

Australian Standard[®]

Guide to sports lighting

**Part 2.8: Specific
recommendations—
Bowling greens**

This Australian Standard was prepared by Committee LG/9, Sports Lighting. It was approved on behalf of the Council of Standards Australia on 28 October 1993 and published on 14 February 1994.

The following interests are represented on Committee LG/9:

Australian Electrical and Electronic Manufacturers Association
Confederation of Australian Sport
Department of Sport and Recreation, Victoria
Department of Sport, Recreation and Racing, New South Wales
Department of Tourism Sport and Racing, Queensland
Electricity Supply Association of Australia
Illuminating Engineering Society of Australia and New Zealand
Royal Australian Institute of Parks and Recreation
The Association of Consulting Engineers Australia

Additional interests participating in preparation of Standard:

Bowls Australia
Royal New South Wales Bowling Association

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PREFACE

This Standard was prepared by the Standards Australia 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 comprises a collection of separate Standards giving recommendations for the lighting of specific sports or sporting venues.

At the date of publication of this Standard, the following recommendations have been issued in the AS 2560.2 series:

AS

- 2560.2.1 Part 2.1: *Lighting for outdoor tennis*
- 2560.2.2 Part 2.2: *Lighting of multipurpose indoor sports centres*
- 2560.2.3 Part 2.3: *Lighting for football (all codes)*
- 2560.2.4 Part 2.4: *Lighting for outdoor netball and basketball*
- 2560.2.5 Part 2.5: *Lighting of swimming pools*
- 2560.2.6 Part 2.6: *Lighting for baseball and softball*
- 2560.2.7 Part 2.7: *Lighting for outdoor hockey*
- 2560.2.8 Part 2.8: *Lighting of bowling greens* (this Standard)

Reference to the general principles and recommendations of AS 2560.1 will be necessary for the proper application of the recommendations in this Standard.

The AS 2560 series does not include consideration of the lighting necessary for television broadcasting because specialist advice is normally required for such installations and, in any event, there are international recommendations on this subject.*

* CIE Publication No. 83, *Guide for the lighting of sports events for colour television and film systems*, International Commission on Illumination (CIE), Vienna, 1989.

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STANDARDS AUSTRALIA

Australian Standard
Guide to sports lighting**Part 2.8: Specific recommendations—Bowling greens**

1 SCOPE This Standard sets out recommendations for lighting for lawn bowls which are played outdoors. Recommendations which are appropriate for indoor bowls are provided in AS 2560.2.2.

This Standard provides recommendations for recreational and competition levels of play and takes into account spectator viewing requirements.

In addition to the recommendations of this Standard the general recommendations of AS 2650.1 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 documents below are referred to in this Standard:

AS

2560 Guide to sports lighting

2560.1 Part 1: General principles

2560.2.2 Part 2.2: Lighting of multipurpose indoor sports centres

3 DEFINITIONS For the purpose of this Standard, the definitions given in AS 2560.1 and those below apply.

3.1 Average illuminance—the arithmetic mean of the illuminances within the area of interest (e.g. the bowling green) on a specified plane, calculated or measured in a specified manner.

NOTE: See Clause 6 herein and Appendix C of AS 2560.1.

3.2 Initial illuminance—the value of average illuminance which is initially provided by the lighting system, i.e. with new lamps (aged to 100 h) and clean luminaires.

3.3 Maintenance illuminance—the value of average illuminance below which it is necessary to take remedial action in terms of maintaining the lighting system, e.g. by replacing the lamps or by cleaning the luminaires.

NOTE: The term 'maintenance illuminance' is used in this Standard and is proposed for use in other Standards in the AS 2560 series. It replaces the former term 'service illuminance'.

4 CHARACTERISTICS OF PLAY AND IMPLICATIONS FOR LIGHTING The game may be played in any of the four major directions normal to the sides of the green and players are required to look virtually in all directions, below the horizontal.

Players are required to make accurate judgements of the distance and relative position of the bowls anywhere on the green.

It is important that shadows on the green, cast by the bowls, are neither too dense nor of excessive length. This implies the need for the green to be lit from a number of directions, using floodlights that are mounted at an adequate height.