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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

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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).

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This document was prepared by Technical Committee ISO/TC 172, *Optics and photonics*, Subcommittee SC 4, *Telescopic systems*.

This third edition cancels and replaces the second edition (ISO 14490-3:2016), which has been technically revised. The main changes compared to the previous edition are as follows:

— critical eye relief added in the test method according to ISO 14135 series and ISO 14132-3.

A list of all parts in the ISO 14490 series can be found on the ISO website.

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Optics and photonics — Test methods for telescopic systems —

Part 3: Test methods for telescopic sights

1 Scope

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

— axial parallax;

— parallax;

— eye relief range, eye relief, critical eye relief;

— reticle tracking;

— line of sight shift due to zooming;

— line of sight shift due to focusing.

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 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 14135-1:2021, *Optics and photonics — Specifications for telescopic sights — Part 1: General-purpose instruments*

ISO 14135-2:2021, *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

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