

AS 2560.2.4—1986

Reconfirmed 2017

Australian Standard<sup>®</sup>

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**GUIDE TO SPORTS LIGHTING**

**Part 2.4—LIGHTING FOR  
OUTDOOR NETBALL AND  
BASKETBALL**

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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 85014.*

STANDARDS AUSTRALIA

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**RECONFIRMATION**

**OF**

**AS 2560.2.4—1986**

**Guide to sports lighting**

**Part 2.4: Specific recommendations—Lighting for outdoor netball and basketball**

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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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## 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.

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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 2.4—LIGHTING FOR OUTDOOR NETBALL AND BASKETBALL

**1 SCOPE.** This standard sets out specific recommendations for lighting for netball and basketball where played outdoors. Recommendations for indoor netball and basketball are provided in AS 2560.2.2.

This standard provides recommendations both for recreational or training and for competition levels of play, and takes into account spectator viewing requirements associated with these levels of play. Where lighting appropriate to recreation or training, or lower levels of competition are to be installed, consideration should be given to the likelihood of the installation being upgraded so that provision can be made at the time of installation to minimize the cost of the future upgrading.

In addition to the recommendations of this standard, the general provisions of AS 2650, 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 2560     | Guide to Sports Lighting<br>Part 1—General Principles                                  |
| AS 2560.2.2 | Guide to Sports Lighting<br>Part 2.2—Lighting of Multipurpose Indoor<br>Sports Centres |

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

**4 CHARACTERISTICS OF PLAY AND IMPLICATIONS FOR LIGHTING.** During the course of a netball and basketball game, players move around the court in all directions and are required to look virtually in all directions, not only at eye level but also upward. During play the ball may be thrown to heights of up to 8 m. The most important consideration is basket shots which occur—

- (a) *for netball*—from anywhere within the shooting zone (goal circle); and
- (b) *for basketball*—from anywhere within the half-court area.

The visual tasks of the players may not be as demanding as for some sports, e.g. tennis where very high ball speeds are attained, however, the player must be able to follow the flight of the ball and the actions of other players over the entire court area. Although the ball is large, action is fast and relatively high illuminances are required.

**5 GENERAL DESIGN OBJECTIVES.** The main objectives of a lighting installation which will provide an adequate visual environment for netball and basketball, when played outdoors, are as follows:

- (a) Provision of an appropriate level of illuminance to cater for the visual requirements of the players and, where applicable, spectators (see Clause 6).
- (b) Good uniformity of illuminance within the space bounded by the marked court area (see Clause 7).
- (c) Control of glare from floodlights within the range of normal viewing directions of players and, where applicable, spectators (see Clause 8).
- (d) Control of stray light and glare beyond the boundaries of the court or court complex (see Clause 8.3).
- (e) Provision of colour rendering properties suitable for rapid identification of team colours (see Clause 9).

The use of a light-coloured playing surface will enhance the visual conditions provided by the lighting installation.

## 6 ILLUMINANCE LEVELS.

**6.1 Recommended values of service illuminance.** The service illuminance within the marked court area, in a horizontal plane on the surface of the court, should be not less than the appropriate value recommended in Table 1.

The adoption of service illuminance values higher than those recommended in Table 1 will generally lead to improved visual conditions for players and spectators provided that all other recommendations of this standard are observed.

Calculations and measurements of illuminance should be based on a symmetrical grid of points, spaced 2 m apart, covering the whole of the marked court area (see Appendix A).

**6.2 Allowance for depreciation.** Allowance should be made for the progressive reduction in the illuminance provided by the installation which will occur as the result of a gradual depreciation in lamp lumen output and an accumulation of dirt on the floodlights. The extent of the allowance required will depend on the following factors:

- (a) *The type of lamp selected.* The allowance necessary for depreciation in lamp lumen output will depend on the type of lamp selected. In general, the initial illuminance will need to be from 1.2 to 1.5 times the service illuminance.
- (b) *Floodlight design, location and cleaning cycle.* Dirt accumulation on the floodlights will depend on the design of the floodlights, where the installation is located and on the cleaning cycle adopted. Information on the factors which should be applied to make allowance for these parameters is provided in Paragraph B6 of Appendix B of AS 2560, Part 1.