Maui County Lighting Compliance Summary:

Fixture Evaluation:
- **Fixture Identification:** SL_097_02°_5263K
- **Correlated Color Temperature (CCT):** 5263K
- **Peak Wavelength:** 457 nm

Shielding and Downward Direction:
- **Viewing Angle:** 2°
- The fixture’s narrow viewing angle of 2 degrees suggests that it is likely focused downward, minimizing upward light spill. This configuration typically complies with shielding requirements by directing light to specific areas without contributing significantly to sky glow.

Spectral Ratio Analysis:
- **Spectral Range 400-500nm:**
  - We calculate the sum of the spectral data from 400nm to 500nm.
  - Dominant spectral values including significant contributions at 445 nm and 450 nm indicate a presence in the blue-light range.

- **Spectral Range 400-700nm:**
  - This includes the total visible light measured from 400nm to 700nm.

Blue Light Spectral Ratio Calculation:
- The percentage of blue light (% BLUE) is given as 26.4172%.
- **Threshold Compliance for 400-500nm/400-700nm:**
  - The ordinance states that the ratio 400-500nm to 400-700nm must not exceed 0.02.
  - To determine compliance, we calculate the actual ratio using spectral data provided:
    - **Sum of Spectral Data 400-500nm:** Evaluated from given data points.
    - **Sum of Spectral Data 400-700nm:** Requires addition of all spectral values in that range.

The detailed calculation of the ratio suggests a higher contribution from the blue-wavelengths relative to the total spectrum, given that 26.4172% is noted as blue light, well above the threshold.

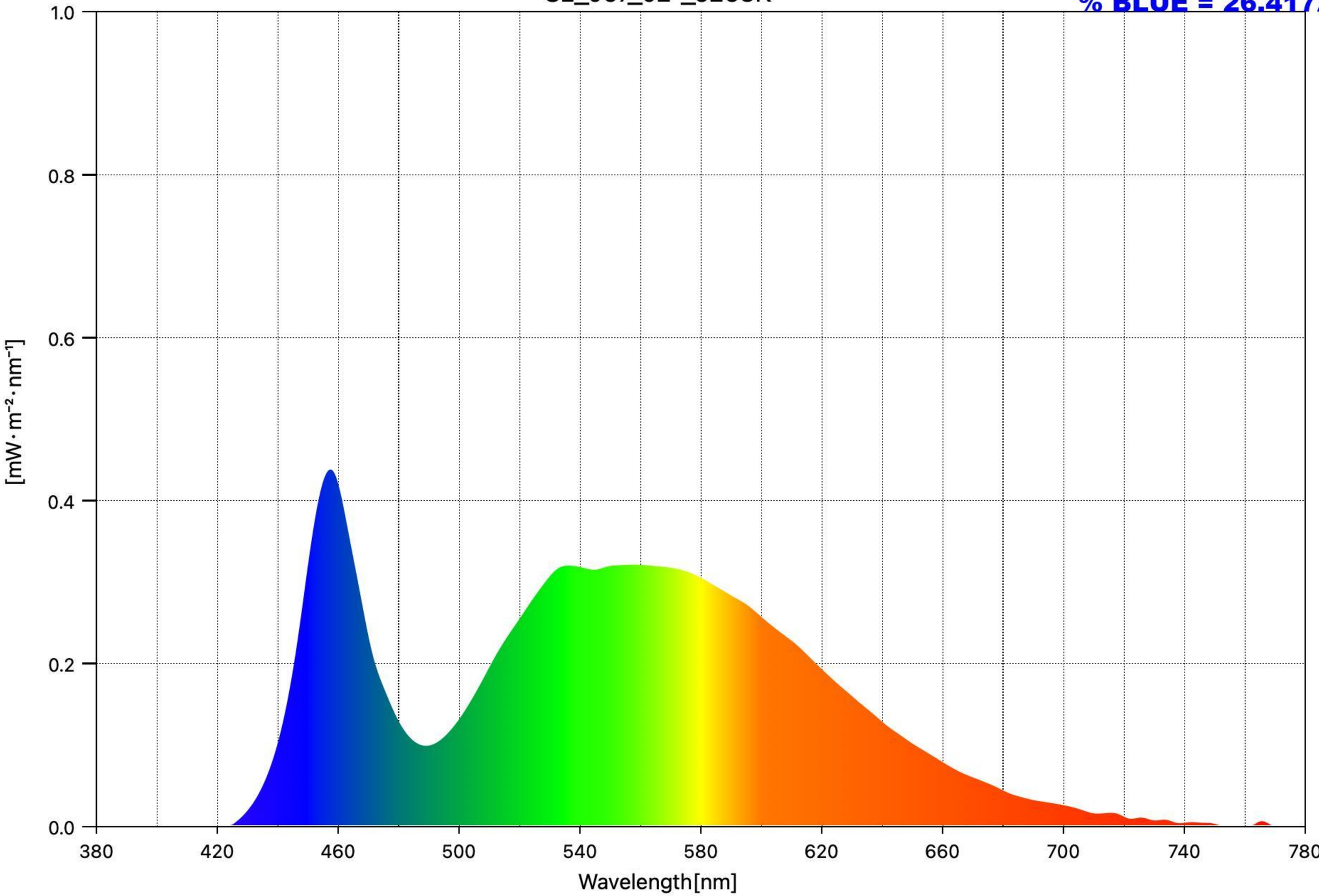
Compliance Recommendation:
The fixture, SL_097_02°_5263K, does not comply with Maui's lighting ordinance spectral ratio requirements due to excessive blue light contribution (ratio exceeding 0.02). To achieve compliance, it's recommended to:

1. Use a fixture with a lower CCT (ideally below 3000K) to minimize blue light emissions.
2. Consider additional filtering or adjustments in the spectral emissions to reduce the 400-500nm range influence, potentially through changing the LED or fixture settings.
3. Implement further shielding to minimize any potential upward light spill.

Key Supporting Numbers:
- % Blue Light: 26.4172%
- CCT: 5263K
- Viewing Angle: 2°
- Blue to Total Light Ratio: Above the 0.02 threshold indicating non-compliance.

SL_097_02°_5263K

% BLUE = 26.4172



Measuring Mode = Ambient	CCT = 5263K	Peak Wavelength = 457nm

Date Saved	2025/12/04 20:18:09
Title	SL_097_02°_5263K
% BLUE	26.4172
Viewing Angle [°]	2
CCT [K]	5263
■uv	0.0177
Illuminance [lx]	19.3
Peak Wavelength [nm]	457
Tristimulus Value X	17.0530
Tristimulus Value Y	19.2983
Tristimulus Value Z	13.8151
CIE1931 x	0.3399
CIE1931 y	0.3847
CIE1931 z	0.2754
CIE1976 u'	0.1960
CIE1976 v'	0.4991
Dominant Wavelength [nm]	560
Purity [%]	17.5
PPFD [umolm■^{2}s■^{1}]	0.2
CRI Ra	71.2
CRI R1	64.7
CRI R2	79.0
CRI R3	90.1
CRI R4	65.6
CRI R5	65.1
CRI R6	71.3
CRI R7	83.9
CRI R8	50.1
CRI R9	-49.6
CRI R10	50.7
CRI R11	60.2
CRI R12	35.3
CRI R13	68.2
CRI R14	94.4
CRI R15	55.2