

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



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

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P635885

Luminaire Tested: GWS-SA3E-760-U-SL2-W-GRSWH

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P635885
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-29)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA3E-760-U-SL2-W-GRSWH
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS W/ FACTORY INSTALLED GLARE SHIELD, WH
Light Source: (48) 5700K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18897.1 lumens
Efficiency: N/A
Efficacy: 118.7 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')
IES Classification: Type II - Short
BUG Rating: B3 - U0 - G3

Input Watts (W): 159.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT

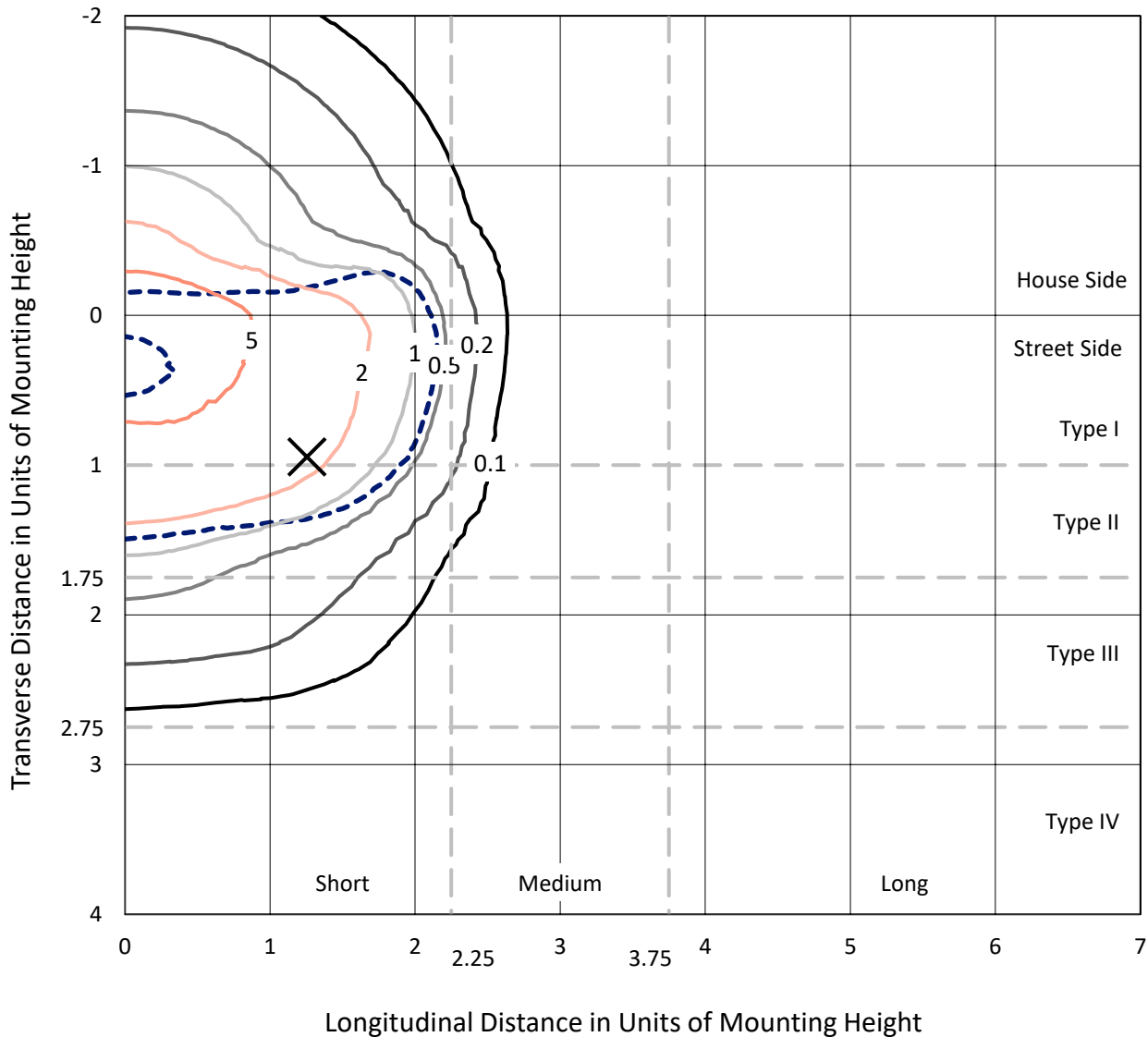


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CATALOG NUMBER: GWS-SA3E-760-U-SL2-W-GRSWH

Iso-Footcandle Lines of Horizontal Illumination

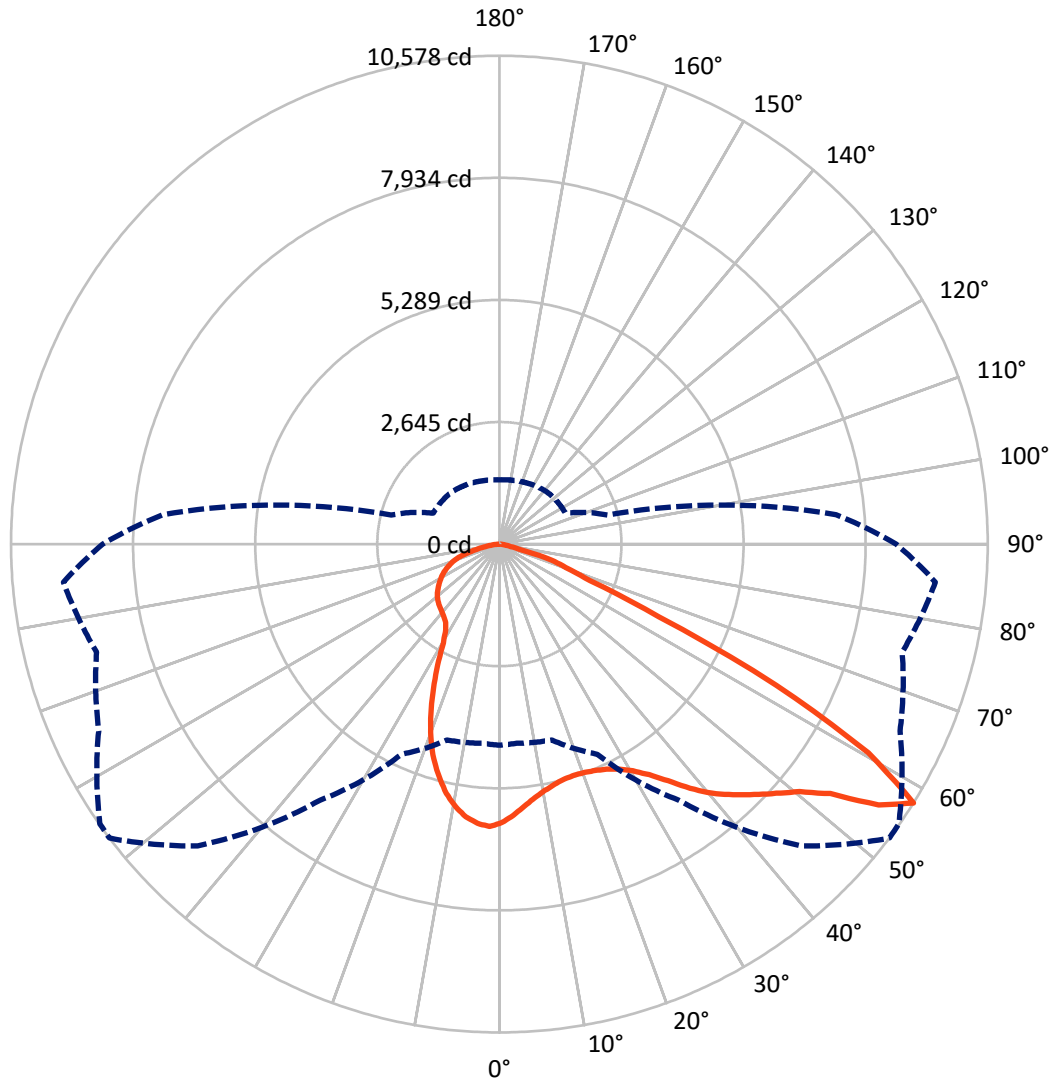
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 9.7 fc
 Type II - Short - N/A

REPORT NUMBER: P635885
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Luminous Intensity Polar Plot



— Vertical Plane Through 53-Deg Lateral - - - Horizontal Cone Through 57.5-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 5908.4 | 0.0 | 5908.4 |
| | % Fixture | 31.3 | 0.0 | 31.3 |
| Street Side | Lumens | 12988.7 | 0.0 | 12988.7 |
| | % Fixture | 68.7 | 0.0 | 68.7 |
| Total | Lumens | 18897.1 | 0.0 | 18897.1 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 545.7 | 2.9 |
| 10°-20° | 1431.6 | 7.6 |
| 20°-30° | 2109.3 | 11.2 |
| 30°-40° | 2952.5 | 15.6 |
| 40°-50° | 3881.2 | 20.5 |
| 50°-60° | 4550.7 | 24.1 |
| 60°-70° | 2680.9 | 14.2 |
| 70°-80° | 666.9 | 3.5 |
| 80°-90° | 78.2 | 0.4 |
| 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° | 18897.1 | 100.0 |
| 0°-180° | 18897.1 | 100.0 |

Coefficient of Utilization



REPORT NUMBER: P635885

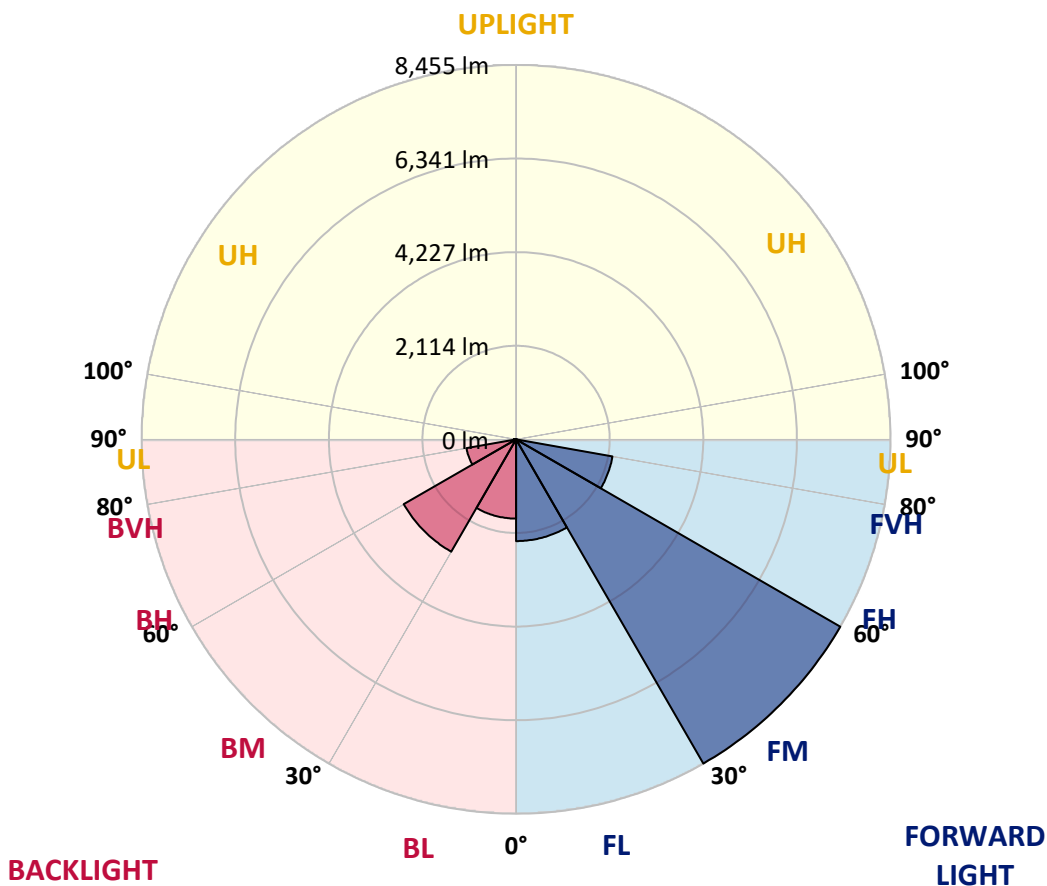
CATALOG NUMBER: GWS-SA3E-760-U-SL2-W-GRSWH

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 2297.5 | 12.2 | | | |
| FM (30°-60°) | 8454.7 | 44.7 | | | |
| FH (60°-80°) | 2210.2 | 11.7 | | | G2/5000 |
| FVH (80°-90°) | 26.2 | 0.1 | | | G1/100 |
| BL (0°-30°) | 1789.1 | 9.5 | B3/2500 | | |
| BM (30°-60°) | 2929.7 | 15.5 | B3/5000 | | |
| BH (60°-80°) | 1137.6 | 6.0 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 52.1 | 0.3 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G3

Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 53° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|---------|---------|---------|--------|--------|--------|
| 0° | 6034.4 | 6034.4 | 6034.4 | 6034.4 | 6034.4 | 6034.4 | 6034.4 | 6034.4 | 6034.4 | 6034.4 | 6034.4 |
| 2.5° | 5687.6 | 5703.5 | 5706.7 | 5756.0 | 5759.2 | 5830.8 | 5878.5 | 5868.9 | 5918.2 | 5978.7 | 6026.4 |
| 5° | 5415.7 | 5417.2 | 5433.1 | 5492.0 | 5523.8 | 5617.6 | 5697.2 | 5697.2 | 5792.6 | 5916.7 | 6023.2 |
| 7.5° | 5191.4 | 5189.8 | 5204.1 | 5269.3 | 5321.8 | 5434.7 | 5542.9 | 5555.6 | 5689.2 | 5870.5 | 6043.9 |
| 10° | 4983.0 | 4994.2 | 5010.1 | 5089.6 | 5156.4 | 5296.4 | 5425.2 | 5445.9 | 5614.5 | 5838.7 | 6072.5 |
| 12.5° | 4849.4 | 4851.0 | 4874.9 | 4963.9 | 5049.8 | 5199.3 | 5334.5 | 5360.0 | 5554.0 | 5808.5 | 6093.2 |
| 15° | 4763.5 | 4765.1 | 4790.6 | 4889.2 | 4989.4 | 5140.5 | 5278.9 | 5307.5 | 5519.0 | 5803.7 | 6133.0 |
| 17.5° | 4725.4 | 4723.8 | 4747.6 | 4846.3 | 4956.0 | 5113.5 | 5261.4 | 5296.4 | 5534.9 | 5840.3 | 6202.9 |
| 20° | 4725.4 | 4727.0 | 4739.7 | 4828.8 | 4940.1 | 5107.1 | 5278.9 | 5321.8 | 5597.0 | 5923.0 | 6311.1 |
| 22.5° | 4792.2 | 4798.5 | 4804.9 | 4865.3 | 4952.8 | 5116.6 | 5325.0 | 5382.2 | 5730.6 | 6061.4 | 6452.7 |
| 25° | 4922.6 | 4924.2 | 4930.5 | 4979.9 | 5019.6 | 5143.7 | 5401.3 | 5487.2 | 5938.9 | 6263.4 | 6630.8 |
| 27.5° | 5097.6 | 5119.8 | 5126.2 | 5158.0 | 5158.0 | 5210.5 | 5520.6 | 5644.7 | 6220.4 | 6554.4 | 6858.2 |
| 30° | 5342.5 | 5350.4 | 5361.6 | 5396.6 | 5358.4 | 5336.1 | 5695.6 | 5854.6 | 6546.5 | 6905.9 | 7131.8 |
| 32.5° | 5557.2 | 5574.7 | 5635.1 | 5692.4 | 5624.0 | 5554.0 | 5953.2 | 6140.9 | 6859.8 | 7271.8 | 7422.9 |
| 35° | 5740.1 | 5783.1 | 5899.2 | 6026.4 | 5978.7 | 5908.7 | 6295.2 | 6490.8 | 7117.5 | 7534.2 | 7680.5 |
| 37.5° | 5961.2 | 5994.6 | 6153.6 | 6360.4 | 6403.4 | 6369.9 | 6711.9 | 6851.9 | 7289.3 | 7601.0 | 7820.5 |
| 40° | 6185.5 | 6236.3 | 6441.5 | 6727.8 | 6891.6 | 6915.5 | 7096.8 | 7190.6 | 7348.1 | 7470.6 | 7793.4 |
| 42.5° | 6414.5 | 6502.0 | 6783.5 | 7117.5 | 7408.5 | 7462.6 | 7421.3 | 7461.0 | 7329.0 | 7290.8 | 7667.8 |
| 45° | 6694.4 | 6797.8 | 7115.9 | 7542.1 | 7925.5 | 8009.8 | 7739.4 | 7702.8 | 7325.8 | 7222.5 | 7589.9 |
| 47.5° | 7025.2 | 7128.6 | 7432.4 | 7928.6 | 8418.5 | 8480.5 | 8065.4 | 7998.6 | 7437.2 | 7327.4 | 7694.8 |
| 50° | 7317.9 | 7389.5 | 7661.4 | 8216.5 | 8878.2 | 8914.7 | 8424.9 | 8343.8 | 7713.9 | 7618.5 | 8022.5 |
| 52.5° | 7020.5 | 7012.5 | 7298.8 | 7982.7 | 9116.7 | 9557.3 | 8978.4 | 8900.4 | 8248.3 | 8102.0 | 8529.8 |
| 55° | 5956.4 | 5865.8 | 6121.8 | 6794.6 | 8450.3 | 10128.3 | 9970.8 | 9815.0 | 8960.9 | 8588.7 | 9005.4 |
| 57.5° | 4354.8 | 4329.3 | 4391.4 | 5022.8 | 6769.2 | 9244.0 | 10578.4 | 10564.1 | 9576.4 | 9034.0 | 9479.4 |
| 60° | 3405.3 | 3367.1 | 3201.7 | 3219.2 | 4614.0 | 7220.9 | 9180.4 | 9601.8 | 9958.1 | 9301.2 | 9810.2 |
| 62.5° | 3023.5 | 2994.9 | 2909.0 | 2672.0 | 2748.4 | 4841.5 | 6729.4 | 7115.9 | 8701.6 | 8214.9 | 8426.5 |
| 65° | 2503.4 | 2495.5 | 2567.1 | 2557.5 | 2303.0 | 2673.6 | 3798.1 | 4187.8 | 5471.3 | 5539.7 | 5471.3 |
| 67.5° | 1819.5 | 1805.2 | 1986.5 | 2344.4 | 2217.2 | 2018.3 | 2117.0 | 2252.1 | 2805.6 | 2519.4 | 2268.1 |
| 70° | 1183.3 | 1162.7 | 1267.6 | 1693.9 | 1984.9 | 1759.1 | 1525.3 | 1503.0 | 1542.8 | 959.1 | 1037.0 |
| 72.5° | 793.7 | 769.8 | 768.2 | 932.0 | 1199.2 | 1184.9 | 1181.7 | 1170.6 | 1045.0 | 757.1 | 839.8 |
| 75° | 442.2 | 423.1 | 418.3 | 402.4 | 429.4 | 437.4 | 466.0 | 481.9 | 521.7 | 574.2 | 636.2 |
| 77.5° | 74.8 | 73.2 | 92.2 | 117.7 | 162.2 | 208.4 | 257.7 | 272.0 | 335.6 | 397.6 | 437.4 |
| 80° | 41.4 | 42.9 | 55.7 | 68.4 | 90.7 | 124.1 | 159.0 | 168.6 | 206.8 | 240.2 | 272.0 |
| 82.5° | 22.3 | 22.3 | 28.6 | 36.6 | 49.3 | 65.2 | 85.9 | 93.8 | 119.3 | 140.0 | 162.2 |
| 85° | 8.0 | 8.0 | 11.1 | 14.3 | 20.7 | 27.0 | 33.4 | 38.2 | 52.5 | 71.6 | 81.1 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 3.2 | 6.4 | 6.4 | 8.0 | 14.3 | 20.7 |
| 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: P635885

CATALOG NUMBER: GWS-SA3E-760-U-SL2-W-GRSWH

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 6034.4 | 6034.4 | 6034.4 | 6034.4 | 6034.4 | 6034.4 | 6034.4 | 6034.4 | 6034.4 | 6034.4 | 6034.4 |
| 2.5° | 6066.2 | 6023.2 | 6082.1 | 6109.1 | 6118.7 | 6125.0 | 6083.7 | 6055.0 | 6045.5 | 6015.3 | 5997.8 |
| 5° | 6088.4 | 6059.8 | 6115.5 | 6115.5 | 6075.7 | 6034.4 | 5950.1 | 5891.2 | 5849.9 | 5800.6 | 5792.6 |
| 7.5° | 6126.6 | 6105.9 | 6136.1 | 6074.1 | 5973.9 | 5862.6 | 5716.3 | 5601.7 | 5509.5 | 5449.1 | 5450.6 |
| 10° | 6177.5 | 6152.1 | 6128.2 | 5989.8 | 5806.9 | 5601.7 | 5377.5 | 5210.5 | 5057.8 | 4987.8 | 4949.6 |
| 12.5° | 6210.9 | 6174.3 | 6074.1 | 5845.1 | 5576.3 | 5301.1 | 4984.6 | 4736.5 | 4515.4 | 4415.2 | 4407.3 |
| 15° | 6252.3 | 6185.5 | 5985.0 | 5657.4 | 5283.6 | 4908.3 | 4501.1 | 4156.0 | 3857.0 | 3701.1 | 3693.1 |
| 17.5° | 6306.3 | 6196.6 | 5878.5 | 5442.7 | 4975.1 | 4421.6 | 3909.4 | 3475.2 | 3157.1 | 3036.3 | 3056.9 |
| 20° | 6382.7 | 6209.3 | 5757.6 | 5204.1 | 4591.8 | 3868.1 | 3230.3 | 2831.1 | 2708.6 | 2700.7 | 2684.8 |
| 22.5° | 6468.6 | 6217.3 | 5624.0 | 4936.9 | 4127.3 | 3278.0 | 2668.9 | 2498.7 | 2497.1 | 2536.8 | 2546.4 |
| 25° | 6565.6 | 6223.6 | 5472.9 | 4625.2 | 3624.7 | 2689.5 | 2360.3 | 2309.4 | 2349.2 | 2423.9 | 2433.5 |
| 27.5° | 6689.6 | 6236.3 | 5290.0 | 4283.2 | 3090.3 | 2323.7 | 2190.1 | 2177.4 | 2225.1 | 2295.1 | 2291.9 |
| 30° | 6872.5 | 6282.5 | 5096.0 | 3890.4 | 2541.6 | 2150.4 | 2086.7 | 2088.3 | 2107.4 | 2140.8 | 2145.6 |
| 32.5° | 7058.6 | 6354.0 | 4906.7 | 3448.2 | 2226.7 | 2051.7 | 2023.1 | 2019.9 | 2019.9 | 2034.2 | 2037.4 |
| 35° | 7235.2 | 6435.2 | 4701.5 | 2987.0 | 2074.0 | 1994.5 | 1975.4 | 1965.9 | 1961.1 | 1957.9 | 1953.1 |
| 37.5° | 7333.8 | 6474.9 | 4501.1 | 2532.1 | 1992.9 | 1956.3 | 1937.2 | 1924.5 | 1907.0 | 1894.3 | 1891.1 |
| 40° | 7290.8 | 6428.8 | 4268.9 | 2191.7 | 1943.6 | 1919.7 | 1897.5 | 1880.0 | 1856.1 | 1845.0 | 1838.6 |
| 42.5° | 7147.7 | 6285.7 | 4016.0 | 2031.1 | 1903.8 | 1880.0 | 1852.9 | 1824.3 | 1808.4 | 1798.9 | 1797.3 |
| 45° | 6996.6 | 6112.3 | 3710.6 | 1937.2 | 1865.7 | 1837.0 | 1805.2 | 1773.4 | 1755.9 | 1751.1 | 1749.5 |
| 47.5° | 6991.8 | 6026.4 | 3386.2 | 1862.5 | 1819.5 | 1790.9 | 1751.1 | 1719.3 | 1700.2 | 1693.9 | 1687.5 |
| 50° | 7201.8 | 6113.9 | 3020.4 | 1797.3 | 1771.8 | 1741.6 | 1697.1 | 1662.1 | 1638.2 | 1630.3 | 1628.7 |
| 52.5° | 7637.6 | 6443.1 | 2692.7 | 1732.1 | 1708.2 | 1673.2 | 1636.6 | 1601.6 | 1573.0 | 1558.7 | 1557.1 |
| 55° | 8108.4 | 6861.4 | 2489.1 | 1665.3 | 1633.4 | 1603.2 | 1569.8 | 1531.7 | 1499.8 | 1477.6 | 1474.4 |
| 57.5° | 8595.1 | 7317.9 | 2427.1 | 1581.0 | 1557.1 | 1536.4 | 1496.7 | 1455.3 | 1418.7 | 1398.0 | 1393.3 |
| 60° | 8995.9 | 7710.7 | 2543.2 | 1491.9 | 1479.2 | 1452.1 | 1415.5 | 1375.8 | 1350.3 | 1334.4 | 1331.2 |
| 62.5° | 7531.0 | 6277.7 | 2053.3 | 1394.9 | 1394.9 | 1366.2 | 1324.9 | 1296.3 | 1278.8 | 1267.6 | 1264.4 |
| 65° | 4779.5 | 3887.2 | 1401.2 | 1297.8 | 1296.3 | 1258.1 | 1223.1 | 1204.0 | 1196.1 | 1178.6 | 1175.4 |
| 67.5° | 2082.0 | 1776.6 | 1197.6 | 1199.2 | 1192.9 | 1151.5 | 1116.5 | 1102.2 | 1086.3 | 1067.2 | 1065.6 |
| 70° | 1079.9 | 1100.6 | 1072.0 | 1089.5 | 1078.4 | 1029.1 | 995.7 | 973.4 | 940.0 | 920.9 | 922.5 |
| 72.5° | 871.6 | 893.9 | 925.7 | 952.7 | 928.9 | 889.1 | 836.6 | 809.6 | 766.6 | 745.9 | 747.5 |
| 75° | 664.8 | 688.7 | 718.9 | 747.5 | 728.4 | 679.1 | 645.7 | 618.7 | 569.4 | 545.5 | 550.3 |
| 77.5° | 458.1 | 470.8 | 507.4 | 505.8 | 499.4 | 485.1 | 435.8 | 404.0 | 353.1 | 324.5 | 327.6 |
| 80° | 284.7 | 292.7 | 310.1 | 318.1 | 314.9 | 295.8 | 256.1 | 232.2 | 202.0 | 184.5 | 186.1 |
| 82.5° | 171.8 | 176.5 | 192.5 | 194.0 | 192.5 | 178.1 | 147.9 | 130.4 | 111.3 | 101.8 | 101.8 |
| 85° | 87.5 | 90.7 | 100.2 | 100.2 | 90.7 | 76.3 | 68.4 | 60.4 | 49.3 | 44.5 | 44.5 |
| 87.5° | 23.9 | 23.9 | 30.2 | 25.4 | 20.7 | 19.1 | 9.5 | 8.0 | 3.2 | 1.6 | 1.6 |
| 90° | 0.0 | 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: SP1-1908-441-9-R4

Test Date: 10/23/2019

Luminaire Tested: SA1C-760-U-5WQ

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

Test Information

Test Method: LM-79-2008
 Report Number: SP1-1908-441-9-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-760-U-5WQ**
 Description: McGRAW EDISON ROADWAY AND AREA LUMINAIRE

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

Spectral Parameters

CCT (K): 5474
 CIE u': 0.2052
 CIE v': 0.4804
 Duv: 0.0025
 CIE x: 0.3330
 CIE y: 0.3466
 CIE z: 0.3204
 Peak Wavelength (nm): 442
 Dominant Wavelength (nm): 554
 Purity: 4.1

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 71.7 | | |
| R1: | 70.6 | R9: | -27.1 |
| R2: | 74.6 | R10: | 40.8 |
| R3: | 78.3 | R11: | 74.6 |
| R4: | 73.8 | R12: | 50.4 |
| R5: | 72.4 | R13: | 70.0 |
| R6: | 67.5 | R14: | 87.8 |
| R7: | 77.5 | | |
| R8: | 58.9 | | |

Rf: 72.1
 Rg: 97.2



Test Conditions

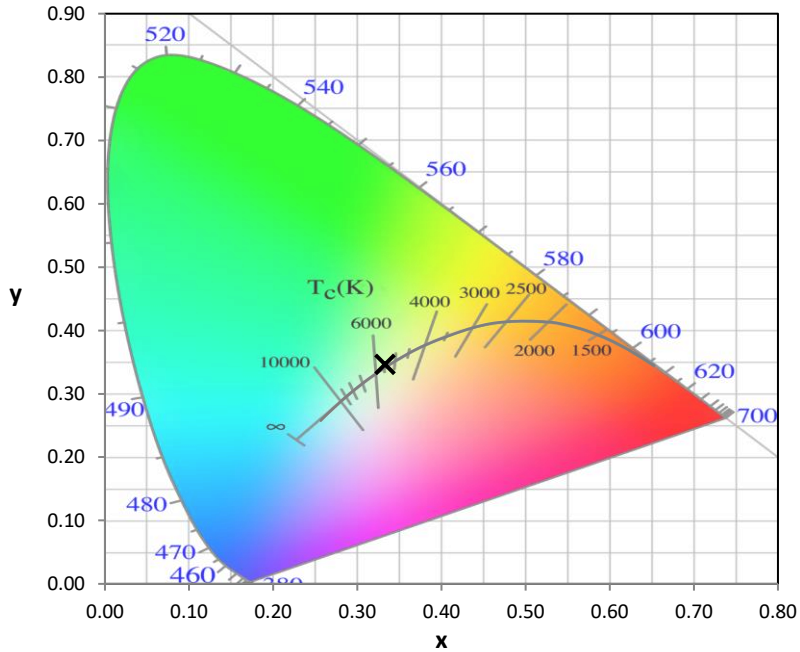
Stabilization Time: 240M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 24.6/31%
 Sphere Temperature (°C): 25.9

REPORT NUMBER: SP1-1908-441-9-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 |

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CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 5700K 4-step quadrangle

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Photopic Flux vs. Wavelength



#####

| λ (nm) | Power (μ W/nm) | Lumens (ϕ /nm) | λ (nm) | Power (μ W/nm) | Lumens (ϕ /nm) | λ (nm) | Power (μ W/nm) | Lumens (ϕ /nm) | λ (nm) | Power (μ W/nm) | Lumens (ϕ /nm) | λ (nm) | Power (μ W/nm) | Lumens (ϕ /nm) |
|-------------------|------------------------|-------------------------|-------------------|------------------------|-------------------------|-------------------|------------------------|-------------------------|-------------------|------------------------|-------------------------|-------------------|------------------------|-------------------------|
| 360 | 3540 | NR | 490 | 33363 | NR | 620 | 80193 | NR | 750 | 4663 | NR | 880 | 4678 | NR |
| 365 | 2862 | NR | 495 | 44177 | NR | 625 | 73091 | NR | 755 | 4147 | NR | 885 | 4128 | NR |
| 370 | 2865 | NR | 500 | 57019 | NR | 630 | 66269 | NR | 760 | 4040 | NR | 890 | 4504 | NR |
| 375 | 3254 | NR | 505 | 70030 | NR | 635 | 60012 | NR | 765 | 3474 | NR | 895 | 4371 | NR |
| 380 | 3076 | NR | 510 | 81972 | NR | 640 | 53914 | NR | 770 | 3469 | NR | 900 | 4082 | NR |
| 385 | 2904 | NR | 515 | 92590 | NR | 645 | 48385 | NR | 775 | 3181 | NR | 905 | 2982 | NR |
| 390 | 2689 | NR | 520 | 100305 | NR | 650 | 43219 | NR | 780 | 2969 | NR | 910 | 4351 | NR |
| 395 | 2619 | NR | 525 | 107452 | NR | 655 | 38562 | NR | 785 | 3132 | NR | 915 | 3365 | NR |
| 400 | 2679 | NR | 530 | 111373 | NR | 660 | 34110 | NR | 790 | 2507 | NR | 920 | 3430 | NR |
| 405 | 3515 | NR | 535 | 114505 | NR | 665 | 30085 | NR | 795 | 2968 | NR | 925 | 4264 | NR |
| 410 | 6934 | NR | 540 | 116408 | NR | 670 | 26205 | NR | 800 | 2758 | NR | 930 | 4095 | NR |
| 415 | 14943 | NR | 545 | 118700 | NR | 675 | 22906 | NR | 805 | 2872 | NR | 935 | 5048 | NR |
| 420 | 31939 | NR | 550 | 119209 | NR | 680 | 20058 | NR | 810 | 3094 | NR | 940 | 4074 | NR |
| 425 | 64701 | NR | 555 | 120742 | NR | 685 | 17413 | NR | 815 | 3222 | NR | 945 | 4949 | NR |
| 430 | 110939 | NR | 560 | 121594 | NR | 690 | 15447 | NR | 820 | 3238 | NR | 950 | 4387 | NR |
| 435 | 164597 | NR | 565 | 121913 | NR | 695 | 13398 | NR | 825 | 3524 | NR | 955 | 4978 | NR |
| 440 | 207696 | NR | 570 | 122147 | NR | 700 | 11777 | NR | 830 | 2921 | NR | 960 | 4706 | NR |
| 445 | 201830 | NR | 575 | 121605 | NR | 705 | 10412 | NR | 835 | 3595 | NR | 965 | 5083 | NR |
| 450 | 145410 | NR | 580 | 120248 | NR | 710 | 9544 | NR | 840 | 3016 | NR | 970 | 4522 | NR |
| 455 | 89594 | NR | 585 | 117717 | NR | 715 | 8940 | NR | 845 | 4032 | NR | 975 | 4740 | NR |
| 460 | 58321 | NR | 590 | 114359 | NR | 720 | 7897 | NR | 850 | 3579 | NR | 980 | 6122 | NR |
| 465 | 39318 | NR | 595 | 109974 | NR | 725 | 7045 | NR | 855 | 4571 | NR | 985 | 6450 | NR |
| 470 | 27693 | NR | 600 | 105269 | NR | 730 | 6483 | NR | 860 | 4485 | NR | 990 | 4875 | NR |
| 475 | 23081 | NR | 605 | 99453 | NR | 735 | 5838 | NR | 865 | 3978 | NR | 995 | 4764 | NR |
| 480 | 23002 | NR | 610 | 92921 | NR | 740 | 5261 | NR | 870 | 4298 | NR | 1000 | 3640 | NR |
| 485 | 26201 | NR | 615 | 86989 | NR | 745 | 4760 | NR | 875 | 4356 | NR | | | |

REPORT NUMBER: SP1-1908-441-9-R4

Scotopic Flux vs. Wavelength



Scotopic Lumens: 13759.3 S/P: 1.85

| 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 | 3540 | NR | 490 | 33363 | NR | 620 | 80193 | NR | 750 | 4663 | NR | 880 | 4678 | NR |
| 365 | 2862 | NR | 495 | 44177 | NR | 625 | 73091 | NR | 755 | 4147 | NR | 885 | 4128 | NR |
| 370 | 2865 | NR | 500 | 57019 | NR | 630 | 66269 | NR | 760 | 4040 | NR | 890 | 4504 | NR |
| 375 | 3254 | NR | 505 | 70030 | NR | 635 | 60012 | NR | 765 | 3474 | NR | 895 | 4371 | NR |
| 380 | 3076 | NR | 510 | 81972 | NR | 640 | 53914 | NR | 770 | 3469 | NR | 900 | 4082 | NR |
| 385 | 2904 | NR | 515 | 92590 | NR | 645 | 48385 | NR | 775 | 3181 | NR | 905 | 2982 | NR |
| 390 | 2689 | NR | 520 | 100305 | NR | 650 | 43219 | NR | 780 | 2969 | NR | 910 | 4351 | NR |
| 395 | 2619 | NR | 525 | 107452 | NR | 655 | 38562 | NR | 785 | 3132 | NR | 915 | 3365 | NR |
| 400 | 2679 | NR | 530 | 111373 | NR | 660 | 34110 | NR | 790 | 2507 | NR | 920 | 3430 | NR |
| 405 | 3515 | NR | 535 | 114505 | NR | 665 | 30085 | NR | 795 | 2968 | NR | 925 | 4264 | NR |
| 410 | 6934 | NR | 540 | 116408 | NR | 670 | 26205 | NR | 800 | 2758 | NR | 930 | 4095 | NR |
| 415 | 14943 | NR | 545 | 118700 | NR | 675 | 22906 | NR | 805 | 2872 | NR | 935 | 5048 | NR |
| 420 | 31939 | NR | 550 | 119209 | NR | 680 | 20058 | NR | 810 | 3094 | NR | 940 | 4074 | NR |
| 425 | 64701 | NR | 555 | 120742 | NR | 685 | 17413 | NR | 815 | 3222 | NR | 945 | 4949 | NR |
| 430 | 110939 | NR | 560 | 121594 | NR | 690 | 15447 | NR | 820 | 3238 | NR | 950 | 4387 | NR |
| 435 | 164597 | NR | 565 | 121913 | NR | 695 | 13398 | NR | 825 | 3524 | NR | 955 | 4978 | NR |
| 440 | 207696 | NR | 570 | 122147 | NR | 700 | 11777 | NR | 830 | 2921 | NR | 960 | 4706 | NR |
| 445 | 201830 | NR | 575 | 121605 | NR | 705 | 10412 | NR | 835 | 3595 | NR | 965 | 5083 | NR |
| 450 | 145410 | NR | 580 | 120248 | NR | 710 | 9544 | NR | 840 | 3016 | NR | 970 | 4522 | NR |
| 455 | 89594 | NR | 585 | 117717 | NR | 715 | 8940 | NR | 845 | 4032 | NR | 975 | 4740 | NR |
| 460 | 58321 | NR | 590 | 114359 | NR | 720 | 7897 | NR | 850 | 3579 | NR | 980 | 6122 | NR |
| 465 | 39318 | NR | 595 | 109974 | NR | 725 | 7045 | NR | 855 | 4571 | NR | 985 | 6450 | NR |
| 470 | 27693 | NR | 600 | 105269 | NR | 730 | 6483 | NR | 860 | 4485 | NR | 990 | 4875 | NR |
| 475 | 23081 | NR | 605 | 99453 | NR | 735 | 5838 | NR | 865 | 3978 | NR | 995 | 4764 | NR |
| 480 | 23002 | NR | 610 | 92921 | NR | 740 | 5261 | NR | 870 | 4298 | NR | 1000 | 3640 | NR |
| 485 | 26201 | NR | 615 | 86989 | NR | 745 | 4760 | NR | 875 | 4356 | NR | | | |

REPORT NUMBER: SP1-1908-441-9-R4

Melanopic Flux vs. Wavelength



Melanopic Lumens: 5527.6 M/P: 0.74

| 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 | 3540 | NR | 490 | 33363 | NR | 620 | 80193 | NR | 750 | 4663 | NR | 880 | 4678 | NR |
| 365 | 2862 | NR | 495 | 44177 | NR | 625 | 73091 | NR | 755 | 4147 | NR | 885 | 4128 | NR |
| 370 | 2865 | NR | 500 | 57019 | NR | 630 | 66269 | NR | 760 | 4040 | NR | 890 | 4504 | NR |
| 375 | 3254 | NR | 505 | 70030 | NR | 635 | 60012 | NR | 765 | 3474 | NR | 895 | 4371 | NR |
| 380 | 3076 | NR | 510 | 81972 | NR | 640 | 53914 | NR | 770 | 3469 | NR | 900 | 4082 | NR |
| 385 | 2904 | NR | 515 | 92590 | NR | 645 | 48385 | NR | 775 | 3181 | NR | 905 | 2982 | NR |
| 390 | 2689 | NR | 520 | 100305 | NR | 650 | 43219 | NR | 780 | 2969 | NR | 910 | 4351 | NR |
| 395 | 2619 | NR | 525 | 107452 | NR | 655 | 38562 | NR | 785 | 3132 | NR | 915 | 3365 | NR |
| 400 | 2679 | NR | 530 | 111373 | NR | 660 | 34110 | NR | 790 | 2507 | NR | 920 | 3430 | NR |
| 405 | 3515 | NR | 535 | 114505 | NR | 665 | 30085 | NR | 795 | 2968 | NR | 925 | 4264 | NR |
| 410 | 6934 | NR | 540 | 116408 | NR | 670 | 26205 | NR | 800 | 2758 | NR | 930 | 4095 | NR |
| 415 | 14943 | NR | 545 | 118700 | NR | 675 | 22906 | NR | 805 | 2872 | NR | 935 | 5048 | NR |
| 420 | 31939 | NR | 550 | 119209 | NR | 680 | 20058 | NR | 810 | 3094 | NR | 940 | 4074 | NR |
| 425 | 64701 | NR | 555 | 120742 | NR | 685 | 17413 | NR | 815 | 3222 | NR | 945 | 4949 | NR |
| 430 | 110939 | NR | 560 | 121594 | NR | 690 | 15447 | NR | 820 | 3238 | NR | 950 | 4387 | NR |
| 435 | 164597 | NR | 565 | 121913 | NR | 695 | 13398 | NR | 825 | 3524 | NR | 955 | 4978 | NR |
| 440 | 207696 | NR | 570 | 122147 | NR | 700 | 11777 | NR | 830 | 2921 | NR | 960 | 4706 | NR |
| 445 | 201830 | NR | 575 | 121605 | NR | 705 | 10412 | NR | 835 | 3595 | NR | 965 | 5083 | NR |
| 450 | 145410 | NR | 580 | 120248 | NR | 710 | 9544 | NR | 840 | 3016 | NR | 970 | 4522 | NR |
| 455 | 89594 | NR | 585 | 117717 | NR | 715 | 8940 | NR | 845 | 4032 | NR | 975 | 4740 | NR |
| 460 | 58321 | NR | 590 | 114359 | NR | 720 | 7897 | NR | 850 | 3579 | NR | 980 | 6122 | NR |
| 465 | 39318 | NR | 595 | 109974 | NR | 725 | 7045 | NR | 855 | 4571 | NR | 985 | 6450 | NR |
| 470 | 27693 | NR | 600 | 105269 | NR | 730 | 6483 | NR | 860 | 4485 | NR | 990 | 4875 | NR |
| 475 | 23081 | NR | 605 | 99453 | NR | 735 | 5838 | NR | 865 | 3978 | NR | 995 | 4764 | NR |
| 480 | 23002 | NR | 610 | 92921 | NR | 740 | 5261 | NR | 870 | 4298 | NR | 1000 | 3640 | NR |
| 485 | 26201 | NR | 615 | 86989 | NR | 745 | 4760 | NR | 875 | 4356 | NR | | | |

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Summary

$R_f = 72.1$
 $R_g = 97.2$
CIE $R_a = 71.7$
 $R_g = -27.1$



Color Vector Graphics



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

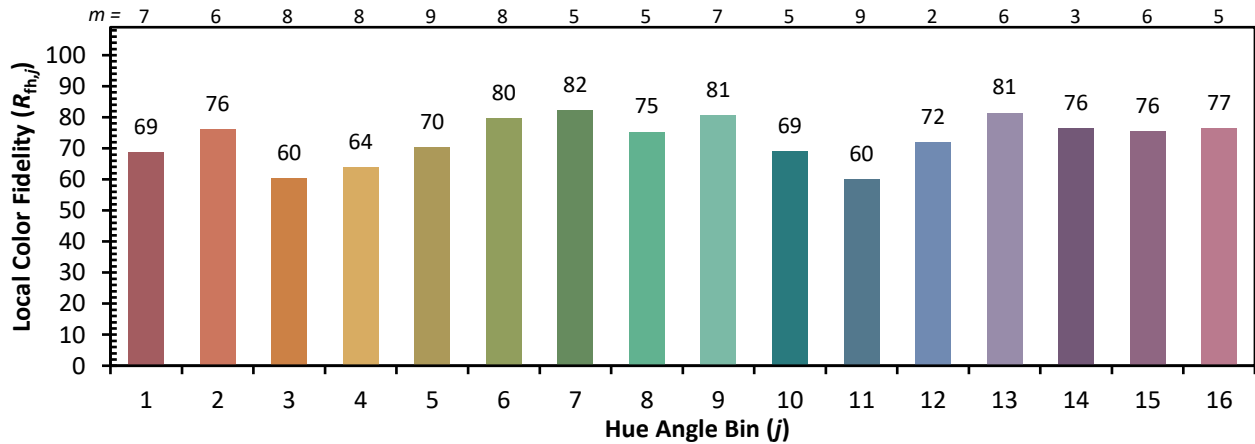
| | | | |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 54 | CES51 = 88 | CES76 = 43 |
| CES02 = 59 | CES27 = 79 | CES52 = 90 | CES77 = 64 |
| CES03 = 30 | CES28 = 77 | CES53 = 77 | CES78 = 46 |
| CES04 = 69 | CES29 = 50 | CES54 = 81 | CES79 = 74 |
| CES05 = 46 | CES30 = 59 | CES55 = 80 | CES80 = 70 |
| CES06 = 50 | CES31 = 55 | CES56 = 70 | CES81 = 71 |
| CES07 = 38 | CES32 = 52 | CES57 = 68 | CES82 = 88 |
| CES08 = 38 | CES33 = 63 | CES58 = 70 | CES83 = 82 |
| CES09 = 29 | CES34 = 63 | CES59 = 88 | CES84 = 87 |
| CES10 = 72 | CES35 = 79 | CES60 = 92 | CES85 = 84 |
| CES11 = 55 | CES36 = 90 | CES61 = 88 | CES86 = 76 |
| CES12 = 61 | CES37 = 72 | CES62 = 81 | CES87 = 75 |
| CES13 = 41 | CES38 = 68 | CES63 = 75 | CES88 = 77 |
| CES14 = 74 | CES39 = 91 | CES64 = 72 | CES89 = 76 |
| CES15 = 70 | CES40 = 83 | CES65 = 65 | CES90 = 76 |
| CES16 = 46 | CES41 = 84 | CES66 = 66 | CES91 = 92 |
| CES17 = 48 | CES42 = 70 | CES67 = 64 | CES92 = 70 |
| CES18 = 55 | CES43 = 69 | CES68 = 71 | CES93 = 83 |
| CES19 = 70 | CES44 = 98 | CES69 = 80 | CES94 = 60 |
| CES20 = 64 | CES45 = 79 | CES70 = 58 | CES95 = 73 |
| CES21 = 85 | CES46 = 78 | CES71 = 55 | CES96 = 79 |
| CES22 = 77 | CES47 = 76 | CES72 = 84 | CES97 = 84 |
| CES23 = 91 | CES48 = 68 | CES73 = 47 | CES98 = 73 |
| CES24 = 90 | CES49 = 78 | CES74 = 94 | CES99 = 62 |
| CES25 = 71 | CES50 = 87 | CES75 = 51 | |



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Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)