

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: STREETWORKS

Report Number: P360874

Luminaire Tested: NVN-SA6A-750-U-T2R

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2019
Report Number: P360874
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-8)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: STREETWORKS
Catalog Number: NVN-SA6A-750-U-T2R
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 5000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 29553 lumens
Efficiency: N/A
Efficacy: 153.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Short
BUG Rating: B3 - U0 - G3

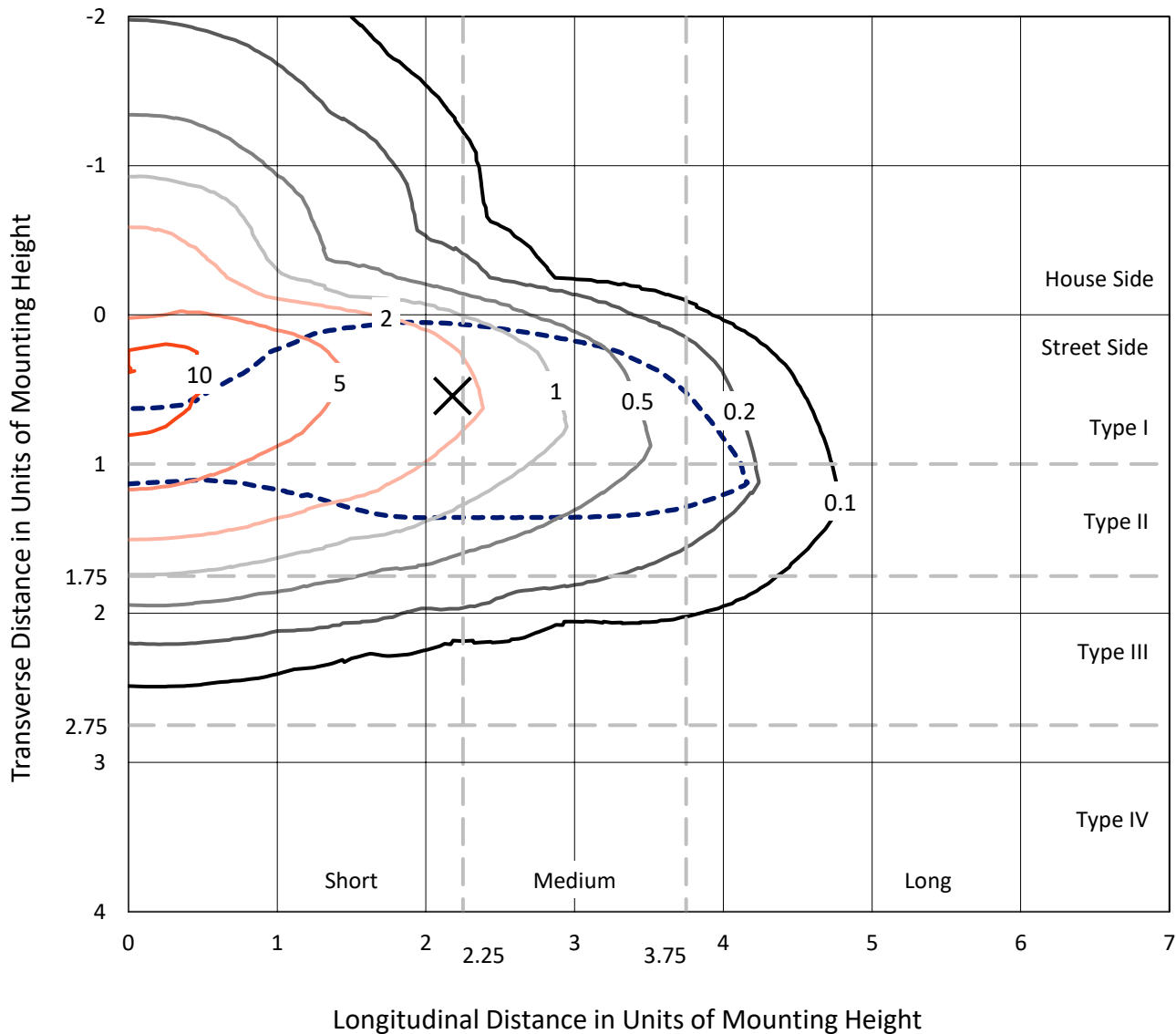
Input Watts (W): 193
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P360874
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Iso-Footcandle Lines of Horizontal Illumination

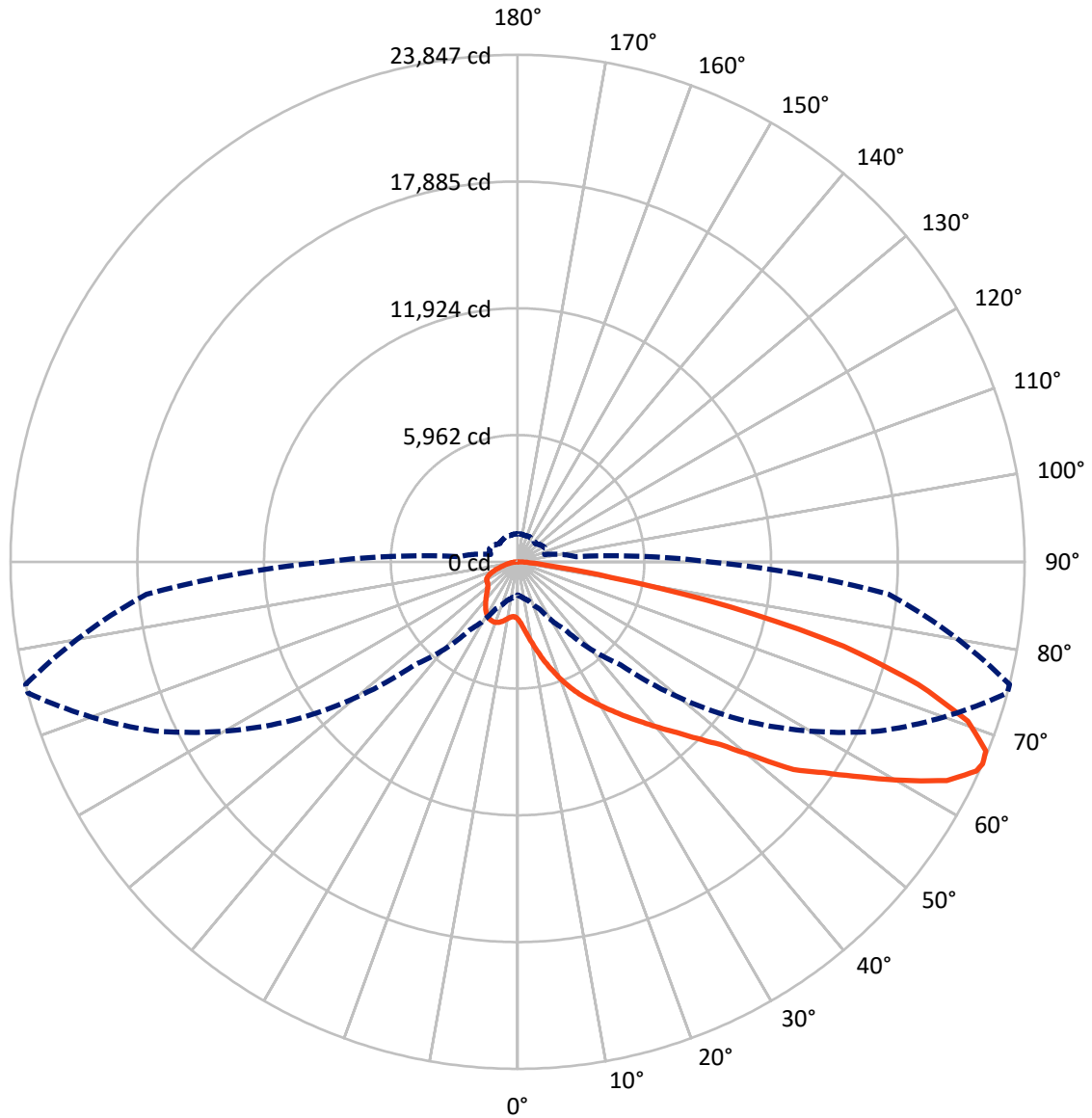
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 11.5 fc
 Type II - Short - N/A

REPORT NUMBER: P360874
CATALOG NUMBER: NVN-SA6A-750-U-T2R

Luminous Intensity Polar Plot



— Vertical Plane Through 76-Deg Lateral - - - Horizontal Cone Through 66-Deg Vertical

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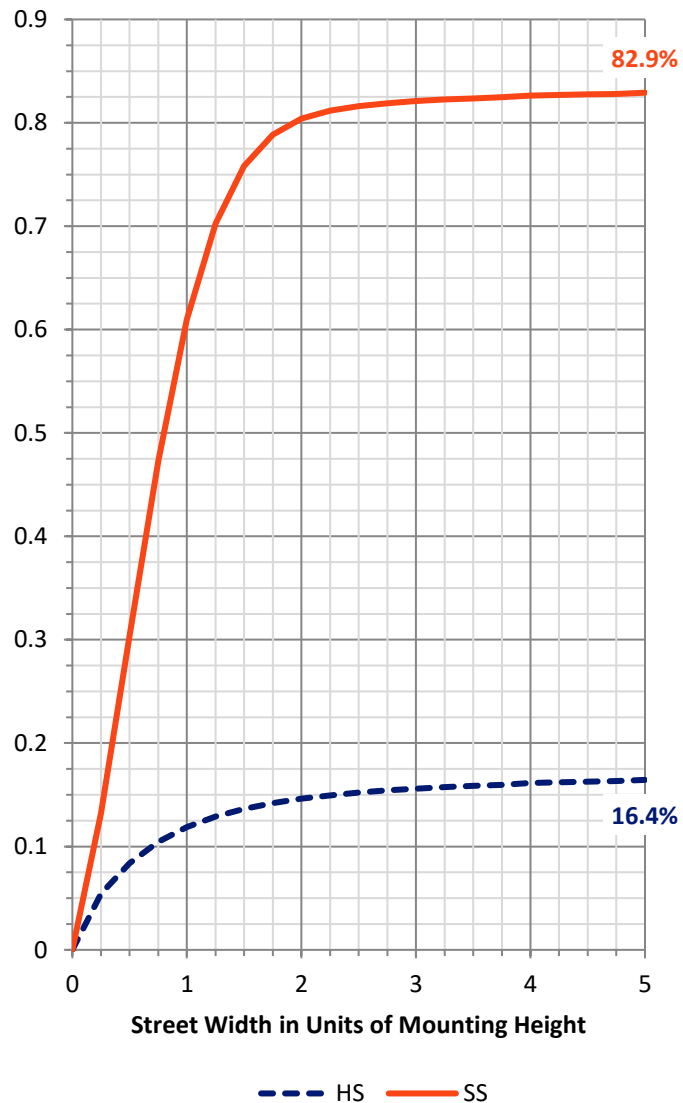
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 4972.8 | 0.0 | 4972.8 |
| | % Fixture | 16.8 | 0.0 | 16.8 |
| Street Side | Lumens | 24580.2 | 0.0 | 24580.2 |
| | % Fixture | 83.2 | 0.0 | 83.2 |
| Total | Lumens | 29553.0 | 0.0 | 29553.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 326.4 | 1.1 |
| 10°-20° | 1288.8 | 4.4 |
| 20°-30° | 2504.4 | 8.5 |
| 30°-40° | 4087.8 | 13.8 |
| 40°-50° | 5584.9 | 18.9 |
| 50°-60° | 6505.3 | 22.0 |
| 60°-70° | 5832.1 | 19.7 |
| 70°-80° | 2947.3 | 10.0 |
| 80°-90° | 475.9 | 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° | 29553.0 | 100.0 |
| 0°-180° | 29553.0 | 100.0 |

Coefficient of Utilization

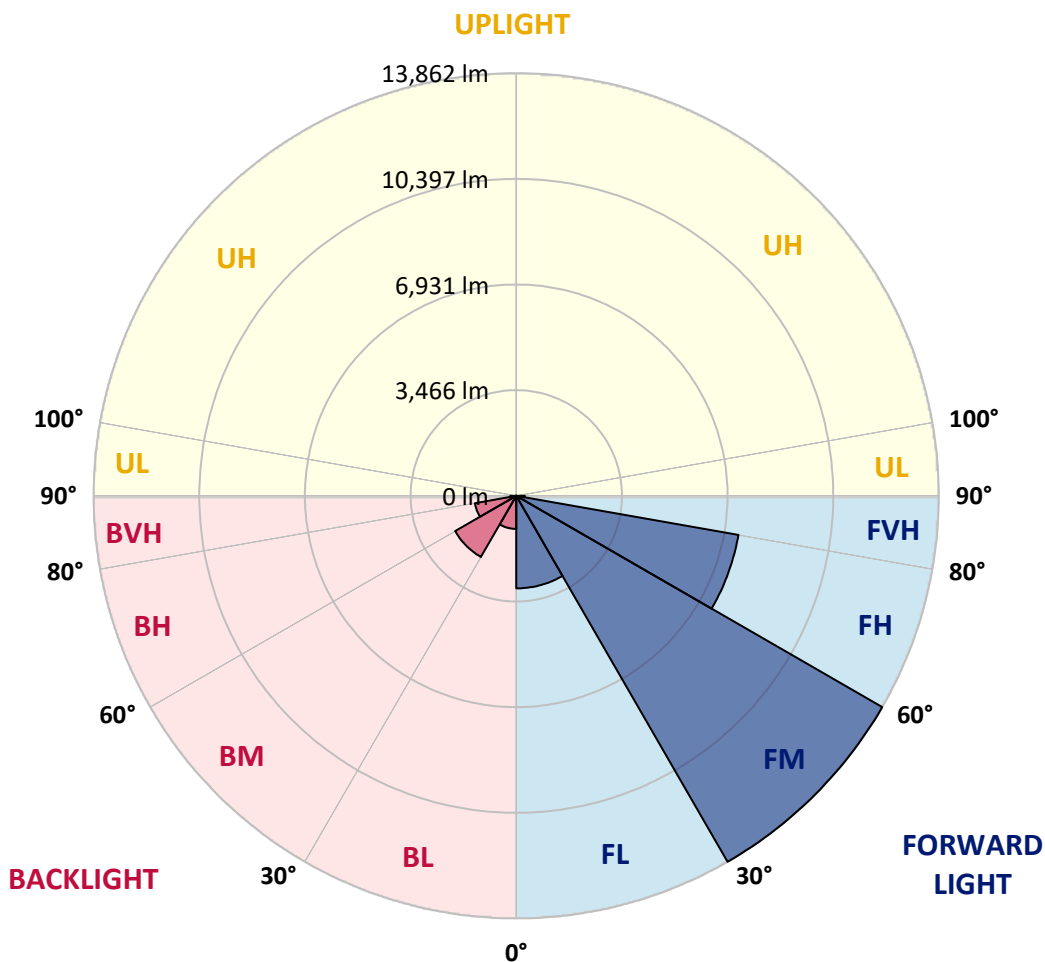


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 CATALOG NUMBER: NVN-SA6A-750-U-T2R

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|---------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 3035.0 | 10.3 | | | |
| FM (30°-60°) | 13862.4 | 46.9 | | | |
| FH (60°-80°) | 7401.7 | 25.0 | | | G3/7500 |
| FVH (80°-90°) | 281.1 | 1.0 | | | G3/500 |
| BL (0°-30°) | 1084.6 | 3.7 | B3/2500 | | |
| BM (30°-60°) | 2315.6 | 7.8 | B2/2500 | | |
| BH (60°-80°) | 1377.7 | 4.7 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 194.9 | 0.7 | | | G2/225 |
| 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° | 55° | 65° | 75° | 76° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 2698.9 | 2698.9 | 2698.9 | 2698.9 | 2698.9 | 2698.9 | 2698.9 | 2698.9 | 2698.9 | 2698.9 | 2698.9 |
| 2.5° | 3582.8 | 3528.6 | 3523.6 | 3444.3 | 3426.2 | 3274.7 | 3163.4 | 3047.0 | 2914.6 | 2888.5 | 2784.1 |
| 5° | 4602.1 | 4597.1 | 4527.9 | 4398.4 | 4297.1 | 4038.3 | 3782.4 | 3511.5 | 3214.5 | 3166.4 | 2931.6 |
| 7.5° | 5519.1 | 5511.1 | 5457.9 | 5318.5 | 5172.0 | 4853.9 | 4488.7 | 4073.4 | 3591.8 | 3520.6 | 3131.3 |
| 10° | 6215.4 | 6212.4 | 6194.3 | 6092.0 | 5967.6 | 5662.6 | 5259.3 | 4692.4 | 4030.2 | 3932.9 | 3381.1 |
| 12.5° | 6753.2 | 6759.2 | 6771.2 | 6735.1 | 6675.9 | 6416.1 | 6002.7 | 5348.5 | 4497.8 | 4401.4 | 3659.0 |
| 15° | 7117.4 | 7135.4 | 7197.6 | 7248.8 | 7279.9 | 7120.4 | 6720.0 | 6019.8 | 5021.5 | 4906.1 | 3967.0 |
| 17.5° | 7301.0 | 7321.0 | 7428.4 | 7582.9 | 7725.3 | 7709.3 | 7391.3 | 6659.9 | 5524.1 | 5412.8 | 4298.1 |
| 20° | 7459.5 | 7474.5 | 7594.9 | 7780.5 | 8032.4 | 8143.7 | 7965.1 | 7275.9 | 6074.9 | 5942.5 | 4649.3 |
| 22.5° | 7919.0 | 7938.0 | 7974.2 | 8079.5 | 8302.2 | 8506.9 | 8420.6 | 7858.8 | 6579.6 | 6456.2 | 4982.3 |
| 25° | 8805.9 | 8829.0 | 8750.7 | 8661.4 | 8703.6 | 8846.0 | 8862.1 | 8390.5 | 7091.3 | 6951.8 | 5340.5 |
| 27.5° | 9874.4 | 9907.5 | 9774.1 | 9544.3 | 9343.7 | 9288.5 | 9269.4 | 8826.0 | 7579.9 | 7418.3 | 5694.7 |
| 30° | 10920.8 | 10978.0 | 10804.5 | 10506.5 | 10138.3 | 9879.4 | 9687.8 | 9252.4 | 8061.5 | 7906.9 | 6028.8 |
| 32.5° | 11943.2 | 11920.1 | 11668.3 | 11377.3 | 10945.9 | 10621.9 | 10158.3 | 9709.9 | 8603.2 | 8425.6 | 6360.9 |
| 35° | 12643.5 | 12651.5 | 12417.7 | 12072.6 | 11661.3 | 11412.4 | 10788.4 | 10203.5 | 9156.0 | 8992.5 | 6738.1 |
| 37.5° | 13239.4 | 13202.3 | 12937.5 | 12615.4 | 12261.2 | 12154.9 | 11525.8 | 10747.3 | 9755.0 | 9576.4 | 7139.4 |
| 40° | 13438.1 | 13395.0 | 13221.4 | 12989.6 | 12705.7 | 12696.7 | 12339.5 | 11363.3 | 10432.2 | 10255.7 | 7591.9 |
| 42.5° | 13317.7 | 13262.5 | 13191.3 | 13128.1 | 13040.8 | 13080.9 | 13104.0 | 12085.7 | 11176.7 | 10979.0 | 8115.6 |
| 45° | 12873.2 | 12790.0 | 12840.1 | 12977.6 | 13167.2 | 13393.9 | 13794.3 | 12885.3 | 12010.4 | 11844.9 | 8730.6 |
| 47.5° | 12190.0 | 12114.8 | 12271.3 | 12565.2 | 13080.9 | 13654.8 | 14447.4 | 13768.2 | 13005.7 | 12841.1 | 9606.5 |
| 50° | 11228.8 | 11250.9 | 11474.7 | 12009.4 | 12789.0 | 13775.2 | 15252.0 | 14937.0 | 14452.4 | 14298.9 | 10801.4 |
| 52.5° | 9651.7 | 9655.7 | 10285.7 | 11163.6 | 12271.3 | 13713.0 | 15698.5 | 16430.9 | 16427.9 | 16242.3 | 11939.2 |
| 55° | 8186.9 | 8276.2 | 8774.8 | 9941.6 | 11432.5 | 13464.2 | 16010.5 | 17157.3 | 17725.2 | 17507.4 | 12999.7 |
| 57.5° | 6756.2 | 6808.3 | 7280.9 | 8452.7 | 10235.6 | 12801.0 | 16330.6 | 18029.2 | 19220.1 | 19082.6 | 14318.0 |
| 60° | 5128.8 | 5209.1 | 5697.7 | 6780.2 | 8704.6 | 11624.1 | 16360.7 | 18939.1 | 21006.9 | 20868.5 | 15789.8 |
| 62.5° | 3328.9 | 3467.4 | 3924.9 | 4939.2 | 6852.5 | 9931.6 | 15662.4 | 19534.1 | 22700.5 | 22651.3 | 17096.1 |
| 65° | 1913.3 | 2017.6 | 2335.7 | 3118.2 | 4727.5 | 7806.6 | 14001.9 | 19305.3 | 23742.9 | 23714.8 | 17584.7 |
| 66° | 1563.1 | 1628.3 | 1872.1 | 2437.0 | 3900.8 | 6855.5 | 13036.8 | 18822.8 | 23846.2 | 23847.2 | 17528.5 |
| 67.5° | 1250.1 | 1279.2 | 1388.6 | 1744.7 | 2878.4 | 5433.8 | 11312.1 | 17758.3 | 23717.8 | 23752.9 | 17166.3 |
| 70° | 1034.4 | 1049.4 | 1083.6 | 1169.8 | 1571.2 | 3276.8 | 8029.3 | 14992.2 | 22428.6 | 22455.7 | 15752.7 |
| 72.5° | 928.0 | 937.1 | 950.1 | 962.2 | 1108.6 | 1831.0 | 4904.1 | 11993.4 | 19664.5 | 19699.6 | 13598.6 |
| 75° | 840.8 | 845.8 | 843.8 | 844.8 | 930.1 | 1166.8 | 2534.3 | 8954.4 | 15900.2 | 15829.9 | 10417.2 |
| 77.5° | 738.4 | 743.4 | 733.4 | 735.4 | 822.7 | 896.9 | 1261.1 | 6268.6 | 10730.2 | 10234.6 | 5869.3 |
| 80° | 624.0 | 628.1 | 624.0 | 631.1 | 716.4 | 677.2 | 733.4 | 3526.6 | 4744.6 | 4487.7 | 2086.8 |
| 82.5° | 471.5 | 488.6 | 500.6 | 528.7 | 589.9 | 481.6 | 490.6 | 1373.5 | 1444.7 | 1375.5 | 640.1 |
| 85° | 206.7 | 251.8 | 377.2 | 404.3 | 443.5 | 288.9 | 322.1 | 559.8 | 587.9 | 569.9 | 232.8 |
| 87.5° | 54.2 | 59.2 | 186.6 | 234.8 | 245.8 | 130.4 | 167.5 | 254.8 | 268.9 | 254.8 | 77.3 |
| 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: P360874
 CATALOG NUMBER: NVN-SA6A-750-U-T2R

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2698.9 | 2698.9 | 2698.9 | 2698.9 | 2698.9 | 2698.9 | 2698.9 | 2698.9 | 2698.9 | 2698.9 | 2698.9 |
| 2.5° | 2729.0 | 2679.8 | 2591.5 | 2513.2 | 2454.1 | 2413.9 | 2373.8 | 2353.7 | 2341.7 | 2329.6 | 2331.7 |
| 5° | 2816.2 | 2716.9 | 2565.4 | 2458.1 | 2397.9 | 2359.7 | 2339.7 | 2331.7 | 2326.6 | 2314.6 | 2314.6 |
| 7.5° | 2947.7 | 2807.2 | 2598.5 | 2488.2 | 2441.0 | 2411.9 | 2399.9 | 2395.9 | 2389.8 | 2375.8 | 2377.8 |
| 10° | 3113.2 | 2916.6 | 2667.8 | 2560.4 | 2517.3 | 2485.2 | 2468.1 | 2462.1 | 2451.0 | 2435.0 | 2437.0 |
| 12.5° | 3307.9 | 3052.0 | 2759.1 | 2646.7 | 2594.5 | 2551.4 | 2523.3 | 2506.2 | 2487.2 | 2466.1 | 2467.1 |
| 15° | 3520.6 | 3199.5 | 2857.4 | 2723.9 | 2652.7 | 2592.5 | 2547.4 | 2518.3 | 2488.2 | 2462.1 | 2461.1 |
| 17.5° | 3736.3 | 3342.0 | 2932.6 | 2766.1 | 2669.8 | 2590.5 | 2529.3 | 2484.2 | 2447.0 | 2414.9 | 2411.9 |
| 20° | 3969.0 | 3470.4 | 2974.8 | 2762.1 | 2637.7 | 2543.3 | 2462.1 | 2405.9 | 2364.8 | 2332.7 | 2327.6 |
| 22.5° | 4205.8 | 3590.8 | 2981.8 | 2720.9 | 2566.4 | 2451.0 | 2365.8 | 2303.6 | 2261.4 | 2228.3 | 2216.3 |
| 25° | 4422.5 | 3684.1 | 2952.7 | 2641.7 | 2467.1 | 2342.7 | 2259.4 | 2196.2 | 2162.1 | 2123.0 | 2110.9 |
| 27.5° | 4620.2 | 3749.3 | 2894.5 | 2540.3 | 2355.7 | 2233.3 | 2155.1 | 2100.9 | 2063.8 | 2033.7 | 2023.6 |
| 30° | 4797.7 | 3784.4 | 2799.2 | 2419.9 | 2241.4 | 2130.0 | 2063.8 | 2026.6 | 1994.5 | 1956.4 | 1949.4 |
| 32.5° | 4966.3 | 3784.4 | 2676.8 | 2288.5 | 2128.0 | 2038.7 | 1999.6 | 1976.5 | 1940.4 | 1903.2 | 1893.2 |
| 35° | 5134.8 | 3761.3 | 2532.3 | 2151.1 | 2023.6 | 1973.5 | 1971.5 | 1944.4 | 1889.2 | 1839.0 | 1826.0 |
| 37.5° | 5312.4 | 3714.2 | 2369.8 | 2022.6 | 1938.4 | 1944.4 | 1961.4 | 1901.2 | 1823.0 | 1751.7 | 1732.7 |
| 40° | 5513.1 | 3649.0 | 2201.2 | 1911.3 | 1867.1 | 1931.3 | 1934.3 | 1839.0 | 1686.5 | 1621.3 | 1604.3 |
| 42.5° | 5748.9 | 3583.8 | 2044.7 | 1812.9 | 1810.9 | 1892.2 | 1883.2 | 1704.6 | 1613.3 | 1580.2 | 1571.2 |
| 45° | 6058.9 | 3546.6 | 1896.2 | 1719.6 | 1766.8 | 1829.0 | 1795.9 | 1630.3 | 1592.2 | 1573.2 | 1565.1 |
| 47.5° | 6547.5 | 3565.7 | 1759.8 | 1645.4 | 1722.7 | 1765.8 | 1633.4 | 1600.3 | 1573.2 | 1550.1 | 1542.1 |
| 50° | 7159.5 | 3554.7 | 1649.4 | 1594.2 | 1672.5 | 1699.6 | 1560.1 | 1561.1 | 1547.1 | 1521.0 | 1509.0 |
| 52.5° | 7620.0 | 3468.4 | 1578.2 | 1565.1 | 1628.3 | 1582.2 | 1514.0 | 1523.0 | 1516.0 | 1477.8 | 1464.8 |
| 55° | 8064.5 | 3394.1 | 1542.1 | 1554.1 | 1596.2 | 1435.7 | 1459.8 | 1481.9 | 1474.8 | 1437.7 | 1431.7 |
| 57.5° | 8617.3 | 3380.1 | 1520.0 | 1557.1 | 1569.1 | 1362.5 | 1407.6 | 1436.7 | 1431.7 | 1415.6 | 1412.6 |
| 60° | 9294.5 | 3384.1 | 1499.9 | 1562.1 | 1539.0 | 1308.3 | 1358.5 | 1395.6 | 1398.6 | 1395.6 | 1393.6 |
| 62.5° | 9666.7 | 3274.7 | 1449.8 | 1548.1 | 1485.9 | 1261.1 | 1307.3 | 1361.5 | 1362.5 | 1368.5 | 1367.5 |
| 65° | 9350.7 | 2947.7 | 1356.5 | 1498.9 | 1396.6 | 1222.0 | 1263.1 | 1322.3 | 1307.3 | 1334.4 | 1334.4 |
| 66° | 9043.7 | 2759.1 | 1310.3 | 1466.8 | 1358.5 | 1207.0 | 1249.1 | 1302.3 | 1283.2 | 1320.3 | 1320.3 |
| 67.5° | 8416.6 | 2441.0 | 1227.0 | 1398.6 | 1304.3 | 1185.9 | 1233.0 | 1269.2 | 1243.1 | 1298.3 | 1294.2 |
| 70° | 7270.9 | 1888.2 | 1059.5 | 1244.1 | 1215.0 | 1154.8 | 1211.0 | 1202.9 | 1164.8 | 1249.1 | 1233.0 |
| 72.5° | 6130.1 | 1434.7 | 850.8 | 1041.4 | 1079.5 | 1115.7 | 1179.9 | 1118.7 | 1070.5 | 1129.7 | 1094.6 |
| 75° | 4756.6 | 1078.5 | 672.2 | 809.7 | 912.0 | 1054.5 | 1142.7 | 1021.4 | 952.1 | 946.1 | 927.0 |
| 77.5° | 2571.4 | 740.4 | 532.7 | 618.0 | 724.4 | 978.2 | 1117.7 | 917.0 | 812.7 | 788.6 | 773.5 |
| 80° | 1018.3 | 481.6 | 387.3 | 468.5 | 506.7 | 867.8 | 1057.5 | 795.6 | 670.2 | 646.1 | 623.0 |
| 82.5° | 420.4 | 284.9 | 249.8 | 314.0 | 330.1 | 742.4 | 949.1 | 652.1 | 517.7 | 716.4 | 760.5 |
| 85° | 180.6 | 156.5 | 148.5 | 162.5 | 186.6 | 520.7 | 755.5 | 497.6 | 558.8 | 498.6 | 396.3 |
| 87.5° | 54.2 | 66.2 | 63.2 | 62.2 | 68.2 | 124.4 | 402.3 | 276.9 | 410.3 | 155.5 | 116.4 |
| 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: SP1-1908-441-4-R4

Test Date: 10/02/2019

Luminaire Tested: SA1C-750-U-5WQ

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

Test Information

Test Method: LM-79-2008
 Report Number: SP1-1908-441-4-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-750-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): 4884
 CIE u': 0.2101
 CIE v': 0.4904
 Duv: 0.0037
 CIE x: 0.3493
 CIE y: 0.3624
 CIE z: 0.2884
 Peak Wavelength (nm): 444
 Dominant Wavelength (nm): 571
 Purity: 13.7
 Rf: 74.9
 Rg: 96.3

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 73.5 | | |
| R1: | 70.5 | R9: | -28.4 |
| R2: | 77.7 | R10: | 48.6 |
| R3: | 84.6 | R11: | 73.2 |
| R4: | 74.7 | R12: | 50.7 |
| R5: | 71.9 | R13: | 71.2 |
| R6: | 70.7 | R14: | 91.4 |
| R7: | 81.2 | | |
| R8: | 56.9 | | |



Test Conditions

Stabilization Time: 240M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.0./44%
 Sphere Temperature (°C): 25.7

REPORT NUMBER: SP1-1908-441-4-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 5000K 4-step quadrangle

REPORT NUMBER: SP1-1908-441-4-R4

Photopic Flux vs. Wavelength



#####

| 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 | 2945 | NR | 490 | 37941 | NR | 620 | 88803 | NR | 750 | 3908 | NR | 880 | 2997 | NR |
| 365 | 2596 | NR | 495 | 48525 | NR | 625 | 80578 | NR | 755 | 3988 | NR | 885 | 2927 | NR |
| 370 | 2732 | NR | 500 | 60609 | NR | 630 | 73127 | NR | 760 | 3335 | NR | 890 | 2649 | NR |
| 375 | 2894 | NR | 505 | 72036 | NR | 635 | 66244 | NR | 765 | 3438 | NR | 895 | 2828 | NR |
| 380 | 2822 | NR | 510 | 82168 | NR | 640 | 59440 | NR | 770 | 3427 | NR | 900 | 1407 | NR |
| 385 | 2394 | NR | 515 | 90898 | NR | 645 | 52864 | NR | 775 | 2759 | NR | 905 | 2224 | NR |
| 390 | 2370 | NR | 520 | 97142 | NR | 650 | 47085 | NR | 780 | 2340 | NR | 910 | 2905 | NR |
| 395 | 2267 | NR | 525 | 103255 | NR | 655 | 41789 | NR | 785 | 2412 | NR | 915 | 3350 | NR |
| 400 | 2262 | NR | 530 | 106697 | NR | 660 | 37064 | NR | 790 | 1999 | NR | 920 | 3114 | NR |
| 405 | 3000 | NR | 535 | 110081 | NR | 665 | 32299 | NR | 795 | 2054 | NR | 925 | 2834 | NR |
| 410 | 5324 | NR | 540 | 112494 | NR | 670 | 28142 | NR | 800 | 2331 | NR | 930 | 2271 | NR |
| 415 | 10725 | NR | 545 | 115513 | NR | 675 | 24505 | NR | 805 | 2648 | NR | 935 | 2228 | NR |
| 420 | 22128 | NR | 550 | 117203 | NR | 680 | 21162 | NR | 810 | 2485 | NR | 940 | 2833 | NR |
| 425 | 44095 | NR | 555 | 119753 | NR | 685 | 18400 | NR | 815 | 2409 | NR | 945 | 2941 | NR |
| 430 | 77002 | NR | 560 | 122602 | NR | 690 | 16065 | NR | 820 | 2221 | NR | 950 | 2323 | NR |
| 435 | 119881 | NR | 565 | 124314 | NR | 695 | 13860 | NR | 825 | 1562 | NR | 955 | 1667 | NR |
| 440 | 164454 | NR | 570 | 126775 | NR | 700 | 12177 | NR | 830 | 2249 | NR | 960 | 749 | NR |
| 445 | 179997 | NR | 575 | 127511 | NR | 705 | 10757 | NR | 835 | 2573 | NR | 965 | 2669 | NR |
| 450 | 142822 | NR | 580 | 127577 | NR | 710 | 9601 | NR | 840 | 2764 | NR | 970 | 3968 | NR |
| 455 | 90008 | NR | 585 | 126153 | NR | 715 | 8944 | NR | 845 | 3109 | NR | 975 | 3886 | NR |
| 460 | 60557 | NR | 590 | 123678 | NR | 720 | 7947 | NR | 850 | 2963 | NR | 980 | 2788 | NR |
| 465 | 43305 | NR | 595 | 119774 | NR | 725 | 7062 | NR | 855 | 2336 | NR | 985 | 3496 | NR |
| 470 | 31089 | NR | 600 | 115733 | NR | 730 | 6004 | NR | 860 | 2118 | NR | 990 | 2913 | NR |
| 475 | 26278 | NR | 605 | 109231 | NR | 735 | 5594 | NR | 865 | 3144 | NR | 995 | 4659 | NR |
| 480 | 27060 | NR | 610 | 102408 | NR | 740 | 5165 | NR | 870 | 3069 | NR | 1000 | 1308 | NR |
| 485 | 30698 | NR | 615 | 96015 | NR | 745 | 4687 | NR | 875 | 3311 | NR | | | |

REPORT NUMBER: SP1-1908-441-4-R4

Scotopic Flux vs. Wavelength



Scotopic Lumens: 13493.5 S/P: 1.77

| 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 | 2945 | NR | 490 | 37941 | NR | 620 | 88803 | NR | 750 | 3908 | NR | 880 | 2997 | NR |
| 365 | 2596 | NR | 495 | 48525 | NR | 625 | 80578 | NR | 755 | 3988 | NR | 885 | 2927 | NR |
| 370 | 2732 | NR | 500 | 60609 | NR | 630 | 73127 | NR | 760 | 3335 | NR | 890 | 2649 | NR |
| 375 | 2894 | NR | 505 | 72036 | NR | 635 | 66244 | NR | 765 | 3438 | NR | 895 | 2828 | NR |
| 380 | 2822 | NR | 510 | 82168 | NR | 640 | 59440 | NR | 770 | 3427 | NR | 900 | 1407 | NR |
| 385 | 2394 | NR | 515 | 90898 | NR | 645 | 52864 | NR | 775 | 2759 | NR | 905 | 2224 | NR |
| 390 | 2370 | NR | 520 | 97142 | NR | 650 | 47085 | NR | 780 | 2340 | NR | 910 | 2905 | NR |
| 395 | 2267 | NR | 525 | 103255 | NR | 655 | 41789 | NR | 785 | 2412 | NR | 915 | 3350 | NR |
| 400 | 2262 | NR | 530 | 106697 | NR | 660 | 37064 | NR | 790 | 1999 | NR | 920 | 3114 | NR |
| 405 | 3000 | NR | 535 | 110081 | NR | 665 | 32299 | NR | 795 | 2054 | NR | 925 | 2834 | NR |
| 410 | 5324 | NR | 540 | 112494 | NR | 670 | 28142 | NR | 800 | 2331 | NR | 930 | 2271 | NR |
| 415 | 10725 | NR | 545 | 115513 | NR | 675 | 24505 | NR | 805 | 2648 | NR | 935 | 2228 | NR |
| 420 | 22128 | NR | 550 | 117203 | NR | 680 | 21162 | NR | 810 | 2485 | NR | 940 | 2833 | NR |
| 425 | 44095 | NR | 555 | 119753 | NR | 685 | 18400 | NR | 815 | 2409 | NR | 945 | 2941 | NR |
| 430 | 77002 | NR | 560 | 122602 | NR | 690 | 16065 | NR | 820 | 2221 | NR | 950 | 2323 | NR |
| 435 | 119881 | NR | 565 | 124314 | NR | 695 | 13860 | NR | 825 | 1562 | NR | 955 | 1667 | NR |
| 440 | 164454 | NR | 570 | 126775 | NR | 700 | 12177 | NR | 830 | 2249 | NR | 960 | 749 | NR |
| 445 | 179997 | NR | 575 | 127511 | NR | 705 | 10757 | NR | 835 | 2573 | NR | 965 | 2669 | NR |
| 450 | 142822 | NR | 580 | 127577 | NR | 710 | 9601 | NR | 840 | 2764 | NR | 970 | 3968 | NR |
| 455 | 90008 | NR | 585 | 126153 | NR | 715 | 8944 | NR | 845 | 3109 | NR | 975 | 3886 | NR |
| 460 | 60557 | NR | 590 | 123678 | NR | 720 | 7947 | NR | 850 | 2963 | NR | 980 | 2788 | NR |
| 465 | 43305 | NR | 595 | 119774 | NR | 725 | 7062 | NR | 855 | 2336 | NR | 985 | 3496 | NR |
| 470 | 31089 | NR | 600 | 115733 | NR | 730 | 6004 | NR | 860 | 2118 | NR | 990 | 2913 | NR |
| 475 | 26278 | NR | 605 | 109231 | NR | 735 | 5594 | NR | 865 | 3144 | NR | 995 | 4659 | NR |
| 480 | 27060 | NR | 610 | 102408 | NR | 740 | 5165 | NR | 870 | 3069 | NR | 1000 | 1308 | NR |
| 485 | 30698 | NR | 615 | 96015 | NR | 745 | 4687 | NR | 875 | 3311 | NR | | | |

REPORT NUMBER: SP1-1908-441-4-R4

Melanopic Flux vs. Wavelength



Melanopic Lumens: 5378.9

M/P: 0.71

| 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 | 2945 | NR | 490 | 37941 | NR | 620 | 88803 | NR | 750 | 3908 | NR | 880 | 2997 | NR |
| 365 | 2596 | NR | 495 | 48525 | NR | 625 | 80578 | NR | 755 | 3988 | NR | 885 | 2927 | NR |
| 370 | 2732 | NR | 500 | 60609 | NR | 630 | 73127 | NR | 760 | 3335 | NR | 890 | 2649 | NR |
| 375 | 2894 | NR | 505 | 72036 | NR | 635 | 66244 | NR | 765 | 3438 | NR | 895 | 2828 | NR |
| 380 | 2822 | NR | 510 | 82168 | NR | 640 | 59440 | NR | 770 | 3427 | NR | 900 | 1407 | NR |
| 385 | 2394 | NR | 515 | 90898 | NR | 645 | 52864 | NR | 775 | 2759 | NR | 905 | 2224 | NR |
| 390 | 2370 | NR | 520 | 97142 | NR | 650 | 47085 | NR | 780 | 2340 | NR | 910 | 2905 | NR |
| 395 | 2267 | NR | 525 | 103255 | NR | 655 | 41789 | NR | 785 | 2412 | NR | 915 | 3350 | NR |
| 400 | 2262 | NR | 530 | 106697 | NR | 660 | 37064 | NR | 790 | 1999 | NR | 920 | 3114 | NR |
| 405 | 3000 | NR | 535 | 110081 | NR | 665 | 32299 | NR | 795 | 2054 | NR | 925 | 2834 | NR |
| 410 | 5324 | NR | 540 | 112494 | NR | 670 | 28142 | NR | 800 | 2331 | NR | 930 | 2271 | NR |
| 415 | 10725 | NR | 545 | 115513 | NR | 675 | 24505 | NR | 805 | 2648 | NR | 935 | 2228 | NR |
| 420 | 22128 | NR | 550 | 117203 | NR | 680 | 21162 | NR | 810 | 2485 | NR | 940 | 2833 | NR |
| 425 | 44095 | NR | 555 | 119753 | NR | 685 | 18400 | NR | 815 | 2409 | NR | 945 | 2941 | NR |
| 430 | 77002 | NR | 560 | 122602 | NR | 690 | 16065 | NR | 820 | 2221 | NR | 950 | 2323 | NR |
| 435 | 119881 | NR | 565 | 124314 | NR | 695 | 13860 | NR | 825 | 1562 | NR | 955 | 1667 | NR |
| 440 | 164454 | NR | 570 | 126775 | NR | 700 | 12177 | NR | 830 | 2249 | NR | 960 | 749 | NR |
| 445 | 179997 | NR | 575 | 127511 | NR | 705 | 10757 | NR | 835 | 2573 | NR | 965 | 2669 | NR |
| 450 | 142822 | NR | 580 | 127577 | NR | 710 | 9601 | NR | 840 | 2764 | NR | 970 | 3968 | NR |
| 455 | 90008 | NR | 585 | 126153 | NR | 715 | 8944 | NR | 845 | 3109 | NR | 975 | 3886 | NR |
| 460 | 60557 | NR | 590 | 123678 | NR | 720 | 7947 | NR | 850 | 2963 | NR | 980 | 2788 | NR |
| 465 | 43305 | NR | 595 | 119774 | NR | 725 | 7062 | NR | 855 | 2336 | NR | 985 | 3496 | NR |
| 470 | 31089 | NR | 600 | 115733 | NR | 730 | 6004 | NR | 860 | 2118 | NR | 990 | 2913 | NR |
| 475 | 26278 | NR | 605 | 109231 | NR | 735 | 5594 | NR | 865 | 3144 | NR | 995 | 4659 | NR |
| 480 | 27060 | NR | 610 | 102408 | NR | 740 | 5165 | NR | 870 | 3069 | NR | 1000 | 1308 | NR |
| 485 | 30698 | NR | 615 | 96015 | NR | 745 | 4687 | NR | 875 | 3311 | NR | | | |

REPORT NUMBER: SP1-1908-441-4-R4

TM-30-18

Summary

$R_f = 74.9$
 $R_g = 96.3$
 CIE $R_a = 73.5$
 $R_g = -28.4$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 61 | CES51 = 90 | CES76 = 52 |
| CES02 = 60 | CES27 = 84 | CES52 = 91 | CES77 = 71 |
| CES03 = 30 | CES28 = 81 | CES53 = 79 | CES78 = 54 |
| CES04 = 69 | CES29 = 58 | CES54 = 83 | CES79 = 80 |
| CES05 = 46 | CES30 = 67 | CES55 = 83 | CES80 = 77 |
| CES06 = 50 | CES31 = 63 | CES56 = 73 | CES81 = 77 |
| CES07 = 39 | CES32 = 59 | CES57 = 72 | CES82 = 90 |
| CES08 = 38 | CES33 = 69 | CES58 = 73 | CES83 = 86 |
| CES09 = 29 | CES34 = 69 | CES59 = 88 | CES84 = 88 |
| CES10 = 73 | CES35 = 83 | CES60 = 93 | CES85 = 84 |
| CES11 = 56 | CES36 = 95 | CES61 = 88 | CES86 = 75 |
| CES12 = 61 | CES37 = 78 | CES62 = 85 | CES87 = 78 |
| CES13 = 41 | CES38 = 76 | CES63 = 77 | CES88 = 79 |
| CES14 = 74 | CES39 = 93 | CES64 = 74 | CES89 = 75 |
| CES15 = 70 | CES40 = 86 | CES65 = 67 | CES90 = 77 |
| CES16 = 46 | CES41 = 87 | CES66 = 69 | CES91 = 89 |
| CES17 = 49 | CES42 = 78 | CES67 = 67 | CES92 = 66 |
| CES18 = 55 | CES43 = 75 | CES68 = 73 | CES93 = 80 |
| CES19 = 71 | CES44 = 99 | CES69 = 81 | CES94 = 57 |
| CES20 = 64 | CES45 = 83 | CES70 = 63 | CES95 = 71 |
| CES21 = 85 | CES46 = 81 | CES71 = 60 | CES96 = 78 |
| CES22 = 77 | CES47 = 80 | CES72 = 86 | CES97 = 85 |
| CES23 = 91 | CES48 = 72 | CES73 = 53 | CES98 = 75 |
| CES24 = 90 | CES49 = 81 | CES74 = 96 | CES99 = 62 |
| CES25 = 71 | CES50 = 89 | CES75 = 58 | |



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Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)