

AS 2560.2.2—1986

Reconfirmed 2017

Australian Standard®

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**GUIDE TO SPORTS LIGHTING**

**Part 2.2—LIGHTING OF  
MULTIPURPOSE  
INDOOR SPORTS  
CENTRES**

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This Australian standard was prepared by Committee LG/9. Sports Lighting. It was approved on behalf of the Council of the Standards Association of Australia on 23 January 1986 and published on 7 April 1986.

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The following interests are represented on Committee LG/9:

Australian Council of Local Government Engineers Associations  
Australian Electrical and Electronic Manufacturers Association  
Confederation of Australian Sport  
Department of Recreation and Sport, S.A.  
Department of the Arts, National Parks and Sport, Qld  
Department of Sport and Recreation, N.S.W.  
Department of Sport and Recreation, Vic  
Electricity Supply Association of Australia  
Illuminating Engineering Societies of Australia  
Public Works Department, N.S.W.  
Public Works Department, Vic  
Royal Australian Institute of Architects  
Royal Australian Institute of Parks and Recreation  
The Association of Consulting Engineers Australia

Representatives of the following interests also participated in the drafting of this standard:

All Australia Netball Association  
Australian Basketball Federation

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*This Standard was issued in draft form for comment as DR 85012.*

STANDARDS AUSTRALIA

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**RECONFIRMATION**

**OF**

**AS 2560.2.2—1986**

**Guide to sports lighting**

**Part 2.2: Specific recommendations—Lighting of multipurpose indoor sports centres**

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**RECONFIRMATION NOTICE**

Technical Committee LG-009 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

Certain documents referenced in the publication may have been amended since the original date of publication. Users are advised to ensure that they are using the latest versions of such documents as appropriate, unless advised otherwise in this Reconfirmation Notice.

Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 16 June 2017.

The following are represented on Technical Committee LG-009:

Australian Football League  
Australian Industry Group  
Baseball Australia  
CIE Australia  
Confederation of Australian Sport  
Consult Australia  
Cricket Australia  
Department of National Parks, Recreation, Sport and Racing  
IES: The Lighting Society  
Lighting Council Australia  
Office for Recreation and Sport (SA)  
Parks and Leisure Australia  
Sports And Play Industry Association  
Sports and Recreation Victoria  
Tennis Australia

## NOTES

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First published ..... 1986

## PREFACE

This standard was prepared by the Association's Committee on Sports Lighting and is one of a series of standards (the AS 2560 series) which give advice on the subject.

The AS 2560 series is in two main parts. Part 1 outlines general principles and recommendations for the lighting of places, both indoors and outdoors, where sport is played; and Part 2 is a collection of separate recommendations for the lighting of specific sports or sporting venues.

In Part 2, the following specific recommendations have been published:

AS 2560, Part 2.1—Lighting for Outdoor Tennis

AS 2560, Part 2.2—Lighting of Multipurpose Indoor Sports Centres

AS 2560, Part 2.3—Lighting for Football (All Codes)

AS 2560, Part 2.4—Lighting for Outdoor Netball and Basketball

Request for preparation of the AS 2560 series came from the Illuminating Engineering Societies of Australia as a consequence of a national conference at which many organizations with an interest in sports lighting were represented.

Reference to the general principles and recommendations of AS 2560, Part 1, will be necessary for the proper application of the recommendations given in this standard.

The committee has decided that the AS 2560 series should not embrace lighting requirements for television broadcasting, in view of the fact that specialist advice is normally required for such installations and that, in any event, there are international recommendations\* on this subject.

In the preparation of this standard, reference was made to CIE Publication No 58 (1983), *Lighting for Sports Halls*, published by the International Commission on Illumination (CIE), and acknowledgement is made of the assistance received therefrom.

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\* CIE Publication No 28, *The Lighting of Sports Events for Colour Television Broadcasting*, published by the International Commission on Illumination (CIE).

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## STANDARDS ASSOCIATION OF AUSTRALIA

**Australian Standard**  
**GUIDE TO SPORTS LIGHTING**

**PART 2.2—LIGHTING OF MULTIPURPOSE INDOOR SPORTS CENTRES**

**1 SCOPE.** This standard sets out specific recommendations for the lighting of multipurpose indoor sports centres in which a number of sports may be played within the same space. It does not apply to the lighting of areas dedicated to a specific sport within a multi-sport complex.

**NOTES:**

1. For the lighting of specific sports areas of multi-sport complexes, reference should be made to the recommendations in Part 2 of the AS 2560 series\* which apply for the particular sport(s) involved. However, recommendations for certain specific sports have been included in this standard (see Clause 8.1 and Table 3) as an interim measure pending the issue of separate recommendations for the sports concerned.
2. Where multipurpose indoor sports centres are used for purposes other than sport, the lighting which is required for such purposes must be separately planned. Reference should be made to AS 1680 or other appropriate recommendations.

The recommendations of this standard apply primarily to the provision of electric lighting but some recommendations are included relating to the integration of electric lighting and daylight.

In addition to the recommendations of this standard, the general provisions of AS 2560, Part 1, should be observed, as applicable.

The standard does not include the special lighting requirements which will apply for television broadcasting (see Preface).

**2 REFERENCED DOCUMENTS.** The following standards are referred to in this standard:

AS 1680 Code of Practice for Interior Lighting and the Visual Environment

AS 2293 Emergency Evacuation Lighting in Buildings  
Part 1—Installation Requirements  
Part 2—Maintenance Procedures

AS 2560 Guide to Sports Lighting  
Part 1—General Principles

**3 DEFINITIONS.** For the purpose of this standard, the definitions given in AS 2560, Part 1 apply.

**4 GENERAL DESIGN OBJECTIVES.** The fundamental aim of a lighting installation for a multipurpose indoor sports area is to provide visual conditions which will enable a range of sports to be effectively played. These sports may include basketball, tennis, volleyball, gymnastics, boxing, badminton, table tennis, etc.

For some sports, special switching of the general lighting system and/or supplementary lighting may be necessary (see Clause 6.2 and Note 3 to Table 3).

For details of emergency and amenity lighting, see AS 2293, Parts 1 and 2, and AS 1680 respectively.

The conflicting needs of many sports require that maximum flexibility be provided by the general

lighting layout. The basis of the lighting design should be the requirements of the most visually demanding sport.

The main lighting objectives are as follows:

- (a) Provision of appropriate background contrasts.
- (b) Control and restriction of glare.
- (c) Adequate level of illuminance, both in horizontal and vertical planes, appropriate to the activity.
- (d) Uniformity of illuminance.
- (e) Satisfactory colour rendering.

**5 BACKGROUNDS.** The colours and reflectances of interior surfaces should be selected to—

- (a) minimize the contrast in brightness between the luminaires and the ceiling; and
- (b) maximize the contrast in brightness and/or colour between the playing object (e.g. ball or shuttle) and the walls or other surfaces which form a background against which the playing object is seen.

With reference to (b), different requirements will apply for different sports, for example—

- (i) For sports which use a light coloured playing object, a dark background is desirable.
- (ii) For sports which use a dark coloured playing object, and for other general activities, a light background is preferred.

Movable screens, curtains and partitions may be used to provide suitable contrasting backgrounds and to visually isolate adjacent playing areas.

The recommended range of reflectances for main interior surfaces are given in Table 1. Where a ceiling reflectance of at least 0.6 cannot be attained, the luminance of the ceiling should be increased by directing additional lighting onto it. This will reduce the brightness contrast between the luminaires and the ceiling, and as a consequence, will reduce the glare from the lighting installation.

The use of a high reflectance ceiling, or directing additional lighting onto the ceiling to increase its luminance, may give rise to difficulties for some sports, e.g. in badminton where the shuttle is usually white.

For tennis and gymnastics where special floor coverings are used, it may not always be possible to achieve a reflectance as high as that recommended in Table 1.

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\* Part 2 of the AS 2560 series comprises a collection of separate recommendations dealing with specific sports or sporting venues (see Preface).