

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: STREETWORKS

Report Number: P868064

Luminaire Tested: **MEM2-HSN-SA-150-722-U-T3-HSS**

Issue Date: 08/21/2024



Test Information

Test Method: LM-79-08
Report Number: P868064
Test Lab: INNOVATION CENTER(G3)
Issue Date: 08/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: MEM2-HSN-SA-150-722-U-T3-HSS
Description: EPIC MODERN SHORT HOUSING DISCRETE LED ARRAYS 150W 70CRI 2200K
FITXURE w/ TYPE III DISTRIBUTION OPTIC AND HOUSE SIDE SHIELD
Light Source: (30) 2200K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

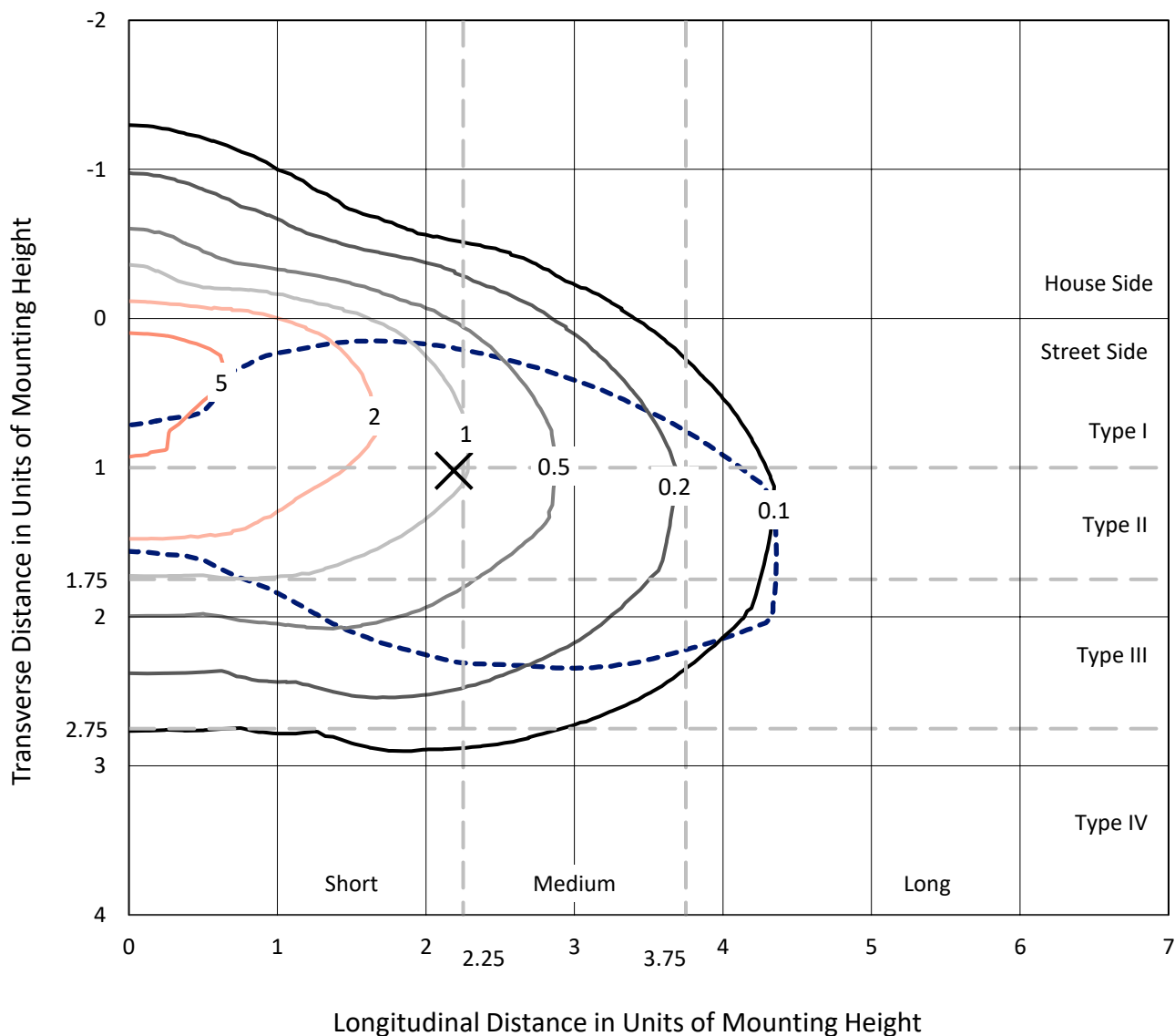
Lumens per Lamp: N/A
Luminaire Lumens: 11464.1 lumens
Efficiency: N/A
Efficacy: 85.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.33' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G2

Input Watts (W): 134
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 6.70%
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

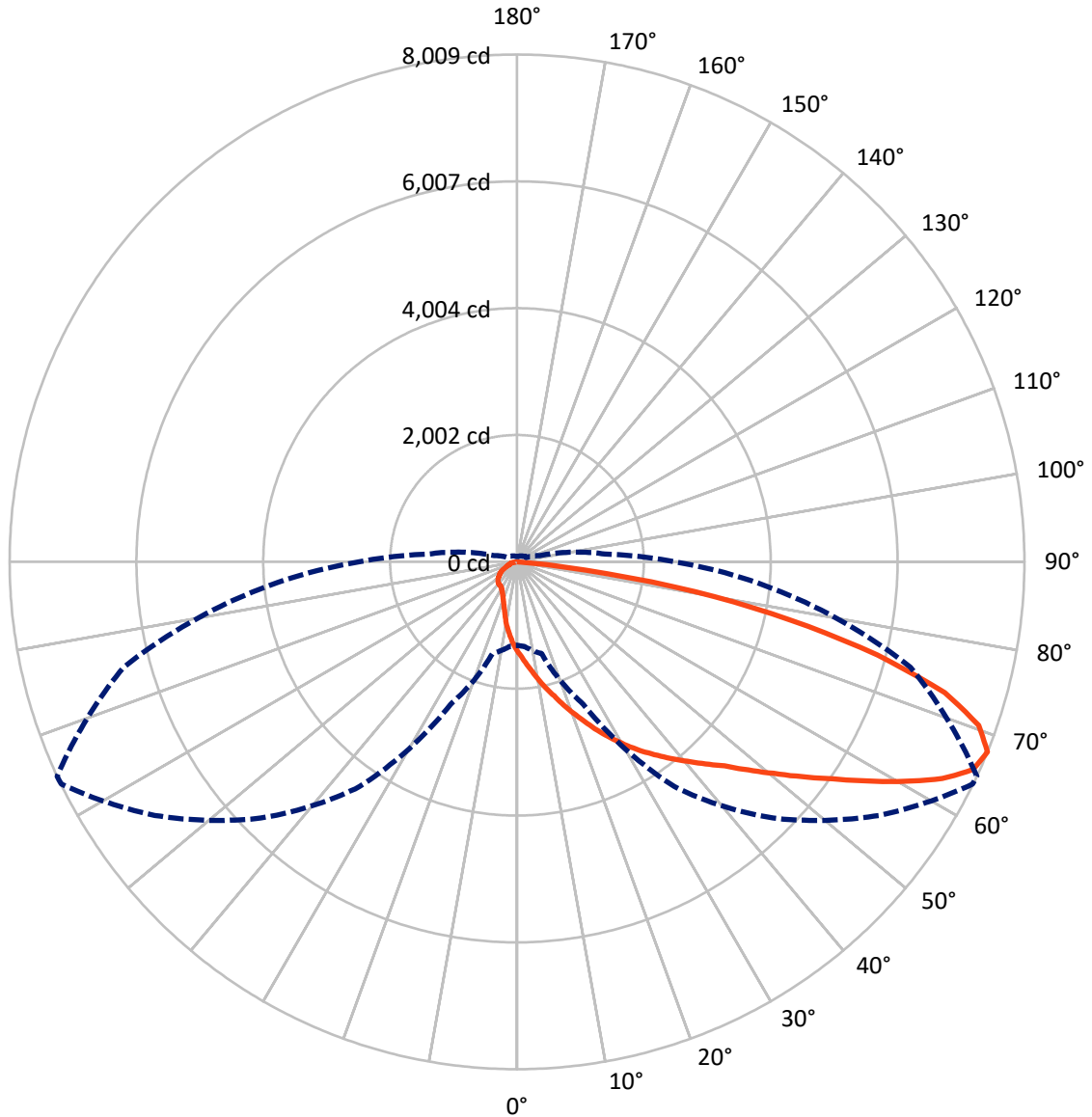
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.6 fc
 Type III - Short - N/A

REPORT NUMBER: P868064
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Luminous Intensity Polar Plot



— Vertical Plane Through 65-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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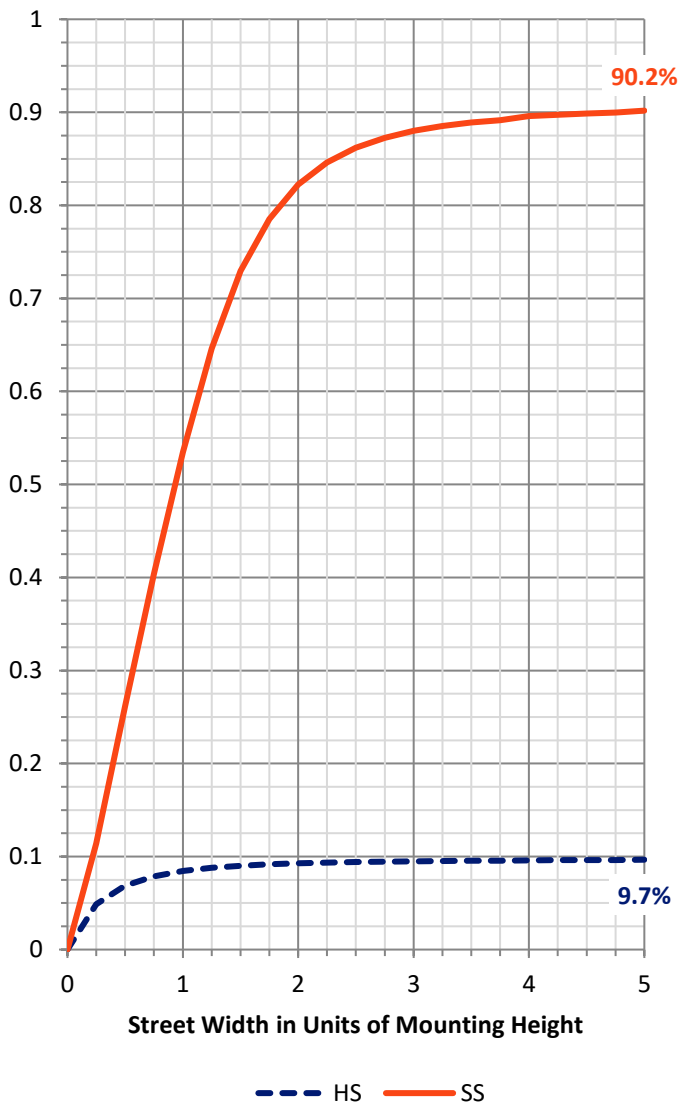
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 1115.8 | 0.0 | 1115.8 |
| | % Fixture | 9.7 | 0.0 | 9.7 |
| Street Side | Lumens | 10348.3 | 0.0 | 10348.3 |
| | % Fixture | 90.3 | 0.0 | 90.3 |
| Total | Lumens | 11464.1 | 0.0 | 11464.1 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 138.6 | 1.2 |
| 10°-20° | 460.0 | 4.0 |
| 20°-30° | 837.2 | 7.3 |
| 30°-40° | 1295.7 | 11.3 |
| 40°-50° | 1958.7 | 17.1 |
| 50°-60° | 2548.1 | 22.2 |
| 60°-70° | 2513.7 | 21.9 |
| 70°-80° | 1530.1 | 13.3 |
| 80°-90° | 181.9 | 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° | 11464.1 | 100.0 |
| 0°-180° | 11464.1 | 100.0 |

Coefficient of Utilization



REPORT NUMBER: P868064

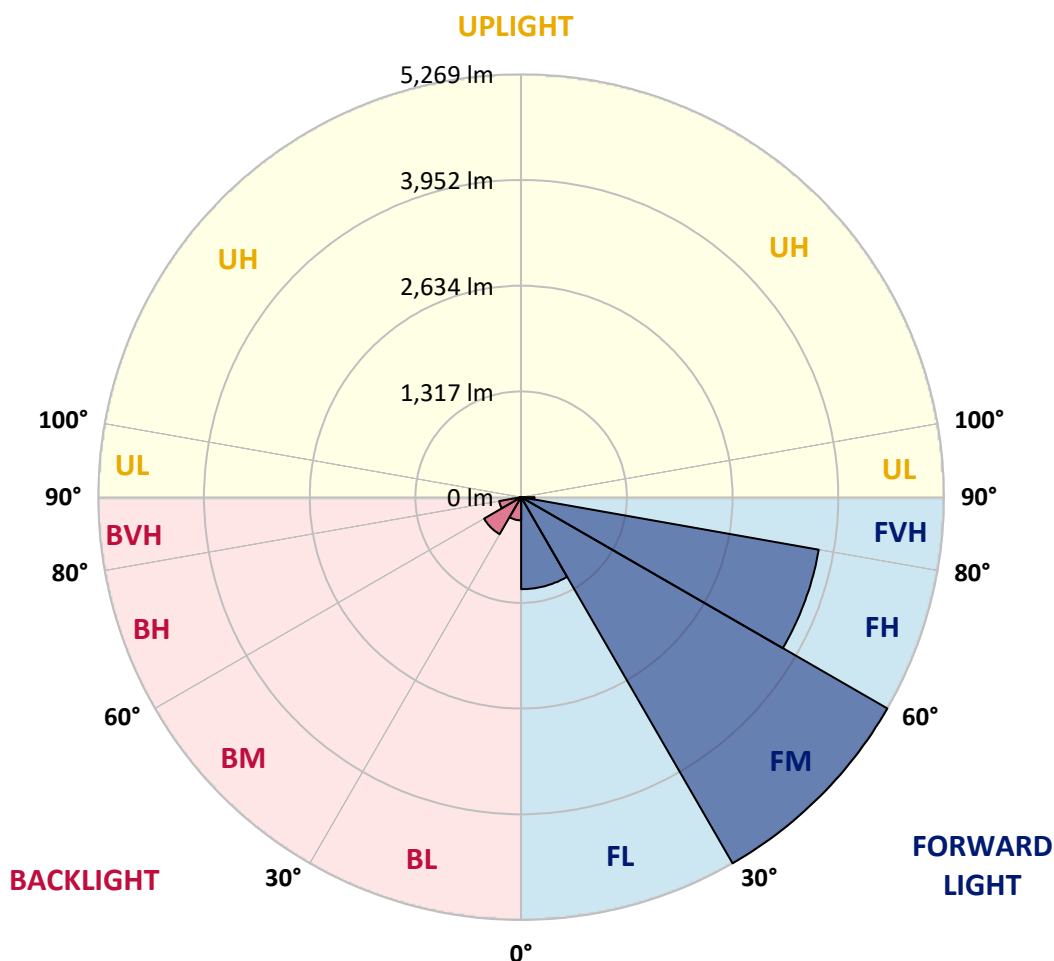
CATALOG NUMBER: MEM2-HSN-SA-150-722-U-T3-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 1147.1 | 10.0 | | | |
| FM | (30°-60°) | 5268.9 | 46.0 | | | |
| FH | (60°-80°) | 3766.0 | 32.9 | | | G2/5000 |
| FVH | (80°-90°) | 166.3 | 1.5 | | | G2/225 |
| BL | (0°-30°) | 288.7 | 2.5 | B1/500 | | |
| BM | (30°-60°) | 533.6 | 4.7 | B1/1000 | | |
| BH | (60°-80°) | 277.8 | 2.4 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 15.6 | 0.1 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G2

Type III Short





REPORT NUMBER: P868064

CATALOG NUMBER: MEM2-HSN-SA-150-722-U-T3-HSS

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 64° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1416.6 | 1416.6 | 1416.6 | 1416.6 | 1416.6 | 1416.6 | 1416.6 | 1416.6 | 1416.6 | 1416.6 | 1416.6 |
| 2.5° | 1655.4 | 1642.3 | 1652.1 | 1629.2 | 1603.1 | 1583.4 | 1544.2 | 1511.5 | 1508.2 | 1475.5 | 1439.5 |
| 5° | 1972.8 | 1930.2 | 1933.5 | 1887.7 | 1832.1 | 1773.2 | 1711.0 | 1629.2 | 1629.2 | 1550.7 | 1468.9 |
| 7.5° | 2257.4 | 2250.8 | 2221.4 | 2149.4 | 2084.0 | 1992.4 | 1877.9 | 1773.2 | 1750.3 | 1629.2 | 1501.7 |
| 10° | 2532.2 | 2522.4 | 2496.2 | 2440.6 | 2329.4 | 2227.9 | 2084.0 | 1927.0 | 1897.5 | 1724.1 | 1540.9 |
| 12.5° | 2751.4 | 2754.7 | 2725.2 | 2679.4 | 2581.3 | 2460.2 | 2270.5 | 2074.2 | 2048.0 | 1815.7 | 1580.2 |
| 15° | 2944.4 | 2941.2 | 2934.6 | 2895.3 | 2800.5 | 2689.2 | 2466.8 | 2237.8 | 2195.2 | 1913.9 | 1619.4 |
| 17.5° | 3091.6 | 3085.1 | 3072.0 | 3039.3 | 2993.5 | 2885.5 | 2672.9 | 2411.2 | 2375.2 | 2028.4 | 1665.2 |
| 20° | 3134.2 | 3130.9 | 3130.9 | 3153.8 | 3134.2 | 3068.7 | 2879.0 | 2591.1 | 2551.8 | 2149.4 | 1727.4 |
| 22.5° | 3212.7 | 3209.4 | 3206.1 | 3229.0 | 3242.1 | 3235.6 | 3072.0 | 2774.3 | 2738.3 | 2290.1 | 1805.9 |
| 25° | 3314.1 | 3307.6 | 3297.8 | 3320.7 | 3337.0 | 3376.3 | 3265.0 | 2990.2 | 2947.7 | 2453.7 | 1884.4 |
| 27.5° | 3448.2 | 3454.8 | 3441.7 | 3438.4 | 3438.4 | 3461.3 | 3435.2 | 3183.2 | 3144.0 | 2610.7 | 1976.0 |
| 30° | 3624.9 | 3634.7 | 3611.8 | 3595.5 | 3566.0 | 3562.8 | 3569.3 | 3399.2 | 3343.6 | 2780.8 | 2070.9 |
| 32.5° | 3798.3 | 3808.1 | 3795.0 | 3772.1 | 3696.9 | 3667.4 | 3693.6 | 3582.4 | 3546.4 | 2967.3 | 2192.0 |
| 35° | 3939.0 | 3961.9 | 3961.9 | 3916.1 | 3811.4 | 3795.0 | 3837.6 | 3762.3 | 3736.1 | 3186.5 | 2335.9 |
| 37.5° | 4128.7 | 4141.8 | 4128.7 | 4043.7 | 3912.8 | 3932.4 | 3997.9 | 3952.1 | 3935.7 | 3422.1 | 2506.0 |
| 40° | 4534.4 | 4550.8 | 4465.7 | 4262.9 | 4053.5 | 4076.4 | 4190.9 | 4164.7 | 4138.5 | 3654.4 | 2663.1 |
| 42.5° | 5100.4 | 5061.1 | 5044.8 | 4593.3 | 4269.4 | 4256.3 | 4400.3 | 4364.3 | 4361.0 | 3889.9 | 2807.0 |
| 45° | 5473.4 | 5486.4 | 5404.7 | 4976.1 | 4724.2 | 4478.8 | 4632.6 | 4619.5 | 4593.3 | 4128.7 | 2980.4 |
| 47.5° | 5731.8 | 5702.4 | 5499.5 | 5293.4 | 5342.5 | 4770.0 | 4891.0 | 4923.7 | 4907.4 | 4400.3 | 3193.1 |
| 50° | 5839.8 | 5810.3 | 5676.2 | 5538.8 | 5597.7 | 5103.7 | 5156.0 | 5264.0 | 5247.6 | 4675.1 | 3373.0 |
| 52.5° | 5705.6 | 5669.6 | 5679.5 | 5715.5 | 5686.0 | 5365.4 | 5483.2 | 5653.3 | 5633.7 | 4995.7 | 3582.4 |
| 55° | 4851.8 | 4946.6 | 5313.0 | 5679.5 | 5669.6 | 5565.0 | 5833.2 | 6081.9 | 6042.6 | 5329.4 | 3762.3 |
| 57.5° | 3912.8 | 3965.2 | 4429.7 | 5421.0 | 5617.3 | 5731.8 | 6232.4 | 6539.9 | 6526.8 | 5663.1 | 3925.9 |
| 60° | 3111.3 | 3166.9 | 3520.2 | 4884.5 | 5496.3 | 5905.2 | 6641.3 | 7047.0 | 7033.9 | 6000.1 | 4043.7 |
| 62.5° | 2473.3 | 2473.3 | 2787.4 | 4112.4 | 5264.0 | 6006.6 | 6965.2 | 7557.4 | 7534.4 | 6271.6 | 4073.1 |
| 65° | 1779.7 | 1802.6 | 2038.2 | 3307.6 | 4887.7 | 5980.4 | 7122.2 | 7920.5 | 7907.4 | 6425.4 | 4011.0 |
| 67.5° | 1315.2 | 1341.3 | 1498.4 | 2479.9 | 4331.6 | 5718.7 | 6978.3 | 8002.3 | 8008.8 | 6428.7 | 3808.1 |
| 70° | 1027.3 | 1033.8 | 1151.6 | 1724.1 | 3549.7 | 5136.4 | 6438.5 | 7730.7 | 7730.7 | 6268.3 | 3507.1 |
| 72.5° | 781.9 | 788.5 | 889.9 | 1174.5 | 2614.0 | 4246.5 | 5630.4 | 7011.0 | 7060.1 | 5843.0 | 3062.2 |
| 75° | 605.2 | 618.3 | 687.0 | 844.1 | 1639.1 | 3019.7 | 4626.0 | 5741.6 | 5875.8 | 5018.6 | 2522.4 |
| 77.5° | 467.8 | 480.9 | 536.5 | 618.3 | 955.3 | 1861.5 | 3252.0 | 4292.3 | 4413.4 | 3952.1 | 1946.6 |
| 80° | 376.2 | 382.8 | 418.8 | 464.6 | 579.1 | 958.6 | 1985.8 | 2820.1 | 2856.1 | 2686.0 | 1289.0 |
| 82.5° | 173.4 | 186.5 | 225.7 | 255.2 | 287.9 | 444.9 | 847.3 | 1043.6 | 1089.4 | 1066.5 | 530.0 |
| 85° | 19.6 | 19.6 | 22.9 | 26.2 | 29.4 | 45.8 | 58.9 | 52.3 | 52.3 | 62.2 | 55.6 |
| 87.5° | 0.0 | 0.0 | 0.0 | 3.3 | 6.5 | 6.5 | 9.8 | 9.8 | 9.8 | 9.8 | 9.8 |
| 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: P868064

CATALOG NUMBER: MEM2-HSN-SA-150-722-U-T3-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1416.6 | 1416.6 | 1416.6 | 1416.6 | 1416.6 | 1416.6 | 1416.6 | 1416.6 | 1416.6 | 1416.6 | 1416.6 |
| 2.5° | 1419.9 | 1397.0 | 1354.4 | 1318.4 | 1285.7 | 1253.0 | 1236.7 | 1197.4 | 1187.6 | 1194.1 | 1171.2 |
| 5° | 1426.4 | 1380.6 | 1292.3 | 1210.5 | 1141.8 | 1076.3 | 1020.7 | 961.8 | 948.8 | 929.1 | 919.3 |
| 7.5° | 1436.2 | 1367.5 | 1230.1 | 1102.5 | 997.8 | 903.0 | 834.3 | 788.5 | 752.5 | 742.6 | 739.4 |
| 10° | 1449.3 | 1351.2 | 1161.4 | 1001.1 | 857.2 | 759.0 | 696.8 | 664.1 | 651.0 | 641.2 | 644.5 |
| 12.5° | 1459.1 | 1334.8 | 1096.0 | 886.6 | 745.9 | 657.6 | 628.1 | 602.0 | 595.4 | 592.2 | 592.2 |
| 15° | 1472.2 | 1318.4 | 1017.5 | 785.2 | 651.0 | 598.7 | 569.3 | 559.4 | 559.4 | 556.2 | 556.2 |
| 17.5° | 1488.6 | 1305.4 | 952.0 | 706.7 | 595.4 | 546.4 | 533.3 | 520.2 | 520.2 | 520.2 | 516.9 |
| 20° | 1521.3 | 1298.8 | 893.1 | 641.2 | 546.4 | 513.6 | 494.0 | 484.2 | 480.9 | 477.7 | 477.7 |
| 22.5° | 1554.0 | 1298.8 | 827.7 | 592.2 | 513.6 | 477.7 | 458.0 | 448.2 | 444.9 | 444.9 | 444.9 |
| 25° | 1599.8 | 1295.5 | 775.4 | 549.6 | 484.2 | 441.7 | 422.0 | 412.2 | 405.7 | 405.7 | 402.4 |
| 27.5° | 1652.1 | 1295.5 | 729.6 | 516.9 | 451.5 | 408.9 | 386.0 | 376.2 | 366.4 | 366.4 | 363.1 |
| 30° | 1704.5 | 1302.1 | 690.3 | 490.7 | 418.8 | 379.5 | 350.1 | 337.0 | 330.4 | 327.2 | 327.2 |
| 32.5° | 1773.2 | 1321.7 | 664.1 | 471.1 | 389.3 | 350.1 | 320.6 | 307.5 | 301.0 | 297.7 | 297.7 |
| 35° | 1877.9 | 1370.8 | 667.4 | 461.3 | 369.7 | 323.9 | 294.4 | 278.1 | 274.8 | 274.8 | 271.5 |
| 37.5° | 1989.1 | 1416.6 | 677.2 | 454.7 | 350.1 | 304.3 | 274.8 | 258.5 | 255.2 | 255.2 | 255.2 |
| 40° | 2084.0 | 1455.9 | 690.3 | 451.5 | 333.7 | 284.6 | 258.5 | 245.4 | 238.8 | 238.8 | 238.8 |
| 42.5° | 2178.9 | 1478.8 | 693.6 | 441.7 | 323.9 | 268.3 | 245.4 | 232.3 | 225.7 | 229.0 | 229.0 |
| 45° | 2273.7 | 1495.1 | 683.8 | 428.6 | 314.1 | 255.2 | 232.3 | 219.2 | 212.7 | 212.7 | 212.7 |
| 47.5° | 2388.3 | 1531.1 | 667.4 | 408.9 | 307.5 | 245.4 | 219.2 | 206.1 | 202.8 | 202.8 | 202.8 |
| 50° | 2502.8 | 1560.5 | 654.3 | 386.0 | 291.2 | 232.3 | 209.4 | 193.0 | 189.8 | 189.8 | 189.8 |
| 52.5° | 2597.6 | 1573.6 | 638.0 | 356.6 | 274.8 | 219.2 | 196.3 | 179.9 | 173.4 | 173.4 | 173.4 |
| 55° | 2669.6 | 1576.9 | 615.1 | 333.7 | 251.9 | 206.1 | 183.2 | 166.9 | 160.3 | 157.0 | 157.0 |
| 57.5° | 2728.5 | 1573.6 | 592.2 | 310.8 | 232.3 | 189.8 | 166.9 | 153.8 | 143.9 | 140.7 | 140.7 |
| 60° | 2761.2 | 1563.8 | 559.4 | 281.4 | 206.1 | 173.4 | 153.8 | 137.4 | 130.9 | 127.6 | 127.6 |
| 62.5° | 2741.6 | 1537.6 | 513.6 | 235.6 | 186.5 | 157.0 | 140.7 | 127.6 | 117.8 | 114.5 | 114.5 |
| 65° | 2650.0 | 1485.3 | 454.7 | 193.0 | 166.9 | 140.7 | 127.6 | 114.5 | 101.4 | 98.1 | 98.1 |
| 67.5° | 2489.7 | 1397.0 | 376.2 | 163.6 | 153.8 | 127.6 | 114.5 | 101.4 | 91.6 | 85.1 | 85.1 |
| 70° | 2267.2 | 1279.2 | 294.4 | 140.7 | 137.4 | 117.8 | 104.7 | 91.6 | 81.8 | 75.2 | 75.2 |
| 72.5° | 1949.9 | 1086.2 | 219.2 | 121.0 | 121.0 | 108.0 | 94.9 | 85.1 | 75.2 | 68.7 | 68.7 |
| 75° | 1576.9 | 821.2 | 166.9 | 111.2 | 108.0 | 98.1 | 85.1 | 75.2 | 68.7 | 62.2 | 62.2 |
| 77.5° | 1151.6 | 546.4 | 137.4 | 101.4 | 101.4 | 88.3 | 78.5 | 68.7 | 62.2 | 58.9 | 58.9 |
| 80° | 700.1 | 314.1 | 98.1 | 78.5 | 78.5 | 75.2 | 65.4 | 58.9 | 55.6 | 49.1 | 45.8 |
| 82.5° | 284.6 | 121.0 | 52.3 | 39.3 | 39.3 | 36.0 | 22.9 | 19.6 | 19.6 | 19.6 | 16.4 |
| 85° | 29.4 | 19.6 | 13.1 | 9.8 | 9.8 | 9.8 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| 87.5° | 9.8 | 9.8 | 6.5 | 6.5 | 6.5 | 6.5 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Report Prepared for

Cooper Lighting Solutions

Streetworks

Report Number: SP1-2407-157-2

Test Date: 08/07/2024

Luminaire Tested: MEM2-HTN-SA-40-722-U-5WQ-2

Data in this report applies to families of products including MEM2-HTN-SA-40-722-U-5WQ-2

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-157-2
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 08/20/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: Streetworks
 Catalog Number: **MEM2-HTN-SA-40-722-U-5WQ-2**
 Description: Epic Modern Light Square 40W 5WQ Optic and Flare Trim

Spectral Parameters

CCT (K): 2253
 CIE u': 0.2868
 CIE v': 0.5332
 Duv: -0.0014
 CIE x: 0.4974
 CIE y: 0.4110
 CIE z: 0.0915
 Peak Wavelength (nm): 603
 Dominant Wavelength (nm): 587
 Purity: 72.69432
 Rf: 76.9
 Rg: 92.7

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 70.6 | | |
| R1: | 68.4 | R9: | -36.0 |
| R2: | 88.7 | R10: | 78.2 |
| R3: | 85.4 | R11: | 61.0 |
| R4: | 63.5 | R12: | 74.2 |
| R5: | 69.0 | R13: | 72.8 |
| R6: | 88.9 | R14: | 92.2 |
| R7: | 68.5 | R15: | 58.0 |
| R8: | 32.0 | | |



Test Conditions

Stabilization Time: 29M
 Operation Time: 1H 29M
 Sphere Temperature (°C): 24.1

REPORT NUMBER: SP1-2407-157-2

| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC Power Source | IN0208 | 10/24/2023 | 10/24/2024 |
| Sphere Thermometer | IN0085 | 10/24/2023 | 10/24/2024 |
| Room Thermometer | IN0046 | 10/24/2023 | 10/24/2024 |

REPORT NUMBER: SP1-2407-157-2

CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 2200K 4-step quadrangle

REPORT NUMBER: SP1-2407-157-2

Photopic Flux vs. Wavelength



Photopic Lumens: NR

| λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360 | 0 | NR | 490 | 117 | NR | 620 | 896 | NR | 750 | 20 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 137 | NR | 625 | 838 | NR | 755 | 17 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 160 | NR | 630 | 774 | NR | 760 | 14 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 183 | NR | 635 | 704 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 202 | NR | 640 | 635 | NR | 770 | 10 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 219 | NR | 645 | 565 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 235 | NR | 650 | 501 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 0 | NR | 525 | 249 | NR | 655 | 440 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 0 | NR | 530 | 263 | NR | 660 | 383 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 0 | NR | 535 | 281 | NR | 665 | 332 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 1 | NR | 540 | 302 | NR | 670 | 286 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 3 | NR | 545 | 331 | NR | 675 | 245 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 6 | NR | 550 | 366 | NR | 680 | 210 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 12 | NR | 555 | 411 | NR | 685 | 178 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 21 | NR | 560 | 469 | NR | 690 | 152 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 38 | NR | 565 | 536 | NR | 695 | 129 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 66 | NR | 570 | 614 | NR | 700 | 109 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 122 | NR | 575 | 701 | NR | 705 | 92 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 215 | NR | 580 | 785 | NR | 710 | 77 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 236 | NR | 585 | 863 | NR | 715 | 66 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 170 | NR | 590 | 928 | NR | 720 | 55 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 148 | NR | 595 | 971 | NR | 725 | 47 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 132 | NR | 600 | 994 | NR | 730 | 40 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 104 | NR | 605 | 996 | NR | 735 | 33 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 97 | NR | 610 | 979 | NR | 740 | 28 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 105 | NR | 615 | 943 | NR | 745 | 24 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2407-157-2

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 0.96

| λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360 | 0 | NR | 490 | 117 | NR | 620 | 896 | NR | 750 | 20 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 137 | NR | 625 | 838 | NR | 755 | 17 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 160 | NR | 630 | 774 | NR | 760 | 14 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 183 | NR | 635 | 704 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 202 | NR | 640 | 635 | NR | 770 | 10 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 219 | NR | 645 | 565 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 235 | NR | 650 | 501 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 0 | NR | 525 | 249 | NR | 655 | 440 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 0 | NR | 530 | 263 | NR | 660 | 383 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 0 | NR | 535 | 281 | NR | 665 | 332 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 1 | NR | 540 | 302 | NR | 670 | 286 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 3 | NR | 545 | 331 | NR | 675 | 245 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 6 | NR | 550 | 366 | NR | 680 | 210 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 12 | NR | 555 | 411 | NR | 685 | 178 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 21 | NR | 560 | 469 | NR | 690 | 152 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 38 | NR | 565 | 536 | NR | 695 | 129 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 66 | NR | 570 | 614 | NR | 700 | 109 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 122 | NR | 575 | 701 | NR | 705 | 92 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 215 | NR | 580 | 785 | NR | 710 | 77 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 236 | NR | 585 | 863 | NR | 715 | 66 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 170 | NR | 590 | 928 | NR | 720 | 55 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 148 | NR | 595 | 971 | NR | 725 | 47 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 132 | NR | 600 | 994 | NR | 730 | 40 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 104 | NR | 605 | 996 | NR | 735 | 33 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 97 | NR | 610 | 979 | NR | 740 | 28 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 105 | NR | 615 | 943 | NR | 745 | 24 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2407-157-2

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 1.71

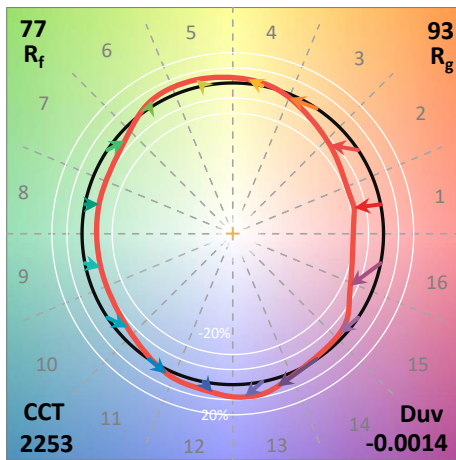
| λ (nm) | Power W ² /nm | Lumens (φ/nm) | λ (nm) | Power W ² /nm | Lumens (φ/nm) | λ (nm) | Power W ² /nm | Lumens (φ/nm) | λ (nm) | Power W ² /nm | Lumens (φ/nm) | λ (nm) | Power W ² /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360 | 0 | NR | 490 | 117 | NR | 620 | 896 | NR | 750 | 20 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 137 | NR | 625 | 838 | NR | 755 | 17 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 160 | NR | 630 | 774 | NR | 760 | 14 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 183 | NR | 635 | 704 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 202 | NR | 640 | 635 | NR | 770 | 10 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 219 | NR | 645 | 565 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 235 | NR | 650 | 501 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 0 | NR | 525 | 249 | NR | 655 | 440 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 0 | NR | 530 | 263 | NR | 660 | 383 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 0 | NR | 535 | 281 | NR | 665 | 332 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 1 | NR | 540 | 302 | NR | 670 | 286 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 3 | NR | 545 | 331 | NR | 675 | 245 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 6 | NR | 550 | 366 | NR | 680 | 210 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 12 | NR | 555 | 411 | NR | 685 | 178 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 21 | NR | 560 | 469 | NR | 690 | 152 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 38 | NR | 565 | 536 | NR | 695 | 129 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 66 | NR | 570 | 614 | NR | 700 | 109 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 122 | NR | 575 | 701 | NR | 705 | 92 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 215 | NR | 580 | 785 | NR | 710 | 77 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 236 | NR | 585 | 863 | NR | 715 | 66 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 170 | NR | 590 | 928 | NR | 720 | 55 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 148 | NR | 595 | 971 | NR | 725 | 47 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 132 | NR | 600 | 994 | NR | 730 | 40 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 104 | NR | 605 | 996 | NR | 735 | 33 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 97 | NR | 610 | 979 | NR | 740 | 28 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 105 | NR | 615 | 943 | NR | 745 | 24 | NR | 875 | 0 | NR | | | |

Summary

$R_f = 76.9$
 $R_g = 92.7$
 CIE $R_a = 70.6$
 $R_9 = -36.0$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 87 | CES26 = 76 | CES51 = 88 | CES76 = 78 |
| CES02 = 65 | CES27 = 94 | CES52 = 85 | CES77 = 75 |
| CES03 = 32 | CES28 = 93 | CES53 = 80 | CES78 = 79 |
| CES04 = 72 | CES29 = 81 | CES54 = 86 | CES79 = 82 |
| CES05 = 51 | CES30 = 91 | CES55 = 83 | CES80 = 81 |
| CES06 = 52 | CES31 = 83 | CES56 = 77 | CES81 = 51 |
| CES07 = 44 | CES32 = 75 | CES57 = 75 | CES82 = 92 |
| CES08 = 42 | CES33 = 88 | CES58 = 76 | CES83 = 88 |
| CES09 = 29 | CES34 = 88 | CES59 = 84 | CES84 = 90 |
| CES10 = 79 | CES35 = 94 | CES60 = 91 | CES85 = 65 |
| CES11 = 62 | CES36 = 90 | CES61 = 82 | CES86 = 48 |
| CES12 = 68 | CES37 = 97 | CES62 = 91 | CES87 = 76 |
| CES13 = 45 | CES38 = 98 | CES63 = 86 | CES88 = 78 |
| CES14 = 75 | CES39 = 97 | CES64 = 70 | CES89 = 61 |
| CES15 = 72 | CES40 = 94 | CES65 = 71 | CES90 = 80 |
| CES16 = 48 | CES41 = 95 | CES66 = 71 | CES91 = 80 |
| CES17 = 51 | CES42 = 89 | CES67 = 70 | CES92 = 51 |
| CES18 = 57 | CES43 = 80 | CES68 = 74 | CES93 = 68 |
| CES19 = 74 | CES44 = 99 | CES69 = 84 | CES94 = 44 |
| CES20 = 68 | CES45 = 83 | CES70 = 72 | CES95 = 66 |
| CES21 = 88 | CES46 = 81 | CES71 = 75 | CES96 = 75 |
| CES22 = 81 | CES47 = 88 | CES72 = 89 | CES97 = 76 |
| CES23 = 92 | CES48 = 73 | CES73 = 68 | CES98 = 72 |
| CES24 = 92 | CES49 = 82 | CES74 = 85 | CES99 = 63 |
| CES25 = 73 | CES50 = 87 | CES75 = 80 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)