# Australian Standard®

**Guide to sports lighting** 

Part 2.7: Specific recommendations— Outdoor hockey

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:

Australian Hockey Association

**Review of Australian Standards.** To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.

Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

#### STANDARDS AUSTRALIA

#### RECONFIRMATION

OF

AS 2560.2.7—1994

**Guide to sports lighting** 

Part 2.7: Specific recommendations—Outdoor hockey

### **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

# Australian Standard®

# **Guide to sports lighting**

Part 2.7: Specific recommendations—Outdoor hockey

First published as AS 2560.2.7— 1994.

#### **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. It is based on recommendations issued by the International Hockey Federation (FIH)\* and grateful acknowledgment is made of the assistance derived from that source.

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 (this Standard)
- 2560.2.8 Part 2.8: Lighting of bowling greens

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.†

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.

#### © Copyright - STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

<sup>\*</sup> Guide to the artificial lighting of hockey pitches, International Hockey Federation, Brussels, 1992.

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

## CONTENTS

	F	Page
1	SCOPE	4
2	REFERENCED DOCUMENTS	4
3	DEFINITIONS	4
4	CHARACTERISTICS OF PLAY AND IMPLICATIONS FOR LIGHTING	4
5	GENERAL DESIGN OBJECTIVES	5
6	ILLUMINANCE LEVELS	5
7	UNIFORMITY OF ILLUMINANCE	6
8	CONTROL OF GLARE	6
9	COLOUR RENDERING	7
10	SURROUND BRIGHTNESS	7
11	LIGHTING SYSTEMS AND EQUIPMENT	7
12	SWITCHING ARRANGEMENTS AND PROVISION FOR UPGRADING	8
ΑP	PPENDIX A TENTATIVE RECOMMENDATIONS FOR GLARE CONTROL	12

## STANDARDS AUSTRALIA

4

# Australian Standard Guide to sports lighting

## Part 2.7: Specific recommendations—Outdoor hockey

**1 SCOPE** This Standard sets out recommendations for lighting for hockey where played outdoors. Recommendations appropriate to hockey played indoors are provided in AS 2560.2.2. Where hockey to indoor rules is played outdoors, the recommendations of this Standard may be applied, as appropriate.

The recommendations in this Standard cater for various levels of play and take into account the visual requirements of players, officials and spectators. Where lighting appropriate to physical training or lower levels of competition is to be provided, consideration should be given to the likelihood of the lighting system 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 recommendations of AS 2560.1 should be observed, as applicable.

This Standard does not include the special lighting requirements which apply for television broadcasting (see Preface).

**2 REFERENCED DOCUMENTS** The following documents 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 hockey field) 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 users of hockey facilities can be distinguished according to their activities, viz:
- (a) The players and umpires.
- (b) The tournament directors, judges and the team officials.
- (c) The spectators entering the sports facilities, watching the game and leaving.