

# EVERY STAR COUNTS, EVERY LIGHT MATTERS

"New Port Authority LED Billboard 2239" by Brecht Bug, CC BY-NC-ND 2.0

## Understanding AS 4282, AS 1158 and the National Light Pollution Guidelines

*A reference for councils, planners, engineers, and lighting professionals*

### Why Standards and Guidelines Matter

Light pollution is not just a matter of preference—it's a recognised environmental and planning issue. Whether you're managing public infrastructure, assessing development applications, or designing lighting systems, using the correct standards helps ensure lighting is safe, efficient, and environmentally responsible.

Australia has several key frameworks that govern lighting design, installation and environmental impact. Understanding where they apply—and how they complement each other—is critical for effective lighting management.

### Key Standards and Guidelines

#### 1. AS/NZS 4282:2022

##### CONTROL OF THE OBTRUSIVE EFFECTS OF OUTDOOR LIGHTING

This standard provides guidance for managing the obtrusive effects of artificial light—such as light trespass, glare, and skyglow—on people, property, and the environment.

##### KEY FEATURES INCLUDE:

- Recommended light technical parameters for various environmental zones
- Methods for assessing the potential obtrusiveness of the effects from an outdoor lighting system.
- Advice on suitable light technical parameters for curfew and non-curfew hours of operation.
- Limits on upward and horizontal light spill

##### WHO SHOULD USE IT:

Planners, consultants, engineers, architects, lighting designers, and councils managing urban or recreational lighting installations.

#### 2. AS/NZS 1158 Series

##### LIGHTING FOR ROADS AND PUBLIC SPACES

This multi-part standard outlines the design, performance, and maintenance requirements for public lighting systems. The standards can be split into

- Vehicular traffic (category V lighting), where the primary function is vehicular movement, and
- Pedestrian area (Category P lighting) for spaces that are either a mix of pedestrian and vehicles or solely pedestrian spaces.

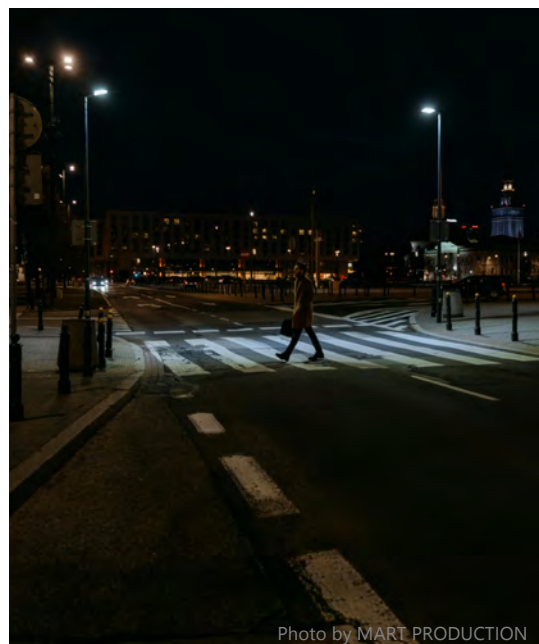


Photo by MART PRODUCTION

Lighting spaces for pedestrian  
and vehicular use.

#### KEY SECTIONS INCLUDE:

- Lighting based on application of the space.
- Classifications dependant on the amount of activity and the perceived fear of crime.
- Illuminance and uniformity requirements based on minimum performance requirements.
- Maintenance levels and lifecycle considerations
- Limits for discomfort glare and upward waste light

Important to note:

AS/NZS 1158 ensures adequate visual acuity, while AS 4282 ensures minimal environmental and community impact. Both should be applied together in lighting design.

### 3. National Light Pollution Guidelines for Wildlife (2023)

#### A BEST-PRACTICE ENVIRONMENTAL FRAMEWORK.

Developed by the Department of Agriculture, Water and the Environment, these national guidelines provide science-based recommendations to reduce the ecological impact of light pollution on wildlife.

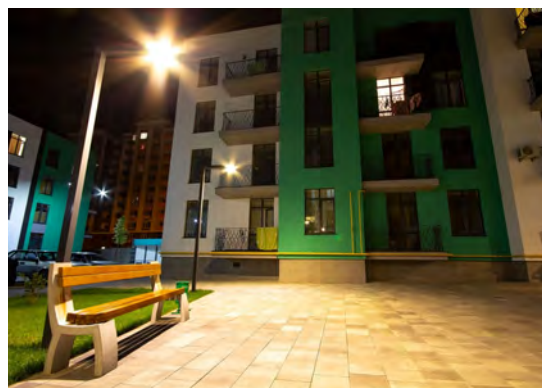
#### KEY PRINCIPLES INCLUDE:

1. Start with natural darkness and only add light for specific purposes.
2. Use adaptive light controls to manage light timing, intensity and colour.
3. Light only the object or area intended – keep lights close to the ground, directed, and shielded to avoid light spill.
4. Use the lowest intensity lighting appropriate for the task.
5. Use non-reflective, dark-coloured surfaces.
6. Use lights with reduced or filtered blue, violet and ultraviolet wavelengths.

The guidelines are not legislated and so have no legal authority, however State and Commonwealth regulators now require all developments to demonstrate compliance with the Guidelines as part to the Environmental Impact Assessment process across Australia. Regulatory environmental approvals are contingent on demonstrating sound management of artificial light pollution.

A range of regulatory instruments pertinent to light pollution management exist in Australia. These are summarised below.

| REGULATION                   | APPLIES TO                                                      | USED FOR                                       |
|------------------------------|-----------------------------------------------------------------|------------------------------------------------|
| EPBC Act                     | Nationally listed species and habitats                          | Protecting listed and migratory species        |
| Planning Objection Rights    | All residents                                                   | Opposing intrusive lighting in DAs             |
| AS/NZS 4282                  | Developers, councils, lighting designers                        | Standard for obtrusive lighting                |
| Local Planning Policies      | Councils                                                        | Embedding dark sky principles locally          |
| Nuisance Law                 | Private property owners                                         | Complaints about excessive light spill         |
| National Wildlife Guidelines | Industrial and urban developers, planners, environmental bodies | Informing light-sensitive development          |
| Aboriginal Heritage Acts     | Cultural custodians, Traditional Owners                         | Protecting access to dark sky for cultural use |



Light spilling into residential homes.

**Every star counts. Every light matters.**

*Be part of a global effort to restore the night.*



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