

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



Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P437394

Luminaire Tested: **ISC-SA1C-760-U-T3**

Issue Date: 12/9/2020

Test Information

Test Method: LM-79-08
Report Number: P437394
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-8)
Test Lab: INNOVATION CENTER
Issue Date: 12/9/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: ISC-SA1C-760-U-T3
Description: IMPACT ELITE LED CYLINDER LUMINAIRE
(1) 70 CRI, 5700K, 615mA LIGHTSQUARE WITH 16 LEDS AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4578 lumens
Efficiency: N/A
Efficacy: 133.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B1 - U0 - G1

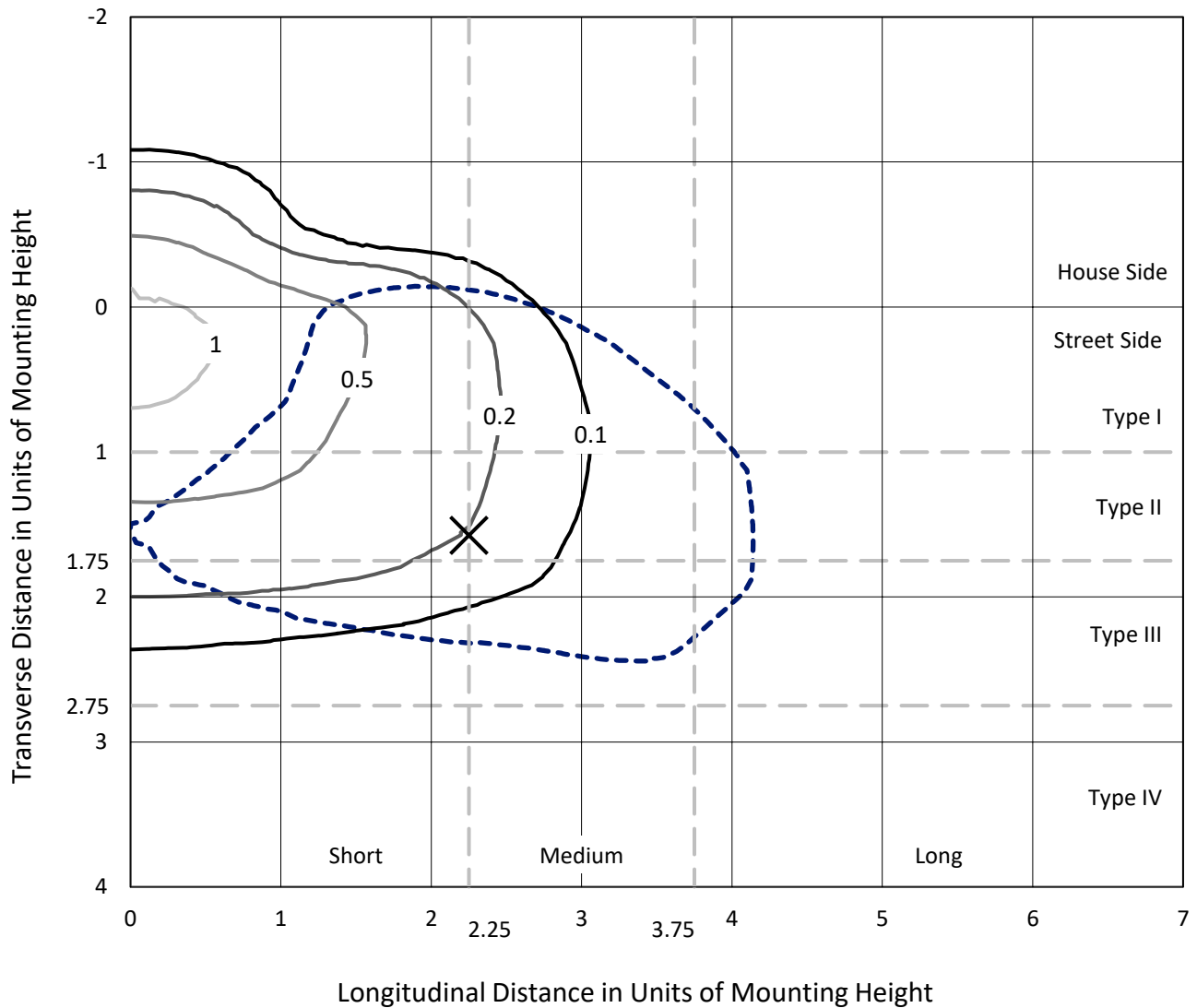
Input Watts (W): 34.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P437394
 CATALOG NUMBER: ISC-SA1C-760-U-T3

Iso-Footcandle Lines of Horizontal Illumination

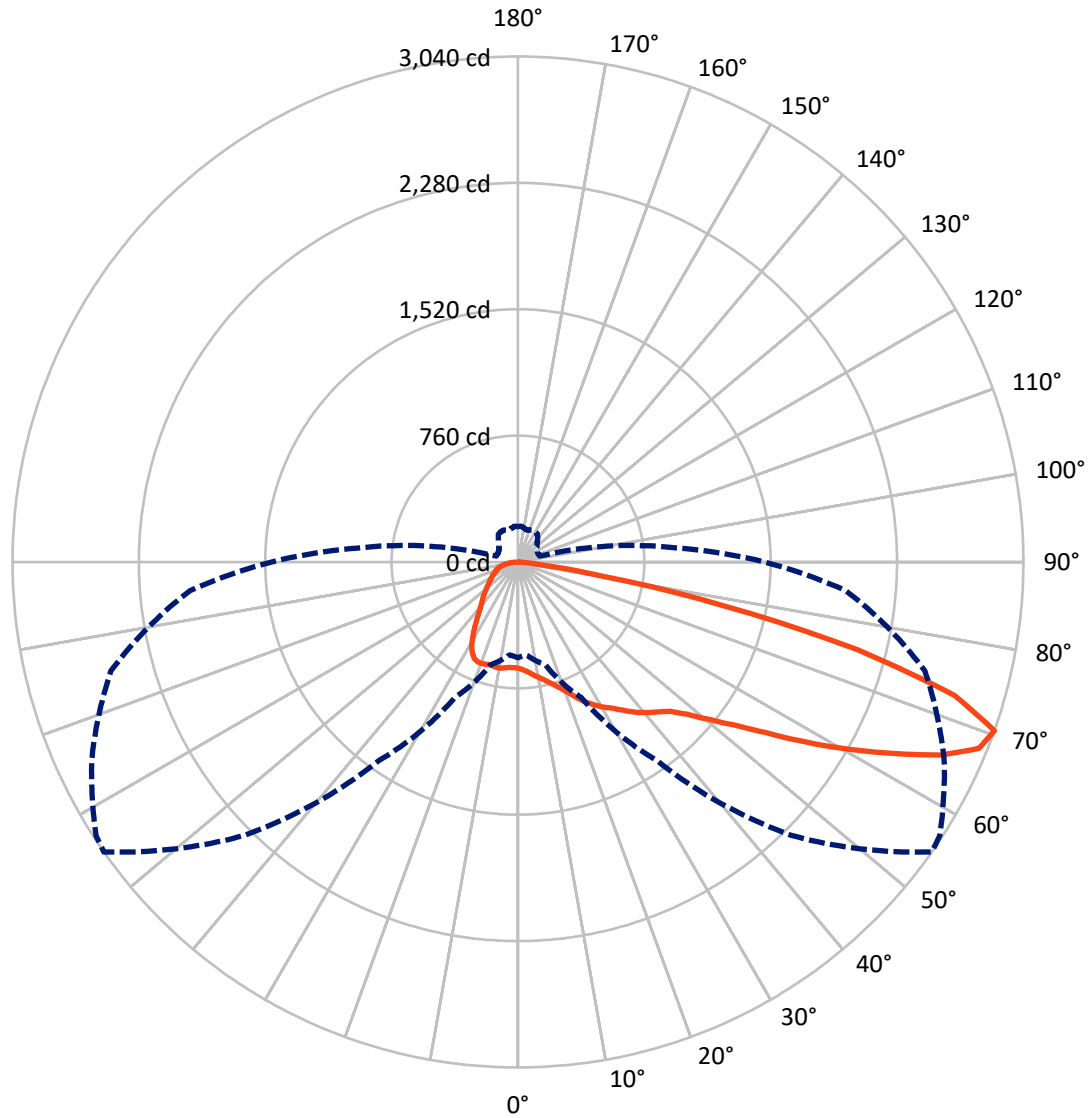
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.1 fc
 Type III - Medium - N/A

REPORT NUMBER: P437394
CATALOG NUMBER: ISC-SA1C-760-U-T3

Luminous Intensity Polar Plot



— Vertical Plane Through 55-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

REPORT NUMBER: P437394

CATALOG NUMBER: ISC-SA1C-760-U-T3

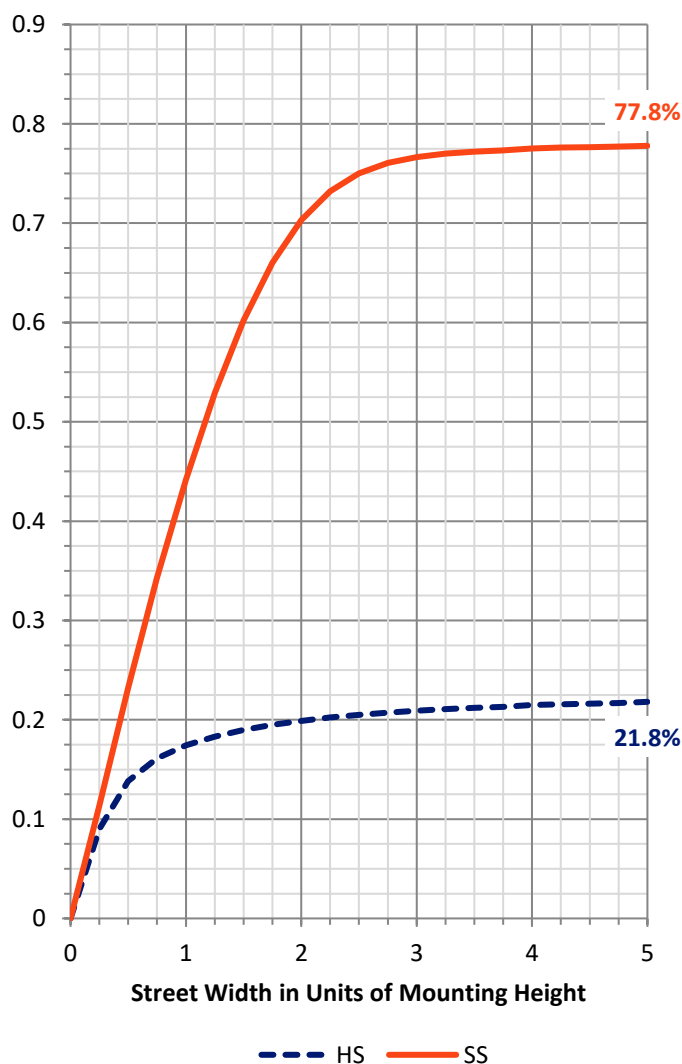
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 1012.6 | 0.0 | 1012.6 |
| | % Fixture | 22.1 | 0.0 | 22.1 |
| Street Side | Lumens | 3565.4 | 0.0 | 3565.4 |
| | % Fixture | 77.9 | 0.0 | 77.9 |
| Total | Lumens | 4578.0 | 0.0 | 4578.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 63.0 | 1.4 |
| 10°-20° | 200.4 | 4.4 |
| 20°-30° | 348.5 | 7.6 |
| 30°-40° | 491.3 | 10.7 |
| 40°-50° | 651.1 | 14.2 |
| 50°-60° | 948.6 | 20.7 |
| 60°-70° | 1183.8 | 25.9 |
| 70°-80° | 630.5 | 13.8 |
| 80°-90° | 60.7 | 1.3 |
| 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° | 4578.0 | 100.0 |
| 0°-180° | 4578.0 | 100.0 |

Coefficient of Utilization



REPORT NUMBER: P437394

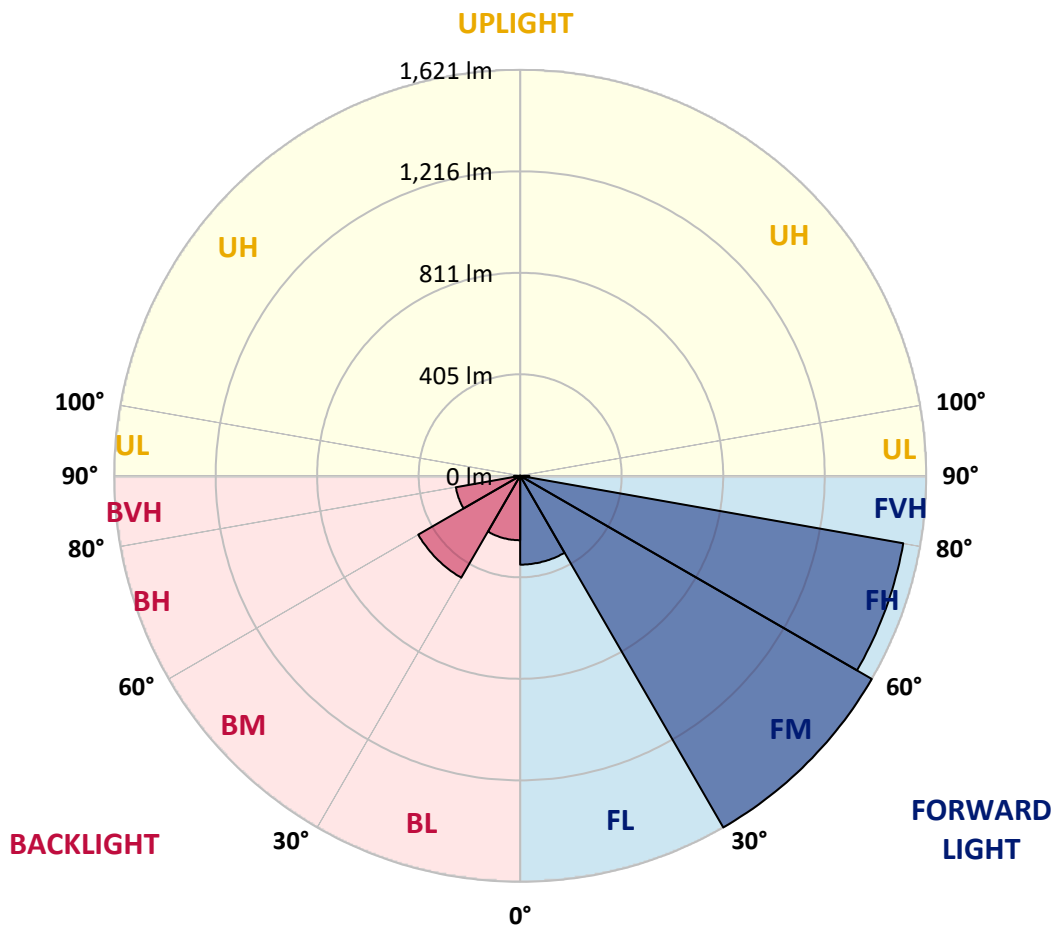
CATALOG NUMBER: ISC-SA1C-760-U-T3

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 354.6 | 7.7 | | | |
| FM (30°-60°) | 1621.2 | 35.4 | | | |
| FH (60°-80°) | 1553.3 | 33.9 | | | G1/1800 |
| FVH (80°-90°) | 36.3 | 0.8 | | | G1/100 |
| BL (0°-30°) | 257.3 | 5.6 | B1/500 | | |
| BM (30°-60°) | 469.8 | 10.3 | B1/1000 | | |
| BH (60°-80°) | 261.0 | 5.7 | B1/500 | | G1/500 |
| BVH (80°-90°) | 24.5 | 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: P437394
 CATALOG NUMBER: ISC-SA1C-760-U-T3

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 57° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 639.3 | 639.3 | 639.3 | 639.3 | 639.3 | 639.3 | 639.3 | 639.3 | 639.3 | 639.3 | 639.3 |
| 2.5° | 660.8 | 659.1 | 659.1 | 657.5 | 655.8 | 654.2 | 650.9 | 647.6 | 647.6 | 644.3 | 644.3 |
| 5° | 677.2 | 673.9 | 675.6 | 673.9 | 673.9 | 670.6 | 665.7 | 665.7 | 664.1 | 655.8 | 649.2 |
| 7.5° | 693.7 | 692.1 | 692.1 | 693.7 | 692.1 | 688.8 | 687.1 | 685.5 | 678.9 | 669.0 | 659.1 |
| 10° | 716.8 | 716.8 | 716.8 | 715.1 | 715.1 | 711.8 | 706.9 | 706.9 | 698.7 | 687.1 | 675.6 |
| 12.5° | 751.4 | 749.7 | 748.1 | 748.1 | 743.1 | 736.6 | 731.6 | 731.6 | 726.7 | 708.5 | 693.7 |
| 15° | 790.9 | 786.0 | 782.7 | 782.7 | 776.1 | 764.6 | 759.6 | 761.3 | 756.3 | 734.9 | 713.5 |
| 17.5° | 830.5 | 830.5 | 827.2 | 818.9 | 810.7 | 802.5 | 790.9 | 794.2 | 789.3 | 767.9 | 739.8 |
| 20° | 866.7 | 863.4 | 863.4 | 858.5 | 847.0 | 837.1 | 830.5 | 828.8 | 825.5 | 802.5 | 769.5 |
| 22.5° | 906.3 | 904.6 | 899.7 | 896.4 | 888.1 | 883.2 | 879.9 | 879.9 | 866.7 | 835.4 | 792.6 |
| 25° | 954.1 | 952.4 | 952.4 | 939.2 | 932.6 | 924.4 | 929.3 | 924.4 | 917.8 | 871.7 | 817.3 |
| 27.5° | 1001.8 | 1001.8 | 1000.2 | 993.6 | 975.5 | 970.5 | 973.8 | 970.5 | 968.9 | 906.3 | 840.4 |
| 30° | 1052.9 | 1051.3 | 1046.3 | 1044.7 | 1026.6 | 1013.4 | 1011.7 | 1005.1 | 1005.1 | 937.6 | 856.8 |
| 32.5° | 1095.8 | 1094.1 | 1097.4 | 1090.8 | 1079.3 | 1061.2 | 1049.6 | 1049.6 | 1038.1 | 968.9 | 876.6 |
| 35° | 1135.3 | 1138.6 | 1138.6 | 1135.3 | 1125.4 | 1107.3 | 1095.8 | 1099.1 | 1082.6 | 996.9 | 901.3 |
| 37.5° | 1179.8 | 1176.5 | 1171.6 | 1168.3 | 1155.1 | 1146.8 | 1146.8 | 1150.1 | 1125.4 | 1026.6 | 934.3 |
| 40° | 1189.7 | 1197.9 | 1209.5 | 1196.3 | 1189.7 | 1188.0 | 1191.3 | 1183.1 | 1158.4 | 1072.7 | 990.3 |
| 42.5° | 1209.5 | 1216.1 | 1237.5 | 1232.5 | 1227.6 | 1232.5 | 1232.5 | 1221.0 | 1209.5 | 1135.3 | 1066.1 |
| 45° | 1258.9 | 1270.4 | 1286.9 | 1288.6 | 1286.9 | 1295.1 | 1280.3 | 1278.7 | 1277.0 | 1225.9 | 1168.3 |
| 47.5° | 1313.3 | 1326.5 | 1364.4 | 1359.4 | 1377.5 | 1394.0 | 1367.7 | 1366.0 | 1370.9 | 1346.2 | 1298.4 |
| 50° | 1377.5 | 1390.7 | 1438.5 | 1456.6 | 1506.1 | 1535.7 | 1487.9 | 1466.5 | 1501.1 | 1499.5 | 1463.2 |
| 52.5° | 1451.7 | 1468.2 | 1501.1 | 1563.7 | 1647.8 | 1679.1 | 1628.0 | 1609.9 | 1651.1 | 1670.8 | 1637.9 |
| 55° | 1502.8 | 1516.0 | 1567.0 | 1664.3 | 1801.0 | 1842.2 | 1812.5 | 1796.1 | 1840.6 | 1857.0 | 1822.4 |
| 57.5° | 1520.9 | 1524.2 | 1600.0 | 1753.2 | 1942.7 | 2048.2 | 2043.2 | 2031.7 | 2013.6 | 2054.8 | 2044.9 |
| 60° | 1489.6 | 1507.7 | 1604.9 | 1792.8 | 2069.6 | 2269.0 | 2287.1 | 2260.7 | 2237.7 | 2247.6 | 2214.6 |
| 62.5° | 1448.4 | 1463.2 | 1565.4 | 1797.7 | 2155.3 | 2468.4 | 2535.9 | 2506.3 | 2448.6 | 2422.2 | 2344.8 |
| 65° | 1303.4 | 1303.4 | 1403.9 | 1697.2 | 2140.5 | 2631.5 | 2797.9 | 2746.8 | 2641.4 | 2547.5 | 2339.8 |
| 67.5° | 996.9 | 992.0 | 1089.2 | 1394.0 | 1931.2 | 2648.0 | 2990.7 | 2964.3 | 2794.6 | 2595.2 | 2247.6 |
| 70° | 575.1 | 560.2 | 641.0 | 899.7 | 1458.3 | 2325.0 | 3040.1 | 3025.3 | 2829.2 | 2534.3 | 1979.0 |
| 72.5° | 199.4 | 212.6 | 265.3 | 382.3 | 802.5 | 1674.1 | 2746.8 | 2778.1 | 2664.4 | 2301.9 | 1590.1 |
| 75° | 103.8 | 103.8 | 121.9 | 166.4 | 339.4 | 863.4 | 2110.8 | 2208.0 | 2232.7 | 1926.2 | 1135.3 |
| 77.5° | 75.8 | 77.4 | 87.3 | 107.1 | 161.5 | 331.2 | 1267.1 | 1359.4 | 1545.6 | 1326.5 | 655.8 |
| 80° | 51.1 | 52.7 | 62.6 | 70.9 | 98.9 | 128.5 | 505.9 | 555.3 | 766.2 | 593.2 | 253.8 |
| 82.5° | 37.9 | 39.5 | 39.5 | 41.2 | 54.4 | 59.3 | 133.5 | 164.8 | 263.6 | 176.3 | 90.6 |
| 85° | 8.2 | 8.2 | 16.5 | 16.5 | 16.5 | 16.5 | 29.7 | 33.0 | 49.4 | 52.7 | 29.7 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 | 3.3 | 3.3 | 3.3 | 4.9 | 4.9 |
| 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: P437394
 CATALOG NUMBER: ISC-SA1C-760-U-T3

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 639.3 | 639.3 | 639.3 | 639.3 | 639.3 | 639.3 | 639.3 | 639.3 | 639.3 | 639.3 | 639.3 |
| 2.5° | 642.6 | 641.0 | 639.3 | 637.7 | 636.0 | 634.4 | 632.7 | 634.4 | 634.4 | 637.7 | 639.3 |
| 5° | 647.6 | 642.6 | 641.0 | 637.7 | 636.0 | 636.0 | 636.0 | 637.7 | 639.3 | 641.0 | 642.6 |
| 7.5° | 655.8 | 654.2 | 649.2 | 642.6 | 641.0 | 641.0 | 637.7 | 637.7 | 637.7 | 641.0 | 641.0 |
| 10° | 670.6 | 665.7 | 659.1 | 652.5 | 647.6 | 637.7 | 629.4 | 622.9 | 626.2 | 631.1 | 631.1 |
| 12.5° | 687.1 | 678.9 | 670.6 | 659.1 | 645.9 | 629.4 | 621.2 | 622.9 | 622.9 | 627.8 | 629.4 |
| 15° | 708.5 | 702.0 | 683.8 | 664.1 | 641.0 | 627.8 | 624.5 | 621.2 | 621.2 | 624.5 | 627.8 |
| 17.5° | 731.6 | 720.1 | 697.0 | 667.3 | 644.3 | 629.4 | 622.9 | 609.7 | 603.1 | 601.4 | 604.7 |
| 20° | 753.0 | 739.8 | 708.5 | 670.6 | 647.6 | 627.8 | 604.7 | 583.3 | 566.8 | 563.5 | 560.2 |
| 22.5° | 771.2 | 754.7 | 716.8 | 677.2 | 647.6 | 611.3 | 571.8 | 540.5 | 517.4 | 510.8 | 514.1 |
| 25° | 790.9 | 766.2 | 726.7 | 683.8 | 636.0 | 578.4 | 524.0 | 486.1 | 463.0 | 453.1 | 453.1 |
| 27.5° | 807.4 | 782.7 | 736.6 | 678.9 | 606.4 | 533.9 | 471.3 | 433.4 | 415.2 | 405.4 | 403.7 |
| 30° | 822.2 | 795.9 | 756.3 | 664.1 | 563.5 | 472.9 | 418.5 | 392.2 | 380.6 | 369.1 | 370.7 |
| 32.5° | 842.0 | 818.9 | 771.2 | 632.7 | 505.9 | 416.9 | 375.7 | 362.5 | 351.0 | 342.7 | 346.0 |
| 35° | 870.0 | 856.8 | 776.1 | 593.2 | 446.5 | 377.3 | 349.3 | 334.5 | 324.6 | 313.1 | 313.1 |
| 37.5° | 909.6 | 898.0 | 759.6 | 533.9 | 393.8 | 347.7 | 327.9 | 308.1 | 291.7 | 278.5 | 275.2 |
| 40° | 957.4 | 940.9 | 731.6 | 468.0 | 352.6 | 327.9 | 309.8 | 285.1 | 262.0 | 243.9 | 240.6 |
| 42.5° | 1033.2 | 985.4 | 690.4 | 400.4 | 323.0 | 311.4 | 286.7 | 255.4 | 232.3 | 219.2 | 215.9 |
| 45° | 1113.9 | 1036.4 | 631.1 | 342.7 | 299.9 | 291.7 | 263.6 | 232.3 | 215.9 | 206.0 | 204.3 |
| 47.5° | 1216.1 | 1092.5 | 575.1 | 299.9 | 273.5 | 271.9 | 238.9 | 219.2 | 206.0 | 199.4 | 197.7 |
| 50° | 1351.2 | 1163.3 | 519.0 | 266.9 | 250.5 | 245.5 | 227.4 | 210.9 | 201.0 | 196.1 | 194.4 |
| 52.5° | 1507.7 | 1245.7 | 474.6 | 242.2 | 229.0 | 225.7 | 220.8 | 207.6 | 201.0 | 196.1 | 194.4 |
| 55° | 1656.0 | 1331.4 | 426.8 | 219.2 | 210.9 | 214.2 | 217.5 | 207.6 | 202.7 | 199.4 | 196.1 |
| 57.5° | 1819.1 | 1403.9 | 372.4 | 201.0 | 196.1 | 204.3 | 214.2 | 209.3 | 206.0 | 201.0 | 199.4 |
| 60° | 1919.7 | 1455.0 | 299.9 | 184.6 | 184.6 | 196.1 | 209.3 | 206.0 | 199.4 | 199.4 | 199.4 |
| 62.5° | 1964.1 | 1446.7 | 237.3 | 168.1 | 171.4 | 186.2 | 201.0 | 197.7 | 192.8 | 201.0 | 201.0 |
| 65° | 1906.5 | 1352.8 | 192.8 | 153.2 | 158.2 | 173.0 | 192.8 | 192.8 | 192.8 | 206.0 | 206.0 |
| 67.5° | 1756.5 | 1211.1 | 158.2 | 140.1 | 145.0 | 163.1 | 192.8 | 204.3 | 202.7 | 217.5 | 217.5 |
| 70° | 1483.0 | 960.7 | 136.8 | 130.2 | 136.8 | 163.1 | 204.3 | 210.9 | 199.4 | 215.9 | 212.6 |
| 72.5° | 1130.4 | 670.6 | 121.9 | 120.3 | 128.5 | 158.2 | 206.0 | 202.7 | 187.8 | 192.8 | 187.8 |
| 75° | 743.1 | 407.0 | 107.1 | 110.4 | 113.7 | 140.1 | 196.1 | 189.5 | 171.4 | 168.1 | 164.8 |
| 77.5° | 408.6 | 204.3 | 93.9 | 98.9 | 98.9 | 118.6 | 178.0 | 163.1 | 148.3 | 140.1 | 136.8 |
| 80° | 163.1 | 103.8 | 82.4 | 87.3 | 80.7 | 95.6 | 133.5 | 126.9 | 113.7 | 107.1 | 103.8 |
| 82.5° | 74.1 | 57.7 | 69.2 | 72.5 | 61.0 | 70.9 | 98.9 | 95.6 | 85.7 | 74.1 | 70.9 |
| 85° | 28.0 | 33.0 | 52.7 | 49.4 | 42.8 | 41.2 | 56.0 | 51.1 | 41.2 | 33.0 | 33.0 |
| 87.5° | 3.3 | 6.6 | 13.2 | 18.1 | 9.9 | 6.6 | 3.3 | 1.6 | 1.6 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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



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 |

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

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

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

Photopic Flux vs. Wavelength



#####

| λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | 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 | | | |

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

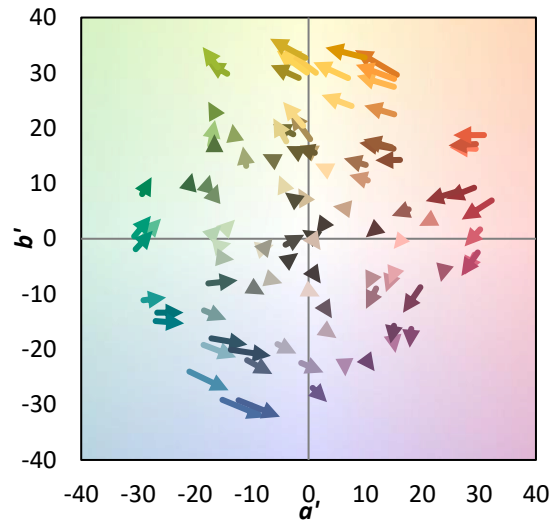
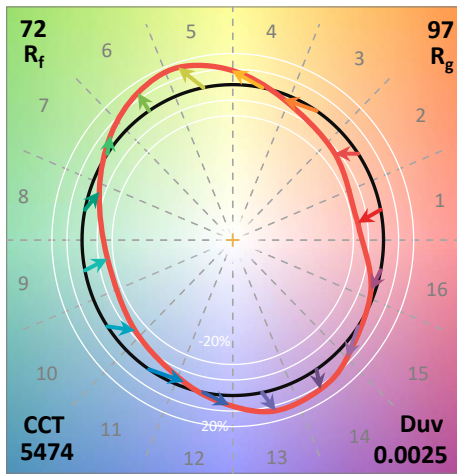
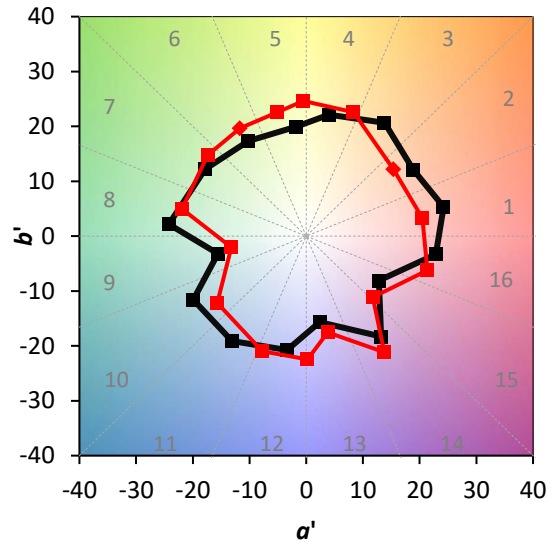
TM-30-18

Summary

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



Color Vector Graphics



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

TM-30-18

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 | |



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

TM-30-18

Color Rendition by Hue-Angle Bin



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

TM-30-18

Measure Comparisons



(END OF REPORT)