AS/NZS 1158.4:2009

Australian/New Zealand Standard™

Lighting for roads and public spaces

Part 4: Lighting of pedestrian crossings

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee LG-002, Lighting for Roads and Public Spaces. It was approved on behalf of the Council of Standards Australia on 2 June 2009 and on behalf of the Council of Standards New Zealand on 12 June 2009.
This Standard was published on 3 July 2009.

The following are represented on Committee LG-002:

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Australian Local Government Association
CIE Australia
Energy Networks Association
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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee LG-002, Lighting for Roads and Public Spaces, to supersede AS 1158.4—1987, *The lighting of urban roads and other public thoroughfares, Part 4: Supplementary lighting at pedestrian crossings*, and replaces Section 11 of NZS 6701:1983, *Code of practice for road lighting*.

The objective of this Standard is to specify performance requirements for the lighting of pedestrian crossings.

The purpose of the pedestrian crossing is to time separate pedestrians and vehicular traffic by assigning priority to pedestrians using the crossings. The existence of a pedestrian on the crossing imposes a legal requirement on vehicular traffic to give way to the pedestrian. Therefore, during the hours of darkness the safe operation of a pedestrian crossing is dependent upon the driver being able to see both a pedestrian on or about to use the crossing and the signs and markings associated with the crossing in time for the vehicle to be able to be stopped, if necessary, to give way to the pedestrian.

The use of lighting at pedestrian crossings is to illuminate the crossing, the immediate verge and any pedestrian at or on the crossing so that the crossing and pedestrian is highly conspicuous to an approaching motorist. The lighting scheme will, by necessity, involve relatively high values of both horizontal and vertical illuminance over the design area. Accident studies have shown that specifically lighting pedestrian crossings can significantly reduce night accidents associated with them (see Reference 1 in Appendix A).

Considering the safety benefits for pedestrians, it would be preferable that lighting be provided at all crossings on Category V and P roads unless there are specific reasons not to install lighting. Whether a particular crossing, normally not controlled by traffic signals and generally of the type known as zebra crossings, will not be lit will be determined by the road authority.

The following Standards have been issued in the AS/NZS 1158 series:

AS/NZS	
1158	Lighting for roads and public spaces
1158.0	Part 0: Introduction
1158.1.1	Part 1.1: Vehicular traffic (Category V) lighting—Performance and design requirements
1158.1.3	Part 1.3: Vehicular traffic (Category V) lighting—Guide to design, installation, operation and maintenance
1158.2	Part 2: Computer procedures for the calculation of light technical parameters for Category V and Category P lighting
1158.3.1	Part 3.1: Pedestrian area (Category P) lighting—Performance and design requirements
1158.4	Part 4: Lighting of pedestrian crossings (this Standard)
1158.5	Part 5: Tunnels and underpasses
1158.6	Part 6: Luminaires

A number of significant changes have been made to the previous edition of this Standard as follows:

(a) *Australia*

(i) Instead of a single lighting requirement, there are three subcategories for lighting requirements, which depend on the operational characteristics of the road.

(ii) More stringent requirements for the control of glare and spill light.

(iii) The introduction of the control of upward light by upward waste light ratio (UWLR).

(iv) The use of luminaires with flat horizontal visor.

(v) The use of maintained crossing illuminance.

(b) *New Zealand*

(i) Instead of a single lighting requirement, there are two subcategories for lighting requirements, which depend on the operational characteristics of the road.

(ii) The lighting specification includes requirements for vertical illuminance.

(iii) More stringent requirements for the control of glare and spill light.

(iv) The introduction of the control of upward light by UWLR.

(v) The requirement to ensure adequate lighting of the surrounds

This joint Standard is intended to be applied in its entirety in Australia and New Zealand; however, a number of differences exist with respect to the requirements that apply in each country. These are indicated by the qualification ‘In Australia’ or ‘In New Zealand’, or similar.

The terms ‘normative’ and ‘informative’ have been used in this Standard 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.

Statements expressed in mandatory terms in notes to tables and figures are deemed to be requirements of this Standard.

CONTENTS

Page

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard
Lighting for roads and public spaces

Part 4: Lighting of pedestrian crossings

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies performance requirements for the lighting of pedestrian crossings.

The requirements generally assume that the pedestrian crossing is located on a road with two-way traffic; however, unless otherwise stated, they also apply to pedestrian crossings on one-way roads. For roads with two-way traffic the requirements for each half of the crossing (from kerb to the carriageway centre) are considered separately according to the direction of traffic flow. For one-way roads the requirements apply from kerb to kerb in the particular direction of traffic flow.

1.2 APPLICATION

Subject to the requirements of applicable laws, the choice of whether to install supplementary lighting at a pedestrian crossing in compliance with this Standard and, if so relevant, which lighting sub-category is appropriate, rests with the client (usually the applicable road controlling authority).

1.3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS
4282 Control of the obtrusive effects of outdoor lighting

AS/NZS
1158 Lighting for roads and public spaces
1158.0 Part 0: Introduction
1158.1.1 Part 1.1: Vehicular traffic (Category V) lighting—Performance and design requirements
1158.1.3 Part 1.3: Vehicular traffic (Category V) lighting—Guide to design, installation, operation and maintenance
1158.2 Part 2: Computer procedures for the calculation of light technical parameters for Category V and Category P lighting
1158.3.1 Part 3.1: Pedestrian area (Category P) lighting—Performance and design requirements
1158.6 Part 6: Luminaires

BS
5489-1:2003 Code of practice for the design of road lighting. Lighting of roads and public amenity areas

CIE Publication
No 121 The photometry and goniophotometry of luminaires

NZ Transport Agency
Rule 54002 Land Transport Rule: Traffic Control Devices 2004 (TCD Rule)