



Dark Sky Lighting POLICY

Purpose

The purpose of this Winton Shire Council is providing requirements to become Queensland's International DarkSky Community and preserve the natural night sky, aligning with DarkSky International's objectives to reduce light pollution.

Scope

This policy applies to external light sources within both public and private infrastructure in the Winton township. It may be extended to other areas through a future Council resolution, following a process that includes public consultation on an updated draft.

Definitions

Term	What it means / refers to
Aeroscreen	A visor affixed to a luminaire to minimise light spill.
Astrotourism	A form of nature-based tourism specifically concerned with the viewing of celestial objects, space and the physical universe; tourism focused on experiencing astronomical phenomena and dark sky environments.
Correlated colour temperature	A measure of the colour of light emitted by a lamp, relating to the light's appearance as if it were heated to a particular temperature, measured in degrees Kelvin. Lighting should adhere to a correlated colour temperature of not more than 3,000K
DarkSky Community	An International DarkSky Community is a town, city, municipality or other similar political entity that has shown a strong commitment to protecting the night sky through well-implemented lighting regulations and public education about the benefits of dark skies.
DarkSky International	A not-for-profit entity that provides leadership, tools and resources for individuals, policymakers, and industry in order to reduce light pollution and promote responsible outdoor lighting that is beautiful, healthy, and functional
Designated area of Winton township	The primarily residential zone of Winton that supports small to medium urban areas and provides a range of services for residents, including business, community, education, industry and recreation. It may also accommodate tourist attractions and short-term stays where suitable. The area is managed under the Winton Shire Planning Scheme, in line with the <i>Planning Act 2016</i> .
Direct illumination	Light that comes directly from a lamp, luminaire or reflector, as opposed to light that is reflected from surfaces like the ground or nearby buildings.

Term	What it means / refers to
Floodlight	A type of fixture designed to emit a wide beam of light typically used to illuminate larger areas like yards or public spaces. These fixtures are engineered to direct light in a specific direction, often used in outdoor lighting. Floodlights are typically designed to emit light below the 45 degrees plane and should not exceed 1,000 lumens. For fixtures emitting more than 1,000 lumens, full shielding is required to prevent light spill
Kelvin	A unit of measurement (K) used to describe the colour temperature of light sources.
Light pollution	The negative effects caused by artificial light, which can include skyglow, glare and light trespass. Light pollution includes light spill, the unwanted or excessive light that escapes from a lighting fixture, contributing to the overall problem. Skyglow refers to the brightening of the night sky overpopulated areas due to artificial light, obscuring the visibility of stars. Glare is defined as excessive brightness that causes visual discomfort, often resulting from poorly shielded lighting.
Light source	The component of a lighting fixture that produces light, such as the bulb or lamp.
Light trespass	Unwanted or excessive light spilling over from one property to another, creating a disturbance or excessive illumination in neighbouring areas.
Lumen	Lumens (denoted by lm) are a measure of the total amount of visible light (to the human eye) from a lamp or light source.
Luminaire	A complete lighting unit, including the light source, housing and components that controlling its output. According to this policy, any luminaire emitting more than 1,000 lumens must be fully shielded. Additionally, these luminaires should emit no more than 5% of their total light output at angles greater than 80 degrees from the nadir. The nadir refers to the direction pointing directly downward from the light source.
Outdoor light fixture	Electrically powered fixtures used for illuminating structures, parking areas, walkways, canopies and other outdoor spaces within the Winton township.
Over lighting	This may be accomplished by limiting the average illuminance for any outdoor application, over the entire task area, to no more than 10% over the light levels recommended by, for example, the Illuminating Engineering Society of Light and Lighting (United Kingdom) or other similar organisation.
Recreational lighting	Lighting systems designed for sports fields, playgrounds and other recreational areas.

Term	What it means / refers to
Security lights	Fixtures designed to provide illumination for safety purposes, often used to light up driveways, homes and properties around the township.
Shielding	Physical barriers on lighting fixtures that direct light downward to minimise light pollution, reducing skyglow and glare while improving night sky visibility.
Spotlight	A fixture designed to cast a narrow, intense beam of light over a small area. This type of light is typically used for highlighting specific features, like signage or building entrances.
Unshielded fixture	<p>A fixture that allows light to be emitted above the horizontal, either directly from the lamp or indirectly through the fixture or reflector, is considered an unrestricted light fixture. These fixtures are not fully shielded or cut off. The limit on lumens per net acre (64m x 64m) is up to 5,000 lumens. For example;</p> <ul style="list-style-type: none"> • 1 streetlight at 3,000 lumens – 3,000 lumens • 1 security light at 1,000 lumens = 1,000 lumens • 10 landscape lights at 100 lumens each = 1,000 lumens

Policy statement

Winton Shire Council acknowledges the unique opportunity to seek recognition as a DarkSky Community through DarkSky International. This recognition supports the preservation of Winton's natural dark skies, improving the region's appeal for astrotourism and contributing to long-term environmental sustainability.

The management of lighting within the Winton township, will be approached in two parts:

Public lighting infrastructure

This includes lighting owned or managed by the Council, government bodies or other authorities responsible for illuminating public spaces and infrastructure. These entities will ensure that new installations and retrofitting of existing lighting meet the standards required by DarkSky International to minimise light pollution.

Private lighting infrastructure

A community education initiative will encourage private landowners and businesses to voluntarily upgrade external lighting to comply with DarkSky-sky-friendly practices. The goal is to foster a collaborative effort between public and private sectors to preserve the night skies for the benefit of residents, visitors and future generations.

Operational need

Winton Shire Council acknowledges the exceptional potential of Winton's remote location, clear skies and minimal light pollution to become Queensland's first International DarkSky Community.

With its low population density and limited lighting infrastructure, Winton offers ideal conditions for preserving the natural night sky, aligning with DarkSky International's objectives to reduce light pollution. Accordingly, the Council, through its Dark Sky Lighting Policy, is committed to achieving the following goals.

- To ensure that the Council, other government bodies and private landholders within the Winton township understand how they can contribute to achieving, maintaining and promoting the DarkSky Community concept.
- To guarantee that all new public lighting within Winton meets the standards and requirements set by the International DarkSky Association.
- To retrofit existing outdoor public lighting in Winton to comply with DarkSky International's standards and requirements.
- To ensure that the costs associated with implementing dark-sky-friendly infrastructure are allocated to the responsible parties, including the Council and any groups or entities supporting the dark-sky-friendly initiative.

Responsibilities

New public infrastructure

All new outdoor public light fixtures managed by Winton Shire Council must meet both Australian and local authority standards, while also adhering to the minimum requirements set out in the International DarkSky Community Program Guidelines (2023).

Outdoor lighting installations will not exceed the lighting levels recommended by established standards, including those set by the Illuminating Engineering Society (IES), the Society of Light and Lighting (SLL) or equivalent organisations. The average illuminance for any outdoor area will not exceed 10% above the recommended levels for the specific application.

To promote dark-sky-friendly lighting, the following five principles will be adhered to:

- Install outdoor lighting (including floodlights, spotlights and security lights) only when necessary and activate it only when needed.
- Direct all outdoor lighting downward to avoid light spill.
- Use light shields to ensure light is directed downwards.
- Ensure the intensity of outdoor lighting is appropriate for its purpose.
- Maintain a correlated colour temperature of less than 3,000K.

Public street lighting

- New public street lighting installations will adhere to the lowest lighting level category as indicated by Australian standards, balancing safety and cost-efficiency while complying with crime prevention through Crime Prevention Through Environmental Design (2021) principles.
- All new installations will use luminaires that meet the colour temperature requirements outlined by the International DarkSky Community Program Guidelines (2023).
- Shielding or aeroscreen fittings must be used as standard.
- A qualified lighting engineer will design street lighting layouts to minimise lighting while meeting Australian standards.

Private development

For any new development applications leading to external lighting installations (both public and private), such as street lighting or commercial areas like car parks, lighting plans must be provided.

These will be assessed against the International DarkSky Community Program Guidelines (2023) and relevant Australian standards, with all associated costs borne by the developer.

Existing infrastructure

For any new development applications leading to external lighting installations (both public and private) Council acknowledges that some existing lighting may not meet DarkSky International standards. A fixture that allows light to be emitted above the horizontal, either directly from the lamp or indirectly through the fixture or reflector, is considered an unrestricted light fixture. These fixtures are not fully shielded or cutoff. The limits on lumens per net acre (64m x 64m) is up to 5,000 lumens per acre.

In the long term, Council will continue working with the community to educate on reducing light pollution. Council will work toward retrofitting existing lighting to meet DarkSky standards within ten years of Winton's recognition as a DarkSky Community. This will include replacing unshielded fixtures and those with high short-wavelength emissions to align with the goals outlined in the policy.

Recreational lighting

For Winton township, outdoor recreational lighting could be exempt from strict shielding and short-wavelength emission requirements, as long as the following conditions are met.

- Lighting follows the Illuminating Engineering Society guidelines (RP-6) for the appropriate class of play.
- Lighting is used exclusively for illuminating the field of play and viewing stands, not for other purposes.
- Illuminance levels must be adjustable depending on the task, such as during active play or field maintenance.

- Offsite impacts of lighting must be minimised as much as possible.
- A strict curfew should be observed, with lights turned off by 10pm or one hour after play ends, whichever is later.
- Timers installed to ensure lights are automatically turned off to prevent them from staying on overnight.

Winton Saleyards

For Winton Saleyards, lighting may be exempt from strict shielding and short-wavelength emission requirements, provided it meets the following operational conditions.

- Lighting systems follow industry-specific standards relevant to saleyard operations, ensuring visibility and safety without unnecessary light spillage.
- The lighting is used solely for operational purposes, such as livestock handling, loading and yard maintenance, and not for any decorative or non-essential applications.
- Adjustable illumination levels should be implemented, allowing for lower light settings during non-critical tasks, like equipment checks or clean-up, versus full lighting during animal transactions or inspections.
- Minimising offsite light impacts is crucial, with lighting designed and positioned to limit spillage beyond the saleyard boundaries.
- A curfew must be in place, ensuring lights are turned off by 10pm or one hour after the conclusion of saleyard activities, whichever is later.

Illuminated signs

Restrictions on the installation and operation of illuminated signs.

- Luminance levels between sunset and sunrise must not exceed 100 nits (100 candelas per square metre), measured under a full white display.
- In the first hour after sunset and the last hour before sunrise, luminance must also not exceed 100 nits (100 cd/m²).
- Signs are to be illuminated only during active business hours or when the associated activity is taking place. Signs must be turned off completely when the business is closed.
- The illuminated surface area of any individual sign must not exceed 18.6 square metres.

Restricted lighting

To the extent allowed by legislation, the following four lighting restrictions will apply.

- Lighting directed towards the sky is prohibited unless necessary for safety however exceptions are allowed provided lighting is temporary or a one-off such as for an event.
- Searchlights may only be used by emergency personnel.

- Lighting on advertisement signage is prohibited unless it meets dark-sky-friendly principles.
- Winton Shire Council is committed to supporting the DarkSky initiative and ensuring the township's lighting infrastructure aligns with international best practices.

Communication

This policy will be published on the Winton Shire Council website and will be provided to Works and Operations to ensure infrastructure is installed in compliance with this policy. It will also be provided to organisations and individuals requiring information in relation to lighting within the Winton township.

Related Council documentation

- Winton Shire Council Planning Scheme (January 2020)

Legislation, recognised Authorities and other sources

- Illuminating Engineering Society (IES) [Link](#)
- Illuminating Engineering Society Recommended Practice: Lighting Sports and Recreational Areas ANSI/IES RP6.22 [Link](#)
- International DarkSky Community Program Guidelines (2023) [Link](#)
- Society of Light and Lighting (SLL) [Link](#)
- Crime Prevention Through Environmental Design Guidelines for Queensland [Link](#)
- *Planning Act 2016*

Review of Policy

This document will be reviewed every three years and when associated legislation or standards change and remains in force until amended or repealed by resolution of Council.

Record of amendments and adoptions

Date	Version	Reason for amendment	Date adopted by Council
February 2025	1.0	Initial document	20 February 2025