

Australian Standard[®]

Interior lighting

**Part 3: Measurement, calculation
and presentation of photometric
data**

This Australian Standard was prepared by Committee LG/1, Interior Lighting. It was approved on behalf of the Council of Standards Australia on 28 May 1991 and published on 9 August 1991.

The following interests are represented on Committee LG/1:

The Association of Consulting Engineers, Australia
The Australian Chamber of Commerce
Australian Electrical and Electronic Manufacturers Association
Australian Optometrical Association
Building Owners and Managers Association of Australia
Confederation of Australian Industry
Department of Administrative Services—Australian Construction Services
Electricity Supply Association of Australia
Illuminating Engineering Societies of Australia
Ministry of Planning and Housing, Vic.
Royal Australian Institute of Architects
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The WorkCover Authority, N.S.W.

Additional interests participating in preparation of Standard:

Photometric testing laboratories

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PREFACE

This Standard was prepared by the Standards Australia Committee on Interior Lighting. It forms Part 3 of a series of Standards (the AS 1680 series) which together supersede AS 1680—1976, *Code of practice for interior lighting and the visual environment*.

Photometric data for interior lighting was formerly covered in AS 1190—1972, *Photometric data on luminaires for interior lighting*, which was withdrawn in 1988. The Standard had become out-of-date and in any event a replacement (this Standard) was planned in the AS 1680 series.

This Standard is closely based on BS 5225: Part 1* in respect of laboratory conditions, procedures and instrumentation for photometric measurements. For the photometry of fluorescent luminaires, the recommendations (as in BS 5225: Part 1: 1975) follow those of CIE Publication No. 24 (1973), *Photometry of indoor type luminaires with tubular fluorescent lamps*. However, this Standard also specifies requirements for the derivation of certain photometric data needed for interior lighting calculations (see Section 8).

* BS 5225, *Photometric data for luminaires*, Part 1. 5 *Photometric measurements*.

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CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE	5
1.2 REFERENCED DOCUMENTS	5
1.3 DEFINITIONS	5
1.4 UNITS AND TERMINOLOGY	7
1.5 PHOTOMETRIC CENTRE	7
1.6 CUT-OFF ANGLE REFERENCE POINT	7
1.7 CO-ORDINATE SYSTEMS FOR LUMINAIRES	7
SECTION 2 LABORATORY CONDITIONS AND PROCEDURES	
2.1 SCOPE OF SECTION	12
2.2 LABORATORY MEASUREMENTS	12
2.3 LABORATORY FACILITIES	12
2.4 STATUS OF MEASUREMENTS	13
2.5 ELECTRIC POWER SUPPLY AND INDICATING INSTRUMENTS	13
2.6 TEMPERATURE CONTROL AND INDICATING INSTRUMENTS	13
2.7 PHOTOCELLS AND ASSOCIATED APPARATUS	14
2.8 SELECTION OF LUMINAIRES FOR TEST	15
2.9 SELECTION OF BALLASTS FOR USE WITH LUMINAIRES UNDER TEST	15
2.10 SELECTION AND PREPARATION OF LAMPS FOR USE WITH LUMINAIRES UNDER TEST	16
2.11 OPERATION AND HANDLING OF LAMPS	17
2.12 STANDARD MEASURING CONDITIONS FOR LUMINAIRES	17
2.13 STANDARD MEASURING CONDITIONS FOR BARE LAMPS	18
2.14 STABILIZATION	19
2.15 MEASURING PROCEDURES	19
2.16 RECORDING OF MEASUREMENTS	20
2.17 ISSUING OF TEST REPORTS	20
SECTION 3 MEASUREMENTS OF INTENSITY	
3.1 SCOPE OF SECTION	21
3.2 PURPOSE OF GONIOPHOTOMETER	21
3.3 CONSTRUCTION	21
3.4 OPTICAL PATH LENGTH	21
3.5 GENERAL REQUIREMENTS	21
3.6 REQUIREMENTS FOR MIRRORS	22
3.7 SCREENING AGAINST STRAY LIGHT	22
3.8 CHECKING THE GONIOPHOTOMETER	22
3.9 SELECTION OF LAMPS, BALLASTS, LUMINAIRES	22
3.10 MOUNTING OF THE LUMINAIRE	22
3.11 MOUNTING OF THE BARE LAMP	22
3.12 MEASURING CONDITIONS	22
3.13 MEASUREMENT OF LUMINAIRE INTENSITY DISTRIBUTION	22
3.14 MEASUREMENT OF INTENSITIES FROM BARE LAMPS	23
3.15 RECORDING OF MEASUREMENTS	23
SECTION 4 MEASUREMENTS OF LUMINOUS FLUX	
4.1 SCOPE OF SECTION	24
4.2 PURPOSE OF PHOTOMETRIC INTEGRATORS	24
4.3 CONSTRUCTION	24
4.4 REFLECTING SURFACES	24
4.5 COMPONENTS INSIDE AN INTEGRATOR	24
4.6 AIR TEMPERATURE MEASUREMENT	24
4.7 THE TEST PATCH	24

	<i>Page</i>
4.8 PHOTOCELLS AND ASSOCIATED APPARATUS	25
4.9 DIRECT LIGHT SCREEN	25
4.10 AUXILIARY LAMP	25
4.11 CHECKING THE INTEGRATOR	25
4.12 SELECTION OF LAMPS, BALLASTS, LUMINAIRES	25
4.13 MOUNTING THE LUMINAIRE	25
4.14 MOUNTING THE BARE LAMP	27
4.15 MEASURING CONDITIONS	27
4.16 MEASURING PROCEDURE FOR LIGHT OUTPUT RATIO (<i>LOR</i>)	27
4.17 RECORDING OF MEASUREMENTS	27
SECTION 5 PHOTOMETRIC FACTORS	
5.1 SCOPE OF SECTION	28
5.2 MEASUREMENT CORRECTION FACTORS	28
5.3 SERVICE CORRECTION FACTORS	28
5.4 BALLAST LUMEN FACTOR (<i>BLF</i>)	28
SECTION 6 MEASUREMENTS OF LUMINANCE AND CUT-OFF ANGLE	
6.1 SCOPE OF SECTION	29
6.2 TYPES OF LUMINANCE MEASUREMENT	29
6.3 MEASURING APPARATUS	29
6.4 SELECTION OF LAMPS, BALLASTS, LUMINAIRES	29
6.5 AVERAGE LUMINANCE – MEASURING PROCEDURE	29
6.6 PATCH LUMINANCE – MEASURING PROCEDURE	29
6.7 PATCH LUMINANCE – ALTERNATIVE MEASURING PROCEDURE	30
6.8 RECORDING OF LUMINANCE MEASUREMENTS	30
6.9 DETERMINATION OF CUT-OFF ANGLE	30
SECTION 7 ILLUMINANCE MEASUREMENTS (SINGLE LUMINAIRE)	
7.1 SCOPE OF SECTION	33
7.2 GENERAL	33
7.3 MEASURING APPARATUS	33
7.4 SELECTION OF LAMPS, BALLASTS, LUMINAIRES	33
7.5 MEASURING PROCEDURE	33
7.6 CALIBRATION OF MEASUREMENTS	33
7.7 RECORDING OF MEASUREMENTS	34
SECTION 8 DERIVED LUMINAIRE DATA	
8.1 SCOPE OF SECTION	35
8.2 UTILIZATION FACTORS	35
8.3 SPACING/MOUNTING HEIGHT RATIOS	35
8.4 ELECTRONIC TRANSFER OF DATA	35
APPENDICES	
A LIGHT OUTPUT RATIOS OF LUMINAIRES	36
B CALIBRATION OF MEASUREMENTS	37
C RECOMMENDED METHOD OF CHECKING PHOTOCELL SPECTRAL RESPONSE	39
D RECOMMENDED METHOD OF CHECKING PHOTOCELL LINEARITY	40
E INFORMATION TO BE PROVIDED IN THE TEST REPORT	41
F GUIDE TO THE SELECTION OF GONIOPHOTOMETERS	43
G GUIDELINES FOR THE COMMISSIONING OF GONIOPHOTOMETERS	49
H INITIAL CHECKING OF PHOTOMETRIC INTEGRATORS	51
BIBLIOGRAPHY	52

STANDARDS AUSTRALIA

Australian Standard
Interior lighting

Part 3: Measurement, calculation and presentation of photometric data

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard specifies laboratory conditions, procedures and instrumentation for making photometric measurements on general-purpose luminaires for interior lighting. It also specifies requirements for the derivation of certain photometric data needed for interior lighting calculations.

1.2 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS	
1000	The International System of Units (SI) and its application
1042	Direct-acting indicating electrical measuring instruments and their accessories
1201	Tubular fluorescent lamps for general lighting service
1580	Methods of test for paints and related materials
1580.604.1	Method 604.1: 45°, 0° reflectance of white and pale coloured paint
1680	Interior lighting
1680.1	Part 1: General principles and recommendations
1776	Information processing—7-bit coded character set for information interchange
1852	International electrotechnical vocabulary
1852(845)	Chapter 845: Lighting
2643	Fluorescent lamp ballasts—Performance requirements
2900	Quantities, units and symbols
2900.6	Part 6: Quantities and units of light and related electromagnetic radiations
2926	Standard voltages—Alternating (50 Hz) and direct
3100	Approval and test specification—General requirements for electrical equipment
3137	Approval and test specification—Luminaires (lighting fittings)
CIE*	
18.2	The basis of physical photometry
43	Photometry of flood lights
BS	
354	Recommendations for photometric integrators
667	Specification for portable photoelectric photometers
1041	Code for temperature measurement
IES†	
LM63	Recommended standard file format for electronic transfer of photometric data
CIBSE‡	
TM5	Calculation and use of utilization factors

1.3 DEFINITIONS For the purpose of this Standard the definitions given in AS 1680.1 and those below apply.

1.3.1 Specified practical conditions—the test conditions specified in Section 2 of this Standard.

1.3.2 Reference conditions (lamps)—the conditions under which lamp light output is measured in accordance with the provisions of the appropriate lamp Standard.

1.3.3 Reference lamp—a discharge lamp selected for the purpose of testing ballasts and which, when associated with a reference ballast under specified conditions, has electrical values which are within a specified tolerance of the objective values given in the appropriate Standard. A reference lamp need not be of known (absolute) light output.

* International commission on Illumination, Vienna.

† Illuminating Engineering Society of North America, New York.

‡ Chartered Institution of Building Services Engineers, London.