

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: P437204

Luminaire Tested: **ISC-SA1B-750-U-T3**

Issue Date: 12/9/2020

Test Information

Test Method: LM-79-08
Report Number: P437204
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-SA1B-750-U-T3
Description: IMPACT ELITE LED CYLINDER LUMINAIRE
(1) 70 CRI, 5000K, 450mA LIGHTSQUARE WITH 16 LEDS AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3470 lumens
Efficiency: N/A
Efficacy: 136.6 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

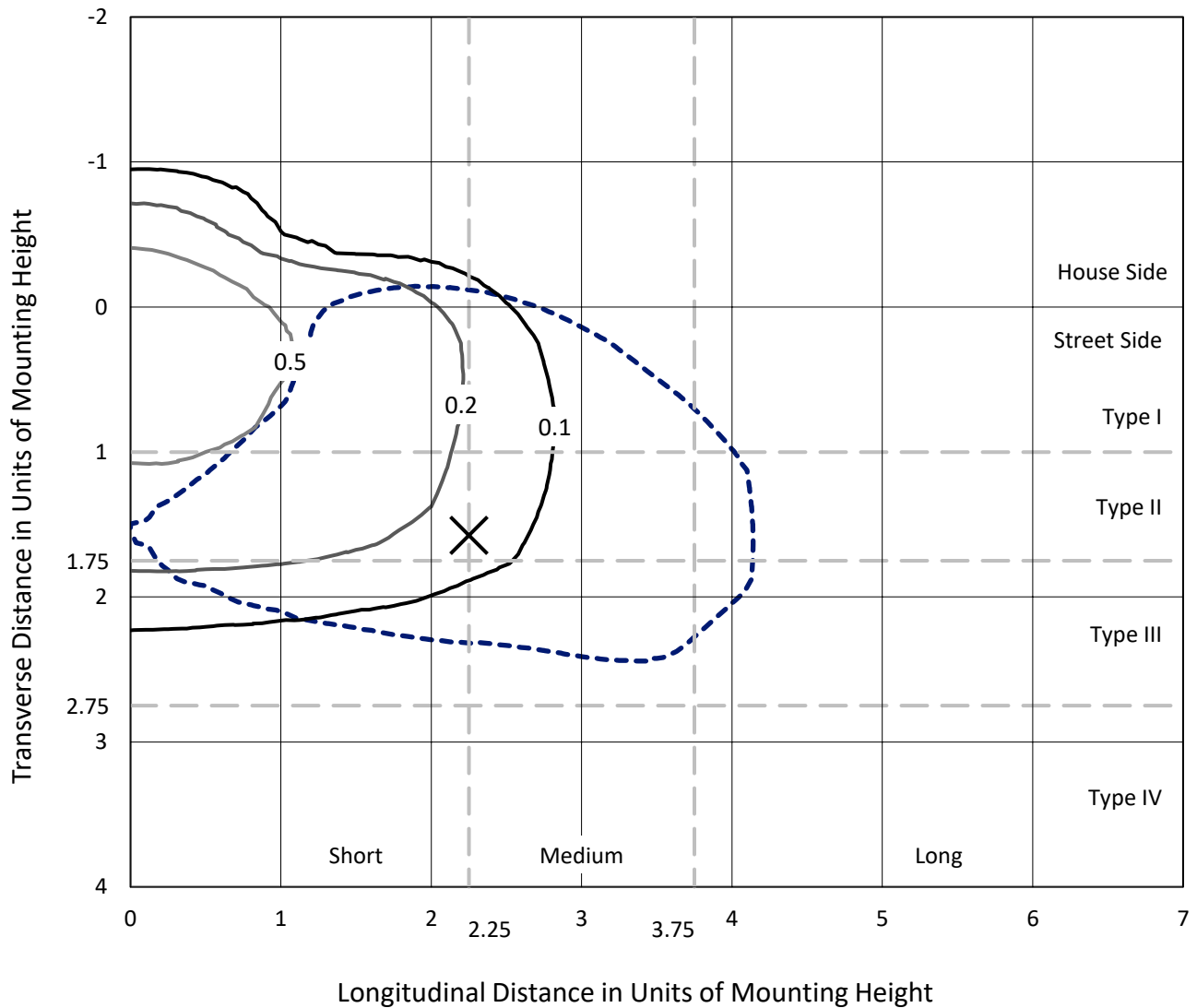
Input Watts (W): 25.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

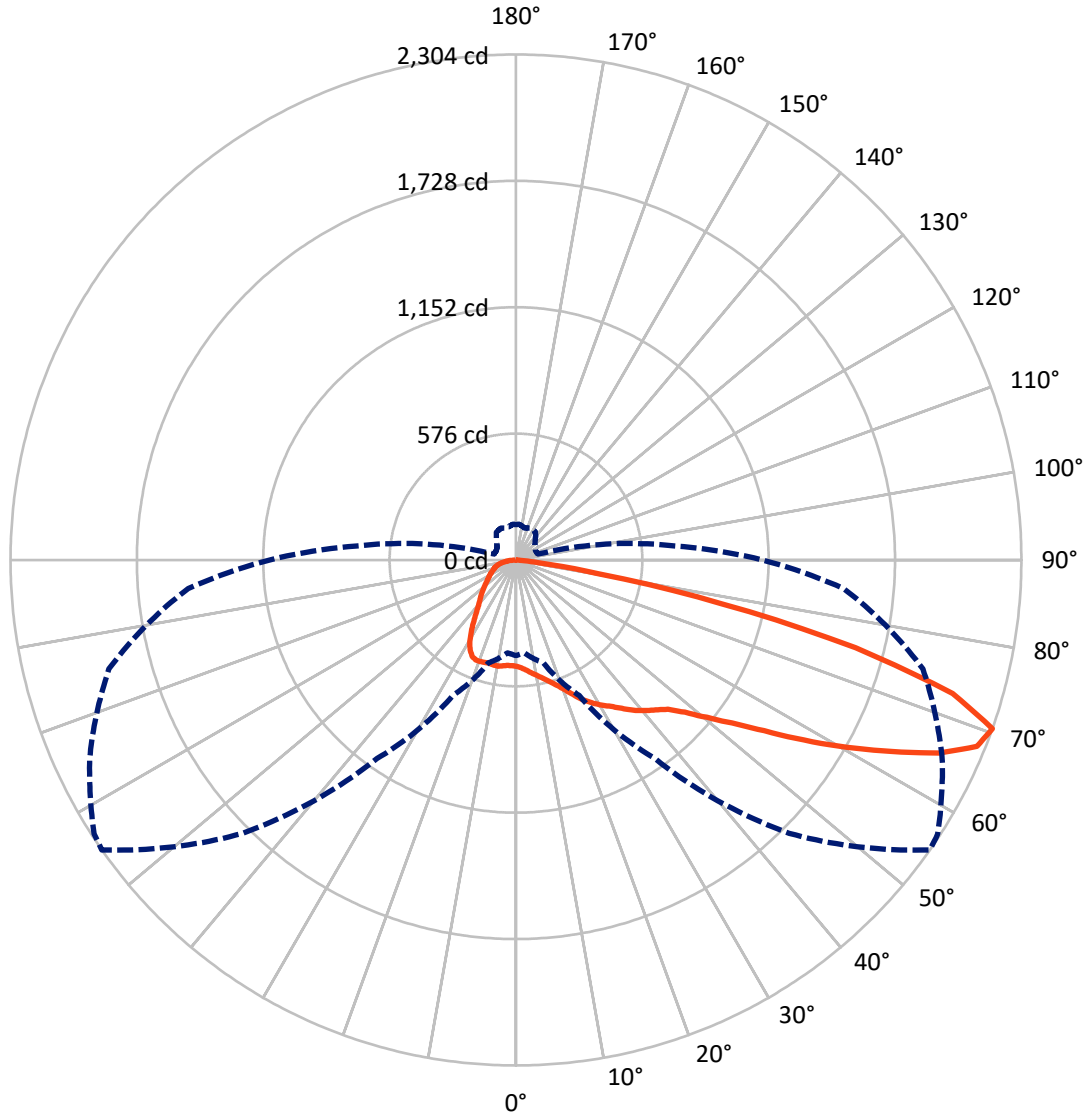
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.9 fc
 Type III - Medium - N/A

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Luminous Intensity Polar Plot



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

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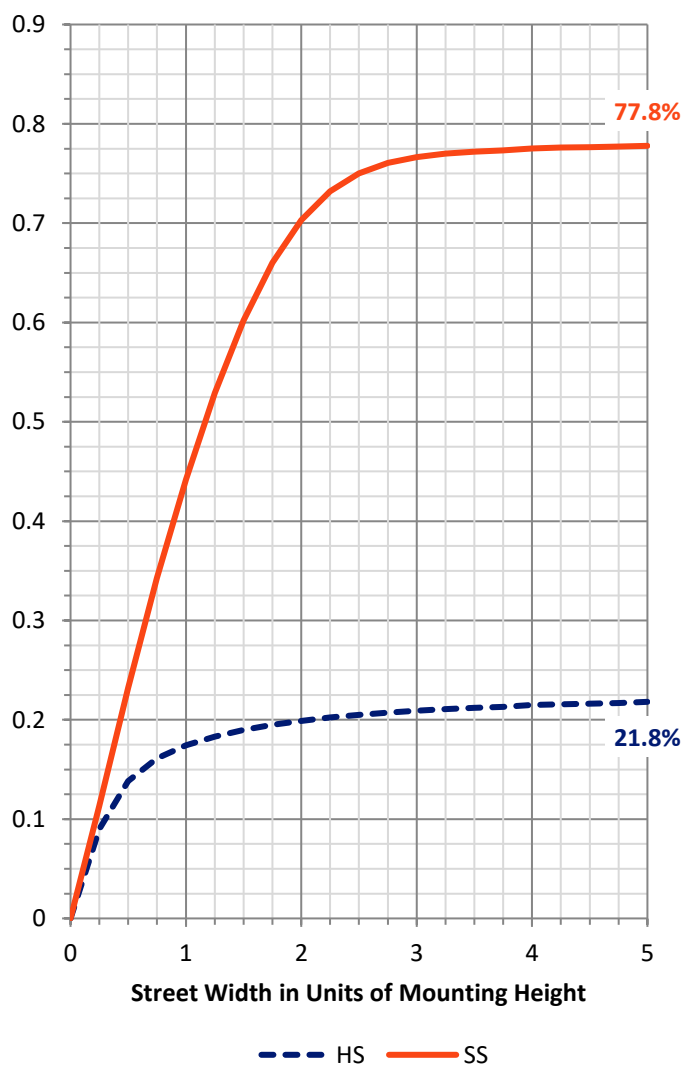
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 767.5 | 0.0 | 767.5 |
| | % Fixture | 22.1 | 0.0 | 22.1 |
| Street Side | Lumens | 2702.5 | 0.0 | 2702.5 |
| | % Fixture | 77.9 | 0.0 | 77.9 |
| Total | Lumens | 3470.0 | 0.0 | 3470.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 47.7 | 1.4 |
| 10°-20° | 151.9 | 4.4 |
| 20°-30° | 264.2 | 7.6 |
| 30°-40° | 372.4 | 10.7 |
| 40°-50° | 493.5 | 14.2 |
| 50°-60° | 719.0 | 20.7 |
| 60°-70° | 897.3 | 25.9 |
| 70°-80° | 477.9 | 13.8 |
| 80°-90° | 46.0 | 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° | 3470.0 | 100.0 |
| 0°-180° | 3470.0 | 100.0 |

Coefficient of Utilization



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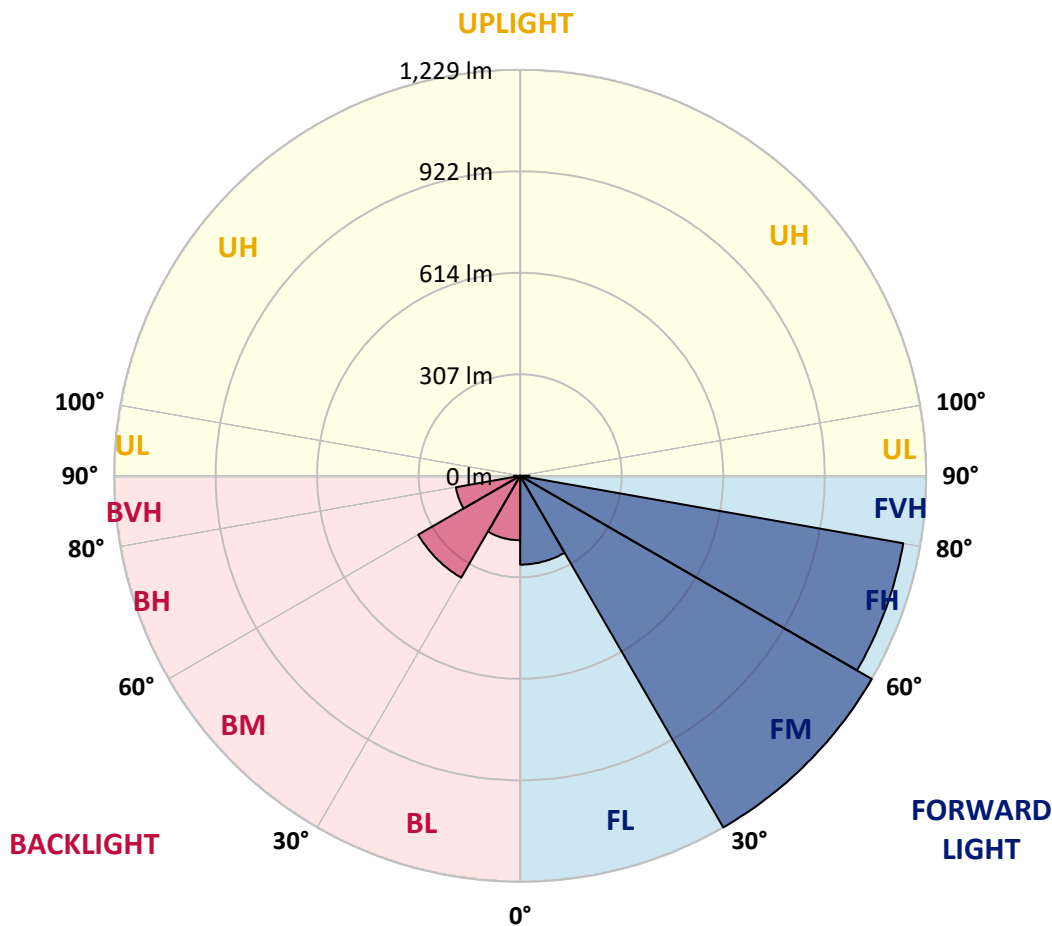
CATALOG NUMBER: ISC-SA1B-750-U-T3

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 268.8 | 7.7 | | | |
| FM (30°-60°) | 1228.8 | 35.4 | | | |
| FH (60°-80°) | 1177.4 | 33.9 | | | G1/1800 |
| FVH (80°-90°) | 27.5 | 0.8 | | | G1/100 |
| BL (0°-30°) | 195.0 | 5.6 | B1/500 | | |
| BM (30°-60°) | 356.1 | 10.3 | B1/1000 | | |
| BH (60°-80°) | 197.8 | 5.7 | B1/500 | | G1/500 |
| BVH (80°-90°) | 18.6 | 0.5 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G1

Type III Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 57° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 484.6 | 484.6 | 484.6 | 484.6 | 484.6 | 484.6 | 484.6 | 484.6 | 484.6 | 484.6 | 484.6 |
| 2.5° | 500.8 | 499.6 | 499.6 | 498.3 | 497.1 | 495.8 | 493.3 | 490.8 | 490.8 | 488.3 | 488.3 |
| 5° | 513.3 | 510.8 | 512.1 | 510.8 | 510.8 | 508.3 | 504.6 | 504.6 | 503.3 | 497.1 | 492.1 |
| 7.5° | 525.8 | 524.6 | 524.6 | 525.8 | 524.6 | 522.1 | 520.8 | 519.6 | 514.6 | 507.1 | 499.6 |
| 10° | 543.3 | 543.3 | 543.3 | 542.1 | 542.1 | 539.6 | 535.8 | 535.8 | 529.6 | 520.8 | 512.1 |
| 12.5° | 569.5 | 568.3 | 567.0 | 567.0 | 563.3 | 558.3 | 554.5 | 554.5 | 550.8 | 537.1 | 525.8 |
| 15° | 599.5 | 595.8 | 593.3 | 593.3 | 588.3 | 579.5 | 575.8 | 577.0 | 573.3 | 557.0 | 540.8 |
| 17.5° | 629.5 | 629.5 | 627.0 | 620.7 | 614.5 | 608.2 | 599.5 | 602.0 | 598.3 | 582.0 | 560.8 |
| 20° | 657.0 | 654.5 | 654.5 | 650.7 | 642.0 | 634.5 | 629.5 | 628.2 | 625.7 | 608.2 | 583.3 |
| 22.5° | 686.9 | 685.7 | 681.9 | 679.4 | 673.2 | 669.4 | 666.9 | 666.9 | 657.0 | 633.2 | 600.8 |
| 25° | 723.2 | 721.9 | 721.9 | 711.9 | 706.9 | 700.7 | 704.4 | 700.7 | 695.7 | 660.7 | 619.5 |
| 27.5° | 759.4 | 759.4 | 758.1 | 753.1 | 739.4 | 735.6 | 738.1 | 735.6 | 734.4 | 686.9 | 637.0 |
| 30° | 798.1 | 796.8 | 793.1 | 791.8 | 778.1 | 768.1 | 766.9 | 761.9 | 761.9 | 710.7 | 649.5 |
| 32.5° | 830.6 | 829.3 | 831.8 | 826.8 | 818.1 | 804.3 | 795.6 | 795.6 | 786.8 | 734.4 | 664.5 |
| 35° | 860.5 | 863.0 | 863.0 | 860.5 | 853.0 | 839.3 | 830.6 | 833.1 | 820.6 | 755.6 | 683.2 |
| 37.5° | 894.3 | 891.8 | 888.0 | 885.5 | 875.5 | 869.3 | 869.3 | 871.8 | 853.0 | 778.1 | 708.2 |
| 40° | 901.8 | 908.0 | 916.7 | 906.8 | 901.8 | 900.5 | 903.0 | 896.8 | 878.0 | 813.1 | 750.6 |
| 42.5° | 916.7 | 921.7 | 938.0 | 934.2 | 930.5 | 934.2 | 934.2 | 925.5 | 916.7 | 860.5 | 808.1 |
| 45° | 954.2 | 963.0 | 975.4 | 976.7 | 975.4 | 981.7 | 970.4 | 969.2 | 967.9 | 929.2 | 885.5 |
| 47.5° | 995.4 | 1005.4 | 1034.1 | 1030.4 | 1044.1 | 1056.6 | 1036.6 | 1035.4 | 1039.1 | 1020.4 | 984.2 |
| 50° | 1044.1 | 1054.1 | 1090.3 | 1104.1 | 1141.6 | 1164.0 | 1127.8 | 1111.6 | 1137.8 | 1136.6 | 1109.1 |
| 52.5° | 1100.3 | 1112.8 | 1137.8 | 1185.3 | 1249.0 | 1272.7 | 1234.0 | 1220.2 | 1251.5 | 1266.5 | 1241.5 |
| 55° | 1139.1 | 1149.0 | 1187.8 | 1261.5 | 1365.1 | 1396.3 | 1373.9 | 1361.4 | 1395.1 | 1407.6 | 1381.4 |
| 57.5° | 1152.8 | 1155.3 | 1212.7 | 1328.9 | 1472.5 | 1552.5 | 1548.7 | 1540.0 | 1526.2 | 1557.5 | 1550.0 |
| 60° | 1129.1 | 1142.8 | 1216.5 | 1358.9 | 1568.7 | 1719.8 | 1733.6 | 1713.6 | 1696.1 | 1703.6 | 1678.6 |
| 62.5° | 1097.8 | 1109.1 | 1186.5 | 1362.6 | 1633.6 | 1871.0 | 1922.2 | 1899.7 | 1856.0 | 1836.0 | 1777.3 |
| 65° | 987.9 | 987.9 | 1064.1 | 1286.4 | 1622.4 | 1994.6 | 2120.7 | 2082.0 | 2002.1 | 1930.9 | 1773.5 |
| 67.5° | 755.6 | 751.9 | 825.6 | 1056.6 | 1463.8 | 2007.1 | 2266.9 | 2246.9 | 2118.2 | 1967.1 | 1703.6 |
| 70° | 435.9 | 424.6 | 485.8 | 681.9 | 1105.3 | 1762.3 | 2304.3 | 2293.1 | 2144.5 | 1920.9 | 1500.0 |
| 72.5° | 151.1 | 161.1 | 201.1 | 289.8 | 608.2 | 1269.0 | 2082.0 | 2105.8 | 2019.6 | 1744.8 | 1205.3 |
| 75° | 78.7 | 78.7 | 92.4 | 126.1 | 257.3 | 654.5 | 1599.9 | 1673.6 | 1692.4 | 1460.0 | 860.5 |
| 77.5° | 57.5 | 58.7 | 66.2 | 81.2 | 122.4 | 251.0 | 960.5 | 1030.4 | 1171.5 | 1005.4 | 497.1 |
| 80° | 38.7 | 40.0 | 47.5 | 53.7 | 74.9 | 97.4 | 383.4 | 420.9 | 580.8 | 449.6 | 192.3 |
| 82.5° | 28.7 | 30.0 | 30.0 | 31.2 | 41.2 | 45.0 | 101.2 | 124.9 | 199.8 | 133.6 | 68.7 |
| 85° | 6.2 | 6.2 | 12.5 | 12.5 | 12.5 | 12.5 | 22.5 | 25.0 | 37.5 | 40.0 | 22.5 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 1.2 | 1.2 | 2.5 | 2.5 | 2.5 | 3.7 | 3.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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 CATALOG NUMBER: ISC-SA1B-750-U-T3

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 484.6 | 484.6 | 484.6 | 484.6 | 484.6 | 484.6 | 484.6 | 484.6 | 484.6 | 484.6 | 484.6 |
| 2.5° | 487.1 | 485.8 | 484.6 | 483.4 | 482.1 | 480.9 | 479.6 | 480.9 | 480.9 | 483.4 | 484.6 |
| 5° | 490.8 | 487.1 | 485.8 | 483.4 | 482.1 | 482.1 | 482.1 | 483.4 | 484.6 | 485.8 | 487.1 |
| 7.5° | 497.1 | 495.8 | 492.1 | 487.1 | 485.8 | 485.8 | 483.4 | 483.4 | 483.4 | 485.8 | 485.8 |
| 10° | 508.3 | 504.6 | 499.6 | 494.6 | 490.8 | 483.4 | 477.1 | 472.1 | 474.6 | 478.4 | 478.4 |
| 12.5° | 520.8 | 514.6 | 508.3 | 499.6 | 489.6 | 477.1 | 470.9 | 472.1 | 472.1 | 475.9 | 477.1 |
| 15° | 537.1 | 532.1 | 518.3 | 503.3 | 485.8 | 475.9 | 473.4 | 470.9 | 470.9 | 473.4 | 475.9 |
| 17.5° | 554.5 | 545.8 | 528.3 | 505.8 | 488.3 | 477.1 | 472.1 | 462.1 | 457.1 | 455.9 | 458.4 |
| 20° | 570.8 | 560.8 | 537.1 | 508.3 | 490.8 | 475.9 | 458.4 | 442.1 | 429.6 | 427.1 | 424.6 |
| 22.5° | 584.5 | 572.0 | 543.3 | 513.3 | 490.8 | 463.4 | 433.4 | 409.7 | 392.2 | 387.2 | 389.7 |
| 25° | 599.5 | 580.8 | 550.8 | 518.3 | 482.1 | 438.4 | 397.2 | 368.4 | 351.0 | 343.5 | 343.5 |
| 27.5° | 612.0 | 593.3 | 558.3 | 514.6 | 459.6 | 404.7 | 357.2 | 328.5 | 314.7 | 307.2 | 306.0 |
| 30° | 623.2 | 603.3 | 573.3 | 503.3 | 427.1 | 358.5 | 317.2 | 297.3 | 288.5 | 279.8 | 281.0 |
| 32.5° | 638.2 | 620.7 | 584.5 | 479.6 | 383.4 | 316.0 | 284.8 | 274.8 | 266.0 | 259.8 | 262.3 |
| 35° | 659.5 | 649.5 | 588.3 | 449.6 | 338.5 | 286.0 | 264.8 | 253.5 | 246.0 | 237.3 | 237.3 |
| 37.5° | 689.4 | 680.7 | 575.8 | 404.7 | 298.5 | 263.5 | 248.5 | 233.6 | 221.1 | 211.1 | 208.6 |
| 40° | 725.6 | 713.2 | 554.5 | 354.7 | 267.3 | 248.5 | 234.8 | 216.1 | 198.6 | 184.8 | 182.3 |
| 42.5° | 783.1 | 746.9 | 523.3 | 303.5 | 244.8 | 236.1 | 217.3 | 193.6 | 176.1 | 166.1 | 163.6 |
| 45° | 844.3 | 785.6 | 478.4 | 259.8 | 227.3 | 221.1 | 199.8 | 176.1 | 163.6 | 156.1 | 154.9 |
| 47.5° | 921.7 | 828.1 | 435.9 | 227.3 | 207.3 | 206.1 | 181.1 | 166.1 | 156.1 | 151.1 | 149.9 |
| 50° | 1024.2 | 881.8 | 393.4 | 202.3 | 189.8 | 186.1 | 172.4 | 159.9 | 152.4 | 148.6 | 147.4 |
| 52.5° | 1142.8 | 944.2 | 359.7 | 183.6 | 173.6 | 171.1 | 167.4 | 157.4 | 152.4 | 148.6 | 147.4 |
| 55° | 1255.2 | 1009.2 | 323.5 | 166.1 | 159.9 | 162.4 | 164.9 | 157.4 | 153.6 | 151.1 | 148.6 |
| 57.5° | 1378.9 | 1064.1 | 282.3 | 152.4 | 148.6 | 154.9 | 162.4 | 158.6 | 156.1 | 152.4 | 151.1 |
| 60° | 1455.0 | 1102.8 | 227.3 | 139.9 | 139.9 | 148.6 | 158.6 | 156.1 | 151.1 | 151.1 | 151.1 |
| 62.5° | 1488.8 | 1096.6 | 179.9 | 127.4 | 129.9 | 141.1 | 152.4 | 149.9 | 146.1 | 152.4 | 152.4 |
| 65° | 1445.1 | 1025.4 | 146.1 | 116.2 | 119.9 | 131.1 | 146.1 | 146.1 | 146.1 | 156.1 | 156.1 |
| 67.5° | 1331.4 | 918.0 | 119.9 | 106.2 | 109.9 | 123.6 | 146.1 | 154.9 | 153.6 | 164.9 | 164.9 |
| 70° | 1124.1 | 728.1 | 103.7 | 98.7 | 103.7 | 123.6 | 154.9 | 159.9 | 151.1 | 163.6 | 161.1 |
| 72.5° | 856.8 | 508.3 | 92.4 | 91.2 | 97.4 | 119.9 | 156.1 | 153.6 | 142.4 | 146.1 | 142.4 |
| 75° | 563.3 | 308.5 | 81.2 | 83.7 | 86.2 | 106.2 | 148.6 | 143.6 | 129.9 | 127.4 | 124.9 |
| 77.5° | 309.7 | 154.9 | 71.2 | 74.9 | 74.9 | 89.9 | 134.9 | 123.6 | 112.4 | 106.2 | 103.7 |
| 80° | 123.6 | 78.7 | 62.4 | 66.2 | 61.2 | 72.4 | 101.2 | 96.2 | 86.2 | 81.2 | 78.7 |
| 82.5° | 56.2 | 43.7 | 52.5 | 55.0 | 46.2 | 53.7 | 74.9 | 72.4 | 64.9 | 56.2 | 53.7 |
| 85° | 21.2 | 25.0 | 40.0 | 37.5 | 32.5 | 31.2 | 42.5 | 38.7 | 31.2 | 25.0 | 25.0 |
| 87.5° | 2.5 | 5.0 | 10.0 | 13.7 | 7.5 | 5.0 | 2.5 | 1.2 | 1.2 | 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 |

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 (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 | | | |

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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)