INTERNATIONAL STANDARD

ISO 14490-8

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Optics and optical instruments — Test methods for telescopic systems —

Part 8: Test methods for night-vision devices

Optique et instruments d'optique — Méthodes d'essai pour systèmes télescopiques —

Partie 8: Méthodes d'essai pour dispositifs de vision de nuit

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 14490-8 was prepared by Technical Committee ISO/TC 172, *Optics and photonics*, Subcommittee SC 4, *Telescopic systems*.

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

Part 8:
Test methods for night-vision devices

1 Scope

This International Standard describes the test methods for determining the performance of night-vision devices as specified in ISO 21094.

2 Normative references

The following referenced documents are indispensable for the application 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 5725-1, *Accuracy (trueness and precision) of measurement methods and results — Part 1: General principles and definitions*

ISO 11664-2, *Colorimetry — Part 2: CIE standard illuminants*

ISO 14490-1, *Optics and optical instruments — Test methods for telescopic systems — Part 1: Test methods for basic characteristics*

ISO 14490-7, *Optics and optical instruments — Test methods for telescopic systems — Part 7: Test methods for limit of resolution*

ISO 21094, *Optics and photonics — Telescopic systems — Specifications for night vision devices*

3 General requirements for the test conditions and preparation of tests

Measurements shall be carried out under the normal conditions of the work area, namely:

— air temperature: (20,0 ± 5,0) °C;

— relative humidity of the air: 40 % to 60 %.

During measurements, the temperature shall not vary by more than ± 2 °C and the relative humidity shall not vary by more than 4 %.

The measurements should be carried out in conditions in which the test specimen is protected from stray light and electrical and strong magnetic fields.

The recommended illuminance in the test room is 0,01 lx to 0,04 lx.

Measurements of the basic characteristics of night-vision devices shall be carried out with the aid of a dedicated power supply.

The use of an external power supply is acceptable subject to its voltage not departing from the nominal voltage of the dedicated power supply by more than ± 0,1 V.

The testing of instruments equipped with a source of radiation shall be carried out while the source is switched off.