**Maui County Outdoor Lighting Compliance Evaluation**

**Fixture:** SL_107_02°_3370K
**Date Evaluated:** December 4, 2025
**Viewing Angle:** 2°
**Correlated Color Temperature (CCT):** 3370K

**Key Compliance Parameters:**

1. **Shielding and Direction:**
   - The viewing angle of 2° suggests a narrow beam, indicating the fixture is likely to be reasonably well-shielded, minimizing upward light leakage. However, this does not fully confirm compliance without additional physical inspection to ensure it qualifies as fully shielded per Maui County standards.

2. **Spectral Analysis & Blue Light Content:**
   - **Spectral Ratio Calculation:**
     - Sum of spectral data from 400 nm to 500 nm:
       $= 0.000000000000 + 0.000000000000 + 0.000000000000 + 0.000000000000 + 0.000000000000 + 0.000009061432 + 0.000047538841 + 0.000126281418 + 0.000288203621 + 0.000577633095 + 0.001060404815 + 0.001739271800 + 0.002390647773 + 0.002611020347 + 0.002297687810 + 0.001790857757 = 0.01393865923$
     - Total spectral data from 400 nm to 700 nm not fully provided; assumption made from %BLUE (13.4027%) and illuminance that these readings extend accurately.

   - **Blue Light Ratio (400-500nm to 400-700nm):**
     - Given %BLUE is 13.4027%, assuming similar scaling factors, approximation: $\frac{0.0139}{0.104}$ yields about 0.134, surpassing the threshold of 0.02.

3. **Peak Wavelength:**
   - The peak wavelength is at 613 nm, suggesting a warmer characteristic which is typically favorable under lighting ordinances aimed to reduce blue light exposure.

**Compliance Conclusion:**
Based on the spectral ratio exceeding the threshold, there is a non-compliance issue concerning blue light emissions. The fixture does not meet the spectral ratio requirements of Maui's outdoor lighting ordinance.

**Recommendation:**
- **Mitigative Action:** Adjust the spectral output to reduce blue light components or consider alternative fixture designs that offer improved control over blue light emissions while maintaining functionality and aesthetic needs. Physical inspection is also advised to confirm shielding adequacy, ensuring it addresses the light trespass effectively.

SL_107_02°_3370K

% BLUE = 13.4027

[mW · m⁻² · nm⁻¹]

0
1
2
3
4
5

380
420
460
500
540
580
620
660
700
740
780

Wavelength[nm]

| Measuring Mode = Ambient | CCT = 3370K | Peak Wavelength = 613nm |
|---|---|---|

| Date Saved | 2025/12/04 20:18:20 |
|---|---|
| Title | SL_107_02°_3370K |
| % BLUE | 13.4027 |
| Viewing Angle [°] | 2 |
| CCT [K] | 3370 |
| ■uv | 0.0061 |
| Illuminance [lx] | 260 |
| Peak Wavelength [nm] | 613 |
| Tristimulus Value X | 265.0297 |
| Tristimulus Value Y | 260.1259 |
| Tristimulus Value Z | 105.9138 |
| CIE1931 x | 0.4200 |
| CIE1931 y | 0.4122 |
| CIE1931 z | 0.1678 |
| CIE1976 u' | 0.2364 |
| CIE1976 v' | 0.5220 |
| Dominant Wavelength [nm] | 579 |
| Purity [%] | 49.8 |
| PPFD [umolm■$^{2}$s■$^{1}$] | 3.9 |
| CRI Ra | 85.5 |
| CRI R1 | 84.4 |
| CRI R2 | 87.3 |
| CRI R3 | 89.1 |
| CRI R4 | 86.7 |
| CRI R5 | 82.7 |
| CRI R6 | 81.6 |
| CRI R7 | 93.0 |
| CRI R8 | 78.9 |
| CRI R9 | 43.5 |
| CRI R10 | 69.3 |
| CRI R11 | 84.2 |
| CRI R12 | 59.2 |
| CRI R13 | 84.3 |
| CRI R14 | 93.3 |
| CRI R15 | 80.9 |