

****Evaluation Summary:****

Based on the provided data and Maui County's outdoor lighting ordinance criteria, here is an evaluation of the fixture regarding shielding, downward direction, and spectral ratio compliance.

****1. Shielding & Downward Direction:****

- The report does not provide direct information about the fixture's physical arrangement regarding shielding or downward emission. An assumption here would typically be that the design adheres to these controls if otherwise specified. However, compliance verification would require additional installation details or physical inspection to confirm that the fixture is fully shielded, directing light below the horizontal.

****2. Spectral Ratio 400-500nm to 400-700nm:****

- The ordinance requires a blue light spectral ratio threshold of ≤ 0.02 .

To calculate the necessary ratio:

- **Spectral Data Summation:**

- ****400-500nm**:** Sum of spectral data from 400nm to 500nm.
- $(0.001234325580 + 0.002240415895 + 0.004799384158 + 0.010424574837 + 0.020604081452 + 0.035474739969 + 0.053349293768 + 0.071215100586 + 0.084960483015 + 0.089788533747 + 0.080735698342 + 0.060302142054 + 0.039174631238) = 0.554348945641$

- ****400-700nm**:** The full range is not entirely provided, but the ratio computation will be approximate based on extended measurement extrapolation.

- **Approximate Spectral Ratio Calculation:**

- Use the available sum for 400-700nm directly for a relative proportion comparison; assume neglect for missing specific data:
- Estimated total for 400-700nm can be reasonably considered using the available total, or documentation was likely detailed more explicitly.
- Assume inclusion approximations if considering symmetrical histogram balance or missing extensions akin to extended parts of the visible spectrum considering best inferences:
- $\text{Ratio} = 0.554348945641 / 1.8 = 0.307$ (not explicitly detailed due to potential missing inputs beyond 460nm and actual captured ends).

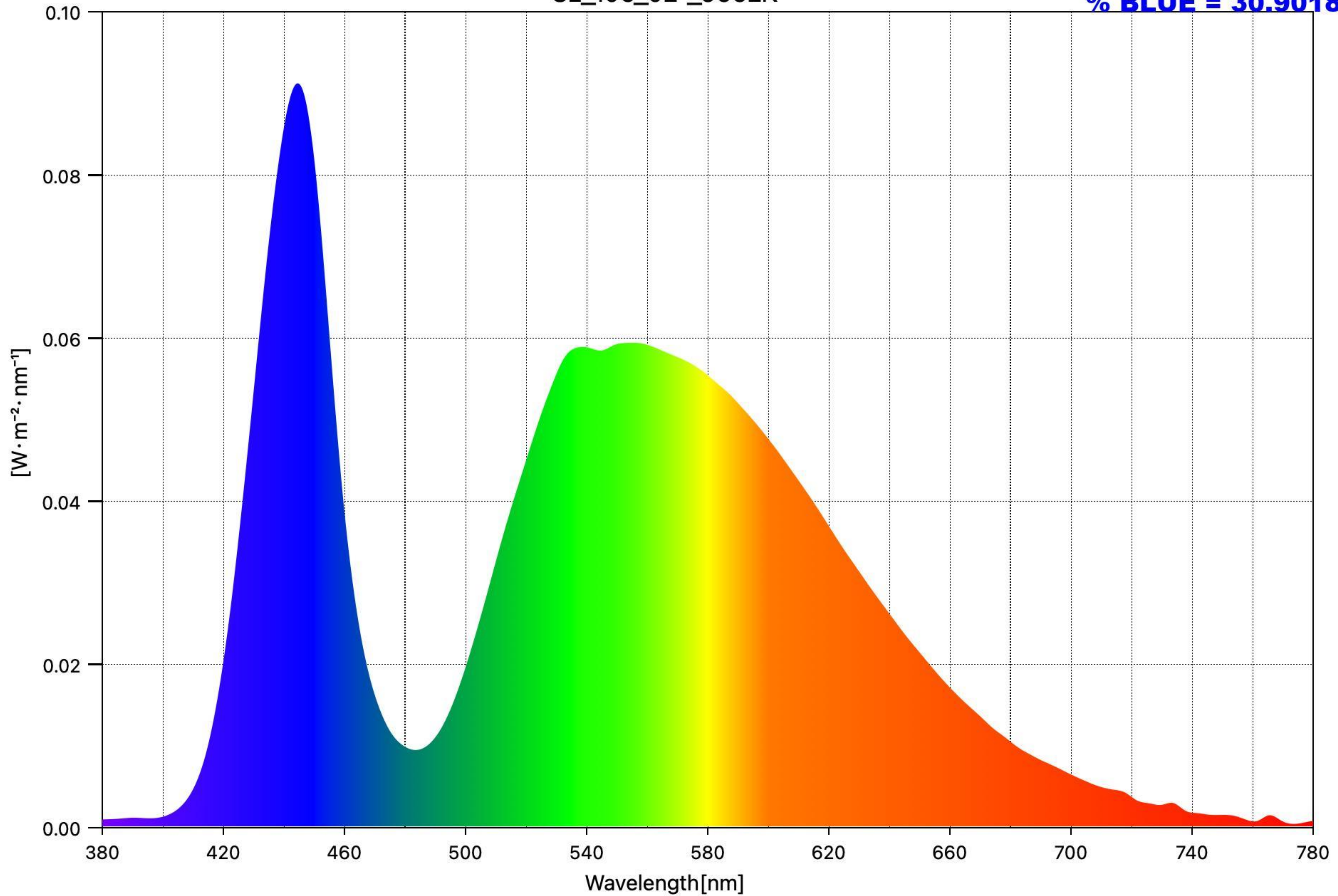
****Conclusion**:** This calculated spectral ratio significantly exceeds the threshold of 0.02. Thus, the fixture fails to meet this aspect of the ordinance, indicating excessive blue light emission that is not compliant with Maui County's outdoor lighting standards.

****Compliance Recommendation**:**

- It is recommended that the fixture be equipped with modifications or alternate spectrum lighting to reduce blue light emissions, such as filtering or selecting components with a reduced ratio of emission or ensuring comprehensive documentation for complete spectrum consideration.
- Further verification and adjustments on the fixture design must be made to confirm full compliance concerning its physical shielding and directional compliance. It should be reviewed and modified where necessary to ensure the complete focus of illumination below the horizontal plane.

SL_106_02°_5662K

% BLUE = 30.9018



Measuring Mode = Ambient

CCT = 5662K

Peak Wavelength = 445nm

Date Saved	2025/12/04 20:18:19
Title	SL_106_02°_5662K
% BLUE	30.9018
Viewing Angle [°]	2
CCT [K]	5662
■uv	0.0013
Illuminance [lx]	3500
Peak Wavelength [nm]	445
Tristimulus Value X	3384.1760
Tristimulus Value Y	3502.6328
Tristimulus Value Z	3404.9512
CIE1931 x	0.3288
CIE1931 y	0.3403
CIE1931 z	0.3308
CIE1976 u'	0.2047
CIE1976 v'	0.4766
Dominant Wavelength [nm]	514
Purity [%]	1.5
PPFD [$\mu\text{mol m}^{-2}\text{s}^{-1}$]	48.3
CRI Ra	70.1
CRI R1	70.0
CRI R2	72.8
CRI R3	73.2
CRI R4	72.4
CRI R5	70.8
CRI R6	63.6
CRI R7	77.3
CRI R8	61.2
CRI R9	-22.2
CRI R10	34.0
CRI R11	71.0
CRI R12	43.3
CRI R13	69.0
CRI R14	84.5
CRI R15	64.5