AS ISO 9342.1:2017

Australian STANDARD

Optics and optical instruments—Test lenses for calibration of focimeters

Part 1: Test lenses for focimeters used for measuring spectacle lenses

STANDARDS Australia

AS ISO 9342.1:2017

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The following are represented on Committee MS-024:

Australian Dispensing Opticians Association
Optical Distributors and Manufacturers Association of Australia
Optometry Australia
Queensland University of Technology
University of New South Wales

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Australian Standard®

Optics and optical instruments – Test lenses for calibration of focimeters

Part 1: Test lenses for focimeters used for measuring spectacle lenses

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Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee, MS-024 Spectacles.

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this Standard is to specify requirements for test lenses for the calibration of focimeters that are used for the measurement of spectacle form lenses.

This Standard is identical with, and has been reproduced from, ISO 9342-1:2005, *Optics and optical instruments — Test lenses for calibration of focimeters* — Part 1: *Test lenses for focimeters used for measuring spectacle lenses.*

As this document has been reproduced from an International Standard, the following applies:

(a) In the source text 'this part of ISO 9342' should read 'Australian/New Zealand Standard'.

(b) A full point substitutes for a coma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms 'normative' and 'informative' are used in Standards to define the application of the appendices or annexes to which they apply. A 'normative' appendix or annex is an integral part of a Standard, whereas an 'informative' appendix or annex is only for information and guidance.

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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 9342-1 was prepared by Technical Committee ISO/TC 172, *Optics and photonics*, Subcommittee SC 7, *Ophthalmic optics and instruments*.

This first edition cancels and replaces ISO 9342:1996, of which Clause 1 and Clauses A.5 to A.7 have been technically revised.

ISO 9342 consists of the following parts, under the general title *Optics and optical instruments — Test lenses for calibration of focimeters*:

— *Part 1: Test lenses for focimeters used for measuring spectacle lenses*

— *Part 2: Test lenses for focimeters used for measuring contact lenses*

Australian Standard®

Optics and optical instruments—Test lenses for calibration of focimeters

Part 1: Test lenses for focimeters used for measuring spectacle lenses

1 Scope

This part of ISO 9342 specifies requirements for test lenses for the calibration of focimeters that are used for the measurement of spectacle form lenses.

NOTE It is accepted that other test lenses can also be used with powers within the given range, manufactured to the same standard of accuracy and form, but different back vertex powers. However, only lenses with integer nominal powers, as described in Annex A, can be used for the calibration of digitally-rounding focimeters.

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 7944, *Optics and optical instruments — Reference wavelengths*

3 Terms and definitions

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

3.1
spherical test lenses
lenses used for the calibration of the dioptric power measurements by focimeters, in which the power of each lens is expressed as its back vertex power in dioptres (D)

3.2
prismatic test lenses
lenses used for the calibration of the prismatic deviation measurements by focimeters, in which the prismatic power of each lens is expressed in centimetres deviation per metre distance (cm/m)

Note 1 to entry: The special name for the unit for expressing prismatic power is the “prism dioptre” for which the symbol “Δ” is used.

3.3
cylindrical test lenses
lenses with cylindrical faces which are used to calibrate the axis marker and axis indicator with respect to the adjustment orientation of the rail

Note 1 to entry: These lenses are usually specially designed and marked.

3.4
reference wavelength
wavelengths specified in ISO 7944

Note 1 to entry: For the purposes of this part of ISO 9342, the reference wavelengths are either the green mercury e-line (λ_e = 546,07 nm) or the yellow helium d-line (λ_d = 587,56 nm).