

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: P437363

Luminaire Tested: **ISC-SA1C-750-U-SL2**

Issue Date: 12/9/2020

Test Information

Test Method: LM-79-08
Report Number: P437363
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-14)
Test Lab: INNOVATION CENTER
Issue Date: 12/9/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: ISC-SA1C-750-U-SL2
Description: IMPACT ELITE LED CYLINDER LUMINAIRE
(1) 70 CRI, 5000K, 615mA LIGHTSQUARE WITH 16 LEDS AND TYPE II SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4554 lumens
Efficiency: N/A
Efficacy: 133.2 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

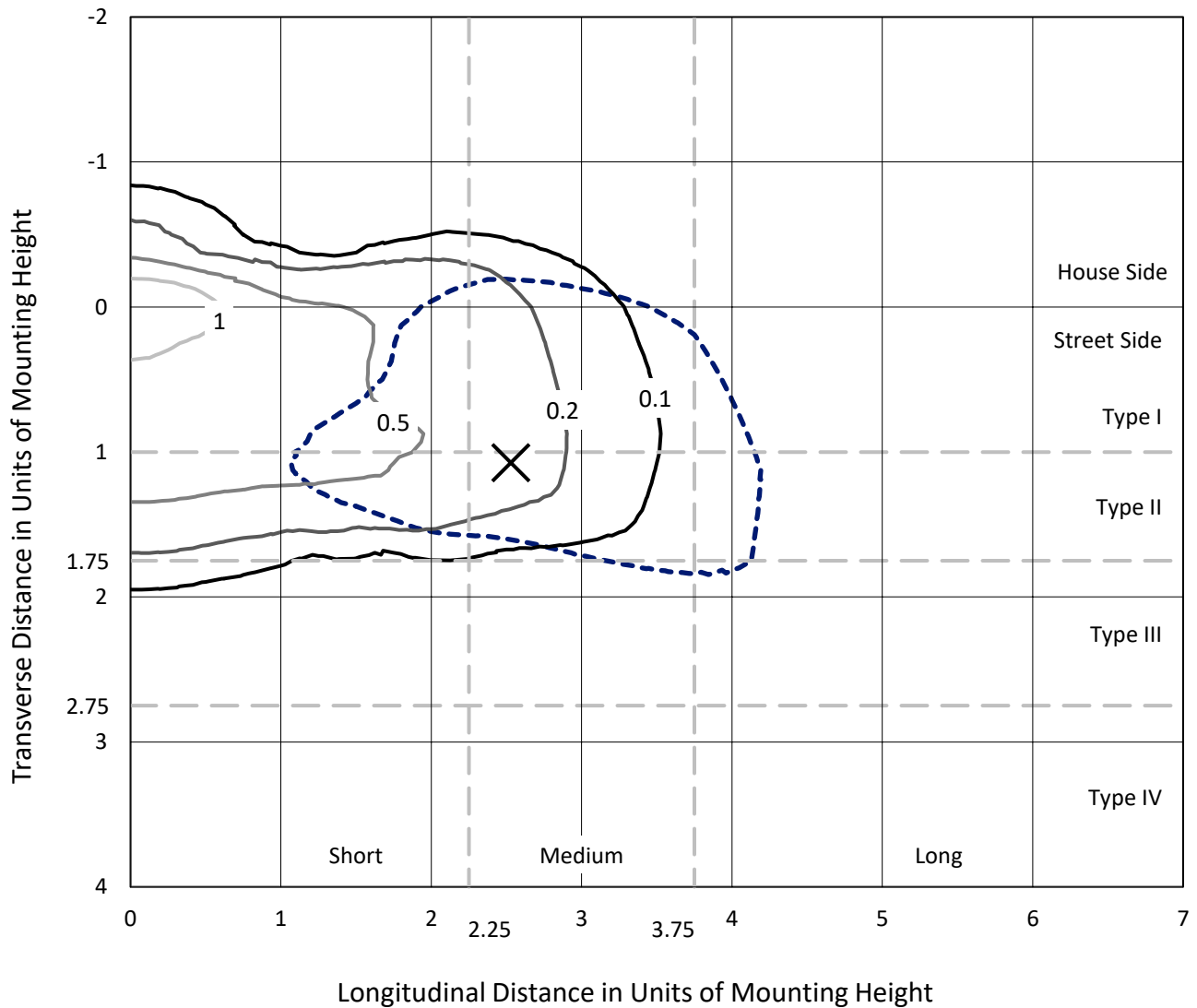
Input Watts (W): 34.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

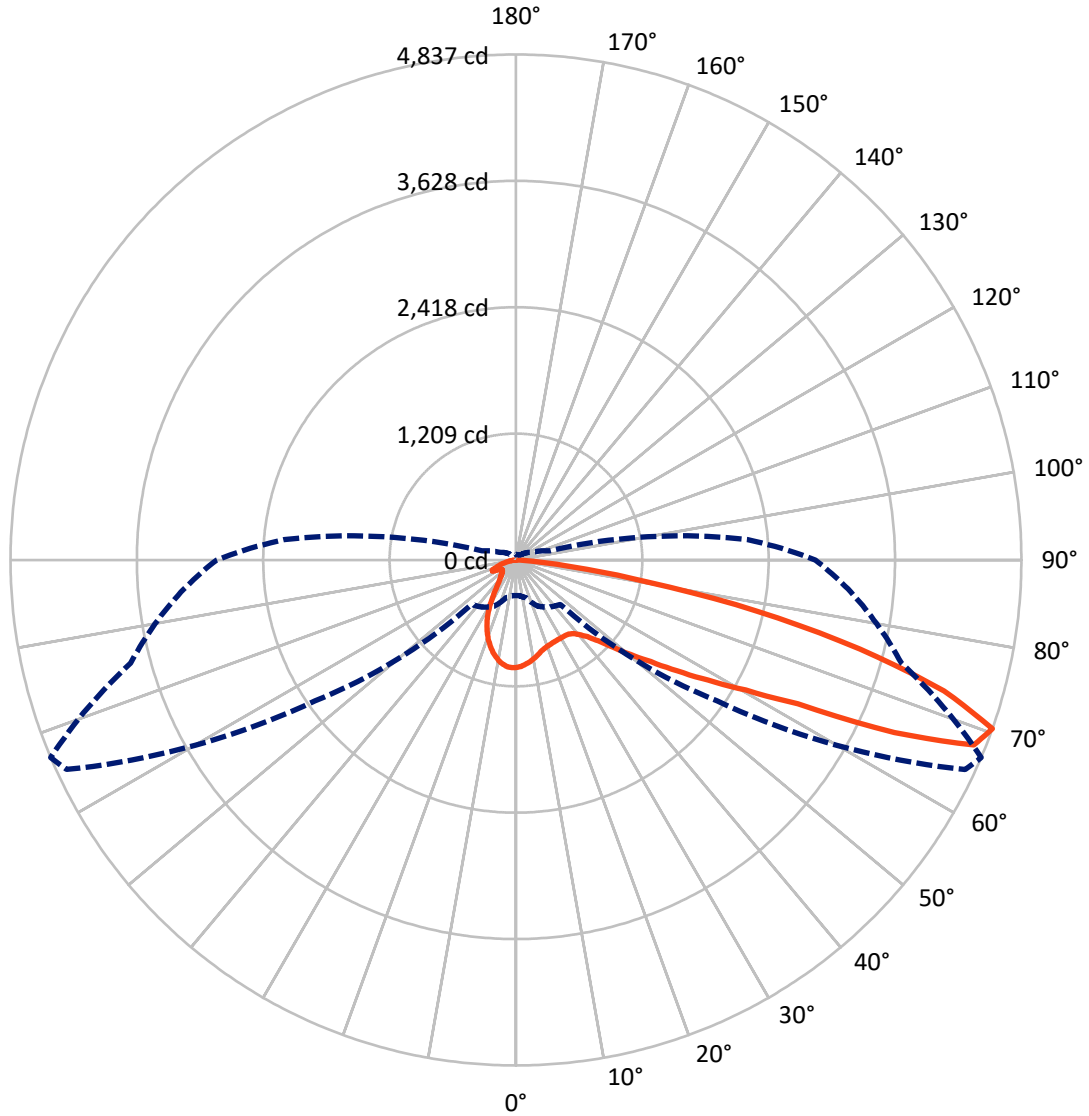
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.6 fc
 Type III - Medium - N/A

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CATALOG NUMBER: ISC-SA1C-750-U-SL2

Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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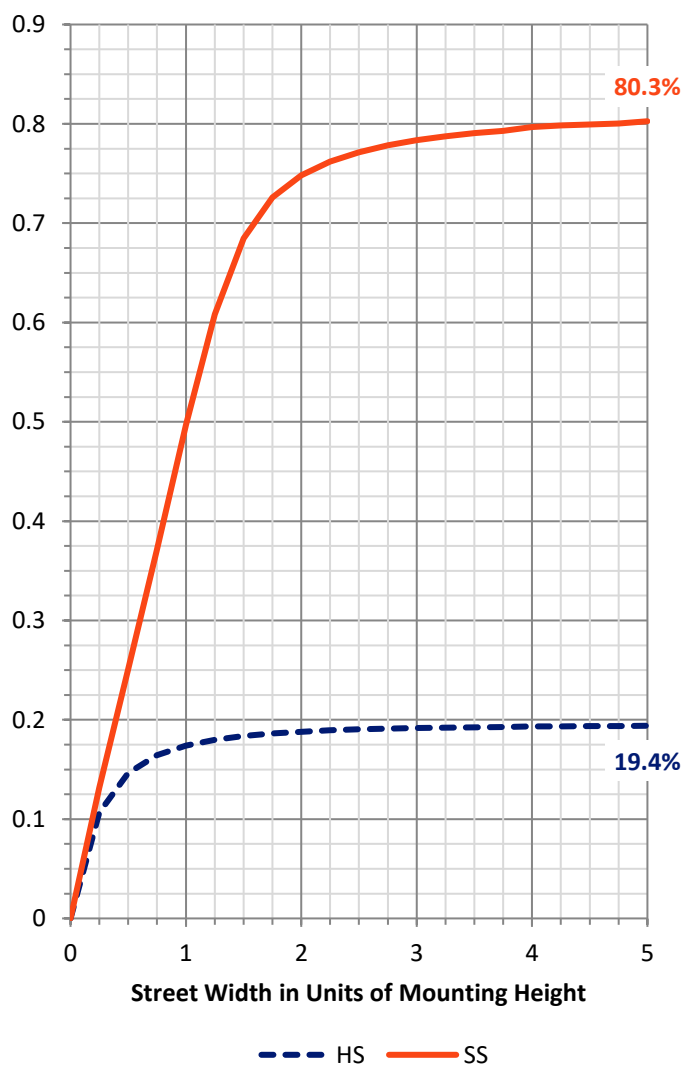
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 891.9 | 0.0 | 891.9 |
| | % Fixture | 19.6 | 0.0 | 19.6 |
| Street Side | Lumens | 3662.1 | 0.0 | 3662.1 |
| | % Fixture | 80.4 | 0.0 | 80.4 |
| Total | Lumens | 4554.0 | 0.0 | 4554.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 90.3 | 2.0 |
| 10°-20° | 218.5 | 4.8 |
| 20°-30° | 301.2 | 6.6 |
| 30°-40° | 406.8 | 8.9 |
| 40°-50° | 603.7 | 13.3 |
| 50°-60° | 929.2 | 20.4 |
| 60°-70° | 1148.9 | 25.2 |
| 70°-80° | 769.6 | 16.9 |
| 80°-90° | 85.8 | 1.9 |
| 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° | 4554.0 | 100.0 |
| 0°-180° | 4554.0 | 100.0 |

Coefficient of Utilization

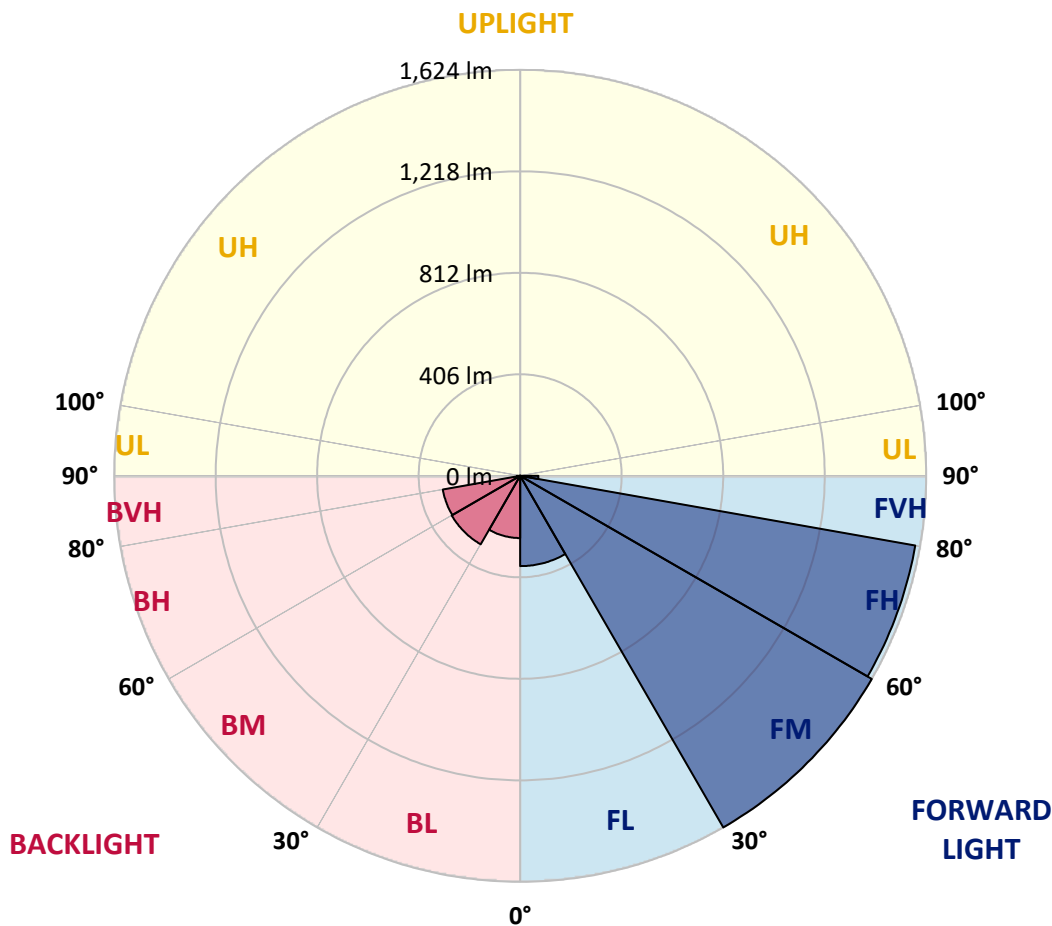


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 CATALOG NUMBER: ISC-SA1C-750-U-SL2

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 361.2 | 7.9 | | | |
| FM (30°-60°) | 1623.6 | 35.7 | | | |
| FH (60°-80°) | 1604.3 | 35.2 | | | G1/1800 |
| FVH (80°-90°) | 73.0 | 1.6 | | | G1/100 |
| BL (0°-30°) | 248.8 | 5.5 | B1/500 | | |
| BM (30°-60°) | 316.2 | 6.9 | B1/1000 | | |
| BH (60°-80°) | 314.1 | 6.9 | B1/500 | | G1/500 |
| BVH (80°-90°) | 12.7 | 0.3 | | | 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





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 67° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1028.3 | 1028.3 | 1028.3 | 1028.3 | 1028.3 | 1028.3 | 1028.3 | 1028.3 | 1028.3 | 1028.3 | 1028.3 |
| 2.5° | 972.3 | 978.9 | 980.5 | 985.5 | 992.1 | 998.7 | 1006.9 | 1016.8 | 1018.4 | 1023.4 | 1033.3 |
| 5° | 906.4 | 909.7 | 913.0 | 922.9 | 934.4 | 955.8 | 977.2 | 997.0 | 1000.3 | 1016.8 | 1034.9 |
| 7.5° | 845.4 | 853.6 | 855.3 | 863.5 | 881.7 | 908.0 | 937.7 | 972.3 | 982.2 | 1005.3 | 1033.3 |
| 10° | 800.9 | 805.9 | 809.2 | 824.0 | 838.8 | 868.5 | 904.7 | 947.6 | 957.5 | 992.1 | 1031.6 |
| 12.5° | 764.7 | 772.9 | 777.8 | 787.7 | 810.8 | 837.2 | 873.4 | 919.6 | 932.7 | 975.6 | 1025.0 |
| 15° | 744.9 | 751.5 | 753.1 | 764.7 | 782.8 | 809.2 | 843.8 | 896.5 | 906.4 | 959.1 | 1025.0 |
| 17.5° | 739.9 | 741.6 | 743.2 | 749.8 | 764.7 | 786.1 | 822.3 | 876.7 | 888.3 | 952.5 | 1025.0 |
| 20° | 749.8 | 749.8 | 749.8 | 746.5 | 758.1 | 774.5 | 810.8 | 860.2 | 876.7 | 945.9 | 1030.0 |
| 22.5° | 772.9 | 774.5 | 769.6 | 761.4 | 756.4 | 768.0 | 799.3 | 855.3 | 870.1 | 944.3 | 1039.9 |
| 25° | 805.9 | 807.5 | 804.2 | 792.7 | 769.6 | 768.0 | 794.3 | 850.3 | 863.5 | 942.6 | 1038.2 |
| 27.5° | 850.3 | 860.2 | 850.3 | 837.2 | 807.5 | 781.1 | 799.3 | 847.1 | 861.9 | 942.6 | 1041.5 |
| 30° | 913.0 | 919.6 | 914.6 | 893.2 | 855.3 | 809.2 | 805.9 | 850.3 | 861.9 | 941.0 | 1039.9 |
| 32.5° | 975.6 | 977.2 | 982.2 | 967.4 | 921.2 | 850.3 | 824.0 | 853.6 | 863.5 | 939.3 | 1034.9 |
| 35° | 1023.4 | 1033.3 | 1054.7 | 1056.3 | 1002.0 | 909.7 | 861.9 | 866.8 | 870.1 | 944.3 | 1030.0 |
| 37.5° | 1084.4 | 1087.7 | 1122.3 | 1148.6 | 1100.8 | 992.1 | 914.6 | 891.5 | 893.2 | 960.8 | 1038.2 |
| 40° | 1140.4 | 1153.6 | 1201.4 | 1234.3 | 1217.8 | 1102.5 | 987.1 | 936.0 | 939.3 | 990.4 | 1058.0 |
| 42.5° | 1224.4 | 1234.3 | 1283.8 | 1329.9 | 1334.9 | 1227.7 | 1087.7 | 1011.9 | 1003.6 | 1048.1 | 1100.8 |
| 45° | 1298.6 | 1310.1 | 1372.8 | 1440.3 | 1463.4 | 1369.5 | 1212.9 | 1115.7 | 1102.5 | 1145.3 | 1179.9 |
| 47.5° | 1402.4 | 1422.2 | 1471.6 | 1549.1 | 1626.5 | 1542.5 | 1372.8 | 1257.4 | 1245.9 | 1275.5 | 1285.4 |
| 50° | 1501.3 | 1512.8 | 1554.0 | 1648.0 | 1784.7 | 1760.0 | 1568.9 | 1442.0 | 1423.8 | 1428.8 | 1451.9 |
| 52.5° | 1516.1 | 1521.1 | 1563.9 | 1662.8 | 1919.9 | 2025.3 | 1809.5 | 1649.6 | 1616.7 | 1621.6 | 1649.6 |
| 55° | 1404.1 | 1423.8 | 1455.2 | 1593.6 | 1929.8 | 2320.3 | 2147.3 | 1923.2 | 1872.1 | 1854.0 | 1877.0 |
| 57.5° | 1171.7 | 1194.8 | 1239.3 | 1382.6 | 1816.1 | 2480.2 | 2701.0 | 2249.5 | 2170.4 | 2086.3 | 2114.3 |
| 60° | 863.5 | 888.3 | 916.3 | 1056.3 | 1527.7 | 2504.9 | 3251.4 | 2645.0 | 2528.0 | 2318.7 | 2333.5 |
| 62.5° | 662.5 | 662.5 | 687.2 | 744.9 | 1021.7 | 2325.3 | 3574.4 | 3314.1 | 3027.3 | 2602.1 | 2584.0 |
| 65° | 535.6 | 542.2 | 566.9 | 621.3 | 646.0 | 1651.3 | 3703.0 | 4286.4 | 3981.5 | 2941.6 | 2847.7 |
| 67.5° | 443.3 | 445.0 | 473.0 | 558.7 | 565.3 | 908.0 | 3358.6 | 4797.2 | 4724.7 | 3366.8 | 3127.8 |
| 70° | 339.5 | 341.1 | 374.1 | 486.1 | 550.4 | 601.5 | 2350.0 | 4744.5 | 4836.8 | 3818.3 | 3188.8 |
| 72.5° | 225.8 | 235.7 | 275.2 | 385.6 | 548.8 | 566.9 | 1275.5 | 4149.6 | 4283.1 | 3994.7 | 2984.5 |
| 75° | 140.1 | 141.7 | 182.9 | 267.0 | 504.3 | 565.3 | 749.8 | 3233.3 | 3398.1 | 3314.1 | 2589.0 |
| 77.5° | 85.7 | 89.0 | 108.8 | 174.7 | 390.6 | 566.9 | 533.9 | 2224.8 | 2361.5 | 2175.3 | 1526.0 |
| 80° | 52.7 | 52.7 | 62.6 | 105.5 | 253.8 | 507.6 | 459.8 | 1293.7 | 1280.5 | 804.2 | 433.4 |
| 82.5° | 19.8 | 21.4 | 33.0 | 57.7 | 128.5 | 393.9 | 403.8 | 585.0 | 538.9 | 237.3 | 154.9 |
| 85° | 3.3 | 3.3 | 6.6 | 18.1 | 34.6 | 163.1 | 224.1 | 206.0 | 173.0 | 72.5 | 64.3 |
| 87.5° | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 | 3.3 | 4.9 | 4.9 | 4.9 | 4.9 | 6.6 |
| 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: P437363
 CATALOG NUMBER: ISC-SA1C-750-U-SL2

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1028.3 | 1028.3 | 1028.3 | 1028.3 | 1028.3 | 1028.3 | 1028.3 | 1028.3 | 1028.3 | 1028.3 | 1028.3 |
| 2.5° | 1033.3 | 1036.6 | 1034.9 | 1030.0 | 1025.0 | 1021.7 | 1013.5 | 1008.6 | 1010.2 | 1010.2 | 1011.9 |
| 5° | 1036.6 | 1041.5 | 1033.3 | 1023.4 | 1005.3 | 985.5 | 967.4 | 957.5 | 944.3 | 949.2 | 945.9 |
| 7.5° | 1041.5 | 1044.8 | 1030.0 | 1000.3 | 969.0 | 936.0 | 904.7 | 876.7 | 855.3 | 845.4 | 852.0 |
| 10° | 1038.2 | 1043.2 | 1015.1 | 970.7 | 922.9 | 870.1 | 822.3 | 776.2 | 746.5 | 726.8 | 731.7 |
| 12.5° | 1036.6 | 1031.6 | 993.7 | 927.8 | 861.9 | 789.4 | 716.9 | 660.8 | 611.4 | 591.6 | 594.9 |
| 15° | 1030.0 | 1026.7 | 967.4 | 883.3 | 792.7 | 690.5 | 594.9 | 522.4 | 463.1 | 443.3 | 449.9 |
| 17.5° | 1033.3 | 1023.4 | 936.0 | 828.9 | 705.3 | 580.1 | 463.1 | 392.2 | 362.6 | 356.0 | 354.3 |
| 20° | 1030.0 | 1011.9 | 904.7 | 769.6 | 613.0 | 449.9 | 344.4 | 306.5 | 306.5 | 316.4 | 318.1 |
| 22.5° | 1033.3 | 1002.0 | 870.1 | 702.0 | 507.6 | 337.8 | 268.6 | 258.7 | 273.6 | 295.0 | 295.0 |
| 25° | 1033.3 | 990.4 | 832.2 | 626.2 | 397.2 | 257.1 | 229.1 | 229.1 | 248.8 | 268.6 | 267.0 |
| 27.5° | 1026.7 | 967.4 | 789.4 | 545.5 | 295.0 | 212.6 | 201.1 | 206.0 | 219.2 | 235.7 | 234.0 |
| 30° | 1010.2 | 944.3 | 736.6 | 451.5 | 224.1 | 187.9 | 186.2 | 187.9 | 194.5 | 204.3 | 202.7 |
| 32.5° | 995.4 | 917.9 | 685.6 | 351.0 | 189.5 | 174.7 | 173.0 | 174.7 | 176.3 | 179.6 | 179.6 |
| 35° | 985.5 | 894.8 | 624.6 | 270.3 | 171.4 | 166.4 | 163.1 | 163.1 | 159.9 | 161.5 | 161.5 |
| 37.5° | 973.9 | 873.4 | 562.0 | 210.9 | 161.5 | 158.2 | 154.9 | 150.0 | 150.0 | 146.7 | 146.7 |
| 40° | 973.9 | 856.9 | 497.7 | 178.0 | 154.9 | 153.3 | 146.7 | 140.1 | 136.8 | 136.8 | 136.8 |
| 42.5° | 1000.3 | 856.9 | 438.4 | 163.1 | 148.3 | 146.7 | 138.4 | 131.8 | 128.5 | 128.5 | 128.5 |
| 45° | 1044.8 | 866.8 | 377.4 | 153.3 | 143.4 | 140.1 | 130.2 | 123.6 | 120.3 | 120.3 | 118.7 |
| 47.5° | 1122.3 | 908.0 | 323.0 | 148.3 | 138.4 | 133.5 | 121.9 | 115.4 | 112.1 | 112.1 | 112.1 |
| 50° | 1252.5 | 990.4 | 278.5 | 143.4 | 133.5 | 125.2 | 115.4 | 108.8 | 105.5 | 105.5 | 103.8 |
| 52.5° | 1432.1 | 1114.0 | 257.1 | 140.1 | 126.9 | 117.0 | 108.8 | 102.2 | 98.9 | 97.2 | 97.2 |
| 55° | 1648.0 | 1300.2 | 253.8 | 138.4 | 120.3 | 110.4 | 102.2 | 95.6 | 92.3 | 90.6 | 90.6 |
| 57.5° | 1883.6 | 1504.6 | 276.9 | 135.1 | 113.7 | 102.2 | 95.6 | 89.0 | 85.7 | 84.0 | 84.0 |
| 60° | 2111.0 | 1728.7 | 351.0 | 131.8 | 108.8 | 95.6 | 87.3 | 82.4 | 79.1 | 77.5 | 77.5 |
| 62.5° | 2374.7 | 1964.4 | 514.2 | 133.5 | 105.5 | 89.0 | 80.8 | 75.8 | 74.2 | 72.5 | 72.5 |
| 65° | 2664.8 | 2234.6 | 657.5 | 146.7 | 107.1 | 82.4 | 74.2 | 70.9 | 67.6 | 65.9 | 65.9 |
| 67.5° | 2921.8 | 2409.3 | 548.8 | 169.7 | 117.0 | 77.5 | 65.9 | 64.3 | 61.0 | 59.3 | 61.0 |
| 70° | 2864.2 | 2224.8 | 337.8 | 171.4 | 118.7 | 74.2 | 59.3 | 56.0 | 52.7 | 52.7 | 52.7 |
| 72.5° | 2612.0 | 1962.7 | 235.7 | 148.3 | 105.5 | 65.9 | 51.1 | 47.8 | 46.1 | 46.1 | 46.1 |
| 75° | 2198.4 | 1618.3 | 187.9 | 120.3 | 82.4 | 54.4 | 42.8 | 41.2 | 39.6 | 37.9 | 37.9 |
| 77.5° | 1203.0 | 880.0 | 140.1 | 92.3 | 61.0 | 41.2 | 36.3 | 33.0 | 31.3 | 31.3 | 31.3 |
| 80° | 352.7 | 301.6 | 87.3 | 65.9 | 39.6 | 29.7 | 28.0 | 24.7 | 23.1 | 23.1 | 23.1 |
| 82.5° | 148.3 | 125.2 | 52.7 | 36.3 | 26.4 | 19.8 | 18.1 | 16.5 | 14.8 | 13.2 | 14.8 |
| 85° | 57.7 | 61.0 | 33.0 | 21.4 | 14.8 | 9.9 | 8.2 | 6.6 | 6.6 | 4.9 | 6.6 |
| 87.5° | 6.6 | 8.2 | 6.6 | 4.9 | 3.3 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

LM-79-2008: 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 | CRI (Ra): | 73.5 | R9: | -28.4 |
| CIE u': | 0.2101 | R1: | 70.5 | R10: | 48.6 |
| CIE v': | 0.4904 | R2: | 77.7 | R11: | 73.2 |
| Duv: | 0.0037 | R3: | 84.6 | R12: | 50.7 |
| CIE x: | 0.3493 | R4: | 74.7 | R13: | 71.2 |
| CIE y: | 0.3624 | R5: | 71.9 | R14: | 91.4 |
| CIE z: | 0.2884 | R6: | 70.7 | | |
| Peak Wavelength (nm): | 444 | R7: | 81.2 | | |
| Dominant Wavelength (nm): | 571 | R8: | 56.9 | | |
| Purity: | 13.7 | | | | |
| Rf: | 74.9 | | | | |
| Rg: | 96.3 | | | | |



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

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| 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

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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 | 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 | | | |

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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)