

Australian/New Zealand Standard™

Interior lighting

Part 4: Maintenance of electric lighting systems



Standards Australia



STANDARDS

NEW ZEALAND
PŌHĀKA AOTEAROA

AS/NZS 1680.4:2001

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee LG-001, Interior Lighting. It was approved on behalf of the Council of Standards Australia on 3 November 2000 and on behalf of the Council of Standards New Zealand on 9 March 2001. It was published on 5 April 2001.

The following interests are represented on Committee LG-001:

Association of Consulting Engineers Australia
Australian Building Codes Board
Australian Chamber of Commerce and Industry
Australian Electrical and Electronic Manufacturers Association
Energy Efficiency & Conservation Authority of New Zealand
Illuminating Engineering Society of Australia and New Zealand
Institution of Engineers Australia
Ministry of Economic Development, New Zealand
N.S.W. Department of Public Works and Services
Property Council of Australia
University of Sydney
WorkCover New South Wales

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 Standards may also be withdrawn.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 Australia web site at www.standards.com.au or Standards New Zealand web site at 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 International or Standards New Zealand at the address shown on the back cover.

Australian/New Zealand Standard™

Interior lighting

Part 4: Maintenance of electric lighting systems

First published as AS/NZS 1680.4:2001.

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 International Ltd, GPO Box 5420, Sydney, NSW 2001 and Standards New Zealand, Private Bag 2439, Wellington 6020

ISBN 0 7337 3717 X

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee LG-001, Interior Lighting. It is closely based on CIE Publication No. 97 (1992), *Maintenance of indoor electric lighting systems*, issued by the International Commission on Illumination.

This Standard forms Part 4 of the AS/NZS 1680 series, which will progressively replace the AS 1680 series.

At the date of publication of this Standard, the following Standards were available in the AS 1680 and AS/NZS 1680 series:

AS/NZS 1680	Interior lighting
AS 1680.1	Part 1: General principles and recommendations
AS 1680.2.0	Part 2.0: Recommendations for specific tasks and interiors
AS 1680.2.1	Part 2.1: Circulation spaces and other general areas
AS 1680.2.2	Part 2.2: Office and screen-based tasks
AS 1680.2.3	Part 2.3: Educational and training facilities
AS 1680.3	Part 3: Measurement, calculation and presentation of photometric data.
AS/NZS 1680.0	Part 0: Safe movement
AS/NZS 1680.2.4	Part 2.4: Industrial tasks and processes
AS/NZS 1680.2.5	Part 2.5: Hospital and medical tasks
AS/NZS 1680.4	Part 4: Maintenance of electric lighting systems (this Standard)

This Standard contains the detailed information required to establish the intended maintenance regime of an installation during the design phase plus recommendations regarding maintenance techniques. It is an important support document to the other Standards in the AS and AS/NZS 1680 series and is relevant to all forms of exterior lighting, such as streetlighting, and sports floodlighting.

This Standard is supplementary to and should be read in conjunction with the general recommendations of AS 1680.1.

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.

Statements expressed in mandatory terms in notes to tables and figures are deemed to be requirements of this Standard.

CONTENTS

	<i>Page</i>
FOREWORD	4
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE.....	5
1.2 REFERENCED DOCUMENTS.....	5
1.3 DEFINITIONS.....	5
SECTION 2 NEED FOR MAINTENANCE	
2.1 GENERAL.....	7
2.2 INFLUENCING FACTORS	8
2.3 INSPECTION INTERVALS AND CLEANLINESS CATEGORY	9
2.4 CLEANING SCHEDULE.....	10
SECTION 3 ANALYSIS OF DEPRECIATION	
3.1 FACTORS CONTRIBUTING TO LIGHT LOSSES	11
3.2 LAMP LUMEN MAINTENANCE FACTOR (LLMF).....	11
3.3 LAMP SURVIVAL FACTOR (LSF).....	11
3.4 LUMINAIRE MAINTENANCE FACTOR (LMF).....	11
3.5 ROOM SURFACE MAINTENANCE FACTOR (RSMF).....	12
SECTION 4 ECONOMICS OF SERVICING	
4.1 LAMP REPLACEMENT.....	13
4.2 CLEANING OF LUMINAIRES	14
4.3 EQUIPMENT AND INSTALLATION.....	16
SECTION 5 MAINTENANCE FACTOR	
5.1 GENERAL.....	17
5.2 DETERMINATION OF MAINTENANCE FACTOR.....	17
5.3 USE OF MAINTENANCE FACTOR (<i>MF</i>).....	18
SECTION 6 SERVICING LIGHTING SYSTEMS	
6.1 GENERAL.....	19
6.2 ACCESS.....	19
6.3 CLEANING LUMINAIRES	19
6.4 CLEANING AGENTS.....	19
6.5 RELAMPING	20
APPENDICES	
A BIBLIOGRAPHY.....	21
B EXAMPLES AND TYPICAL VALUES OF FACTORS FOR DETERMINING MAINTENANCE FACTOR	22
C EXAMPLE ESTIMATION OF OPTIMUM CLEANING INTERVAL.....	27
D EXAMPLE ESTIMATION OF MAINTENACE FACTOR.....	29

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-