

ICS 31.260  
CCS L 50



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

**GB/T 43530-2023**

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**Test method of performance for lobster eye micro pore optics**

龙虾眼型聚焦光学元件性能测试方法

**Issued on: December 28, 2023**

**Implemented on: July 1, 2024**

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**Issued by: State Administration for Market Regulation;  
Standardization Administration of the PRC**

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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:

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This document is under the jurisdiction of the National Optoelectronic Measurement Standardization Technical Committee (SAC/TC487):

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Performance test method for lobster eye focusing optical components

## 1 Scope

This document describes the X-ray focal length, cross-arm verticality, point spread function  
uniformity, angular resolution of the lobster eye focusing optics Test methods for  
performance such as efficiency, effective area, effective area uniformity, half-energy width,  
etc:

This document is applicable to lobster eye type condensers used in X-ray focusing imaging  
fields such as space astronomy, medical imaging, customs inspection, and material  
analysis:

Performance testing of focal optics: The lobster eye type focusing optical element for other  
purposes can be used as a reference:

## 2 Normative reference documents

GB/T 1185-2006

GB 50073

## 3 Terms and definitions

The following terms and definitions apply to this document: 3:1 Based on the principle of  
grazing incidence reflection to converge X-rays, it is a spherical optical element composed  
of tiny square micro-channels in the form of a lobster eye compound eye: 3:2  
imagedistance The distance between the center of the X-ray focused image and the center  
of the MPO concave sphere: 3:3 objectdistance The distance between the X-ray source and  
the center of the MPO convex sphere: 3:4 Focus on the angle between the horizontal and  
vertical lines of the crosshair: 3:5 At the focal length position, the point spread function is  
fitted as an ellipse, and the difference between the long axis minus the short axis of the  
ellipse is the ratio of the long axis of the ellipse: 3:6 Effective areaeffectivearea The product  
of MPO geometric area and photon transmission efficiency: