

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: P642679

Luminaire Tested: GWS-SA6D-735-U-T3-W

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P642679
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-23)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA6D-735-U-T3-W
Description: GALLEON WALL SLIM LUMINAIRE. (6) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: (96) 3500K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 35354.8 lumens
Efficiency: N/A
Efficacy: 143.9 lumens/watt
Luminous Opening: Rectangular (W 2' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B3 - U0 - G4

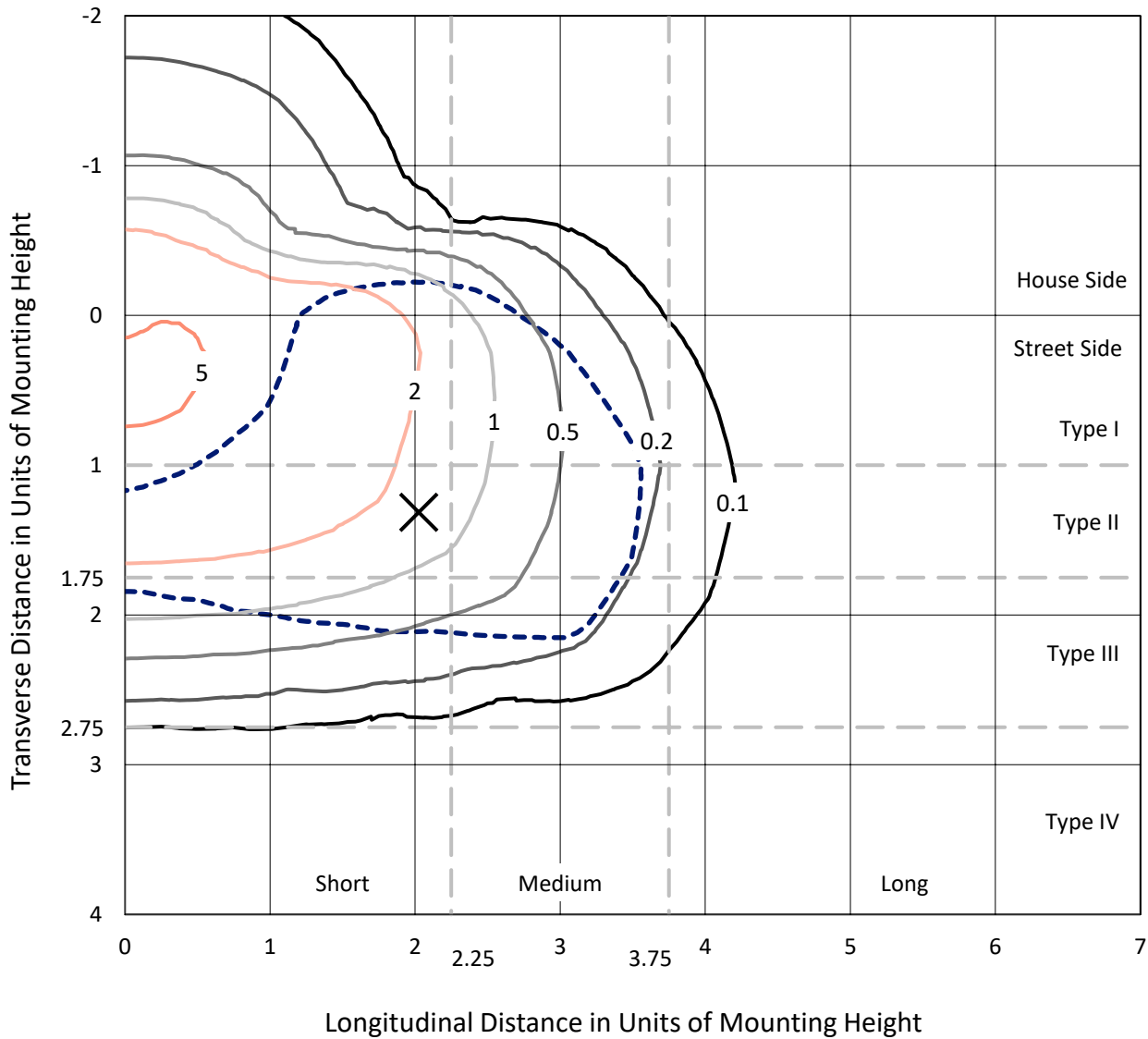
Input Watts (W): 245.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P642679
 CATALOG NUMBER: GWS-SA6D-735-U-T3-W

Iso-Footcandle Lines of Horizontal Illumination

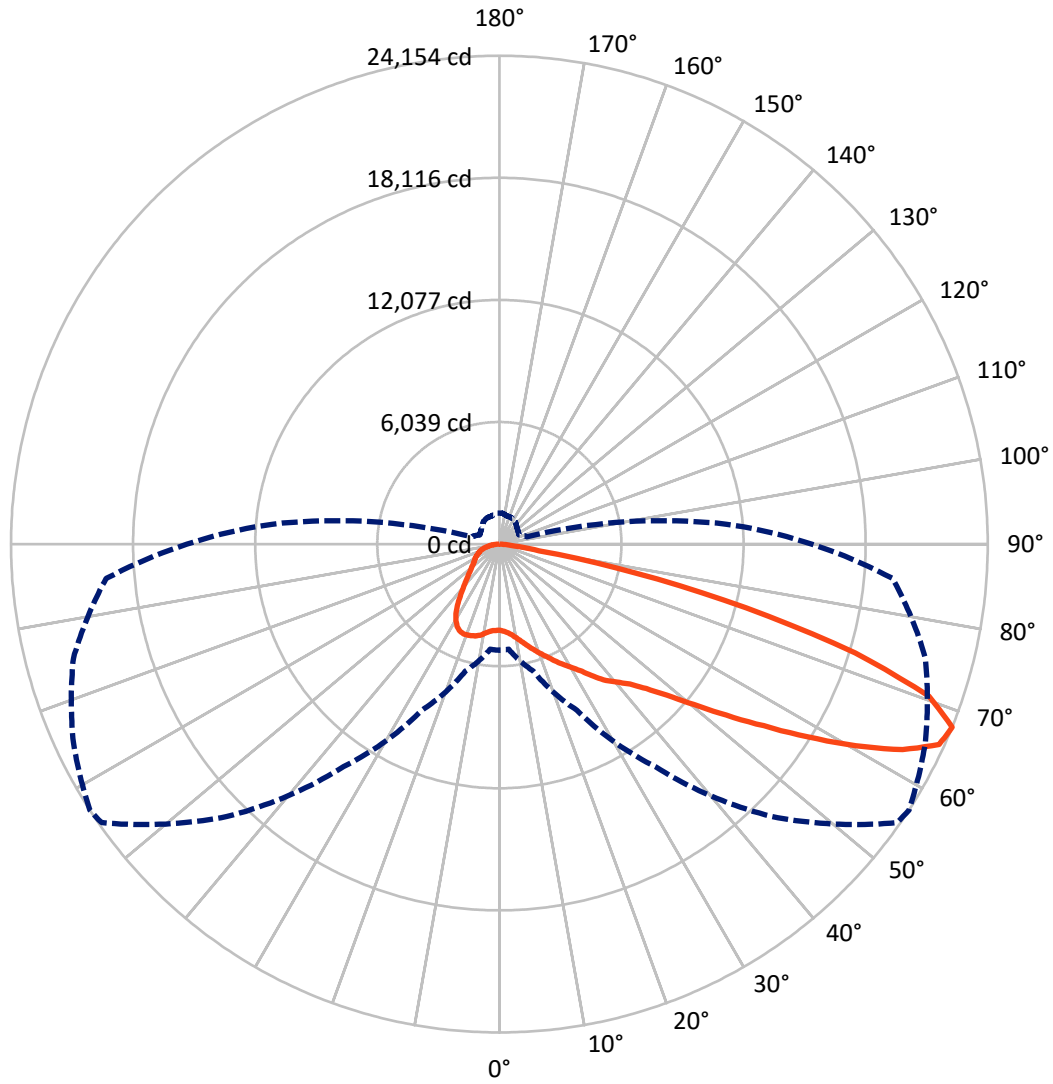
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 5.5 fc
 Type III - Short - N/A

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CATALOG NUMBER: GWS-SA6D-735-U-T3-W

Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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CATALOG NUMBER: GWS-SA6D-735-U-T3-W

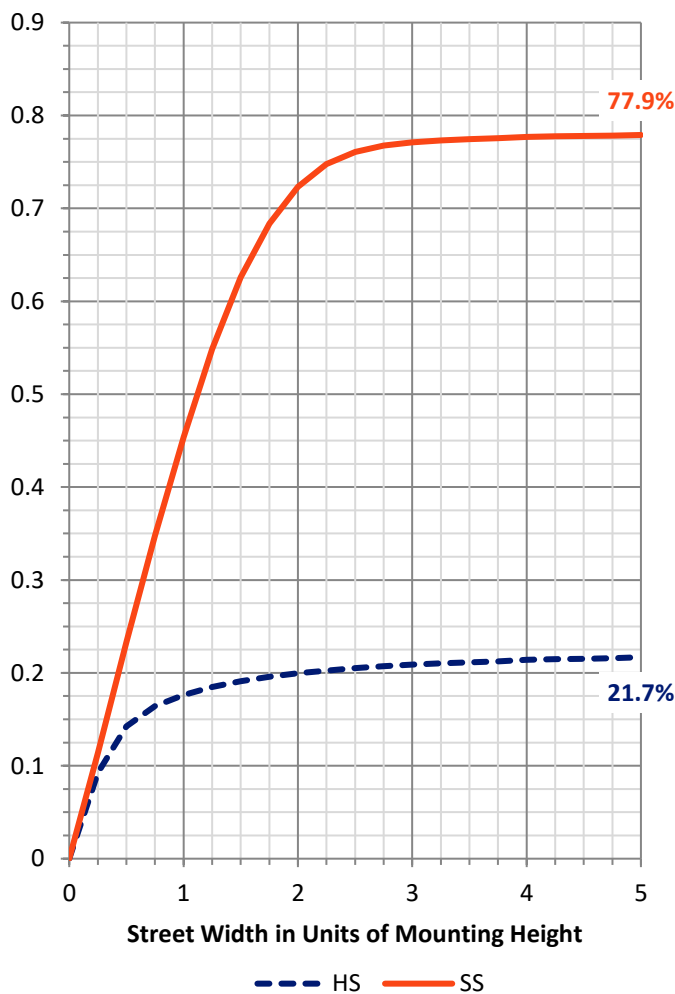
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 7773.2 | 0.0 | 7773.2 |
| | % Fixture | 22.0 | 0.0 | 22.0 |
| Street Side | Lumens | 27581.6 | 0.0 | 27581.6 |
| | % Fixture | 78.0 | 0.0 | 78.0 |
| Total | Lumens | 35354.8 | 0.0 | 35354.8 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 422.5 | 1.2 |
| 10°-20° | 1398.7 | 4.0 |
| 20°-30° | 2493.6 | 7.1 |
| 30°-40° | 3625.4 | 10.3 |
| 40°-50° | 5247.2 | 14.8 |
| 50°-60° | 8211.7 | 23.2 |
| 60°-70° | 9579.5 | 27.1 |
| 70°-80° | 3998.9 | 11.3 |
| 80°-90° | 377.4 | 1.1 |
| 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° | 35354.8 | 100.0 |
| 0°-180° | 35354.8 | 100.0 |

Coefficient of Utilization



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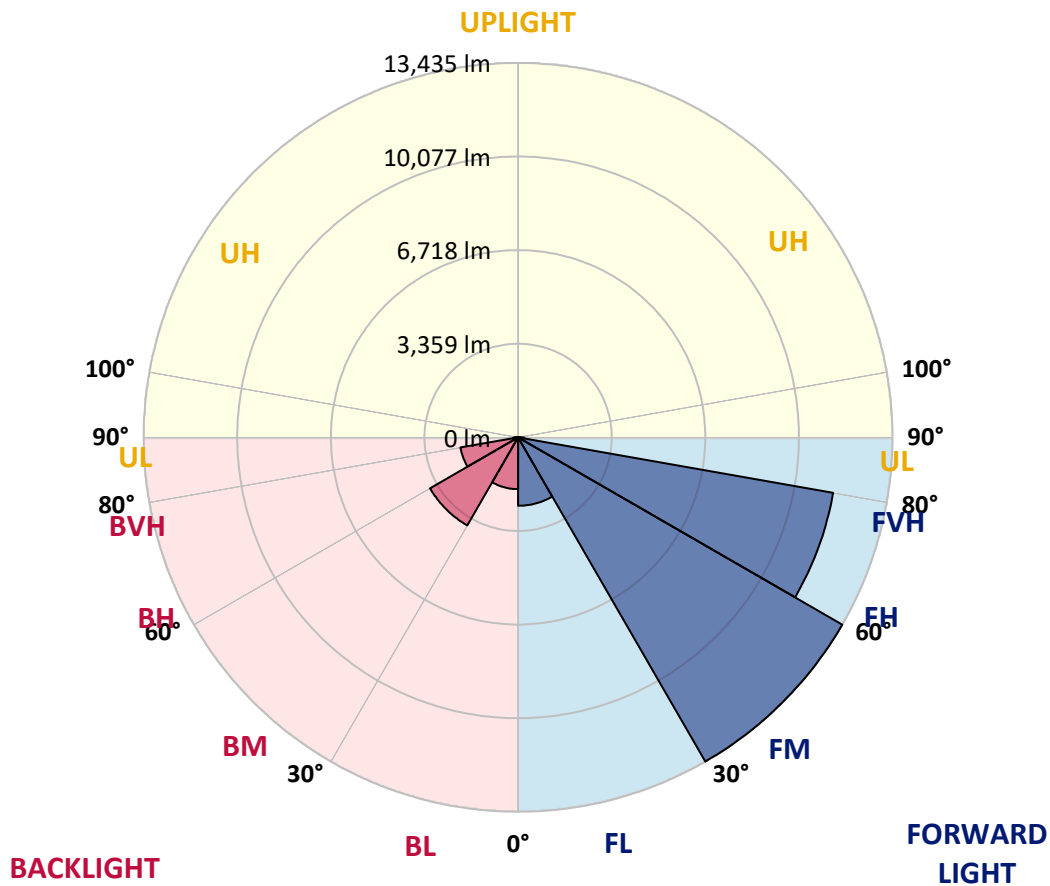
CATALOG NUMBER: GWS-SA6D-735-U-T3-W

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|---------|-----------|-------------------------|------|----------|
| | | | B | U | G |
| FL (0°-30°) | 2455.7 | 6.9 | | | |
| FM (30°-60°) | 13435.3 | 38.0 | | | |
| FH (60°-80°) | 11480.3 | 32.5 | | | G4/12000 |
| FVH (80°-90°) | 210.2 | 0.6 | | | G2/225 |
| BL (0°-30°) | 1859.1 | 5.3 | B3/2500 | | |
| BM (30°-60°) | 3648.9 | 10.3 | B3/5000 | | |
| BH (60°-80°) | 2098.0 | 5.9 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 167.1 | 0.5 | | | G2/225 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G4

Type III Short





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CATALOG NUMBER: GWS-SA6D-735-U-T3-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 57° | 65° | 75° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 4260.0 | 4260.0 | 4260.0 | 4260.0 | 4260.0 | 4260.0 | 4260.0 | 4260.0 | 4260.0 | 4260.0 | 4260.0 |
| 2.5° | 4320.8 | 4315.7 | 4313.2 | 4328.4 | 4323.3 | 4320.8 | 4320.8 | 4318.3 | 4313.2 | 4292.9 | 4265.1 |
| 5° | 4439.8 | 4429.7 | 4419.6 | 4432.2 | 4422.1 | 4412.0 | 4409.4 | 4404.4 | 4386.6 | 4356.3 | 4313.2 |
| 7.5° | 4563.9 | 4553.8 | 4556.3 | 4563.9 | 4556.3 | 4551.3 | 4543.7 | 4538.6 | 4510.8 | 4462.6 | 4404.4 |
| 10° | 4738.7 | 4738.7 | 4743.8 | 4751.4 | 4753.9 | 4746.3 | 4731.1 | 4723.5 | 4690.6 | 4629.8 | 4548.7 |
| 12.5° | 4992.0 | 4986.9 | 4986.9 | 4981.8 | 4989.4 | 4981.8 | 4966.6 | 4954.0 | 4913.5 | 4834.9 | 4718.4 |
| 15° | 5326.3 | 5306.0 | 5288.3 | 5255.4 | 5245.2 | 5217.4 | 5222.4 | 5214.8 | 5176.9 | 5070.5 | 4923.6 |
| 17.5° | 5683.4 | 5680.9 | 5653.0 | 5587.2 | 5521.3 | 5475.7 | 5485.8 | 5483.3 | 5463.0 | 5318.7 | 5131.3 |
| 20° | 5997.4 | 6010.1 | 5984.8 | 5934.1 | 5845.5 | 5759.4 | 5754.3 | 5767.0 | 5741.6 | 5597.3 | 5336.4 |
| 22.5° | 6349.5 | 6339.4 | 6314.0 | 6248.2 | 6182.3 | 6091.2 | 6060.8 | 6050.6 | 6040.5 | 5875.9 | 5546.6 |
| 25° | 6683.8 | 6714.2 | 6681.3 | 6620.5 | 6519.2 | 6420.4 | 6395.1 | 6405.2 | 6377.4 | 6159.5 | 5772.0 |
| 27.5° | 7106.8 | 7119.4 | 7099.2 | 7015.6 | 6929.5 | 6790.2 | 6742.1 | 6742.1 | 6731.9 | 6425.5 | 5949.3 |
| 30° | 7557.6 | 7593.1 | 7557.6 | 7489.2 | 7400.6 | 7200.5 | 7096.6 | 7086.5 | 7056.1 | 6699.0 | 6157.0 |
| 32.5° | 8011.0 | 8036.3 | 8011.0 | 7945.1 | 7843.8 | 7669.0 | 7519.6 | 7496.8 | 7456.3 | 6997.9 | 6369.8 |
| 35° | 8413.7 | 8436.4 | 8431.4 | 8446.6 | 8363.0 | 8142.7 | 8051.5 | 8041.3 | 7935.0 | 7387.9 | 6658.5 |
| 37.5° | 8854.3 | 8882.2 | 8844.2 | 8874.6 | 8841.7 | 8634.0 | 8606.1 | 8555.5 | 8403.5 | 7755.1 | 6962.4 |
| 40° | 9355.8 | 9381.1 | 9320.4 | 9333.0 | 9295.0 | 9178.5 | 9036.7 | 8968.3 | 8742.9 | 8152.8 | 7441.1 |
| 42.5° | 9892.8 | 9951.0 | 9978.9 | 9956.1 | 9867.4 | 9801.6 | 9553.4 | 9467.3 | 9279.8 | 8869.5 | 8228.8 |
| 45° | 10670.3 | 10756.4 | 10796.9 | 10738.7 | 10700.7 | 10607.0 | 10303.1 | 10199.2 | 10100.4 | 9880.1 | 9328.0 |
| 47.5° | 11508.6 | 11587.1 | 11716.3 | 11741.6 | 11772.0 | 11701.1 | 11273.1 | 11171.8 | 11189.5 | 11164.2 | 10680.4 |
| 50° | 12177.3 | 12243.1 | 12534.4 | 12845.9 | 13104.2 | 13124.5 | 12577.4 | 12468.5 | 12564.8 | 12645.8 | 12309.0 |
| 52.5° | 12663.5 | 12721.8 | 13106.8 | 13750.1 | 14335.1 | 14768.2 | 14178.1 | 14054.0 | 14132.5 | 14314.9 | 14160.4 |
| 55° | 13058.6 | 13139.7 | 13542.4 | 14530.1 | 15712.9 | 16396.7 | 16019.4 | 15862.3 | 15829.4 | 16054.8 | 16143.5 |
| 57.5° | 13266.3 | 13291.6 | 13856.4 | 15140.5 | 16723.5 | 17994.9 | 18159.5 | 17982.2 | 17668.2 | 17792.3 | 18253.2 |
| 60° | 12792.7 | 12835.8 | 13608.2 | 15297.5 | 17521.3 | 19580.4 | 20406.0 | 20259.1 | 19590.5 | 19658.9 | 20167.9 |
| 62.5° | 11483.3 | 11544.1 | 12473.6 | 14550.4 | 17587.1 | 20639.0 | 22480.3 | 22386.6 | 21490.0 | 21120.2 | 21272.2 |
| 65° | 9211.5 | 9231.7 | 10194.1 | 12701.5 | 16277.7 | 20770.7 | 23926.5 | 23903.7 | 22817.2 | 21951.0 | 21300.1 |
| 67.5° | 5252.8 | 5217.4 | 6504.0 | 9059.5 | 13433.5 | 19058.6 | 24020.2 | 24154.4 | 23247.7 | 21814.2 | 19527.2 |
| 70° | 2276.9 | 2282.0 | 2874.6 | 4470.2 | 8694.8 | 15403.9 | 22310.6 | 22541.1 | 22001.6 | 19537.3 | 15535.6 |
| 72.5° | 1053.6 | 1068.8 | 1324.6 | 1935.0 | 3712.9 | 9555.9 | 18192.4 | 18400.1 | 17936.6 | 15636.9 | 11303.5 |
| 75° | 744.6 | 757.3 | 883.9 | 1109.3 | 1707.0 | 3723.1 | 12169.7 | 12605.3 | 12830.7 | 11696.0 | 7448.7 |
| 77.5° | 564.8 | 582.5 | 645.8 | 769.9 | 1053.6 | 1319.5 | 5822.7 | 6861.1 | 8173.0 | 7276.5 | 3837.1 |
| 80° | 359.6 | 359.6 | 428.0 | 514.1 | 643.3 | 686.4 | 1681.7 | 1993.2 | 3999.1 | 2998.7 | 1507.0 |
| 82.5° | 243.1 | 250.7 | 291.3 | 326.7 | 369.8 | 390.0 | 721.8 | 769.9 | 1154.9 | 1020.7 | 620.5 |
| 85° | 129.2 | 134.2 | 152.0 | 149.4 | 177.3 | 154.5 | 303.9 | 301.4 | 423.0 | 463.5 | 235.5 |
| 87.5° | 0.0 | 0.0 | 2.5 | 2.5 | 5.1 | 7.6 | 32.9 | 35.5 | 88.6 | 141.8 | 78.5 |
| 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: P642679
 CATALOG NUMBER: GWS-SA6D-735-U-T3-W

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 4260.0 | 4260.0 | 4260.0 | 4260.0 | 4260.0 | 4260.0 | 4260.0 | 4260.0 | 4260.0 | 4260.0 | 4260.0 |
| 2.5° | 4280.3 | 4249.9 | 4265.1 | 4260.0 | 4275.2 | 4275.2 | 4247.3 | 4239.8 | 4242.3 | 4211.9 | 4201.8 |
| 5° | 4318.3 | 4282.8 | 4290.4 | 4280.3 | 4295.5 | 4308.1 | 4295.5 | 4295.5 | 4310.7 | 4287.9 | 4275.2 |
| 7.5° | 4404.4 | 4363.9 | 4363.9 | 4351.2 | 4368.9 | 4379.0 | 4368.9 | 4384.1 | 4412.0 | 4389.2 | 4376.5 |
| 10° | 4541.1 | 4493.0 | 4495.6 | 4480.4 | 4488.0 | 4482.9 | 4442.4 | 4429.7 | 4437.3 | 4417.0 | 4406.9 |
| 12.5° | 4718.4 | 4652.6 | 4652.6 | 4622.2 | 4604.5 | 4551.3 | 4467.7 | 4437.3 | 4442.4 | 4424.6 | 4417.0 |
| 15° | 4888.1 | 4827.3 | 4814.7 | 4753.9 | 4672.8 | 4574.1 | 4498.1 | 4477.8 | 4482.9 | 4465.2 | 4452.5 |
| 17.5° | 5088.2 | 5009.7 | 4964.1 | 4852.7 | 4703.2 | 4601.9 | 4525.9 | 4477.8 | 4437.3 | 4396.8 | 4386.6 |
| 20° | 5273.1 | 5174.3 | 5090.7 | 4918.5 | 4736.2 | 4596.9 | 4455.0 | 4336.0 | 4237.2 | 4184.0 | 4171.4 |
| 22.5° | 5463.0 | 5336.4 | 5189.5 | 4964.1 | 4733.6 | 4505.7 | 4244.8 | 4065.0 | 3918.1 | 3839.6 | 3854.8 |
| 25° | 5642.9 | 5483.3 | 5283.2 | 5007.2 | 4652.6 | 4303.1 | 3948.5 | 3680.0 | 3512.9 | 3452.1 | 3434.4 |
| 27.5° | 5792.3 | 5594.7 | 5369.3 | 4986.9 | 4485.4 | 4011.8 | 3543.3 | 3244.4 | 3082.3 | 3013.9 | 2996.2 |
| 30° | 5959.5 | 5736.6 | 5493.4 | 4893.2 | 4222.0 | 3604.0 | 3084.8 | 2841.7 | 2725.2 | 2659.3 | 2661.9 |
| 32.5° | 6151.9 | 5918.9 | 5668.2 | 4713.4 | 3885.2 | 3163.4 | 2707.5 | 2540.3 | 2446.6 | 2380.7 | 2370.6 |
| 35° | 6410.3 | 6179.8 | 5784.7 | 4442.4 | 3457.1 | 2758.1 | 2449.1 | 2312.4 | 2195.9 | 2109.7 | 2092.0 |
| 37.5° | 6729.4 | 6572.4 | 5797.4 | 4080.2 | 2998.7 | 2479.5 | 2264.2 | 2117.3 | 1975.5 | 1861.5 | 1848.9 |
| 40° | 7276.5 | 7096.6 | 5693.5 | 3626.8 | 2608.7 | 2299.7 | 2109.7 | 1940.1 | 1775.4 | 1648.8 | 1631.1 |
| 42.5° | 8056.5 | 7686.8 | 5470.6 | 3115.2 | 2314.9 | 2157.9 | 1962.8 | 1747.6 | 1580.4 | 1491.8 | 1479.1 |
| 45° | 9049.4 | 8345.3 | 5136.3 | 2634.0 | 2097.1 | 2018.6 | 1808.4 | 1582.9 | 1494.3 | 1431.0 | 1418.3 |
| 47.5° | 10265.1 | 9112.7 | 4751.4 | 2259.2 | 1927.4 | 1891.9 | 1651.3 | 1527.2 | 1448.7 | 1395.5 | 1382.9 |
| 50° | 11718.8 | 10090.3 | 4434.8 | 1965.4 | 1775.4 | 1745.0 | 1600.7 | 1494.3 | 1431.0 | 1387.9 | 1377.8 |
| 52.5° | 13377.8 | 11176.8 | 4280.3 | 1755.2 | 1643.7 | 1613.3 | 1582.9 | 1486.7 | 1433.5 | 1400.6 | 1387.9 |
| 55° | 15100.0 | 12321.6 | 4135.9 | 1593.1 | 1532.3 | 1550.0 | 1585.5 | 1512.0 | 1471.5 | 1428.4 | 1415.8 |
| 57.5° | 16764.0 | 13395.5 | 3781.3 | 1466.4 | 1451.2 | 1519.6 | 1598.1 | 1537.4 | 1489.2 | 1446.2 | 1431.0 |
| 60° | 17911.3 | 13983.1 | 3181.1 | 1365.1 | 1390.5 | 1481.6 | 1565.2 | 1499.4 | 1438.6 | 1420.8 | 1413.3 |
| 62.5° | 18220.3 | 13912.2 | 2469.4 | 1261.3 | 1317.0 | 1398.1 | 1479.1 | 1436.0 | 1372.7 | 1400.6 | 1403.1 |
| 65° | 17498.5 | 13152.3 | 1853.9 | 1160.0 | 1220.8 | 1289.1 | 1390.5 | 1372.7 | 1349.9 | 1425.9 | 1428.4 |
| 67.5° | 15454.6 | 11285.7 | 1413.3 | 1071.3 | 1122.0 | 1205.6 | 1362.6 | 1436.0 | 1441.1 | 1537.4 | 1527.2 |
| 70° | 11693.5 | 8431.4 | 1106.8 | 987.8 | 1046.0 | 1205.6 | 1451.2 | 1484.2 | 1423.4 | 1512.0 | 1491.8 |
| 72.5° | 8084.4 | 5564.4 | 942.2 | 914.3 | 952.3 | 1149.8 | 1448.7 | 1448.7 | 1382.9 | 1382.9 | 1344.9 |
| 75° | 5022.4 | 3272.3 | 820.6 | 820.6 | 820.6 | 1005.5 | 1408.2 | 1334.7 | 1218.2 | 1165.0 | 1134.7 |
| 77.5° | 2479.5 | 1590.5 | 688.9 | 714.2 | 686.4 | 840.9 | 1149.8 | 1091.6 | 1020.7 | 965.0 | 944.7 |
| 80° | 1058.7 | 795.3 | 557.2 | 585.1 | 552.1 | 633.2 | 911.8 | 899.1 | 830.7 | 757.3 | 734.5 |
| 82.5° | 486.3 | 410.3 | 445.8 | 458.4 | 402.7 | 476.1 | 666.1 | 666.1 | 628.1 | 526.8 | 488.8 |
| 85° | 207.7 | 217.8 | 309.0 | 309.0 | 253.3 | 268.5 | 357.1 | 339.4 | 303.9 | 248.2 | 227.9 |
| 87.5° | 70.9 | 106.4 | 157.0 | 136.8 | 53.2 | 22.8 | 12.7 | 5.1 | 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 |

LM-79-08: Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Report Prepared for

Cooper Lighting Solutions

All Brands

Data applicable to all product families using SA light engines

Report Number: SP1-2101-121-7

Luminaire Tested: IFLD-S-SA2A-735-U-T2

Test Date: 03/04/2021

Test Information

Test Method: LM-79-08
 Report Number: SP1-2101-121-7
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1
 Measurement Geometry: 4π
 Issue Date: 03/04/2021
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: STREETWORKS
 Catalog Number: **IFLD-S-SA2A-735-U-T2**
 Description: STREETWORKS INF FLOOD

PROGRAMMED @ 615mA.

Spectral Parameters

| | | | | | |
|---------------------------|--------|-----------|------|------|-------|
| CCT (K): | 3388 | CRI (Ra): | 73.1 | R9: | -34.6 |
| CIE u': | 0.2371 | R1: | 68.9 | R10: | 57.8 |
| CIE v': | 0.5177 | R2: | 81.1 | R11: | 68.6 |
| Duv: | 0.0032 | R3: | 93.1 | R12: | 53.9 |
| CIE x: | 0.4153 | R4: | 71.6 | R13: | 70.9 |
| CIE y: | 0.4030 | R5: | 69.4 | R14: | 96.2 |
| CIE z: | 0.1817 | R6: | 75.0 | | |
| Peak Wavelength (nm): | 590 | R7: | 79.5 | | |
| Dominant Wavelength (nm): | 580 | R8: | 46.4 | | |
| Purity: | 45.7 | | | | |
| Rf: | 76.9 | | | | |
| Rg: | 94.4 | | | | |



Test Conditions

Stabilization Time: 81M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.0/30%
 Sphere Temperature (°C): 24.1

REPORT NUMBER: SP1-2101-121-7

| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 1/31/2021 | 7/31/2021 |
| Power Meter | IN0071 | 12/1/2020 | 12/1/2021 |
| AC Power Source | IN0063 | 12/1/2020 | 12/1/2021 |
| DC Power Source | IN0208 | 12/1/2020 | 12/1/2021 |
| Sphere Thermometer | IN0085 | 12/1/2020 | 12/1/2021 |
| Room Thermometer | IN0046 | 12/1/2020 | 12/1/2021 |

REPORT NUMBER: SP1-2101-121-7

CIE 1931 Chromaticity Diagram



CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP1-2101-121-7

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 | 2672 | 0.0 | 490 | 34553 | 4.9 | 620 | 136720 | 35.6 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 8.0 | 625 | 126308 | 27.9 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 12.1 | 630 | 114625 | 20.7 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 18.1 | 635 | 103216 | 15.5 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 25.4 | 640 | 92605 | 11.1 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 33.9 | 645 | 83234 | 8.0 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 43.0 | 650 | 73263 | 5.4 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 50.1 | 655 | 64627 | 3.7 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 57.9 | 660 | 56614 | 2.4 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.0 | 535 | 103269 | 64.0 | 665 | 49537 | 1.6 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.0 | 540 | 107316 | 69.9 | 670 | 42866 | 0.9 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.0 | 545 | 113101 | 75.3 | 675 | 36708 | 0.6 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 0.0 | 550 | 120690 | 82.0 | 680 | 31814 | 0.4 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 0.1 | 555 | 128583 | 87.8 | 685 | 27485 | 0.2 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 0.3 | 560 | 137796 | 93.6 | 690 | 23698 | 0.1 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 0.8 | 565 | 146577 | 97.5 | 695 | 20309 | 0.1 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 1.6 | 570 | 154581 | 100.5 | 700 | 17890 | 0.1 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 2.4 | 575 | 162633 | 101.2 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 2.5 | 580 | 168101 | 99.9 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 2.1 | 585 | 173145 | 96.2 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 1.8 | 590 | 174675 | 90.3 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 1.7 | 595 | 173724 | 82.3 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 1.5 | 600 | 171241 | 73.8 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 1.7 | 605 | 165134 | 64.0 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 2.2 | 610 | 156652 | 53.8 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 3.3 | 615 | 147879 | 44.6 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-7

Scotopic Flux vs. Wavelength



Scotopic Lumens: 12126

S/P: 1.36

| λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360 | 2672 | 0.0 | 490 | 34553 | 53.2 | 620 | 136720 | 1.7 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 71.7 | 625 | 126308 | 1.1 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 91.4 | 630 | 114625 | 0.6 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 110.0 | 635 | 103216 | 0.4 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 125.1 | 640 | 92605 | 0.2 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 135.7 | 645 | 83234 | 0.1 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 140.8 | 650 | 73263 | 0.1 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 139.6 | 655 | 64627 | 0.1 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 135.7 | 660 | 56614 | 0.0 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.1 | 535 | 103269 | 128.7 | 665 | 49537 | 0.0 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.2 | 540 | 107316 | 118.6 | 670 | 42866 | 0.0 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.6 | 545 | 113101 | 108.4 | 675 | 36708 | 0.0 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 2.0 | 550 | 120690 | 98.7 | 680 | 31814 | 0.0 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 5.9 | 555 | 128583 | 87.9 | 685 | 27485 | 0.0 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 14.3 | 560 | 137796 | 77.0 | 690 | 23698 | 0.0 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 30.5 | 565 | 146577 | 65.8 | 695 | 20309 | 0.0 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 55.5 | 570 | 154581 | 54.6 | 700 | 17890 | 0.0 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 77.4 | 575 | 162633 | 44.3 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 73.6 | 580 | 168101 | 34.6 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 53.7 | 585 | 173145 | 26.5 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 41.9 | 590 | 174675 | 19.5 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 34.3 | 595 | 173724 | 13.9 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 27.9 | 600 | 171241 | 9.7 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 27.1 | 605 | 165134 | 6.5 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 31.3 | 610 | 156652 | 4.2 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 40.0 | 615 | 147879 | 2.7 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-7

Melanopic Flux vs. Wavelength



Melanopic Lumens: 4490.7 M/P: 0.5

| 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 | 2672 | 0.0 | 490 | 34553 | 28.8 | 620 | 136720 | 0.1 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 36.6 | 625 | 126308 | 0.1 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 43.9 | 630 | 114625 | 0.0 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 49.6 | 635 | 103216 | 0.0 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 53.0 | 640 | 92605 | 0.0 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 53.5 | 645 | 83234 | 0.0 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 51.6 | 650 | 73263 | 0.0 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 47.3 | 655 | 64627 | 0.0 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 42.5 | 660 | 56614 | 0.0 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.0 | 535 | 103269 | 37.2 | 665 | 49537 | 0.0 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.1 | 540 | 107316 | 31.4 | 670 | 42866 | 0.0 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.4 | 545 | 113101 | 26.3 | 675 | 36708 | 0.0 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 1.4 | 550 | 120690 | 21.7 | 680 | 31814 | 0.0 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 3.7 | 555 | 128583 | 17.3 | 685 | 27485 | 0.0 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 8.9 | 560 | 137796 | 13.6 | 690 | 23698 | 0.0 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 18.2 | 565 | 146577 | 10.3 | 695 | 20309 | 0.0 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 33.2 | 570 | 154581 | 7.6 | 700 | 17890 | 0.0 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 45.6 | 575 | 162633 | 5.4 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 43.8 | 580 | 168101 | 3.8 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 32.2 | 585 | 173145 | 2.6 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 25.6 | 590 | 174675 | 1.7 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 21.2 | 595 | 173724 | 1.1 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 17.4 | 600 | 171241 | 0.7 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 16.6 | 605 | 165134 | 0.5 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 18.6 | 610 | 156652 | 0.3 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 22.7 | 615 | 147879 | 0.2 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

Summary

$R_f = 76.9$
 $R_g = 94.4$
 $CIE R_a = 73.1$
 $R_g = -34.6$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 68 | CES51 = 90 | CES76 = 63 |
| CES02 = 62 | CES27 = 88 | CES52 = 89 | CES77 = 80 |
| CES03 = 31 | CES28 = 87 | CES53 = 80 | CES78 = 65 |
| CES04 = 70 | CES29 = 67 | CES54 = 84 | CES79 = 87 |
| CES05 = 48 | CES30 = 74 | CES55 = 84 | CES80 = 86 |
| CES06 = 51 | CES31 = 71 | CES56 = 75 | CES81 = 75 |
| CES07 = 40 | CES32 = 67 | CES57 = 74 | CES82 = 94 |
| CES08 = 39 | CES33 = 74 | CES58 = 76 | CES83 = 91 |
| CES09 = 29 | CES34 = 78 | CES59 = 87 | CES84 = 89 |
| CES10 = 75 | CES35 = 89 | CES60 = 93 | CES85 = 80 |
| CES11 = 58 | CES36 = 98 | CES61 = 86 | CES86 = 66 |
| CES12 = 64 | CES37 = 86 | CES62 = 89 | CES87 = 79 |
| CES13 = 43 | CES38 = 82 | CES63 = 77 | CES88 = 79 |
| CES14 = 74 | CES39 = 95 | CES64 = 74 | CES89 = 70 |
| CES15 = 71 | CES40 = 91 | CES65 = 68 | CES90 = 77 |
| CES16 = 47 | CES41 = 89 | CES66 = 71 | CES91 = 88 |
| CES17 = 50 | CES42 = 88 | CES67 = 69 | CES92 = 60 |
| CES18 = 56 | CES43 = 82 | CES68 = 74 | CES93 = 77 |
| CES19 = 72 | CES44 = 99 | CES69 = 82 | CES94 = 52 |
| CES20 = 65 | CES45 = 87 | CES70 = 67 | CES95 = 69 |
| CES21 = 86 | CES46 = 82 | CES71 = 66 | CES96 = 78 |
| CES22 = 79 | CES47 = 82 | CES72 = 88 | CES97 = 85 |
| CES23 = 92 | CES48 = 72 | CES73 = 59 | CES98 = 76 |
| CES24 = 91 | CES49 = 82 | CES74 = 97 | CES99 = 63 |
| CES25 = 72 | CES50 = 88 | CES75 = 66 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)