

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P324469

Luminaire Tested: **GLEON-SA5A-740-U-SLR-HSS**

Issue Date: 3/3/2020

### Test Information

Test Method: LM-79-08  
Report Number: P324469  
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 (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: GLEON-SA5A-740-U-SLR-HSS  
Description: GALLEON AREA AND ROADWAY LUMINAIRE  
(5) 70 CRI, 4000K, 615mA 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: 17265 lumens  
Efficiency: N/A  
Efficacy: 106.6 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type IV - Medium  
BUG Rating: B2 - U0 - G3

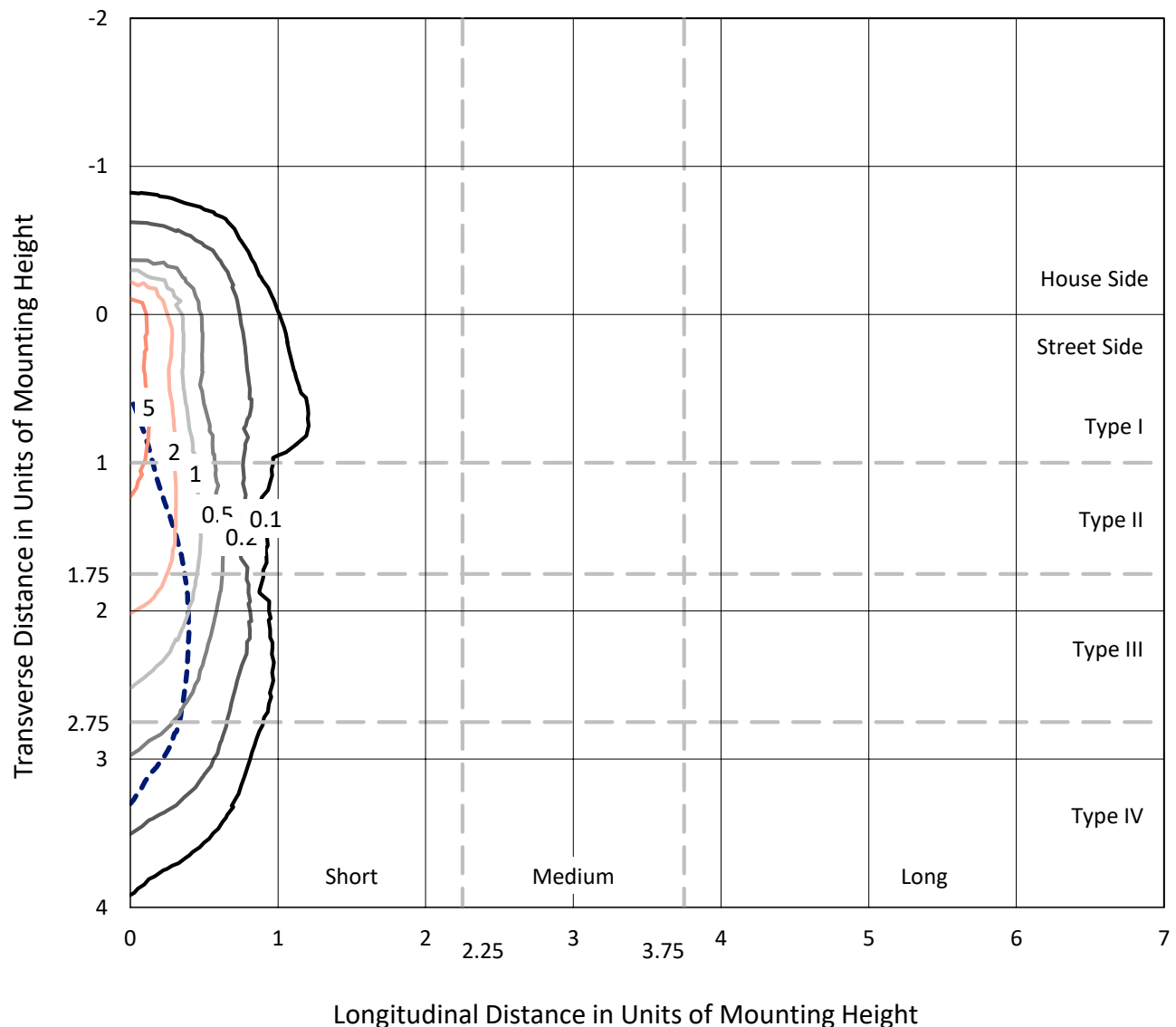
Input Watts (W): 162  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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## Iso-Footcandle Lines of Horizontal Illumination

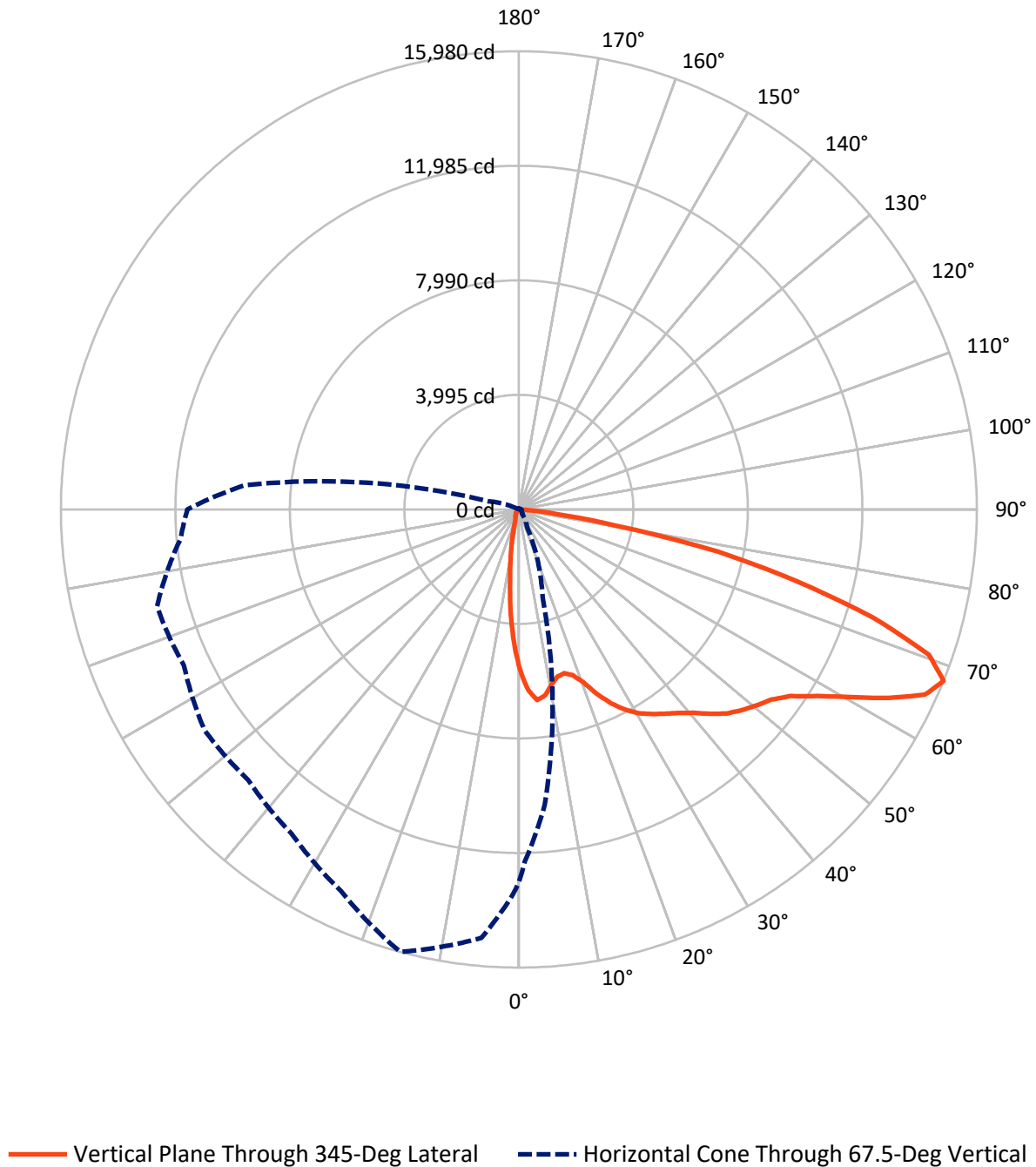
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 9 fc  
 Type IV - Medium - N/A

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## Luminous Intensity Polar Plot



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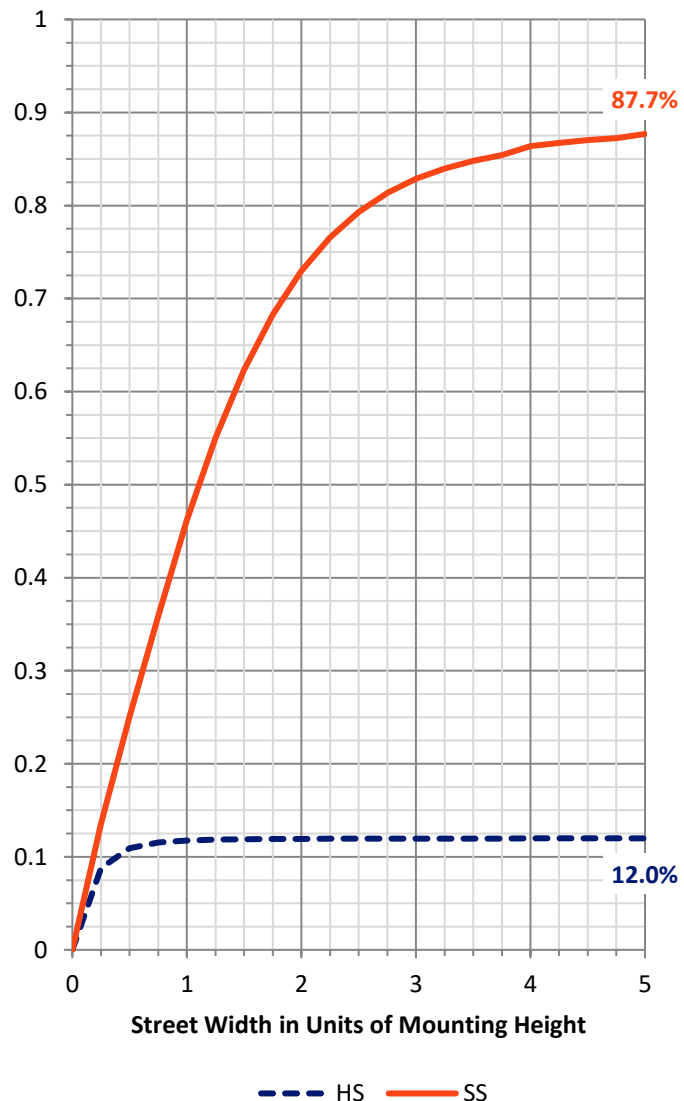
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 2089.6   | 0.0    | 2089.6  |
|                    | % Fixture | 12.1     | 0.0    | 12.1    |
| <b>Street Side</b> | Lumens    | 15175.4  | 0.0    | 15175.4 |
|                    | % Fixture | 87.9     | 0.0    | 87.9    |
| <b>Total</b>       | Lumens    | 17265.0  | 0.0    | 17265.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 431.6   | 2.5       |
| 10°-20°   | 859.2   | 5.0       |
| 20°-30°   | 1220.0  | 7.1       |
| 30°-40°   | 1802.1  | 10.4      |
| 40°-50°   | 2598.9  | 15.1      |
| 50°-60°   | 3648.4  | 21.1      |
| 60°-70°   | 4252.9  | 24.6      |
| 70°-80°   | 2174.2  | 12.6      |
| 80°-90°   | 277.7   | 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°    | 17265.0 | 100.0     |
| 0°-180°   | 17265.0 | 100.0     |

**Coefficient of Utilization**



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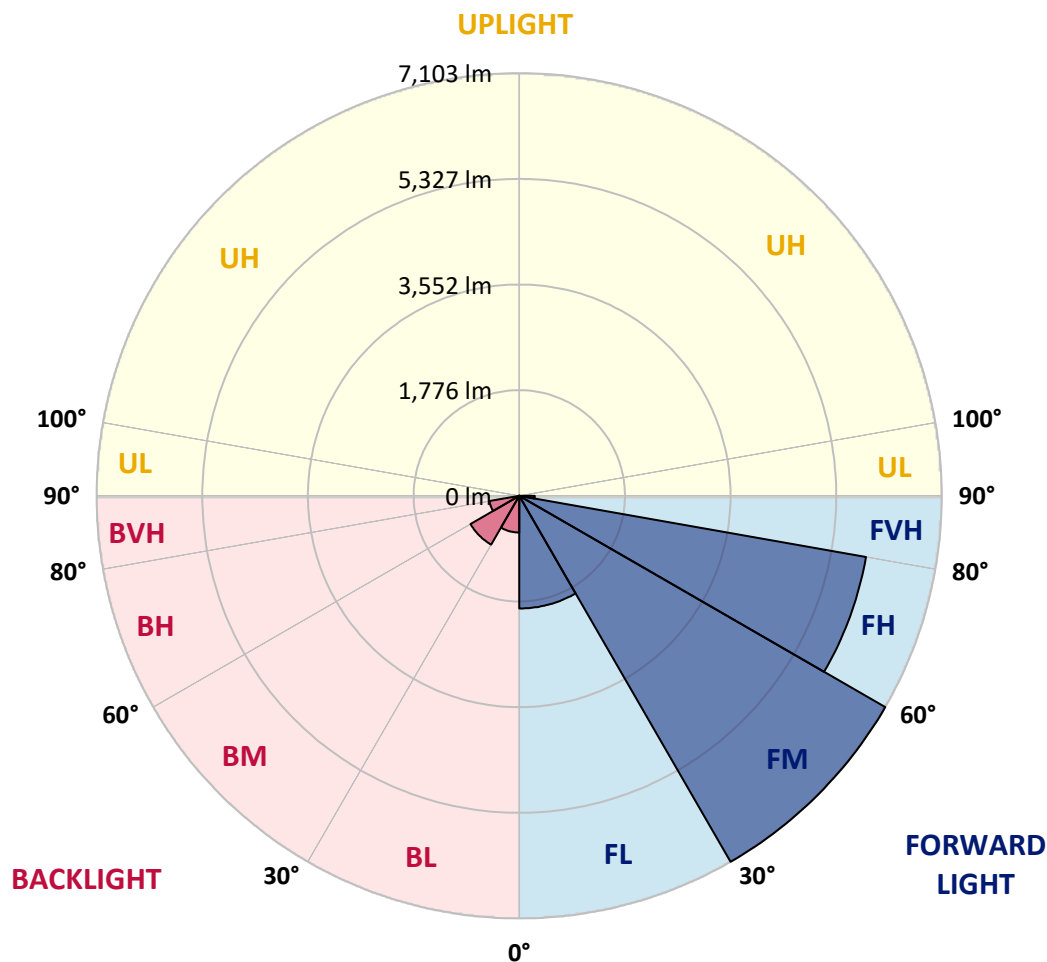
CATALOG NUMBER: GLEON-SA5A-740-U-SLR-HSS

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 1893.6 | 11.0      |                         |      |         |
| FM   | (30°-60°)   | 7103.1 | 41.1      |                         |      |         |
| FH   | (60°-80°)   | 5917.8 | 34.3      |                         |      | G3/7500 |
| FVH  | (80°-90°)   | 260.8  | 1.5       |                         |      | G3/500  |
| BL   | (0°-30°)    | 617.2  | 3.6       | B2/1000                 |      |         |
| BM   | (30°-60°)   | 946.3  | 5.5       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 509.3  | 2.9       | B2/1000                 |      | G2/1000 |
| BVH  | (80°-90°)   | 16.9   | 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°    | 5624.0  | 5624.0  | 5624.0  | 5624.0 | 5624.0 | 5624.0 | 5624.0 | 5624.0 | 5624.0 | 5624.0 | 5624.0 |
| 2.5°  | 6158.1  | 6110.7  | 6058.4  | 5887.4 | 5728.7 | 5547.2 | 5399.1 | 5296.1 | 5166.8 | 4999.1 | 4956.6 |
| 5°    | 6114.0  | 6063.3  | 5898.9  | 5518.5 | 5185.6 | 4861.7 | 4549.3 | 4366.1 | 4138.7 | 3908.0 | 3850.8 |
| 7.5°  | 5669.8  | 5616.7  | 5379.5  | 4858.5 | 4410.2 | 3942.4 | 3536.7 | 3285.6 | 3028.8 | 2817.7 | 2705.7 |
| 10°   | 5207.7  | 5149.6  | 4883.0  | 4250.7 | 3698.6 | 3275.8 | 2978.1 | 2738.4 | 2495.5 | 2269.7 | 2089.8 |
| 12.5° | 4889.5  | 4813.5  | 4523.9  | 3807.4 | 3326.5 | 3039.4 | 2761.3 | 2474.2 | 2145.4 | 1903.3 | 1705.4 |
| 15°   | 4756.2  | 4669.5  | 4363.6  | 3636.5 | 3194.8 | 2857.8 | 2495.5 | 2143.0 | 1757.7 | 1480.4 | 1298.9 |
| 17.5° | 4859.3  | 4746.4  | 4418.4  | 3625.0 | 3029.6 | 2570.7 | 2112.7 | 1698.8 | 1280.9 | 1000.3 | 871.1  |
| 20°   | 5209.4  | 5061.3  | 4645.0  | 3621.8 | 2829.2 | 2229.7 | 1648.9 | 1181.1 | 844.1  | 678.9  | 611.0  |
| 22.5° | 5760.6  | 5565.2  | 4970.5  | 3647.9 | 2622.3 | 1871.4 | 1190.9 | 802.4  | 633.9  | 548.0  | 507.9  |
| 25°   | 6426.4  | 6199.9  | 5439.2  | 3740.4 | 2440.7 | 1523.0 | 865.4  | 633.9  | 534.9  | 471.9  | 438.4  |
| 27.5° | 7059.5  | 6875.5  | 6031.4  | 3873.7 | 2300.0 | 1241.6 | 702.6  | 537.4  | 457.2  | 415.5  | 388.5  |
| 30°   | 7691.8  | 7460.3  | 6639.1  | 4032.4 | 2130.7 | 1051.0 | 617.5  | 489.9  | 409.8  | 365.6  | 348.4  |
| 32.5° | 8151.4  | 7959.2  | 7115.1  | 4146.9 | 1949.9 | 926.7  | 552.1  | 448.2  | 382.8  | 337.8  | 312.4  |
| 35°   | 8692.1  | 8474.5  | 7523.3  | 4172.2 | 1833.8 | 848.2  | 496.5  | 403.2  | 332.1  | 292.0  | 265.0  |
| 37.5° | 9276.1  | 9005.3  | 7994.4  | 4116.6 | 1743.0 | 809.7  | 454.8  | 382.8  | 310.0  | 269.1  | 240.5  |
| 40°   | 9922.2  | 9616.3  | 8446.7  | 4036.5 | 1653.8 | 796.7  | 422.9  | 367.2  | 292.8  | 251.1  | 221.7  |
| 42.5° | 10602.7 | 10242.0 | 8838.5  | 3952.2 | 1597.4 | 751.7  | 419.6  | 351.7  | 279.7  | 234.7  | 205.3  |
| 45°   | 11174.5 | 10808.9 | 9240.9  | 3924.4 | 1557.3 | 702.6  | 433.5  | 341.1  | 270.7  | 221.7  | 193.0  |
| 47.5° | 11630.1 | 11284.1 | 9653.1  | 3986.6 | 1534.4 | 657.6  | 395.1  | 355.0  | 265.8  | 210.2  | 182.4  |
| 50°   | 12174.0 | 11782.2 | 10233.9 | 4172.2 | 1500.9 | 612.6  | 357.4  | 406.5  | 265.8  | 202.8  | 173.4  |
| 52.5° | 12856.1 | 12468.4 | 10881.7 | 4460.1 | 1433.8 | 550.5  | 321.4  | 407.3  | 268.3  | 193.0  | 161.9  |
| 55°   | 13714.1 | 13432.8 | 11806.7 | 4775.9 | 1326.7 | 458.9  | 278.1  | 350.1  | 258.5  | 175.0  | 151.3  |
| 57.5° | 14537.0 | 14307.1 | 12650.0 | 4991.8 | 1183.5 | 358.3  | 242.1  | 282.2  | 236.4  | 153.8  | 135.0  |
| 59°   | 14761.9 | 14510.8 | 12959.2 | 5001.6 | 1076.4 | 312.4  | 224.1  | 233.1  | 231.5  | 144.0  | 125.1  |
| 60°   | 14761.9 | 14495.2 | 13048.3 | 4949.3 | 998.7  | 287.1  | 212.7  | 207.8  | 241.3  | 137.4  | 119.4  |
| 62.5° | 14494.4 | 14119.8 | 12758.8 | 4595.1 | 814.7  | 244.6  | 185.7  | 171.8  | 216.7  | 123.5  | 105.5  |
| 65°   | 13938.2 | 13392.7 | 11772.4 | 3954.7 | 726.3  | 224.1  | 160.3  | 140.7  | 150.5  | 108.8  | 92.4   |
| 67.5° | 13010.7 | 12271.3 | 10350.0 | 3194.8 | 691.1  | 218.4  | 138.2  | 119.4  | 113.7  | 93.2   | 81.0   |
| 70°   | 11377.3 | 10556.9 | 8623.4  | 2511.8 | 660.9  | 215.9  | 116.1  | 100.6  | 91.6   | 78.5   | 68.7   |
| 72.5° | 8280.7  | 7425.1  | 6122.2  | 1963.8 | 642.9  | 220.8  | 93.2   | 84.2   | 75.2   | 61.3   | 53.2   |
| 75°   | 4736.6  | 4176.3  | 3441.0  | 1297.2 | 548.0  | 211.0  | 72.0   | 70.3   | 54.0   | 44.2   | 36.8   |
| 77.5° | 2447.2  | 2372.8  | 2062.0  | 498.1  | 262.6  | 92.4   | 47.4   | 40.9   | 31.9   | 27.0   | 22.1   |
| 80°   | 1055.9  | 1044.5  | 903.8   | 144.0  | 69.5   | 51.5   | 27.0   | 17.2   | 14.7   | 11.5   | 9.0    |
| 82.5° | 364.8   | 364.8   | 321.4   | 48.3   | 31.1   | 25.4   | 3.3    | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 73.6    | 82.6    | 58.1    | 0.0    | 10.6   | 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°    | 5624.0 | 5624.0 | 5624.0 | 5624.0 | 5624.0 | 5624.0 | 5624.0 | 5624.0 | 5624.0 | 5624.0 | 5624.0 |
| 2.5°  | 4905.1 | 4806.1 | 4799.6 | 4737.4 | 4659.7 | 4624.5 | 4604.1 | 4640.1 | 4684.2 | 4689.2 | 4755.4 |
| 5°    | 3807.4 | 3703.6 | 3746.9 | 3636.5 | 3658.6 | 3636.5 | 3600.5 | 3607.0 | 3626.7 | 3565.3 | 3641.4 |
| 7.5°  | 2673.8 | 2595.3 | 2645.2 | 2615.7 | 2655.0 | 2670.5 | 2648.4 | 2615.7 | 2519.2 | 2507.8 | 2574.0 |
| 10°   | 2015.4 | 1926.2 | 1873.0 | 1817.4 | 1829.7 | 1855.1 | 1846.9 | 1823.2 | 1761.8 | 1765.1 | 1828.9 |
| 12.5° | 1619.5 | 1519.7 | 1414.2 | 1277.6 | 1244.1 | 1262.9 | 1244.1 | 1230.2 | 1171.3 | 1176.2 | 1232.6 |
| 15°   | 1228.5 | 1146.7 | 1036.3 | 926.7  | 867.0  | 872.7  | 820.4  | 783.6  | 746.8  | 702.6  | 736.9  |
| 17.5° | 829.4  | 779.5  | 746.8  | 714.0  | 642.9  | 626.5  | 560.3  | 489.1  | 461.3  | 440.9  | 455.6  |
| 20°   | 587.3  | 560.3  | 547.2  | 545.6  | 504.7  | 484.2  | 419.6  | 375.4  | 361.5  | 357.4  | 366.4  |
| 22.5° | 490.8  | 471.1  | 452.3  | 441.7  | 421.2  | 397.5  | 348.4  | 326.4  | 316.5  | 311.6  | 318.2  |
| 25°   | 427.0  | 412.2  | 392.6  | 374.6  | 366.4  | 341.1  | 305.9  | 289.5  | 283.0  | 278.1  | 281.4  |
| 27.5° | 379.5  | 366.4  | 343.5  | 332.1  | 325.5  | 303.4  | 273.2  | 260.1  | 254.4  | 252.7  | 251.9  |
| 30°   | 341.9  | 329.6  | 308.4  | 295.3  | 283.8  | 264.2  | 246.2  | 233.1  | 227.4  | 225.7  | 224.1  |
| 32.5° | 304.3  | 294.5  | 280.5  | 267.5  | 255.2  | 237.2  | 221.7  | 211.0  | 202.0  | 200.4  | 199.6  |
| 35°   | 256.8  | 247.0  | 239.7  | 238.8  | 227.4  | 210.2  | 198.8  | 184.9  | 177.5  | 175.0  | 175.9  |
| 37.5° | 228.2  | 215.1  | 198.8  | 204.5  | 201.2  | 188.9  | 173.4  | 159.5  | 152.1  | 150.5  | 150.5  |
| 40°   | 210.2  | 196.3  | 177.5  | 167.7  | 177.5  | 175.0  | 150.5  | 136.6  | 129.2  | 128.4  | 126.8  |
| 42.5° | 193.0  | 179.1  | 157.9  | 141.5  | 146.4  | 153.8  | 130.0  | 117.0  | 109.6  | 108.0  | 105.5  |
| 45°   | 180.8  | 166.0  | 142.3  | 123.5  | 113.7  | 129.2  | 111.2  | 94.9   | 90.8   | 87.5   | 85.9   |
| 47.5° | 169.3  | 155.4  | 128.4  | 107.1  | 90.8   | 93.2   | 89.2   | 77.7   | 72.8   | 69.5   | 68.7   |
| 50°   | 159.5  | 144.8  | 116.1  | 91.6   | 75.2   | 68.7   | 72.0   | 61.3   | 57.3   | 54.0   | 52.3   |
| 52.5° | 148.0  | 134.1  | 103.1  | 79.3   | 63.0   | 54.0   | 54.8   | 48.3   | 44.2   | 41.7   | 40.9   |
| 55°   | 139.0  | 125.1  | 92.4   | 69.5   | 55.6   | 44.2   | 39.3   | 37.6   | 35.2   | 33.5   | 32.7   |
| 57.5° | 126.8  | 113.7  | 81.8   | 58.9   | 47.4   | 36.0   | 30.3   | 30.3   | 29.4   | 27.8   | 27.0   |
| 59°   | 119.4  | 108.0  | 75.2   | 53.2   | 43.3   | 31.1   | 27.0   | 27.8   | 27.0   | 25.4   | 24.5   |
| 60°   | 113.7  | 103.1  | 70.3   | 49.1   | 40.9   | 28.6   | 24.5   | 26.2   | 25.4   | 23.7   | 22.9   |
| 62.5° | 100.6  | 93.2   | 60.5   | 40.9   | 36.0   | 22.9   | 20.4   | 22.1   | 22.1   | 21.3   | 20.4   |
| 65°   | 88.3   | 80.2   | 51.5   | 34.4   | 33.5   | 19.6   | 16.4   | 19.6   | 20.4   | 18.8   | 17.2   |
| 67.5° | 76.9   | 68.7   | 45.0   | 27.8   | 31.1   | 15.5   | 12.3   | 16.4   | 22.1   | 17.2   | 15.5   |
| 70°   | 65.4   | 57.3   | 35.2   | 22.1   | 32.7   | 10.6   | 9.8    | 14.7   | 26.2   | 18.8   | 14.7   |
| 72.5° | 50.7   | 44.2   | 24.5   | 16.4   | 35.2   | 7.4    | 7.4    | 12.3   | 29.4   | 20.4   | 13.9   |
| 75°   | 35.2   | 28.6   | 14.7   | 9.8    | 28.6   | 4.9    | 4.9    | 11.5   | 27.8   | 18.8   | 13.1   |
| 77.5° | 20.4   | 15.5   | 4.9    | 0.8    | 14.7   | 0.0    | 0.8    | 8.2    | 19.6   | 11.5   | 5.7    |
| 80°   | 7.4    | 3.3    | 0.0    | 0.0    | 9.0    | 0.0    | 0.0    | 0.0    | 1.6    | 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°    | 5624.0 | 5624.0 | 5624.0 | 5624.0 | 5624.0 | 5624.0 | 5624.0 | 5624.0 | 5624.0  | 5624.0  | 5624.0  |
| 2.5°  | 4772.6 | 4883.0 | 4982.0 | 5131.7 | 5309.1 | 5513.6 | 5689.5 | 5878.4 | 6055.9  | 6129.5  | 6180.2  |
| 5°    | 3656.9 | 3793.5 | 3953.0 | 4173.0 | 4465.9 | 4826.6 | 5164.4 | 5546.3 | 5956.9  | 6162.2  | 6355.3  |
| 7.5°  | 2585.5 | 2724.5 | 2922.4 | 3156.4 | 3510.5 | 3939.9 | 4381.6 | 4909.2 | 5465.4  | 5790.1  | 6109.9  |
| 10°   | 1859.1 | 2030.1 | 2214.9 | 2534.7 | 2894.6 | 3302.0 | 3756.7 | 4345.6 | 4965.6  | 5325.5  | 5710.7  |
| 12.5° | 1265.3 | 1460.0 | 1739.7 | 2098.0 | 2520.8 | 2920.0 | 3315.0 | 3877.0 | 4596.7  | 4953.3  | 5366.4  |
| 15°   | 759.0  | 867.0  | 1163.1 | 1577.8 | 2096.3 | 2593.6 | 3026.3 | 3589.9 | 4357.1  | 4793.8  | 5223.3  |
| 17.5° | 467.9  | 517.7  | 678.9  | 1019.1 | 1563.9 | 2192.9 | 2785.8 | 3492.5 | 4391.4  | 4923.1  | 5382.8  |
| 20°   | 373.0  | 392.6  | 444.1  | 602.0  | 1036.3 | 1751.2 | 2515.1 | 3472.9 | 4672.0  | 5326.3  | 5819.5  |
| 22.5° | 323.9  | 342.7  | 377.1  | 437.6  | 651.9  | 1311.1 | 2258.3 | 3490.9 | 5074.4  | 5930.8  | 6506.6  |
| 25°   | 285.5  | 301.8  | 334.5  | 384.4  | 477.7  | 923.4  | 1983.5 | 3571.1 | 5598.7  | 6680.8  | 7292.6  |
| 27.5° | 255.2  | 269.1  | 299.4  | 345.2  | 409.8  | 644.5  | 1671.8 | 3668.4 | 6220.3  | 7448.0  | 8051.6  |
| 30°   | 227.4  | 239.7  | 266.6  | 309.2  | 355.8  | 495.7  | 1329.9 | 3734.6 | 6842.7  | 8051.6  | 8593.9  |
| 32.5° | 203.7  | 212.7  | 237.2  | 273.2  | 309.2  | 395.1  | 1011.0 | 3724.0 | 7304.9  | 8553.8  | 8984.1  |
| 35°   | 179.1  | 188.1  | 209.4  | 240.5  | 269.1  | 326.4  | 795.0  | 3525.3 | 7707.3  | 9074.9  | 9430.7  |
| 37.5° | 152.1  | 163.6  | 184.0  | 211.8  | 231.5  | 287.1  | 642.9  | 3285.6 | 8115.4  | 9670.3  | 9928.8  |
| 40°   | 129.2  | 140.7  | 158.7  | 188.9  | 201.2  | 272.4  | 494.0  | 2993.6 | 8574.3  | 10336.1 | 10475.1 |
| 42.5° | 107.1  | 117.8  | 136.6  | 162.8  | 189.8  | 234.7  | 365.6  | 2659.9 | 9015.2  | 10905.4 | 10973.3 |
| 45°   | 86.7   | 97.3   | 117.0  | 143.1  | 202.8  | 194.7  | 283.0  | 2302.5 | 9370.9  | 11379.0 | 11401.0 |
| 47.5° | 68.7   | 78.5   | 99.0   | 135.0  | 188.9  | 155.4  | 202.0  | 2021.9 | 9669.5  | 11748.7 | 11690.6 |
| 50°   | 53.2   | 61.3   | 82.6   | 154.6  | 165.2  | 128.4  | 153.0  | 1928.7 | 9937.0  | 11977.7 | 11827.2 |
| 52.5° | 41.7   | 49.1   | 67.9   | 144.8  | 128.4  | 106.3  | 128.4  | 2016.2 | 10303.4 | 12167.4 | 11904.1 |
| 55°   | 33.5   | 40.9   | 53.2   | 82.6   | 87.5   | 90.0   | 109.6  | 2098.0 | 10935.6 | 12612.4 | 12358.0 |
| 57.5° | 27.8   | 35.2   | 43.3   | 58.1   | 66.3   | 76.1   | 97.3   | 2107.0 | 11680.8 | 13351.8 | 13111.3 |
| 59°   | 25.4   | 31.9   | 39.3   | 51.5   | 58.1   | 69.5   | 91.6   | 2057.9 | 11943.3 | 13620.9 | 13500.6 |
| 60°   | 23.7   | 30.3   | 36.8   | 47.4   | 54.0   | 65.4   | 88.3   | 2011.3 | 11954.8 | 13611.1 | 13666.7 |
| 62.5° | 20.4   | 27.0   | 32.7   | 40.1   | 45.8   | 55.6   | 79.3   | 1838.7 | 11470.6 | 13165.3 | 13566.9 |
| 65°   | 18.0   | 23.7   | 29.4   | 34.4   | 39.3   | 49.9   | 72.0   | 1523.8 | 10643.6 | 12446.3 | 12883.9 |
| 67.5° | 16.4   | 20.4   | 27.0   | 30.3   | 35.2   | 44.2   | 63.8   | 1086.2 | 9610.6  | 11567.1 | 11850.9 |
| 70°   | 14.7   | 19.6   | 24.5   | 27.8   | 31.9   | 38.4   | 54.8   | 624.1  | 8115.4  | 10279.7 | 10481.7 |
| 72.5° | 13.9   | 18.8   | 22.1   | 26.2   | 28.6   | 34.4   | 49.9   | 293.6  | 5942.2  | 8234.9  | 8762.4  |
| 75°   | 12.3   | 17.2   | 20.4   | 24.5   | 27.0   | 31.1   | 42.5   | 140.7  | 3952.2  | 5959.4  | 6558.9  |
| 77.5° | 7.4    | 13.9   | 18.8   | 22.1   | 23.7   | 27.0   | 35.2   | 81.0   | 2522.5  | 4124.8  | 4858.5  |
| 80°   | 0.0    | 4.9    | 13.9   | 18.8   | 20.4   | 22.9   | 27.0   | 63.8   | 1349.6  | 2356.4  | 2828.4  |
| 82.5° | 0.0    | 0.0    | 9.8    | 14.7   | 13.9   | 15.5   | 20.4   | 40.1   | 608.5   | 1540.1  | 1735.6  |
| 85°   | 0.0    | 0.0    | 3.3    | 11.5   | 9.8    | 7.4    | 13.9   | 13.9   | 133.3   | 779.5   | 972.5   |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.8    | 4.9    | 3.3    | 5.7    | 1.6    | 0.8     | 58.1    | 235.6   |
| 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: P324469

CATALOG NUMBER: GLEON-SA5A-740-U-SLR-HSS

**CANDELA DISTRIBUTION (continued):**

|       | 285°    | 295°    | 305°    | 315°    | 325°    | 335°    | 345°    | 355°    | 359°    | 360°    |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 5624.0  | 5624.0  | 5624.0  | 5624.0  | 5624.0  | 5624.0  | 5624.0  | 5624.0  | 5624.0  | 5624.0  |
| 2.5°  | 6357.7  | 6418.2  | 6520.5  | 6568.7  | 6545.0  | 6444.4  | 6324.2  | 6201.5  | 6129.5  | 6158.1  |
| 5°    | 6748.7  | 7060.3  | 7240.3  | 7300.0  | 7200.2  | 6974.4  | 6679.2  | 6289.8  | 6151.6  | 6114.0  |
| 7.5°  | 6748.7  | 7335.1  | 7706.5  | 7771.9  | 7549.4  | 7106.9  | 6553.2  | 5945.5  | 5743.5  | 5669.8  |
| 10°   | 6511.5  | 7309.8  | 7827.5  | 7931.4  | 7620.6  | 6958.9  | 6217.0  | 5523.4  | 5283.8  | 5207.7  |
| 12.5° | 6244.0  | 7103.7  | 7649.2  | 7792.4  | 7537.2  | 6811.7  | 5983.9  | 5238.0  | 4955.8  | 4889.5  |
| 15°   | 6079.6  | 6850.1  | 7301.6  | 7405.5  | 7297.5  | 6725.8  | 5928.3  | 5152.1  | 4820.0  | 4756.2  |
| 17.5° | 6138.5  | 6653.8  | 6816.6  | 6877.1  | 6949.9  | 6695.5  | 6079.6  | 5340.2  | 4919.8  | 4859.3  |
| 20°   | 6360.2  | 6446.9  | 6362.6  | 6438.7  | 6635.0  | 6725.0  | 6440.3  | 5795.0  | 5290.3  | 5209.4  |
| 22.5° | 6736.4  | 6339.7  | 6103.3  | 6133.6  | 6372.4  | 6822.3  | 6991.6  | 6444.4  | 5862.1  | 5760.6  |
| 25°   | 7174.8  | 6426.4  | 5959.4  | 5932.4  | 6177.8  | 6950.7  | 7495.5  | 7151.1  | 6538.5  | 6426.4  |
| 27.5° | 7726.1  | 6621.1  | 5929.9  | 5903.0  | 6109.9  | 7070.9  | 7914.2  | 7849.6  | 7250.9  | 7059.5  |
| 30°   | 8151.4  | 6812.5  | 6017.5  | 5955.3  | 6177.8  | 7154.4  | 8250.4  | 8442.6  | 7818.5  | 7691.8  |
| 32.5° | 8456.5  | 7038.2  | 6159.8  | 6069.8  | 6369.2  | 7298.3  | 8509.7  | 8985.7  | 8343.6  | 8151.4  |
| 35°   | 8688.8  | 7283.6  | 6389.6  | 6241.6  | 6632.5  | 7516.7  | 8752.6  | 9564.0  | 8902.3  | 8692.1  |
| 37.5° | 8906.4  | 7628.0  | 6748.7  | 6572.0  | 7045.6  | 7868.4  | 9009.4  | 10220.0 | 9527.2  | 9276.1  |
| 40°   | 9209.8  | 8018.1  | 7302.4  | 7145.4  | 7740.0  | 8347.7  | 9330.1  | 10903.7 | 10237.9 | 9922.2  |
| 42.5° | 9513.3  | 8436.9  | 7869.2  | 7911.8  | 8606.2  | 8930.1  | 9743.9  | 11626.8 | 10939.7 | 10602.7 |
| 45°   | 9790.5  | 8868.7  | 8676.5  | 8872.8  | 9410.2  | 9568.9  | 10155.3 | 12044.7 | 11500.0 | 11174.5 |
| 47.5° | 10037.6 | 9408.6  | 9478.9  | 10001.6 | 10324.6 | 10147.2 | 10462.9 | 12405.4 | 11917.1 | 11630.1 |
| 50°   | 10324.6 | 10107.1 | 10536.5 | 11275.9 | 11377.3 | 10670.6 | 10742.6 | 12832.4 | 12404.6 | 12174.0 |
| 52.5° | 10638.7 | 10843.2 | 11707.8 | 12359.6 | 12326.9 | 11239.1 | 11024.0 | 13310.9 | 13072.9 | 12856.1 |
| 55°   | 10995.3 | 11437.8 | 12739.2 | 13373.9 | 13346.1 | 11873.8 | 11490.2 | 13902.2 | 13910.4 | 13714.1 |
| 57.5° | 11524.5 | 11949.9 | 13439.3 | 14194.2 | 14240.9 | 12606.7 | 12280.3 | 14564.8 | 14667.8 | 14537.0 |
| 59°   | 11904.1 | 12281.9 | 13716.6 | 14537.0 | 14726.7 | 13173.5 | 12857.8 | 14949.2 | 14881.3 | 14761.9 |
| 60°   | 12185.4 | 12493.0 | 13854.0 | 14716.1 | 15008.9 | 13557.9 | 13283.9 | 15174.9 | 14906.7 | 14761.9 |
| 62.5° | 12881.5 | 12952.6 | 14101.8 | 14918.9 | 15333.6 | 14411.8 | 14483.0 | 15559.4 | 14730.8 | 14494.4 |
| 65°   | 13206.2 | 13243.0 | 14098.5 | 14555.8 | 15019.5 | 15076.8 | 15570.8 | 15570.8 | 14301.4 | 13938.2 |
| 67.5° | 13070.4 | 12892.9 | 13399.2 | 13351.8 | 13814.7 | 14681.7 | 15979.8 | 14999.9 | 13480.2 | 13010.7 |
| 70°   | 11966.2 | 11283.3 | 11058.3 | 11078.8 | 11432.9 | 12770.2 | 15170.0 | 13319.9 | 11926.1 | 11377.3 |
| 72.5° | 9956.6  | 8318.3  | 7762.9  | 8396.8  | 8489.2  | 9814.3  | 12928.1 | 10031.0 | 8795.1  | 8280.7  |
| 75°   | 8008.3  | 5863.7  | 4960.7  | 5629.8  | 5786.8  | 7182.2  | 10000.8 | 6247.3  | 5137.4  | 4736.6  |
| 77.5° | 5753.3  | 4209.0  | 3559.6  | 3513.0  | 3715.8  | 4555.0  | 7096.3  | 3144.1  | 2622.3  | 2447.2  |
| 80°   | 3268.4  | 2770.3  | 2983.0  | 2814.5  | 2916.7  | 2848.0  | 3371.5  | 1379.0  | 1129.6  | 1055.9  |
| 82.5° | 1972.8  | 1637.5  | 1773.3  | 1476.4  | 1868.1  | 1626.8  | 1298.9  | 441.7   | 383.6   | 364.8   |
| 85°   | 1283.3  | 894.8   | 466.2   | 312.4   | 643.7   | 1039.6  | 290.4   | 120.2   | 92.4    | 73.6    |
| 87.5° | 442.5   | 228.2   | 22.9    | 9.8     | 68.7    | 193.8   | 10.6    | 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     |

LM-79-08: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

MCGRAW, INVUE, LUMARK AND STREETWORKS

DATA VALID FOR LUMINAIRES UTILIZING SA LIGHT ENGINES

Report Number: SP1-2101-121-2

Luminaire Tested: IFLD-S-SA2A-740-U-T3R-HSS

Test Date: 03/05/2021

### Test Information

Test Method: LM-79-08  
 Report Number: SP1-2101-121-2  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1  
 Measurement Geometry:  $4\pi$   
 Issue Date: 03/05/2021  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: STREETWORKS  
 Catalog Number: **IFLD-S-SA2A-740-U-T3R-HSS**  
 Description: STREETWORKS INF FLOOD

SHIELD, DRIVER PROGRAMMED @ 615mA.

### Spectral Parameters

|                           |         |           |      |      |       |
|---------------------------|---------|-----------|------|------|-------|
| CCT (K):                  | 3905    | CRI (Ra): | 71.2 |      |       |
| CIE u':                   | 0.2273  | R1:       | 68.9 | R9:  | -29.7 |
| CIE v':                   | 0.5024  | R2:       | 77.0 | R10: | 46.2  |
| Duv:                      | -0.0008 | R3:       | 84.0 | R11: | 68.8  |
| CIE x:                    | 0.3841  | R4:       | 71.6 | R12: | 45.6  |
| CIE y:                    | 0.3774  | R5:       | 68.9 | R13: | 69.5  |
| CIE z:                    | 0.2385  | R6:       | 68.3 | R14: | 90.7  |
| Peak Wavelength (nm):     | 443     | R7:       | 78.7 |      |       |
| Dominant Wavelength (nm): | 579     | R8:       | 52.2 |      |       |
| Purity:                   | 28.7    |           |      |      |       |
| Rf:                       | 71.7    |           |      |      |       |
| Rg:                       | 96.9    |           |      |      |       |



### Test Conditions

Stabilization Time: 211M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 24.8/312%  
 Sphere Temperature (°C): 24.1

REPORT NUMBER: SP1-2101-121-2

| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | IN0058                | 1/31/2021        | 7/31/2021            |
| Power Meter                    | IN0071                | 12/1/2020        | 12/1/2021            |
| AC Power Source                | IN0063                | 12/1/2020        | 12/1/2021            |
| DC Power Source                | IN0208                | 12/1/2020        | 12/1/2021            |
| Sphere Thermometer             | IN0085                | 12/1/2020        | 12/1/2021            |
| Room Thermometer               | IN0046                | 12/1/2020        | 12/1/2021            |

REPORT NUMBER: SP1-2101-121-2

**CIE 1931 Chromaticity Diagram**



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



Point lies inside the ANSI 4000K 4-step quadrangle

REPORT NUMBER: SP1-2101-121-2

### Photopic Flux vs. Wavelength

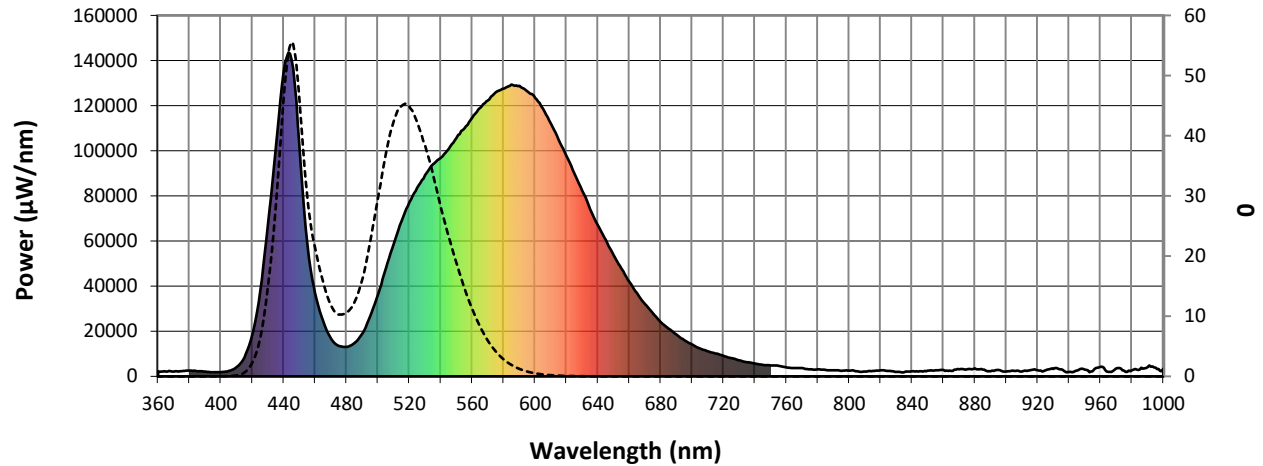


#####

| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 2304             | 0.0              | 490       | 19043            | 2.7              | 620       | 97577            | 25.4             | 750       | 4830             | 0.0              | 880       | 3505             | 0.0              |
| 365       | 2150             | 0.0              | 495       | 26606            | 4.8              | 625       | 90158            | 19.9             | 755       | 4664             | 0.0              | 885       | 2991             | 0.0              |
| 370       | 2146             | 0.0              | 500       | 36376            | 8.0              | 630       | 82240            | 14.9             | 760       | 4006             | 0.0              | 890       | 2327             | 0.0              |
| 375       | 2332             | 0.0              | 505       | 47714            | 13.3             | 635       | 74361            | 11.2             | 765       | 3715             | 0.0              | 895       | 2775             | 0.0              |
| 380       | 2527             | 0.0              | 510       | 58741            | 20.2             | 640       | 66994            | 8.0              | 770       | 3696             | 0.0              | 900       | 2141             | 0.0              |
| 385       | 2304             | 0.0              | 515       | 68716            | 28.5             | 645       | 60405            | 5.8              | 775       | 3117             | 0.0              | 905       | 2421             | 0.0              |
| 390       | 2064             | 0.0              | 520       | 77136            | 37.4             | 650       | 53806            | 3.9              | 780       | 3062             | 0.0              | 910       | 2200             | 0.0              |
| 395       | 1856             | 0.0              | 525       | 83567            | 44.9             | 655       | 47610            | 2.7              | 785       | 2907             | 0.0              | 915       | 2716             | 0.0              |
| 400       | 1856             | 0.0              | 530       | 89283            | 52.6             | 660       | 42018            | 1.8              | 790       | 2655             | 0.0              | 920       | 2656             | 0.0              |
| 405       | 2374             | 0.0              | 535       | 94097            | 58.4             | 665       | 36742            | 1.2              | 795       | 2467             | 0.0              | 925       | 2671             | 0.0              |
| 410       | 4084             | 0.0              | 540       | 96845            | 63.1             | 670       | 32105            | 0.7              | 800       | 2609             | 0.0              | 930       | 3292             | 0.0              |
| 415       | 8543             | 0.0              | 545       | 100829           | 67.1             | 675       | 27946            | 0.5              | 805       | 2293             | 0.0              | 935       | 3188             | 0.0              |
| 420       | 18394            | 0.1              | 550       | 105648           | 71.8             | 680       | 24146            | 0.3              | 810       | 2188             | 0.0              | 940       | 1997             | 0.0              |
| 425       | 37987            | 0.2              | 555       | 110017           | 75.1             | 685       | 21191            | 0.2              | 815       | 2386             | 0.0              | 945       | 2623             | 0.0              |
| 430       | 67605            | 0.5              | 560       | 114586           | 77.9             | 690       | 18544            | 0.1              | 820       | 2712             | 0.0              | 950       | 2969             | 0.0              |
| 435       | 102160           | 1.2              | 565       | 118987           | 79.1             | 695       | 16058            | 0.1              | 825       | 2473             | 0.0              | 955       | 2277             | 0.0              |
| 440       | 135103           | 2.1              | 570       | 122326           | 79.5             | 700       | 14133            | 0.0              | 830       | 1969             | 0.0              | 960       | 4267             | 0.0              |
| 445       | 140126           | 2.9              | 575       | 125968           | 78.4             | 705       | 12309            | 0.0              | 835       | 1917             | 0.0              | 965       | 2034             | 0.0              |
| 450       | 102339           | 2.7              | 580       | 127613           | 75.8             | 710       | 11142            | 0.0              | 840       | 2248             | 0.0              | 970       | 3586             | 0.0              |
| 455       | 58751            | 2.0              | 585       | 129466           | 71.9             | 715       | 10143            | 0.0              | 845       | 2266             | 0.0              | 975       | 2505             | 0.0              |
| 460       | 36892            | 1.5              | 590       | 128813           | 66.6             | 720       | 9072             | 0.0              | 850       | 2558             | 0.0              | 980       | 2666             | 0.0              |
| 465       | 24637            | 1.3              | 595       | 126387           | 59.9             | 725       | 8130             | 0.0              | 855       | 2767             | 0.0              | 985       | 2934             | 0.0              |
| 470       | 16738            | 1.0              | 600       | 123477           | 53.2             | 730       | 7149             | 0.0              | 860       | 2826             | 0.0              | 990       | 4120             | 0.0              |
| 475       | 13456            | 1.1              | 605       | 118718           | 46.0             | 735       | 6311             | 0.0              | 865       | 2385             | 0.0              | 995       | 3858             | 0.0              |
| 480       | 13081            | 1.2              | 610       | 112091           | 38.5             | 740       | 5711             | 0.0              | 870       | 3194             | 0.0              | 1000      | 3405             | 0.0              |
| 485       | 14734            | 1.7              | 615       | 105039           | 31.7             | 745       | 5111             | 0.0              | 875       | 3189             | 0.0              |           |                  |                  |

REPORT NUMBER: SP1-2101-121-2

### Scotopic Flux vs. Wavelength



Scotopic Lumens: 10425.8

S/P: 1.47

| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 2304             | 0.0              | 490       | 19043            | 29.3             | 620       | 97577            | 1.2              | 750       | 4830             | 0.0              | 880       | 3505             | 0.0              |
| 365       | 2150             | 0.0              | 495       | 26606            | 43.0             | 625       | 90158            | 0.8              | 755       | 4664             | 0.0              | 885       | 2991             | 0.0              |
| 370       | 2146             | 0.0              | 500       | 36376            | 60.8             | 630       | 82240            | 0.5              | 760       | 4006             | 0.0              | 890       | 2327             | 0.0              |
| 375       | 2332             | 0.0              | 505       | 47714            | 81.1             | 635       | 74361            | 0.3              | 765       | 3715             | 0.0              | 895       | 2775             | 0.0              |
| 380       | 2527             | 0.0              | 510       | 58741            | 99.6             | 640       | 66994            | 0.2              | 770       | 3696             | 0.0              | 900       | 2141             | 0.0              |
| 385       | 2304             | 0.0              | 515       | 68716            | 113.9            | 645       | 60405            | 0.1              | 775       | 3117             | 0.0              | 905       | 2421             | 0.0              |
| 390       | 2064             | 0.0              | 520       | 77136            | 122.6            | 650       | 53806            | 0.1              | 780       | 3062             | 0.0              | 910       | 2200             | 0.0              |
| 395       | 1856             | 0.0              | 525       | 83567            | 125.0            | 655       | 47610            | 0.0              | 785       | 2907             | 0.0              | 915       | 2716             | 0.0              |
| 400       | 1856             | 0.0              | 530       | 89283            | 123.1            | 660       | 42018            | 0.0              | 790       | 2655             | 0.0              | 920       | 2656             | 0.0              |
| 405       | 2374             | 0.1              | 535       | 94097            | 117.3            | 665       | 36742            | 0.0              | 795       | 2467             | 0.0              | 925       | 2671             | 0.0              |
| 410       | 4084             | 0.2              | 540       | 96845            | 107.0            | 670       | 32105            | 0.0              | 800       | 2609             | 0.0              | 930       | 3292             | 0.0              |
| 415       | 8543             | 0.9              | 545       | 100829           | 96.7             | 675       | 27946            | 0.0              | 805       | 2293             | 0.0              | 935       | 3188             | 0.0              |
| 420       | 18394            | 3.0              | 550       | 105648           | 86.4             | 680       | 24146            | 0.0              | 810       | 2188             | 0.0              | 940       | 1997             | 0.0              |
| 425       | 37987            | 9.3              | 555       | 110017           | 75.2             | 685       | 21191            | 0.0              | 815       | 2386             | 0.0              | 945       | 2623             | 0.0              |
| 430       | 67605            | 23.0             | 560       | 114586           | 64.0             | 690       | 18544            | 0.0              | 820       | 2712             | 0.0              | 950       | 2969             | 0.0              |
| 435       | 102160           | 45.7             | 565       | 118987           | 53.4             | 695       | 16058            | 0.0              | 825       | 2473             | 0.0              | 955       | 2277             | 0.0              |
| 440       | 135103           | 75.5             | 570       | 122326           | 43.2             | 700       | 14133            | 0.0              | 830       | 1969             | 0.0              | 960       | 4267             | 0.0              |
| 445       | 140126           | 93.8             | 575       | 125968           | 34.3             | 705       | 12309            | 0.0              | 835       | 1917             | 0.0              | 965       | 2034             | 0.0              |
| 450       | 102339           | 79.3             | 580       | 127613           | 26.3             | 710       | 11142            | 0.0              | 840       | 2248             | 0.0              | 970       | 3586             | 0.0              |
| 455       | 58751            | 51.3             | 585       | 129466           | 19.8             | 715       | 10143            | 0.0              | 845       | 2266             | 0.0              | 975       | 2505             | 0.0              |
| 460       | 36892            | 35.6             | 590       | 128813           | 14.3             | 720       | 9072             | 0.0              | 850       | 2558             | 0.0              | 980       | 2666             | 0.0              |
| 465       | 24637            | 26.0             | 595       | 126387           | 10.1             | 725       | 8130             | 0.0              | 855       | 2767             | 0.0              | 985       | 2934             | 0.0              |
| 470       | 16738            | 19.3             | 600       | 123477           | 7.0              | 730       | 7149             | 0.0              | 860       | 2826             | 0.0              | 990       | 4120             | 0.0              |
| 475       | 13456            | 16.8             | 605       | 118718           | 4.7              | 735       | 6311             | 0.0              | 865       | 2385             | 0.0              | 995       | 3858             | 0.0              |
| 480       | 13081            | 17.7             | 610       | 112091           | 3.0              | 740       | 5711             | 0.0              | 870       | 3194             | 0.0              | 1000      | 3405             | 0.0              |
| 485       | 14734            | 21.4             | 615       | 105039           | 1.9              | 745       | 5111             | 0.0              | 875       | 3189             | 0.0              |           |                  |                  |

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### Melanopic Flux vs. Wavelength



**Melanopic Lumens: 3927.2**

**M/P: 0.55**

| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 2304             | 0.0              | 490       | 19043            | 15.8             | 620       | 97577            | 0.1              | 750       | 4830             | 0.0              | 880       | 3505             | 0.0              |
| 365       | 2150             | 0.0              | 495       | 26606            | 22.0             | 625       | 90158            | 0.0              | 755       | 4664             | 0.0              | 885       | 2991             | 0.0              |
| 370       | 2146             | 0.0              | 500       | 36376            | 29.2             | 630       | 82240            | 0.0              | 760       | 4006             | 0.0              | 890       | 2327             | 0.0              |
| 375       | 2332             | 0.0              | 505       | 47714            | 36.6             | 635       | 74361            | 0.0              | 765       | 3715             | 0.0              | 895       | 2775             | 0.0              |
| 380       | 2527             | 0.0              | 510       | 58741            | 42.2             | 640       | 66994            | 0.0              | 770       | 3696             | 0.0              | 900       | 2141             | 0.0              |
| 385       | 2304             | 0.0              | 515       | 68716            | 44.9             | 645       | 60405            | 0.0              | 775       | 3117             | 0.0              | 905       | 2421             | 0.0              |
| 390       | 2064             | 0.0              | 520       | 77136            | 44.9             | 650       | 53806            | 0.0              | 780       | 3062             | 0.0              | 910       | 2200             | 0.0              |
| 395       | 1856             | 0.0              | 525       | 83567            | 42.4             | 655       | 47610            | 0.0              | 785       | 2907             | 0.0              | 915       | 2716             | 0.0              |
| 400       | 1856             | 0.0              | 530       | 89283            | 38.6             | 660       | 42018            | 0.0              | 790       | 2655             | 0.0              | 920       | 2656             | 0.0              |
| 405       | 2374             | 0.0              | 535       | 94097            | 33.9             | 665       | 36742            | 0.0              | 795       | 2467             | 0.0              | 925       | 2671             | 0.0              |
| 410       | 4084             | 0.2              | 540       | 96845            | 28.3             | 670       | 32105            | 0.0              | 800       | 2609             | 0.0              | 930       | 3292             | 0.0              |
| 415       | 8543             | 0.6              | 545       | 100829           | 23.4             | 675       | 27946            | 0.0              | 805       | 2293             | 0.0              | 935       | 3188             | 0.0              |
| 420       | 18394            | 2.1              | 550       | 105648           | 19.0             | 680       | 24146            | 0.0              | 810       | 2188             | 0.0              | 940       | 1997             | 0.0              |
| 425       | 37987            | 5.9              | 555       | 110017           | 14.8             | 685       | 21191            | 0.0              | 815       | 2386             | 0.0              | 945       | 2623             | 0.0              |
| 430       | 67605            | 14.3             | 560       | 114586           | 11.3             | 690       | 18544            | 0.0              | 820       | 2712             | 0.0              | 950       | 2969             | 0.0              |
| 435       | 102160           | 27.3             | 565       | 118987           | 8.4              | 695       | 16058            | 0.0              | 825       | 2473             | 0.0              | 955       | 2277             | 0.0              |
| 440       | 135103           | 45.1             | 570       | 122326           | 6.0              | 700       | 14133            | 0.0              | 830       | 1969             | 0.0              | 960       | 4267             | 0.0              |
| 445       | 140126           | 55.3             | 575       | 125968           | 4.2              | 705       | 12309            | 0.0              | 835       | 1917             | 0.0              | 965       | 2034             | 0.0              |
| 450       | 102339           | 47.2             | 580       | 127613           | 2.9              | 710       | 11142            | 0.0              | 840       | 2248             | 0.0              | 970       | 3586             | 0.0              |
| 455       | 58751            | 30.8             | 585       | 129466           | 1.9              | 715       | 10143            | 0.0              | 845       | 2266             | 0.0              | 975       | 2505             | 0.0              |
| 460       | 36892            | 21.7             | 590       | 128813           | 1.3              | 720       | 9072             | 0.0              | 850       | 2558             | 0.0              | 980       | 2666             | 0.0              |
| 465       | 24637            | 16.1             | 595       | 126387           | 0.8              | 725       | 8130             | 0.0              | 855       | 2767             | 0.0              | 985       | 2934             | 0.0              |
| 470       | 16738            | 12.0             | 600       | 123477           | 0.5              | 730       | 7149             | 0.0              | 860       | 2826             | 0.0              | 990       | 4120             | 0.0              |
| 475       | 13456            | 10.3             | 605       | 118718           | 0.3              | 735       | 6311             | 0.0              | 865       | 2385             | 0.0              | 995       | 3858             | 0.0              |
| 480       | 13081            | 10.5             | 610       | 112091           | 0.2              | 740       | 5711             | 0.0              | 870       | 3194             | 0.0              | 1000      | 3405             | 0.0              |
| 485       | 14734            | 12.1             | 615       | 105039           | 0.1              | 745       | 5111             | 0.0              | 875       | 3189             | 0.0              |           |                  |                  |

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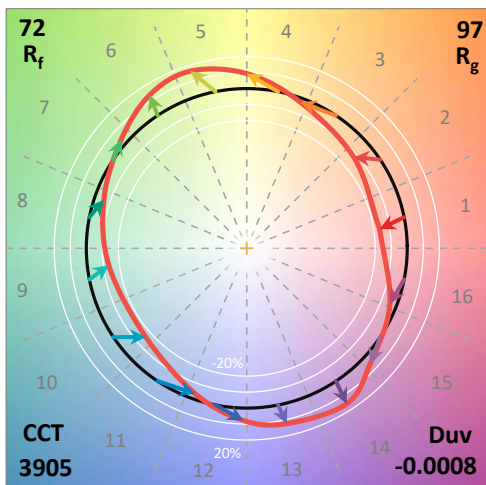
TM-30-18

### Summary

$R_f = 71.7$   
 $R_g = 96.9$   
 CIE  $R_a = 71.2$   
 $R_g = -29.7$



### Color Vector Graphics



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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 55 | CES51 = 86 | CES76 = 45 |
| CES02 = 61 | CES27 = 80 | CES52 = 87 | CES77 = 68 |
| CES03 = 30 | CES28 = 79 | CES53 = 74 | CES78 = 49 |
| CES04 = 70 | CES29 = 51 | CES54 = 81 | CES79 = 77 |
| CES05 = 47 | CES30 = 60 | CES55 = 80 | CES80 = 75 |
| CES06 = 50 | CES31 = 56 | CES56 = 69 | CES81 = 75 |
| CES07 = 40 | CES32 = 52 | CES57 = 67 | CES82 = 90 |
| CES08 = 39 | CES33 = 62 | CES58 = 69 | CES83 = 85 |
| CES09 = 29 | CES34 = 65 | CES59 = 86 | CES84 = 87 |
| CES10 = 74 | CES35 = 81 | CES60 = 91 | CES85 = 83 |
| CES11 = 57 | CES36 = 92 | CES61 = 85 | CES86 = 72 |
| CES12 = 63 | CES37 = 74 | CES62 = 81 | CES87 = 77 |
| CES13 = 42 | CES38 = 69 | CES63 = 72 | CES88 = 77 |
| CES14 = 74 | CES39 = 92 | CES64 = 69 | CES89 = 72 |
| CES15 = 71 | CES40 = 86 | CES65 = 64 | CES90 = 75 |
| CES16 = 46 | CES41 = 84 | CES66 = 63 | CES91 = 91 |
| CES17 = 49 | CES42 = 75 | CES67 = 60 | CES92 = 66 |
| CES18 = 56 | CES43 = 70 | CES68 = 67 | CES93 = 80 |
| CES19 = 72 | CES44 = 98 | CES69 = 77 | CES94 = 56 |
| CES20 = 65 | CES45 = 80 | CES70 = 57 | CES95 = 72 |
| CES21 = 86 | CES46 = 77 | CES71 = 53 | CES96 = 78 |
| CES22 = 78 | CES47 = 74 | CES72 = 84 | CES97 = 83 |
| CES23 = 92 | CES48 = 66 | CES73 = 47 | CES98 = 73 |
| CES24 = 91 | CES49 = 76 | CES74 = 96 | CES99 = 63 |
| CES25 = 72 | CES50 = 85 | CES75 = 52 |            |



Color Rendition by Hue-Angle Bin



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**Measure Comparisons**



(END OF REPORT)