

Australian/New Zealand Standard™

## Interior and workplace lighting

### Part 2.1: Specific applications— Circulation spaces and other general areas



### **AS/NZS 1680.2.1:2008**

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee LG-001, Interior and Workplace Lighting. It was approved on behalf of the Council of Standards Australia on 26 February 2008 and on behalf of the Council of Standards New Zealand on 11 March 2008. This Standard was published on 6 June 2008.

---

The following are represented on Committee LG-001:

Association of Consulting Engineers Australia  
Australian Chamber of Commerce and Industry  
Australian Electrical and Electronic Manufacturers Association  
Energy Efficiency & Conservation Authority of New Zealand  
Engineers Australia  
IES: The Lighting Society  
Institution of Professional Engineers New Zealand  
Ministry of Economic Development, New Zealand  
NSW Department of Commerce  
Property Council of Australia  
The University of Sydney

Additional Interests:

Photometric Testing Laboratories

---

### **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 Standards may also be withdrawn.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.standards.com.au](http://www.standards.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.

Alternatively, both organizations publish an annual printed Catalogue with full details of all current Standards. 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.

---

*This Standard was issued in draft form for comment as DR 07028.*

---

# Australian/New Zealand Standard™

## Interior and workplace lighting

### Part 2.1: Specific applications— Circulation spaces and other general areas

Originated as part of AS(E) CA501—1942.  
Previous edition AS 1680.2.1—1993.  
Jointly revised and designated AS/NZS 1680.2.1:2008.

#### **COPYRIGHT**

© Standards Australia/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.

Jointly published by Standards Australia, GPO Box 476, Sydney, NSW 2001 and Standards New Zealand, Private Bag 2439, Wellington 6020

ISBN 0 7337 8714 2

## PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee LG-001, Interior and Workplace Lighting to supersede AS 1680.2.1—1993, *Interior lighting—Circulation spaces and other general areas*.

This Standard forms Part 2.1 of the AS/NZS 1680 series, which covers lighting of interiors and workplaces. It is intended to be read in conjunction with the general recommendations and requirements of AS/NZS 1680.1:2006 and the structures of the two Standards are closely aligned to facilitate this. It is also noted that, in many areas, parts of various other Standards in the AS/NZS 1680 series will also be applicable, depending on the nature of the building and of the visual tasks involved.

The AS/NZS 1680 series currently consists of the following:

### AS/NZS

1680	Interior and workplace lighting
1680.0	Part 0: Safe movement
1680.1	Part 1: General principles and recommendations
1680.2.1	Part 2.1: Specific applications—Circulation spaces and other general areas (this Standard)
1680.2.2	Part 2.2: Specific applications—Office and screen-based tasks
1680.2.3	Part 2.3: Specific applications—Educational and training facilities
1680.2.4	Part 2.4: Industrial tasks and processes
1680.2.5	Part 2.5: Hospital and medical tasks
1680.3	Part 3: Measurement, calculation and presentation of photometric data
1680.4	Part 4: Maintenance of electric lighting systems

NOTE: Until the revision of this series is complete, some of the above Standards might have, as a main title, 'Interior lighting'.

The significant changes that have been made in this Standard in relation to the previous publication include the following:

- (a) Alteration of the minimum uniformity of illuminance from 0.5 to 0.3.
- (b) Expansion of the information and recommendations provided in relation to glare (Section 8).
- (c) Alteration of the recommended maximum glare index in first aid treatment rooms and parking spaces (Appendix D).

The term 'informative' has been used in this Standard to define the application of the appendix to which it applies. An 'informative' appendix is only for information and guidance.

## CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE .....	4
1.2 APPLICATION .....	4
1.3 REFERENCED DOCUMENTS .....	4
1.4 DEFINITIONS .....	4
SECTION 2 GENERAL REQUIREMENTS OF GOOD INTERIOR LIGHTING .....	5
SECTION 3 TASK VISIBILITY	
3.1 GENERAL .....	5
3.2 RECOMMENDED ILLUMINANCES .....	5
3.3 UNIFORMITY OF ILLUMINANCE .....	5
SECTION 4 DIRECTIONAL EFFECTS OF LIGHTING	
4.1 GENERAL .....	6
4.2 REVEALING SIGNIFICANT DETAILS .....	6
SECTION 5 UNWANTED REFLECTIONS .....	6
SECTION 6 SURFACES	
6.1 GENERAL .....	7
6.2 REFLECTANCE AND COLOUR OF WALLS AND FLOORS .....	7
SECTION 7 LIGHT SOURCE COLOUR	
7.1 GENERAL .....	7
7.2 LAMP COLOUR APPEARANCE AND COLOUR RENDERING PROPERTIES .....	7
SECTION 8 GLARE AND RELATED EFFECTS	
8.1 GENERAL .....	8
8.2 DISCOMFORT GLARE.....	8
8.3 DISABILITY GLARE.....	8
SECTION 9 LIGHT SOURCES, LUMINAIRES AND CONTROL SYSTEMS	
9.1 GENERAL .....	9
9.2 LUMINAIRE CHARACTERISTICS .....	9
SECTION 10 LIGHTING SYSTEMS.....	10
SECTION 11 LIGHTING DESIGN PROCEDURE.....	10
SECTION 12 MAINTENANCE OF LIGHTING SYSTEMS AND EQUIPMENT .....	10
APPENDICES	
A CALCULATION AND MEASUREMENT OF ILLUMINANCE .....	11
B NOTES ON CHANGES TO ILLUMINANCE RECOMMENDATIONS.....	12
C NOTES ON THE USE OF UTILIZATION FACTOR TABLES BY THE LIGHTING DESIGNER.....	13
D SPECIFIC RECOMMENDATIONS FOR CIRCULATION SPACES AND OTHER GENERAL AREAS.....	14

## STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

---

**Australian/New Zealand Standard**  
**Interior and workplace lighting**

---

**Part 2.1: Specific applications—Circulation spaces and other general areas**

---

## SECTION 1 SCOPE AND GENERAL

**1.1 SCOPE**

This Standard sets out recommendations for the lighting of circulation spaces and other areas which commonly occur in buildings of various types. It contains material that adds to or amends the recommendations in AS/NZS 1680.1:2006 and is intended to be read in conjunction with that Standard and with any applicable specific recommendations in other Standards in the AS/NZS 1680 series.

The use of this Standard without reference to AS/NZS 1680.1:2006 is a misapplication of the Standard.

**1.2 APPLICATION**

If any recommendation in this Standard differs from the general recommendations of AS/NZS 1680.1, the recommendation in this Standard should prevail apart from departures from the illuminance recommendations in this Standard where it should be in accordance with the clauses specifically addressing this matter in Section 3 of AS/NZS 1680.1:2006.

**1.3 REFERENCED DOCUMENTS**

The following documents are referred to in this Standard:

AS

1735 (all parts) Lifts, escalators and moving walks

AS/NZS

1680 Interior and workplace lighting

1680.1:2006 Part 1: General principles and recommendations

NZS

4332:1997 Non-domestic passenger and goods lifts

**1.4 DEFINITIONS**

For the purpose of this Standard, the definitions given in AS 1680.1 apply.