

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: STREETWORKS

Report Number: P362752

Luminaire Tested: NVN-SA6B-750-U-T3R-HSS

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2019
Report Number: P362752
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-11)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: STREETWORKS
Catalog Number: NVN-SA6B-750-U-T3R-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 5000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 26459 lumens
Efficiency: N/A
Efficacy: 106.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B2 - U0 - G4

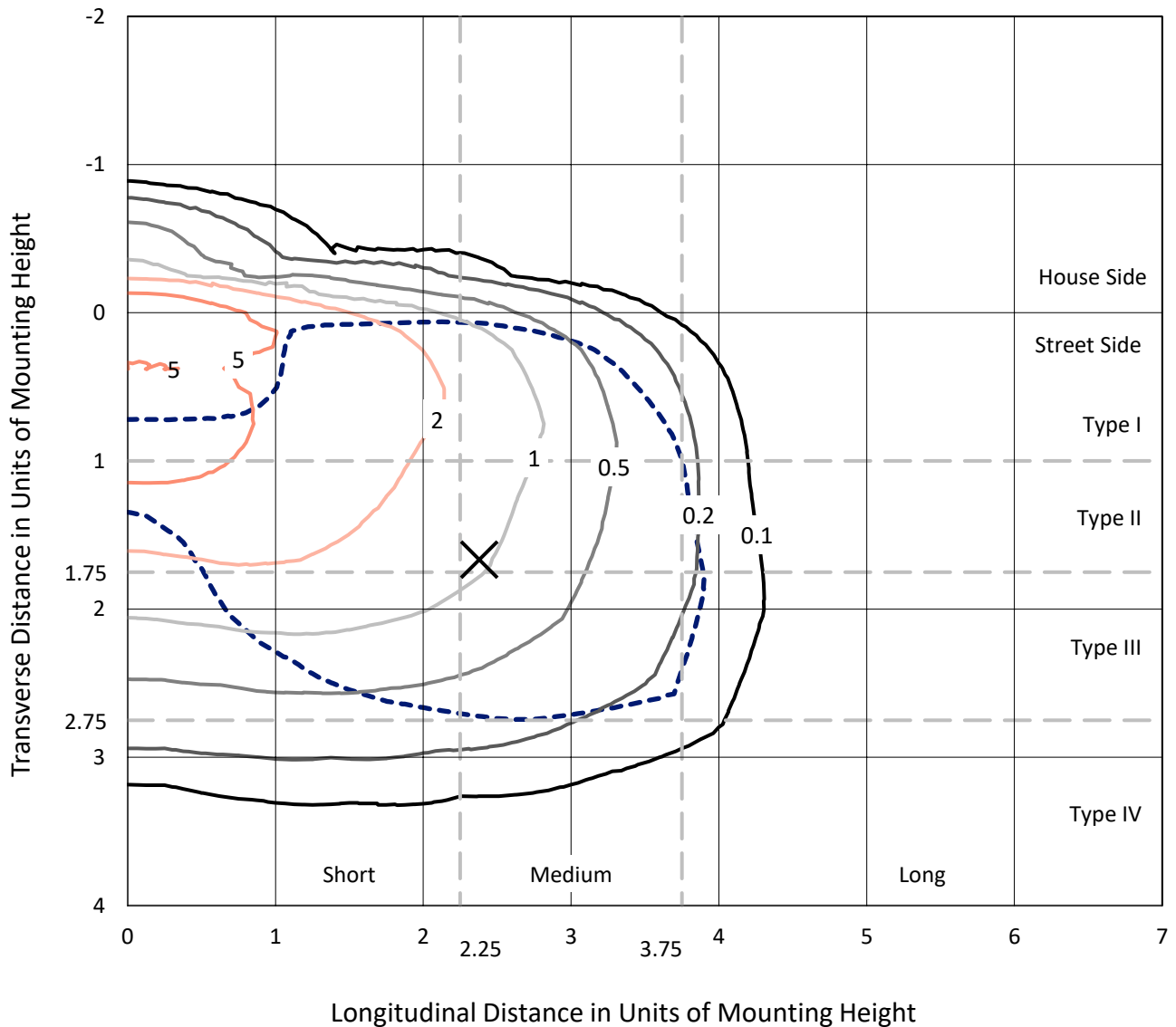
Input Watts (W): 249
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P362752
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Iso-Footcandle Lines of Horizontal Illumination

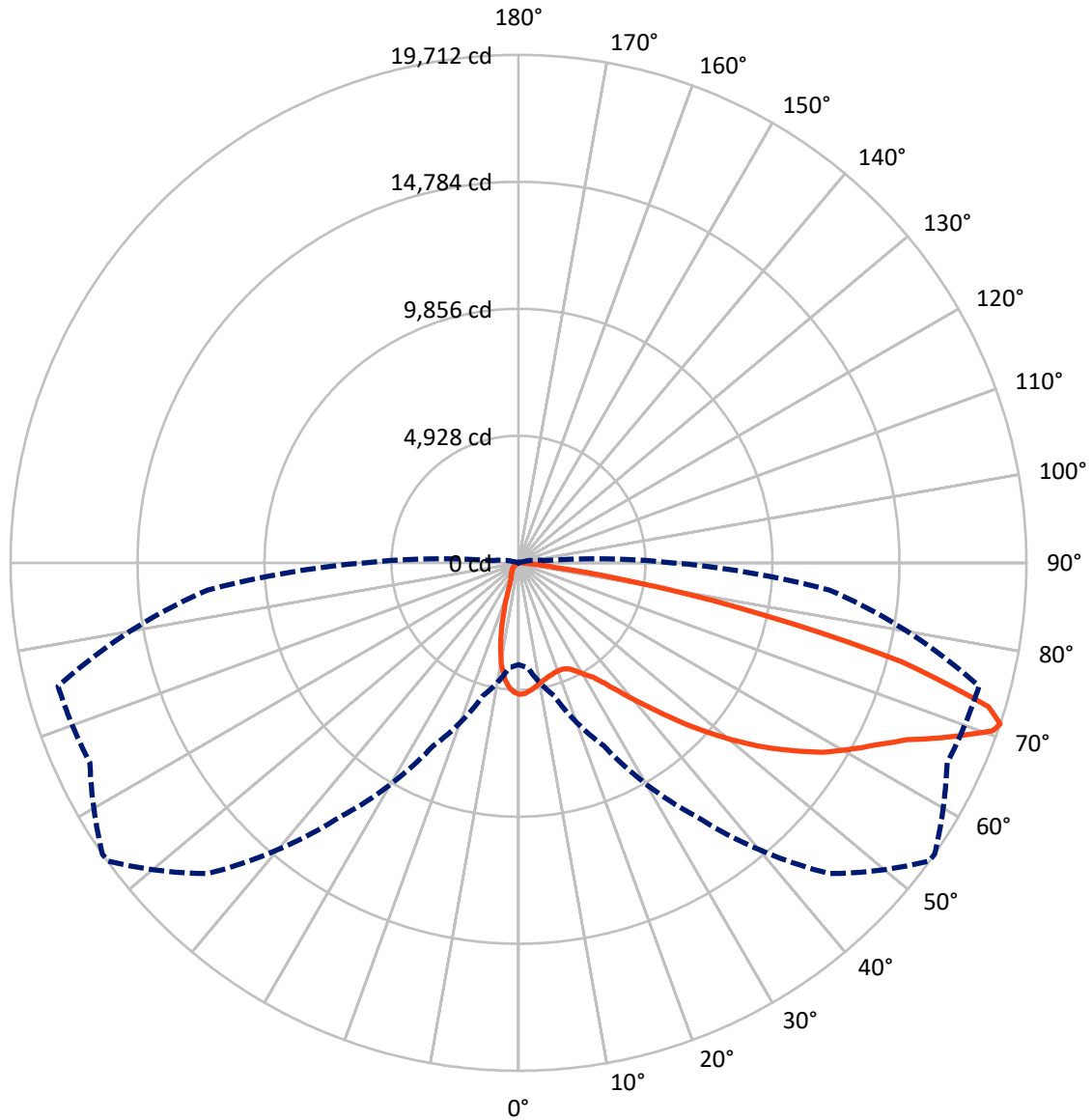
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.4 fc
 Type III - Medium - N/A

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CATALOG NUMBER: NVN-SA6B-750-U-T3R-HSS

Luminous Intensity Polar Plot



— Vertical Plane Through 55-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 2094.8 | 0.0 | 2094.8 |
| | % Fixture | 7.9 | 0.0 | 7.9 |
| Street Side | Lumens | 24364.2 | 0.0 | 24364.2 |
| | % Fixture | 92.1 | 0.0 | 92.1 |
| Total | Lumens | 26459.0 | 0.0 | 26459.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 435.1 | 1.6 |
| 10°-20° | 982.2 | 3.7 |
| 20°-30° | 1578.5 | 6.0 |
| 30°-40° | 2681.9 | 10.1 |
| 40°-50° | 4162.6 | 15.7 |
| 50°-60° | 5596.5 | 21.2 |
| 60°-70° | 6846.4 | 25.9 |
| 70°-80° | 4002.9 | 15.1 |
| 80°-90° | 173.0 | 0.7 |
| 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° | 26459.0 | 100.0 |
| 0°-180° | 26459.0 | 100.0 |

Coefficient of Utilization

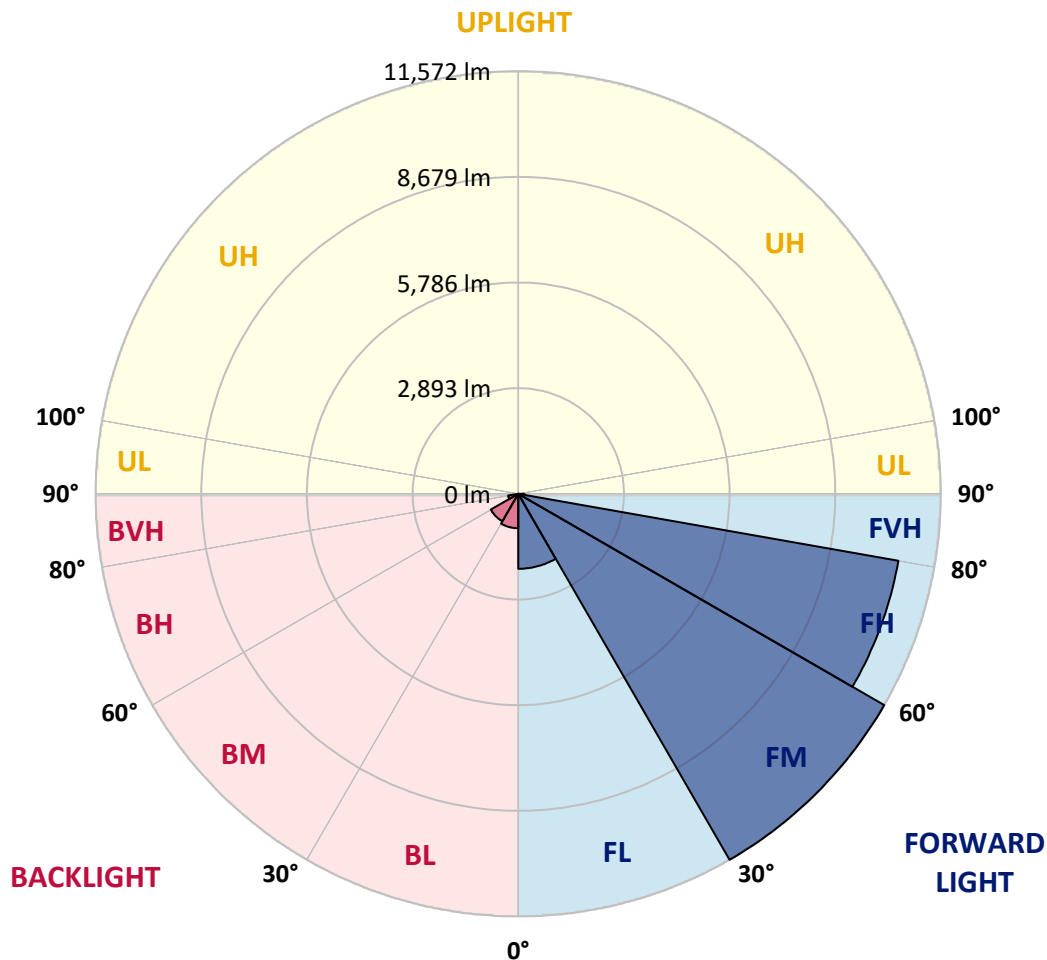


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|---------|-----------|-------------------------|------|----------|
| | | | B | U | G |
| FL (0°-30°) | 2052.9 | 7.8 | | | |
| FM (30°-60°) | 11572.4 | 43.7 | | | |
| FH (60°-80°) | 10568.6 | 39.9 | | | G4/12000 |
| FVH (80°-90°) | 170.3 | 0.6 | | | G2/225 |
| BL (0°-30°) | 942.9 | 3.6 | B2/1000 | | |
| BM (30°-60°) | 868.6 | 3.3 | B1/1000 | | |
| BH (60°-80°) | 280.7 | 1.1 | B1/500 | | G1/500 |
| BVH (80°-90°) | 2.7 | 0.0 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G4
 Type III Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 54° | 55° | 65° | 75° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 5102.7 | 5102.7 | 5102.7 | 5102.7 | 5102.7 | 5102.7 | 5102.7 | 5102.7 | 5102.7 | 5102.7 | 5102.7 |
| 2.5° | 4953.0 | 4959.0 | 4980.3 | 4989.8 | 5012.4 | 5050.4 | 5069.4 | 5070.6 | 5101.5 | 5113.4 | 5122.9 |
| 5° | 4602.5 | 4638.2 | 4673.8 | 4711.8 | 4780.7 | 4872.2 | 4962.5 | 4970.8 | 5070.6 | 5144.3 | 5183.5 |
| 7.5° | 4300.8 | 4332.9 | 4375.6 | 4436.2 | 4533.6 | 4677.4 | 4828.3 | 4846.1 | 5035.0 | 5202.5 | 5290.4 |
| 10° | 3990.7 | 4016.8 | 4078.6 | 4167.7 | 4302.0 | 4494.4 | 4697.6 | 4727.3 | 5002.9 | 5280.9 | 5435.4 |
| 12.5° | 3659.2 | 3674.7 | 3749.5 | 3877.8 | 4075.0 | 4319.8 | 4587.1 | 4626.3 | 4982.7 | 5371.2 | 5606.5 |
| 15° | 3407.4 | 3414.5 | 3485.8 | 3618.8 | 3844.6 | 4163.0 | 4501.6 | 4549.1 | 4987.5 | 5479.3 | 5793.0 |
| 17.5° | 3343.2 | 3346.8 | 3384.8 | 3476.3 | 3675.9 | 4022.8 | 4433.8 | 4492.1 | 5001.7 | 5585.1 | 5980.7 |
| 20° | 3603.4 | 3578.4 | 3539.2 | 3525.0 | 3610.5 | 3938.4 | 4393.4 | 4458.8 | 5020.7 | 5678.9 | 6149.4 |
| 22.5° | 4317.4 | 4243.7 | 4081.0 | 3863.6 | 3731.7 | 3944.4 | 4404.1 | 4469.5 | 5081.3 | 5794.2 | 6344.2 |
| 25° | 5377.2 | 5275.0 | 4998.2 | 4570.5 | 4159.4 | 4115.4 | 4493.2 | 4559.8 | 5198.9 | 5932.0 | 6530.8 |
| 27.5° | 6583.0 | 6482.0 | 6143.5 | 5532.8 | 4831.8 | 4454.0 | 4697.6 | 4759.4 | 5373.6 | 6054.3 | 6673.3 |
| 30° | 7737.8 | 7709.3 | 7310.1 | 6616.3 | 5677.7 | 5002.9 | 4961.3 | 5013.6 | 5503.1 | 6128.0 | 6786.2 |
| 32.5° | 8716.8 | 8671.6 | 8350.9 | 7676.0 | 6646.0 | 5662.3 | 5271.4 | 5286.9 | 5600.5 | 6223.1 | 6933.5 |
| 35° | 9624.5 | 9568.6 | 9287.1 | 8649.1 | 7639.2 | 6467.8 | 5749.0 | 5726.4 | 5813.2 | 6414.3 | 7147.4 |
| 37.5° | 10416.9 | 10468.0 | 10155.5 | 9548.4 | 8530.3 | 7305.4 | 6392.9 | 6325.2 | 6145.8 | 6725.6 | 7457.4 |
| 40° | 11079.8 | 11079.8 | 10917.1 | 10411.0 | 9492.6 | 8171.5 | 7121.2 | 7032.1 | 6646.0 | 7205.6 | 7850.7 |
| 42.5° | 11318.6 | 11369.7 | 11430.3 | 11144.0 | 10353.9 | 9072.0 | 7932.7 | 7840.0 | 7350.5 | 7886.3 | 8347.3 |
| 45° | 11332.9 | 11413.7 | 11723.8 | 11722.6 | 11132.1 | 9966.6 | 8847.5 | 8803.5 | 8253.4 | 8760.7 | 8962.7 |
| 47.5° | 11132.1 | 11233.1 | 11744.0 | 12033.8 | 11748.7 | 10799.5 | 9847.8 | 9793.2 | 9314.4 | 9832.4 | 9606.6 |
| 50° | 10822.0 | 10933.7 | 11527.7 | 12156.2 | 12168.1 | 11524.2 | 10901.6 | 10819.7 | 10482.2 | 11057.3 | 10272.0 |
| 52.5° | 10267.2 | 10483.4 | 11334.1 | 12184.7 | 12443.7 | 12150.3 | 11904.4 | 11868.7 | 11789.1 | 12237.0 | 10801.8 |
| 55° | 9080.3 | 9320.3 | 10848.2 | 12194.2 | 12699.2 | 12705.1 | 12844.1 | 12853.6 | 13014.0 | 13339.5 | 11196.3 |
| 57.5° | 8519.6 | 8655.0 | 9999.9 | 12239.4 | 13078.2 | 13334.8 | 13801.7 | 13875.3 | 14123.6 | 14386.2 | 11646.5 |
| 60° | 8166.7 | 8327.1 | 9581.7 | 12177.6 | 13673.4 | 14160.5 | 14689.2 | 14714.1 | 14980.2 | 15466.2 | 12256.0 |
| 62.5° | 7885.1 | 8043.2 | 9317.9 | 11940.0 | 14342.2 | 15153.7 | 15556.4 | 15558.8 | 15758.4 | 16752.8 | 12948.7 |
| 65° | 7190.1 | 7323.2 | 8784.5 | 11672.7 | 14784.2 | 16136.2 | 16563.9 | 16548.5 | 16711.2 | 18109.6 | 13753.0 |
| 67.5° | 6185.0 | 6287.2 | 7695.1 | 10659.3 | 14617.9 | 17029.6 | 18084.6 | 18033.5 | 17836.3 | 19282.2 | 14069.0 |
| 70° | 4781.9 | 4818.8 | 6065.0 | 8883.1 | 13059.1 | 17373.0 | 19554.3 | 19528.1 | 18526.6 | 19071.9 | 12910.6 |
| 71° | 3952.7 | 4073.9 | 5345.1 | 7840.0 | 12014.8 | 17055.8 | 19696.8 | 19712.3 | 18353.1 | 18499.3 | 12113.4 |
| 72.5° | 2295.3 | 2398.7 | 3874.3 | 6021.1 | 10200.7 | 15732.3 | 18957.9 | 19069.5 | 17542.9 | 16826.5 | 10346.8 |
| 75° | 491.9 | 526.3 | 1436.4 | 2914.3 | 5611.2 | 11026.4 | 14963.6 | 15361.6 | 14298.3 | 11446.9 | 6236.1 |
| 77.5° | 342.2 | 369.5 | 615.4 | 1322.3 | 1854.6 | 5448.4 | 9295.4 | 9744.5 | 8542.1 | 4302.0 | 1995.9 |
| 80° | 270.9 | 301.8 | 480.0 | 653.4 | 501.4 | 1757.1 | 4354.2 | 4628.7 | 2849.0 | 960.0 | 336.2 |
| 82.5° | 150.9 | 179.4 | 374.2 | 352.9 | 192.5 | 333.8 | 1218.9 | 1378.1 | 570.3 | 193.7 | 79.6 |
| 85° | 44.0 | 53.5 | 241.2 | 256.6 | 82.0 | 64.2 | 207.9 | 257.8 | 108.1 | 51.1 | 35.6 |
| 87.5° | 0.0 | 0.0 | 116.4 | 98.6 | 23.8 | 9.5 | 19.0 | 21.4 | 21.4 | 21.4 | 23.8 |
| 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: P362752
 CATALOG NUMBER: NVN-SA6B-750-U-T3R-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 5102.7 | 5102.7 | 5102.7 | 5102.7 | 5102.7 | 5102.7 | 5102.7 | 5102.7 | 5102.7 | 5102.7 | 5102.7 |
| 2.5° | 5122.9 | 5131.2 | 5101.5 | 5062.3 | 5020.7 | 4969.7 | 4916.2 | 4874.6 | 4873.4 | 4853.2 | 4833.0 |
| 5° | 5185.9 | 5181.1 | 5099.1 | 4974.4 | 4827.1 | 4673.8 | 4527.7 | 4362.6 | 4307.9 | 4240.2 | 4217.6 |
| 7.5° | 5302.3 | 5269.0 | 5095.6 | 4822.3 | 4499.2 | 4178.4 | 3846.9 | 3513.1 | 3370.5 | 3242.2 | 3219.6 |
| 10° | 5448.4 | 5385.5 | 5073.0 | 4594.2 | 4001.4 | 3409.7 | 2909.6 | 2455.7 | 2256.1 | 2102.9 | 2095.7 |
| 12.5° | 5600.5 | 5504.3 | 5010.0 | 4249.7 | 3349.1 | 2517.5 | 1941.3 | 1494.6 | 1328.2 | 1221.3 | 1230.8 |
| 15° | 5759.7 | 5616.0 | 4874.6 | 3785.2 | 2606.6 | 1708.4 | 1192.8 | 930.3 | 863.7 | 836.4 | 843.5 |
| 17.5° | 5922.5 | 5693.2 | 4685.7 | 3225.6 | 1873.6 | 1102.5 | 825.7 | 752.0 | 752.0 | 758.0 | 760.4 |
| 20° | 6063.9 | 5734.8 | 4407.7 | 2598.3 | 1270.0 | 803.1 | 722.3 | 711.6 | 717.6 | 727.1 | 728.3 |
| 22.5° | 6204.0 | 5737.1 | 4045.3 | 1962.7 | 888.7 | 703.3 | 687.9 | 683.1 | 686.7 | 697.4 | 698.6 |
| 25° | 6318.1 | 5708.6 | 3591.5 | 1396.0 | 709.3 | 662.9 | 655.8 | 653.4 | 655.8 | 668.9 | 668.9 |
| 27.5° | 6364.4 | 5605.3 | 3037.9 | 981.3 | 635.6 | 617.8 | 615.4 | 617.8 | 621.4 | 630.9 | 632.0 |
| 30° | 6369.2 | 5424.7 | 2434.3 | 710.5 | 576.2 | 557.2 | 562.0 | 570.3 | 566.7 | 564.3 | 566.7 |
| 32.5° | 6381.1 | 5215.6 | 1846.2 | 584.5 | 526.3 | 496.6 | 490.7 | 490.7 | 476.4 | 468.1 | 463.3 |
| 35° | 6420.3 | 4969.7 | 1338.9 | 525.1 | 475.2 | 440.8 | 418.2 | 392.1 | 364.7 | 350.5 | 346.9 |
| 37.5° | 6482.0 | 4711.8 | 958.8 | 485.9 | 430.1 | 390.9 | 348.1 | 301.8 | 262.6 | 251.9 | 251.9 |
| 40° | 6594.9 | 4445.7 | 709.3 | 455.0 | 394.4 | 345.7 | 281.6 | 221.0 | 185.3 | 179.4 | 179.4 |
| 42.5° | 6773.1 | 4165.3 | 565.5 | 427.7 | 363.5 | 299.4 | 215.0 | 160.4 | 134.3 | 130.7 | 129.5 |
| 45° | 6958.5 | 3856.4 | 494.2 | 401.6 | 330.3 | 245.9 | 159.2 | 118.8 | 103.4 | 99.8 | 99.8 |
| 47.5° | 7143.8 | 3527.3 | 459.8 | 376.6 | 298.2 | 191.3 | 118.8 | 93.9 | 86.7 | 86.7 | 87.9 |
| 50° | 7300.6 | 3184.0 | 434.8 | 349.3 | 256.6 | 144.9 | 93.9 | 79.6 | 77.2 | 82.0 | 83.2 |
| 52.5° | 7339.8 | 2846.6 | 403.9 | 314.8 | 205.5 | 110.5 | 77.2 | 70.1 | 70.1 | 70.1 | 70.1 |
| 55° | 7316.1 | 2585.2 | 363.5 | 272.1 | 152.1 | 87.9 | 66.5 | 61.8 | 60.6 | 60.6 | 60.6 |
| 57.5° | 7396.9 | 2430.8 | 291.1 | 211.5 | 109.3 | 71.3 | 58.2 | 54.7 | 52.3 | 51.1 | 51.1 |
| 60° | 7559.6 | 2329.8 | 207.9 | 152.1 | 82.0 | 59.4 | 49.9 | 46.3 | 42.8 | 40.4 | 40.4 |
| 62.5° | 7775.8 | 2241.9 | 154.4 | 112.9 | 63.0 | 47.5 | 41.6 | 38.0 | 33.3 | 30.9 | 30.9 |
| 65° | 7942.2 | 2085.0 | 117.6 | 84.4 | 47.5 | 38.0 | 32.1 | 30.9 | 23.8 | 21.4 | 20.2 |
| 67.5° | 7687.9 | 1740.5 | 95.0 | 61.8 | 35.6 | 29.7 | 24.9 | 23.8 | 14.3 | 11.9 | 11.9 |
| 70° | 6593.7 | 1211.8 | 76.0 | 45.1 | 26.1 | 23.8 | 20.2 | 15.4 | 10.7 | 9.5 | 9.5 |
| 71° | 5979.5 | 1012.2 | 68.9 | 38.0 | 22.6 | 22.6 | 19.0 | 13.1 | 9.5 | 8.3 | 8.3 |
| 72.5° | 4967.3 | 718.8 | 58.2 | 29.7 | 20.2 | 23.8 | 20.2 | 11.9 | 9.5 | 8.3 | 7.1 |
| 75° | 2883.4 | 300.6 | 40.4 | 20.2 | 15.4 | 28.5 | 26.1 | 10.7 | 7.1 | 5.9 | 5.9 |
| 77.5° | 867.3 | 110.5 | 22.6 | 13.1 | 11.9 | 24.9 | 29.7 | 9.5 | 3.6 | 1.2 | 1.2 |
| 80° | 158.0 | 47.5 | 14.3 | 8.3 | 8.3 | 15.4 | 22.6 | 4.8 | 0.0 | 0.0 | 0.0 |
| 82.5° | 55.8 | 23.8 | 8.3 | 4.8 | 3.6 | 7.1 | 10.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 32.1 | 16.6 | 4.8 | 2.4 | 0.0 | 1.2 | 2.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 21.4 | 4.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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



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

REPORT NUMBER: SP1-1908-441-4-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: SP1-1908-441-4-R4

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

REPORT NUMBER: SP1-1908-441-4-R4

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)