

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



Scaled data based on original data using  
LM-79-08 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: P324394

Luminaire Tested: **GLEON-SA0A-727-U-SLR-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P324394  
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-SA0A-727-U-SLR-HSS  
Description: GALLEON AREA AND ROADWAY LUMINAIRE  
(10) 70 CRI, 2700K, 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: 28596 lumens  
Efficiency: N/A  
Efficacy: 88.5 lumens/watt  
Luminous Opening: Rectangular (W 2.5' x L: 1' x H: 0')  
IES Classification: Type IV - Medium  
BUG Rating: B3 - U0 - G4

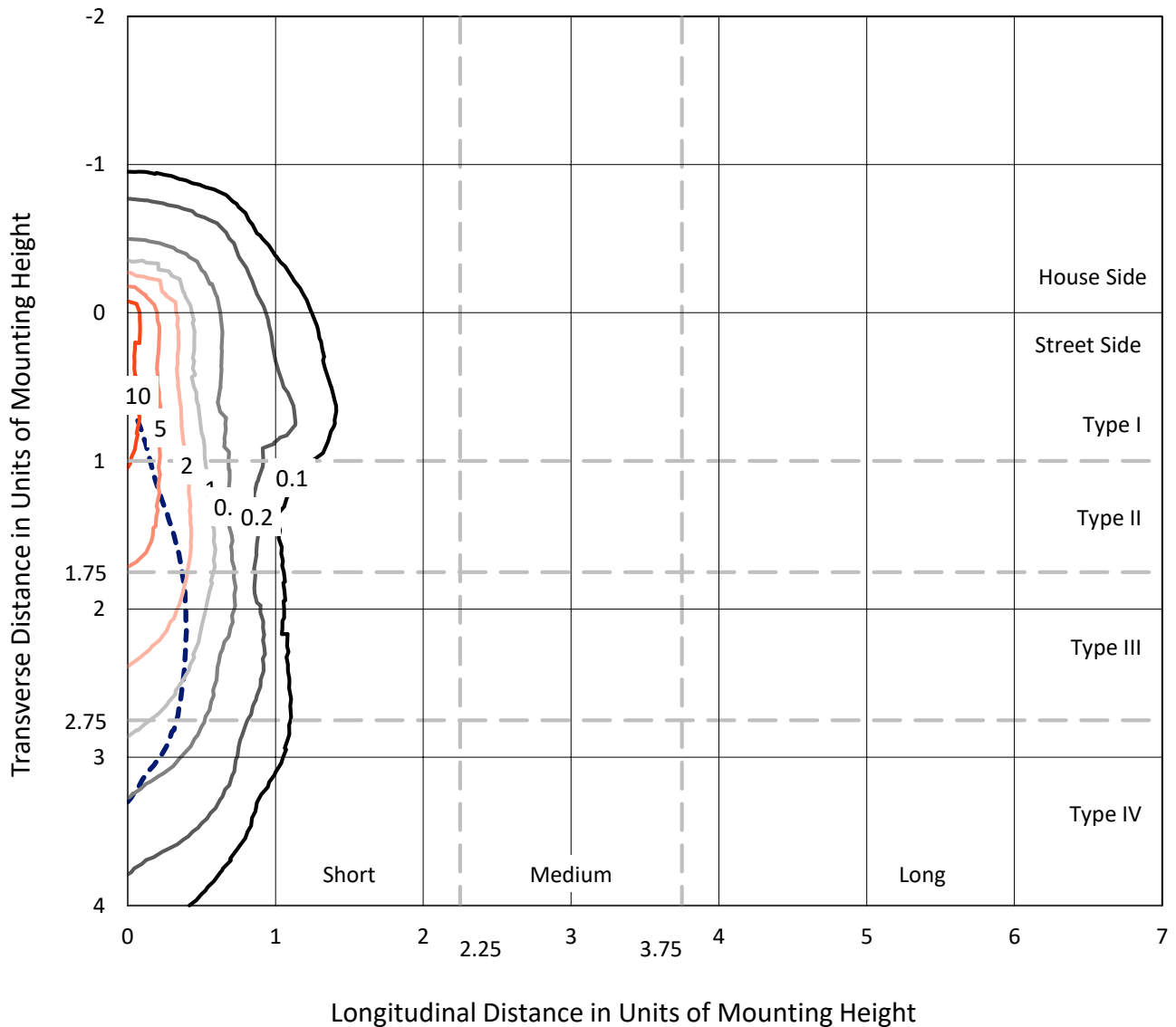
Input Watts (W): 323  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

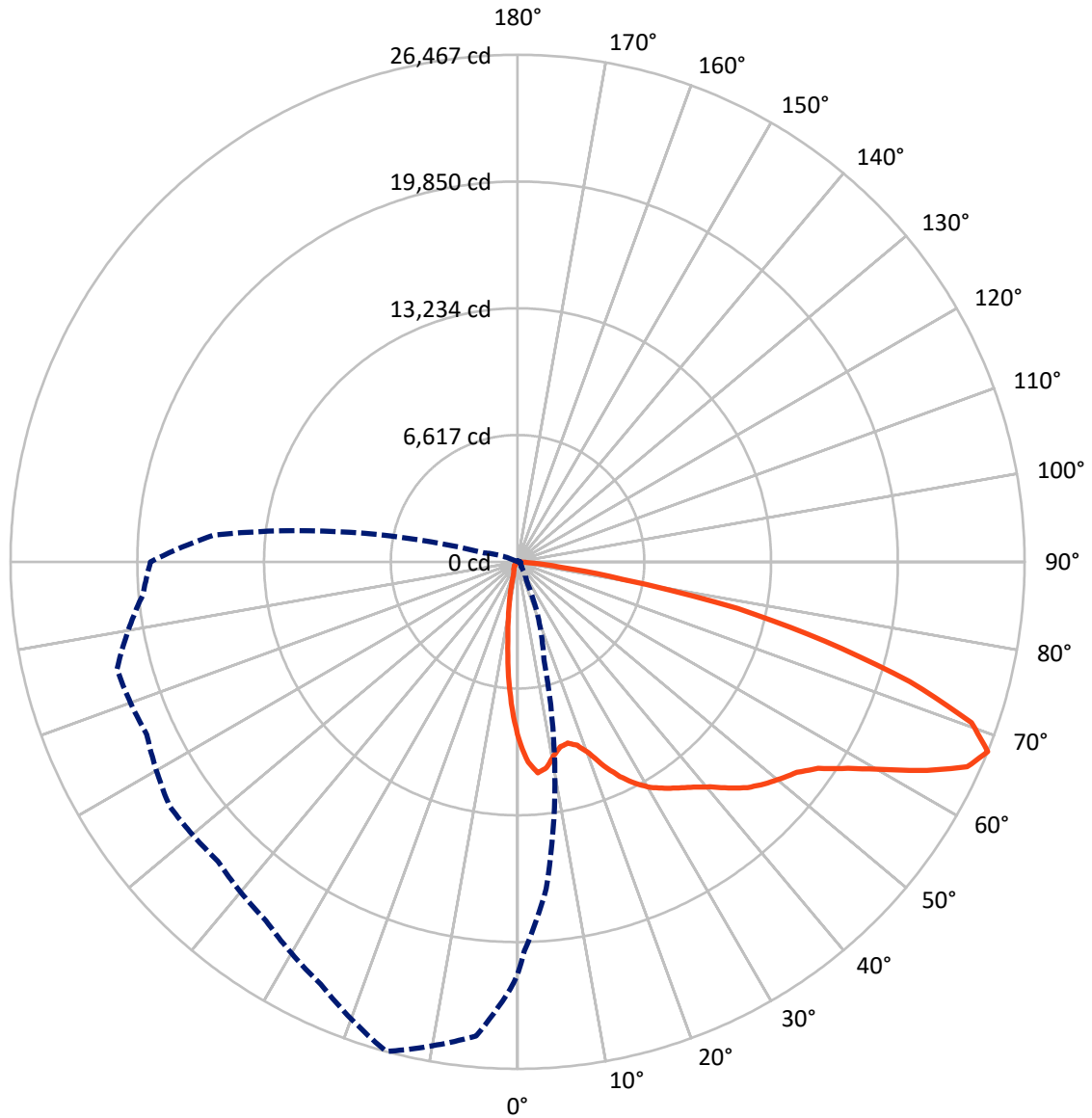
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 14.9 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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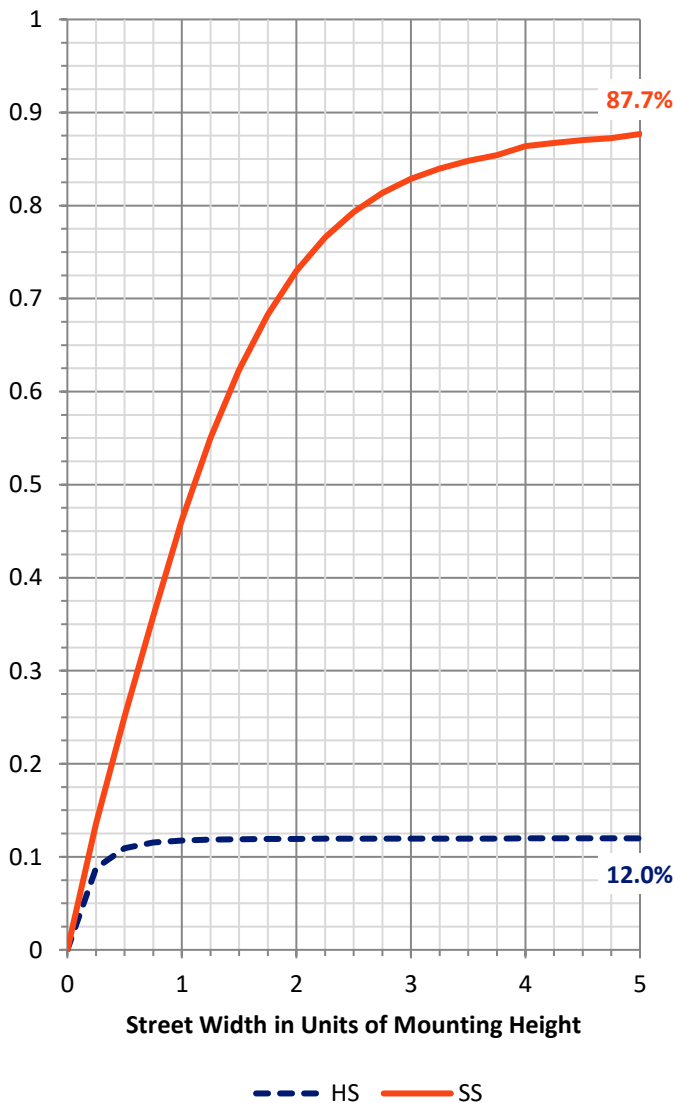
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 3461.1   | 0.0    | 3461.1  |
|                    | % Fixture | 12.1     | 0.0    | 12.1    |
| <b>Street Side</b> | Lumens    | 25134.9  | 0.0    | 25134.9 |
|                    | % Fixture | 87.9     | 0.0    | 87.9    |
| <b>Total</b>       | Lumens    | 28596.0  | 0.0    | 28596.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 714.9   | 2.5       |
| 10°-20°   | 1423.0  | 5.0       |
| 20°-30°   | 2020.7  | 7.1       |
| 30°-40°   | 2984.7  | 10.4      |
| 40°-50°   | 4304.6  | 15.1      |
| 50°-60°   | 6042.8  | 21.1      |
| 60°-70°   | 7044.2  | 24.6      |
| 70°-80°   | 3601.1  | 12.6      |
| 80°-90°   | 459.9   | 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°    | 28596.0 | 100.0     |
| 0°-180°   | 28596.0 | 100.0     |

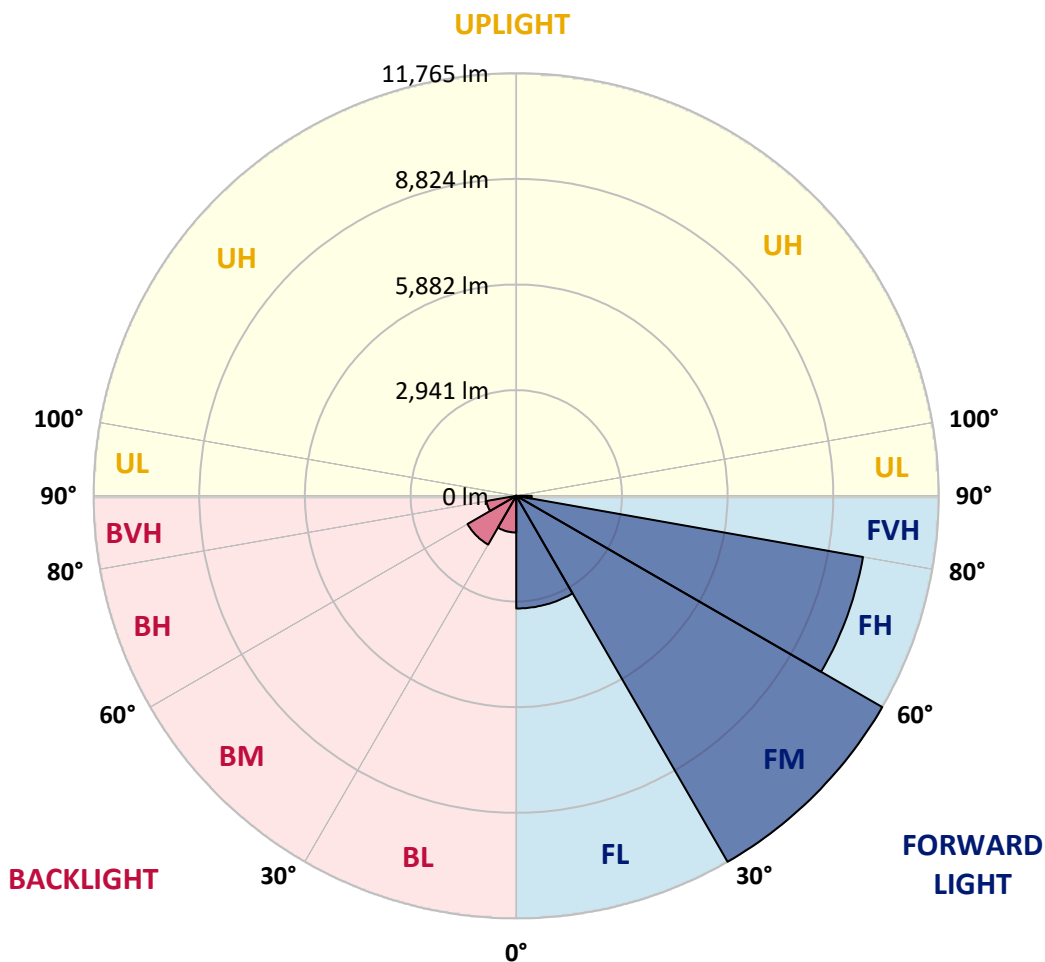


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |          |
|------|-------------|---------|-----------|-------------------------|------|----------|
|      |             |         |           | B                       | U    | G        |
| FL   | (0°-30°)    | 3136.4  | 11.0      |                         |      |          |
| FM   | (30°-60°)   | 11764.9 | 41.1      |                         |      |          |
| FH   | (60°-80°)   | 9801.7  | 34.3      |                         |      | G4/12000 |
| FVH  | (80°-90°)   | 432.0   | 1.5       |                         |      | G3/500   |
| BL   | (0°-30°)    | 1022.3  | 3.6       | B3/2500                 |      |          |
| BM   | (30°-60°)   | 1567.3  | 5.5       | B2/2500                 |      |          |
| BH   | (60°-80°)   | 843.6   | 2.9       | B2/1000                 |      | G2/1000  |
| BVH  | (80°-90°)   | 27.9    | 0.1       |                         |      | G1/100   |
| UL   | (90°-100°)  | 0.0     | 0.0       |                         | U0/0 |          |
| UH   | (100°-180°) | 0.0     | 0.0       |                         | U0/0 |          |

**BUG Rating: B3-U0-G4**  
 Type IV Medium





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 1°      | 5°      | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    |
|-------|---------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 9315.1  | 9315.1  | 9315.1  | 9315.1 | 9315.1 | 9315.1 | 9315.1 | 9315.1 | 9315.1 | 9315.1 | 9315.1 |
| 2.5°  | 10199.7 | 10121.2 | 10034.5 | 9751.3 | 9488.5 | 9187.7 | 8942.5 | 8771.8 | 8557.8 | 8280.1 | 8209.6 |
| 5°    | 10126.6 | 10042.6 | 9770.3  | 9140.3 | 8589.0 | 8052.5 | 7535.0 | 7231.5 | 6854.9 | 6472.9 | 6378.0 |
| 7.5°  | 9391.0  | 9302.9  | 8910.0  | 8047.1 | 7304.7 | 6529.8 | 5857.8 | 5441.9 | 5016.5 | 4667.0 | 4481.4 |
| 10°   | 8625.5  | 8529.4  | 8087.7  | 7040.5 | 6126.1 | 5425.7 | 4932.6 | 4535.6 | 4133.3 | 3759.4 | 3461.3 |
| 12.5° | 8098.6  | 7972.6  | 7493.0  | 6306.2 | 5509.7 | 5034.2 | 4573.6 | 4098.0 | 3553.4 | 3152.4 | 2824.6 |
| 15°   | 7877.7  | 7734.1  | 7227.5  | 6023.1 | 5291.6 | 4733.4 | 4133.3 | 3549.4 | 2911.3 | 2452.1 | 2151.3 |
| 17.5° | 8048.4  | 7861.5  | 7318.2  | 6004.1 | 5017.9 | 4257.9 | 3499.3 | 2813.8 | 2121.5 | 1656.8 | 1442.8 |
| 20°   | 8628.2  | 8383.0  | 7693.5  | 5998.7 | 4686.0 | 3693.0 | 2731.1 | 1956.2 | 1398.1 | 1124.4 | 1012.0 |
| 22.5° | 9541.3  | 9217.6  | 8232.7  | 6042.1 | 4343.3 | 3099.6 | 1972.5 | 1329.0 | 1049.9 | 907.7  | 841.3  |
| 25°   | 10644.1 | 10268.8 | 9008.9  | 6195.2 | 4042.5 | 2522.5 | 1433.3 | 1049.9 | 886.0  | 781.7  | 726.1  |
| 27.5° | 11692.6 | 11387.8 | 9989.7  | 6416.0 | 3809.5 | 2056.5 | 1163.7 | 890.1  | 757.3  | 688.2  | 643.5  |
| 30°   | 12739.8 | 12356.5 | 10996.3 | 6678.8 | 3529.1 | 1740.8 | 1022.8 | 811.5  | 678.7  | 605.6  | 577.1  |
| 32.5° | 13501.2 | 13182.8 | 11784.8 | 6868.5 | 3229.7 | 1534.9 | 914.4  | 742.4  | 634.0  | 559.5  | 517.5  |
| 35°   | 14396.7 | 14036.3 | 12460.8 | 6910.5 | 3037.3 | 1404.9 | 822.3  | 667.9  | 550.0  | 483.6  | 438.9  |
| 37.5° | 15363.9 | 14915.5 | 13241.1 | 6818.3 | 2886.9 | 1341.2 | 753.2  | 634.0  | 513.4  | 445.7  | 398.3  |
| 40°   | 16434.2 | 15927.5 | 13990.3 | 6685.6 | 2739.3 | 1319.5 | 700.4  | 608.3  | 485.0  | 415.9  | 367.1  |
| 42.5° | 17561.3 | 16963.9 | 14639.2 | 6546.0 | 2645.8 | 1245.0 | 695.0  | 582.5  | 463.3  | 388.8  | 340.0  |
| 45°   | 18508.3 | 17902.7 | 15305.7 | 6500.0 | 2579.4 | 1163.7 | 718.0  | 564.9  | 448.4  | 367.1  | 319.7  |
| 47.5° | 19262.8 | 18689.8 | 15988.5 | 6602.9 | 2541.5 | 1089.2 | 654.3  | 588.0  | 440.3  | 348.2  | 302.1  |
| 50°   | 20163.7 | 19514.8 | 16950.3 | 6910.5 | 2485.9 | 1014.7 | 592.0  | 673.3  | 440.3  | 336.0  | 287.2  |
| 52.5° | 21293.6 | 20651.4 | 18023.3 | 7387.3 | 2374.8 | 911.7  | 532.4  | 674.7  | 444.4  | 319.7  | 268.2  |
| 55°   | 22714.7 | 22248.7 | 19555.5 | 7910.2 | 2197.4 | 760.0  | 460.6  | 579.8  | 428.1  | 289.9  | 250.6  |
| 57.5° | 24077.5 | 23696.9 | 20952.2 | 8267.9 | 1960.3 | 593.4  | 401.0  | 467.4  | 391.5  | 254.7  | 223.5  |
| 59°   | 24450.1 | 24034.2 | 21464.3 | 8284.1 | 1782.8 | 517.5  | 371.2  | 386.1  | 383.4  | 238.4  | 207.3  |
| 60°   | 24450.1 | 24008.4 | 21611.9 | 8197.4 | 1654.1 | 475.5  | 352.2  | 344.1  | 399.6  | 227.6  | 197.8  |
| 62.5° | 24007.1 | 23386.6 | 21132.4 | 7610.8 | 1349.3 | 405.1  | 307.5  | 284.5  | 359.0  | 204.6  | 174.8  |
| 65°   | 23085.9 | 22182.3 | 19498.6 | 6550.1 | 1203.0 | 371.2  | 265.5  | 233.0  | 249.3  | 180.2  | 153.1  |
| 67.5° | 21549.6 | 20324.9 | 17142.7 | 5291.6 | 1144.7 | 361.7  | 228.9  | 197.8  | 188.3  | 154.4  | 134.1  |
| 70°   | 18844.2 | 17485.4 | 14282.9 | 4160.4 | 1094.6 | 357.6  | 192.4  | 166.6  | 151.7  | 130.1  | 113.8  |
| 72.5° | 13715.2 | 12298.2 | 10140.1 | 3252.7 | 1064.8 | 365.8  | 154.4  | 139.5  | 124.6  | 101.6  | 88.1   |
| 75°   | 7845.2  | 6917.2  | 5699.3  | 2148.6 | 907.7  | 349.5  | 119.2  | 116.5  | 89.4   | 73.2   | 61.0   |
| 77.5° | 4053.3  | 3930.1  | 3415.3  | 825.0  | 434.9  | 153.1  | 78.6   | 67.7   | 52.8   | 44.7   | 36.6   |
| 80°   | 1749.0  | 1730.0  | 1497.0  | 238.4  | 115.2  | 85.3   | 44.7   | 28.4   | 24.4   | 19.0   | 14.9   |
| 82.5° | 604.2   | 604.2   | 532.4   | 79.9   | 51.5   | 42.0   | 5.4    | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 121.9   | 136.8   | 96.2    | 0.0    | 17.6   | 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°    | 9315.1 | 9315.1 | 9315.1 | 9315.1 | 9315.1 | 9315.1 | 9315.1 | 9315.1 | 9315.1 | 9315.1 | 9315.1 |
| 2.5°  | 8124.3 | 7960.4 | 7949.5 | 7846.6 | 7717.9 | 7659.6 | 7625.8 | 7685.4 | 7758.5 | 7766.6 | 7876.4 |
| 5°    | 6306.2 | 6134.2 | 6206.0 | 6023.1 | 6059.7 | 6023.1 | 5963.5 | 5974.3 | 6006.9 | 5905.2 | 6031.2 |
| 7.5°  | 4428.6 | 4298.5 | 4381.2 | 4332.4 | 4397.4 | 4423.2 | 4386.6 | 4332.4 | 4172.6 | 4153.6 | 4263.3 |
| 10°   | 3338.0 | 3190.4 | 3102.3 | 3010.2 | 3030.5 | 3072.5 | 3059.0 | 3019.7 | 2918.1 | 2923.5 | 3029.2 |
| 12.5° | 2682.4 | 2517.1 | 2342.3 | 2116.1 | 2060.5 | 2091.7 | 2060.5 | 2037.5 | 1940.0 | 1948.1 | 2041.6 |
| 15°   | 2034.8 | 1899.3 | 1716.4 | 1534.9 | 1436.0 | 1445.5 | 1358.8 | 1297.8 | 1236.9 | 1163.7 | 1220.6 |
| 17.5° | 1373.7 | 1291.1 | 1236.9 | 1182.7 | 1064.8 | 1037.7 | 928.0  | 810.1  | 764.1  | 730.2  | 754.6  |
| 20°   | 972.7  | 928.0  | 906.3  | 903.6  | 835.9  | 802.0  | 695.0  | 621.8  | 598.8  | 592.0  | 606.9  |
| 22.5° | 812.8  | 780.3  | 749.2  | 731.6  | 697.7  | 658.4  | 577.1  | 540.5  | 524.3  | 516.2  | 527.0  |
| 25°   | 707.2  | 682.8  | 650.3  | 620.5  | 606.9  | 564.9  | 506.7  | 479.6  | 468.7  | 460.6  | 466.0  |
| 27.5° | 628.6  | 606.9  | 569.0  | 550.0  | 539.2  | 502.6  | 452.5  | 430.8  | 421.3  | 418.6  | 417.3  |
| 30°   | 566.3  | 546.0  | 510.7  | 489.1  | 470.1  | 437.6  | 407.8  | 386.1  | 376.6  | 373.9  | 371.2  |
| 32.5° | 504.0  | 487.7  | 464.7  | 443.0  | 422.7  | 392.9  | 367.1  | 349.5  | 334.6  | 331.9  | 330.6  |
| 35°   | 425.4  | 409.1  | 396.9  | 395.6  | 376.6  | 348.2  | 329.2  | 306.2  | 294.0  | 289.9  | 291.3  |
| 37.5° | 378.0  | 356.3  | 329.2  | 338.7  | 333.3  | 312.9  | 287.2  | 264.2  | 252.0  | 249.3  | 249.3  |
| 40°   | 348.2  | 325.1  | 294.0  | 277.7  | 294.0  | 289.9  | 249.3  | 226.2  | 214.0  | 212.7  | 210.0  |
| 42.5° | 319.7  | 296.7  | 261.5  | 234.4  | 242.5  | 254.7  | 215.4  | 193.7  | 181.5  | 178.8  | 174.8  |
| 45°   | 299.4  | 275.0  | 235.7  | 204.6  | 188.3  | 214.0  | 184.2  | 157.1  | 150.4  | 145.0  | 142.2  |
| 47.5° | 280.4  | 257.4  | 212.7  | 177.5  | 150.4  | 154.4  | 147.7  | 128.7  | 120.6  | 115.2  | 113.8  |
| 50°   | 264.2  | 239.8  | 192.4  | 151.7  | 124.6  | 113.8  | 119.2  | 101.6  | 94.8   | 89.4   | 86.7   |
| 52.5° | 245.2  | 222.2  | 170.7  | 131.4  | 104.3  | 89.4   | 90.8   | 79.9   | 73.2   | 69.1   | 67.7   |
| 55°   | 230.3  | 207.3  | 153.1  | 115.2  | 92.1   | 73.2   | 65.0   | 62.3   | 58.3   | 55.5   | 54.2   |
| 57.5° | 210.0  | 188.3  | 135.5  | 97.5   | 78.6   | 59.6   | 50.1   | 50.1   | 48.8   | 46.1   | 44.7   |
| 59°   | 197.8  | 178.8  | 124.6  | 88.1   | 71.8   | 51.5   | 44.7   | 46.1   | 44.7   | 42.0   | 40.6   |
| 60°   | 188.3  | 170.7  | 116.5  | 81.3   | 67.7   | 47.4   | 40.6   | 43.4   | 42.0   | 39.3   | 37.9   |
| 62.5° | 166.6  | 154.4  | 100.2  | 67.7   | 59.6   | 37.9   | 33.9   | 36.6   | 36.6   | 35.2   | 33.9   |
| 65°   | 146.3  | 132.8  | 85.3   | 56.9   | 55.5   | 32.5   | 27.1   | 32.5   | 33.9   | 31.2   | 28.4   |
| 67.5° | 127.3  | 113.8  | 74.5   | 46.1   | 51.5   | 25.7   | 20.3   | 27.1   | 36.6   | 28.4   | 25.7   |
| 70°   | 108.4  | 94.8   | 58.3   | 36.6   | 54.2   | 17.6   | 16.3   | 24.4   | 43.4   | 31.2   | 24.4   |
| 72.5° | 84.0   | 73.2   | 40.6   | 27.1   | 58.3   | 12.2   | 12.2   | 20.3   | 48.8   | 33.9   | 23.0   |
| 75°   | 58.3   | 47.4   | 24.4   | 16.3   | 47.4   | 8.1    | 8.1    | 19.0   | 46.1   | 31.2   | 21.7   |
| 77.5° | 33.9   | 25.7   | 8.1    | 1.4    | 24.4   | 0.0    | 1.4    | 13.5   | 32.5   | 19.0   | 9.5    |
| 80°   | 12.2   | 5.4    | 0.0    | 0.0    | 14.9   | 0.0    | 0.0    | 0.0    | 2.7    | 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°    | 9315.1 | 9315.1 | 9315.1 | 9315.1 | 9315.1 | 9315.1 | 9315.1 | 9315.1 | 9315.1  | 9315.1  | 9315.1  |
| 2.5°  | 7904.8 | 8087.7 | 8251.6 | 8499.5 | 8793.5 | 9132.2 | 9423.5 | 9736.4 | 10030.4 | 10152.3 | 10236.3 |
| 5°    | 6057.0 | 6283.2 | 6547.4 | 6911.8 | 7396.8 | 7994.2 | 8553.7 | 9186.4 | 9866.5  | 10206.5 | 10526.2 |
| 7.5°  | 4282.3 | 4512.6 | 4840.4 | 5227.9 | 5814.5 | 6525.7 | 7257.3 | 8131.1 | 9052.3  | 9590.1  | 10119.8 |
| 10°   | 3079.3 | 3362.4 | 3668.6 | 4198.3 | 4794.4 | 5469.0 | 6222.3 | 7197.7 | 8224.5  | 8820.6  | 9458.7  |
| 12.5° | 2095.8 | 2418.2 | 2881.5 | 3474.9 | 4175.3 | 4836.4 | 5490.7 | 6421.4 | 7613.6  | 8204.2  | 8888.4  |
| 15°   | 1257.2 | 1436.0 | 1926.4 | 2613.3 | 3472.2 | 4295.8 | 5012.5 | 5945.9 | 7216.6  | 7940.0  | 8651.3  |
| 17.5° | 774.9  | 857.5  | 1124.4 | 1688.0 | 2590.2 | 3632.0 | 4614.2 | 5784.7 | 7273.5  | 8154.1  | 8915.4  |
| 20°   | 617.8  | 650.3  | 735.6  | 997.1  | 1716.4 | 2900.5 | 4165.8 | 5752.2 | 7738.2  | 8822.0  | 9638.9  |
| 22.5° | 536.5  | 567.6  | 624.5  | 724.8  | 1079.7 | 2171.6 | 3740.4 | 5782.0 | 8404.7  | 9823.1  | 10776.8 |
| 25°   | 472.8  | 499.9  | 554.1  | 636.7  | 791.2  | 1529.5 | 3285.2 | 5914.7 | 9273.1  | 11065.4 | 12078.7 |
| 27.5° | 422.7  | 445.7  | 495.8  | 571.7  | 678.7  | 1067.5 | 2769.1 | 6075.9 | 10302.7 | 12336.1 | 13335.9 |
| 30°   | 376.6  | 396.9  | 441.6  | 512.1  | 589.3  | 821.0  | 2202.8 | 6185.7 | 11333.6 | 13335.9 | 14234.1 |
| 32.5° | 337.3  | 352.2  | 392.9  | 452.5  | 512.1  | 654.3  | 1674.4 | 6168.1 | 12099.1 | 14167.7 | 14880.3 |
| 35°   | 296.7  | 311.6  | 346.8  | 398.3  | 445.7  | 540.5  | 1316.8 | 5838.9 | 12765.6 | 15030.7 | 15620.0 |
| 37.5° | 252.0  | 270.9  | 304.8  | 350.9  | 383.4  | 475.5  | 1064.8 | 5441.9 | 13441.6 | 16016.9 | 16445.0 |
| 40°   | 214.0  | 233.0  | 262.8  | 312.9  | 333.3  | 451.1  | 818.3  | 4958.3 | 14201.6 | 17119.7 | 17350.0 |
| 42.5° | 177.5  | 195.1  | 226.2  | 269.6  | 314.3  | 388.8  | 605.6  | 4405.6 | 14931.8 | 18062.6 | 18175.0 |
| 45°   | 143.6  | 161.2  | 193.7  | 237.1  | 336.0  | 322.4  | 468.7  | 3813.6 | 15521.1 | 18846.9 | 18883.5 |
| 47.5° | 113.8  | 130.1  | 163.9  | 223.5  | 312.9  | 257.4  | 334.6  | 3348.9 | 16015.6 | 19459.3 | 19363.1 |
| 50°   | 88.1   | 101.6  | 136.8  | 256.0  | 273.7  | 212.7  | 253.3  | 3194.4 | 16458.6 | 19838.6 | 19589.3 |
| 52.5° | 69.1   | 81.3   | 112.4  | 239.8  | 212.7  | 176.1  | 212.7  | 3339.4 | 17065.5 | 20152.9 | 19716.7 |
| 55°   | 55.5   | 67.7   | 88.1   | 136.8  | 145.0  | 149.0  | 181.5  | 3474.9 | 18112.7 | 20889.9 | 20468.6 |
| 57.5° | 46.1   | 58.3   | 71.8   | 96.2   | 109.7  | 126.0  | 161.2  | 3489.8 | 19346.8 | 22114.5 | 21716.3 |
| 59°   | 42.0   | 52.8   | 65.0   | 85.3   | 96.2   | 115.2  | 151.7  | 3408.5 | 19781.7 | 22560.2 | 22361.1 |
| 60°   | 39.3   | 50.1   | 61.0   | 78.6   | 89.4   | 108.4  | 146.3  | 3331.3 | 19800.7 | 22544.0 | 22636.1 |
| 62.5° | 33.9   | 44.7   | 54.2   | 66.4   | 75.9   | 92.1   | 131.4  | 3045.4 | 18998.7 | 21805.7 | 22470.8 |
| 65°   | 29.8   | 39.3   | 48.8   | 56.9   | 65.0   | 82.6   | 119.2  | 2523.9 | 17629.0 | 20614.9 | 21339.6 |
| 67.5° | 27.1   | 33.9   | 44.7   | 50.1   | 58.3   | 73.2   | 105.7  | 1799.1 | 15918.0 | 19158.5 | 19628.6 |
| 70°   | 24.4   | 32.5   | 40.6   | 46.1   | 52.8   | 63.7   | 90.8   | 1033.7 | 13441.6 | 17026.2 | 17360.8 |
| 72.5° | 23.0   | 31.2   | 36.6   | 43.4   | 47.4   | 56.9   | 82.6   | 486.3  | 9842.1  | 13639.4 | 14513.2 |
| 75°   | 20.3   | 28.4   | 33.9   | 40.6   | 44.7   | 51.5   | 70.4   | 233.0  | 6546.0  | 9870.5  | 10863.5 |
| 77.5° | 12.2   | 23.0   | 31.2   | 36.6   | 39.3   | 44.7   | 58.3   | 134.1  | 4178.0  | 6831.9  | 8047.1  |
| 80°   | 0.0    | 8.1    | 23.0   | 31.2   | 33.9   | 37.9   | 44.7   | 105.7  | 2235.3  | 3903.0  | 4684.6  |
| 82.5° | 0.0    | 0.0    | 16.3   | 24.4   | 23.0   | 25.7   | 33.9   | 66.4   | 1007.9  | 2550.9  | 2874.7  |
| 85°   | 0.0    | 0.0    | 5.4    | 19.0   | 16.3   | 12.2   | 23.0   | 23.0   | 220.8   | 1291.1  | 1610.8  |
| 87.5° | 0.0    | 0.0    | 0.0    | 1.4    | 8.1    | 5.4    | 9.5    | 2.7    | 1.4     | 96.2    | 390.2   |
| 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: P324394

CATALOG NUMBER: GLEON-SA0A-727-U-SLR-HSS

**CANDELA DISTRIBUTION (continued):**

|       | 285°    | 295°    | 305°    | 315°    | 325°    | 335°    | 345°    | 355°    | 359°    | 360°    |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 9315.1  | 9315.1  | 9315.1  | 9315.1  | 9315.1  | 9315.1  | 9315.1  | 9315.1  | 9315.1  | 9315.1  |
| 2.5°  | 10530.3 | 10630.5 | 10799.9 | 10879.8 | 10840.5 | 10673.9 | 10474.7 | 10271.5 | 10152.3 | 10199.7 |
| 5°    | 11177.8 | 11694.0 | 11992.0 | 12090.9 | 11925.7 | 11551.7 | 11062.7 | 10417.8 | 10188.9 | 10126.6 |
| 7.5°  | 11177.8 | 12149.2 | 12764.2 | 12872.6 | 12504.1 | 11771.2 | 10854.1 | 9847.5  | 9512.9  | 9391.0  |
| 10°   | 10785.0 | 12107.2 | 12964.7 | 13136.8 | 12622.0 | 11526.0 | 10297.3 | 9148.5  | 8751.5  | 8625.5  |
| 12.5° | 10342.0 | 11765.8 | 12669.4 | 12906.5 | 12483.8 | 11282.2 | 9911.2  | 8675.7  | 8208.3  | 8098.6  |
| 15°   | 10069.7 | 11345.8 | 12093.6 | 12265.7 | 12086.9 | 11139.9 | 9819.1  | 8533.4  | 7983.4  | 7877.7  |
| 17.5° | 10167.2 | 11020.7 | 11290.3 | 11390.5 | 11511.1 | 11089.8 | 10069.7 | 8845.0  | 8148.7  | 8048.4  |
| 20°   | 10534.3 | 10677.9 | 10538.4 | 10664.4 | 10989.5 | 11138.6 | 10667.1 | 9598.2  | 8762.4  | 8628.2  |
| 22.5° | 11157.5 | 10500.5 | 10109.0 | 10159.1 | 10554.7 | 11299.8 | 11580.2 | 10673.9 | 9709.3  | 9541.3  |
| 25°   | 11883.7 | 10644.1 | 9870.5  | 9825.8  | 10232.2 | 11512.5 | 12414.7 | 11844.4 | 10829.7 | 10644.1 |
| 27.5° | 12796.7 | 10966.5 | 9821.8  | 9777.1  | 10119.8 | 11711.6 | 13108.3 | 13001.3 | 12009.6 | 11692.6 |
| 30°   | 13501.2 | 11283.5 | 9966.7  | 9863.8  | 10232.2 | 11849.8 | 13665.1 | 13983.5 | 12949.8 | 12739.8 |
| 32.5° | 14006.5 | 11657.4 | 10202.4 | 10053.4 | 10549.2 | 12088.2 | 14094.6 | 14883.0 | 13819.6 | 13501.2 |
| 35°   | 14391.3 | 12063.8 | 10583.1 | 10337.9 | 10985.5 | 12449.9 | 14496.9 | 15840.8 | 14744.8 | 14396.7 |
| 37.5° | 14751.6 | 12634.2 | 11177.8 | 10885.2 | 11669.6 | 13032.5 | 14922.3 | 16927.3 | 15779.8 | 15363.9 |
| 40°   | 15254.2 | 13280.4 | 12095.0 | 11834.9 | 12819.8 | 13826.3 | 15453.4 | 18059.8 | 16957.1 | 16434.2 |
| 42.5° | 15756.8 | 13974.0 | 13033.8 | 13104.3 | 14254.4 | 14790.9 | 16138.8 | 19257.4 | 18119.5 | 17561.3 |
| 45°   | 16216.1 | 14689.3 | 14370.9 | 14696.1 | 15586.1 | 15848.9 | 16820.3 | 19949.7 | 19047.4 | 18508.3 |
| 47.5° | 16625.2 | 15583.4 | 15699.9 | 16565.6 | 17100.7 | 16806.7 | 17329.7 | 20547.1 | 19738.4 | 19262.8 |
| 50°   | 17100.7 | 16740.3 | 17451.6 | 18676.2 | 18844.2 | 17673.8 | 17793.0 | 21254.3 | 20545.8 | 20163.7 |
| 52.5° | 17620.9 | 17959.6 | 19391.5 | 20471.3 | 20417.1 | 18615.3 | 18259.0 | 22046.8 | 21652.6 | 21293.6 |
| 55°   | 18211.6 | 18944.5 | 21099.9 | 22151.1 | 22105.1 | 19666.6 | 19031.2 | 23026.3 | 23039.8 | 22714.7 |
| 57.5° | 19088.1 | 19792.5 | 22259.5 | 23509.9 | 23587.1 | 20880.4 | 20339.9 | 24123.6 | 24294.3 | 24077.5 |
| 59°   | 19716.7 | 20342.6 | 22718.8 | 24077.5 | 24391.8 | 21819.2 | 21296.3 | 24760.3 | 24647.9 | 24450.1 |
| 60°   | 20182.7 | 20692.1 | 22946.3 | 24374.2 | 24859.2 | 22455.9 | 22002.1 | 25134.2 | 24689.9 | 24450.1 |
| 62.5° | 21335.6 | 21453.4 | 23356.8 | 24710.2 | 25397.0 | 23870.3 | 23988.1 | 25770.9 | 24398.6 | 24007.1 |
| 65°   | 21873.4 | 21934.4 | 23351.4 | 24108.7 | 24876.8 | 24971.7 | 25789.9 | 25789.9 | 23687.4 | 23085.9 |
| 67.5° | 21648.5 | 21354.5 | 22193.1 | 22114.5 | 22881.3 | 24317.3 | 26467.3 | 24844.3 | 22327.2 | 21549.6 |
| 70°   | 19819.6 | 18688.4 | 18315.9 | 18349.8 | 18936.4 | 21151.3 | 25126.1 | 22061.7 | 19753.3 | 18844.2 |
| 72.5° | 16491.1 | 13777.6 | 12857.7 | 13907.6 | 14060.7 | 16255.4 | 21412.8 | 16614.4 | 14567.4 | 13715.2 |
| 75°   | 13264.1 | 9712.0  | 8216.4  | 9324.6  | 9584.7  | 11895.8 | 16564.2 | 10347.4 | 8509.0  | 7845.2  |
| 77.5° | 9529.1  | 6971.4  | 5895.8  | 5818.5  | 6154.5  | 7544.5  | 11753.6 | 5207.6  | 4343.3  | 4053.3  |
| 80°   | 5413.5  | 4588.5  | 4940.7  | 4661.6  | 4831.0  | 4717.2  | 5584.2  | 2284.1  | 1870.9  | 1749.0  |
| 82.5° | 3267.6  | 2712.2  | 2937.0  | 2445.3  | 3094.2  | 2694.5  | 2151.3  | 731.6   | 635.4   | 604.2   |
| 85°   | 2125.6  | 1482.1  | 772.2   | 517.5   | 1066.2  | 1721.9  | 480.9   | 199.1   | 153.1   | 121.9   |
| 87.5° | 732.9   | 378.0   | 37.9    | 16.3    | 113.8   | 321.1   | 17.6    | 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     |

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: SP1-1908-441-1-R4

Test Date: 08/20/2019

Luminaire Tested: SA1C-727-U-5WQ

**Test Information**

Test Method: LM-79-2008  
 Report Number: SP1-1908-441-1-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-727-U-5WQ**  
 Description: McGRAW EDISON ROADWAY AND AREA LUMINAIRE

\*\*\*THIS IS A REVISION OF SP1-1908-441-1-R3. TO UPDATE THE CATALOG NUMBER.\*\*\*TESTED IN  
 SITU. (1) 70 CRI, 2700K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

**Spectral Parameters**

CCT (K): 2741  
 CIE u': 0.2605  
 CIE v': 0.5272  
 Duv: 0.0005  
 CIE x: 0.4573  
 CIE y: 0.4113  
 CIE z: 0.1313  
 Peak Wavelength (nm): 602  
 Dominant Wavelength (nm): 583  
 Purity: 61.2

|           |      |      |       |
|-----------|------|------|-------|
| CRI (Ra): | 71.5 |      |       |
| R1:       | 69.2 | R9:  | -16.1 |
| R2:       | 79.4 | R10: | 51.4  |
| R3:       | 87.8 | R11: | 63.1  |
| R4:       | 69.4 | R12: | 42.0  |
| R5:       | 66.4 | R13: | 70.2  |
| R6:       | 69.8 | R14: | 92.4  |
| R7:       | 79.8 |      |       |
| R8:       | 50.1 |      |       |

Rf: 69.9  
 Rg: 98.3



**Test Conditions**

Stabilization Time: 56M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 25.3./42%  
 Sphere Temperature (°C): 25.7

REPORT NUMBER: SP1-1908-441-1-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: SP1-1908-441-1-R4

CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 2700K 4-step quadrangle

REPORT NUMBER: SP1-1908-441-1-R4

**Photopic Flux vs. Wavelength**



**Photopic Lumens: 6211.7**

| $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) | $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) | $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) | $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) | $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) |
|----------------|-----------------------------------|-----------------------------|----------------|-----------------------------------|-----------------------------|----------------|-----------------------------------|-----------------------------|----------------|-----------------------------------|-----------------------------|----------------|-----------------------------------|-----------------------------|
| 360            | 2044                              | 0.0                         | 490            | 7179                              | 1.0                         | 620            | 118034                            | 30.7                        | 750            | 8362                              | 0.0                         | 880            | 3128                              | 0.0                         |
| 365            | 2016                              | 0.0                         | 495            | 10476                             | 1.9                         | 625            | 111884                            | 24.7                        | 755            | 7635                              | 0.0                         | 885            | 3110                              | 0.0                         |
| 370            | 2020                              | 0.0                         | 500            | 15549                             | 3.4                         | 630            | 106119                            | 19.2                        | 760            | 6582                              | 0.0                         | 890            | 2632                              | 0.0                         |
| 375            | 2137                              | 0.0                         | 505            | 22477                             | 6.3                         | 635            | 99706                             | 15.0                        | 765            | 5777                              | 0.0                         | 895            | 2709                              | 0.0                         |
| 380            | 2046                              | 0.0                         | 510            | 30417                             | 10.4                        | 640            | 92142                             | 11.0                        | 770            | 5474                              | 0.0                         | 900            | 2016                              | 0.0                         |
| 385            | 1925                              | 0.0                         | 515            | 39274                             | 16.3                        | 645            | 84987                             | 8.2                         | 775            | 4977                              | 0.0                         | 905            | 1748                              | 0.0                         |
| 390            | 1893                              | 0.0                         | 520            | 47282                             | 22.9                        | 650            | 78016                             | 5.7                         | 780            | 4723                              | 0.0                         | 910            | 2046                              | 0.0                         |
| 395            | 1695                              | 0.0                         | 525            | 55413                             | 29.7                        | 655            | 71541                             | 4.1                         | 785            | 4219                              | 0.0                         | 915            | 1844                              | 0.0                         |
| 400            | 1633                              | 0.0                         | 530            | 62377                             | 36.7                        | 660            | 64863                             | 2.7                         | 790            | 3969                              | 0.0                         | 920            | 2734                              | 0.0                         |
| 405            | 2065                              | 0.0                         | 535            | 68520                             | 42.5                        | 665            | 58485                             | 1.9                         | 795            | 4122                              | 0.0                         | 925            | 2307                              | 0.0                         |
| 410            | 3449                              | 0.0                         | 540            | 73435                             | 47.8                        | 670            | 51641                             | 1.1                         | 800            | 2864                              | 0.0                         | 930            | 2039                              | 0.0                         |
| 415            | 7117                              | 0.0                         | 545            | 78677                             | 52.4                        | 675            | 46030                             | 0.8                         | 805            | 3151                              | 0.0                         | 935            | 1784                              | 0.0                         |
| 420            | 13992                             | 0.0                         | 550            | 83331                             | 56.6                        | 680            | 40590                             | 0.5                         | 810            | 3022                              | 0.0                         | 940            | 2464                              | 0.0                         |
| 425            | 25176                             | 0.1                         | 555            | 89120                             | 60.9                        | 685            | 35691                             | 0.3                         | 815            | 3471                              | 0.0                         | 945            | 2794                              | 0.0                         |
| 430            | 38151                             | 0.3                         | 560            | 94613                             | 64.3                        | 690            | 31631                             | 0.2                         | 820            | 2749                              | 0.0                         | 950            | 3090                              | 0.0                         |
| 435            | 49673                             | 0.6                         | 565            | 99818                             | 66.4                        | 695            | 27437                             | 0.1                         | 825            | 2729                              | 0.0                         | 955            | 1866                              | 0.0                         |
| 440            | 57273                             | 0.9                         | 570            | 106526                            | 69.3                        | 700            | 24589                             | 0.1                         | 830            | 2282                              | 0.0                         | 960            | 3110                              | 0.0                         |
| 445            | 54802                             | 1.1                         | 575            | 111610                            | 69.4                        | 705            | 21832                             | 0.0                         | 835            | 3140                              | 0.0                         | 965            | 3880                              | 0.0                         |
| 450            | 39184                             | 1.0                         | 580            | 117163                            | 69.6                        | 710            | 19500                             | 0.0                         | 840            | 2365                              | 0.0                         | 970            | 3243                              | 0.0                         |
| 455            | 22506                             | 0.8                         | 585            | 122201                            | 67.9                        | 715            | 17870                             | 0.0                         | 845            | 3024                              | 0.0                         | 975            | 2014                              | 0.0                         |
| 460            | 13692                             | 0.6                         | 590            | 125662                            | 65.0                        | 720            | 15924                             | 0.0                         | 850            | 2510                              | 0.0                         | 980            | 1688                              | 0.0                         |
| 465            | 9446                              | 0.5                         | 595            | 127415                            | 60.4                        | 725            | 14268                             | 0.0                         | 855            | 2739                              | 0.0                         | 985            | 2827                              | 0.0                         |
| 470            | 6698                              | 0.4                         | 600            | 129155                            | 55.7                        | 730            | 12438                             | 0.0                         | 860            | 3515                              | 0.0                         | 990            | 4172                              | 0.0                         |
| 475            | 5328                              | 0.4                         | 605            | 128057                            | 49.6                        | 735            | 11255                             | 0.0                         | 865            | 3600                              | 0.0                         | 995            | 3177                              | 0.0                         |
| 480            | 5081                              | 0.5                         | 610            | 126031                            | 43.3                        | 740            | 9951                              | 0.0                         | 870            | 3609                              | 0.0                         | 1000           | 3241                              | 0.0                         |
| 485            | 5579                              | 0.7                         | 615            | 123059                            | 37.1                        | 745            | 8870                              | 0.0                         | 875            | 3208                              | 0.0                         |                |                                   |                             |

REPORT NUMBER: SP1-1908-441-1-R4

Scotopic Flux vs. Wavelength



Scotopic Lumens: 6474.3

S/P: 1.04

| 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    | 2044          | 0.0           | 490    | 7179          | 6.0           | 620    | 118034        | 0.1           | 750    | 8362          | 0.0           | 880    | 3128          | 0.0           |
| 365    | 2016          | 0.0           | 495    | 10476         | 8.6           | 625    | 111884        | 0.1           | 755    | 7635          | 0.0           | 885    | 3110          | 0.0           |
| 370    | 2020          | 0.0           | 500    | 15549         | 12.5          | 630    | 106119        | 0.0           | 760    | 6582          | 0.0           | 890    | 2632          | 0.0           |
| 375    | 2137          | 0.0           | 505    | 22477         | 17.3          | 635    | 99706         | 0.0           | 765    | 5777          | 0.0           | 895    | 2709          | 0.0           |
| 380    | 2046          | 0.0           | 510    | 30417         | 21.8          | 640    | 92142         | 0.0           | 770    | 5474          | 0.0           | 900    | 2016          | 0.0           |
| 385    | 1925          | 0.0           | 515    | 39274         | 25.7          | 645    | 84987         | 0.0           | 775    | 4977          | 0.0           | 905    | 1748          | 0.0           |
| 390    | 1893          | 0.0           | 520    | 47282         | 27.5          | 650    | 78016         | 0.0           | 780    | 4723          | 0.0           | 910    | 2046          | 0.0           |
| 395    | 1695          | 0.0           | 525    | 55413         | 28.1          | 655    | 71541         | 0.0           | 785    | 4219          | 0.0           | 915    | 1844          | 0.0           |
| 400    | 1633          | 0.0           | 530    | 62377         | 27.0          | 660    | 64863         | 0.0           | 790    | 3969          | 0.0           | 920    | 2734          | 0.0           |
| 405    | 2065          | 0.0           | 535    | 68520         | 24.7          | 665    | 58485         | 0.0           | 795    | 4122          | 0.0           | 925    | 2307          | 0.0           |
| 410    | 3449          | 0.1           | 540    | 73435         | 21.5          | 670    | 51641         | 0.0           | 800    | 2864          | 0.0           | 930    | 2039          | 0.0           |
| 415    | 7117          | 0.5           | 545    | 78677         | 18.3          | 675    | 46030         | 0.0           | 805    | 3151          | 0.0           | 935    | 1784          | 0.0           |
| 420    | 13992         | 1.6           | 550    | 83331         | 15.0          | 680    | 40590         | 0.0           | 810    | 3022          | 0.0           | 940    | 2464          | 0.0           |
| 425    | 25176         | 3.9           | 555    | 89120         | 12.0          | 685    | 35691         | 0.0           | 815    | 3471          | 0.0           | 945    | 2794          | 0.0           |
| 430    | 38151         | 8.1           | 560    | 94613         | 9.3           | 690    | 31631         | 0.0           | 820    | 2749          | 0.0           | 950    | 3090          | 0.0           |
| 435    | 49673         | 13.3          | 565    | 99818         | 7.0           | 695    | 27437         | 0.0           | 825    | 2729          | 0.0           | 955    | 1866          | 0.0           |
| 440    | 57273         | 19.1          | 570    | 106526        | 5.2           | 700    | 24589         | 0.0           | 830    | 2282          | 0.0           | 960    | 3110          | 0.0           |
| 445    | 54802         | 21.6          | 575    | 111610        | 3.7           | 705    | 21832         | 0.0           | 835    | 3140          | 0.0           | 965    | 3880          | 0.0           |
| 450    | 39184         | 18.1          | 580    | 117163        | 2.6           | 710    | 19500         | 0.0           | 840    | 2365          | 0.0           | 970    | 3243          | 0.0           |
| 455    | 22506         | 11.8          | 585    | 122201        | 1.8           | 715    | 17870         | 0.0           | 845    | 3024          | 0.0           | 975    | 2014          | 0.0           |
| 460    | 13692         | 8.1           | 590    | 125662        | 1.2           | 720    | 15924         | 0.0           | 850    | 2510          | 0.0           | 980    | 1688          | 0.0           |
| 465    | 9446          | 6.2           | 595    | 127415        | 0.8           | 725    | 14268         | 0.0           | 855    | 2739          | 0.0           | 985    | 2827          | 0.0           |
| 470    | 6698          | 4.8           | 600    | 129155        | 0.5           | 730    | 12438         | 0.0           | 860    | 3515          | 0.0           | 990    | 4172          | 0.0           |
| 475    | 5328          | 4.1           | 605    | 128057        | 0.4           | 735    | 11255         | 0.0           | 865    | 3600          | 0.0           | 995    | 3177          | 0.0           |
| 480    | 5081          | 4.1           | 610    | 126031        | 0.2           | 740    | 9951          | 0.0           | 870    | 3609          | 0.0           | 1000   | 3241          | 0.0           |
| 485    | 5579          | 4.6           | 615    | 123059        | 0.1           | 745    | 8870          | 0.0           | 875    | 3208          | 0.0           |        |               |               |



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Melanopic Flux vs. Wavelength



Melanopic Lumens: 2145.7 M/P: 0.35

| 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    | 2044          | 0.0           | 490    | 7179          | 11.1          | 620    | 118034        | 1.5           | 750    | 8362          | 0.0           | 880    | 3128          | 0.0           |
| 365    | 2016          | 0.0           | 495    | 10476         | 16.9          | 625    | 111884        | 0.9           | 755    | 7635          | 0.0           | 885    | 3110          | 0.0           |
| 370    | 2020          | 0.0           | 500    | 15549         | 26.0          | 630    | 106119        | 0.6           | 760    | 6582          | 0.0           | 890    | 2632          | 0.0           |
| 375    | 2137          | 0.0           | 505    | 22477         | 38.2          | 635    | 99706         | 0.4           | 765    | 5777          | 0.0           | 895    | 2709          | 0.0           |
| 380    | 2046          | 0.0           | 510    | 30417         | 51.6          | 640    | 92142         | 0.2           | 770    | 5474          | 0.0           | 900    | 2016          | 0.0           |
| 385    | 1925          | 0.0           | 515    | 39274         | 65.1          | 645    | 84987         | 0.1           | 775    | 4977          | 0.0           | 905    | 1748          | 0.0           |
| 390    | 1893          | 0.0           | 520    | 47282         | 75.2          | 650    | 78016         | 0.1           | 780    | 4723          | 0.0           | 910    | 2046          | 0.0           |
| 395    | 1695          | 0.0           | 525    | 55413         | 82.9          | 655    | 71541         | 0.1           | 785    | 4219          | 0.0           | 915    | 1844          | 0.0           |
| 400    | 1633          | 0.0           | 530    | 62377         | 86.0          | 660    | 64863         | 0.0           | 790    | 3969          | 0.0           | 920    | 2734          | 0.0           |
| 405    | 2065          | 0.1           | 535    | 68520         | 85.4          | 665    | 58485         | 0.0           | 795    | 4122          | 0.0           | 925    | 2307          | 0.0           |
| 410    | 3449          | 0.2           | 540    | 73435         | 81.1          | 670    | 51641         | 0.0           | 800    | 2864          | 0.0           | 930    | 2039          | 0.0           |
| 415    | 7117          | 0.7           | 545    | 78677         | 75.4          | 675    | 46030         | 0.0           | 805    | 3151          | 0.0           | 935    | 1784          | 0.0           |
| 420    | 13992         | 2.3           | 550    | 83331         | 68.1          | 680    | 40590         | 0.0           | 810    | 3022          | 0.0           | 940    | 2464          | 0.0           |
| 425    | 25176         | 6.2           | 555    | 89120         | 60.9          | 685    | 35691         | 0.0           | 815    | 3471          | 0.0           | 945    | 2794          | 0.0           |
| 430    | 38151         | 13.0          | 560    | 94613         | 52.9          | 690    | 31631         | 0.0           | 820    | 2749          | 0.0           | 950    | 3090          | 0.0           |
| 435    | 49673         | 22.2          | 565    | 99818         | 44.8          | 695    | 27437         | 0.0           | 825    | 2729          | 0.0           | 955    | 1866          | 0.0           |
| 440    | 57273         | 32.0          | 570    | 106526        | 37.6          | 700    | 24589         | 0.0           | 830    | 2282          | 0.0           | 960    | 3110          | 0.0           |
| 445    | 54802         | 36.7          | 575    | 111610        | 30.4          | 705    | 21832         | 0.0           | 835    | 3140          | 0.0           | 965    | 3880          | 0.0           |
| 450    | 39184         | 30.4          | 580    | 117163        | 24.1          | 710    | 19500         | 0.0           | 840    | 2365          | 0.0           | 970    | 3243          | 0.0           |
| 455    | 22506         | 19.7          | 585    | 122201        | 18.7          | 715    | 17870         | 0.0           | 845    | 3024          | 0.0           | 975    | 2014          | 0.0           |
| 460    | 13692         | 13.2          | 590    | 125662        | 14.0          | 720    | 15924         | 0.0           | 850    | 2510          | 0.0           | 980    | 1688          | 0.0           |
| 465    | 9446          | 10.0          | 595    | 127415        | 10.2          | 725    | 14268         | 0.0           | 855    | 2739          | 0.0           | 985    | 2827          | 0.0           |
| 470    | 6698          | 7.7           | 600    | 129155        | 7.3           | 730    | 12438         | 0.0           | 860    | 3515          | 0.0           | 990    | 4172          | 0.0           |
| 475    | 5328          | 6.7           | 605    | 128057        | 5.0           | 735    | 11255         | 0.0           | 865    | 3600          | 0.0           | 995    | 3177          | 0.0           |
| 480    | 5081          | 6.9           | 610    | 126031        | 3.4           | 740    | 9951          | 0.0           | 870    | 3609          | 0.0           | 1000   | 3241          | 0.0           |
| 485    | 5579          | 8.1           | 615    | 123059        | 2.3           | 745    | 8870          | 0.0           | 875    | 3208          | 0.0           |        |               |               |

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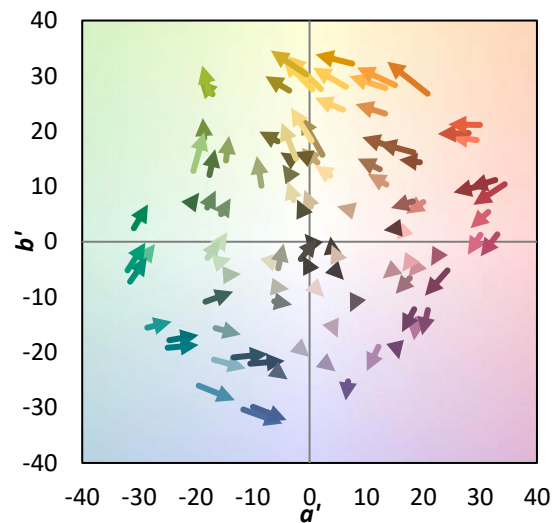
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**Summary**

$R_f = 69.9$   
 $R_g = 98.3$   
 CIE  $R_a = 71.5$   
 $R_9 = -16.1$



**Color Vector Graphics**



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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 54 | CES51 = 77 | CES76 = 48 |
| CES02 = 63 | CES27 = 74 | CES52 = 80 | CES77 = 75 |
| CES03 = 31 | CES28 = 80 | CES53 = 66 | CES78 = 56 |
| CES04 = 71 | CES29 = 44 | CES54 = 77 | CES79 = 81 |
| CES05 = 50 | CES30 = 46 | CES55 = 74 | CES80 = 80 |
| CES06 = 52 | CES31 = 50 | CES56 = 63 | CES81 = 73 |
| CES07 = 42 | CES32 = 49 | CES57 = 60 | CES82 = 91 |
| CES08 = 41 | CES33 = 53 | CES58 = 63 | CES83 = 84 |
| CES09 = 29 | CES34 = 66 | CES59 = 85 | CES84 = 90 |
| CES10 = 77 | CES35 = 82 | CES60 = 89 | CES85 = 87 |
| CES11 = 60 | CES36 = 78 | CES61 = 85 | CES86 = 65 |
| CES12 = 66 | CES37 = 75 | CES62 = 69 | CES87 = 78 |
| CES13 = 43 | CES38 = 53 | CES63 = 68 | CES88 = 73 |
| CES14 = 74 | CES39 = 91 | CES64 = 68 | CES89 = 68 |
| CES15 = 71 | CES40 = 85 | CES65 = 65 | CES90 = 68 |
| CES16 = 48 | CES41 = 76 | CES66 = 62 | CES91 = 91 |
| CES17 = 50 | CES42 = 76 | CES67 = 60 | CES92 = 71 |
| CES18 = 57 | CES43 = 65 | CES68 = 68 | CES93 = 82 |
| CES19 = 73 | CES44 = 98 | CES69 = 77 | CES94 = 57 |
| CES20 = 67 | CES45 = 75 | CES70 = 60 | CES95 = 78 |
| CES21 = 88 | CES46 = 70 | CES71 = 57 | CES96 = 80 |
| CES22 = 80 | CES47 = 63 | CES72 = 86 | CES97 = 79 |
| CES23 = 92 | CES48 = 51 | CES73 = 52 | CES98 = 71 |
| CES24 = 91 | CES49 = 68 | CES74 = 90 | CES99 = 64 |
| CES25 = 73 | CES50 = 77 | CES75 = 58 |            |



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Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)