

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



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P628770

Luminaire Tested: GWS-SA1A-730-U-T3R-W

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P628770
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-15)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA1A-730-U-T3R-W
Description: GALLEON WALL SLIM LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III ROADWAY OPTICS
Light Source: (16) 3000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2632.6 lumens
Efficiency: N/A
Efficacy: 133.6 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

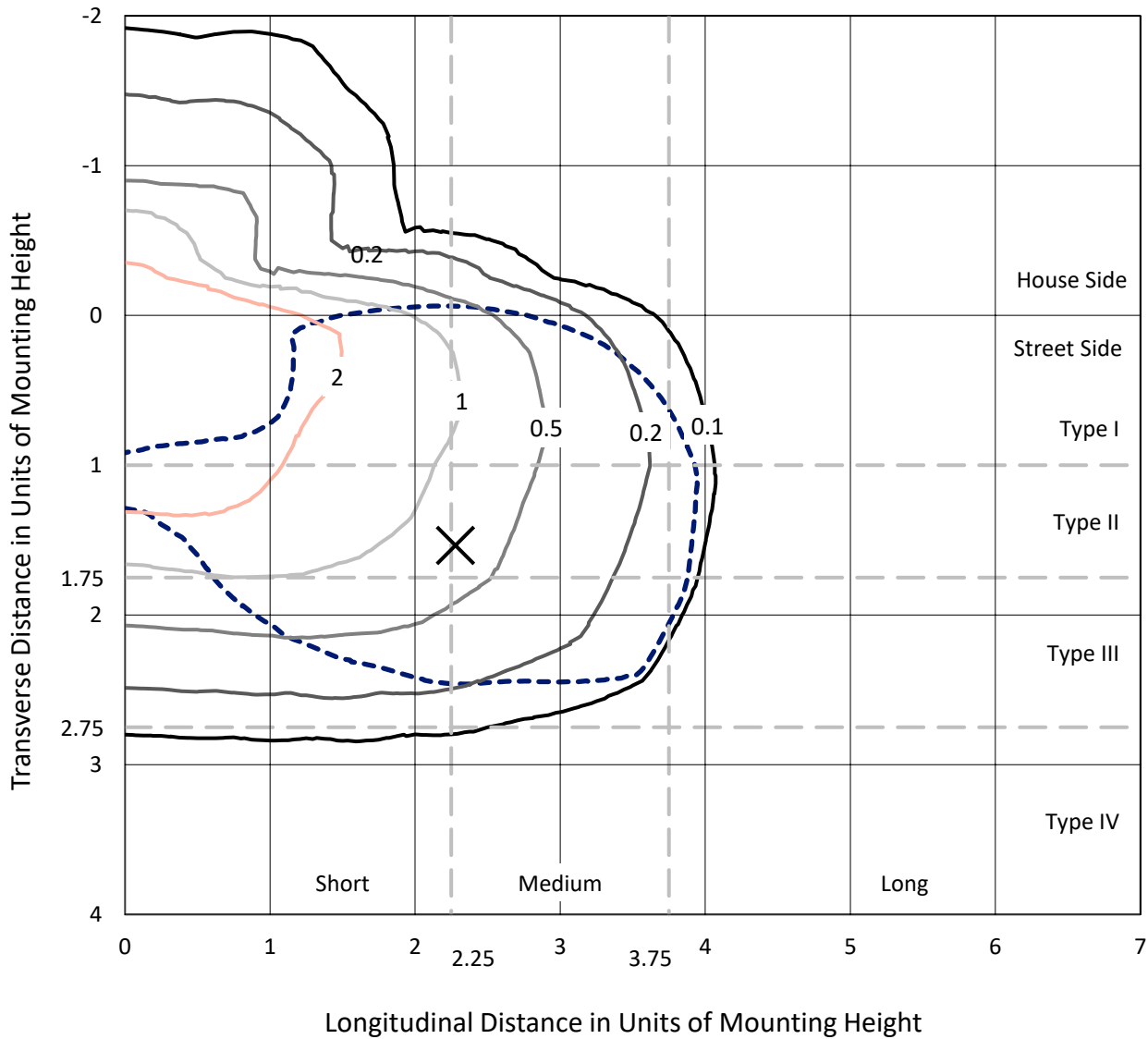
Input Watts (W): 19.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P628770
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Iso-Footcandle Lines of Horizontal Illumination

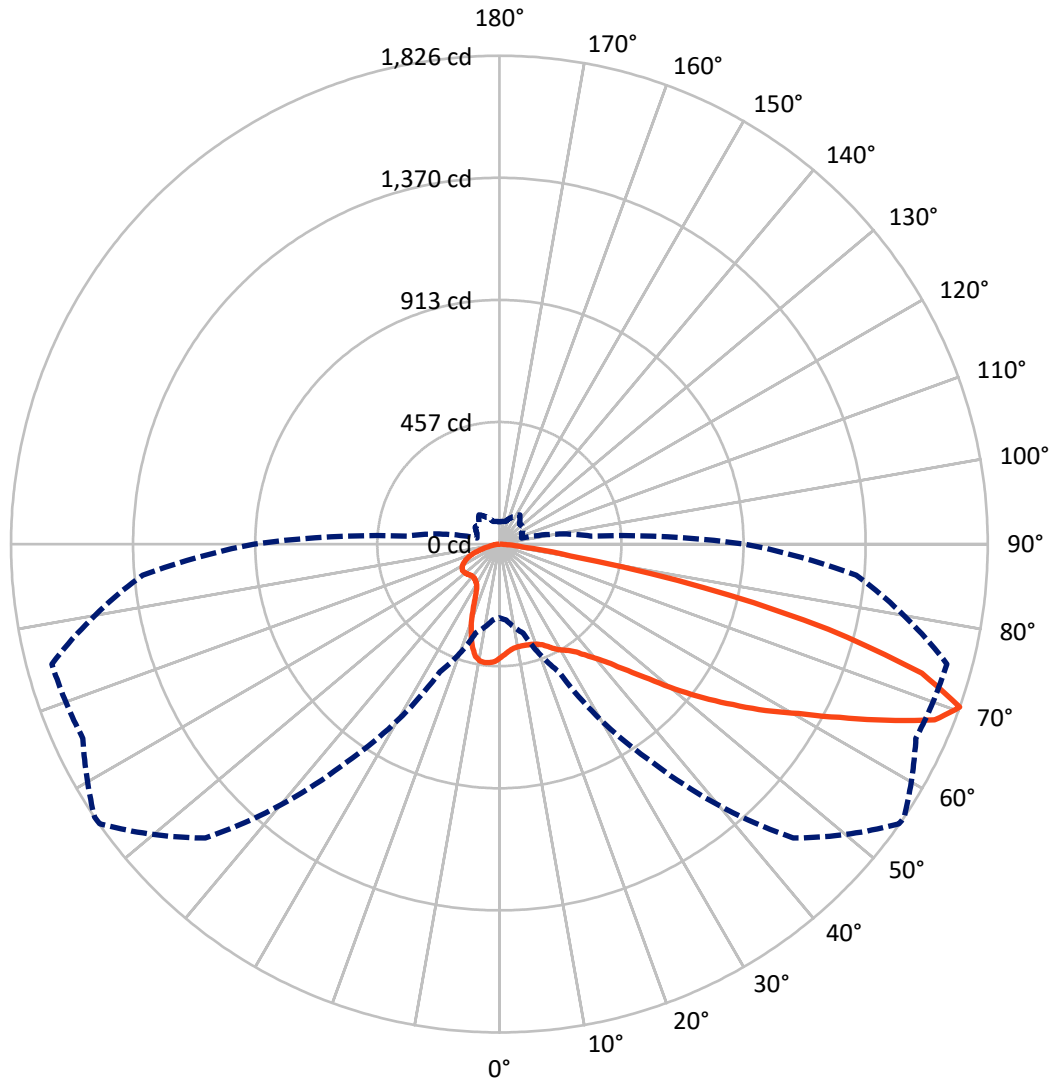
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.4 fc
 Type III - Medium - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 56-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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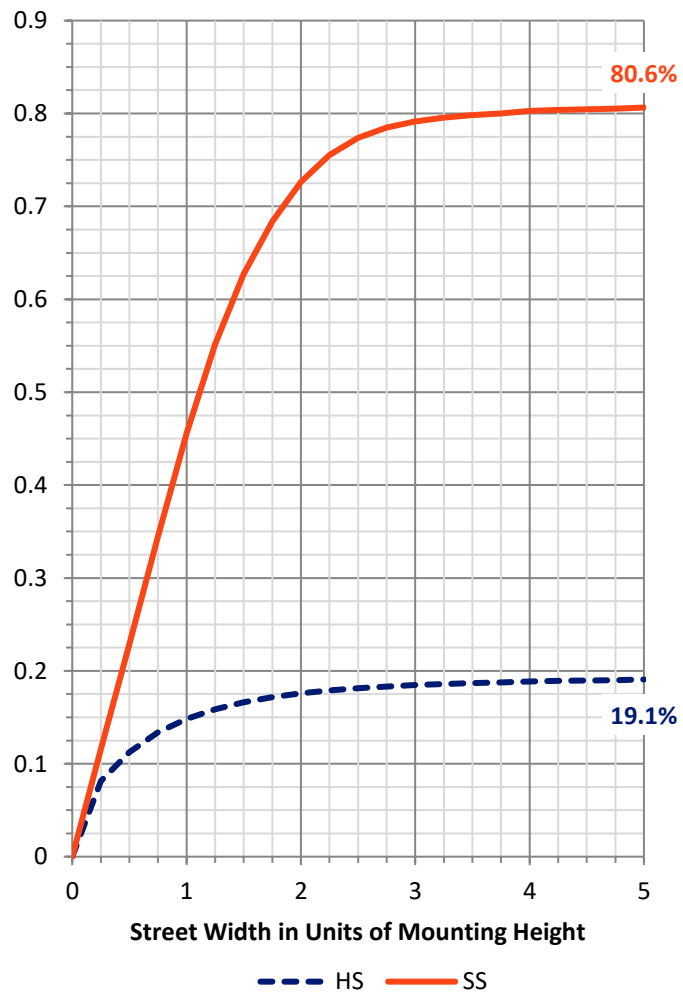
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 506.1 | 0.0 | 506.1 |
| | % Fixture | 19.2 | 0.0 | 19.2 |
| Street Side | Lumens | 2126.5 | 0.0 | 2126.5 |
| | % Fixture | 80.8 | 0.0 | 80.8 |
| Total | Lumens | 2632.6 | 0.0 | 2632.6 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 39.3 | 1.5 |
| 10°-20° | 106.5 | 4.0 |
| 20°-30° | 176.2 | 6.7 |
| 30°-40° | 263.4 | 10.0 |
| 40°-50° | 391.9 | 14.9 |
| 50°-60° | 557.2 | 21.2 |
| 60°-70° | 690.1 | 26.2 |
| 70°-80° | 381.1 | 14.5 |
| 80°-90° | 26.8 | 1.0 |
| 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° | 2632.6 | 100.0 |
| 0°-180° | 2632.6 | 100.0 |

Coefficient of Utilization



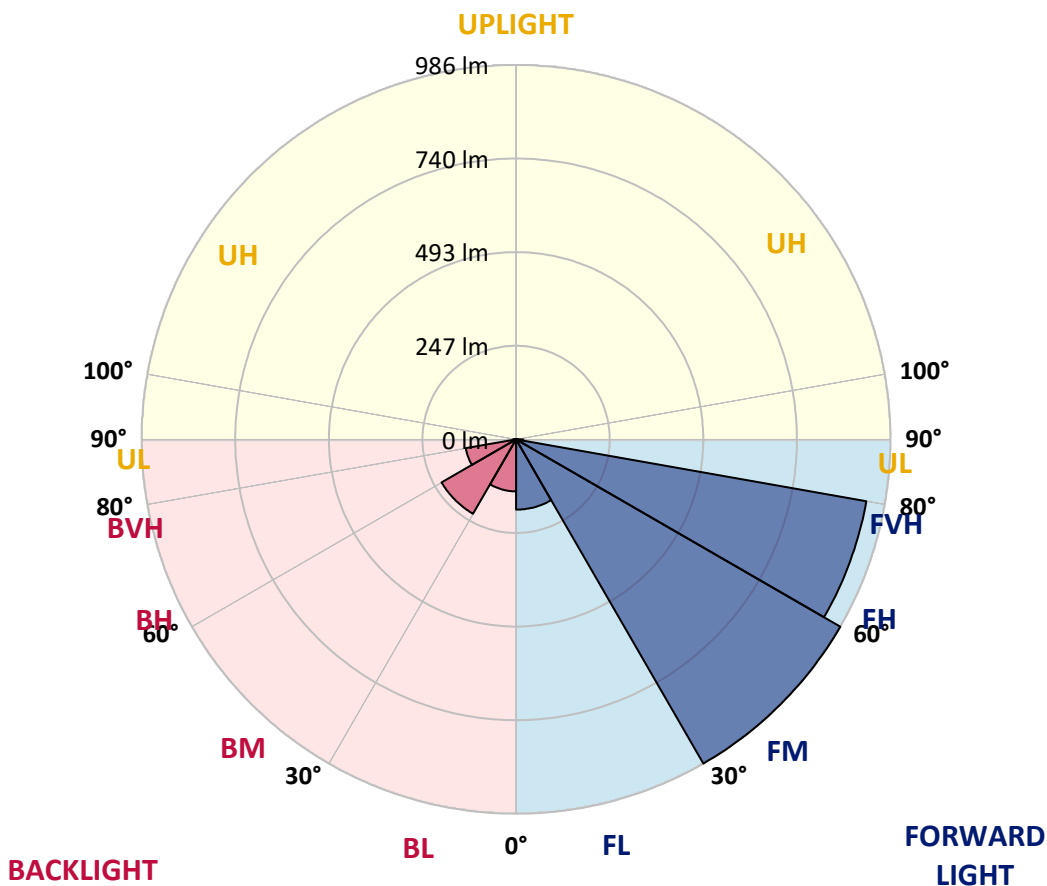
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 185.0 | 7.0 | | | |
| FM (30°-60°) | 986.1 | 37.5 | | | |
| FH (60°-80°) | 936.7 | 35.6 | | | G1/1800 |
| FVH (80°-90°) | 18.6 | 0.7 | | | G1/100 |
| BL (0°-30°) | 137.0 | 5.2 | B1/500 | | |
| BM (30°-60°) | 226.4 | 8.6 | B1/1000 | | |
| BH (60°-80°) | 134.5 | 5.1 | B1/500 | | G1/500 |
| BVH (80°-90°) | 8.2 | 0.3 | | | G0/10 |
| 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° | 56° | 65° | 75° | 85° |
|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 424.9 | 424.9 | 424.9 | 424.9 | 424.9 | 424.9 | 424.9 | 424.9 | 424.9 | 424.9 | 424.9 |
| 2.5° | 397.7 | 395.4 | 398.0 | 399.3 | 402.7 | 407.5 | 411.8 | 411.9 | 414.2 | 419.6 | 424.8 |
| 5° | 379.6 | 378.5 | 379.3 | 383.2 | 386.7 | 392.8 | 399.3 | 399.9 | 406.2 | 416.8 | 427.2 |
| 7.5° | 365.7 | 364.2 | 367.0 | 372.0 | 376.5 | 383.4 | 391.9 | 392.6 | 401.6 | 417.5 | 433.5 |
| 10° | 345.7 | 344.6 | 349.8 | 356.4 | 366.1 | 377.4 | 388.7 | 389.7 | 401.4 | 422.3 | 444.6 |
| 12.5° | 336.9 | 336.9 | 339.2 | 345.5 | 356.1 | 371.1 | 388.2 | 389.7 | 404.3 | 429.8 | 458.9 |
| 15° | 350.5 | 351.4 | 349.6 | 349.2 | 353.5 | 367.8 | 388.9 | 391.2 | 409.9 | 437.4 | 473.0 |
| 17.5° | 377.8 | 378.7 | 373.9 | 366.3 | 362.0 | 370.9 | 391.7 | 394.1 | 415.8 | 445.7 | 488.2 |
| 20° | 416.0 | 417.1 | 406.6 | 394.9 | 380.2 | 380.0 | 397.1 | 399.3 | 423.5 | 454.8 | 504.4 |
| 22.5° | 460.8 | 461.5 | 448.1 | 429.6 | 407.1 | 396.9 | 406.4 | 408.6 | 433.3 | 467.5 | 521.8 |
| 25° | 512.6 | 514.8 | 498.6 | 471.7 | 441.3 | 420.1 | 421.8 | 424.4 | 450.9 | 484.3 | 542.5 |
| 27.5° | 567.9 | 570.7 | 552.1 | 522.4 | 480.5 | 445.7 | 441.7 | 443.9 | 469.7 | 494.7 | 553.4 |
| 30° | 624.5 | 626.6 | 608.0 | 574.0 | 522.6 | 474.7 | 458.4 | 459.7 | 477.9 | 499.8 | 564.5 |
| 32.5° | 687.4 | 685.8 | 668.0 | 628.8 | 571.2 | 509.4 | 474.0 | 473.6 | 486.9 | 509.8 | 580.5 |
| 35° | 746.5 | 748.9 | 730.0 | 686.7 | 624.7 | 552.3 | 497.3 | 495.9 | 506.3 | 526.1 | 603.0 |
| 37.5° | 818.0 | 817.2 | 794.6 | 747.8 | 678.3 | 593.3 | 530.2 | 527.6 | 531.3 | 551.6 | 634.4 |
| 40° | 869.0 | 874.2 | 859.5 | 815.9 | 741.1 | 643.8 | 568.6 | 562.9 | 563.8 | 582.9 | 676.3 |
| 42.5° | 910.8 | 915.6 | 917.1 | 889.2 | 812.9 | 706.2 | 616.5 | 610.8 | 611.3 | 638.4 | 727.9 |
| 45° | 942.9 | 949.4 | 970.4 | 962.2 | 893.9 | 778.2 | 681.3 | 675.4 | 675.7 | 705.8 | 790.3 |
| 47.5° | 956.1 | 963.1 | 1005.6 | 1025.1 | 979.8 | 864.4 | 761.9 | 753.2 | 754.5 | 787.7 | 861.6 |
| 50° | 951.8 | 961.3 | 1018.8 | 1073.6 | 1051.9 | 952.0 | 858.2 | 852.1 | 847.1 | 895.4 | 939.0 |
| 52.5° | 915.0 | 925.4 | 1017.5 | 1104.4 | 1110.7 | 1034.8 | 957.7 | 954.2 | 953.1 | 1009.7 | 1025.5 |
| 55° | 806.8 | 824.3 | 972.8 | 1112.6 | 1156.8 | 1112.8 | 1065.6 | 1059.7 | 1065.4 | 1132.3 | 1112.9 |
| 57.5° | 746.9 | 759.8 | 885.2 | 1103.5 | 1194.4 | 1187.0 | 1173.3 | 1173.8 | 1180.3 | 1265.4 | 1218.9 |
| 60° | 712.7 | 727.9 | 836.5 | 1078.6 | 1230.6 | 1277.2 | 1286.0 | 1286.0 | 1297.7 | 1408.9 | 1326.6 |
| 62.5° | 667.4 | 682.8 | 791.0 | 1030.7 | 1264.1 | 1383.4 | 1427.6 | 1427.1 | 1431.7 | 1562.8 | 1431.9 |
| 65° | 575.5 | 589.8 | 699.7 | 955.1 | 1280.4 | 1500.4 | 1588.6 | 1586.9 | 1577.6 | 1699.8 | 1501.5 |
| 67.5° | 417.9 | 431.4 | 536.0 | 811.5 | 1221.5 | 1594.7 | 1754.3 | 1755.1 | 1699.6 | 1786.1 | 1505.2 |
| 70° | 275.5 | 284.8 | 344.6 | 527.0 | 993.4 | 1554.0 | 1823.8 | 1826.0 | 1718.3 | 1732.3 | 1339.6 |
| 72.5° | 171.9 | 178.4 | 215.2 | 314.3 | 587.0 | 1230.1 | 1645.6 | 1651.7 | 1545.9 | 1522.3 | 1100.7 |
| 75° | 114.2 | 118.6 | 143.1 | 183.2 | 271.6 | 665.7 | 1250.9 | 1270.6 | 1239.0 | 1193.3 | 766.9 |
| 77.5° | 68.7 | 72.4 | 91.2 | 116.4 | 120.3 | 260.1 | 730.1 | 781.0 | 785.5 | 623.0 | 321.2 |
| 80° | 31.4 | 35.6 | 50.3 | 66.5 | 64.0 | 90.6 | 257.5 | 269.4 | 317.8 | 197.9 | 101.4 |
| 82.5° | 18.6 | 20.4 | 33.4 | 33.0 | 27.3 | 44.0 | 92.6 | 95.1 | 80.8 | 72.4 | 43.3 |
| 85° | 7.4 | 8.7 | 14.1 | 12.4 | 10.0 | 14.3 | 34.9 | 36.6 | 35.1 | 31.6 | 16.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.4 | 3.2 | 3.3 | 4.8 | 8.7 | 4.8 |
| 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: P628770
 CATALOG NUMBER: GWS-SA1A-730-U-T3R-W

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 424.9 | 424.9 | 424.9 | 424.9 | 424.9 | 424.9 | 424.9 | 424.9 | 424.9 | 424.9 | 424.9 |
| 2.5° | 428.1 | 427.0 | 432.6 | 436.8 | 438.7 | 440.5 | 438.9 | 438.3 | 438.3 | 434.6 | 432.7 |
| 5° | 432.7 | 433.3 | 440.9 | 444.4 | 444.4 | 442.9 | 438.5 | 435.3 | 434.2 | 429.4 | 428.1 |
| 7.5° | 441.5 | 443.9 | 450.9 | 450.7 | 445.5 | 437.4 | 426.2 | 417.7 | 409.9 | 406.6 | 404.5 |
| 10° | 455.8 | 458.9 | 463.7 | 455.9 | 441.5 | 419.9 | 396.4 | 377.8 | 366.6 | 357.7 | 357.7 |
| 12.5° | 472.1 | 475.1 | 474.1 | 456.1 | 426.2 | 386.0 | 352.0 | 330.6 | 315.0 | 306.9 | 306.9 |
| 15° | 488.4 | 490.8 | 480.8 | 447.6 | 394.5 | 340.8 | 303.7 | 278.1 | 264.5 | 256.9 | 256.9 |
| 17.5° | 505.0 | 504.8 | 483.6 | 427.9 | 353.1 | 290.9 | 254.5 | 234.7 | 230.0 | 228.7 | 228.5 |
| 20° | 520.9 | 516.7 | 480.1 | 395.1 | 305.0 | 240.6 | 217.6 | 218.9 | 225.7 | 228.7 | 229.1 |
| 22.5° | 538.9 | 528.3 | 469.7 | 353.1 | 250.4 | 205.7 | 207.2 | 217.9 | 228.0 | 232.4 | 233.0 |
| 25° | 557.3 | 538.4 | 452.2 | 303.9 | 204.8 | 192.9 | 204.4 | 216.5 | 227.8 | 233.5 | 234.1 |
| 27.5° | 564.7 | 538.4 | 422.5 | 246.9 | 180.4 | 187.5 | 200.1 | 211.8 | 223.7 | 230.4 | 231.7 |
| 30° | 570.9 | 533.7 | 380.9 | 195.5 | 170.4 | 182.3 | 193.3 | 204.0 | 215.7 | 223.9 | 225.4 |
| 32.5° | 579.4 | 529.6 | 330.6 | 164.3 | 165.8 | 177.3 | 184.9 | 194.0 | 204.6 | 210.0 | 209.4 |
| 35° | 589.4 | 523.3 | 269.9 | 149.4 | 161.9 | 173.0 | 178.4 | 183.8 | 179.0 | 178.8 | 179.3 |
| 37.5° | 603.7 | 517.8 | 217.0 | 142.8 | 159.3 | 170.1 | 174.5 | 163.0 | 156.3 | 153.5 | 152.4 |
| 40° | 624.3 | 515.5 | 171.2 | 138.9 | 158.9 | 169.9 | 166.7 | 148.9 | 139.8 | 130.1 | 130.0 |
| 42.5° | 650.3 | 513.9 | 141.5 | 137.0 | 160.2 | 174.1 | 155.9 | 139.6 | 120.9 | 116.6 | 116.2 |
| 45° | 683.7 | 511.3 | 126.6 | 136.6 | 163.4 | 177.5 | 154.8 | 126.8 | 114.0 | 112.1 | 112.1 |
| 47.5° | 724.0 | 507.2 | 119.9 | 136.6 | 166.9 | 176.0 | 151.5 | 124.0 | 110.8 | 112.9 | 114.2 |
| 50° | 770.2 | 502.0 | 116.4 | 136.3 | 170.4 | 176.0 | 144.4 | 123.5 | 110.1 | 120.7 | 124.9 |
| 52.5° | 819.6 | 496.0 | 114.0 | 134.8 | 172.8 | 176.2 | 144.8 | 125.3 | 110.8 | 122.5 | 126.1 |
| 55° | 874.2 | 495.1 | 110.6 | 131.6 | 173.6 | 171.4 | 145.7 | 129.4 | 111.9 | 111.0 | 111.2 |
| 57.5° | 943.1 | 506.3 | 108.2 | 127.0 | 170.6 | 161.5 | 147.6 | 132.4 | 110.6 | 110.8 | 112.1 |
| 60° | 1015.1 | 527.2 | 110.3 | 122.5 | 164.5 | 152.2 | 148.9 | 130.9 | 104.3 | 101.4 | 101.7 |
| 62.5° | 1076.4 | 543.2 | 111.9 | 120.5 | 155.6 | 144.1 | 147.6 | 127.5 | 100.8 | 100.1 | 101.7 |
| 65° | 1102.0 | 530.0 | 107.9 | 116.2 | 142.6 | 134.0 | 144.8 | 123.3 | 97.8 | 95.1 | 95.2 |
| 67.5° | 1073.6 | 468.2 | 99.9 | 106.7 | 127.9 | 121.2 | 140.3 | 117.7 | 93.8 | 90.4 | 89.7 |
| 70° | 917.1 | 344.0 | 86.1 | 91.7 | 110.1 | 106.2 | 133.5 | 110.5 | 87.3 | 84.8 | 83.2 |
| 72.5° | 739.1 | 243.6 | 71.5 | 73.0 | 86.3 | 89.5 | 121.6 | 101.4 | 79.8 | 73.0 | 70.5 |
| 75° | 514.4 | 153.0 | 59.6 | 58.1 | 62.4 | 68.3 | 94.9 | 84.1 | 68.9 | 61.6 | 59.4 |
| 77.5° | 221.3 | 78.5 | 46.6 | 45.9 | 41.6 | 47.3 | 72.8 | 70.2 | 57.7 | 49.4 | 48.1 |
| 80° | 74.1 | 45.5 | 33.6 | 32.3 | 27.7 | 33.2 | 51.2 | 56.1 | 45.3 | 36.6 | 34.3 |
| 82.5° | 37.1 | 26.4 | 21.3 | 19.3 | 18.6 | 21.0 | 30.3 | 34.9 | 31.4 | 25.2 | 21.3 |
| 85° | 18.2 | 15.0 | 11.7 | 11.5 | 9.7 | 9.1 | 12.6 | 14.9 | 14.1 | 10.4 | 9.8 |
| 87.5° | 6.7 | 5.9 | 3.7 | 3.0 | 1.9 | 1.3 | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 |
| 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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Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



LM-79-2008: Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGRAW-EDISON

Report Number: SP1-1908-441-2-R4

Test Date: 10/03/2019

Luminaire Tested: SA1C-730-U-5WQ

Data in this report applies to families of products SA1C-730-U-5WQ .

Test Information

Test Method: LM-79-2008
 Report Number: SP1-1908-441-2-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-730-U-5WQ**
 Description: McGRAW EDISON ROADWAY AND AREA LUMINAIRE

THIS IS A REVISION OF SP1-1908-441-2-R3. TO UPDATE THE CATALOG INFORMATION.TESTED IN SITU. (1) 70 CRI, 3000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

Spectral Parameters

| | | | | | |
|---------------------------|--------|-----------|------|------|-------|
| CCT (K): | 2993 | CRI (Ra): | 71.8 | R9: | -38.3 |
| CIE u': | 0.2508 | R1: | 67.5 | R10: | 62.5 |
| CIE v': | 0.5215 | R2: | 82.9 | R11: | 63.7 |
| Duv: | 0.0000 | R3: | 94.7 | R12: | 57.8 |
| CIE x: | 0.4374 | R4: | 67.7 | R13: | 70.4 |
| CIE y: | 0.4043 | R5: | 67.9 | R14: | 97.3 |
| CIE z: | 0.1583 | R6: | 77.6 | | |
| Peak Wavelength (nm): | 593 | R7: | 76.0 | | |
| Dominant Wavelength (nm): | 582 | R8: | 40.5 | | |
| Purity: | 53 | | | | |
| Rf: | 75.7 | | | | |
| Rg: | 93.9 | | | | |



Test Conditions

Stabilization Time: 53M
 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 3000K 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 | 2397 | NR | 490 | 24908 | NR | 620 | 118784 | NR | 750 | 5037 | NR | 880 | 2677 | NR |
| 365 | 2084 | NR | 495 | 30998 | NR | 625 | 108951 | NR | 755 | 4413 | NR | 885 | 2940 | NR |
| 370 | 2143 | NR | 500 | 37103 | NR | 630 | 99573 | NR | 760 | 4189 | NR | 890 | 3116 | NR |
| 375 | 2413 | NR | 505 | 42987 | NR | 635 | 90444 | NR | 765 | 3677 | NR | 895 | 3345 | NR |
| 380 | 2172 | NR | 510 | 48702 | NR | 640 | 80749 | NR | 770 | 3366 | NR | 900 | 2312 | NR |
| 385 | 1997 | NR | 515 | 53741 | NR | 645 | 71664 | NR | 775 | 3211 | NR | 905 | 2829 | NR |
| 390 | 1830 | NR | 520 | 57283 | NR | 650 | 63936 | NR | 780 | 2682 | NR | 910 | 2783 | NR |
| 395 | 1861 | NR | 525 | 61876 | NR | 655 | 56611 | NR | 785 | 2804 | NR | 915 | 2662 | NR |
| 400 | 1717 | NR | 530 | 65398 | NR | 660 | 49763 | NR | 790 | 2581 | NR | 920 | 3047 | NR |
| 405 | 1761 | NR | 535 | 69597 | NR | 665 | 42891 | NR | 795 | 2711 | NR | 925 | 2256 | NR |
| 410 | 2680 | NR | 540 | 74214 | NR | 670 | 36939 | NR | 800 | 2609 | NR | 930 | 2976 | NR |
| 415 | 4374 | NR | 545 | 79911 | NR | 675 | 31946 | NR | 805 | 2581 | NR | 935 | 3503 | NR |
| 420 | 8071 | NR | 550 | 86153 | NR | 680 | 27385 | NR | 810 | 2404 | NR | 940 | 4226 | NR |
| 425 | 15169 | NR | 555 | 93952 | NR | 685 | 23504 | NR | 815 | 2556 | NR | 945 | 2930 | NR |
| 430 | 26038 | NR | 560 | 102904 | NR | 690 | 20210 | NR | 820 | 2742 | NR | 950 | 2115 | NR |
| 435 | 41316 | NR | 565 | 112009 | NR | 695 | 17459 | NR | 825 | 2014 | NR | 955 | 2634 | NR |
| 440 | 59674 | NR | 570 | 121662 | NR | 700 | 15207 | NR | 830 | 2488 | NR | 960 | 4200 | NR |
| 445 | 72751 | NR | 575 | 130476 | NR | 705 | 13322 | NR | 835 | 2625 | NR | 965 | 1982 | NR |
| 450 | 65091 | NR | 580 | 137926 | NR | 710 | 11676 | NR | 840 | 2754 | NR | 970 | 3613 | NR |
| 455 | 44894 | NR | 585 | 143406 | NR | 715 | 10626 | NR | 845 | 2708 | NR | 975 | 4034 | NR |
| 460 | 32712 | NR | 590 | 147039 | NR | 720 | 9416 | NR | 850 | 2608 | NR | 980 | 3922 | NR |
| 465 | 25296 | NR | 595 | 147365 | NR | 725 | 8333 | NR | 855 | 2605 | NR | 985 | 1909 | NR |
| 470 | 19318 | NR | 600 | 145800 | NR | 730 | 7134 | NR | 860 | 1765 | NR | 990 | 3617 | NR |
| 475 | 17265 | NR | 605 | 141363 | NR | 735 | 6437 | NR | 865 | 2581 | NR | 995 | 4767 | NR |
| 480 | 18260 | NR | 610 | 134199 | NR | 740 | 5834 | NR | 870 | 3016 | NR | 1000 | 2528 | NR |
| 485 | 20845 | NR | 615 | 127683 | NR | 745 | 5500 | NR | 875 | 3952 | NR | | | |

REPORT NUMBER: SP1-1908-441-2-R4

Scotopic Flux vs. Wavelength



Scotopic Lumens: 8494.8

S/P: 1.23

| 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 | 2397 | NR | 490 | 24908 | NR | 620 | 118784 | NR | 750 | 5037 | NR | 880 | 2677 | NR |
| 365 | 2084 | NR | 495 | 30998 | NR | 625 | 108951 | NR | 755 | 4413 | NR | 885 | 2940 | NR |
| 370 | 2143 | NR | 500 | 37103 | NR | 630 | 99573 | NR | 760 | 4189 | NR | 890 | 3116 | NR |
| 375 | 2413 | NR | 505 | 42987 | NR | 635 | 90444 | NR | 765 | 3677 | NR | 895 | 3345 | NR |
| 380 | 2172 | NR | 510 | 48702 | NR | 640 | 80749 | NR | 770 | 3366 | NR | 900 | 2312 | NR |
| 385 | 1997 | NR | 515 | 53741 | NR | 645 | 71664 | NR | 775 | 3211 | NR | 905 | 2829 | NR |
| 390 | 1830 | NR | 520 | 57283 | NR | 650 | 63936 | NR | 780 | 2682 | NR | 910 | 2783 | NR |
| 395 | 1861 | NR | 525 | 61876 | NR | 655 | 56611 | NR | 785 | 2804 | NR | 915 | 2662 | NR |
| 400 | 1717 | NR | 530 | 65398 | NR | 660 | 49763 | NR | 790 | 2581 | NR | 920 | 3047 | NR |
| 405 | 1761 | NR | 535 | 69597 | NR | 665 | 42891 | NR | 795 | 2711 | NR | 925 | 2256 | NR |
| 410 | 2680 | NR | 540 | 74214 | NR | 670 | 36939 | NR | 800 | 2609 | NR | 930 | 2976 | NR |
| 415 | 4374 | NR | 545 | 79911 | NR | 675 | 31946 | NR | 805 | 2581 | NR | 935 | 3503 | NR |
| 420 | 8071 | NR | 550 | 86153 | NR | 680 | 27385 | NR | 810 | 2404 | NR | 940 | 4226 | NR |
| 425 | 15169 | NR | 555 | 93952 | NR | 685 | 23504 | NR | 815 | 2556 | NR | 945 | 2930 | NR |
| 430 | 26038 | NR | 560 | 102904 | NR | 690 | 20210 | NR | 820 | 2742 | NR | 950 | 2115 | NR |
| 435 | 41316 | NR | 565 | 112009 | NR | 695 | 17459 | NR | 825 | 2014 | NR | 955 | 2634 | NR |
| 440 | 59674 | NR | 570 | 121662 | NR | 700 | 15207 | NR | 830 | 2488 | NR | 960 | 4200 | NR |
| 445 | 72751 | NR | 575 | 130476 | NR | 705 | 13322 | NR | 835 | 2625 | NR | 965 | 1982 | NR |
| 450 | 65091 | NR | 580 | 137926 | NR | 710 | 11676 | NR | 840 | 2754 | NR | 970 | 3613 | NR |
| 455 | 44894 | NR | 585 | 143406 | NR | 715 | 10626 | NR | 845 | 2708 | NR | 975 | 4034 | NR |
| 460 | 32712 | NR | 590 | 147039 | NR | 720 | 9416 | NR | 850 | 2608 | NR | 980 | 3922 | NR |
| 465 | 25296 | NR | 595 | 147365 | NR | 725 | 8333 | NR | 855 | 2605 | NR | 985 | 1909 | NR |
| 470 | 19318 | NR | 600 | 145800 | NR | 730 | 7134 | NR | 860 | 1765 | NR | 990 | 3617 | NR |
| 475 | 17265 | NR | 605 | 141363 | NR | 735 | 6437 | NR | 865 | 2581 | NR | 995 | 4767 | NR |
| 480 | 18260 | NR | 610 | 134199 | NR | 740 | 5834 | NR | 870 | 3016 | NR | 1000 | 2528 | NR |
| 485 | 20845 | NR | 615 | 127683 | NR | 745 | 5500 | NR | 875 | 3952 | NR | | | |

REPORT NUMBER: SP1-1908-441-2-R4

Melanopic Flux vs. Wavelength



Melanopic Lumens: 3101.5 M/P: 0.45

| 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 | 2397 | NR | 490 | 24908 | NR | 620 | 118784 | NR | 750 | 5037 | NR | 880 | 2677 | NR |
| 365 | 2084 | NR | 495 | 30998 | NR | 625 | 108951 | NR | 755 | 4413 | NR | 885 | 2940 | NR |
| 370 | 2143 | NR | 500 | 37103 | NR | 630 | 99573 | NR | 760 | 4189 | NR | 890 | 3116 | NR |
| 375 | 2413 | NR | 505 | 42987 | NR | 635 | 90444 | NR | 765 | 3677 | NR | 895 | 3345 | NR |
| 380 | 2172 | NR | 510 | 48702 | NR | 640 | 80749 | NR | 770 | 3366 | NR | 900 | 2312 | NR |
| 385 | 1997 | NR | 515 | 53741 | NR | 645 | 71664 | NR | 775 | 3211 | NR | 905 | 2829 | NR |
| 390 | 1830 | NR | 520 | 57283 | NR | 650 | 63936 | NR | 780 | 2682 | NR | 910 | 2783 | NR |
| 395 | 1861 | NR | 525 | 61876 | NR | 655 | 56611 | NR | 785 | 2804 | NR | 915 | 2662 | NR |
| 400 | 1717 | NR | 530 | 65398 | NR | 660 | 49763 | NR | 790 | 2581 | NR | 920 | 3047 | NR |
| 405 | 1761 | NR | 535 | 69597 | NR | 665 | 42891 | NR | 795 | 2711 | NR | 925 | 2256 | NR |
| 410 | 2680 | NR | 540 | 74214 | NR | 670 | 36939 | NR | 800 | 2609 | NR | 930 | 2976 | NR |
| 415 | 4374 | NR | 545 | 79911 | NR | 675 | 31946 | NR | 805 | 2581 | NR | 935 | 3503 | NR |
| 420 | 8071 | NR | 550 | 86153 | NR | 680 | 27385 | NR | 810 | 2404 | NR | 940 | 4226 | NR |
| 425 | 15169 | NR | 555 | 93952 | NR | 685 | 23504 | NR | 815 | 2556 | NR | 945 | 2930 | NR |
| 430 | 26038 | NR | 560 | 102904 | NR | 690 | 20210 | NR | 820 | 2742 | NR | 950 | 2115 | NR |
| 435 | 41316 | NR | 565 | 112009 | NR | 695 | 17459 | NR | 825 | 2014 | NR | 955 | 2634 | NR |
| 440 | 59674 | NR | 570 | 121662 | NR | 700 | 15207 | NR | 830 | 2488 | NR | 960 | 4200 | NR |
| 445 | 72751 | NR | 575 | 130476 | NR | 705 | 13322 | NR | 835 | 2625 | NR | 965 | 1982 | NR |
| 450 | 65091 | NR | 580 | 137926 | NR | 710 | 11676 | NR | 840 | 2754 | NR | 970 | 3613 | NR |
| 455 | 44894 | NR | 585 | 143406 | NR | 715 | 10626 | NR | 845 | 2708 | NR | 975 | 4034 | NR |
| 460 | 32712 | NR | 590 | 147039 | NR | 720 | 9416 | NR | 850 | 2608 | NR | 980 | 3922 | NR |
| 465 | 25296 | NR | 595 | 147365 | NR | 725 | 8333 | NR | 855 | 2605 | NR | 985 | 1909 | NR |
| 470 | 19318 | NR | 600 | 145800 | NR | 730 | 7134 | NR | 860 | 1765 | NR | 990 | 3617 | NR |
| 475 | 17265 | NR | 605 | 141363 | NR | 735 | 6437 | NR | 865 | 2581 | NR | 995 | 4767 | NR |
| 480 | 18260 | NR | 610 | 134199 | NR | 740 | 5834 | NR | 870 | 3016 | NR | 1000 | 2528 | NR |
| 485 | 20845 | NR | 615 | 127683 | NR | 745 | 5500 | NR | 875 | 3952 | NR | | | |

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Summary

$R_f = 75.7$
 $R_g = 93.9$
 CIE $R_a = 71.8$
 $R_9 = -38.3$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 67 | CES51 = 87 | CES76 = 63 |
| CES02 = 63 | CES27 = 88 | CES52 = 86 | CES77 = 80 |
| CES03 = 31 | CES28 = 87 | CES53 = 78 | CES78 = 67 |
| CES04 = 71 | CES29 = 66 | CES54 = 84 | CES79 = 87 |
| CES05 = 49 | CES30 = 73 | CES55 = 84 | CES80 = 86 |
| CES06 = 51 | CES31 = 70 | CES56 = 75 | CES81 = 71 |
| CES07 = 41 | CES32 = 65 | CES57 = 74 | CES82 = 94 |
| CES08 = 40 | CES33 = 73 | CES58 = 76 | CES83 = 90 |
| CES09 = 29 | CES34 = 79 | CES59 = 85 | CES84 = 89 |
| CES10 = 76 | CES35 = 89 | CES60 = 93 | CES85 = 77 |
| CES11 = 59 | CES36 = 97 | CES61 = 84 | CES86 = 61 |
| CES12 = 65 | CES37 = 87 | CES62 = 91 | CES87 = 78 |
| CES13 = 43 | CES38 = 81 | CES63 = 77 | CES88 = 77 |
| CES14 = 74 | CES39 = 95 | CES64 = 72 | CES89 = 67 |
| CES15 = 71 | CES40 = 92 | CES65 = 68 | CES90 = 76 |
| CES16 = 47 | CES41 = 88 | CES66 = 69 | CES91 = 89 |
| CES17 = 50 | CES42 = 89 | CES67 = 67 | CES92 = 58 |
| CES18 = 56 | CES43 = 79 | CES68 = 72 | CES93 = 74 |
| CES19 = 73 | CES44 = 99 | CES69 = 81 | CES94 = 49 |
| CES20 = 66 | CES45 = 85 | CES70 = 66 | CES95 = 68 |
| CES21 = 87 | CES46 = 80 | CES71 = 67 | CES96 = 76 |
| CES22 = 79 | CES47 = 82 | CES72 = 88 | CES97 = 82 |
| CES23 = 92 | CES48 = 69 | CES73 = 59 | CES98 = 75 |
| CES24 = 91 | CES49 = 80 | CES74 = 95 | CES99 = 62 |
| CES25 = 73 | CES50 = 87 | CES75 = 69 | |



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Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)