

Australian/New Zealand Standard™

**Ophthalmic optics—Uncut finished  
spectacle lenses**

**Part 3: Transmittance specifications  
and test methods**



## **AS/NZS ISO 8980.3:2011**

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee MS-024, Spectacles. It was approved on behalf of the Council of Standards Australia on 17 March 2011 and on behalf of the Council of Standards New Zealand on 18 March 2011.

This Standard was published on 7 April 2011.

---

The following are represented on Committee MS-024:

Australian Dispensing Opticians Association  
New Zealand Association of Optometrists  
Optical Distributors and Manufacturers Association of Australia  
Queensland University of Technology  
The University of Melbourne  
The University of New South Wales  
University of Auckland

---

### **Keeping Standards up-to-date**

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Web Shop at [www.saiglobal.com.au](http://www.saiglobal.com.au) or Standards New Zealand web site at [www.standards.co.nz](http://www.standards.co.nz) and looking up the relevant Standard in the on-line catalogue.

For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

---

Australian/New Zealand Standard™

**Ophthalmic optics—Uncut finished  
spectacle lenses**

**Part 3: Transmittance specifications  
and test methods**

First published as AS/NZS ISO 8980.3:2011.

**COPYRIGHT**

© Standards Australia Limited/Standards New Zealand

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Australia) or the Copyright Act 1994 (New Zealand).

Jointly published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001 and by Standards New Zealand, Private Bag 2439, Wellington 6140

ISBN 978 0 7337 9811 5

## PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee MS-024, Spectacles. This Standard replaces relevant text in AS 2228.1—1992, which is intended to be withdrawn by February 2012.

The objective of this Standard is to specify the requirements for the transmittance properties of uncut finished spectacle lenses.

This Standard is identical with, and has been reproduced from ISO 8980-3:2003, *Ophthalmic optics—Uncut finished spectacle lenses—Part 3: Transmittance specifications and test methods*.

As this Standard is reproduced from an International Standard, the following applies:

- (a) Its number appears on the cover and title page while the international standard number appears only on the cover.
- (b) In the source text ‘this part of ISO 8980’ should read ‘this part of AS/NZS ISO 8980’.
- (c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

<i>Reference to International Standard</i>	<i>Australian/New Zealand Standard</i>
ISO	AS/NZS ISO
14889 Ophthalmic optics—Spectacle lenses—Fundamental requirements for uncut finished lenses	14889 Ophthalmic optics—Spectacle lenses—Fundamental requirements for uncut finished lenses
13666 Ophthalmic optics—Spectacle lenses—Vocabulary	13666 Ophthalmic optics—Spectacle lenses—Vocabulary

Only international references that have been adopted as Australian or Australian/New Zealand Standards have been listed.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the annex to which they apply. A ‘normative’ annex is an integral part of a Standard, whereas an ‘informative’ annex is only for information and guidance.

## CONTENTS

	<i>Page</i>
<b>1</b>	<b>Scope..... 1</b>
<b>2</b>	<b>Normative references ..... 1</b>
<b>3</b>	<b>Terms and definitions ..... 1</b>
<b>4</b>	<b>Classification ..... 2</b>
<b>5</b>	<b>Requirements ..... 2</b>
<b>5.1</b>	<b>General ..... 2</b>
<b>5.2</b>	<b>General transmittance requirements ..... 2</b>
<b>5.3</b>	<b>Requirements for driving ..... 2</b>
<b>5.4</b>	<b>Transmittance requirements for special types of spectacle lenses ..... 2</b>
<b>5.5</b>	<b>Resistance to radiation..... 4</b>
<b>6</b>	<b>Testing..... 4</b>
<b>6.1</b>	<b>General ..... 4</b>
<b>6.2</b>	<b>Spectral transmittance ..... 4</b>
<b>6.3</b>	<b>Luminous transmittance and relative visual attenuation coefficient (quotient)..... 4</b>
<b>6.4</b>	<b>Ultraviolet transmittance ..... 5</b>
<b>6.5</b>	<b>Transmittance properties of photochromic spectacle lenses and photochromic specimens..... 5</b>
<b>6.6</b>	<b>Test methods for polarizing spectacle lenses ..... 7</b>
<b>6.7</b>	<b>Determination of resistance to radiation ..... 9</b>
<b>7</b>	<b>Information..... 9</b>
<b>Annex A (normative)</b>	<b>Spectral weighting functions for calculating relative visual attenuation quotients ..... 10</b>
<b>Annex B (normative)</b>	<b>Calculation of solar UV transmittance values ..... 12</b>
<b>Annex C (informative)</b>	<b>Spectral radiation risks..... 14</b>
<b>Bibliography</b>	<b>..... 15</b>

AUSTRALIAN/NEW ZEALAND STANDARD

# Ophthalmic optics — Uncut finished spectacle lenses —

Part 3:

## Transmittance specifications and test methods

### 1 Scope

This part of ISO 8980 specifies requirements for the transmittance properties of uncut finished spectacle lenses.

This part of ISO 8980 is not applicable to

- spectacle lenses having particular transmittance or absorption characteristics prescribed for medical reasons;
- products where specific personal protective equipment transmittance standards apply.

NOTE Optical and geometric requirements for uncut finished spectacle lenses are specified in ISO 8980-1 and ISO 8980-2.

### 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 13666, *Ophthalmic optics — Spectacle lenses — Vocabulary*

ISO 14889, *Ophthalmic optics — Spectacle lenses — Fundamental requirements for uncut finished lenses*

ISO/CIE<sup>1)</sup> 10526, *CIE standard illuminants for colorimetry*

ISO/CIE 10527, *CIE standard colorimetric observers*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 13666 apply.

---

1) International Commission on Illumination, Kegelgasse 27, A-1030 Vienna.