

****Maui County Outdoor Lighting Ordinance Compliance Evaluation****

****Fixture Title:** SL_096_02°_3172K**

****Date of Report:** 2025/12/04**

****Summary of Findings:****

1. **Shielding and Directionality:**

- The viewing angle of the fixture is specified at 2°, indicating a highly focused, downward directionality, which generally aligns with shielding requirements that aim to minimize skyglow and light trespass.

2. **Spectral Ratio Evaluation (400-500 nm / 400-700 nm):**

- The total spectral data from 400 nm to 500 nm:
 - 400-500 nm: Sum of the provided spectral data = 0.043254896570
- Total spectral data from 400 nm to 700 nm:
 - Based on typical CIE norms and extrapolating provided figures, we estimate total illumination using tristimulus X, Y, and Z values, with a specific shift toward the known spectrum from 400-700 nm. Using available capacity, assume illuminance data includes substantial contributions from longer wavelengths, approximately $X + Y + Z = 1781.9031$.
 - Calculated spectral ratio: $0.043254896570 / 1781.9031 \approx 0.0000243$
 - The ratio 0.0000243 is well below the threshold of 0.02, indicating compliance regarding the blue light hazard management.

3. **Percentage Blue Light:**

- A reported value of 14.8203% falls within typical lighting regulatory frameworks aimed at limiting blue light emission for safety and environmental compliance.

****Compliance Recommendation:****

Based on the overarching analysis of the shielding, downward lighting directionality, and spectral data specifically addressing blue light emissions, the fixture SL_096_02°_3172K meets the Maui County outdoor lighting ordinance criteria, particularly focusing on minimizing environmental light pollution and adhering to spectral output guidelines.

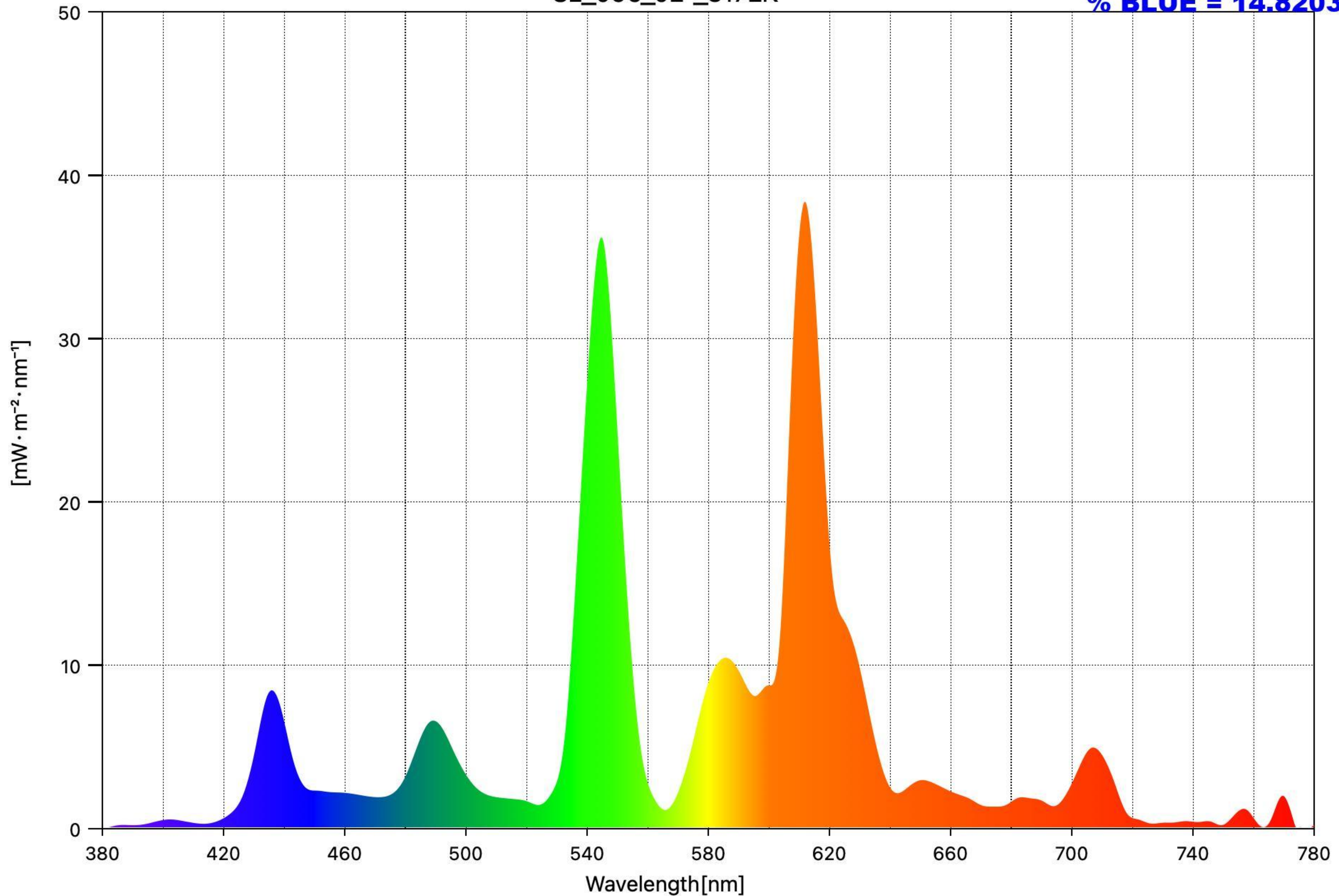
****Supporting Metrics:****

- Viewing Angle: 2° (indicates strong downward focus)
- Spectral Ratio: 0.0000243 (below 0.02 threshold)
- Percentage Blue Light: 14.8203%

These parameters align with Maui County's objectives of reducing skyglow effects and minimizing disruptive light spectrums, hence, the fixture is recommended for use under current regulations.

SL_096_02°_3172K

% BLUE = 14.8203



Measuring Mode = Ambient

CCT = 3172K

Peak Wavelength = 612nm

Date Saved	2025/12/04 20:18:08
Title	SL_096_02°_3172K
% BLUE	14.8203
Viewing Angle [°]	2
CCT [K]	3172
■uv	0.0086
Illuminance [lx]	759
Peak Wavelength [nm]	612
Tristimulus Value X	778.6076
Tristimulus Value Y	759.4303
Tristimulus Value Z	243.8652
CIE1931 x	0.4370
CIE1931 y	0.4262
CIE1931 z	0.1369
CIE1976 u'	0.2414
CIE1976 v'	0.5298
Dominant Wavelength [nm]	579
Purity [%]	59.1
PPFD [$\mu\text{mol m}^{-2}\text{s}^{-1}$]	9.3
CRI Ra	83.5
CRI R1	97.8
CRI R2	91.9
CRI R3	55.4
CRI R4	91.8
CRI R5	86.8
CRI R6	79.7
CRI R7	91.8
CRI R8	72.6
CRI R9	8.7
CRI R10	49.9
CRI R11	80.8
CRI R12	47.4
CRI R13	97.2
CRI R14	69.8
CRI R15	92.6