AS/NZS 4282:2023

Australian/New Zealand Standard™

Control of the obtrusive effects of outdoor lighting

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This Joint Australian/New Zealand Standard ® was prepared by LG-010, Obtrusive Effects Of Outdoor Lighting. It was approved on behalf of the Council of Standards Australia on 29 September 2023 and by the New Zealand Standards Approval Board on 04 October 2023.

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The following are represented on Committee LG-010:

Astronomical Society of Australia
Auckland Transport
Brisbane City Council
CIE Australia
Consumers Federation of Australia
Department of Climate Change, Energy, the Environment and Water
Energy Networks Australia
Engineers Australia
IES: The Lighting Society
Institute of Public Works Engineering Australasia
Lighting Council Australia
Lighting Council New Zealand
Municipal Association of Victoria
Outdoor Media Association
University of Sydney
Waka Kotahi-NZ Transport Agency

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Preface

This Standard was prepared by the Joint Standards Australia/New Zealand Committee LG-010, Obtrusive Effects of Outdoor Lighting, to supersede AS/NZS 4282:2019.

The objective of this document is to provide a basis for assessment of the potential obtrusiveness of the effects from an outdoor lighting system. However, it should be noted that the potentially obtrusive effects of the lighting will normally be only one of a number of environmental and ecological considerations that will need to be addressed during a development assessment. Conformance to this document, i.e. conformance to the limits for the various light technical parameters defined in this document, will therefore not necessarily be the sole basis for the approval of particular development proposals.

The following are significant changes between this edition and the previous edition:

(a) The assessment of lighting of lit vertical surfaces including internally and externally illuminated signs, façades or objects has been modified.

(b) The position of the calculation planes has been clarified, changed to better define the difference between current and future dwelling locations and also provide a buffer zone for environmentally sensitive areas.

(c) This document does not apply to public lighting unless specified by the relevant authority. Limits have been included in Section 4 of this edition when required. Thus, obtrusive light can be controlled in areas where it might be seen as a problem without the need to calculate the impact of every public lighting luminaire.

(d) Environmental receivers are now considered under the Standard. This change recognizes the impact that artificial light at night can have on plants, animals and ecosystems. The limits identified in Tables 3.2 to 3.4 apply to environmental receivers as well as human receivers. Conformity to this document will benefit environmental receivers through a reduction in spill light, but will not necessarily ameliorate impacts where protected species and communities are located on, or adjacent to the site.

(e) The application of environmental zones has been clarified; it considers the ambient environment for the lighting system and/or each affected property as appropriate.

(f) The assessment of sports venues illuminated for TV coverage has been modified.

(g) The veiling luminance Equation 3.2 has been changed.

Formally recognized sensitive locations, such as Siding Spring Observatory (Australia) and Aoraki Mackenzie International Dark Sky Reserve (New Zealand) may have requirements in addition to this document. This document does not address all the requirements that may be necessary for the lighting system to facilitate specific activities for which it is designed. Reference should be made to the appropriate Standard, such as such as AS/NZS 1158 series for the lighting for roads and public spaces, AS/NZS 1680.5 for outdoor workplace lighting and the AS 2560 series for sports lighting.

Where environmental impacts are likely, reference should be made to the following documents as applicable:

UN Environment Programme Convention on the Conservation of Migratory Species of Wild Animals. Light Pollution Guidelines: UNEP/CMS/Resolution 13.5/Annex.

National Light Pollution Guidelines for Wildlife: Including marine turtles, seabirds and migratory shorebirds.

NOTE The United Nations document is based on the Australian document.

The lighting system may also be subject to approvals of other authorities such as aviation, road safety, and environmental approvals, that are additional to the requirements of this document.

The terms “normative” and “informative” have been used in this document to define the application of the appendix to which they apply. A “normative” appendix is an integral part of a Standard, whereas an “informative” appendix is only for information and guidance.