

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: P324861

Luminaire Tested: **GLEON-SA7D-750-U-AFL-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P324861
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-30)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GLEON-SA7D-750-U-AFL-HSS
Description: GALLEON AREA AND ROADWAY LUMINAIRE
(7) 70 CRI, 5000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE
FRONTLINE OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 44927 lumens
Efficiency: N/A
Efficacy: 100.3 lumens/watt
Luminous Opening: Rectangular (W 2' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B3 - U0 - G3

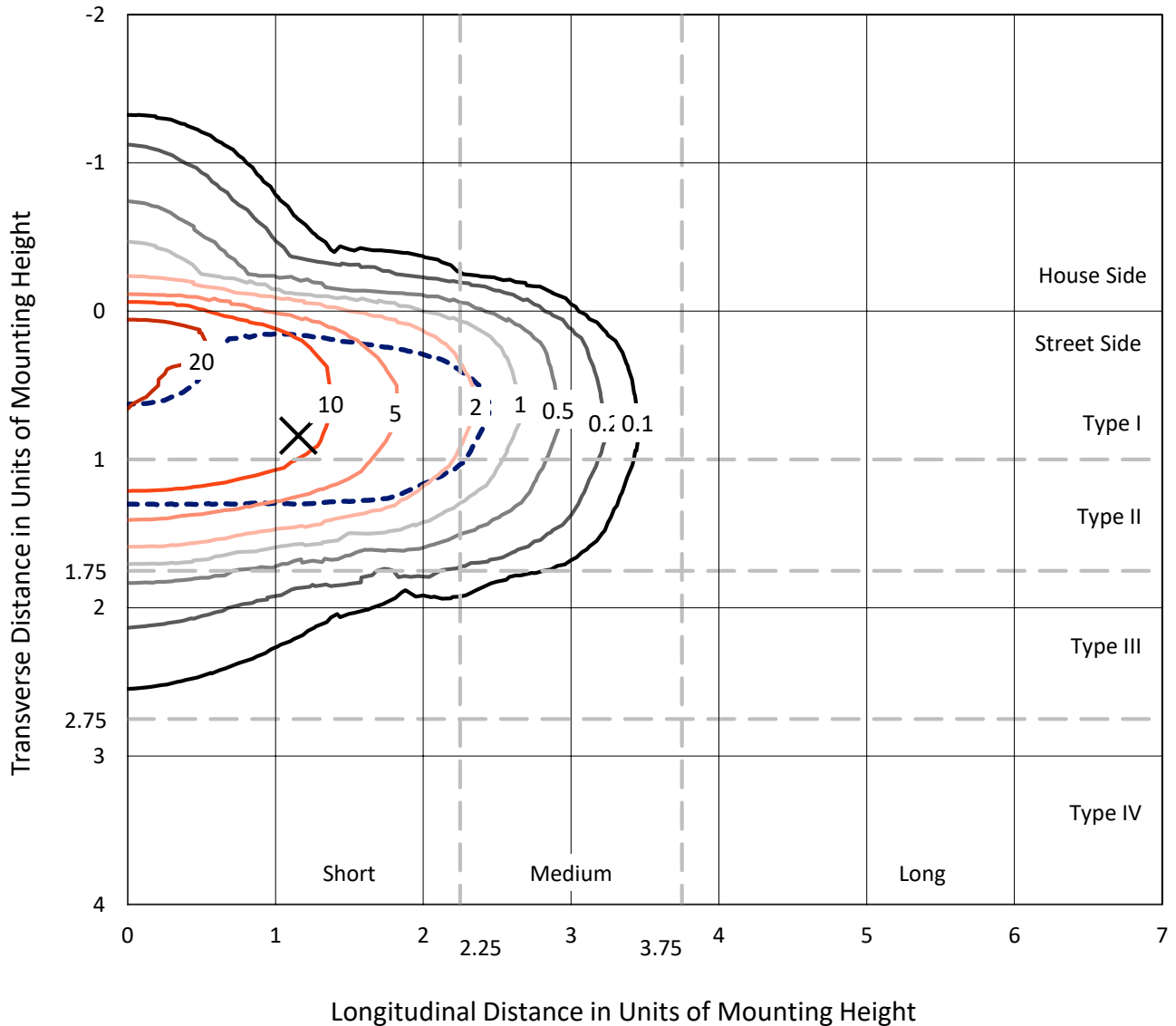
Input Watts (W): 448
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



REPORT NUMBER: P324861
 CATALOG NUMBER: GLEON-SA7D-750-U-AFL-HSS

Iso-Footcandle Lines of Horizontal Illumination

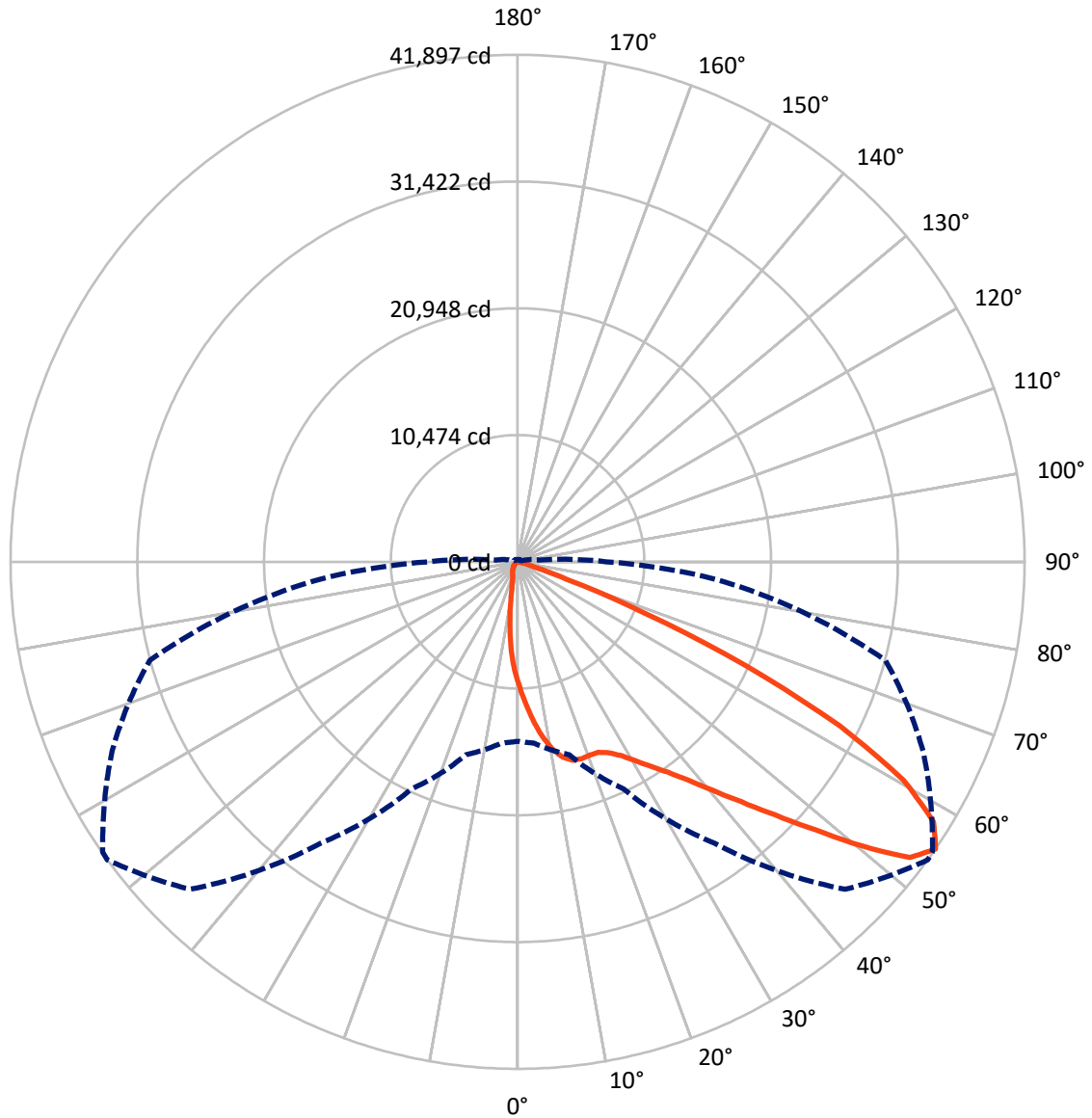
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 24.7 fc
 Type II - Short - N/A

REPORT NUMBER: P324861
CATALOG NUMBER: GLEON-SA7D-750-U-AFL-HSS

Luminous Intensity Polar Plot



— Vertical Plane Through 54-Deg Lateral - - - Horizontal Cone Through 55-Deg Vertical

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 CATALOG NUMBER: GLEON-SA7D-750-U-AFL-HSS

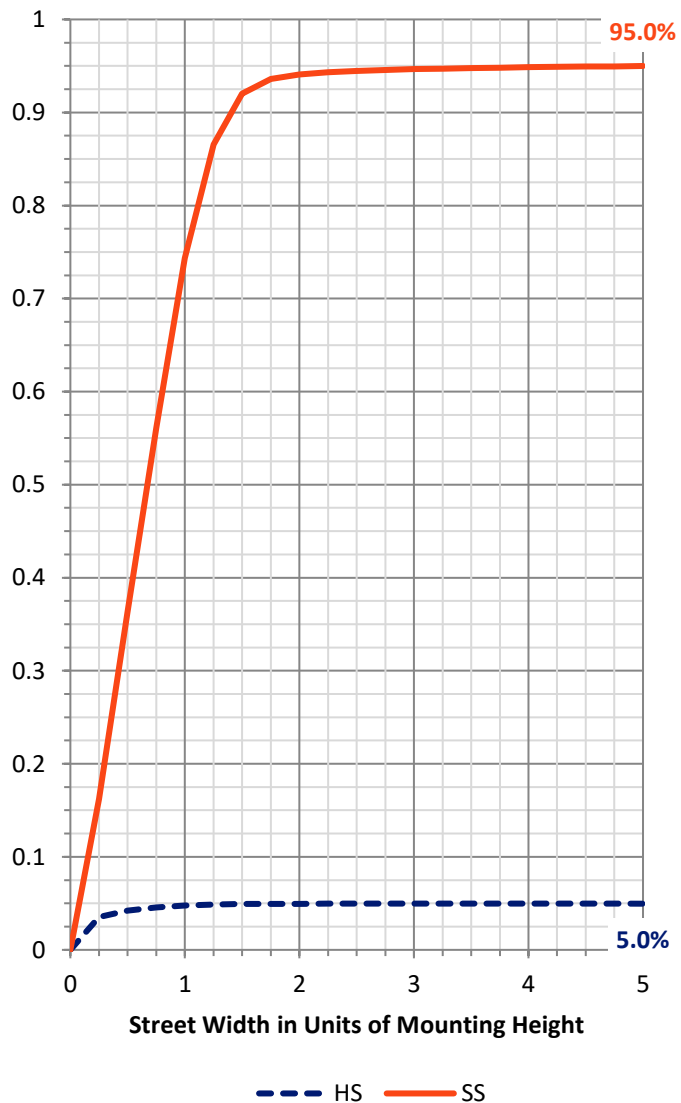
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 2241.5 | 0.0 | 2241.5 |
| | % Fixture | 5.0 | 0.0 | 5.0 |
| Street Side | Lumens | 42685.5 | 0.0 | 42685.5 |
| | % Fixture | 95.0 | 0.0 | 95.0 |
| Total | Lumens | 44927.0 | 0.0 | 44927.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 926.6 | 2.1 |
| 10°-20° | 2541.2 | 5.7 |
| 20°-30° | 4338.6 | 9.7 |
| 30°-40° | 6962.8 | 15.5 |
| 40°-50° | 11126.5 | 24.8 |
| 50°-60° | 11922.4 | 26.5 |
| 60°-70° | 6121.3 | 13.6 |
| 70°-80° | 927.2 | 2.1 |
| 80°-90° | 60.4 | 0.1 |
| 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° | 44927.0 | 100.0 |
| 0°-180° | 44927.0 | 100.0 |

Coefficient of Utilization

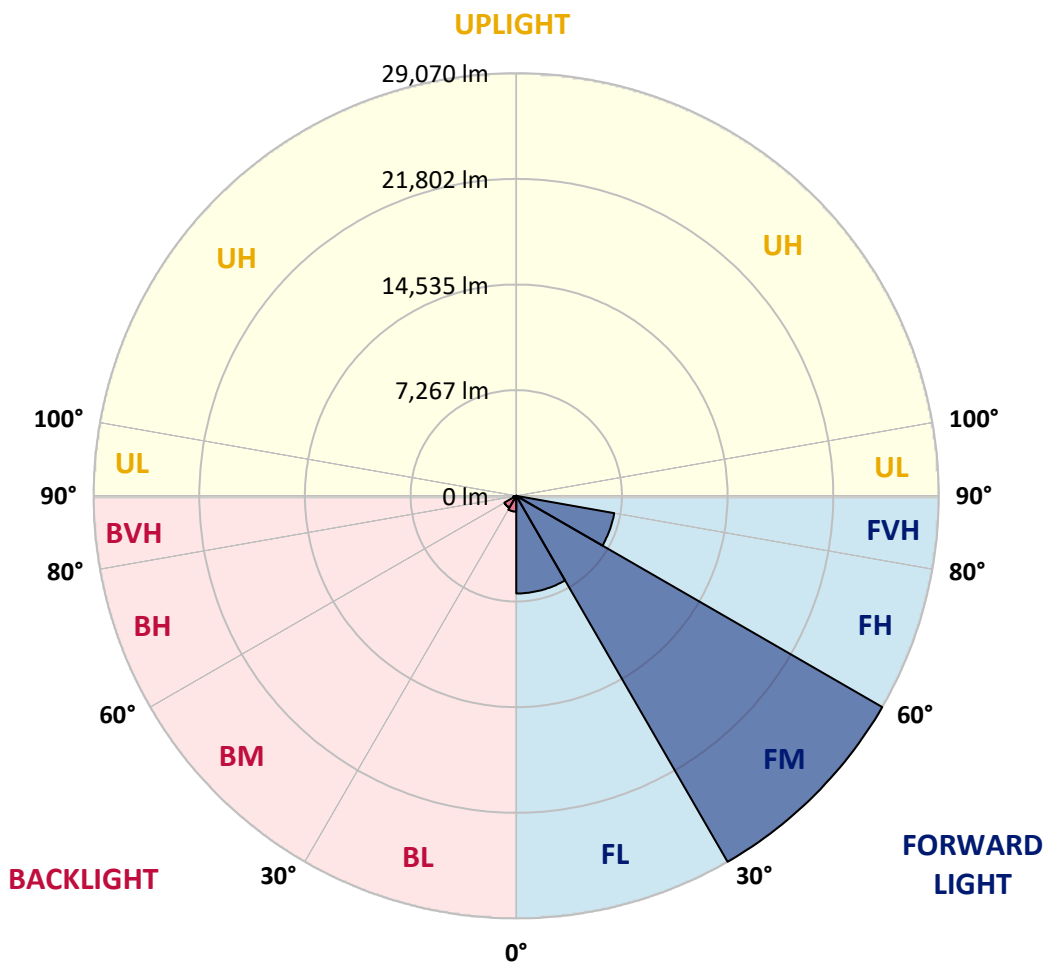


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 CATALOG NUMBER: GLEON-SA7D-750-U-AFL-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|---------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 6715.8 | 14.9 | | | |
| FM (30°-60°) | 29069.8 | 64.7 | | | |
| FH (60°-80°) | 6842.0 | 15.2 | | | G3/7500 |
| FVH (80°-90°) | 57.9 | 0.1 | | | G1/100 |
| BL (0°-30°) | 1090.6 | 2.4 | B3/2500 | | |
| BM (30°-60°) | 941.9 | 2.1 | B1/1000 | | |
| BH (60°-80°) | 206.6 | 0.5 | B1/500 | | G1/500 |
| BVH (80°-90°) | 2.4 | 0.0 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G3
 Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 54° | 55° | 65° | 75° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 10061.8 | 10061.8 | 10061.8 | 10061.8 | 10061.8 | 10061.8 | 10061.8 | 10061.8 | 10061.8 | 10061.8 | 10061.8 |
| 2.5° | 12626.8 | 12438.6 | 12444.4 | 12359.0 | 12046.7 | 11802.2 | 11548.0 | 11487.9 | 11092.1 | 10676.9 | 10277.2 |
| 5° | 14809.5 | 14671.7 | 14638.8 | 14473.8 | 14039.2 | 13579.4 | 13086.6 | 12972.1 | 12198.0 | 11348.2 | 10512.0 |
| 7.5° | 15930.9 | 15932.9 | 15905.7 | 15845.6 | 15573.9 | 15127.7 | 14526.2 | 14405.9 | 13352.4 | 12077.7 | 10756.4 |
| 10° | 15605.0 | 15678.7 | 15830.0 | 16029.9 | 16237.5 | 16181.2 | 15729.2 | 15620.5 | 14475.8 | 12849.9 | 11028.1 |
| 12.5° | 14844.4 | 14854.1 | 15022.9 | 15350.8 | 15948.4 | 16561.5 | 16569.3 | 16532.4 | 15548.7 | 13657.0 | 11326.9 |
| 15° | 14466.1 | 14502.9 | 14565.0 | 14776.5 | 15343.1 | 16324.8 | 17027.1 | 17079.5 | 16532.4 | 14514.6 | 11645.0 |
| 17.5° | 14714.4 | 14766.8 | 14714.4 | 14739.7 | 15067.5 | 15950.3 | 17106.7 | 17240.6 | 17391.9 | 15362.5 | 11945.8 |
| 20° | 15387.7 | 15436.2 | 15343.1 | 15240.2 | 15304.2 | 15841.7 | 17050.4 | 17230.9 | 18065.1 | 16115.2 | 12198.0 |
| 22.5° | 16295.7 | 16315.1 | 16173.5 | 16004.7 | 15958.1 | 16210.3 | 17097.0 | 17283.2 | 18604.5 | 16796.3 | 12357.1 |
| 25° | 17294.9 | 17312.3 | 17135.8 | 16941.8 | 16831.2 | 16934.0 | 17479.2 | 17618.9 | 19079.9 | 17446.2 | 12448.3 |
| 27.5° | 18383.3 | 18398.9 | 18177.7 | 17939.0 | 17811.0 | 17814.9 | 18109.8 | 18259.2 | 19586.3 | 18187.4 | 12522.0 |
| 30° | 19533.9 | 19526.1 | 19322.4 | 18990.6 | 18827.6 | 18823.8 | 19017.8 | 19169.1 | 20319.6 | 19138.1 | 12622.9 |
| 32.5° | 20826.0 | 20810.5 | 20521.4 | 20110.1 | 19925.8 | 19953.0 | 20125.6 | 20212.9 | 21229.6 | 20150.9 | 12803.3 |
| 35° | 22527.6 | 22483.0 | 22046.4 | 21536.2 | 21196.6 | 21186.9 | 21332.4 | 21402.3 | 22389.8 | 21377.1 | 13104.1 |
| 37.5° | 24735.5 | 24694.8 | 24103.0 | 23361.9 | 22884.6 | 22706.1 | 22878.8 | 22968.0 | 24044.8 | 22950.6 | 13587.2 |
| 40° | 26912.4 | 26871.7 | 26520.5 | 25841.4 | 25106.1 | 24677.3 | 24813.1 | 24908.2 | 26111.1 | 24859.7 | 14196.4 |
| 42.5° | 28414.1 | 28449.1 | 28571.3 | 28627.6 | 27938.8 | 27038.5 | 27100.6 | 27199.6 | 28282.2 | 26900.8 | 14892.9 |
| 45° | 28809.9 | 28885.6 | 29576.3 | 30932.5 | 31190.6 | 30488.2 | 29838.2 | 29892.6 | 30488.2 | 28941.9 | 15589.5 |
| 47.5° | 27620.6 | 27760.3 | 29093.2 | 31615.5 | 33800.1 | 34296.8 | 33066.7 | 32994.9 | 32605.0 | 30593.0 | 16084.2 |
| 50° | 24917.9 | 25046.0 | 26772.7 | 30503.7 | 34591.7 | 37932.7 | 36935.5 | 36724.0 | 34461.7 | 31580.5 | 16258.8 |
| 52.5° | 21006.5 | 21161.7 | 22564.5 | 27003.6 | 33099.7 | 39554.7 | 40598.6 | 40422.0 | 35823.7 | 31658.1 | 16287.9 |
| 55° | 14834.7 | 15022.9 | 16507.2 | 20696.0 | 28371.5 | 38264.5 | 41896.5 | 41844.2 | 36954.9 | 31452.5 | 16350.0 |
| 57.5° | 8337.0 | 8472.8 | 10073.5 | 13267.0 | 20779.5 | 33328.6 | 40540.3 | 40887.6 | 37637.8 | 31095.5 | 16443.1 |
| 60° | 3701.9 | 3738.8 | 4567.2 | 6604.4 | 12165.0 | 25470.9 | 36658.0 | 37244.0 | 37051.9 | 30618.2 | 16600.3 |
| 62.5° | 2052.7 | 2021.7 | 2021.7 | 2745.4 | 5287.0 | 15768.0 | 29892.6 | 30860.7 | 34551.0 | 30053.6 | 16608.1 |
| 65° | 1608.4 | 1579.3 | 1495.9 | 1507.5 | 2013.9 | 6998.3 | 20699.9 | 22420.9 | 29801.4 | 28398.6 | 16049.3 |
| 67.5° | 1364.0 | 1338.7 | 1255.3 | 1222.3 | 1251.4 | 2308.8 | 11373.4 | 13160.3 | 22613.0 | 24097.2 | 13901.5 |
| 70° | 1152.5 | 1135.0 | 1092.3 | 1051.6 | 977.9 | 1140.8 | 4351.9 | 5566.4 | 13934.5 | 16029.9 | 9489.5 |
| 72.5° | 927.4 | 919.7 | 935.2 | 900.2 | 811.0 | 760.6 | 1488.1 | 1802.4 | 6259.1 | 7153.5 | 3909.5 |
| 75° | 799.4 | 795.5 | 803.2 | 768.3 | 667.4 | 529.7 | 756.7 | 826.5 | 1765.6 | 1750.1 | 791.6 |
| 77.5° | 520.0 | 525.8 | 665.5 | 650.0 | 574.3 | 353.1 | 391.9 | 423.0 | 535.5 | 401.6 | 240.6 |
| 80° | 331.8 | 327.9 | 337.6 | 539.4 | 516.1 | 269.7 | 196.0 | 205.7 | 258.0 | 197.9 | 116.4 |
| 82.5° | 201.8 | 197.9 | 221.2 | 252.2 | 260.0 | 188.2 | 120.3 | 122.2 | 161.0 | 128.1 | 62.1 |
| 85° | 17.5 | 23.3 | 133.9 | 124.2 | 89.2 | 58.2 | 58.2 | 62.1 | 85.4 | 75.7 | 34.9 |
| 87.5° | 0.0 | 0.0 | 23.3 | 34.9 | 19.4 | 21.3 | 21.3 | 23.3 | 33.0 | 33.0 | 17.5 |
| 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: P324861

CATALOG NUMBER: GLEON-SA7D-750-U-AFL-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 10061.8 | 10061.8 | 10061.8 | 10061.8 | 10061.8 | 10061.8 | 10061.8 | 10061.8 | 10061.8 | 10061.8 | 10061.8 |
| 2.5° | 10069.6 | 9867.8 | 9460.4 | 9068.5 | 8736.7 | 8416.6 | 8051.8 | 7690.9 | 7522.1 | 7454.2 | 7384.4 |
| 5° | 10087.1 | 9671.9 | 8831.8 | 7985.8 | 7108.9 | 6319.2 | 5646.0 | 4955.3 | 4609.9 | 4458.6 | 4388.7 |
| 7.5° | 10110.3 | 9477.8 | 8119.7 | 6699.5 | 5287.0 | 4216.0 | 3280.9 | 2679.4 | 2419.4 | 2378.7 | 2277.8 |
| 10° | 10114.2 | 9243.1 | 7293.2 | 5279.3 | 3544.7 | 2541.7 | 1955.7 | 1645.3 | 1530.8 | 1511.4 | 1478.4 |
| 12.5° | 10122.0 | 8965.6 | 6375.5 | 3909.5 | 2363.2 | 1699.6 | 1414.4 | 1311.6 | 1280.5 | 1278.6 | 1278.6 |
| 15° | 10145.3 | 8674.6 | 5422.8 | 2817.2 | 1697.7 | 1346.5 | 1241.7 | 1201.0 | 1189.3 | 1195.2 | 1193.2 |
| 17.5° | 10145.3 | 8331.2 | 4487.7 | 2099.3 | 1371.7 | 1210.7 | 1152.5 | 1125.3 | 1121.4 | 1127.3 | 1129.2 |
| 20° | 10071.5 | 7914.1 | 3630.1 | 1633.6 | 1216.5 | 1123.4 | 1071.0 | 1045.8 | 1036.1 | 1039.9 | 1041.9 |
| 22.5° | 9895.0 | 7401.8 | 2931.6 | 1352.3 | 1113.7 | 1043.8 | 987.6 | 948.8 | 933.2 | 935.2 | 935.2 |
| 25° | 9619.5 | 6794.6 | 2293.3 | 1169.9 | 1030.2 | 958.5 | 892.5 | 847.9 | 838.2 | 836.2 | 840.1 |
| 27.5° | 9266.4 | 6123.3 | 1825.7 | 1030.2 | 931.3 | 863.4 | 797.4 | 760.6 | 752.8 | 754.7 | 756.7 |
| 30° | 8919.1 | 5426.7 | 1439.6 | 911.9 | 820.7 | 756.7 | 706.2 | 688.8 | 688.8 | 694.6 | 696.5 |
| 32.5° | 8600.9 | 4757.4 | 1138.9 | 809.1 | 721.8 | 663.5 | 634.4 | 632.5 | 642.2 | 646.1 | 648.0 |
| 35° | 8327.3 | 4138.4 | 942.9 | 729.5 | 644.1 | 593.7 | 584.0 | 591.8 | 603.4 | 611.2 | 613.1 |
| 37.5° | 8133.3 | 3585.5 | 824.6 | 663.5 | 584.0 | 543.3 | 541.3 | 556.8 | 572.4 | 589.8 | 593.7 |
| 40° | 8051.8 | 3117.9 | 743.1 | 605.3 | 535.5 | 504.5 | 498.6 | 520.0 | 549.1 | 574.3 | 578.2 |
| 42.5° | 7983.9 | 2735.7 | 673.2 | 549.1 | 496.7 | 452.1 | 450.1 | 477.3 | 512.2 | 537.4 | 543.3 |
| 45° | 7925.7 | 2429.1 | 609.2 | 488.9 | 446.2 | 388.0 | 393.9 | 428.8 | 455.9 | 483.1 | 488.9 |
| 47.5° | 7805.4 | 2176.9 | 539.4 | 424.9 | 368.6 | 331.8 | 343.4 | 374.5 | 395.8 | 436.5 | 442.4 |
| 50° | 7590.0 | 1971.2 | 467.6 | 347.3 | 300.7 | 287.1 | 304.6 | 326.0 | 353.1 | 388.0 | 391.9 |
| 52.5° | 7444.5 | 1816.0 | 405.5 | 291.0 | 248.3 | 252.2 | 269.7 | 277.4 | 293.0 | 306.6 | 302.7 |
| 55° | 7361.1 | 1730.7 | 355.1 | 252.2 | 211.5 | 223.1 | 227.0 | 217.3 | 209.5 | 196.0 | 190.1 |
| 57.5° | 7351.4 | 1653.0 | 316.3 | 219.2 | 186.3 | 192.1 | 178.5 | 145.5 | 118.4 | 102.8 | 98.9 |
| 60° | 7335.9 | 1558.0 | 285.2 | 184.3 | 164.9 | 157.2 | 128.1 | 79.5 | 56.3 | 52.4 | 52.4 |
| 62.5° | 7167.1 | 1410.5 | 261.9 | 155.2 | 139.7 | 118.4 | 73.7 | 36.9 | 31.0 | 33.0 | 33.0 |
| 65° | 6629.6 | 1204.9 | 238.6 | 126.1 | 110.6 | 85.4 | 36.9 | 21.3 | 11.6 | 13.6 | 13.6 |
| 67.5° | 5636.3 | 960.4 | 213.4 | 97.0 | 83.4 | 54.3 | 21.3 | 9.7 | 0.0 | 0.0 | 0.0 |
| 70° | 3773.7 | 595.6 | 180.4 | 67.9 | 54.3 | 33.0 | 15.5 | 1.9 | 0.0 | 0.0 | 0.0 |
| 72.5° | 1447.4 | 322.1 | 145.5 | 40.7 | 34.9 | 23.3 | 9.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| 75° | 326.0 | 211.5 | 100.9 | 29.1 | 25.2 | 15.5 | 3.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| 77.5° | 124.2 | 153.3 | 58.2 | 19.4 | 17.5 | 9.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80° | 60.1 | 91.2 | 27.2 | 11.6 | 9.7 | 3.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 31.0 | 34.9 | 11.6 | 5.8 | 3.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 17.5 | 17.5 | 5.8 | 3.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 9.7 | 5.8 | 1.9 | 1.9 | 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 | | | | |



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 |

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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)