

ICS 11.040.70

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

**GB/T 11239.2-2026**

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**Optics and photonics - Operation microscopes - Part 2: Light  
hazard from operation microscopes used in ocular surgery**

光学和光子学 手术显微镜 第2部分：眼科用手术显微镜的光危害

**(English Translation)**

**Issued on: July 2, 2026**

**Implemented on: May 1, 2029**

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**Issued by: State Administration for Market Regulation**

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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 2 of GB/T 11239 "Optical and Photonic Surgical Microscopes". GB/T 11239 has published the following...

part.

---Part 1: Requirements and Test Methods;

---Part 2: Light Hazards of Ophthalmic Surgical Microscopes this document is modified to adopt ISO 10936-2:2010 "Optical and photonic surgical microscopes - Part 2: Surgical microscopes for ophthalmic use".

Light hazards.

The technical differences between this document and ISO 10936-2:2010, and the reasons therefor, are as follows.

---The normatively referenced GB/T 11239.1 has replaced ISO 10936-1 to adapt to my country's technical conditions (see Chapter 7);

---The normatively referenced GB 47498.2-2026 has replaced ISO 15004-2:2007 to adapt to my country's technical conditions (see section [number missing]).

Chapter 4, Chapter 5, Chapter 6 and Chapter 7);

---Added terms, definitions, and corresponding requirements for "exposure limits" and "recommended maximum exposure values" to facilitate...

References to GB 47498.2-2026 (see 3.3, 3.4, 4.3.2, 4.4.2, 4.4.3, 4.4.4, Chapter 6 and Appendix A).

---Added "Class 2 instruments shall additionally comply with the provisions of 7.3 in GB 47498.2-2026" (see Chapter 7) to align with...

Implementation of GB 47498.2-2026.

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 is under the jurisdiction of the National Technical Committee on Standardization of Optics and Photonics (SAC/TC103).

## Introduction

GB/T 11239 "Optical and Photonic Surgical Microscopes" is proposed to consist of two parts.

---Part 1: Requirements and Test Methods. The purpose is to establish general requirements and test methods applicable to all types of surgical microscopes.

Verification method.

---Part 2: Light Hazards of Ophthalmic Surgical Microscopes. The aim is to establish the light hazard requirements applicable to ophthalmic surgical microscopes.

Requirements and testing methods to be followed.

Optical and photonic surgical microscopes Part 2: Light Hazards of Ophthalmic Surgical Microscopes

## 1 Scope

This document specifies the requirements for light hazards of ophthalmic surgical microscopes and describes the corresponding test methods.

This document applies to ophthalmic surgical microscopes.

**Note:** GB/T 11239.1 specifies the basic requirements and test methods for surgical microscopes.

## 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.

This document.

GB/T 11239.1 Optical and photonic surgical microscopes - Part 1: Basic requirements and test methods (GB/T 11239.1-2025, ISO 10936-1:2017, MOD) GB 47498.2-2026  
Ophthalmic instruments - Basic requirements and test methods - Part 2: Protection against light hazards (ISO 15004-2) 2024, MOD)

### 3 Terms and Definitions

The following terms and definitions apply to this document.

Group 1 instruments

Ophthalmic instruments that do not pose a potential light radiation hazard and meet Class 1 requirements.

[Source. GB 47498.2-2026, 3.10] 3.2 Group 2 instrument Ophthalmic instruments that pose potential light radiation hazards and do not meet Class 1 requirements but do meet Class 2 requirements.

[Source. GB 47498.2-2026, 3.11] 3.3 Exposure limit the maximum permissible amount of light radiation that eye tissues may receive.

[Source. GB 47498.2-2026, 3.7] the radiation exposure exceeds the Class 2 exposure level, which poses a significant risk of permanent damage.

**Note:** Take additional protective measures.

[Source. GB 47498.2-2026, 3.22]