

Australian/New Zealand Standard™

Lighting for roads and public spaces

**Part 3.1: Pedestrian area (Category P)
lighting—Performance and design
requirements**



AS/NZS 1158.3.1:2005

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 29 April 2005 and on behalf of the Council of Standards New Zealand on 6 May 2005. This Standard was published on 7 September 2005.

The following are represented on Committee LG-002:

Astronomical Society of Australia
Australian Electrical and Electronic Manufacturers Association
Australian Industry Group
Australian Local Government Association
Energy Supply Association of Australia
IES: The Lighting Society
Ingenium
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Part 3.1: Pedestrian area (Category P) lighting—Performance and design requirements

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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/NZS 1158.3.1:1999 *Road lighting, Part 3.1: Pedestrian area (Category P) lighting—Performance and installation design requirements*.

This Standard incorporates Amendment No. 1 (November 2008), Amendment No. 2 (May 2010), Amendment No. 3 (June 2013) and Amendment No. 4 (October 2015). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

This Standard forms Part 3.1 of the AS/NZS 1158 series which covers lighting schemes for the generality of roads and outdoor public areas. The series title has recently been changed from 'Road lighting' to reflect an expansion in the scope of the series.

A4 | The AS/NZS 1158 series consists of the following:

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
- 1158.1.2 Part 1.2: 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
- 1158.5 Part 5: Tunnels and underpasses

The performance criteria for road and public space lighting schemes can include any or all of the three basic aims of—

- (a) facilitation of safe movement;
- (b) the discouragement of illegal acts; and
- (c) contributing to the amenity of an area through increased aesthetic appeal.

However as the most common primary aim of a scheme is that of safe movement of people, the series divides road and public space lighting into the two following broad categories:

- (i) *Category V lighting* Lighting that is applicable to roads on which the visual requirements of motorists are dominant, e.g. traffic routes.
- (ii) *Category P lighting* Lighting that is applicable to roads and other outdoor public spaces on which the visual requirements of pedestrians are dominant, e.g. local roads, outdoor shopping precincts and outdoor car parks.

This Standard sets out performance and design requirements for Category P lighting schemes having regard to the degree of activity (of pedestrians and vehicles), the risk of crime and the need to enhance the prestige of the locality. It should be read in conjunction with AS/NZS 1158.2 for calculation procedures.

Category P lighting is acknowledged to be an effective counter both to the occurrence of crime and to the fear of crime. It has been demonstrated, in studies from Great Britain, that the relevant Category P lighting can provide significant community benefits and that the costs involved in providing the lighting can be offset by the financial returns from the reduction in crime. See references 5, 7 and 8 in Appendix B.

For each lighting subcategory described in this Standard the light technical parameters (LTPs) and their prescribed values are both necessary and sufficient for the particular application. Compliance with this Standard will be achieved by meeting all the required values of the LTPs for the designated subcategory. A higher quality of lighting scheme can be achieved within a subcategory by, for example, increasing the minimum level of uniformity or reducing the glare allowable, or both.

The significant technical changes that have been made in this Standard in relation to the previous publication include the following:

- (A) Clarification of scope regarding single-luminaire lighting schemes.
- (B) Clarification of the application of the Standard.
- (C) Modifications regarding category P5 and categories P3 and P4 as applicable to New Zealand.
- (D) Recommendations regarding the colour of lamps and requirements regarding lamp lumen values used.
- (E) Specification of minimum ingress protection requirements for various maintenance factors and requirements regarding assumed and actual maintenance regimes and maintenance intervals.
- (F) Expansion of scope to specifically cover top-entry, pendant style luminaires.
- (G) Clarification of terms and quantities referred to.
- (H) Revision and clarification of requirements for lighting of local area traffic management devices (LATMs), including roundabouts.
- (I) Revision and clarification of requirements for the lighting of curves, intersections including with V Category roads, and cul-de-sacs.
- (J) Clarifications regarding requirements for lighting in parking areas.
- (K) Closer co-ordination of the Standard content and format with that of AS/NZS 1158.1.1 (V Category lighting).
- (L) Added emphasis on matching the designed and actual maintenance regimes.
- (M) Consideration of energy consumption and efficiency.

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.

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S E C T I O N 1 S C O P E A N D G E N E R A L

1.1 SCOPE

This Standard specifies performance and design requirements for Category P lighting schemes as described in AS/NZS 1158.0. It also specifies the luminaire data and other data that is needed to facilitate the lighting design and the assessment of compliance with the requirements of this Standard.

This Standard assigns various levels of required performance based on an assessment of degree of activity, risk of crime and the required aesthetic appeal (i.e. ‘prestige’). In achieving the required performance, attention should be paid to minimizing adverse affects on the night time environment.

This Standard does not apply to roads in which one or a number of luminaires may be installed at irregular intervals on an otherwise unlit road, nor to additional luminaires installed in lit roads for reasons of increased security, including instances where such luminaires are typical of those used in Category P lighting schemes.

This Standard does not cover lighting intended specifically as security lighting for building exteriors, nor does it cover lighting for video surveillance. However, where lighting for video surveillance is provided, the lighting principles and performance requirements expressed in this Standard should not be compromised.

A4 | This Standard is intended to be read in conjunction with AS/NZS 1158.0 and AS/NZS 1158.2.

1.2 APPLICATION

Subject to the requirements of applicable laws, the choice of whether to install a scheme of road or public space lighting in compliance with this Standard and, if so, which subcategory of lighting is appropriate, rests with the client (usually the applicable local government authority). This decision is typically based on factors such as night-time pedestrian traffic flows and other patterns of use.

1.3 REFERENCED DOCUMENTS

A list of the Standards referred to in this Standard is given in Appendix A. A number of additional documents which are considered useful sources of information on the subject of this Standard are listed in Appendix B.

1.4 DEFINITIONS

For the purpose of this Standard, the definitions given in AS 1158.0 apply.

1.5 SYMBOLS AND ABBREVIATIONS

For the purpose of this Standard, the symbols and abbreviations given in AS/NZS 1158.0 apply.