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

**GB/T 31887.4-2025**

Replacing GB/T 31887.4-2023

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**Cycles - Lighting and retro-reflective devices - Part 4: Lighting  
systems powered by the cycle's movement**

自行车 照明和回复反射装置 第4部分：自行车发电机供电的照明系统  
(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 4 of GB/T 31887 "Bicycle lighting and retroreflective devices". GB/T 31887 has been published as follows.

Part 2.

---Part 1: Illumination and Light Signaling Devices;

---Part 2: Reflection Device;

---Part 3: Installation and Use of Lighting and Retroreflective Devices;

---Part 4: Lighting systems powered by bicycle generators;

---Part 5: Lighting systems for bicycles that are not powered by generators.

This document replaces GB/T 31887.4-2023 "Bicycle lighting and retroreflective devices -

#### Part 4: Bicycle generator power supply".

Compared with GB/T 31887.4-2023, the main technical changes in the "Lighting Systems" standard, apart from structural adjustments and editorial modifications, are as follows.

a) The terminology and definitions have been changed, removing "integrated lighting and power supply" (see 3.3 in the 2023 edition) and adding "open system" and "closed system".

(See 3.3 and 3.4);

b) Added general requirements for lighting systems powered by bicycle generators (see 4.1);

c) The requirements and test methods for headlights in open systems have been changed (see 5.2, 7.3, and 4.2.1 and 4.3.1 in the 2023 version);

d) The requirements for the general characteristics of open system generators have been changed (see 5.4.1, 4.2.3.1 in the 2023 version);

e) The requirements and test methods for open-system friction-driven generators have been changed (see 5.4.2, 7.5.2, and 4.2.3.2 in the 2023 edition).

4.3.3.2);

f) The requirements and test methods for closed systems have been changed (see Chapter 6, 7.6, and Chapter 5 in the 2023 edition);

g) The test method for direct-drive generators has been modified (see 7.5.3, 4.3.3.3 in the 2023 version);

h) The requirements for the instruction manual have been changed (see Chapter 8, Chapter 7 of the 2023 edition);

i) The requirements for marking have been changed [see 9.1c), 8.1c of the 2023 edition];

j) The electronic load for measuring generator power for LED light sources has been changed (see Appendix A, Appendix A of the 2023 edition).

This document is equivalent to ISO 6742-4:2023 "Bicycle lighting and retroreflective devices - Part 4: Bicycle generator power supply".

Lighting system.

The following minimal editorial changes have been made to this document.

---The indexing sequence order in Figures 1 and 2 has been changed to conform to cartographic standards;

---To facilitate the understanding of formula (1), explanations of the symbols in the formula have been added.

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 Bicycle Standardization Technical Committee (SAC/TC155).

## Introduction

GB/T 31887 "Bicycle Lighting and Retroreflective Devices" was drafted based on the safety requirements of bicycles at night, and its purpose is to ensure...

This document ensures the safety of bicycle lighting and retroreflective devices manufactured in accordance with this document during nighttime riding. GB/T 31887 is proposed to be implemented by 5 departments.

Composition.

---Part 1: Lighting and Light Signaling Devices. The purpose is to specify the optical performance requirements for bicycle lighting and light signaling devices.

To ensure standardized product quality and consumer safety while riding at night.

---Part 2: Retroreflective Device. The purpose is to specify the optical performance requirements for bicycle retroreflective devices, facilitating product quality control.

Standardize quantities and ensure consumer safety while riding at night.

---Part 3: Installation and Use of Lighting and Retroreflectors. The purpose is to provide information on the installation and use of bicycle lighting and retroreflectors.

Standardized installation requirements facilitate product installation and use, ensuring optimal light performance of lighting and retroreflective devices and guaranteeing consumer safety.

Safety for riders at night.

---Part 4: Lighting Systems Powered by Bicycle Generators. The purpose is to assess the performance of lighting devices powered by bicycle generators.

These requirements facilitate standardized product quality and ensure consumer safety while cycling at night.

---Part 5: Lighting Systems for Bicycles Without Generators. The purpose is to provide lighting systems for bicycles without generators.

Performance requirements are set to facilitate standardized product quality and ensure consumer safety during nighttime riding.

GB/T 31887 (all parts) is a recommended national standard. GB/T 31887.3 contains product installation and usage requirements, and is consistent with GB/T 31887.1.

The product optical performance standards GB/T 31887.2, GB/T 31887.4, and GB/T 31887.5 are somewhat related. These five recommended national standards...

The aim is to ensure high-quality optical performance and reliability from start to finish for all types of lighting and retroreflective devices, requiring this from the product design stage.

Security issues were first considered.

The scope of GB/T 31887 (all parts) is limited to safety considerations regarding the optical performance of the product. If the bicycle is used on public roads, then...

You must abide by the National Road Traffic Safety Law and related management regulations.

Bicycle safety and quality are crucial to consumers' traffic safety and lives. Since 1995, my country has successively released three versions of bicycle licenses.

The standards for lighting equipment and three versions of the bicycle retroreflector standard provide a basis for the upgrading and improvement of bicycle lighting and reflector products in my country.

This provides technical support for improved performance. GB/T 22791-2008 is equivalent to ISO 6742-1:1987 "Bicycle lighting and reflection".

The optical and physical requirements for lighting equipment - Part 1: Illuminating apparatus, GB/T 31887-2015, are equivalent to ISO 6742-2:1985.

ISO 6742, revised in 2015, defines optical and physical requirements for vehicle lighting and reflective devices as part 2. retroreflective devices.

The standard for cloth has been revised from two parts to five parts. Therefore, GB/T 22791 has been incorporated into GB/T 31887, which was originally revised from two parts.

It consists of 5 parts. The standard level is in line with international standards, and it will continue to provide technical support for the safety of bicycle products in my country.

Bicycle lighting and retroreflective devices Part 4: Lighting Systems Powered by Bicycle Generators

## 1 Scope

This document specifies the performance requirements for lighting systems powered by bicycle generators, describes the corresponding test methods, and applies to systems conforming to [the relevant standards/regulations].

ISO 6742-1 Lighting and light signaling devices. The lighting system includes lighting and