

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: P867611

Luminaire Tested: **MEM2-HTN-SA-40-727-U-T3**

Issue Date: 08/21/2024

Test Information

Test Method: LM-79-08
Report Number: P867611
Test Lab: INNOVATION CENTER(G3)
Issue Date: 08/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: MEM2-HTN-SA-40-727-U-T3
Description: EPIC MODERN TALL HOUSING DISCRETE LED ARRAYS 40W 70CRI 2700K
FIXTURE w/ TYPE III DISTRIBUTION OPTIC
Light Source: (10) 2700K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

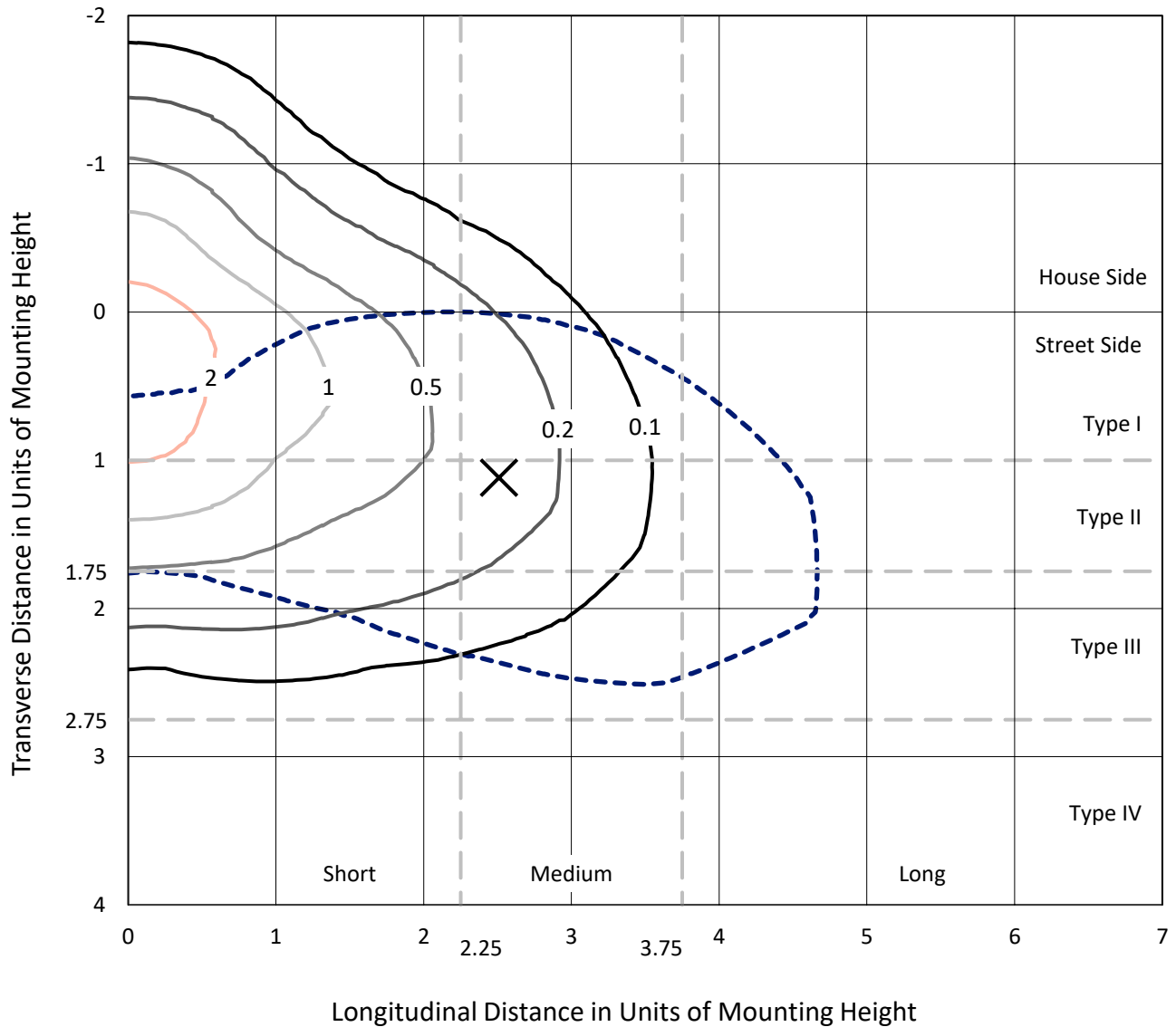
Lumens per Lamp: N/A
Luminaire Lumens: 5793.9 lumens
Efficiency: N/A
Efficacy: 131.7 lumens/watt
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B1 - U0 - G1

Input Watts (W): 44
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 6.91%
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

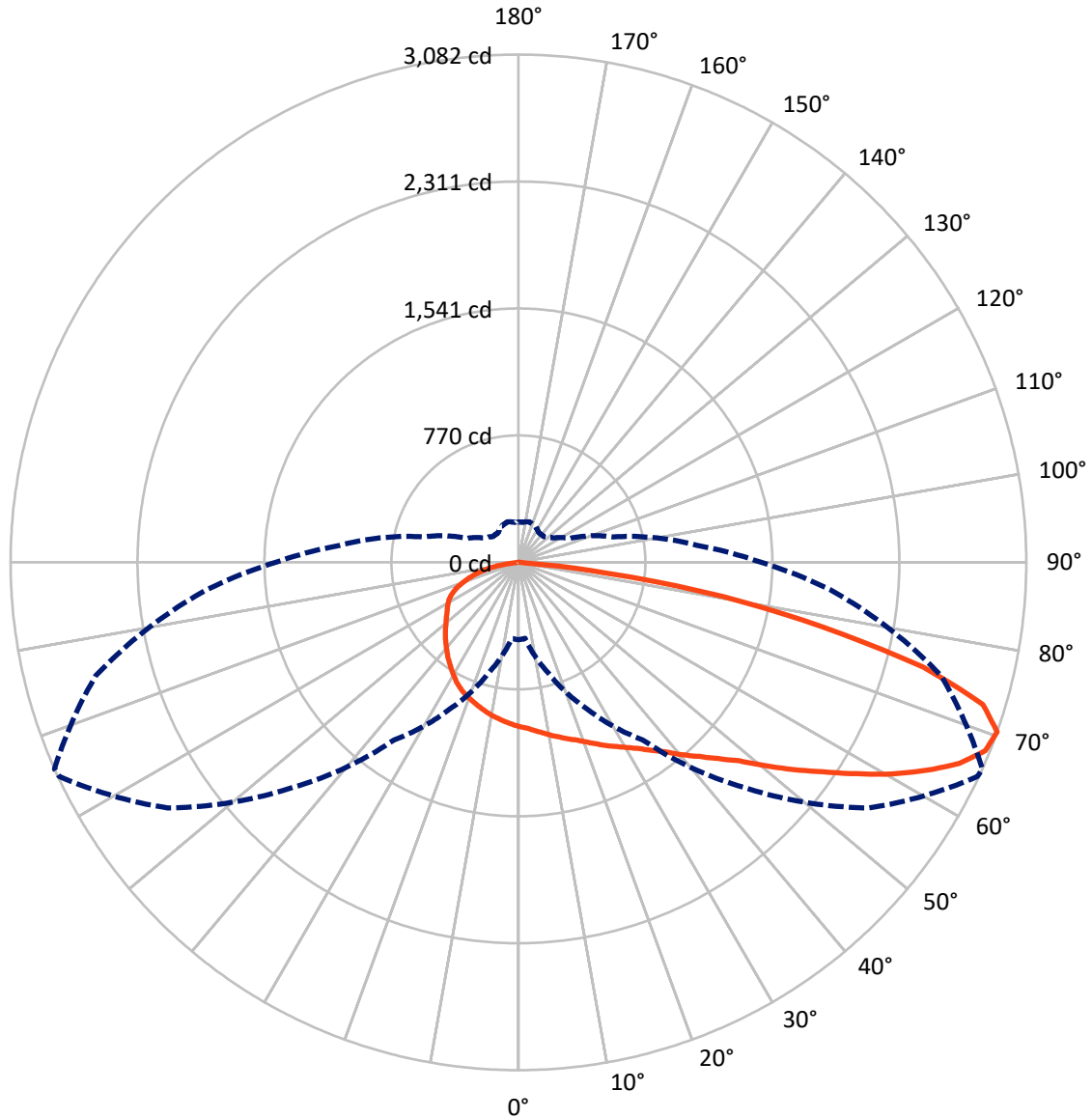
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 2.7 fc
 Type III - Medium - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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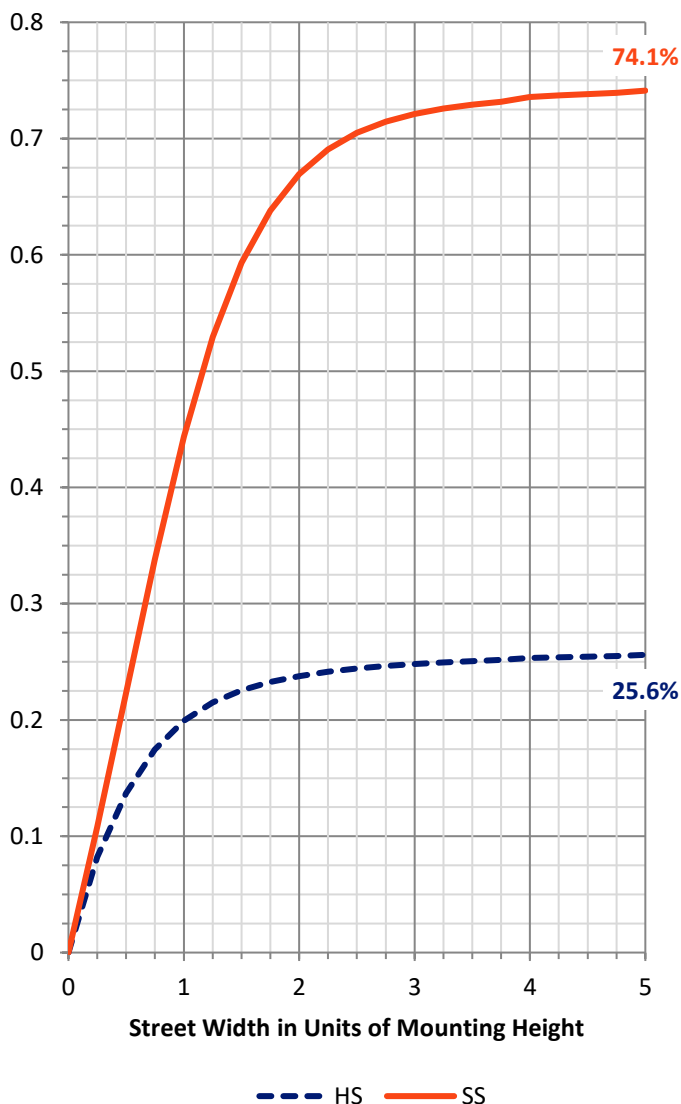
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 1493.1 | 0.0 | 1493.1 |
| | % Fixture | 25.8 | 0.0 | 25.8 |
| Street Side | Lumens | 4300.8 | 0.0 | 4300.8 |
| | % Fixture | 74.2 | 0.0 | 74.2 |
| Total | Lumens | 5793.9 | 0.0 | 5793.9 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 95.4 | 1.6 |
| 10°-20° | 284.2 | 4.9 |
| 20°-30° | 477.3 | 8.2 |
| 30°-40° | 719.1 | 12.4 |
| 40°-50° | 976.2 | 16.8 |
| 50°-60° | 1160.1 | 20.0 |
| 60°-70° | 1183.9 | 20.4 |
| 70°-80° | 791.9 | 13.7 |
| 80°-90° | 105.9 | 1.8 |
| 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° | 5793.9 | 100.0 |
| 0°-180° | 5793.9 | 100.0 |

Coefficient of Utilization

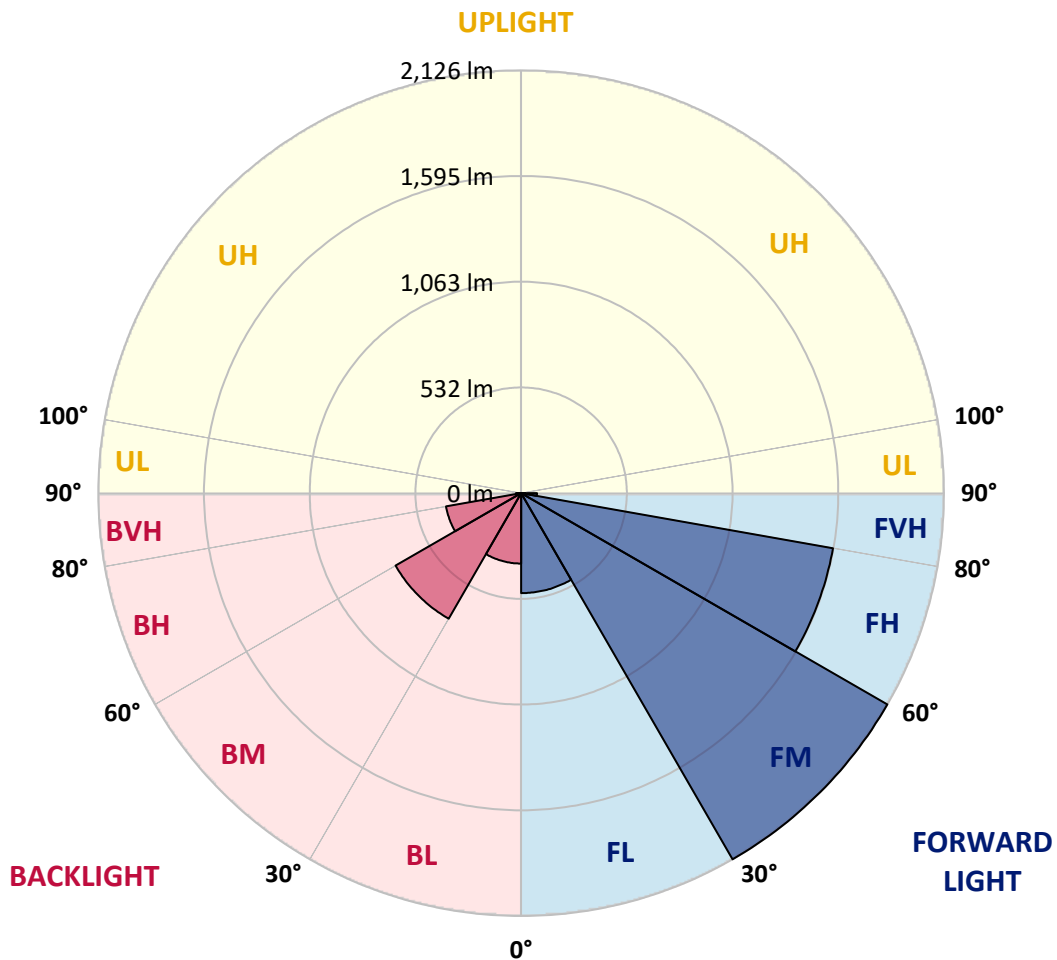


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 502.8 | 8.7 | | | |
| FM | (30°-60°) | 2126.2 | 36.7 | | | |
| FH | (60°-80°) | 1592.4 | 27.5 | | | G1/1800 |
| FVH | (80°-90°) | 79.3 | 1.4 | | | G1/100 |
| BL | (0°-30°) | 354.0 | 6.1 | B1/500 | | |
| BM | (30°-60°) | 729.1 | 12.6 | B1/1000 | | |
| BH | (60°-80°) | 383.4 | 6.6 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 26.6 | 0.5 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G1
 Type III Medium





REPORT NUMBER: P867611

CATALOG NUMBER: MEM2-HTN-SA-40-727-U-T3

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 66° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 996.9 | 996.9 | 996.9 | 996.9 | 996.9 | 996.9 | 996.9 | 996.9 | 996.9 | 996.9 | 996.9 |
| 2.5° | 1032.6 | 1027.9 | 1024.5 | 1026.8 | 1019.9 | 1022.2 | 1014.1 | 1008.4 | 1007.2 | 1004.9 | 1002.6 |
| 5° | 1064.8 | 1064.8 | 1059.0 | 1059.0 | 1051.0 | 1049.8 | 1038.3 | 1025.6 | 1025.6 | 1017.6 | 1008.4 |
| 7.5° | 1099.3 | 1097.0 | 1090.1 | 1089.0 | 1079.7 | 1077.4 | 1064.8 | 1045.2 | 1044.1 | 1029.1 | 1015.3 |
| 10° | 1123.5 | 1124.6 | 1120.0 | 1120.0 | 1113.1 | 1107.4 | 1089.0 | 1068.2 | 1065.9 | 1046.4 | 1024.5 |
| 12.5° | 1141.9 | 1144.2 | 1143.1 | 1143.1 | 1137.3 | 1137.3 | 1116.6 | 1089.0 | 1086.7 | 1061.3 | 1030.3 |
| 15° | 1161.5 | 1160.3 | 1163.8 | 1164.9 | 1162.6 | 1159.2 | 1144.2 | 1112.0 | 1110.8 | 1077.4 | 1038.3 |
| 17.5° | 1178.7 | 1177.6 | 1178.7 | 1184.5 | 1185.7 | 1185.7 | 1170.7 | 1137.3 | 1132.7 | 1097.0 | 1045.2 |
| 20° | 1189.1 | 1191.4 | 1196.0 | 1202.9 | 1206.4 | 1215.6 | 1202.9 | 1167.2 | 1162.6 | 1117.7 | 1060.2 |
| 22.5° | 1228.2 | 1221.3 | 1224.8 | 1229.4 | 1234.0 | 1246.7 | 1235.1 | 1198.3 | 1194.9 | 1148.8 | 1077.4 |
| 25° | 1295.0 | 1295.0 | 1286.9 | 1278.9 | 1273.1 | 1278.9 | 1269.7 | 1234.0 | 1231.7 | 1176.4 | 1097.0 |
| 27.5° | 1411.3 | 1411.3 | 1394.0 | 1364.1 | 1326.1 | 1315.7 | 1308.8 | 1272.0 | 1265.1 | 1206.4 | 1109.7 |
| 30° | 1558.6 | 1563.2 | 1532.1 | 1481.5 | 1411.3 | 1365.2 | 1348.0 | 1307.7 | 1304.2 | 1236.3 | 1129.2 |
| 32.5° | 1716.3 | 1725.5 | 1702.5 | 1628.8 | 1513.7 | 1423.9 | 1396.3 | 1354.9 | 1346.8 | 1272.0 | 1154.6 |
| 35° | 1857.9 | 1867.1 | 1836.0 | 1767.0 | 1619.6 | 1509.1 | 1453.9 | 1406.7 | 1402.1 | 1318.0 | 1192.6 |
| 37.5° | 1973.0 | 1975.3 | 1955.7 | 1871.7 | 1708.3 | 1580.5 | 1525.2 | 1468.8 | 1459.6 | 1373.3 | 1232.8 |
| 40° | 2095.0 | 2104.2 | 2084.7 | 1981.1 | 1788.8 | 1657.6 | 1596.6 | 1543.6 | 1535.6 | 1430.8 | 1270.8 |
| 42.5° | 2222.8 | 2221.7 | 2221.7 | 2075.5 | 1869.4 | 1722.1 | 1673.7 | 1615.0 | 1610.4 | 1489.5 | 1312.3 |
| 45° | 2301.1 | 2305.7 | 2293.0 | 2131.9 | 1988.0 | 1788.8 | 1748.5 | 1706.0 | 1697.9 | 1571.3 | 1366.4 |
| 47.5° | 2320.7 | 2310.3 | 2252.7 | 2175.6 | 2121.5 | 1857.9 | 1842.9 | 1817.6 | 1799.2 | 1661.1 | 1433.1 |
| 50° | 2294.2 | 2278.1 | 2244.7 | 2195.2 | 2171.0 | 1940.8 | 1938.5 | 1951.1 | 1938.5 | 1770.4 | 1510.3 |
| 52.5° | 2195.2 | 2192.9 | 2187.1 | 2198.6 | 2159.5 | 2006.4 | 2046.7 | 2090.4 | 2088.1 | 1882.1 | 1590.8 |
| 55° | 1986.8 | 2001.8 | 2070.9 | 2143.4 | 2115.8 | 2051.3 | 2167.6 | 2251.6 | 2242.4 | 2013.3 | 1673.7 |
| 57.5° | 1773.9 | 1788.8 | 1877.5 | 2050.1 | 2073.2 | 2099.6 | 2303.4 | 2434.6 | 2419.6 | 2156.0 | 1749.7 |
| 60° | 1588.5 | 1572.4 | 1661.1 | 1909.7 | 2013.3 | 2143.4 | 2438.1 | 2619.9 | 2607.3 | 2298.8 | 1828.0 |
| 62.5° | 1295.0 | 1311.1 | 1452.7 | 1704.8 | 1929.3 | 2171.0 | 2548.6 | 2788.0 | 2779.9 | 2430.0 | 1891.3 |
| 65° | 1024.5 | 1002.6 | 1215.6 | 1489.5 | 1784.2 | 2161.8 | 2644.1 | 2945.7 | 2940.0 | 2558.9 | 1939.6 |
| 67.5° | 696.4 | 681.5 | 962.3 | 1275.4 | 1587.4 | 2088.1 | 2666.0 | 3051.6 | 3053.9 | 2634.9 | 1952.3 |
| 70° | 469.7 | 462.7 | 691.8 | 980.8 | 1314.6 | 1929.3 | 2598.1 | 3073.5 | 3081.5 | 2654.5 | 1895.9 |
| 72.5° | 346.5 | 345.3 | 506.5 | 699.9 | 978.4 | 1628.8 | 2412.7 | 2930.7 | 2945.7 | 2516.3 | 1730.1 |
| 75° | 272.8 | 276.3 | 361.5 | 497.3 | 652.7 | 1205.2 | 2029.4 | 2512.9 | 2535.9 | 2173.3 | 1436.6 |
| 77.5° | 223.3 | 223.3 | 253.2 | 356.8 | 436.3 | 748.2 | 1459.6 | 1839.5 | 1885.5 | 1677.2 | 1106.2 |
| 80° | 180.7 | 184.2 | 187.6 | 248.6 | 288.9 | 427.1 | 849.5 | 1227.1 | 1260.5 | 1168.4 | 798.9 |
| 82.5° | 99.0 | 105.9 | 102.4 | 128.9 | 145.0 | 198.0 | 337.3 | 496.1 | 546.8 | 486.9 | 362.6 |
| 85° | 6.9 | 4.6 | 8.1 | 10.4 | 12.7 | 19.6 | 26.5 | 36.8 | 34.5 | 49.5 | 25.3 |
| 87.5° | 1.2 | 1.2 | 1.2 | 2.3 | 2.3 | 3.5 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



REPORT NUMBER: P867611

CATALOG NUMBER: MEM2-HTN-SA-40-727-U-T3

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 996.9 | 996.9 | 996.9 | 996.9 | 996.9 | 996.9 | 996.9 | 996.9 | 996.9 | 996.9 | 996.9 |
| 2.5° | 1001.5 | 995.7 | 986.5 | 984.2 | 980.8 | 976.1 | 971.5 | 964.6 | 962.3 | 964.6 | 966.9 |
| 5° | 1002.6 | 994.6 | 979.6 | 970.4 | 961.2 | 953.1 | 943.9 | 934.7 | 929.0 | 930.1 | 934.7 |
| 7.5° | 1006.1 | 994.6 | 971.5 | 956.6 | 941.6 | 929.0 | 914.0 | 903.6 | 896.7 | 897.9 | 901.3 |
| 10° | 1010.7 | 994.6 | 966.9 | 941.6 | 920.9 | 902.5 | 887.5 | 874.8 | 867.9 | 866.8 | 867.9 |
| 12.5° | 1011.8 | 993.4 | 956.6 | 925.5 | 900.2 | 876.0 | 859.9 | 848.4 | 841.5 | 838.0 | 840.3 |
| 15° | 1015.3 | 990.0 | 946.2 | 908.2 | 877.2 | 851.8 | 832.3 | 818.4 | 813.8 | 811.5 | 810.4 |
| 17.5° | 1019.9 | 988.8 | 937.0 | 891.0 | 854.1 | 825.4 | 808.1 | 794.3 | 788.5 | 786.2 | 788.5 |
| 20° | 1026.8 | 990.0 | 926.6 | 873.7 | 833.4 | 804.6 | 785.1 | 771.2 | 766.6 | 765.5 | 764.3 |
| 22.5° | 1036.0 | 992.3 | 918.6 | 857.6 | 810.4 | 781.6 | 762.0 | 752.8 | 749.4 | 750.5 | 750.5 |
| 25° | 1045.2 | 994.6 | 907.1 | 835.7 | 786.2 | 756.3 | 742.5 | 735.6 | 737.9 | 742.5 | 742.5 |
| 27.5° | 1053.3 | 993.4 | 891.0 | 812.7 | 757.4 | 729.8 | 719.4 | 720.6 | 726.4 | 734.4 | 735.6 |
| 30° | 1063.6 | 993.4 | 873.7 | 783.9 | 725.2 | 698.7 | 696.4 | 705.6 | 714.8 | 722.9 | 722.9 |
| 32.5° | 1079.7 | 1000.3 | 859.9 | 755.1 | 691.8 | 671.1 | 681.5 | 694.1 | 704.5 | 712.5 | 714.8 |
| 35° | 1107.4 | 1015.3 | 850.7 | 726.4 | 659.6 | 644.6 | 664.2 | 684.9 | 691.8 | 697.6 | 698.7 |
| 37.5° | 1133.9 | 1029.1 | 839.2 | 698.7 | 626.2 | 620.5 | 646.9 | 668.8 | 670.0 | 673.4 | 673.4 |
| 40° | 1159.2 | 1039.5 | 824.2 | 668.8 | 594.0 | 594.0 | 625.1 | 643.5 | 641.2 | 637.7 | 638.9 |
| 42.5° | 1186.8 | 1045.2 | 806.9 | 641.2 | 567.5 | 567.5 | 592.8 | 608.9 | 607.8 | 612.4 | 615.8 |
| 45° | 1220.2 | 1056.7 | 783.9 | 615.8 | 539.9 | 535.3 | 556.0 | 569.8 | 587.1 | 607.8 | 613.5 |
| 47.5° | 1266.2 | 1072.8 | 765.5 | 588.2 | 516.9 | 500.7 | 508.8 | 537.6 | 557.1 | 574.4 | 576.7 |
| 50° | 1314.6 | 1095.9 | 749.4 | 559.4 | 489.2 | 460.4 | 467.4 | 499.6 | 511.1 | 518.0 | 521.5 |
| 52.5° | 1366.4 | 1114.3 | 735.6 | 535.3 | 460.4 | 419.0 | 428.2 | 459.3 | 467.4 | 473.1 | 474.3 |
| 55° | 1411.3 | 1129.2 | 718.3 | 512.2 | 429.4 | 379.9 | 391.4 | 421.3 | 429.4 | 436.3 | 436.3 |
| 57.5° | 1458.5 | 1143.1 | 706.8 | 492.7 | 396.0 | 347.6 | 355.7 | 385.6 | 397.1 | 399.4 | 402.9 |
| 60° | 1497.6 | 1155.7 | 696.4 | 474.3 | 364.9 | 318.9 | 324.6 | 351.1 | 364.9 | 366.1 | 368.4 |
| 62.5° | 1525.2 | 1163.8 | 690.7 | 451.2 | 333.8 | 290.1 | 294.7 | 321.2 | 337.3 | 340.7 | 341.9 |
| 65° | 1542.5 | 1168.4 | 680.3 | 421.3 | 307.3 | 265.9 | 265.9 | 292.4 | 308.5 | 316.6 | 318.9 |
| 67.5° | 1534.4 | 1160.3 | 652.7 | 386.8 | 283.2 | 241.7 | 240.6 | 267.1 | 280.9 | 285.5 | 286.6 |
| 70° | 1472.3 | 1113.1 | 596.3 | 344.2 | 257.9 | 219.9 | 217.6 | 241.7 | 254.4 | 244.0 | 245.2 |
| 72.5° | 1345.7 | 1006.1 | 519.2 | 301.6 | 231.4 | 199.1 | 196.8 | 217.6 | 218.7 | 218.7 | 217.6 |
| 75° | 1133.9 | 821.9 | 414.4 | 256.7 | 203.7 | 177.3 | 178.4 | 194.5 | 195.7 | 201.4 | 198.0 |
| 77.5° | 869.1 | 608.9 | 323.5 | 204.9 | 172.7 | 157.7 | 163.5 | 169.2 | 177.3 | 185.3 | 177.3 |
| 80° | 632.0 | 420.2 | 224.5 | 153.1 | 133.5 | 133.5 | 135.8 | 141.6 | 153.1 | 161.2 | 153.1 |
| 82.5° | 270.5 | 185.3 | 103.6 | 76.0 | 65.6 | 64.5 | 65.6 | 65.6 | 80.6 | 82.9 | 72.5 |
| 85° | 20.7 | 17.3 | 12.7 | 12.7 | 10.4 | 5.8 | 5.8 | 4.6 | 3.5 | 3.5 | 3.5 |
| 87.5° | 4.6 | 3.5 | 3.5 | 3.5 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 |
| 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: SP1-2407-157-3

Test Date: 08/07/2024

Luminaire Tested: MEM2-HTN-SA-30-727-U-5WQ-2

Data in this report applies to families of products including MEM2-HTN-SA-30-727-U-5WQ-2

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-157-3
 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-30-727-U-5WQ-2**
 Description: Epic Modern Light Square 30W 5WQ Optic and Flare Trim

Spectral Parameters

CCT (K): 2747
 CIE u': 0.2606
 CIE v': 0.5257
 Duv: -0.0005
 CIE x: 0.4552
 CIE y: 0.4082
 CIE z: 0.1366
 Peak Wavelength (nm): 597
 Dominant Wavelength (nm): 584
 Purity: 59.16856
 R_f: 75.5
 R_g: 93.6

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 71.7 | | |
| R1: | 68.1 | R9: | -35.3 |
| R2: | 83.9 | R10: | 64.2 |
| R3: | 94.7 | R11: | 61.7 |
| R4: | 66.3 | R12: | 53.9 |
| R5: | 67.4 | R13: | 71.2 |
| R6: | 78.7 | R14: | 97.6 |
| R7: | 75.0 | R15: | 59.3 |
| R8: | 39.4 | | |



Test Conditions

Stabilization Time: 22M
 Operation Time: 1H 22M
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2407-157-3

| 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: SP1-2407-157-3

CIE 1931 Chromaticity Diagram



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



CCT = 2747K
 CIE x = 0.4552
 CIE y = 0.4082
 Duv = -0.0005

Point lies inside the ANSI 2700K 4-step quadrangle

REPORT NUMBER: SP1-2407-157-3

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 | 103 | NR | 620 | 846 | NR | 750 | 20 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 130 | NR | 625 | 784 | NR | 755 | 17 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 171 | NR | 630 | 720 | NR | 760 | 15 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 221 | NR | 635 | 652 | NR | 765 | 13 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 268 | NR | 640 | 587 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 313 | NR | 645 | 521 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 350 | NR | 650 | 461 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 0 | NR | 525 | 381 | NR | 655 | 406 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 0 | NR | 530 | 407 | NR | 660 | 353 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 2 | NR | 535 | 435 | NR | 665 | 307 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 4 | NR | 540 | 462 | NR | 670 | 264 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 9 | NR | 545 | 496 | NR | 675 | 227 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 20 | NR | 550 | 534 | NR | 680 | 196 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 38 | NR | 555 | 582 | NR | 685 | 167 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 69 | NR | 560 | 638 | NR | 690 | 144 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 120 | NR | 565 | 700 | NR | 695 | 122 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 193 | NR | 570 | 767 | NR | 700 | 103 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 316 | NR | 575 | 836 | NR | 705 | 88 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 469 | NR | 580 | 898 | NR | 710 | 74 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 431 | NR | 585 | 947 | NR | 715 | 63 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 264 | NR | 590 | 982 | NR | 720 | 54 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 197 | NR | 595 | 997 | NR | 725 | 46 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 155 | NR | 600 | 997 | NR | 730 | 39 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 108 | NR | 605 | 978 | NR | 735 | 33 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 90 | NR | 610 | 947 | NR | 740 | 28 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 92 | NR | 615 | 900 | NR | 745 | 24 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2407-157-3

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.13

| 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 | 103 | NR | 620 | 846 | NR | 750 | 20 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 130 | NR | 625 | 784 | NR | 755 | 17 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 171 | NR | 630 | 720 | NR | 760 | 15 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 221 | NR | 635 | 652 | NR | 765 | 13 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 268 | NR | 640 | 587 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 313 | NR | 645 | 521 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 350 | NR | 650 | 461 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 0 | NR | 525 | 381 | NR | 655 | 406 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 0 | NR | 530 | 407 | NR | 660 | 353 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 2 | NR | 535 | 435 | NR | 665 | 307 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 4 | NR | 540 | 462 | NR | 670 | 264 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 9 | NR | 545 | 496 | NR | 675 | 227 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 20 | NR | 550 | 534 | NR | 680 | 196 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 38 | NR | 555 | 582 | NR | 685 | 167 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 69 | NR | 560 | 638 | NR | 690 | 144 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 120 | NR | 565 | 700 | NR | 695 | 122 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 193 | NR | 570 | 767 | NR | 700 | 103 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 316 | NR | 575 | 836 | NR | 705 | 88 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 469 | NR | 580 | 898 | NR | 710 | 74 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 431 | NR | 585 | 947 | NR | 715 | 63 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 264 | NR | 590 | 982 | NR | 720 | 54 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 197 | NR | 595 | 997 | NR | 725 | 46 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 155 | NR | 600 | 997 | NR | 730 | 39 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 108 | NR | 605 | 978 | NR | 735 | 33 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 90 | NR | 610 | 947 | NR | 740 | 28 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 92 | NR | 615 | 900 | NR | 745 | 24 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2407-157-3

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.04

| 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 | 103 | NR | 620 | 846 | NR | 750 | 20 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 130 | NR | 625 | 784 | NR | 755 | 17 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 171 | NR | 630 | 720 | NR | 760 | 15 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 221 | NR | 635 | 652 | NR | 765 | 13 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 268 | NR | 640 | 587 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 313 | NR | 645 | 521 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 350 | NR | 650 | 461 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 0 | NR | 525 | 381 | NR | 655 | 406 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 0 | NR | 530 | 407 | NR | 660 | 353 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 2 | NR | 535 | 435 | NR | 665 | 307 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 4 | NR | 540 | 462 | NR | 670 | 264 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 9 | NR | 545 | 496 | NR | 675 | 227 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 20 | NR | 550 | 534 | NR | 680 | 196 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 38 | NR | 555 | 582 | NR | 685 | 167 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 69 | NR | 560 | 638 | NR | 690 | 144 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 120 | NR | 565 | 700 | NR | 695 | 122 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 193 | NR | 570 | 767 | NR | 700 | 103 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 316 | NR | 575 | 836 | NR | 705 | 88 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 469 | NR | 580 | 898 | NR | 710 | 74 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 431 | NR | 585 | 947 | NR | 715 | 63 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 264 | NR | 590 | 982 | NR | 720 | 54 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 197 | NR | 595 | 997 | NR | 725 | 46 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 155 | NR | 600 | 997 | NR | 730 | 39 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 108 | NR | 605 | 978 | NR | 735 | 33 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 90 | NR | 610 | 947 | NR | 740 | 28 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 92 | NR | 615 | 900 | NR | 745 | 24 | NR | 875 | 1 | NR | | | |

Summary

$R_f = 75.5$
 $R_g = 93.6$
 $CIE R_a = 71.7$
 $R_g = -35.3$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 68 | CES51 = 87 | CES76 = 63 |
| CES02 = 63 | CES27 = 90 | CES52 = 85 | CES77 = 79 |
| CES03 = 31 | CES28 = 87 | CES53 = 78 | CES78 = 66 |
| CES04 = 71 | CES29 = 71 | CES54 = 86 | CES79 = 87 |
| CES05 = 50 | CES30 = 85 | CES55 = 84 | CES80 = 85 |
| CES06 = 52 | CES31 = 74 | CES56 = 75 | CES81 = 67 |
| CES07 = 42 | CES32 = 66 | CES57 = 75 | CES82 = 93 |
| CES08 = 41 | CES33 = 80 | CES58 = 76 | CES83 = 91 |
| CES09 = 29 | CES34 = 79 | CES59 = 85 | CES84 = 89 |
| CES10 = 77 | CES35 = 89 | CES60 = 90 | CES85 = 72 |
| CES11 = 60 | CES36 = 93 | CES61 = 81 | CES86 = 59 |
| CES12 = 66 | CES37 = 88 | CES62 = 91 | CES87 = 77 |
| CES13 = 43 | CES38 = 93 | CES63 = 77 | CES88 = 79 |
| CES14 = 74 | CES39 = 97 | CES64 = 67 | CES89 = 65 |
| CES15 = 72 | CES40 = 93 | CES65 = 66 | CES90 = 80 |
| CES16 = 48 | CES41 = 93 | CES66 = 63 | CES91 = 80 |
| CES17 = 51 | CES42 = 89 | CES67 = 61 | CES92 = 55 |
| CES18 = 57 | CES43 = 78 | CES68 = 68 | CES93 = 72 |
| CES19 = 73 | CES44 = 99 | CES69 = 78 | CES94 = 48 |
| CES20 = 67 | CES45 = 85 | CES70 = 63 | CES95 = 66 |
| CES21 = 88 | CES46 = 81 | CES71 = 61 | CES96 = 76 |
| CES22 = 80 | CES47 = 86 | CES72 = 86 | CES97 = 81 |
| CES23 = 92 | CES48 = 74 | CES73 = 56 | CES98 = 76 |
| CES24 = 91 | CES49 = 79 | CES74 = 93 | CES99 = 64 |
| CES25 = 73 | CES50 = 86 | CES75 = 66 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)