

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: STREETWORKS

Report Number: P364057

Luminaire Tested: NVN-SA3D-750-U-SLR-HSS

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2019  
Report Number: P364057  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-28)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: STREETWORKS  
Catalog Number: NVN-SA3D-750-U-SLR-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 5000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT  
ELIMINATOR RIGHT OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 17591 lumens  
Efficiency: N/A  
Efficacy: 92.1 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type IV - Medium  
BUG Rating: B2 - U0 - G3

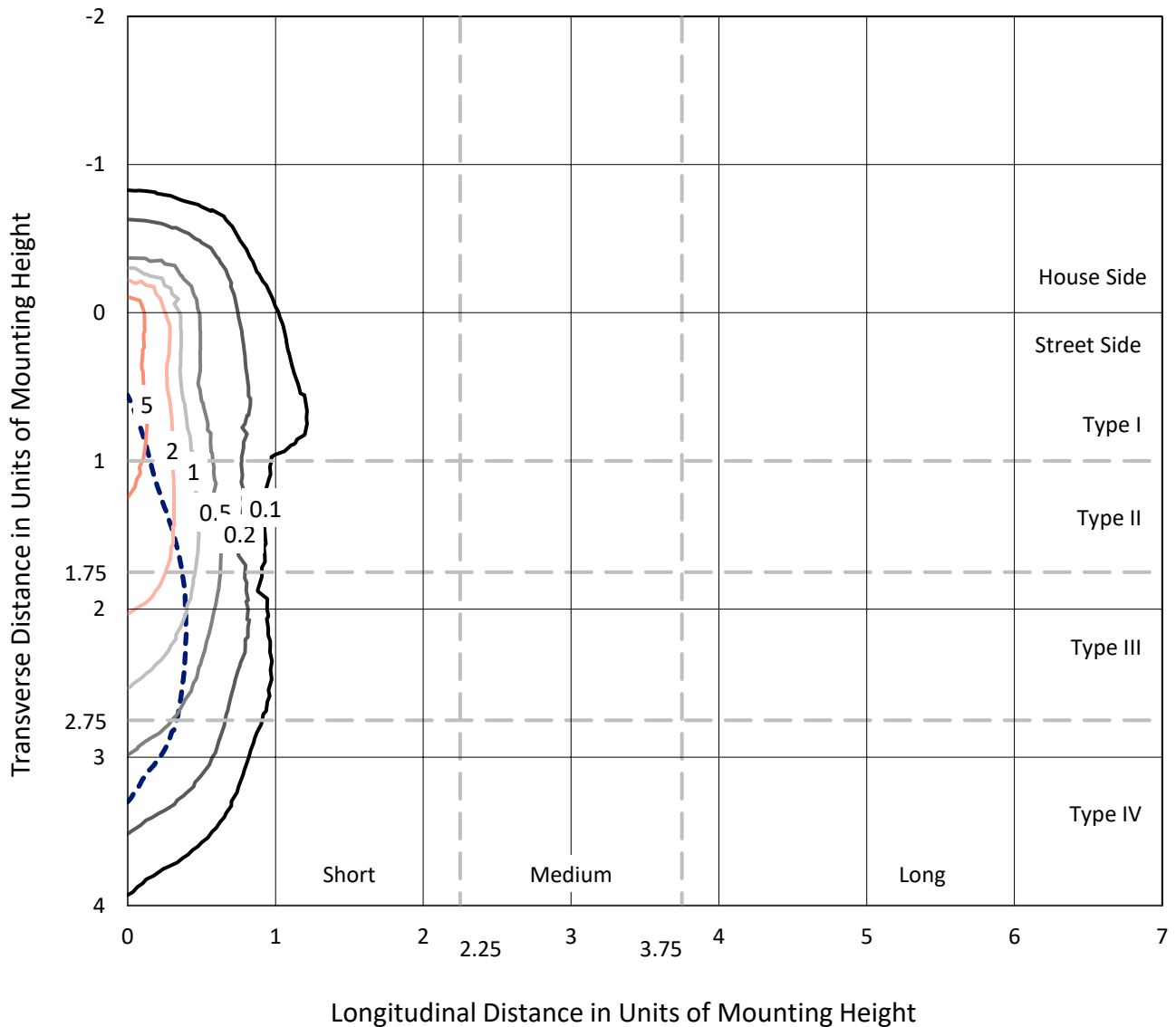
Input Watts (W): 191  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

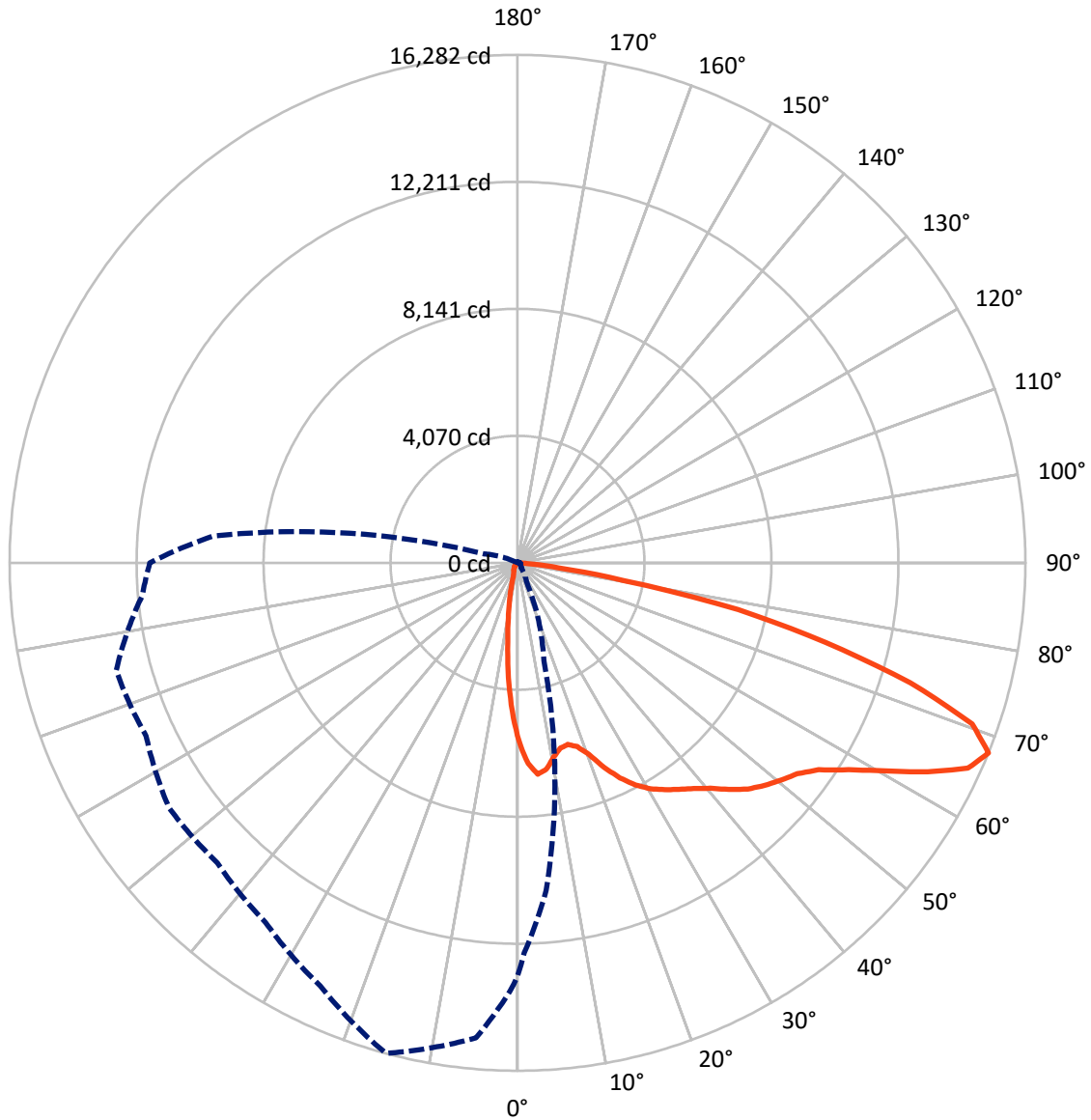
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 9.2 fc  
 Type IV - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 345-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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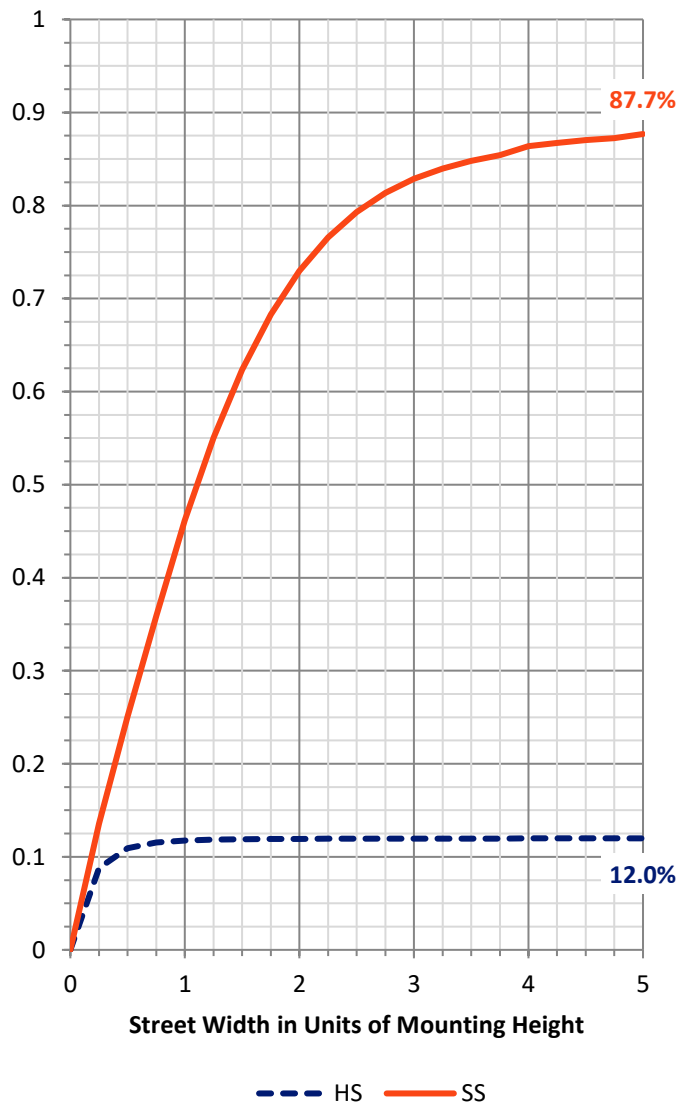
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 2129.1   | 0.0    | 2129.1  |
|                    | % Fixture | 12.1     | 0.0    | 12.1    |
| <b>Street Side</b> | Lumens    | 15461.9  | 0.0    | 15461.9 |
|                    | % Fixture | 87.9     | 0.0    | 87.9    |
| <b>Total</b>       | Lumens    | 17591.0  | 0.0    | 17591.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 439.8   | 2.5       |
| 10°-20°   | 875.4   | 5.0       |
| 20°-30°   | 1243.1  | 7.1       |
| 30°-40°   | 1836.1  | 10.4      |
| 40°-50°   | 2648.0  | 15.1      |
| 50°-60°   | 3717.3  | 21.1      |
| 60°-70°   | 4333.2  | 24.6      |
| 70°-80°   | 2215.2  | 12.6      |
| 80°-90°   | 282.9   | 1.6       |
| 90°-100°  | 0.0     | 0.0       |
| 100°-110° | 0.0     | 0.0       |
| 110°-120° | 0.0     | 0.0       |
| 120°-130° | 0.0     | 0.0       |
| 130°-140° | 0.0     | 0.0       |
| 140°-150° | 0.0     | 0.0       |
| 150°-160° | 0.0     | 0.0       |
| 160°-170° | 0.0     | 0.0       |
| 170°-180° | 0.0     | 0.0       |
| 0°-90°    | 17591.0 | 100.0     |
| 0°-180°   | 17591.0 | 100.0     |

**Coefficient of Utilization**

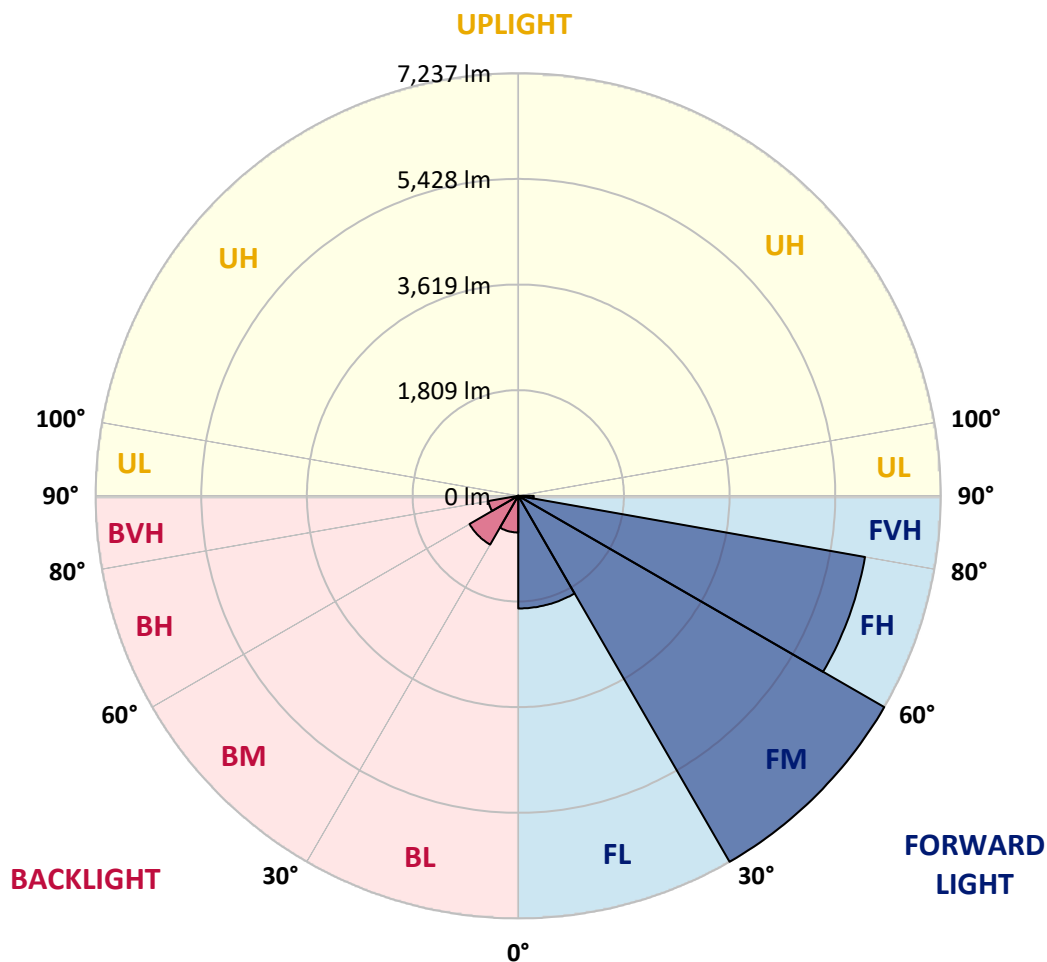


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 1929.4 | 11.0      |                         |      |         |
| FM (30°-60°)   | 7237.2 | 41.1      |                         |      |         |
| FH (60°-80°)   | 6029.6 | 34.3      |                         |      | G3/7500 |
| FVH (80°-90°)  | 265.7  | 1.5       |                         |      | G3/500  |
| BL (0°-30°)    | 628.9  | 3.6       | B2/1000                 |      |         |
| BM (30°-60°)   | 964.1  | 5.5       | B1/1000                 |      |         |
| BH (60°-80°)   | 518.9  | 2.9       | B2/1000                 |      | G2/1000 |
| BVH (80°-90°)  | 17.2   | 0.1       |                         |      | G1/100  |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B2-U0-G3**  
 Type IV Medium





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 1°      | 5°      | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    |
|-------|---------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 5730.2  | 5730.2  | 5730.2  | 5730.2 | 5730.2 | 5730.2 | 5730.2 | 5730.2 | 5730.2 | 5730.2 | 5730.2 |
| 2.5°  | 6274.4  | 6226.1  | 6172.8  | 5998.6 | 5836.9 | 5651.9 | 5501.1 | 5396.1 | 5264.4 | 5093.5 | 5050.2 |
| 5°    | 6229.4  | 6177.8  | 6010.2  | 5622.7 | 5283.6 | 4953.5 | 4635.2 | 4448.5 | 4216.8 | 3981.8 | 3923.5 |
| 7.5°  | 5776.9  | 5722.7  | 5481.1  | 4950.2 | 4493.5 | 4016.8 | 3603.5 | 3347.6 | 3086.0 | 2871.0 | 2756.8 |
| 10°   | 5306.1  | 5246.9  | 4975.2  | 4331.0 | 3768.5 | 3337.6 | 3034.3 | 2790.1 | 2542.6 | 2312.6 | 2129.3 |
| 12.5° | 4981.9  | 4904.4  | 4609.4  | 3879.3 | 3389.3 | 3096.8 | 2813.4 | 2520.9 | 2185.9 | 1939.2 | 1737.6 |
| 15°   | 4846.0  | 4757.7  | 4446.0  | 3705.2 | 3255.1 | 2911.8 | 2542.6 | 2183.4 | 1790.9 | 1508.4 | 1323.4 |
| 17.5° | 4951.0  | 4836.0  | 4501.9  | 3693.5 | 3086.8 | 2619.3 | 2152.6 | 1730.9 | 1305.1 | 1019.2 | 887.5  |
| 20°   | 5307.7  | 5156.9  | 4732.7  | 3690.2 | 2882.6 | 2271.8 | 1680.1 | 1203.4 | 860.0  | 691.7  | 622.5  |
| 22.5° | 5869.4  | 5670.2  | 5064.4  | 3716.8 | 2671.8 | 1906.7 | 1213.4 | 817.5  | 645.9  | 558.4  | 517.5  |
| 25°   | 6547.8  | 6316.9  | 5541.9  | 3811.0 | 2486.8 | 1551.7 | 881.7  | 645.9  | 545.0  | 480.9  | 446.7  |
| 27.5° | 7192.8  | 7005.3  | 6145.3  | 3946.8 | 2343.4 | 1265.1 | 715.9  | 547.5  | 465.9  | 423.4  | 395.8  |
| 30°   | 7837.0  | 7601.1  | 6764.4  | 4108.5 | 2170.9 | 1070.9 | 629.2  | 499.2  | 417.5  | 372.5  | 355.0  |
| 32.5° | 8305.3  | 8109.5  | 7249.5  | 4225.2 | 1986.7 | 944.2  | 562.5  | 456.7  | 390.0  | 344.2  | 318.3  |
| 35°   | 8856.2  | 8634.5  | 7665.3  | 4251.0 | 1868.4 | 864.2  | 505.9  | 410.9  | 338.3  | 297.5  | 270.0  |
| 37.5° | 9451.2  | 9175.4  | 8145.3  | 4194.3 | 1775.9 | 825.0  | 463.4  | 390.0  | 315.8  | 274.2  | 245.0  |
| 40°   | 10109.6 | 9797.9  | 8606.2  | 4112.7 | 1685.1 | 811.7  | 430.9  | 374.2  | 298.3  | 255.8  | 225.8  |
| 42.5° | 10802.9 | 10435.4 | 9005.4  | 4026.8 | 1627.6 | 765.9  | 427.5  | 358.3  | 285.0  | 239.2  | 209.2  |
| 45°   | 11385.5 | 11013.0 | 9415.4  | 3998.5 | 1586.7 | 715.9  | 441.7  | 347.5  | 275.8  | 225.8  | 196.7  |
| 47.5° | 11849.7 | 11497.1 | 9835.4  | 4061.8 | 1563.4 | 670.0  | 402.5  | 361.7  | 270.8  | 214.2  | 185.8  |
| 50°   | 12403.8 | 12004.7 | 10427.1 | 4251.0 | 1529.2 | 624.2  | 364.2  | 414.2  | 270.8  | 206.7  | 176.7  |
| 52.5° | 13098.9 | 12703.9 | 11087.1 | 4544.4 | 1460.9 | 560.9  | 327.5  | 415.0  | 273.3  | 196.7  | 165.0  |
| 55°   | 13973.1 | 13686.4 | 12029.7 | 4866.0 | 1351.7 | 467.5  | 283.3  | 356.7  | 263.3  | 178.3  | 154.2  |
| 57.5° | 14811.4 | 14577.3 | 12888.9 | 5086.0 | 1205.9 | 365.0  | 246.7  | 287.5  | 240.8  | 156.7  | 137.5  |
| 59°   | 15040.6 | 14784.8 | 13203.9 | 5096.0 | 1096.7 | 318.3  | 228.3  | 237.5  | 235.8  | 146.7  | 127.5  |
| 60°   | 15040.6 | 14768.9 | 13294.7 | 5042.7 | 1017.5 | 292.5  | 216.7  | 211.7  | 245.8  | 140.0  | 121.7  |
| 62.5° | 14768.1 | 14386.4 | 12999.7 | 4681.9 | 830.0  | 249.2  | 189.2  | 175.0  | 220.8  | 125.8  | 107.5  |
| 65°   | 14201.4 | 13645.6 | 11994.7 | 4029.3 | 740.0  | 228.3  | 163.3  | 143.3  | 153.3  | 110.8  | 94.2   |
| 67.5° | 13256.4 | 12503.0 | 10545.4 | 3255.1 | 704.2  | 222.5  | 140.8  | 121.7  | 115.8  | 95.0   | 82.5   |
| 70°   | 11592.1 | 10756.3 | 8786.2  | 2559.3 | 673.4  | 220.0  | 118.3  | 102.5  | 93.3   | 80.0   | 70.0   |
| 72.5° | 8437.0  | 7565.3  | 6237.8  | 2000.9 | 655.0  | 225.0  | 95.0   | 85.8   | 76.7   | 62.5   | 54.2   |
| 75°   | 4826.0  | 4255.2  | 3506.0  | 1321.7 | 558.4  | 215.0  | 73.3   | 71.7   | 55.0   | 45.0   | 37.5   |
| 77.5° | 2493.4  | 2417.6  | 2100.9  | 507.5  | 267.5  | 94.2   | 48.3   | 41.7   | 32.5   | 27.5   | 22.5   |
| 80°   | 1075.9  | 1064.2  | 920.9   | 146.7  | 70.8   | 52.5   | 27.5   | 17.5   | 15.0   | 11.7   | 9.2    |
| 82.5° | 371.7   | 371.7   | 327.5   | 49.2   | 31.7   | 25.8   | 3.3    | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 75.0    | 84.2    | 59.2    | 0.0    | 10.8   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 87.5° | 0.0     | 0.0     | 0.0     | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 90°   | 0.0     | 0.0     | 0.0     | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



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**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 5730.2 | 5730.2 | 5730.2 | 5730.2 | 5730.2 | 5730.2 | 5730.2 | 5730.2 | 5730.2 | 5730.2 | 5730.2 |
| 2.5°  | 4997.7 | 4896.9 | 4890.2 | 4826.9 | 4747.7 | 4711.9 | 4691.0 | 4727.7 | 4772.7 | 4777.7 | 4845.2 |
| 5°    | 3879.3 | 3773.5 | 3817.7 | 3705.2 | 3727.7 | 3705.2 | 3668.5 | 3675.2 | 3695.2 | 3632.6 | 3710.2 |
| 7.5°  | 2724.3 | 2644.3 | 2695.1 | 2665.1 | 2705.1 | 2720.9 | 2698.4 | 2665.1 | 2566.8 | 2555.1 | 2622.6 |
| 10°   | 2053.4 | 1962.6 | 1908.4 | 1851.7 | 1864.2 | 1890.1 | 1881.7 | 1857.6 | 1795.1 | 1798.4 | 1863.4 |
| 12.5° | 1650.1 | 1548.4 | 1440.9 | 1301.7 | 1267.6 | 1286.7 | 1267.6 | 1253.4 | 1193.4 | 1198.4 | 1255.9 |
| 15°   | 1251.7 | 1168.4 | 1055.9 | 944.2  | 883.4  | 889.2  | 835.9  | 798.4  | 760.9  | 715.9  | 750.9  |
| 17.5° | 845.0  | 794.2  | 760.9  | 727.5  | 655.0  | 638.4  | 570.9  | 498.4  | 470.0  | 449.2  | 464.2  |
| 20°   | 598.4  | 570.9  | 557.5  | 555.9  | 514.2  | 493.4  | 427.5  | 382.5  | 368.3  | 364.2  | 373.3  |
| 22.5° | 500.0  | 480.0  | 460.9  | 450.0  | 429.2  | 405.0  | 355.0  | 332.5  | 322.5  | 317.5  | 324.2  |
| 25°   | 435.0  | 420.0  | 400.0  | 381.7  | 373.3  | 347.5  | 311.7  | 295.0  | 288.3  | 283.3  | 286.7  |
| 27.5° | 386.7  | 373.3  | 350.0  | 338.3  | 331.7  | 309.2  | 278.3  | 265.0  | 259.2  | 257.5  | 256.7  |
| 30°   | 348.3  | 335.8  | 314.2  | 300.8  | 289.2  | 269.2  | 250.8  | 237.5  | 231.7  | 230.0  | 228.3  |
| 32.5° | 310.0  | 300.0  | 285.8  | 272.5  | 260.0  | 241.7  | 225.8  | 215.0  | 205.8  | 204.2  | 203.3  |
| 35°   | 261.7  | 251.7  | 244.2  | 243.3  | 231.7  | 214.2  | 202.5  | 188.3  | 180.8  | 178.3  | 179.2  |
| 37.5° | 232.5  | 219.2  | 202.5  | 208.3  | 205.0  | 192.5  | 176.7  | 162.5  | 155.0  | 153.3  | 153.3  |
| 40°   | 214.2  | 200.0  | 180.8  | 170.8  | 180.8  | 178.3  | 153.3  | 139.2  | 131.7  | 130.8  | 129.2  |
| 42.5° | 196.7  | 182.5  | 160.8  | 144.2  | 149.2  | 156.7  | 132.5  | 119.2  | 111.7  | 110.0  | 107.5  |
| 45°   | 184.2  | 169.2  | 145.0  | 125.8  | 115.8  | 131.7  | 113.3  | 96.7   | 92.5   | 89.2   | 87.5   |
| 47.5° | 172.5  | 158.3  | 130.8  | 109.2  | 92.5   | 95.0   | 90.8   | 79.2   | 74.2   | 70.8   | 70.0   |
| 50°   | 162.5  | 147.5  | 118.3  | 93.3   | 76.7   | 70.0   | 73.3   | 62.5   | 58.3   | 55.0   | 53.3   |
| 52.5° | 150.8  | 136.7  | 105.0  | 80.8   | 64.2   | 55.0   | 55.8   | 49.2   | 45.0   | 42.5   | 41.7   |
| 55°   | 141.7  | 127.5  | 94.2   | 70.8   | 56.7   | 45.0   | 40.0   | 38.3   | 35.8   | 34.2   | 33.3   |
| 57.5° | 129.2  | 115.8  | 83.3   | 60.0   | 48.3   | 36.7   | 30.8   | 30.8   | 30.0   | 28.3   | 27.5   |
| 59°   | 121.7  | 110.0  | 76.7   | 54.2   | 44.2   | 31.7   | 27.5   | 28.3   | 27.5   | 25.8   | 25.0   |
| 60°   | 115.8  | 105.0  | 71.7   | 50.0   | 41.7   | 29.2   | 25.0   | 26.7   | 25.8   | 24.2   | 23.3   |
| 62.5° | 102.5  | 95.0   | 61.7   | 41.7   | 36.7   | 23.3   | 20.8   | 22.5   | 22.5   | 21.7   | 20.8   |
| 65°   | 90.0   | 81.7   | 52.5   | 35.0   | 34.2   | 20.0   | 16.7   | 20.0   | 20.8   | 19.2   | 17.5   |
| 67.5° | 78.3   | 70.0   | 45.8   | 28.3   | 31.7   | 15.8   | 12.5   | 16.7   | 22.5   | 17.5   | 15.8   |
| 70°   | 66.7   | 58.3   | 35.8   | 22.5   | 33.3   | 10.8   | 10.0   | 15.0   | 26.7   | 19.2   | 15.0   |
| 72.5° | 51.7   | 45.0   | 25.0   | 16.7   | 35.8   | 7.5    | 7.5    | 12.5   | 30.0   | 20.8   | 14.2   |
| 75°   | 35.8   | 29.2   | 15.0   | 10.0   | 29.2   | 5.0    | 5.0    | 11.7   | 28.3   | 19.2   | 13.3   |
| 77.5° | 20.8   | 15.8   | 5.0    | 0.8    | 15.0   | 0.0    | 0.8    | 8.3    | 20.0   | 11.7   | 5.8    |
| 80°   | 7.5    | 3.3    | 0.0    | 0.0    | 9.2    | 0.0    | 0.0    | 0.0    | 1.7    | 0.0    | 0.0    |
| 82.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |





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**CANDELA DISTRIBUTION (continued):**

|       | 185°   | 195°   | 205°   | 215°   | 225°   | 235°   | 245°   | 255°   | 265°    | 270°    | 275°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|
| 0°    | 5730.2 | 5730.2 | 5730.2 | 5730.2 | 5730.2 | 5730.2 | 5730.2 | 5730.2 | 5730.2  | 5730.2  | 5730.2  |
| 2.5°  | 4862.7 | 4975.2 | 5076.0 | 5228.5 | 5409.4 | 5617.7 | 5796.9 | 5989.4 | 6170.3  | 6245.3  | 6296.9  |
| 5°    | 3726.0 | 3865.2 | 4027.7 | 4251.8 | 4550.2 | 4917.7 | 5261.9 | 5651.1 | 6069.4  | 6278.6  | 6475.3  |
| 7.5°  | 2634.3 | 2775.9 | 2977.6 | 3216.0 | 3576.8 | 4014.3 | 4464.4 | 5001.9 | 5568.6  | 5899.4  | 6225.3  |
| 10°   | 1894.2 | 2068.4 | 2256.8 | 2582.6 | 2949.3 | 3364.3 | 3827.7 | 4427.7 | 5059.4  | 5426.1  | 5818.6  |
| 12.5° | 1289.2 | 1487.6 | 1772.6 | 2137.6 | 2568.4 | 2975.1 | 3377.6 | 3950.2 | 4683.5  | 5046.9  | 5467.7  |
| 15°   | 773.4  | 883.4  | 1185.0 | 1607.6 | 2135.9 | 2642.6 | 3083.5 | 3657.7 | 4439.3  | 4884.4  | 5321.9  |
| 17.5° | 476.7  | 527.5  | 691.7  | 1038.4 | 1593.4 | 2234.3 | 2838.5 | 3558.5 | 4474.4  | 5016.0  | 5484.4  |
| 20°   | 380.0  | 400.0  | 452.5  | 613.4  | 1055.9 | 1784.2 | 2562.6 | 3538.5 | 4760.2  | 5426.9  | 5929.4  |
| 22.5° | 330.0  | 349.2  | 384.2  | 445.9  | 664.2  | 1335.9 | 2300.9 | 3556.8 | 5170.2  | 6042.7  | 6629.4  |
| 25°   | 290.8  | 307.5  | 340.8  | 391.7  | 486.7  | 940.9  | 2020.9 | 3638.5 | 5704.4  | 6806.9  | 7430.3  |
| 27.5° | 260.0  | 274.2  | 305.0  | 351.7  | 417.5  | 656.7  | 1703.4 | 3737.7 | 6337.8  | 7588.6  | 8203.7  |
| 30°   | 231.7  | 244.2  | 271.7  | 315.0  | 362.5  | 505.0  | 1355.1 | 3805.2 | 6972.0  | 8203.7  | 8756.2  |
| 32.5° | 207.5  | 216.7  | 241.7  | 278.3  | 315.0  | 402.5  | 1030.0 | 3794.3 | 7442.8  | 8715.4  | 9153.7  |
| 35°   | 182.5  | 191.7  | 213.3  | 245.0  | 274.2  | 332.5  | 810.0  | 3591.8 | 7852.8  | 9246.2  | 9608.7  |
| 37.5° | 155.0  | 166.7  | 187.5  | 215.8  | 235.8  | 292.5  | 655.0  | 3347.6 | 8268.7  | 9852.9  | 10116.2 |
| 40°   | 131.7  | 143.3  | 161.7  | 192.5  | 205.0  | 277.5  | 503.4  | 3050.1 | 8736.2  | 10531.3 | 10672.9 |
| 42.5° | 109.2  | 120.0  | 139.2  | 165.8  | 193.3  | 239.2  | 372.5  | 2710.1 | 9185.4  | 11111.3 | 11180.5 |
| 45°   | 88.3   | 99.2   | 119.2  | 145.8  | 206.7  | 198.3  | 288.3  | 2345.9 | 9547.9  | 11593.8 | 11616.3 |
| 47.5° | 70.0   | 80.0   | 100.8  | 137.5  | 192.5  | 158.3  | 205.8  | 2060.1 | 9852.1  | 11970.5 | 11911.3 |
| 50°   | 54.2   | 62.5   | 84.2   | 157.5  | 168.3  | 130.8  | 155.8  | 1965.1 | 10124.6 | 12203.8 | 12050.5 |
| 52.5° | 42.5   | 50.0   | 69.2   | 147.5  | 130.8  | 108.3  | 130.8  | 2054.3 | 10497.9 | 12397.2 | 12128.8 |
| 55°   | 34.2   | 41.7   | 54.2   | 84.2   | 89.2   | 91.7   | 111.7  | 2137.6 | 11142.1 | 12850.5 | 12591.4 |
| 57.5° | 28.3   | 35.8   | 44.2   | 59.2   | 67.5   | 77.5   | 99.2   | 2146.8 | 11901.3 | 13603.9 | 13358.9 |
| 59°   | 25.8   | 32.5   | 40.0   | 52.5   | 59.2   | 70.8   | 93.3   | 2096.8 | 12168.8 | 13878.1 | 13755.6 |
| 60°   | 24.2   | 30.8   | 37.5   | 48.3   | 55.0   | 66.7   | 90.0   | 2049.3 | 12180.5 | 13868.1 | 13924.7 |
| 62.5° | 20.8   | 27.5   | 33.3   | 40.8   | 46.7   | 56.7   | 80.8   | 1873.4 | 11687.1 | 13413.9 | 13823.1 |
| 65°   | 18.3   | 24.2   | 30.0   | 35.0   | 40.0   | 50.8   | 73.3   | 1552.6 | 10844.6 | 12681.4 | 13127.2 |
| 67.5° | 16.7   | 20.8   | 27.5   | 30.8   | 35.8   | 45.0   | 65.0   | 1106.7 | 9792.1  | 11785.5 | 12074.7 |
| 70°   | 15.0   | 20.0   | 25.0   | 28.3   | 32.5   | 39.2   | 55.8   | 635.9  | 8268.7  | 10473.8 | 10679.6 |
| 72.5° | 14.2   | 19.2   | 22.5   | 26.7   | 29.2   | 35.0   | 50.8   | 299.2  | 6054.4  | 8390.3  | 8927.9  |
| 75°   | 12.5   | 17.5   | 20.8   | 25.0   | 27.5   | 31.7   | 43.3   | 143.3  | 4026.8  | 6071.9  | 6682.8  |
| 77.5° | 7.5    | 14.2   | 19.2   | 22.5   | 24.2   | 27.5   | 35.8   | 82.5   | 2570.1  | 4202.7  | 4950.2  |
| 80°   | 0.0    | 5.0    | 14.2   | 19.2   | 20.8   | 23.3   | 27.5   | 65.0   | 1375.1  | 2400.9  | 2881.8  |
| 82.5° | 0.0    | 0.0    | 10.0   | 15.0   | 14.2   | 15.8   | 20.8   | 40.8   | 620.0   | 1569.2  | 1768.4  |
| 85°   | 0.0    | 0.0    | 3.3    | 11.7   | 10.0   | 7.5    | 14.2   | 14.2   | 135.8   | 794.2   | 990.9   |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.8    | 5.0    | 3.3    | 5.8    | 1.7    | 0.8     | 59.2    | 240.0   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     |



REPORT NUMBER: P364057  
 CATALOG NUMBER: NVN-SA3D-750-U-SLR-HSS

**CANDELA DISTRIBUTION (continued):**

|       | 285°    | 295°    | 305°    | 315°    | 325°    | 335°    | 345°    | 355°    | 359°    | 360°    |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 5730.2  | 5730.2  | 5730.2  | 5730.2  | 5730.2  | 5730.2  | 5730.2  | 5730.2  | 5730.2  | 5730.2  |
| 2.5°  | 6477.8  | 6539.4  | 6643.6  | 6692.8  | 6668.6  | 6566.1  | 6443.6  | 6318.6  | 6245.3  | 6274.4  |
| 5°    | 6876.1  | 7193.6  | 7377.0  | 7437.8  | 7336.1  | 7106.1  | 6805.3  | 6408.6  | 6267.8  | 6229.4  |
| 7.5°  | 6876.1  | 7473.6  | 7852.0  | 7918.7  | 7692.0  | 7241.1  | 6676.9  | 6057.7  | 5851.9  | 5776.9  |
| 10°   | 6634.4  | 7447.8  | 7975.3  | 8081.2  | 7764.5  | 7090.3  | 6334.4  | 5627.7  | 5383.6  | 5306.1  |
| 12.5° | 6361.9  | 7237.8  | 7793.7  | 7939.5  | 7679.5  | 6940.3  | 6096.9  | 5336.9  | 5049.4  | 4981.9  |
| 15°   | 6194.4  | 6979.5  | 7439.5  | 7545.3  | 7435.3  | 6852.8  | 6040.2  | 5249.4  | 4911.0  | 4846.0  |
| 17.5° | 6254.4  | 6779.4  | 6945.3  | 7007.0  | 7081.1  | 6821.9  | 6194.4  | 5441.1  | 5012.7  | 4951.0  |
| 20°   | 6480.3  | 6568.6  | 6482.8  | 6560.3  | 6760.3  | 6851.9  | 6561.9  | 5904.4  | 5390.2  | 5307.7  |
| 22.5° | 6863.6  | 6459.4  | 6218.6  | 6249.4  | 6492.8  | 6951.1  | 7123.6  | 6566.1  | 5972.7  | 5869.4  |
| 25°   | 7310.3  | 6547.8  | 6071.9  | 6044.4  | 6294.4  | 7082.0  | 7637.0  | 7286.1  | 6661.9  | 6547.8  |
| 27.5° | 7872.0  | 6746.1  | 6041.9  | 6014.4  | 6225.3  | 7204.5  | 8063.7  | 7997.8  | 7387.8  | 7192.8  |
| 30°   | 8305.3  | 6941.1  | 6131.1  | 6067.7  | 6294.4  | 7289.5  | 8406.2  | 8602.0  | 7966.2  | 7837.0  |
| 32.5° | 8616.2  | 7171.1  | 6276.1  | 6184.4  | 6489.4  | 7436.1  | 8670.4  | 9155.4  | 8501.2  | 8305.3  |
| 35°   | 8852.9  | 7421.1  | 6510.3  | 6359.4  | 6757.8  | 7658.6  | 8917.9  | 9744.6  | 9070.4  | 8856.2  |
| 37.5° | 9074.5  | 7772.0  | 6876.1  | 6696.1  | 7178.6  | 8017.0  | 9179.5  | 10412.9 | 9707.1  | 9451.2  |
| 40°   | 9383.7  | 8169.5  | 7440.3  | 7280.3  | 7886.2  | 8505.3  | 9506.2  | 11109.6 | 10431.3 | 10109.6 |
| 42.5° | 9692.9  | 8596.2  | 8017.8  | 8061.2  | 8768.7  | 9098.7  | 9927.9  | 11846.3 | 11146.3 | 10802.9 |
| 45°   | 9975.4  | 9036.2  | 8840.4  | 9040.4  | 9587.9  | 9749.6  | 10347.1 | 12272.2 | 11717.1 | 11385.5 |
| 47.5° | 10227.1 | 9586.2  | 9657.9  | 10190.4 | 10519.6 | 10338.8 | 10660.4 | 12639.7 | 12142.2 | 11849.7 |
| 50°   | 10519.6 | 10297.9 | 10735.4 | 11488.8 | 11592.1 | 10872.1 | 10945.5 | 13074.7 | 12638.9 | 12403.8 |
| 52.5° | 10839.6 | 11048.0 | 11928.8 | 12593.0 | 12559.7 | 11451.3 | 11232.1 | 13562.2 | 13319.7 | 13098.9 |
| 55°   | 11203.0 | 11653.8 | 12979.7 | 13626.4 | 13598.1 | 12098.0 | 11707.1 | 14164.7 | 14173.1 | 13973.1 |
| 57.5° | 11742.1 | 12175.5 | 13693.1 | 14462.3 | 14509.8 | 12844.7 | 12512.2 | 14839.8 | 14944.8 | 14811.4 |
| 59°   | 12128.8 | 12513.8 | 13975.6 | 14811.4 | 15004.8 | 13422.2 | 13100.5 | 15231.5 | 15162.3 | 15040.6 |
| 60°   | 12415.5 | 12728.9 | 14115.6 | 14993.9 | 15292.3 | 13813.9 | 13534.7 | 15461.5 | 15188.1 | 15040.6 |
| 62.5° | 13124.7 | 13197.2 | 14368.1 | 15200.6 | 15623.1 | 14683.9 | 14756.4 | 15853.2 | 15009.0 | 14768.1 |
| 65°   | 13455.6 | 13493.1 | 14364.8 | 14830.6 | 15303.1 | 15361.5 | 15864.8 | 15864.8 | 14571.4 | 14201.4 |
| 67.5° | 13317.2 | 13136.4 | 13652.2 | 13603.9 | 14075.6 | 14958.9 | 16281.5 | 15283.1 | 13734.7 | 13256.4 |
| 70°   | 12192.2 | 11496.3 | 11267.1 | 11288.0 | 11648.8 | 13011.4 | 15456.5 | 13571.4 | 12151.3 | 11592.1 |
| 72.5° | 10144.6 | 8475.3  | 7909.5  | 8555.4  | 8649.5  | 9999.6  | 13172.2 | 10220.4 | 8961.2  | 8437.0  |
| 75°   | 8159.5  | 5974.4  | 5054.4  | 5736.1  | 5896.1  | 7317.8  | 10189.6 | 6365.3  | 5234.4  | 4826.0  |
| 77.5° | 5861.9  | 4288.5  | 3626.8  | 3579.3  | 3786.0  | 4641.0  | 7230.3  | 3203.5  | 2671.8  | 2493.4  |
| 80°   | 3330.1  | 2822.6  | 3039.3  | 2867.6  | 2971.8  | 2901.8  | 3435.1  | 1405.1  | 1150.9  | 1075.9  |
| 82.5° | 2010.1  | 1668.4  | 1806.7  | 1504.2  | 1903.4  | 1657.6  | 1323.4  | 450.0   | 390.8   | 371.7   |
| 85°   | 1307.6  | 911.7   | 475.0   | 318.3   | 655.9   | 1059.2  | 295.8   | 122.5   | 94.2    | 75.0    |
| 87.5° | 450.9   | 232.5   | 23.3    | 10.0    | 70.0    | 197.5   | 10.8    | 0.0     | 0.0     | 0.0     |
| 90°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



LM-79-2008: Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGRAW-EDISON

Report Number: SP1-1908-441-4-R4

Test Date: 10/02/2019

Luminaire Tested: SA1C-750-U-5WQ

Data in this report applies to families of products SA1C-760-U-5WQ .

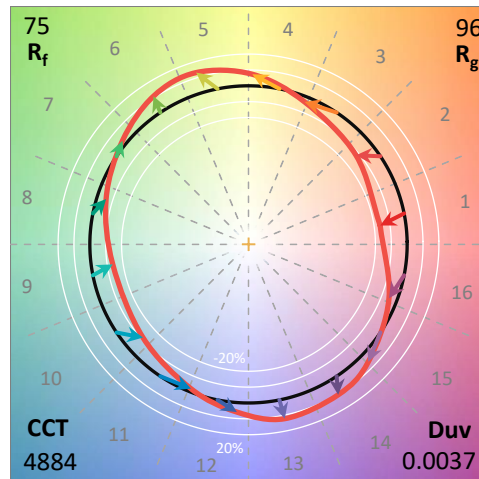
**Test Information**

Test Method: LM-79-2008  
 Report Number: SP1-1908-441-4-R4  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 10/28/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: MCGRAW-EDISON  
 Catalog Number: **SA1C-750-U-5WQ**  
 Description: MCGRAW EDISON ROADWAY AND AREA LUMINAIRE

\*\*\*THIS IS A REVISION OF SP1-1908-441-4-R3. TO UPDATE THE CATALOG INFORMATION.\*\*\*TESTED IN SITU. ROADWAY AND AREA LUMINAIRE. (1) 70 CRI, 5000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

**Spectral Parameters**

|                           |        |           |      |      |       |
|---------------------------|--------|-----------|------|------|-------|
| CCT (K):                  | 4884   | CRI (Ra): | 73.5 | R9:  | -28.4 |
| CIE u':                   | 0.2101 | R1:       | 70.5 | R10: | 48.6  |
| CIE v':                   | 0.4904 | R2:       | 77.7 | R11: | 73.2  |
| Duv:                      | 0.0037 | R3:       | 84.6 | R12: | 50.7  |
| CIE x:                    | 0.3493 | R4:       | 74.7 | R13: | 71.2  |
| CIE y:                    | 0.3624 | R5:       | 71.9 | R14: | 91.4  |
| CIE z:                    | 0.2884 | R6:       | 70.7 |      |       |
| Peak Wavelength (nm):     | 444    | R7:       | 81.2 |      |       |
| Dominant Wavelength (nm): | 571    | R8:       | 56.9 |      |       |
| Purity:                   | 13.7   |           |      |      |       |
| Rf:                       | 74.9   |           |      |      |       |
| Rg:                       | 96.3   |           |      |      |       |



**Test Conditions**

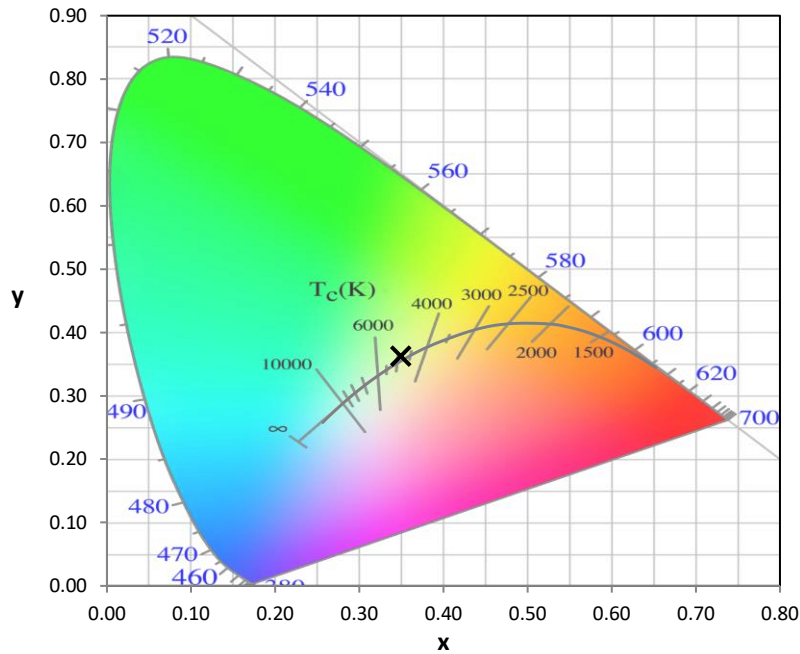
Stabilization Time: 240M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 25.0./44%  
 Sphere Temperature (°C): 25.7

REPORT NUMBER: SP1-1908-441-4-R4

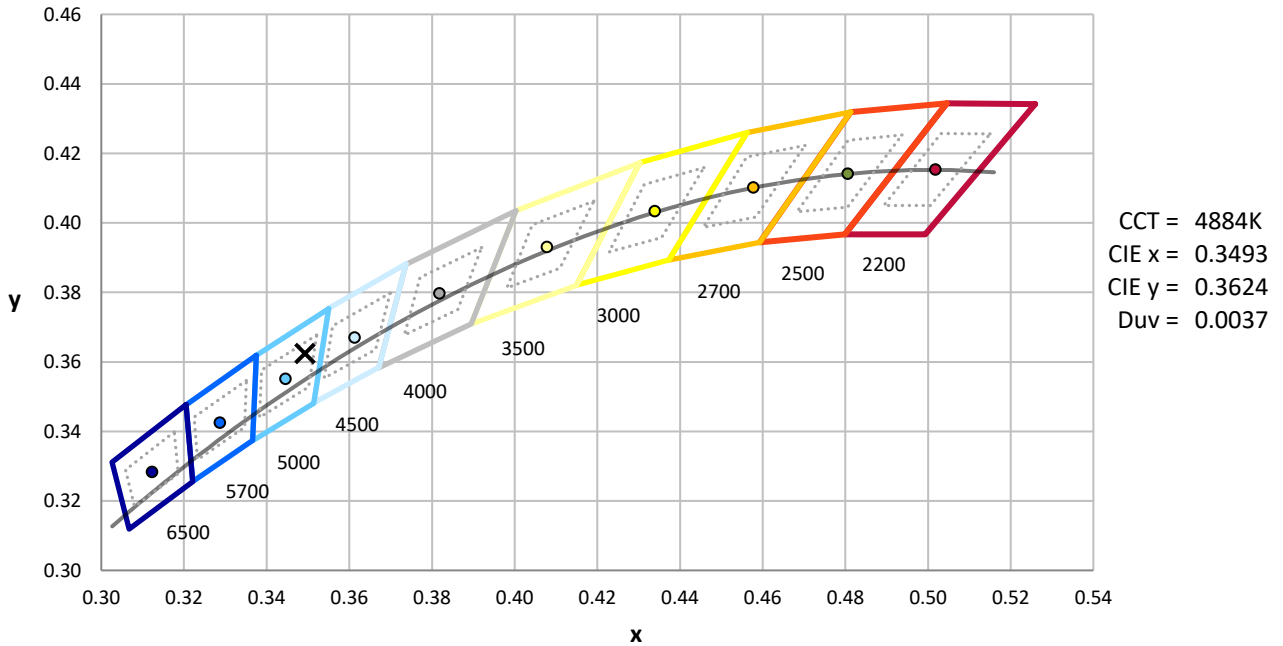
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | IN0058                | 6/28/2019        | 12/28/2019           |
| Power Meter                    | IN0071                | 12/5/2018        | 12/5/2019            |
| AC Power Source                | IN0063                | 12/5/2018        | 12/5/2019            |
| DC Power Source                | IN0208                | 12/5/2018        | 12/5/2019            |
| Sphere Thermometer             | IN0085                | 12/5/2018        | 12/5/2019            |
| Room Thermometer               | IN0046                | 12/5/2018        | 12/5/2019            |

REPORT NUMBER: SP1-1908-441-4-R4

**CIE 1931 Chromaticity Diagram**



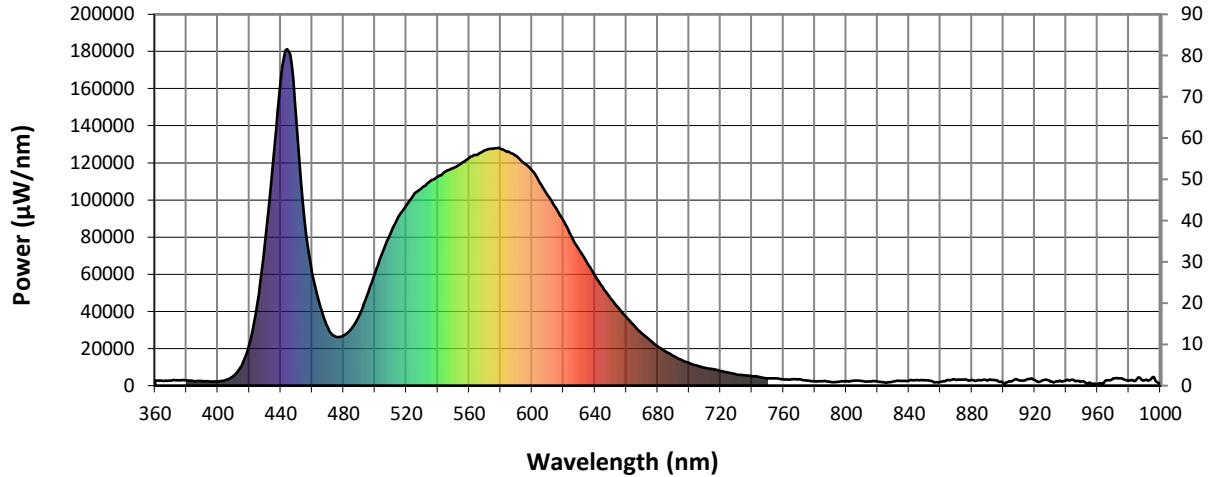
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 5000K 4-step quadrangle

REPORT NUMBER: SP1-1908-441-4-R4

**Photopic Flux vs. Wavelength**

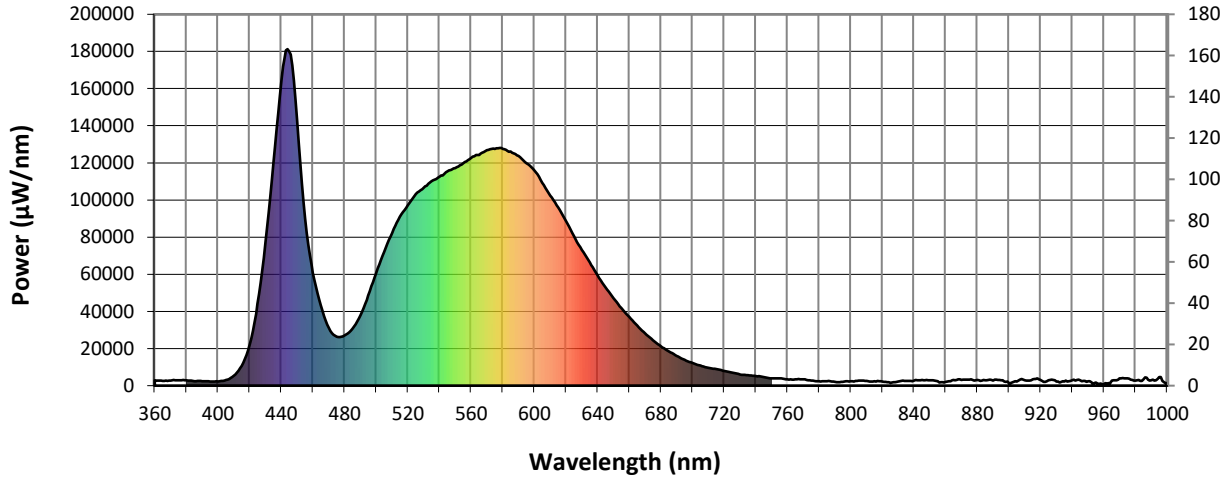


#####

| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360    | 2945          | NR            | 490    | 37941         | NR            | 620    | 88803         | NR            | 750    | 3908          | NR            | 880    | 2997          | NR            |
| 365    | 2596          | NR            | 495    | 48525         | NR            | 625    | 80578         | NR            | 755    | 3988          | NR            | 885    | 2927          | NR            |
| 370    | 2732          | NR            | 500    | 60609         | NR            | 630    | 73127         | NR            | 760    | 3335          | NR            | 890    | 2649          | NR            |
| 375    | 2894          | NR            | 505    | 72036         | NR            | 635    | 66244         | NR            | 765    | 3438          | NR            | 895    | 2828          | NR            |
| 380    | 2822          | NR            | 510    | 82168         | NR            | 640    | 59440         | NR            | 770    | 3427          | NR            | 900    | 1407          | NR            |
| 385    | 2394          | NR            | 515    | 90898         | NR            | 645    | 52864         | NR            | 775    | 2759          | NR            | 905    | 2224          | NR            |
| 390    | 2370          | NR            | 520    | 97142         | NR            | 650    | 47085         | NR            | 780    | 2340          | NR            | 910    | 2905          | NR            |
| 395    | 2267          | NR            | 525    | 103255        | NR            | 655    | 41789         | NR            | 785    | 2412          | NR            | 915    | 3350          | NR            |
| 400    | 2262          | NR            | 530    | 106697        | NR            | 660    | 37064         | NR            | 790    | 1999          | NR            | 920    | 3114          | NR            |
| 405    | 3000          | NR            | 535    | 110081        | NR            | 665    | 32299         | NR            | 795    | 2054          | NR            | 925    | 2834          | NR            |
| 410    | 5324          | NR            | 540    | 112494        | NR            | 670    | 28142         | NR            | 800    | 2331          | NR            | 930    | 2271          | NR            |
| 415    | 10725         | NR            | 545    | 115513        | NR            | 675    | 24505         | NR            | 805    | 2648          | NR            | 935    | 2228          | NR            |
| 420    | 22128         | NR            | 550    | 117203        | NR            | 680    | 21162         | NR            | 810    | 2485          | NR            | 940    | 2833          | NR            |
| 425    | 44095         | NR            | 555    | 119753        | NR            | 685    | 18400         | NR            | 815    | 2409          | NR            | 945    | 2941          | NR            |
| 430    | 77002         | NR            | 560    | 122602        | NR            | 690    | 16065         | NR            | 820    | 2221          | NR            | 950    | 2323          | NR            |
| 435    | 119881        | NR            | 565    | 124314        | NR            | 695    | 13860         | NR            | 825    | 1562          | NR            | 955    | 1667          | NR            |
| 440    | 164454        | NR            | 570    | 126775        | NR            | 700    | 12177         | NR            | 830    | 2249          | NR            | 960    | 749           | NR            |
| 445    | 179997        | NR            | 575    | 127511        | NR            | 705    | 10757         | NR            | 835    | 2573          | NR            | 965    | 2669          | NR            |
| 450    | 142822        | NR            | 580    | 127577        | NR            | 710    | 9601          | NR            | 840    | 2764          | NR            | 970    | 3968          | NR            |
| 455    | 90008         | NR            | 585    | 126153        | NR            | 715    | 8944          | NR            | 845    | 3109          | NR            | 975    | 3886          | NR            |
| 460    | 60557         | NR            | 590    | 123678        | NR            | 720    | 7947          | NR            | 850    | 2963          | NR            | 980    | 2788          | NR            |
| 465    | 43305         | NR            | 595    | 119774        | NR            | 725    | 7062          | NR            | 855    | 2336          | NR            | 985    | 3496          | NR            |
| 470    | 31089         | NR            | 600    | 115733        | NR            | 730    | 6004          | NR            | 860    | 2118          | NR            | 990    | 2913          | NR            |
| 475    | 26278         | NR            | 605    | 109231        | NR            | 735    | 5594          | NR            | 865    | 3144          | NR            | 995    | 4659          | NR            |
| 480    | 27060         | NR            | 610    | 102408        | NR            | 740    | 5165          | NR            | 870    | 3069          | NR            | 1000   | 1308          | NR            |
| 485    | 30698         | NR            | 615    | 96015         | NR            | 745    | 4687          | NR            | 875    | 3311          | NR            |        |               |               |

REPORT NUMBER: SP1-1908-441-4-R4

Scotopic Flux vs. Wavelength



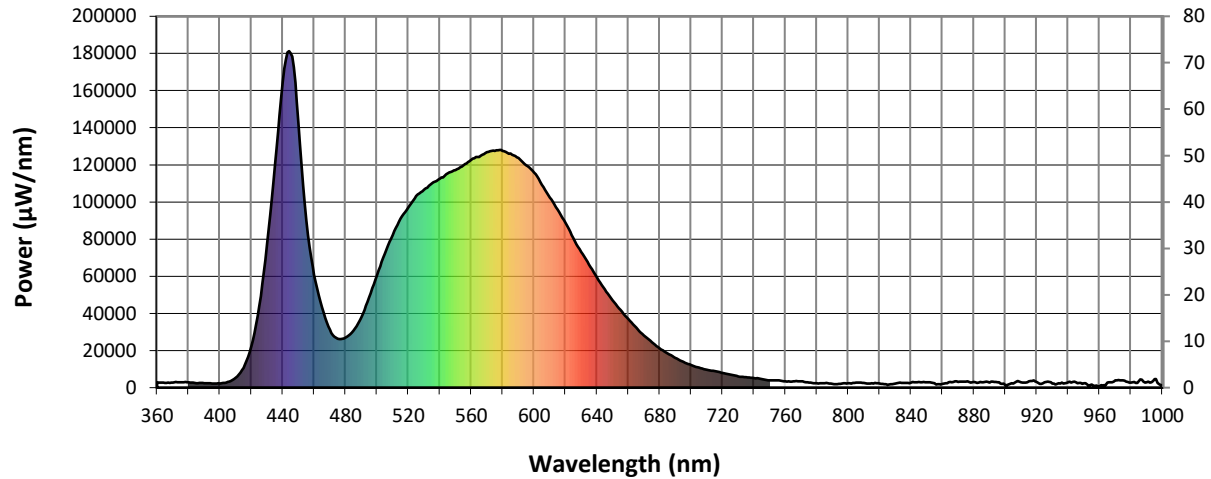
Scotopic Lumens: 13493.5 S/P: 1.77

| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360    | 2945          | NR            | 490    | 37941         | NR            | 620    | 88803         | NR            | 750    | 3908          | NR            | 880    | 2997          | NR            |
| 365    | 2596          | NR            | 495    | 48525         | NR            | 625    | 80578         | NR            | 755    | 3988          | NR            | 885    | 2927          | NR            |
| 370    | 2732          | NR            | 500    | 60609         | NR            | 630    | 73127         | NR            | 760    | 3335          | NR            | 890    | 2649          | NR            |
| 375    | 2894          | NR            | 505    | 72036         | NR            | 635    | 66244         | NR            | 765    | 3438          | NR            | 895    | 2828          | NR            |
| 380    | 2822          | NR            | 510    | 82168         | NR            | 640    | 59440         | NR            | 770    | 3427          | NR            | 900    | 1407          | NR            |
| 385    | 2394          | NR            | 515    | 90898         | NR            | 645    | 52864         | NR            | 775    | 2759          | NR            | 905    | 2224          | NR            |
| 390    | 2370          | NR            | 520    | 97142         | NR            | 650    | 47085         | NR            | 780    | 2340          | NR            | 910    | 2905          | NR            |
| 395    | 2267          | NR            | 525    | 103255        | NR            | 655    | 41789         | NR            | 785    | 2412          | NR            | 915    | 3350          | NR            |
| 400    | 2262          | NR            | 530    | 106697        | NR            | 660    | 37064         | NR            | 790    | 1999          | NR            | 920    | 3114          | NR            |
| 405    | 3000          | NR            | 535    | 110081        | NR            | 665    | 32299         | NR            | 795    | 2054          | NR            | 925    | 2834          | NR            |
| 410    | 5324          | NR            | 540    | 112494        | NR            | 670    | 28142         | NR            | 800    | 2331          | NR            | 930    | 2271          | NR            |
| 415    | 10725         | NR            | 545    | 115513        | NR            | 675    | 24505         | NR            | 805    | 2648          | NR            | 935    | 2228          | NR            |
| 420    | 22128         | NR            | 550    | 117203        | NR            | 680    | 21162         | NR            | 810    | 2485          | NR            | 940    | 2833          | NR            |
| 425    | 44095         | NR            | 555    | 119753        | NR            | 685    | 18400         | NR            | 815    | 2409          | NR            | 945    | 2941          | NR            |
| 430    | 77002         | NR            | 560    | 122602        | NR            | 690    | 16065         | NR            | 820    | 2221          | NR            | 950    | 2323          | NR            |
| 435    | 119881        | NR            | 565    | 124314        | NR            | 695    | 13860         | NR            | 825    | 1562          | NR            | 955    | 1667          | NR            |
| 440    | 164454        | NR            | 570    | 126775        | NR            | 700    | 12177         | NR            | 830    | 2249          | NR            | 960    | 749           | NR            |
| 445    | 179997        | NR            | 575    | 127511        | NR            | 705    | 10757         | NR            | 835    | 2573          | NR            | 965    | 2669          | NR            |
| 450    | 142822        | NR            | 580    | 127577        | NR            | 710    | 9601          | NR            | 840    | 2764          | NR            | 970    | 3968          | NR            |
| 455    | 90008         | NR            | 585    | 126153        | NR            | 715    | 8944          | NR            | 845    | 3109          | NR            | 975    | 3886          | NR            |
| 460    | 60557         | NR            | 590    | 123678        | NR            | 720    | 7947          | NR            | 850    | 2963          | NR            | 980    | 2788          | NR            |
| 465    | 43305         | NR            | 595    | 119774        | NR            | 725    | 7062          | NR            | 855    | 2336          | NR            | 985    | 3496          | NR            |
| 470    | 31089         | NR            | 600    | 115733        | NR            | 730    | 6004          | NR            | 860    | 2118          | NR            | 990    | 2913          | NR            |
| 475    | 26278         | NR            | 605    | 109231        | NR            | 735    | 5594          | NR            | 865    | 3144          | NR            | 995    | 4659          | NR            |
| 480    | 27060         | NR            | 610    | 102408        | NR            | 740    | 5165          | NR            | 870    | 3069          | NR            | 1000   | 1308          | NR            |
| 485    | 30698         | NR            | 615    | 96015         | NR            | 745    | 4687          | NR            | 875    | 3311          | NR            |        |               |               |



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**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: 5378.9 M/P: 0.71**

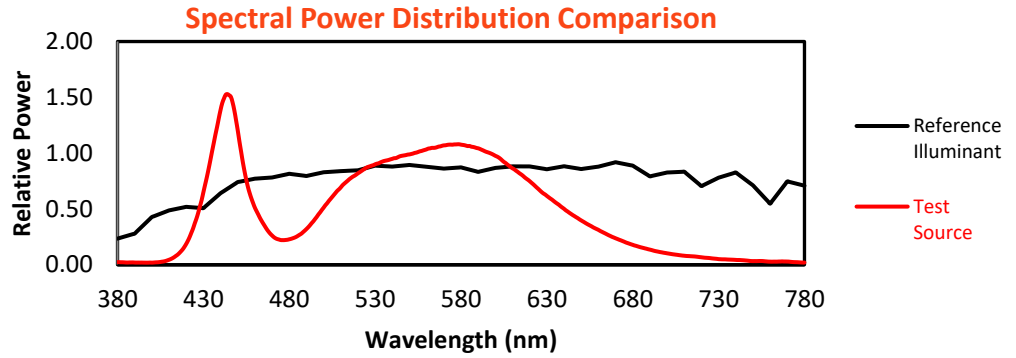
| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360    | 2945          | NR            | 490    | 37941         | NR            | 620    | 88803         | NR            | 750    | 3908          | NR            | 880    | 2997          | NR            |
| 365    | 2596          | NR            | 495    | 48525         | NR            | 625    | 80578         | NR            | 755    | 3988          | NR            | 885    | 2927          | NR            |
| 370    | 2732          | NR            | 500    | 60609         | NR            | 630    | 73127         | NR            | 760    | 3335          | NR            | 890    | 2649          | NR            |
| 375    | 2894          | NR            | 505    | 72036         | NR            | 635    | 66244         | NR            | 765    | 3438          | NR            | 895    | 2828          | NR            |
| 380    | 2822          | NR            | 510    | 82168         | NR            | 640    | 59440         | NR            | 770    | 3427          | NR            | 900    | 1407          | NR            |
| 385    | 2394          | NR            | 515    | 90898         | NR            | 645    | 52864         | NR            | 775    | 2759          | NR            | 905    | 2224          | NR            |
| 390    | 2370          | NR            | 520    | 97142         | NR            | 650    | 47085         | NR            | 780    | 2340          | NR            | 910    | 2905          | NR            |
| 395    | 2267          | NR            | 525    | 103255        | NR            | 655    | 41789         | NR            | 785    | 2412          | NR            | 915    | 3350          | NR            |
| 400    | 2262          | NR            | 530    | 106697        | NR            | 660    | 37064         | NR            | 790    | 1999          | NR            | 920    | 3114          | NR            |
| 405    | 3000          | NR            | 535    | 110081        | NR            | 665    | 32299         | NR            | 795    | 2054          | NR            | 925    | 2834          | NR            |
| 410    | 5324          | NR            | 540    | 112494        | NR            | 670    | 28142         | NR            | 800    | 2331          | NR            | 930    | 2271          | NR            |
| 415    | 10725         | NR            | 545    | 115513        | NR            | 675    | 24505         | NR            | 805    | 2648          | NR            | 935    | 2228          | NR            |
| 420    | 22128         | NR            | 550    | 117203        | NR            | 680    | 21162         | NR            | 810    | 2485          | NR            | 940    | 2833          | NR            |
| 425    | 44095         | NR            | 555    | 119753        | NR            | 685    | 18400         | NR            | 815    | 2409          | NR            | 945    | 2941          | NR            |
| 430    | 77002         | NR            | 560    | 122602        | NR            | 690    | 16065         | NR            | 820    | 2221          | NR            | 950    | 2323          | NR            |
| 435    | 119881        | NR            | 565    | 124314        | NR            | 695    | 13860         | NR            | 825    | 1562          | NR            | 955    | 1667          | NR            |
| 440    | 164454        | NR            | 570    | 126775        | NR            | 700    | 12177         | NR            | 830    | 2249          | NR            | 960    | 749           | NR            |
| 445    | 179997        | NR            | 575    | 127511        | NR            | 705    | 10757         | NR            | 835    | 2573          | NR            | 965    | 2669          | NR            |
| 450    | 142822        | NR            | 580    | 127577        | NR            | 710    | 9601          | NR            | 840    | 2764          | NR            | 970    | 3968          | NR            |
| 455    | 90008         | NR            | 585    | 126153        | NR            | 715    | 8944          | NR            | 845    | 3109          | NR            | 975    | 3886          | NR            |
| 460    | 60557         | NR            | 590    | 123678        | NR            | 720    | 7947          | NR            | 850    | 2963          | NR            | 980    | 2788          | NR            |
| 465    | 43305         | NR            | 595    | 119774        | NR            | 725    | 7062          | NR            | 855    | 2336          | NR            | 985    | 3496          | NR            |
| 470    | 31089         | NR            | 600    | 115733        | NR            | 730    | 6004          | NR            | 860    | 2118          | NR            | 990    | 2913          | NR            |
| 475    | 26278         | NR            | 605    | 109231        | NR            | 735    | 5594          | NR            | 865    | 3144          | NR            | 995    | 4659          | NR            |
| 480    | 27060         | NR            | 610    | 102408        | NR            | 740    | 5165          | NR            | 870    | 3069          | NR            | 1000   | 1308          | NR            |
| 485    | 30698         | NR            | 615    | 96015         | NR            | 745    | 4687          | NR            | 875    | 3311          | NR            |        |               |               |

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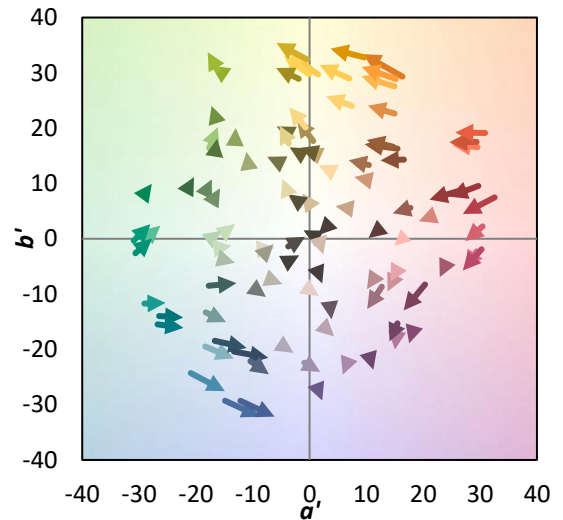
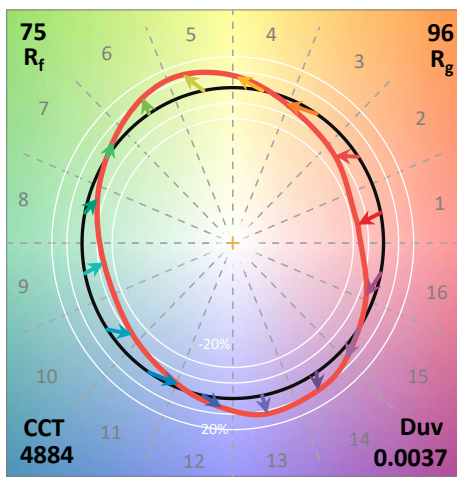
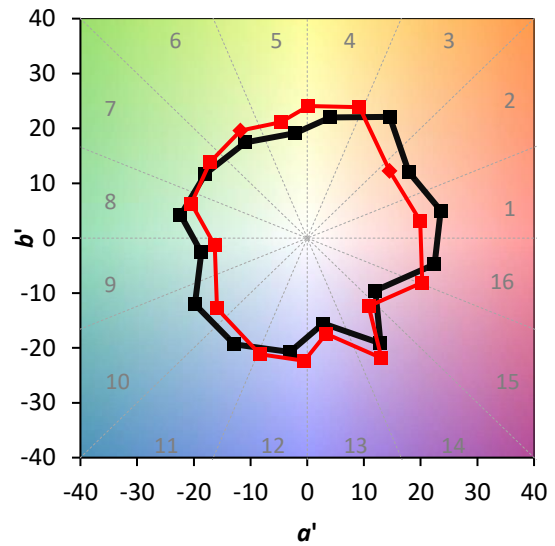
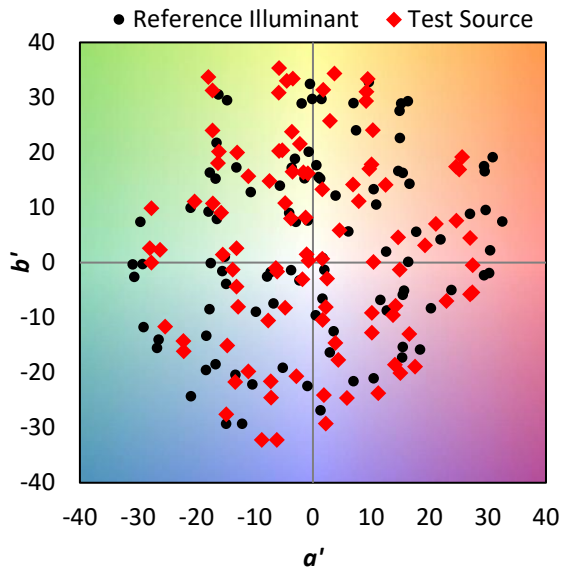
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**Summary**

$R_f = 74.9$   
 $R_g = 96.3$   
 CIE  $R_a = 73.5$   
 $R_g = -28.4$



**Color Vector Graphics**

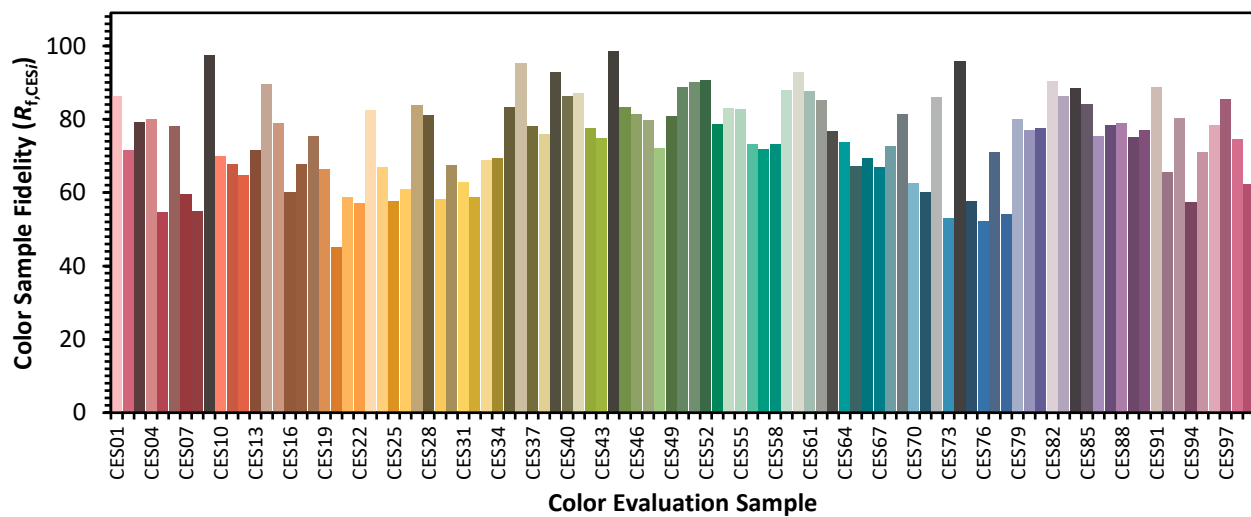


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**Individual Sample Fidelity Index ( $R_{f,i}$ )**

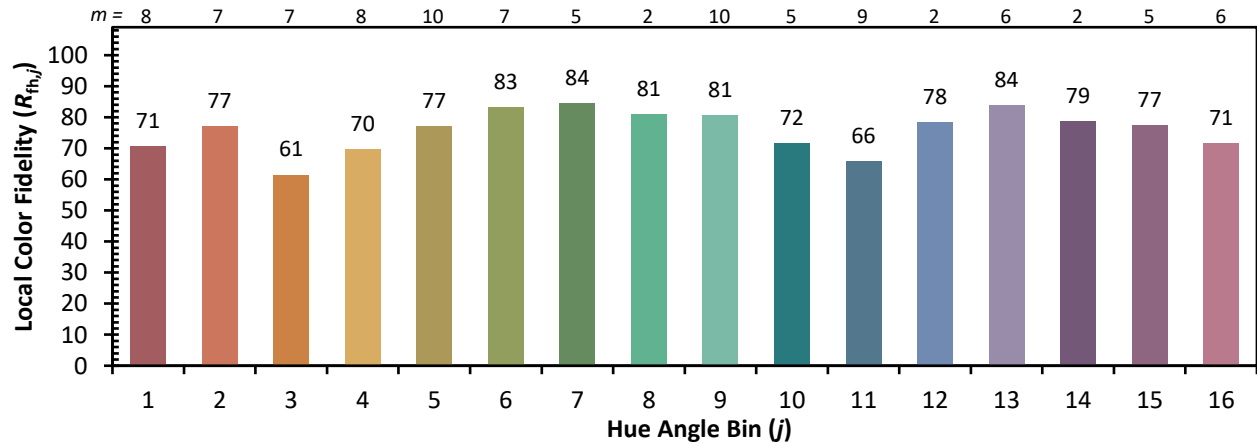
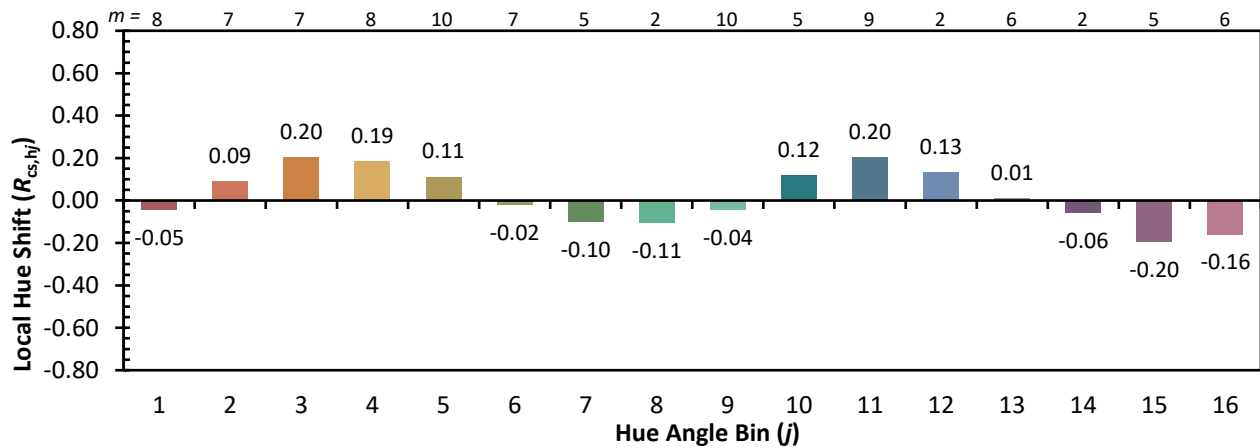
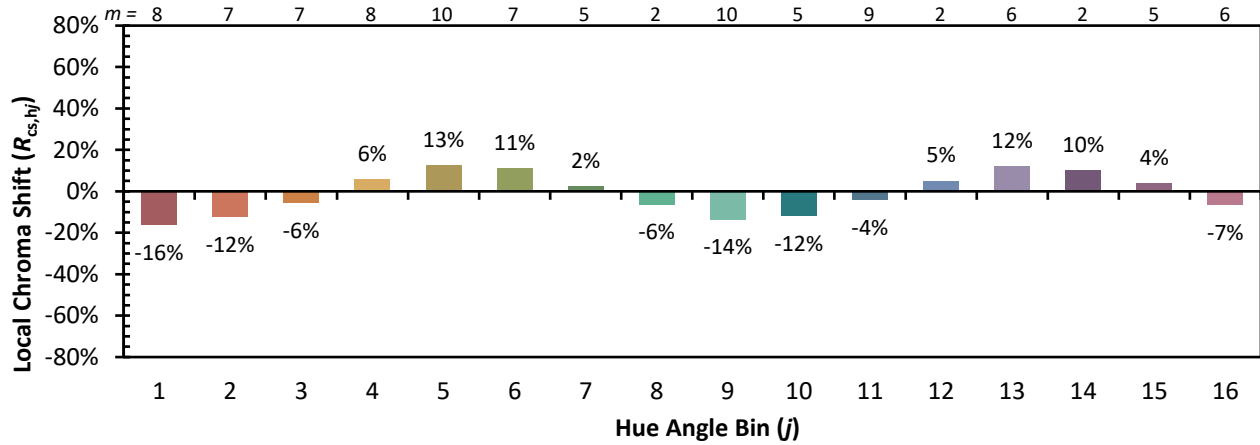
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|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 61 | CES51 = 90 | CES76 = 52 |
| CES02 = 60 | CES27 = 84 | CES52 = 91 | CES77 = 71 |
| CES03 = 30 | CES28 = 81 | CES53 = 79 | CES78 = 54 |
| CES04 = 69 | CES29 = 58 | CES54 = 83 | CES79 = 80 |
| CES05 = 46 | CES30 = 67 | CES55 = 83 | CES80 = 77 |
| CES06 = 50 | CES31 = 63 | CES56 = 73 | CES81 = 77 |
| CES07 = 39 | CES32 = 59 | CES57 = 72 | CES82 = 90 |
| CES08 = 38 | CES33 = 69 | CES58 = 73 | CES83 = 86 |
| CES09 = 29 | CES34 = 69 | CES59 = 88 | CES84 = 88 |
| CES10 = 73 | CES35 = 83 | CES60 = 93 | CES85 = 84 |
| CES11 = 56 | CES36 = 95 | CES61 = 88 | CES86 = 75 |
| CES12 = 61 | CES37 = 78 | CES62 = 85 | CES87 = 78 |
| CES13 = 41 | CES38 = 76 | CES63 = 77 | CES88 = 79 |
| CES14 = 74 | CES39 = 93 | CES64 = 74 | CES89 = 75 |
| CES15 = 70 | CES40 = 86 | CES65 = 67 | CES90 = 77 |
| CES16 = 46 | CES41 = 87 | CES66 = 69 | CES91 = 89 |
| CES17 = 49 | CES42 = 78 | CES67 = 67 | CES92 = 66 |
| CES18 = 55 | CES43 = 75 | CES68 = 73 | CES93 = 80 |
| CES19 = 71 | CES44 = 99 | CES69 = 81 | CES94 = 57 |
| CES20 = 64 | CES45 = 83 | CES70 = 63 | CES95 = 71 |
| CES21 = 85 | CES46 = 81 | CES71 = 60 | CES96 = 78 |
| CES22 = 77 | CES47 = 80 | CES72 = 86 | CES97 = 85 |
| CES23 = 91 | CES48 = 72 | CES73 = 53 | CES98 = 75 |
| CES24 = 90 | CES49 = 81 | CES74 = 96 | CES99 = 62 |
| CES25 = 71 | CES50 = 89 | CES75 = 58 |            |



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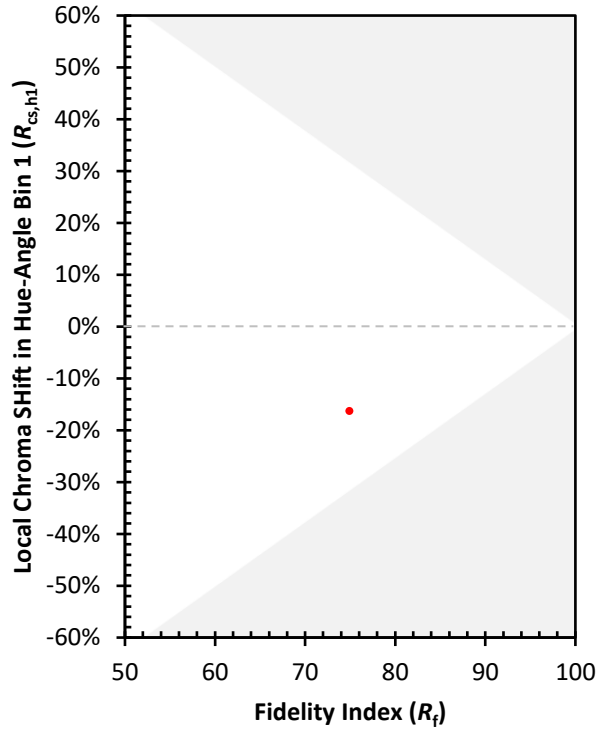
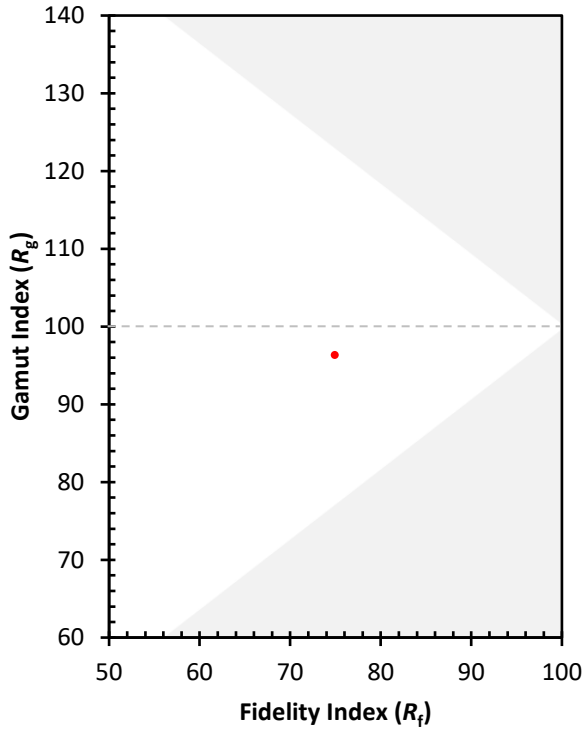
Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)