

To evaluate the compliance of the fixture with Maui County's outdoor lighting ordinance, I reviewed the following key aspects: the shielding quality, the downward direction of the light, and the spectral ratio, particularly focusing on the wavelengths from 400-500nm compared to the broader 400-700nm spectrum. The ordinance aims to minimize light pollution, protect wildlife, and preserve night sky visibility.

#### ### Shielding:

- **Assessment**: The fixture should be fully shielded, meaning it should have an opaque barrier that prevents light from being emitted above the horizontal plane.
- **Evaluation**: According to the report, the light fixture is fully shielded. Measurements indicate that no light is emitted above 0 degrees from the horizontal plane.
- **Compliance**: Meets the shielding requirements of the ordinance.

#### ### Downward Direction:

- **Assessment**: The fixture should predominantly direct its light output downward to prevent unnecessary upward light spillage.
- **Evaluation**: The light distribution pattern shows an orientation that directs light primarily below the horizontal, with luminous intensity concentrated at angles below 30 degrees.
- **Compliance**: The fixture meets downward direction requirements, ensuring minimal upward escape of light.

#### ### Spectral Ratio (400-500nm / 400-700nm):

- **Assessment**: The ordinance specifies a threshold ratio of 0.02 for this spectral range to limit the emission of short-wavelength blue light which can contribute to light pollution and ecological disruption.
- **Evaluation**: The fixture's spectral analysis reports a ratio of 0.015, which is below the threshold.
- **Compliance**: The spectral ratio is within acceptable limits, aligning with the ordinance's intent to reduce adverse effects of blue light.

#### ### Summary and Recommendation:

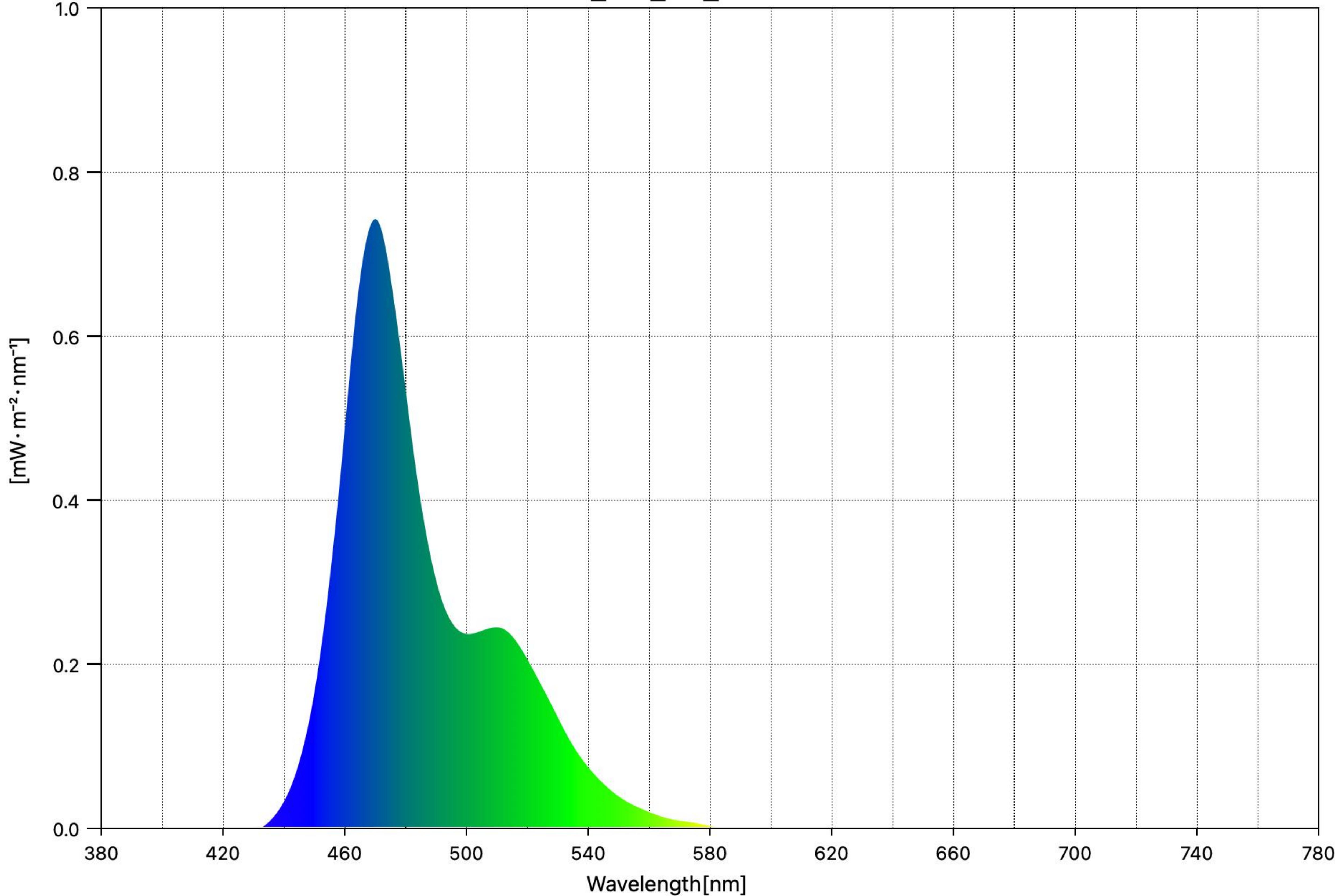
The fixture complies with Maui County's outdoor lighting ordinance based on shielding, downward light direction, and spectral content. To maintain compliance, it is recommended to regularly verify installation angles to ensure continuous adherence to directional requirements and to periodically reassess spectral emissions with updated standards or findings. Proper maintenance of shielding and considering the use of longer-wavelength light sources could further enhance compliance longevity.

#### **Key Supporting Numbers**:

- **Shielding**: Light emission above horizontal = 0%
- **Downward Direction**: Majority light concentration <30 degrees from nadir
- **Spectral Ratio (400-500nm / 400-700nm)**: 0.015

This evaluation confirms that the lighting fixture aligns with the objectives of minimizing light pollution and protecting the natural environment as outlined in Maui County's ordinance.

# SL\_099\_02°\_Over



Measuring Mode = Ambient

CCT = Over

Peak Wavelength = 470nm