules and are based on inorganic LED technology, emitting white light. This document does not cover...

And luminaires using OLED (organic LED). Testing of luminaires based on inorganic LED technology that emit non-white light is described in this document.

implement.

In most cases, the lifespan of LED lights is much longer than the feasible testing time, therefore this document does not address manufacturers' lifespan claims.

Verification.

This document selects the luminous flux maintenance rate rating for a limited test time instead of verifying lifetime. Therefore, the rating number is not...

It enables prediction of lifetime. The rating is a luminous flux attenuation characteristic rating, reflecting consistency with the information provided by the manufacturer before the start of testing.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 7000.1-2023 Luminaires - Part 1: General requirements and tests (IEC 60598-1:2020, MOD) Note. There are no technical differences between the content referenced in GB/T 7000.1-2023 and the content referenced in IEC 60598-1:2020.

GB 7000.203-2013 Luminaires - Part 2-3. Particular requirements for lighting fixtures for roads and streets (IEC 60598-2-3:2002) A1:2011, IDT) GB/T 7000.205-2023 Luminaires - Part 2-5. Floodlights - Particular Requirements (IEC 60598-2-5:2015, MOD) Note. There are no technical differences between the content referenced in GB/T 7000.205-2023 and the content referenced in IEC 60598-2-5:2015.

GB/T 24823 Performance Specifications for LED Modules for General Lighting GB/T