

<b>STN</b>	<b>Optika a fotonika</b> <b>Sústavy mikrošošoviek</b> <b>Časť 2: Skúšobné metódy na určenie aberácie</b> <b>vlnovej plochy (ISO 14880-2: 2024)</b>	<b>STN</b> <b>EN ISO 14880-2</b>  19 0070
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Optics and photonics - Microlens arrays - Part 2: Test methods for wavefront aberrations (ISO 14880-2:2024)

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

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## Optics and photonics - Microlens arrays - Part 2: Test methods for wavefront aberrations (ISO 14880-2:2024)

Optique et photonique - Réseaux de microlentilles -  
Partie 2: Méthodes d'essai pour les aberrations du  
front d'onde (ISO 14880-2:2024)

Optik und Photonik-Mikrolinsenarrays-Teil  
2: Prüfverfahren für Wellenfrontaberrationen (ISO  
14880-2:2024)

This European Standard was approved by CEN on 23 November 2024.

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**EN ISO 14880-2:2024 (E)**

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## **European foreword**

This document (EN ISO 14880-2:2024) has been prepared by Technical Committee ISO/TC 172 “Optics and photonics” in collaboration with Technical Committee CEN/TC 123 “Lasers and photonics” the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2025, and conflicting national standards shall be withdrawn at the latest by May 2025.

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## **Endorsement notice**

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# International Standard

**ISO 14880-2**

## Optics and photonics — Microlens arrays —

### Part 2: Test methods for wavefront aberrations

*Optique et photonique — Réseaux de microlentilles —*

*Partie 2: Méthodes d'essai pour les aberrations du front d'onde*

**Second edition  
2024-11**

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## ISO 14880-2:2024(en)

### Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 172, *Optics and Photonics*, Subcommittee SC 9, *Laser and electro-optical systems*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 123, *Lasers and photonics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 14880-2:2006), which has been technically revised.

The main changes are as follows:

- text for [Annex E](#) was revised;
- [Figure E.1](#) was replaced;
- references and numbering confirmed.

A list of all parts in the ISO 14880 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## ISO 14880-2:2024(en)

### Introduction

Examples of applications of microlens arrays include three-dimensional displays, coupling optics associated with arrayed optical radiation sources and photo-detectors, enhanced optics for liquid crystal displays, and optical parallel processor elements.

The market in microlens arrays has generated a need for agreement on basic terminology and test methods for defining microlens arrays. Standard terminology and clear definitions are needed not only to promote applications but also to encourage scientists and engineers to exchange ideas and new concepts based on common understanding.

Microlenses are used as single lenses and also in arrays of two or more lenses. The characteristics of the lenses are fundamentally evaluated with a single lens. Therefore, it is important that the basic characteristic of a single lens can be evaluated. However, if a large number of lenses is formed on a single substrate, the measurement of the whole array will incur a lot of time and cost. Furthermore, methods for measuring lens shapes are essential as a production tool.

Characteristic parameters are defined and examples of applications given in ISO 14880-1. It has been completed by a set of three other International Standards, i.e. ISO 14880-2, ISO 14880-3 and ISO 14880-4.

This document specifies methods for measuring wavefront quality. Wavefront quality is the basic performance characteristic of a microlens. Characteristics other than wavefront aberrations are specified in ISO 14880-3, ISO 14880-4 .

ISO/TR 14880-5 guides the user in selecting the appropriate measurement method from the ISO 14880 series of standards.



# Optics and photonics — Microlens arrays —

## Part 2:

## Test methods for wavefront aberrations

### 1 Scope

This document specifies methods for testing wavefront aberrations for microlenses within microlens arrays. It is applicable to microlens arrays with very small lenses formed inside or on one or more surfaces of a common substrate.

### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 14880-1, *Optics and photonics — Microlens arrays — Part 1: Vocabulary*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**