INTERNATIONAL STANDARD

ISO 14490-3

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Optics and photonics — Test methods for telescopic systems —

Part 3: Test methods for telescopic sights

Optique et photonique — Méthodes d'essai pour systèmes télescopiques —

Partie 3: Méthodes d'essai pour viseurs de tir

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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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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 meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information.

The committee responsible for this document is ISO/TC 172, *Optics and photonics*, Subcommittee SC 4, *Telescopic systems*.

This second edition cancels and replaces the first edition (ISO 14490-3:2004), which has been technically revised with the following changes:

a) Clause 9 "Method of measurement of line of sight shift due to focusing" was added;

b) the term "magnification" was replaced by "magnifying power" in various instances.

ISO 14490 consists of the following parts, under the general title *Optics and photonics — Test methods for telescopic systems*:

— *Part 1: Test methods for basic characteristics*

— *Part 2: Test methods for binocular systems*

— *Part 3: Test methods for telescopic sights*

— *Part 4: Test methods for astronomical telescopes*

— *Part 5: Test methods for transmittance*

— *Part 6: Test methods for veiling glare index*

— *Part 7: Test methods for limit of resolution*

— *Part 8: Test methods for night-vision devices*

Optics and photonics — Test methods for telescopic systems —

Part 3: Test methods for telescopic sights

1 Scope

This part of ISO 14490 specifies test equipment and test procedures for determination of the following optical characteristics of telescopic sights:

— axial parallax;

— parallax;

— eye relief range;

— reticle tracking;

— line of sight shift due to zooming;

— line of sight shift due to focusing.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 14132–1, *Optics and photonics — Vocabulary for telescopic systems — Part 1: General terms and alphabetical indexes of terms in ISO 14132*

ISO 14132–3, *Optics and photonics — Vocabulary for telescopic systems — Part 3: Terms for telescopic sights*

ISO 14135–1:2014, *Optics and photonics — Specifications for telescopic sights — Part 1: General-purpose instruments*

ISO 14135–2:2014, *Optics and photonics — Specifications for telescopic sights — Part 2: High-performance instruments*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 14132-1 and ISO 14132-3 apply.

4 Method of measurement of axial parallax

4.1 Principle

This test method describes the measurement of the axial distance between the reticle of a telescopic sight and an image, formed by the objective lens of this telescopic sight (where the reticle is in the first image plane) or by the objective lens and erecting system (where the reticle is in the second image