

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: P385647

Luminaire Tested: **GPC-SA1B-722-U-T4FT**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P385647
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-16)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GPC-SA1B-722-U-T4FT
Description: GALLEON PEDESTRIAN LUMINAIRE
(1) 70 CRI, 2200K, 800mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV FORWARD
THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4514 lumens
Efficiency: N/A
Efficacy: 102.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

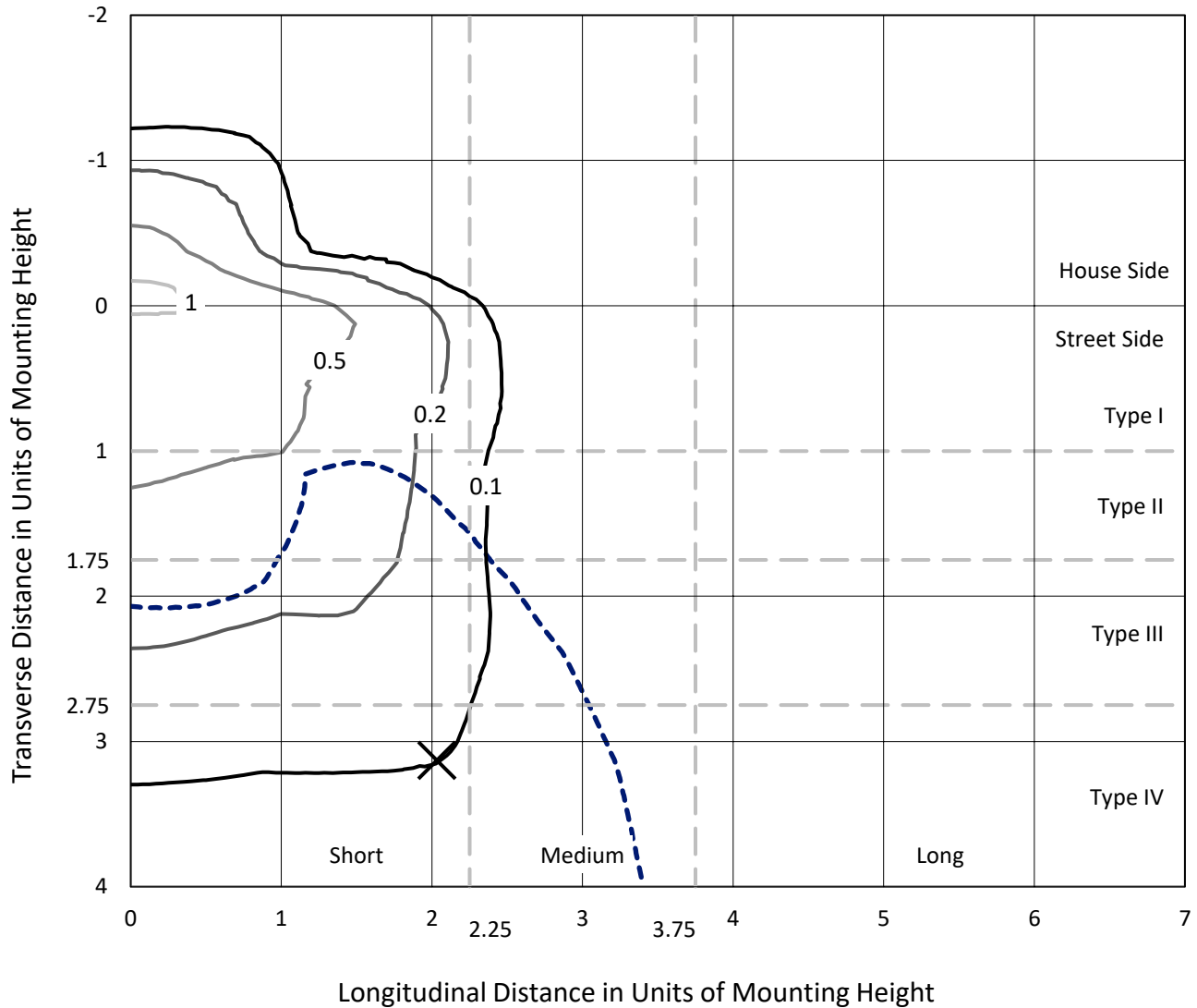
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P385647
 CATALOG NUMBER: GPC-SA1B-722-U-T4FT

Iso-Footcandle Lines of Horizontal Illumination

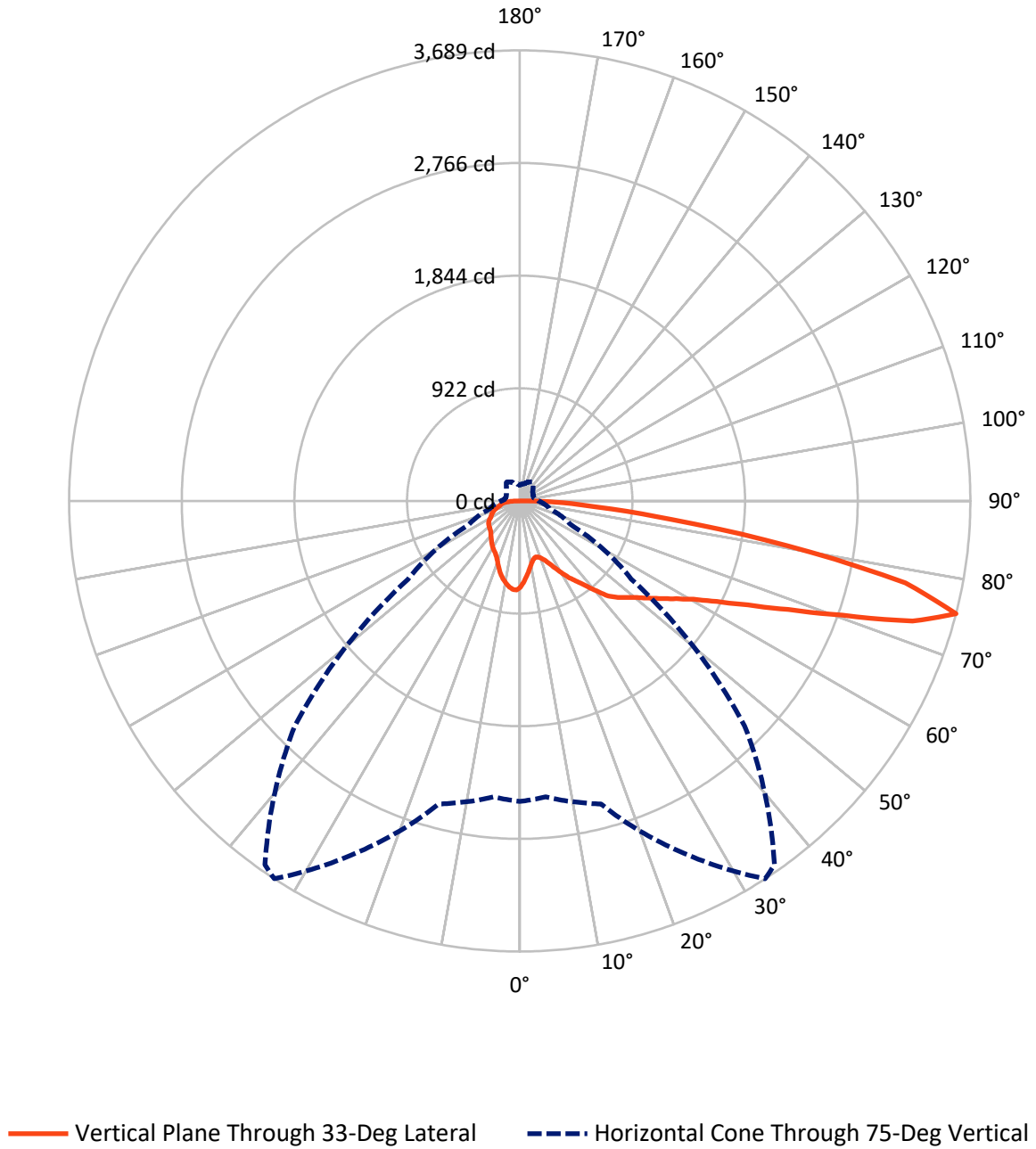
× Max cd
 - - - 1/2 Max cd



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

REPORT NUMBER: P385647
CATALOG NUMBER: GPC-SA1B-722-U-T4FT

Luminous Intensity Polar Plot



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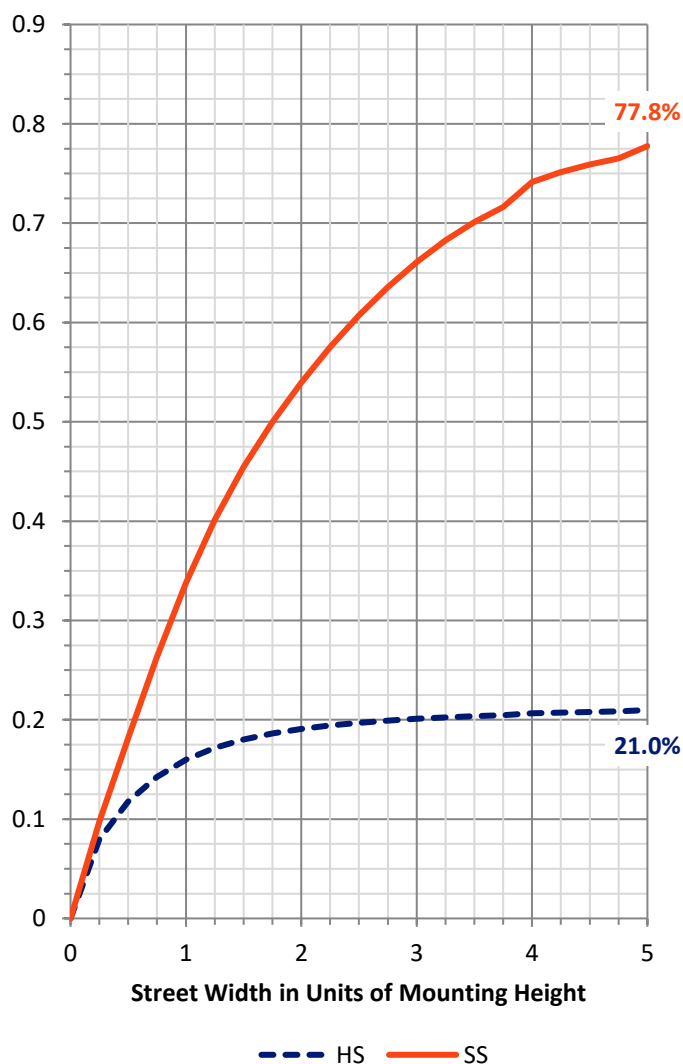
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 969.3 | 0.0 | 969.3 |
| | % Fixture | 21.5 | 0.0 | 21.5 |
| Street Side | Lumens | 3544.7 | 0.0 | 3544.7 |
| | % Fixture | 78.5 | 0.0 | 78.5 |
| Total | Lumens | 4514.0 | 0.0 | 4514.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 63.8 | 1.4 |
| 10°-20° | 172.8 | 3.8 |
| 20°-30° | 282.2 | 6.3 |
| 30°-40° | 420.3 | 9.3 |
| 40°-50° | 602.9 | 13.4 |
| 50°-60° | 827.6 | 18.3 |
| 60°-70° | 1036.2 | 23.0 |
| 70°-80° | 937.4 | 20.8 |
| 80°-90° | 170.7 | 3.8 |
| 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° | 4514.0 | 100.0 |
| 0°-180° | 4514.0 | 100.0 |

Coefficient of Utilization



REPORT NUMBER: P385647

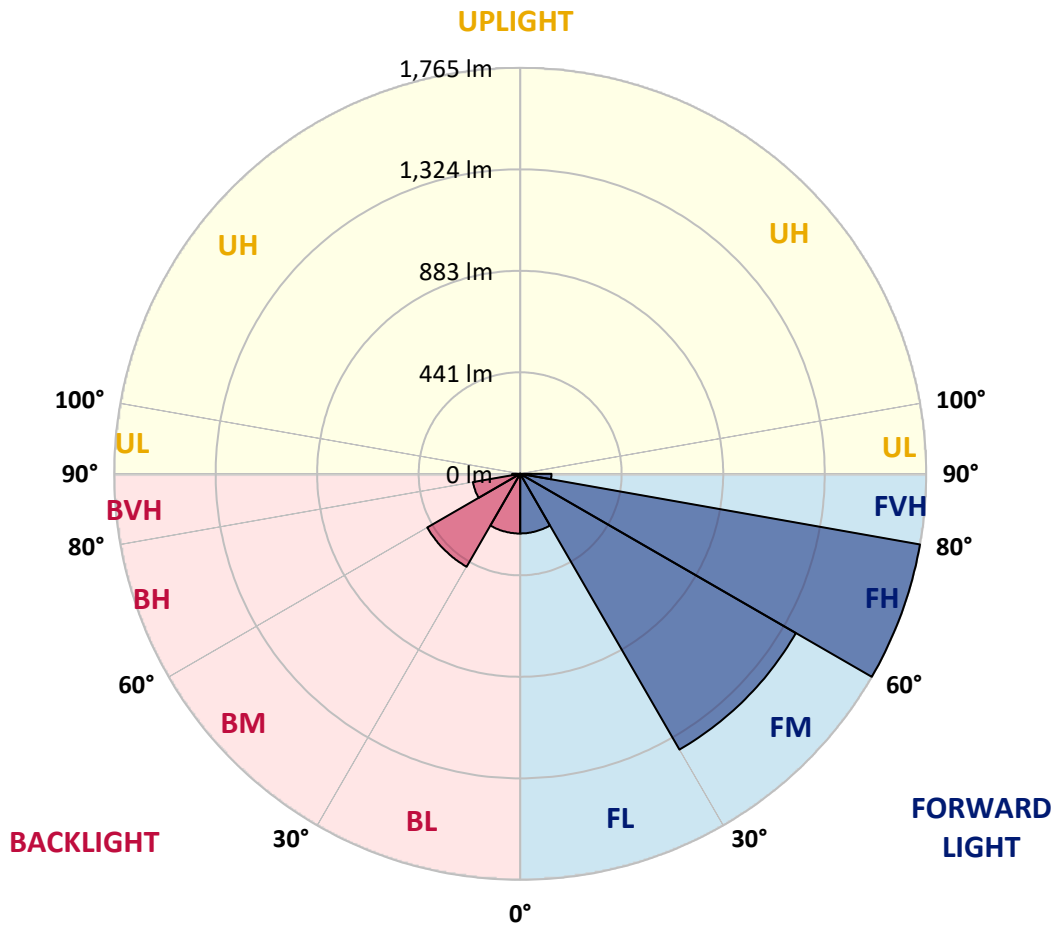
CATALOG NUMBER: GPC-SA1B-722-U-T4FT

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 259.3 | 5.7 | | | |
| FM (30°-60°) | 1384.3 | 30.7 | | | |
| FH (60°-80°) | 1765.1 | 39.1 | | | G1/1800 |
| FVH (80°-90°) | 136.0 | 3.0 | | | G2/225 |
| BL (0°-30°) | 259.6 | 5.8 | B1/500 | | |
| BM (30°-60°) | 466.5 | 10.3 | B1/1000 | | |
| BH (60°-80°) | 208.4 | 4.6 | B1/500 | | G1/500 |
| BVH (80°-90°) | 34.8 | 0.8 | | | 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 IV Short





REPORT NUMBER: P385647

CATALOG NUMBER: GPC-SA1B-722-U-T4FT

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 33° | 35° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 705.6 | 705.6 | 705.6 | 705.6 | 705.6 | 705.6 | 705.6 | 705.6 | 705.6 | 705.6 | 705.6 |
| 2.5° | 655.2 | 652.7 | 657.4 | 658.0 | 662.1 | 663.6 | 669.2 | 678.0 | 685.1 | 693.4 | 700.9 |
| 5° | 595.8 | 594.1 | 600.6 | 605.3 | 614.2 | 617.9 | 631.2 | 649.7 | 666.3 | 685.0 | 702.0 |
| 7.5° | 539.3 | 538.4 | 545.7 | 556.3 | 566.6 | 571.8 | 594.7 | 621.7 | 649.3 | 679.5 | 705.6 |
| 10° | 491.8 | 491.5 | 498.5 | 508.9 | 524.1 | 529.8 | 559.5 | 595.0 | 633.7 | 675.3 | 711.6 |
| 12.5° | 465.1 | 466.2 | 469.5 | 478.2 | 492.3 | 498.0 | 530.9 | 572.7 | 620.6 | 673.9 | 720.5 |
| 15° | 471.7 | 473.4 | 467.8 | 467.5 | 477.4 | 482.0 | 512.8 | 556.8 | 611.2 | 676.2 | 733.5 |
| 17.5° | 499.6 | 499.9 | 485.1 | 475.7 | 481.8 | 484.1 | 507.2 | 547.8 | 605.8 | 681.6 | 749.7 |
| 20° | 538.9 | 538.1 | 511.9 | 496.3 | 499.6 | 500.2 | 515.2 | 547.9 | 605.3 | 690.8 | 770.7 |
| 22.5° | 591.0 | 585.2 | 549.9 | 528.7 | 528.0 | 527.0 | 535.6 | 559.5 | 612.2 | 705.7 | 795.8 |
| 25° | 658.9 | 653.5 | 605.0 | 576.0 | 569.8 | 567.4 | 568.7 | 584.1 | 625.7 | 721.8 | 823.9 |
| 27.5° | 734.6 | 725.1 | 678.3 | 637.3 | 624.3 | 621.1 | 613.6 | 618.9 | 640.5 | 737.2 | 857.3 |
| 30° | 797.9 | 792.7 | 751.9 | 703.2 | 687.9 | 683.3 | 663.6 | 657.9 | 661.9 | 758.3 | 899.4 |
| 32.5° | 833.3 | 829.8 | 805.0 | 765.8 | 751.6 | 745.0 | 717.3 | 705.7 | 696.2 | 791.5 | 956.4 |
| 35° | 876.1 | 874.0 | 859.0 | 830.5 | 809.4 | 802.5 | 781.0 | 769.0 | 744.5 | 837.2 | 1030.2 |
| 37.5° | 930.7 | 928.4 | 928.7 | 905.6 | 880.5 | 874.1 | 859.9 | 847.3 | 807.2 | 897.2 | 1110.3 |
| 40° | 992.5 | 987.9 | 986.2 | 985.1 | 969.2 | 965.6 | 958.2 | 941.0 | 885.8 | 968.9 | 1189.4 |
| 42.5° | 1085.4 | 1069.3 | 1035.0 | 1048.0 | 1063.7 | 1061.9 | 1067.9 | 1043.3 | 973.1 | 1053.7 | 1266.6 |
| 45° | 1175.1 | 1148.7 | 1089.5 | 1092.3 | 1126.7 | 1137.2 | 1182.7 | 1165.2 | 1067.8 | 1146.7 | 1346.4 |
| 47.5° | 1215.9 | 1195.9 | 1145.6 | 1145.7 | 1179.9 | 1201.6 | 1301.4 | 1288.9 | 1167.3 | 1252.2 | 1443.9 |
| 50° | 1261.6 | 1241.6 | 1196.4 | 1213.4 | 1243.2 | 1266.3 | 1416.0 | 1409.6 | 1261.9 | 1367.8 | 1560.7 |
| 52.5° | 1311.5 | 1277.7 | 1249.0 | 1279.4 | 1321.2 | 1348.0 | 1530.7 | 1513.3 | 1348.8 | 1484.1 | 1694.9 |
| 55° | 1312.1 | 1302.9 | 1324.7 | 1347.0 | 1409.6 | 1442.5 | 1650.9 | 1604.8 | 1419.5 | 1598.4 | 1804.2 |
| 57.5° | 1386.8 | 1371.8 | 1418.1 | 1428.4 | 1510.1 | 1547.3 | 1770.5 | 1684.5 | 1491.6 | 1686.0 | 1863.2 |
| 60° | 1485.7 | 1472.9 | 1510.8 | 1537.9 | 1634.6 | 1684.2 | 1898.2 | 1766.3 | 1548.2 | 1752.1 | 1860.3 |
| 62.5° | 1656.4 | 1641.9 | 1641.4 | 1679.5 | 1809.7 | 1867.4 | 2041.5 | 1846.6 | 1570.6 | 1765.2 | 1781.0 |
| 65° | 1906.3 | 1883.3 | 1839.8 | 1857.9 | 2051.5 | 2109.1 | 2201.7 | 1904.8 | 1541.0 | 1695.1 | 1576.6 |
| 67.5° | 2149.6 | 2148.8 | 2095.3 | 2132.4 | 2370.8 | 2417.0 | 2384.1 | 1910.6 | 1448.5 | 1450.7 | 1213.9 |
| 70° | 2392.1 | 2395.2 | 2386.1 | 2515.2 | 2802.3 | 2850.3 | 2578.4 | 1833.1 | 1240.7 | 1047.7 | 727.2 |
| 72.5° | 2584.2 | 2583.4 | 2628.9 | 2961.8 | 3362.2 | 3351.5 | 2742.1 | 1598.2 | 890.8 | 565.5 | 347.6 |
| 75° | 2459.7 | 2432.6 | 2568.3 | 3182.9 | 3688.6 | 3636.0 | 2602.9 | 1114.9 | 462.3 | 257.4 | 187.1 |
| 77.5° | 1604.3 | 1630.0 | 1829.2 | 2629.4 | 3226.4 | 3162.5 | 1909.6 | 520.2 | 217.8 | 168.9 | 135.7 |
| 80° | 581.0 | 608.1 | 856.5 | 1489.4 | 2222.9 | 2212.4 | 940.4 | 213.8 | 147.3 | 127.5 | 98.9 |
| 82.5° | 199.9 | 209.9 | 337.9 | 661.4 | 1255.0 | 1301.8 | 353.8 | 121.5 | 107.1 | 90.4 | 67.7 |
| 85° | 78.4 | 89.8 | 154.5 | 318.2 | 633.1 | 637.7 | 143.3 | 72.7 | 74.5 | 59.3 | 37.1 |
| 87.5° | 29.8 | 36.2 | 73.9 | 147.8 | 289.1 | 265.5 | 51.3 | 34.6 | 42.4 | 35.2 | 17.6 |
| 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: P385647
 CATALOG NUMBER: GPC-SA1B-722-U-T4FT

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 705.6 | 705.6 | 705.6 | 705.6 | 705.6 | 705.6 | 705.6 | 705.6 | 705.6 | 705.6 | 705.6 |
| 2.5° | 706.7 | 709.9 | 716.8 | 721.5 | 726.5 | 727.9 | 728.5 | 729.7 | 731.0 | 730.5 | 730.7 |
| 5° | 711.0 | 717.4 | 728.5 | 733.2 | 735.3 | 732.9 | 728.0 | 724.1 | 721.3 | 719.8 | 719.3 |
| 7.5° | 718.2 | 727.2 | 739.1 | 738.3 | 733.3 | 722.2 | 709.8 | 700.4 | 692.6 | 689.8 | 688.3 |
| 10° | 727.7 | 738.3 | 746.6 | 737.7 | 723.2 | 704.0 | 685.3 | 670.8 | 659.1 | 654.6 | 653.8 |
| 12.5° | 739.9 | 750.6 | 752.2 | 733.3 | 709.3 | 683.1 | 657.7 | 638.5 | 621.1 | 615.4 | 614.2 |
| 15° | 755.6 | 765.8 | 756.1 | 725.7 | 692.2 | 656.9 | 624.0 | 598.0 | 579.6 | 572.7 | 570.2 |
| 17.5° | 772.1 | 781.8 | 756.9 | 713.0 | 669.7 | 625.9 | 584.6 | 557.9 | 536.9 | 528.9 | 528.0 |
| 20° | 791.9 | 796.3 | 753.6 | 695.0 | 638.8 | 585.7 | 542.2 | 517.0 | 505.8 | 500.2 | 499.6 |
| 22.5° | 816.4 | 811.7 | 746.1 | 670.5 | 599.7 | 539.2 | 503.8 | 492.1 | 489.3 | 488.0 | 488.5 |
| 25° | 842.3 | 828.0 | 735.0 | 638.5 | 550.3 | 492.7 | 475.7 | 479.0 | 482.7 | 482.3 | 482.3 |
| 27.5° | 870.8 | 844.5 | 718.0 | 596.1 | 495.5 | 454.7 | 456.7 | 468.7 | 474.3 | 474.2 | 474.0 |
| 30° | 907.5 | 863.2 | 696.4 | 545.1 | 444.4 | 427.9 | 440.2 | 454.8 | 462.5 | 462.2 | 462.3 |
| 32.5° | 952.5 | 883.8 | 666.9 | 488.2 | 407.4 | 408.1 | 422.2 | 436.7 | 445.6 | 444.9 | 445.0 |
| 35° | 1005.3 | 906.9 | 627.0 | 432.1 | 383.0 | 392.3 | 403.5 | 413.7 | 422.1 | 421.0 | 419.9 |
| 37.5° | 1062.6 | 929.5 | 574.0 | 381.9 | 363.0 | 377.7 | 387.0 | 388.7 | 392.6 | 389.8 | 387.8 |
| 40° | 1117.2 | 946.8 | 505.7 | 340.7 | 342.9 | 365.2 | 371.3 | 364.4 | 357.4 | 356.4 | 353.6 |
| 42.5° | 1164.8 | 952.5 | 436.6 | 307.8 | 321.7 | 352.1 | 355.8 | 341.5 | 328.8 | 322.9 | 320.4 |
| 45° | 1215.0 | 954.6 | 372.2 | 280.2 | 301.2 | 340.4 | 344.4 | 325.3 | 307.5 | 294.7 | 290.5 |
| 47.5° | 1280.6 | 969.2 | 322.1 | 259.8 | 285.7 | 332.6 | 338.4 | 312.3 | 289.2 | 271.0 | 267.1 |
| 50° | 1366.5 | 998.2 | 281.4 | 244.2 | 275.5 | 327.4 | 334.0 | 299.7 | 274.3 | 252.3 | 248.4 |
| 52.5° | 1462.0 | 1024.9 | 248.5 | 231.5 | 265.7 | 318.4 | 328.4 | 290.6 | 260.2 | 235.0 | 230.8 |
| 55° | 1528.7 | 1004.5 | 222.0 | 218.5 | 252.9 | 305.5 | 320.6 | 283.0 | 240.1 | 218.1 | 214.4 |
| 57.5° | 1541.5 | 934.6 | 201.9 | 204.9 | 237.5 | 289.2 | 308.6 | 266.0 | 229.2 | 210.8 | 206.9 |
| 60° | 1506.6 | 837.3 | 187.0 | 192.4 | 220.9 | 268.8 | 286.1 | 254.0 | 218.8 | 203.0 | 199.7 |
| 62.5° | 1418.8 | 737.7 | 175.9 | 181.2 | 205.5 | 248.1 | 272.1 | 241.4 | 208.2 | 194.1 | 190.9 |
| 65° | 1241.5 | 619.3 | 165.3 | 171.2 | 191.2 | 230.1 | 259.5 | 229.7 | 197.7 | 187.0 | 183.8 |
| 67.5° | 937.1 | 463.9 | 155.3 | 160.6 | 178.4 | 214.6 | 245.7 | 218.1 | 187.6 | 180.7 | 177.0 |
| 70° | 551.8 | 290.5 | 143.9 | 149.5 | 165.0 | 198.3 | 231.1 | 205.5 | 174.9 | 171.8 | 167.0 |
| 72.5° | 256.8 | 174.8 | 131.0 | 136.4 | 148.1 | 176.7 | 212.2 | 189.0 | 160.0 | 153.1 | 146.6 |
| 75° | 153.3 | 127.9 | 115.7 | 120.5 | 128.8 | 153.6 | 188.5 | 172.1 | 145.8 | 136.7 | 129.9 |
| 77.5° | 114.6 | 97.8 | 98.9 | 104.0 | 110.7 | 134.4 | 167.0 | 158.9 | 134.9 | 127.9 | 123.2 |
| 80° | 82.5 | 74.2 | 80.6 | 86.2 | 93.2 | 122.2 | 160.0 | 146.9 | 121.9 | 112.6 | 108.2 |
| 82.5° | 55.0 | 53.3 | 60.7 | 66.4 | 73.3 | 107.0 | 150.3 | 128.6 | 104.2 | 92.3 | 82.6 |
| 85° | 30.4 | 32.1 | 40.9 | 43.3 | 49.3 | 75.3 | 123.2 | 103.4 | 78.4 | 63.1 | 60.3 |
| 87.5° | 12.6 | 14.8 | 22.0 | 21.2 | 26.2 | 44.9 | 81.1 | 62.4 | 49.9 | 37.3 | 29.0 |
| 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: SP1-1908-441-10-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-722-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): 2237
 CIE u': 0.2876
 CIE v': 0.5346
 Duv: -0.0006
 CIE x: 0.5005
 CIE y: 0.4134
 CIE z: 0.0860
 Peak Wavelength (nm): 603
 Dominant Wavelength (nm): 587
 Purity: 74.5
 Rf: 69.8
 Rg: 99.2

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 72.0 | | |
| R1: | 68.9 | R9: | -17.4 |
| R2: | 83.0 | R10: | 61.3 |
| R3: | 95.2 | R11: | 59.8 |
| R4: | 66.2 | R12: | 50.5 |
| R5: | 65.9 | R13: | 71.1 |
| R6: | 76.3 | R14: | 96.9 |
| R7: | 76.7 | | |
| R8: | 43.8 | | |



Test Conditions

Stabilization Time: 71M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 24.7/41%
 Sphere Temperature (°C): 25.6

REPORT NUMBER: SP1-1908-441-10-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: SP1-1908-441-10-R4

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: SP1-1908-441-10-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 | 1768 | NR | 490 | 5206 | NR | 620 | 130919 | NR | 750 | 8553 | NR | 880 | 2713 | NR |
| 365 | 1569 | NR | 495 | 7286 | NR | 625 | 125335 | NR | 755 | 7696 | NR | 885 | 2316 | NR |
| 370 | 1594 | NR | 500 | 10654 | NR | 630 | 118388 | NR | 760 | 6978 | NR | 890 | 2539 | NR |
| 375 | 1744 | NR | 505 | 15189 | NR | 635 | 111855 | NR | 765 | 6377 | NR | 895 | 1933 | NR |
| 380 | 1659 | NR | 510 | 20541 | NR | 640 | 104062 | NR | 770 | 5600 | NR | 900 | 2216 | NR |
| 385 | 1504 | NR | 515 | 26492 | NR | 645 | 96365 | NR | 775 | 5000 | NR | 905 | 2067 | NR |
| 390 | 1541 | NR | 520 | 32294 | NR | 650 | 88651 | NR | 780 | 4709 | NR | 910 | 1959 | NR |
| 395 | 1355 | NR | 525 | 38123 | NR | 655 | 81152 | NR | 785 | 4305 | NR | 915 | 1874 | NR |
| 400 | 1243 | NR | 530 | 43232 | NR | 660 | 73523 | NR | 790 | 4040 | NR | 920 | 1484 | NR |
| 405 | 1417 | NR | 535 | 48012 | NR | 665 | 66123 | NR | 795 | 3642 | NR | 925 | 1914 | NR |
| 410 | 2147 | NR | 540 | 52623 | NR | 670 | 58677 | NR | 800 | 3594 | NR | 930 | 1948 | NR |
| 415 | 3837 | NR | 545 | 57516 | NR | 675 | 52349 | NR | 805 | 3190 | NR | 935 | 2079 | NR |
| 420 | 7159 | NR | 550 | 62613 | NR | 680 | 46159 | NR | 810 | 3241 | NR | 940 | 2263 | NR |
| 425 | 12599 | NR | 555 | 68554 | NR | 685 | 40525 | NR | 815 | 2732 | NR | 945 | 1688 | NR |
| 430 | 19019 | NR | 560 | 75325 | NR | 690 | 35615 | NR | 820 | 2612 | NR | 950 | 1560 | NR |
| 435 | 24875 | NR | 565 | 82533 | NR | 695 | 31158 | NR | 825 | 2966 | NR | 955 | 2826 | NR |
| 440 | 29103 | NR | 570 | 90909 | NR | 700 | 27409 | NR | 830 | 2574 | NR | 960 | 1477 | NR |
| 445 | 29901 | NR | 575 | 99621 | NR | 705 | 24204 | NR | 835 | 2633 | NR | 965 | 1568 | NR |
| 450 | 24862 | NR | 580 | 108484 | NR | 710 | 21558 | NR | 840 | 2526 | NR | 970 | 2030 | NR |
| 455 | 15942 | NR | 585 | 116679 | NR | 715 | 19222 | NR | 845 | 2631 | NR | 975 | 1986 | NR |
| 460 | 9916 | NR | 590 | 123752 | NR | 720 | 17310 | NR | 850 | 2079 | NR | 980 | 2540 | NR |
| 465 | 7051 | NR | 595 | 129324 | NR | 725 | 15280 | NR | 855 | 2309 | NR | 985 | 1139 | NR |
| 470 | 5227 | NR | 600 | 134082 | NR | 730 | 13282 | NR | 860 | 2528 | NR | 990 | 2018 | NR |
| 475 | 4257 | NR | 605 | 135698 | NR | 735 | 11753 | NR | 865 | 2121 | NR | 995 | 3445 | NR |
| 480 | 4052 | NR | 610 | 135144 | NR | 740 | 10654 | NR | 870 | 2751 | NR | 1000 | 3704 | NR |
| 485 | 4298 | NR | 615 | 134180 | NR | 745 | 9451 | NR | 875 | 2317 | NR | | | |

REPORT NUMBER: SP1-1908-441-10-R4

Scotopic Flux vs. Wavelength



Scotopic Lumens: 4696.9

S/P: 0.85

| 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 | 1768 | NR | 490 | 5206 | NR | 620 | 130919 | NR | 750 | 8553 | NR | 880 | 2713 | NR |
| 365 | 1569 | NR | 495 | 7286 | NR | 625 | 125335 | NR | 755 | 7696 | NR | 885 | 2316 | NR |
| 370 | 1594 | NR | 500 | 10654 | NR | 630 | 118388 | NR | 760 | 6978 | NR | 890 | 2539 | NR |
| 375 | 1744 | NR | 505 | 15189 | NR | 635 | 111855 | NR | 765 | 6377 | NR | 895 | 1933 | NR |
| 380 | 1659 | NR | 510 | 20541 | NR | 640 | 104062 | NR | 770 | 5600 | NR | 900 | 2216 | NR |
| 385 | 1504 | NR | 515 | 26492 | NR | 645 | 96365 | NR | 775 | 5000 | NR | 905 | 2067 | NR |
| 390 | 1541 | NR | 520 | 32294 | NR | 650 | 88651 | NR | 780 | 4709 | NR | 910 | 1959 | NR |
| 395 | 1355 | NR | 525 | 38123 | NR | 655 | 81152 | NR | 785 | 4305 | NR | 915 | 1874 | NR |
| 400 | 1243 | NR | 530 | 43232 | NR | 660 | 73523 | NR | 790 | 4040 | NR | 920 | 1484 | NR |
| 405 | 1417 | NR | 535 | 48012 | NR | 665 | 66123 | NR | 795 | 3642 | NR | 925 | 1914 | NR |
| 410 | 2147 | NR | 540 | 52623 | NR | 670 | 58677 | NR | 800 | 3594 | NR | 930 | 1948 | NR |
| 415 | 3837 | NR | 545 | 57516 | NR | 675 | 52349 | NR | 805 | 3190 | NR | 935 | 2079 | NR |
| 420 | 7159 | NR | 550 | 62613 | NR | 680 | 46159 | NR | 810 | 3241 | NR | 940 | 2263 | NR |
| 425 | 12599 | NR | 555 | 68554 | NR | 685 | 40525 | NR | 815 | 2732 | NR | 945 | 1688 | NR |
| 430 | 19019 | NR | 560 | 75325 | NR | 690 | 35615 | NR | 820 | 2612 | NR | 950 | 1560 | NR |
| 435 | 24875 | NR | 565 | 82533 | NR | 695 | 31158 | NR | 825 | 2966 | NR | 955 | 2826 | NR |
| 440 | 29103 | NR | 570 | 90909 | NR | 700 | 27409 | NR | 830 | 2574 | NR | 960 | 1477 | NR |
| 445 | 29901 | NR | 575 | 99621 | NR | 705 | 24204 | NR | 835 | 2633 | NR | 965 | 1568 | NR |
| 450 | 24862 | NR | 580 | 108484 | NR | 710 | 21558 | NR | 840 | 2526 | NR | 970 | 2030 | NR |
| 455 | 15942 | NR | 585 | 116679 | NR | 715 | 19222 | NR | 845 | 2631 | NR | 975 | 1986 | NR |
| 460 | 9916 | NR | 590 | 123752 | NR | 720 | 17310 | NR | 850 | 2079 | NR | 980 | 2540 | NR |
| 465 | 7051 | NR | 595 | 129324 | NR | 725 | 15280 | NR | 855 | 2309 | NR | 985 | 1139 | NR |
| 470 | 5227 | NR | 600 | 134082 | NR | 730 | 13282 | NR | 860 | 2528 | NR | 990 | 2018 | NR |
| 475 | 4257 | NR | 605 | 135698 | NR | 735 | 11753 | NR | 865 | 2121 | NR | 995 | 3445 | NR |
| 480 | 4052 | NR | 610 | 135144 | NR | 740 | 10654 | NR | 870 | 2751 | NR | 1000 | 3704 | NR |
| 485 | 4298 | NR | 615 | 134180 | NR | 745 | 9451 | NR | 875 | 2317 | NR | | | |

REPORT NUMBER: SP1-1908-441-10-R4

Melanopic Flux vs. Wavelength



Melanopic Lumens: 1470.8 M/P: 0.27

| 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 | 1768 | NR | 490 | 5206 | NR | 620 | 130919 | NR | 750 | 8553 | NR | 880 | 2713 | NR |
| 365 | 1569 | NR | 495 | 7286 | NR | 625 | 125335 | NR | 755 | 7696 | NR | 885 | 2316 | NR |
| 370 | 1594 | NR | 500 | 10654 | NR | 630 | 118388 | NR | 760 | 6978 | NR | 890 | 2539 | NR |
| 375 | 1744 | NR | 505 | 15189 | NR | 635 | 111855 | NR | 765 | 6377 | NR | 895 | 1933 | NR |
| 380 | 1659 | NR | 510 | 20541 | NR | 640 | 104062 | NR | 770 | 5600 | NR | 900 | 2216 | NR |
| 385 | 1504 | NR | 515 | 26492 | NR | 645 | 96365 | NR | 775 | 5000 | NR | 905 | 2067 | NR |
| 390 | 1541 | NR | 520 | 32294 | NR | 650 | 88651 | NR | 780 | 4709 | NR | 910 | 1959 | NR |
| 395 | 1355 | NR | 525 | 38123 | NR | 655 | 81152 | NR | 785 | 4305 | NR | 915 | 1874 | NR |
| 400 | 1243 | NR | 530 | 43232 | NR | 660 | 73523 | NR | 790 | 4040 | NR | 920 | 1484 | NR |
| 405 | 1417 | NR | 535 | 48012 | NR | 665 | 66123 | NR | 795 | 3642 | NR | 925 | 1914 | NR |
| 410 | 2147 | NR | 540 | 52623 | NR | 670 | 58677 | NR | 800 | 3594 | NR | 930 | 1948 | NR |
| 415 | 3837 | NR | 545 | 57516 | NR | 675 | 52349 | NR | 805 | 3190 | NR | 935 | 2079 | NR |
| 420 | 7159 | NR | 550 | 62613 | NR | 680 | 46159 | NR | 810 | 3241 | NR | 940 | 2263 | NR |
| 425 | 12599 | NR | 555 | 68554 | NR | 685 | 40525 | NR | 815 | 2732 | NR | 945 | 1688 | NR |
| 430 | 19019 | NR | 560 | 75325 | NR | 690 | 35615 | NR | 820 | 2612 | NR | 950 | 1560 | NR |
| 435 | 24875 | NR | 565 | 82533 | NR | 695 | 31158 | NR | 825 | 2966 | NR | 955 | 2826 | NR |
| 440 | 29103 | NR | 570 | 90909 | NR | 700 | 27409 | NR | 830 | 2574 | NR | 960 | 1477 | NR |
| 445 | 29901 | NR | 575 | 99621 | NR | 705 | 24204 | NR | 835 | 2633 | NR | 965 | 1568 | NR |
| 450 | 24862 | NR | 580 | 108484 | NR | 710 | 21558 | NR | 840 | 2526 | NR | 970 | 2030 | NR |
| 455 | 15942 | NR | 585 | 116679 | NR | 715 | 19222 | NR | 845 | 2631 | NR | 975 | 1986 | NR |
| 460 | 9916 | NR | 590 | 123752 | NR | 720 | 17310 | NR | 850 | 2079 | NR | 980 | 2540 | NR |
| 465 | 7051 | NR | 595 | 129324 | NR | 725 | 15280 | NR | 855 | 2309 | NR | 985 | 1139 | NR |
| 470 | 5227 | NR | 600 | 134082 | NR | 730 | 13282 | NR | 860 | 2528 | NR | 990 | 2018 | NR |
| 475 | 4257 | NR | 605 | 135698 | NR | 735 | 11753 | NR | 865 | 2121 | NR | 995 | 3445 | NR |
| 480 | 4052 | NR | 610 | 135144 | NR | 740 | 10654 | NR | 870 | 2751 | NR | 1000 | 3704 | NR |
| 485 | 4298 | NR | 615 | 134180 | NR | 745 | 9451 | NR | 875 | 2317 | NR | | | |

REPORT NUMBER: SP1-1908-441-10-R4

TM-30-18

Summary

$R_f = 69.8$
 $R_g = 99.2$
 $CIE R_a = 72.0$
 $R_g = -17.4$



Color Vector Graphics



REPORT NUMBER: SP1-1908-441-10-R4

TM-30-18

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

| | | | |
|------------|------------|------------|------------|
| CES01 = 87 | CES26 = 56 | CES51 = 74 | CES76 = 56 |
| CES02 = 65 | CES27 = 76 | CES52 = 76 | CES77 = 81 |
| CES03 = 32 | CES28 = 83 | CES53 = 65 | CES78 = 63 |
| CES04 = 72 | CES29 = 46 | CES54 = 78 | CES79 = 84 |
| CES05 = 52 | CES30 = 48 | CES55 = 75 | CES80 = 84 |
| CES06 = 52 | CES31 = 51 | CES56 = 65 | CES81 = 63 |
| CES07 = 44 | CES32 = 51 | CES57 = 62 | CES82 = 92 |
| CES08 = 42 | CES33 = 53 | CES58 = 66 | CES83 = 83 |
| CES09 = 29 | CES34 = 70 | CES59 = 84 | CES84 = 92 |
| CES10 = 78 | CES35 = 85 | CES60 = 90 | CES85 = 81 |
| CES11 = 61 | CES36 = 78 | CES61 = 84 | CES86 = 56 |
| CES12 = 68 | CES37 = 80 | CES62 = 70 | CES87 = 78 |
| CES13 = 45 | CES38 = 53 | CES63 = 68 | CES88 = 72 |
| CES14 = 75 | CES39 = 90 | CES64 = 69 | CES89 = 62 |
| CES15 = 72 | CES40 = 84 | CES65 = 67 | CES90 = 67 |
| CES16 = 49 | CES41 = 75 | CES66 = 64 | CES91 = 90 |
| CES17 = 51 | CES42 = 79 | CES67 = 63 | CES92 = 67 |
| CES18 = 57 | CES43 = 64 | CES68 = 69 | CES93 = 79 |
| CES19 = 74 | CES44 = 98 | CES69 = 80 | CES94 = 52 |
| CES20 = 68 | CES45 = 73 | CES70 = 63 | CES95 = 76 |
| CES21 = 89 | CES46 = 67 | CES71 = 63 | CES96 = 78 |
| CES22 = 81 | CES47 = 60 | CES72 = 87 | CES97 = 77 |
| CES23 = 92 | CES48 = 48 | CES73 = 56 | CES98 = 71 |
| CES24 = 92 | CES49 = 64 | CES74 = 87 | CES99 = 65 |
| CES25 = 74 | CES50 = 74 | CES75 = 66 | |



REPORT NUMBER: SP1-1908-441-10-R4

TM-30-18

Color Rendition by Hue-Angle Bin



REPORT NUMBER: SP1-1908-441-10-R4

TM-30-18

Measure Comparisons



(END OF REPORT)