

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: STREETWORKS

Report Number: P867595

Luminaire Tested: **MEM2-HTN-SA-150-740-U-T2U-HSS**

Issue Date: 08/21/2024



Test Information

Test Method: LM-79-08
Report Number: P867595
Test Lab: INNOVATION CENTER(G3)
Issue Date: 08/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: MEM2-HTN-SA-150-740-U-T2U-HSS
Description: EPIC MODERN TALL HOUSING DISCRETE LED ARRAYS 150W 70CRI 4000K
FIXTURE w/ TYPE II URBAN DISTRIBUTION OPTIC AND HOUSE SIDE SHIELD
Light Source: (30) 4000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

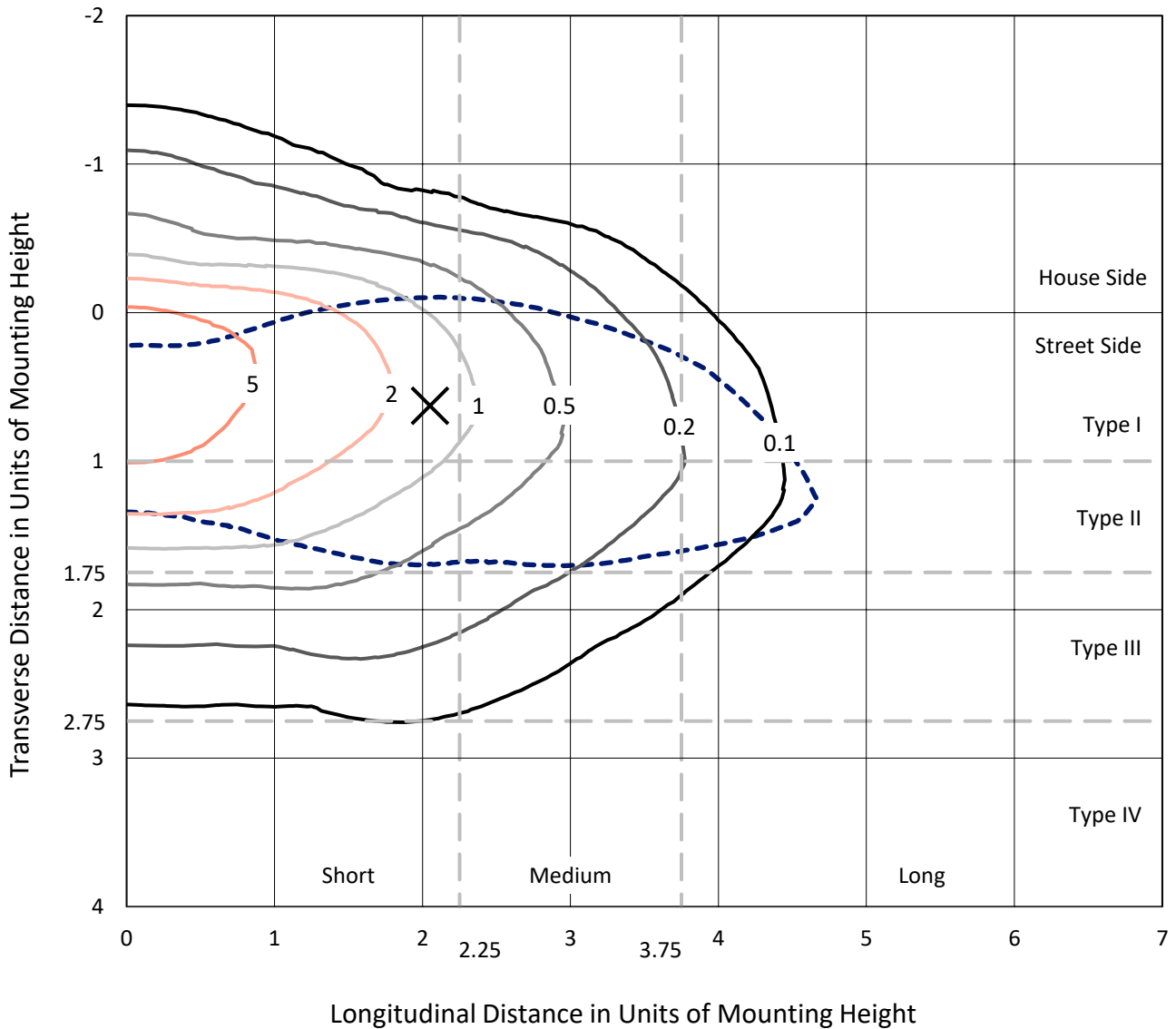
Lumens per Lamp: N/A
Luminaire Lumens: 12927.4 lumens
Efficiency: N/A
Efficacy: 96.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.33' x H: 0')
IES Classification: Type II - Short
BUG Rating: B2 - U0 - G2

Input Watts (W): 134
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 6.70%
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Iso-Footcandle Lines of Horizontal Illumination

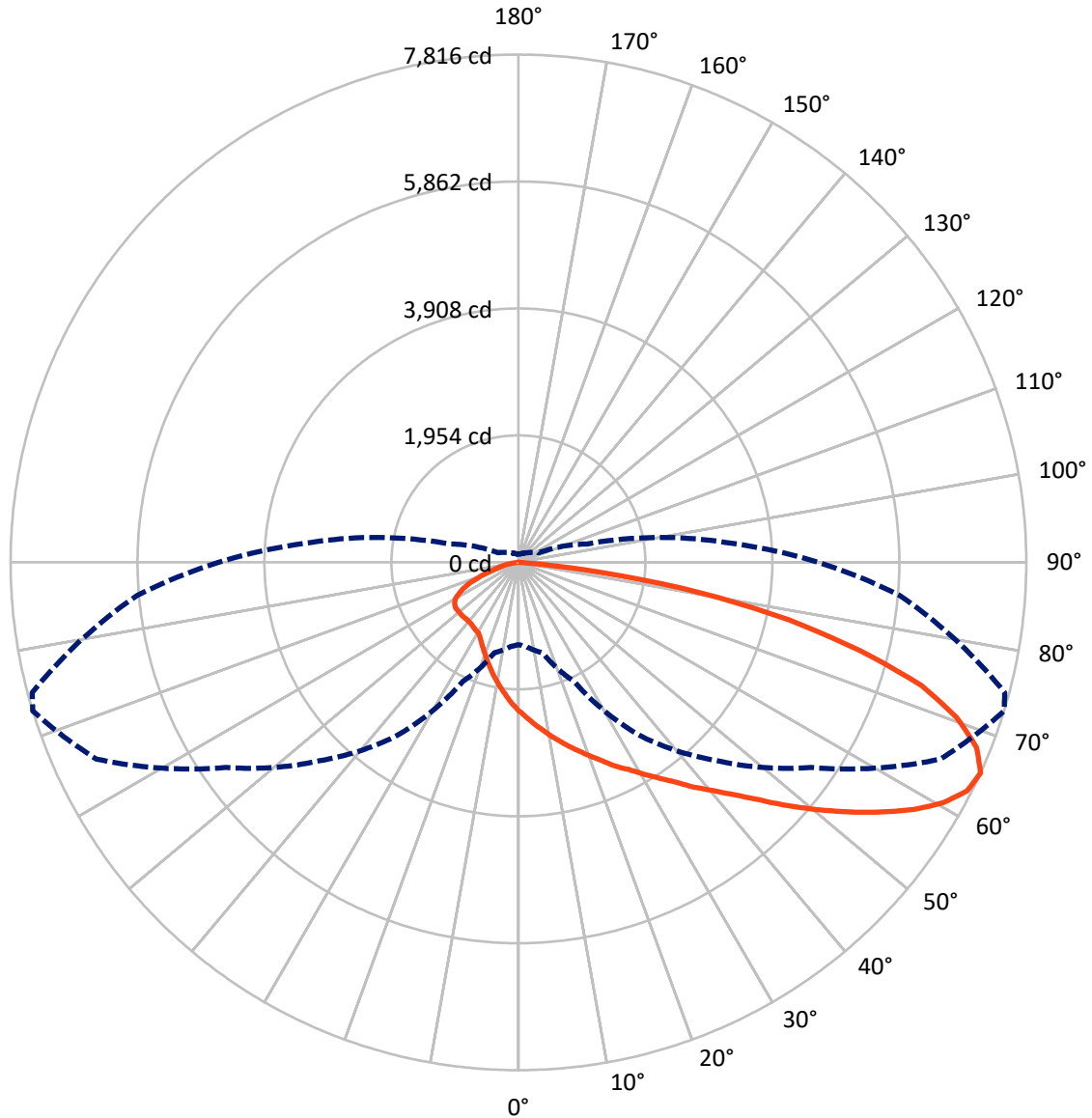
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 9.3 fc
 Type II - Short - N/A

REPORT NUMBER: P867595
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Luminous Intensity Polar Plot



— Vertical Plane Through 73-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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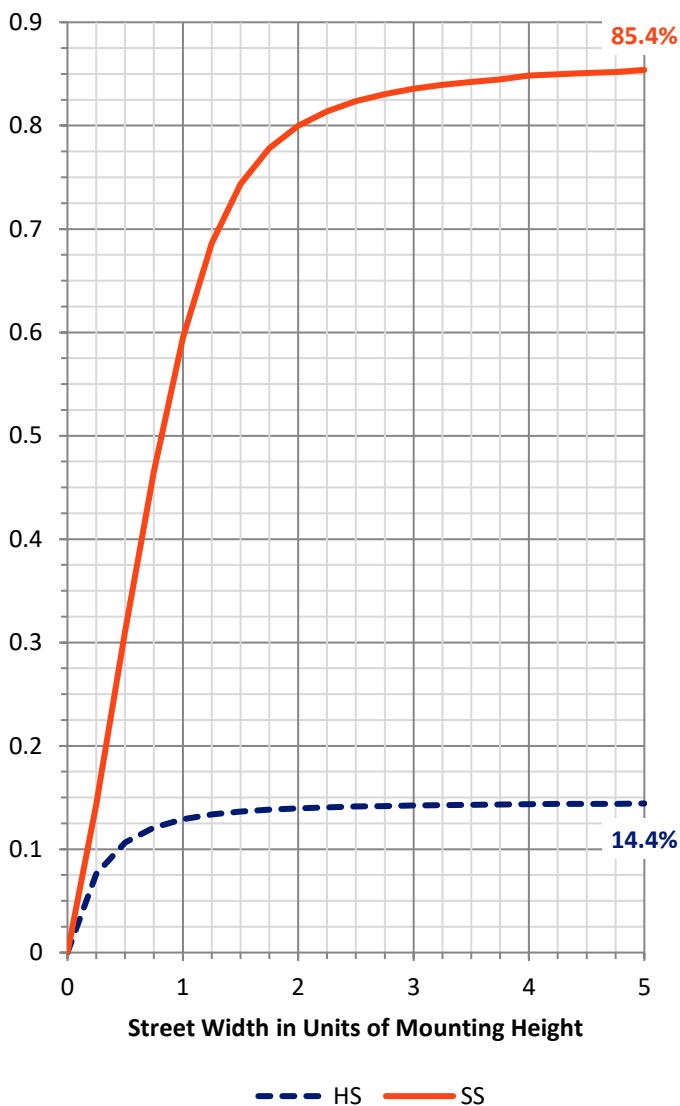
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 1879.8 | 0.0 | 1879.8 |
| | % Fixture | 14.5 | 0.0 | 14.5 |
| Street Side | Lumens | 11047.5 | 0.0 | 11047.5 |
| | % Fixture | 85.5 | 0.0 | 85.5 |
| Total | Lumens | 12927.4 | 0.0 | 12927.4 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 221.4 | 1.7 |
| 10°-20° | 672.8 | 5.2 |
| 20°-30° | 1126.7 | 8.7 |
| 30°-40° | 1699.6 | 13.1 |
| 40°-50° | 2401.5 | 18.6 |
| 50°-60° | 2702.2 | 20.9 |
| 60°-70° | 2423.1 | 18.7 |
| 70°-80° | 1473.8 | 11.4 |
| 80°-90° | 206.2 | 1.6 |
| 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° | 12927.4 | 100.0 |
| 0°-180° | 12927.4 | 100.0 |

Coefficient of Utilization



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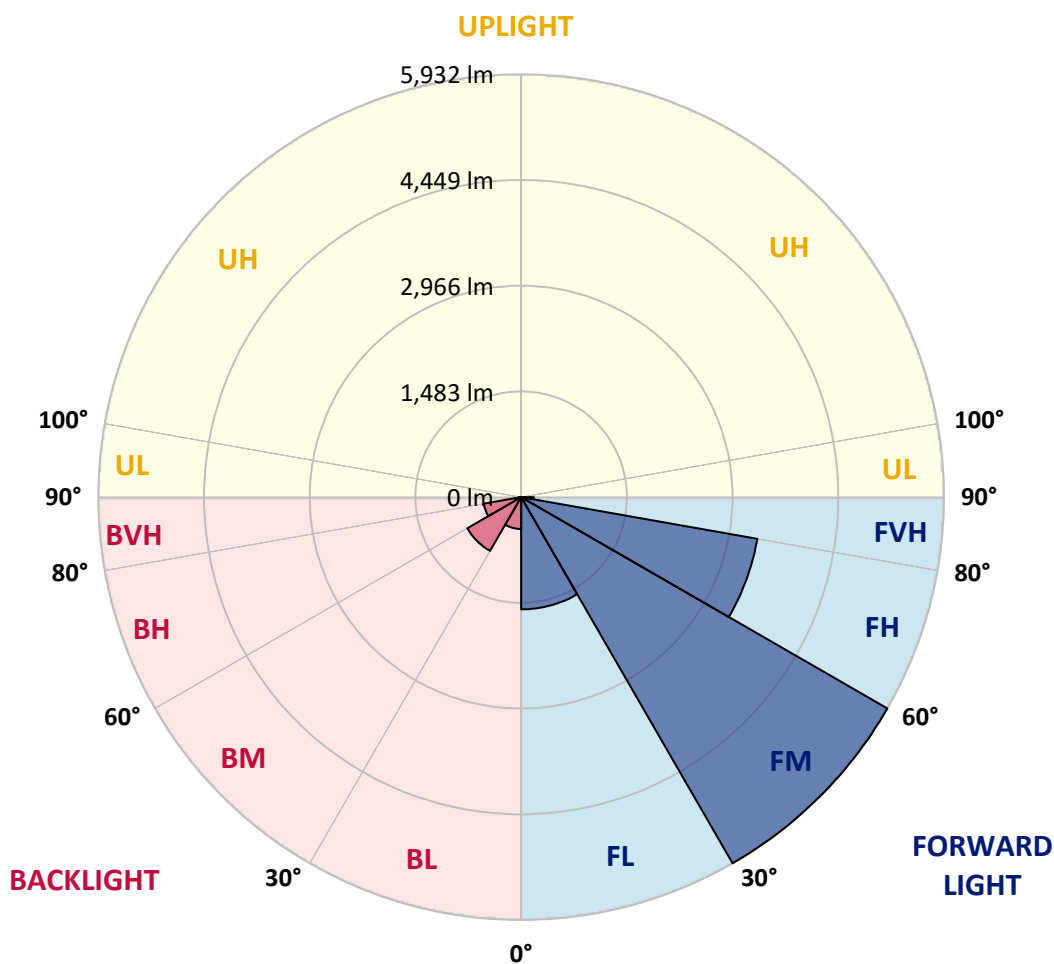
CATALOG NUMBER: MEM2-HTN-SA-150-740-U-T2U-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 1574.3 | 12.2 | | | |
| FM | (30°-60°) | 5931.6 | 45.9 | | | |
| FH | (60°-80°) | 3364.4 | 26.0 | | | G2/5000 |
| FVH | (80°-90°) | 177.2 | 1.4 | | | G2/225 |
| BL | (0°-30°) | 446.6 | 3.5 | B1/500 | | |
| BM | (30°-60°) | 871.7 | 6.7 | B1/1000 | | |
| BH | (60°-80°) | 532.5 | 4.1 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 29.1 | 0.2 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G2

Type II Short





REPORT NUMBER: P867595

CATALOG NUMBER: MEM2-HTN-SA-150-740-U-T2U-HSS

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 73° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2293.3 | 2293.3 | 2293.3 | 2293.3 | 2293.3 | 2293.3 | 2293.3 | 2293.3 | 2293.3 | 2293.3 | 2293.3 |
| 2.5° | 2647.0 | 2631.8 | 2609.0 | 2590.0 | 2555.8 | 2510.1 | 2472.1 | 2422.6 | 2388.4 | 2377.0 | 2327.6 |
| 5° | 3031.2 | 3012.1 | 2985.5 | 2939.9 | 2848.6 | 2795.4 | 2696.5 | 2582.4 | 2491.1 | 2472.1 | 2358.0 |
| 7.5° | 3426.7 | 3419.1 | 3358.2 | 3289.8 | 3179.5 | 3061.6 | 2909.5 | 2730.7 | 2597.6 | 2567.2 | 2392.2 |
| 10° | 3761.4 | 3727.2 | 3692.9 | 3628.3 | 3510.4 | 3343.0 | 3145.3 | 2898.1 | 2711.7 | 2662.3 | 2426.5 |
| 12.5° | 3963.0 | 3951.5 | 3921.1 | 3845.1 | 3731.0 | 3586.4 | 3350.6 | 3061.6 | 2822.0 | 2753.5 | 2460.7 |
| 15° | 4111.3 | 4122.7 | 4092.3 | 4042.8 | 3924.9 | 3788.0 | 3559.8 | 3232.7 | 2939.9 | 2860.0 | 2498.7 |
| 17.5° | 4252.0 | 4244.4 | 4240.6 | 4183.5 | 4077.0 | 3940.1 | 3708.1 | 3373.5 | 3057.8 | 2970.3 | 2536.7 |
| 20° | 4331.9 | 4335.7 | 4328.1 | 4305.2 | 4202.6 | 4069.4 | 3852.7 | 3540.8 | 3187.1 | 3088.2 | 2586.2 |
| 22.5° | 4373.7 | 4388.9 | 4404.1 | 4400.3 | 4316.7 | 4214.0 | 3989.6 | 3673.9 | 3320.2 | 3217.5 | 2647.0 |
| 25° | 4400.3 | 4411.7 | 4446.0 | 4491.6 | 4415.5 | 4331.9 | 4141.7 | 3833.6 | 3476.1 | 3358.2 | 2719.3 |
| 27.5° | 4423.1 | 4438.4 | 4480.2 | 4548.6 | 4487.8 | 4438.4 | 4274.8 | 3970.6 | 3609.3 | 3502.8 | 2803.0 |
| 30° | 4571.5 | 4590.5 | 4590.5 | 4624.7 | 4556.3 | 4544.8 | 4423.1 | 4134.1 | 3776.6 | 3662.5 | 2909.5 |
| 32.5° | 4963.2 | 4925.2 | 4856.7 | 4822.5 | 4658.9 | 4662.7 | 4567.7 | 4297.6 | 3955.3 | 3841.3 | 3042.6 |
| 35° | 5301.7 | 5301.7 | 5218.0 | 5107.7 | 4845.3 | 4792.1 | 4735.0 | 4514.4 | 4149.3 | 4039.0 | 3217.5 |
| 37.5° | 5628.8 | 5632.6 | 5545.1 | 5450.0 | 5149.6 | 4959.4 | 4929.0 | 4723.6 | 4388.9 | 4259.6 | 3400.1 |
| 40° | 5834.1 | 5857.0 | 5834.1 | 5761.9 | 5472.8 | 5252.2 | 5119.1 | 4959.4 | 4617.1 | 4518.2 | 3609.3 |
| 42.5° | 5868.4 | 5914.0 | 5997.7 | 6020.5 | 5708.6 | 5514.7 | 5362.5 | 5202.8 | 4890.9 | 4780.6 | 3848.9 |
| 45° | 5780.9 | 5796.1 | 5982.5 | 6009.1 | 5883.6 | 5723.8 | 5621.2 | 5488.0 | 5218.0 | 5122.9 | 4115.1 |
| 47.5° | 5541.3 | 5510.9 | 5575.5 | 5807.5 | 5857.0 | 5849.3 | 5876.0 | 5811.3 | 5598.3 | 5476.6 | 4407.9 |
| 50° | 5027.9 | 5039.3 | 5248.4 | 5529.9 | 5701.0 | 5895.0 | 6066.1 | 6138.4 | 5982.5 | 5860.8 | 4723.6 |
| 52.5° | 4092.3 | 4145.5 | 4544.8 | 5210.4 | 5507.1 | 5864.6 | 6203.0 | 6446.5 | 6381.8 | 6263.9 | 5035.5 |
| 55° | 3362.0 | 3441.9 | 3841.3 | 4697.0 | 5240.8 | 5716.2 | 6282.9 | 6769.7 | 6781.1 | 6689.9 | 5320.7 |
| 57.5° | 2631.8 | 2696.5 | 3118.6 | 3902.1 | 4860.5 | 5484.2 | 6294.3 | 7047.4 | 7176.7 | 7070.2 | 5571.7 |
| 60° | 2061.3 | 2107.0 | 2354.2 | 3251.8 | 4392.7 | 5153.4 | 6210.7 | 7267.9 | 7511.4 | 7431.5 | 5788.5 |
| 62.5° | 1563.1 | 1597.4 | 1817.9 | 2571.0 | 3818.4 | 4765.4 | 5929.2 | 7347.8 | 7747.2 | 7671.1 | 5910.2 |
| 65° | 1266.5 | 1296.9 | 1441.4 | 2019.5 | 3251.8 | 4316.7 | 5503.3 | 7165.3 | 7815.6 | 7747.2 | 5895.0 |
| 67.5° | 1034.5 | 1045.9 | 1163.8 | 1574.5 | 2749.7 | 3810.8 | 4879.5 | 6689.9 | 7606.4 | 7602.6 | 5720.0 |
| 70° | 836.7 | 867.1 | 966.0 | 1255.1 | 2285.7 | 3228.9 | 4153.1 | 5944.4 | 7153.9 | 7191.9 | 5370.1 |
| 72.5° | 711.2 | 718.8 | 806.3 | 1038.3 | 1863.6 | 2620.4 | 3438.1 | 5084.9 | 6488.3 | 6518.7 | 4822.5 |
| 75° | 600.9 | 612.3 | 677.0 | 840.5 | 1513.7 | 2080.4 | 2764.9 | 4107.5 | 5431.0 | 5560.3 | 4061.8 |
| 77.5° | 517.2 | 521.0 | 566.7 | 692.2 | 1076.3 | 1563.1 | 2027.1 | 3080.6 | 4252.0 | 4343.3 | 3190.9 |
| 80° | 406.9 | 414.6 | 464.0 | 547.7 | 749.2 | 1015.5 | 1399.6 | 2107.0 | 2841.0 | 2943.7 | 2209.7 |
| 82.5° | 190.2 | 213.0 | 224.4 | 300.5 | 391.7 | 502.0 | 661.8 | 878.5 | 1285.5 | 1281.7 | 1030.7 |
| 85° | 19.0 | 15.2 | 15.2 | 22.8 | 34.2 | 34.2 | 41.8 | 49.4 | 98.9 | 117.9 | 91.3 |
| 87.5° | 0.0 | 0.0 | 0.0 | 3.8 | 7.6 | 7.6 | 7.6 | 11.4 | 11.4 | 11.4 | 11.4 |
| 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: P867595

CATALOG NUMBER: MEM2-HTN-SA-150-740-U-T2U-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2293.3 | 2293.3 | 2293.3 | 2293.3 | 2293.3 | 2293.3 | 2293.3 | 2293.3 | 2293.3 | 2293.3 | 2293.3 |
| 2.5° | 2304.8 | 2270.5 | 2209.7 | 2152.6 | 2114.6 | 2084.2 | 2034.7 | 2004.3 | 1981.5 | 1951.1 | 1947.2 |
| 5° | 2297.1 | 2236.3 | 2114.6 | 2011.9 | 1913.0 | 1829.3 | 1741.9 | 1688.6 | 1631.6 | 1605.0 | 1627.8 |
| 7.5° | 2304.8 | 2205.9 | 2015.7 | 1859.8 | 1711.4 | 1578.3 | 1464.2 | 1392.0 | 1338.7 | 1312.1 | 1315.9 |
| 10° | 2308.6 | 2179.2 | 1932.0 | 1715.3 | 1525.1 | 1369.2 | 1239.8 | 1141.0 | 1076.3 | 1061.1 | 1042.1 |
| 12.5° | 2300.9 | 2145.0 | 1848.4 | 1574.5 | 1346.3 | 1175.2 | 1023.1 | 947.0 | 882.3 | 851.9 | 851.9 |
| 15° | 2308.6 | 2118.4 | 1760.9 | 1445.2 | 1186.6 | 988.8 | 859.5 | 775.9 | 737.8 | 711.2 | 715.0 |
| 17.5° | 2308.6 | 2095.6 | 1677.2 | 1319.7 | 1030.7 | 848.1 | 730.2 | 661.8 | 623.7 | 608.5 | 604.7 |
| 20° | 2335.2 | 2076.6 | 1597.4 | 1201.8 | 893.8 | 722.6 | 627.5 | 574.3 | 543.9 | 528.6 | 521.0 |
| 22.5° | 2354.2 | 2061.3 | 1525.1 | 1087.7 | 779.7 | 631.3 | 551.5 | 502.0 | 479.2 | 471.6 | 471.6 |
| 25° | 2388.4 | 2057.5 | 1460.4 | 977.4 | 688.4 | 562.9 | 490.6 | 452.6 | 433.6 | 426.0 | 426.0 |
| 27.5° | 2437.9 | 2065.1 | 1399.6 | 882.3 | 619.9 | 494.4 | 441.2 | 410.7 | 399.3 | 395.5 | 391.7 |
| 30° | 2510.1 | 2099.4 | 1361.6 | 810.1 | 555.3 | 452.6 | 403.1 | 384.1 | 376.5 | 372.7 | 372.7 |
| 32.5° | 2605.2 | 2160.2 | 1346.3 | 772.1 | 517.2 | 418.4 | 376.5 | 361.3 | 353.7 | 353.7 | 349.9 |
| 35° | 2723.1 | 2228.7 | 1334.9 | 737.8 | 490.6 | 395.5 | 357.5 | 342.3 | 338.5 | 338.5 | 338.5 |
| 37.5° | 2863.8 | 2300.9 | 1315.9 | 715.0 | 475.4 | 376.5 | 342.3 | 327.1 | 327.1 | 327.1 | 327.1 |
| 40° | 3019.8 | 2407.4 | 1312.1 | 699.8 | 464.0 | 365.1 | 327.1 | 311.9 | 311.9 | 311.9 | 311.9 |
| 42.5° | 3194.7 | 2521.5 | 1308.3 | 688.4 | 456.4 | 357.5 | 311.9 | 296.7 | 296.7 | 296.7 | 296.7 |
| 45° | 3407.7 | 2666.1 | 1315.9 | 680.8 | 456.4 | 349.9 | 300.5 | 281.4 | 277.6 | 277.6 | 277.6 |
| 47.5° | 3616.9 | 2803.0 | 1323.5 | 673.2 | 448.8 | 338.5 | 285.2 | 266.2 | 262.4 | 258.6 | 258.6 |
| 50° | 3841.3 | 2943.7 | 1323.5 | 665.6 | 441.2 | 327.1 | 273.8 | 247.2 | 243.4 | 239.6 | 239.6 |
| 52.5° | 4061.8 | 3061.6 | 1327.3 | 654.2 | 422.2 | 308.1 | 254.8 | 232.0 | 224.4 | 220.6 | 216.8 |
| 55° | 4274.8 | 3187.1 | 1331.1 | 635.1 | 399.3 | 289.0 | 243.4 | 216.8 | 205.4 | 197.8 | 197.8 |
| 57.5° | 4434.6 | 3289.8 | 1312.1 | 597.1 | 368.9 | 270.0 | 224.4 | 197.8 | 182.6 | 174.9 | 174.9 |
| 60° | 4586.7 | 3354.4 | 1277.9 | 540.1 | 338.5 | 251.0 | 209.2 | 178.8 | 163.5 | 155.9 | 155.9 |
| 62.5° | 4647.5 | 3365.8 | 1198.0 | 441.2 | 300.5 | 232.0 | 190.2 | 163.5 | 152.1 | 148.3 | 148.3 |
| 65° | 4613.3 | 3316.4 | 1091.5 | 349.9 | 266.2 | 209.2 | 174.9 | 152.1 | 136.9 | 125.5 | 125.5 |
| 67.5° | 4426.9 | 3145.3 | 947.0 | 277.6 | 232.0 | 190.2 | 159.7 | 136.9 | 121.7 | 110.3 | 110.3 |
| 70° | 4073.2 | 2871.4 | 737.8 | 220.6 | 201.6 | 167.3 | 144.5 | 125.5 | 110.3 | 98.9 | 98.9 |
| 72.5° | 3552.2 | 2491.1 | 536.3 | 186.4 | 174.9 | 148.3 | 129.3 | 114.1 | 98.9 | 91.3 | 91.3 |
| 75° | 2928.5 | 1920.6 | 380.3 | 159.7 | 155.9 | 133.1 | 117.9 | 102.7 | 91.3 | 83.7 | 83.7 |
| 77.5° | 2198.3 | 1338.7 | 296.7 | 140.7 | 136.9 | 121.7 | 106.5 | 95.1 | 83.7 | 79.9 | 76.1 |
| 80° | 1464.2 | 829.1 | 224.4 | 106.5 | 102.7 | 95.1 | 87.5 | 79.9 | 68.5 | 60.9 | 60.9 |
| 82.5° | 654.2 | 349.9 | 114.1 | 60.9 | 53.2 | 45.6 | 38.0 | 26.6 | 26.6 | 22.8 | 22.8 |
| 85° | 68.5 | 45.6 | 22.8 | 15.2 | 15.2 | 11.4 | 11.4 | 11.4 | 7.6 | 7.6 | 7.6 |
| 87.5° | 11.4 | 11.4 | 7.6 | 7.6 | 7.6 | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

Streetworks

Report Number: SP1-2407-157-5

Test Date: 08/07/2024

Luminaire Tested: MEM2-HTN-SA-40-740-U-5WQ-2

Data in this report applies to families of products including MEM2-HTN-SA-40-740-U-5WQ-2

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-157-5
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 08/20/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: Streetworks
 Catalog Number: **MEM2-HTN-SA-40-740-U-5WQ-2**
 Description: Epic Modern Light Square 40W 5WQ Optic and Flare Trim

Spectral Parameters

CCT (K): 3915
 CIE u': 0.2262
 CIE v': 0.5044
 Duv: 0.0010
 CIE x: 0.3850
 CIE y: 0.3816
 CIE z: 0.2334
 Peak Wavelength (nm): 449
 Dominant Wavelength (nm): 578
 Purity: 30.05482
 R_f: 73.2
 R_g: 93.9

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 71.0 | | |
| R1: | 67.6 | R9: | -38.4 |
| R2: | 78.3 | R10: | 48.9 |
| R3: | 87.1 | R11: | 65.3 |
| R4: | 69.7 | R12: | 40.4 |
| R5: | 67.4 | R13: | 69.3 |
| R6: | 69.3 | R14: | 92.6 |
| R7: | 79.7 | R15: | 59.9 |
| R8: | 48.7 | | |



Test Conditions

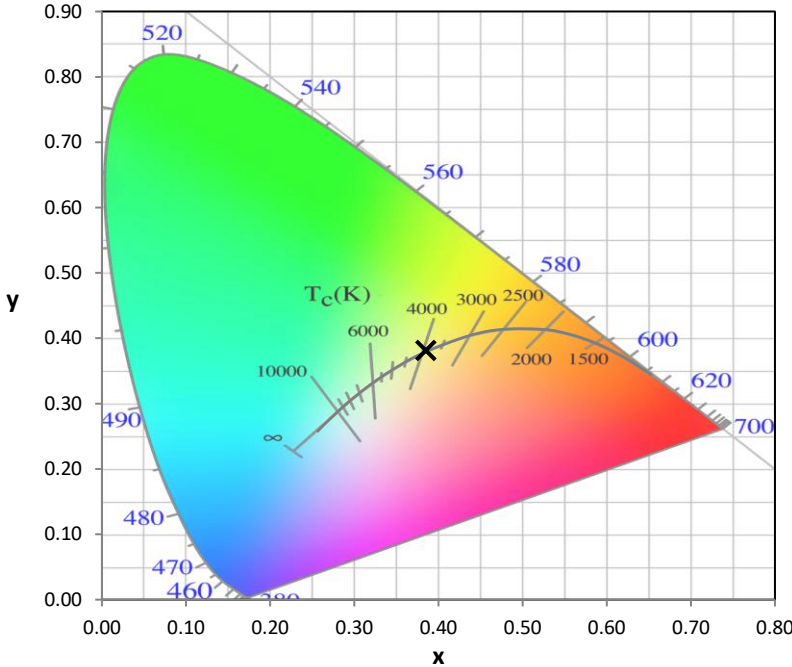
Stabilization Time: 21M
 Operation Time: 1H 21M
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2407-157-5

| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC Power Source | IN0208 | 10/24/2023 | 10/24/2024 |
| Sphere Thermometer | IN0085 | 10/24/2023 | 10/24/2024 |
| Room Thermometer | IN0046 | 10/24/2023 | 10/24/2024 |

REPORT NUMBER: SP1-2407-157-5

CIE 1931 Chromaticity Diagram



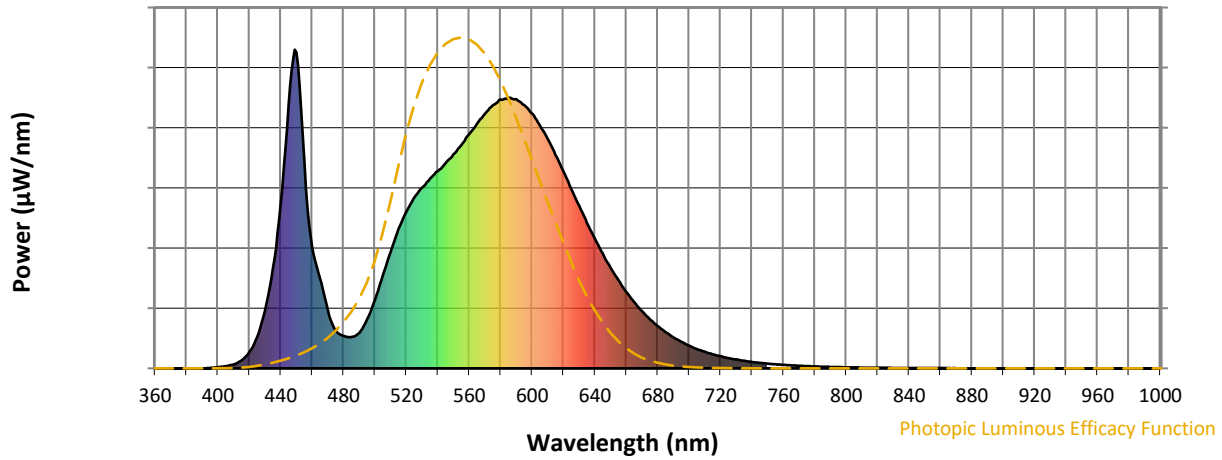
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 4000K 4-step quadrangle

REPORT NUMBER: SP1-2407-157-5

Photopic Flux vs. Wavelength



Photopic Lumens: NR

| λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360 | 0 | NR | 490 | 112 | NR | 620 | 618 | NR | 750 | 15 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 153 | NR | 625 | 563 | NR | 755 | 13 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 216 | NR | 630 | 510 | NR | 760 | 11 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 291 | NR | 635 | 456 | NR | 765 | 9 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 366 | NR | 640 | 407 | NR | 770 | 8 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 436 | NR | 645 | 359 | NR | 775 | 7 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 492 | NR | 650 | 316 | NR | 780 | 6 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 536 | NR | 655 | 277 | NR | 785 | 5 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 567 | NR | 660 | 240 | NR | 790 | 4 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 596 | NR | 665 | 208 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 12 | NR | 540 | 619 | NR | 670 | 179 | NR | 800 | 3 | NR | 930 | 0 | NR |
| 415 | 25 | NR | 545 | 644 | NR | 675 | 154 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 51 | NR | 550 | 671 | NR | 680 | 133 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 100 | NR | 555 | 701 | NR | 685 | 114 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 180 | NR | 560 | 735 | NR | 690 | 98 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 315 | NR | 565 | 768 | NR | 695 | 83 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 514 | NR | 570 | 798 | NR | 700 | 71 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 828 | NR | 575 | 825 | NR | 705 | 61 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 992 | NR | 580 | 843 | NR | 710 | 52 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 652 | NR | 585 | 848 | NR | 715 | 44 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 382 | NR | 590 | 844 | NR | 720 | 38 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 282 | NR | 595 | 826 | NR | 725 | 32 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 180 | NR | 600 | 800 | NR | 730 | 28 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 119 | NR | 605 | 762 | NR | 735 | 24 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 101 | NR | 610 | 719 | NR | 740 | 20 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 98 | NR | 615 | 669 | NR | 745 | 17 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2407-157-5

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.49

| λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360 | 0 | NR | 490 | 112 | NR | 620 | 618 | NR | 750 | 15 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 153 | NR | 625 | 563 | NR | 755 | 13 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 216 | NR | 630 | 510 | NR | 760 | 11 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 291 | NR | 635 | 456 | NR | 765 | 9 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 366 | NR | 640 | 407 | NR | 770 | 8 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 436 | NR | 645 | 359 | NR | 775 | 7 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 492 | NR | 650 | 316 | NR | 780 | 6 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 536 | NR | 655 | 277 | NR | 785 | 5 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 567 | NR | 660 | 240 | NR | 790 | 4 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 596 | NR | 665 | 208 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 12 | NR | 540 | 619 | NR | 670 | 179 | NR | 800 | 3 | NR | 930 | 0 | NR |
| 415 | 25 | NR | 545 | 644 | NR | 675 | 154 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 51 | NR | 550 | 671 | NR | 680 | 133 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 100 | NR | 555 | 701 | NR | 685 | 114 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 180 | NR | 560 | 735 | NR | 690 | 98 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 315 | NR | 565 | 768 | NR | 695 | 83 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 514 | NR | 570 | 798 | NR | 700 | 71 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 828 | NR | 575 | 825 | NR | 705 | 61 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 992 | NR | 580 | 843 | NR | 710 | 52 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 652 | NR | 585 | 848 | NR | 715 | 44 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 382 | NR | 590 | 844 | NR | 720 | 38 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 282 | NR | 595 | 826 | NR | 725 | 32 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 180 | NR | 600 | 800 | NR | 730 | 28 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 119 | NR | 605 | 762 | NR | 735 | 24 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 101 | NR | 610 | 719 | NR | 740 | 20 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 98 | NR | 615 | 669 | NR | 745 | 17 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2407-157-5

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.88

| λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360 | 0 | NR | 490 | 112 | NR | 620 | 618 | NR | 750 | 15 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 153 | NR | 625 | 563 | NR | 755 | 13 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 216 | NR | 630 | 510 | NR | 760 | 11 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 291 | NR | 635 | 456 | NR | 765 | 9 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 366 | NR | 640 | 407 | NR | 770 | 8 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 436 | NR | 645 | 359 | NR | 775 | 7 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 492 | NR | 650 | 316 | NR | 780 | 6 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 536 | NR | 655 | 277 | NR | 785 | 5 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 567 | NR | 660 | 240 | NR | 790 | 4 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 596 | NR | 665 | 208 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 12 | NR | 540 | 619 | NR | 670 | 179 | NR | 800 | 3 | NR | 930 | 0 | NR |
| 415 | 25 | NR | 545 | 644 | NR | 675 | 154 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 51 | NR | 550 | 671 | NR | 680 | 133 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 100 | NR | 555 | 701 | NR | 685 | 114 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 180 | NR | 560 | 735 | NR | 690 | 98 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 315 | NR | 565 | 768 | NR | 695 | 83 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 514 | NR | 570 | 798 | NR | 700 | 71 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 828 | NR | 575 | 825 | NR | 705 | 61 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 992 | NR | 580 | 843 | NR | 710 | 52 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 652 | NR | 585 | 848 | NR | 715 | 44 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 382 | NR | 590 | 844 | NR | 720 | 38 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 282 | NR | 595 | 826 | NR | 725 | 32 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 180 | NR | 600 | 800 | NR | 730 | 28 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 119 | NR | 605 | 762 | NR | 735 | 24 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 101 | NR | 610 | 719 | NR | 740 | 20 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 98 | NR | 615 | 669 | NR | 745 | 17 | NR | 875 | 0 | NR | | | |

Summary

$R_f = 73.2$
 $R_g = 93.9$
 $CIE R_a = 71.0$
 $R_g = -38.4$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 61 | CES51 = 88 | CES76 = 50 |
| CES02 = 61 | CES27 = 88 | CES52 = 87 | CES77 = 69 |
| CES03 = 30 | CES28 = 81 | CES53 = 77 | CES78 = 53 |
| CES04 = 70 | CES29 = 65 | CES54 = 84 | CES79 = 81 |
| CES05 = 47 | CES30 = 81 | CES55 = 83 | CES80 = 78 |
| CES06 = 50 | CES31 = 69 | CES56 = 73 | CES81 = 77 |
| CES07 = 40 | CES32 = 60 | CES57 = 72 | CES82 = 91 |
| CES08 = 39 | CES33 = 76 | CES58 = 73 | CES83 = 89 |
| CES09 = 29 | CES34 = 70 | CES59 = 85 | CES84 = 86 |
| CES10 = 74 | CES35 = 83 | CES60 = 89 | CES85 = 77 |
| CES11 = 57 | CES36 = 91 | CES61 = 81 | CES86 = 71 |
| CES12 = 63 | CES37 = 79 | CES62 = 85 | CES87 = 76 |
| CES13 = 42 | CES38 = 92 | CES63 = 72 | CES88 = 80 |
| CES14 = 74 | CES39 = 96 | CES64 = 64 | CES89 = 70 |
| CES15 = 71 | CES40 = 91 | CES65 = 61 | CES90 = 79 |
| CES16 = 46 | CES41 = 93 | CES66 = 57 | CES91 = 74 |
| CES17 = 49 | CES42 = 80 | CES67 = 54 | CES92 = 57 |
| CES18 = 56 | CES43 = 76 | CES68 = 63 | CES93 = 74 |
| CES19 = 72 | CES44 = 99 | CES69 = 73 | CES94 = 51 |
| CES20 = 65 | CES45 = 85 | CES70 = 55 | CES95 = 65 |
| CES21 = 86 | CES46 = 82 | CES71 = 48 | CES96 = 76 |
| CES22 = 78 | CES47 = 86 | CES72 = 83 | CES97 = 84 |
| CES23 = 92 | CES48 = 77 | CES73 = 45 | CES98 = 75 |
| CES24 = 91 | CES49 = 80 | CES74 = 93 | CES99 = 62 |
| CES25 = 72 | CES50 = 88 | CES75 = 51 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)