

Ophthalmic optics - Visual acuity testing -- Standard and clinical optotypes and their presentation (ISO 8596:2017)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 8596:2018 sisaldab Euroopa standardi EN ISO 8596:2018 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 8596:2018 consists of the English text of the European standard EN ISO 8596:2018.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 24.01.2018.	Date of Availability of the European standard is 24.01.2018.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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English Version

Ophthalmic optics - Visual acuity testing -- Standard and clinical optotypes and their presentation (ISO 8596:2017)

Optique ophtalmique - Mesure de l'acuité visuelle -  
Optotype normalisé et optotypes cliniques et leur  
présentation (ISO 8596:2017)

Augenoptik - Sehschärfepfung - Normsehzeichen  
und klinische Sehzeichen und ihre Darbietung (ISO  
8596:2017)

This European Standard was approved by CEN on 20 November 2017.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

## European foreword

This document (EN ISO 8596:2018) has been prepared by Technical Committee ISO/TC 172 “Optics and photonics” in collaboration with Technical Committee CEN/TC 170 “Ophthalmic optics” 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of an identical text or by endorsement, at the latest by July 2018, and conflicting national standards shall be withdrawn at the latest by July 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 8596:2009.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## Endorsement notice

The text of ISO 8596:2017 has been approved by CEN as EN ISO 8596:2018 without any modification.

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## 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 documents 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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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on 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 the following URL: [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 7, *Ophthalmic optics and instruments*.

This third edition cancels and replaces the second edition (ISO 8596:2009), which has been technically revised.

The main changes compared to the previous edition are as follows:

- a) restructuring of technical content into the [Clauses 4](#) and [6](#) has been applied;
- b) terms and definitions with the terms standard optotype, clinical optotype, visual acuity, and the systems decimal visual acuity, Snellen fraction, LogMAR acuity, and visual acuity grade have been added;
- c) Snellen fraction values in [Table 1](#) have been added;
- d) [Figure 2](#) has been added;
- e) [Annex A](#) has been added.

# Ophthalmic optics — Visual acuity testing — Standard and clinical optotypes and their presentation

## 1 Scope

This document specifies a range of Landolt ring optotypes and describes a method for measuring distance visual acuity under photopic conditions for the purposes of certification or licensing.

This document is neither intended as a standard for clinical measurements nor for the certification of blindness or partial sight.

Other optotypes used for clinical investigations are described in [Annex A](#) for information.

## 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 3:1973, *Preferred numbers — Series of preferred numbers*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

### 3.1

#### **standard optotype**

Landolt ring

Note 1 to entry: The Landolt ring is specified in [Table 1](#) and [Figure 1](#).

### 3.2

#### **clinical optotype**

optotype other than the *standard optotype* ([3.1](#)) used for measuring *visual acuity* ([3.3](#))

Note 1 to entry: This definition does not exclude the standard optotype from being used for the same purposes as a clinical optotype.

Note 2 to entry: Since clinical optotypes can differ greatly in legibility, it is crucial to refer to the standard optotype whenever the comparability of the results is important. ISO/TR 19498 provides a method for correlation of clinical optotypes to the standard optotype.

### 3.3

#### **visual acuity**

number characterizing the ability of the visual system to recognize optotypes

Note 1 to entry: Currently, three different scaling systems are used to describe the visual acuity of a patient. These are decimal visual acuity, Snellen fraction, LogMAR acuity. See [Table 1](#).