

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: P867648

Luminaire Tested: **MEM2-HTN-SA-100-727-U-T3-HSS**

Issue Date: 08/21/2024



Test Information

Test Method: LM-79-08
Report Number: P867648
Test Lab: INNOVATION CENTER(G3)
Issue Date: 08/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: MEM2-HTN-SA-100-727-U-T3-HSS
Description: EPIC MODERN TALL HOUSING DISCRETE LED ARRAYS 100W 70CRI 2700K
FIXTURE w/ TYPE III DISTRIBUTION OPTIC AND HOUSE SIDE SHIELD
Light Source: (20) 2700K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

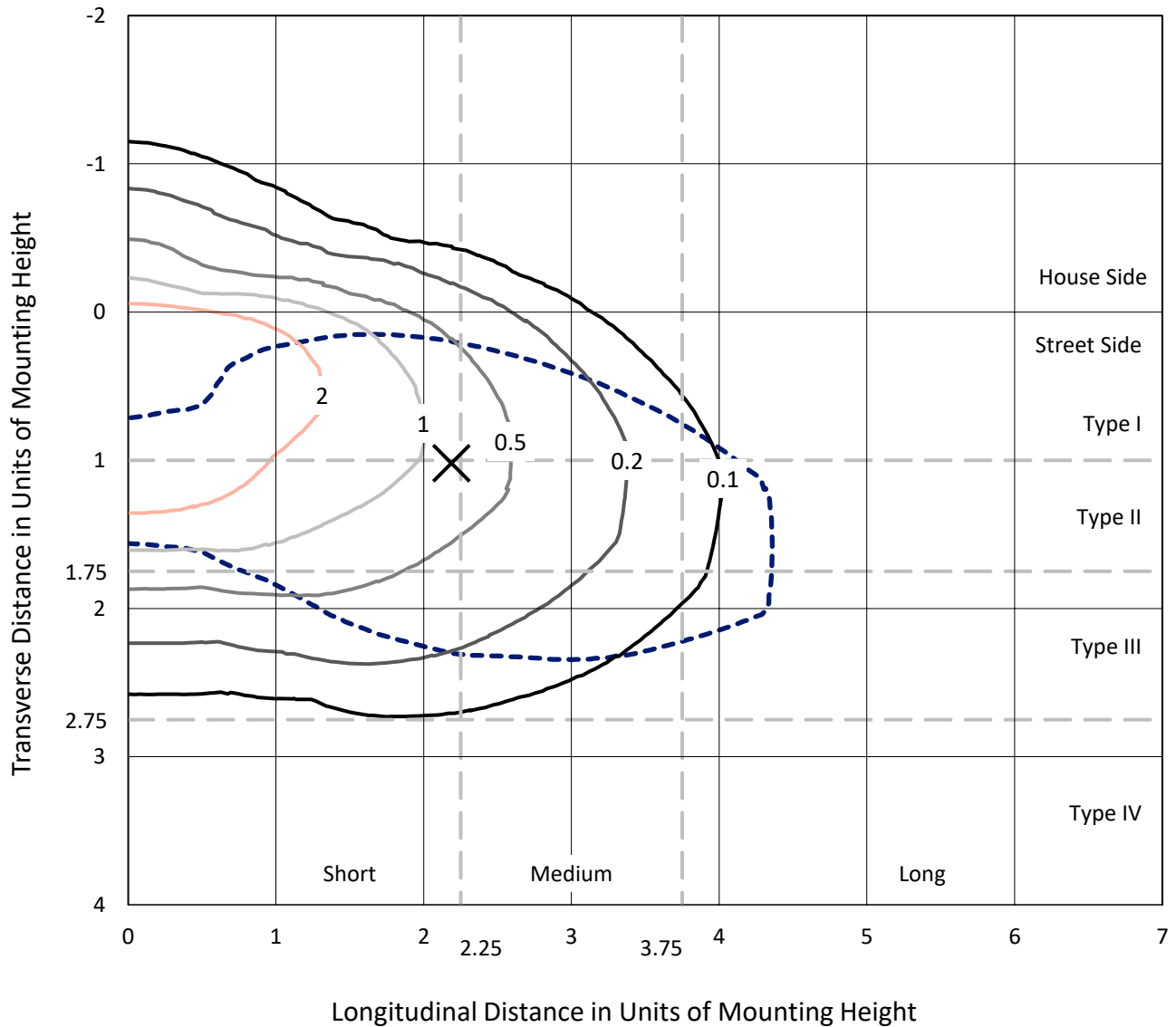
Lumens per Lamp: N/A
Luminaire Lumens: 8280.4 lumens
Efficiency: N/A
Efficacy: 92.0 lumens/watt
Luminous Opening: Rectangular (W 0.67' x L: 0.33' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G2

Input Watts (W): 90
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 6.20%
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

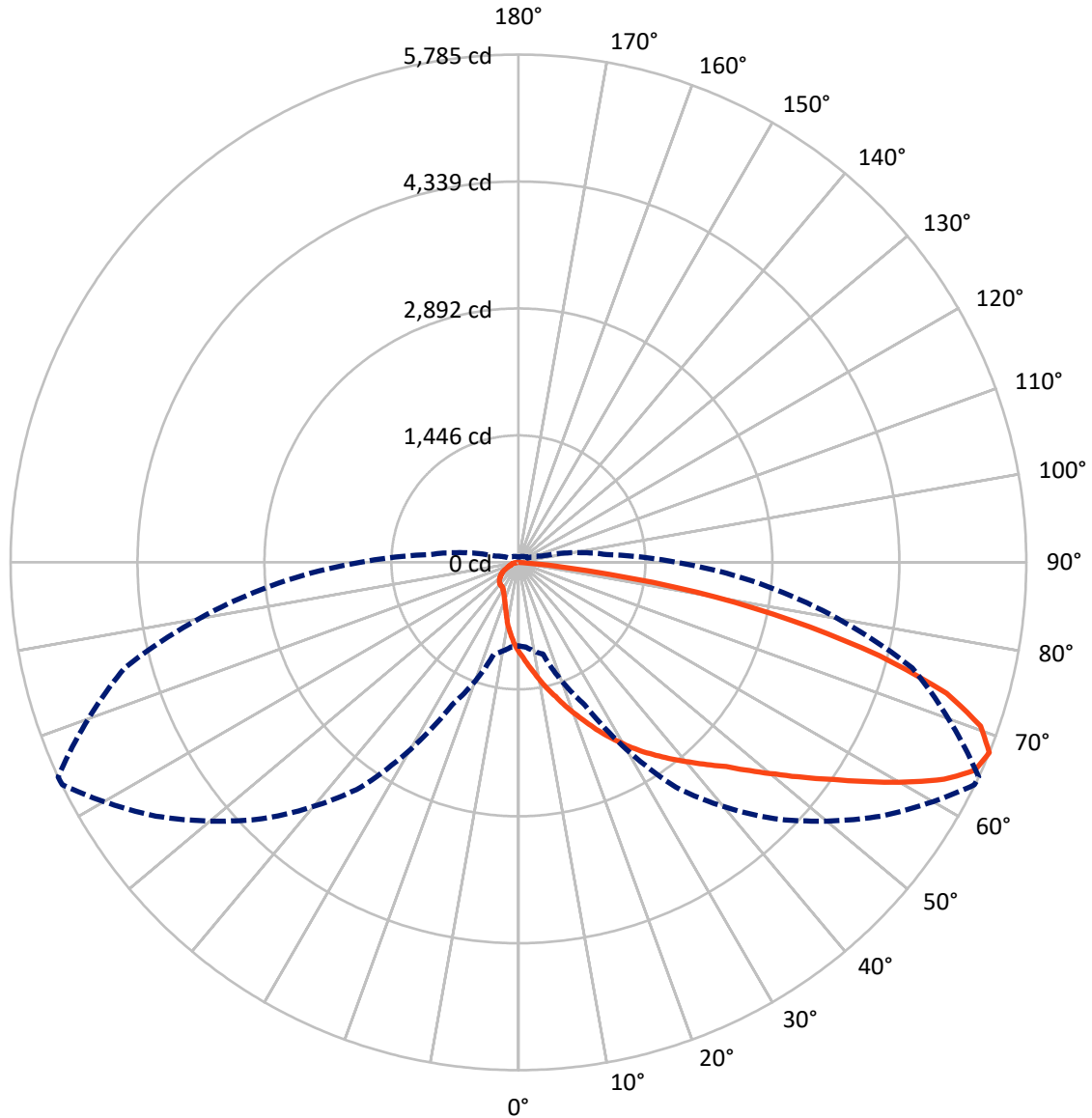
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.7 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 65-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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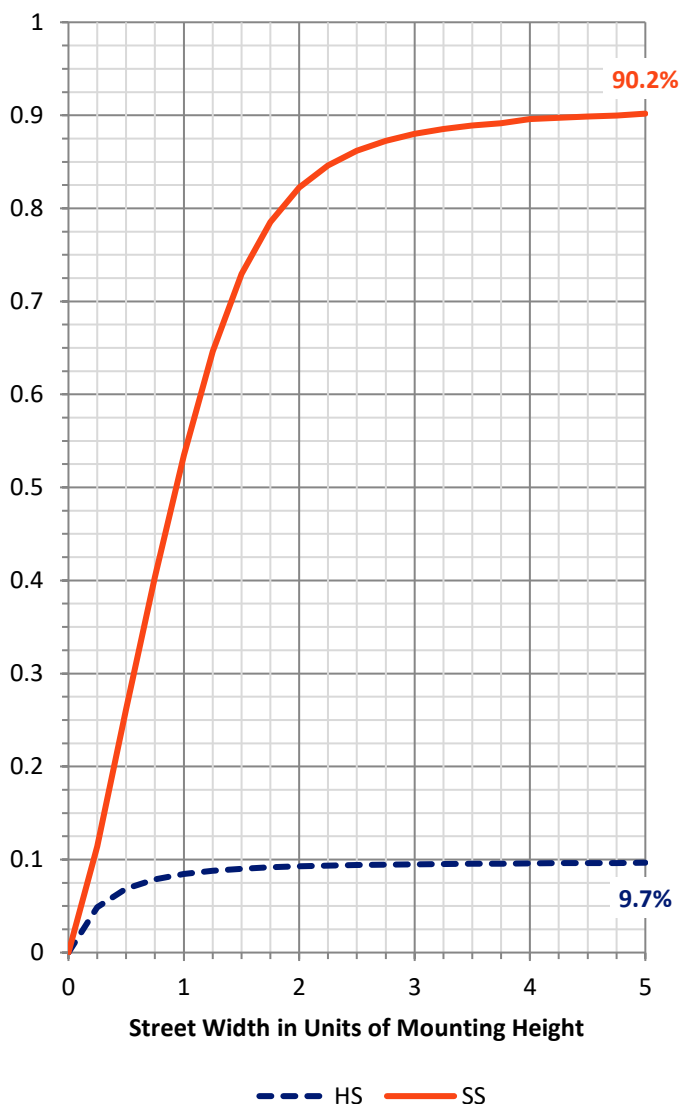
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 805.9 | 0.0 | 805.9 |
| | % Fixture | 9.7 | 0.0 | 9.7 |
| Street Side | Lumens | 7474.5 | 0.0 | 7474.5 |
| | % Fixture | 90.3 | 0.0 | 90.3 |
| Total | Lumens | 8280.4 | 0.0 | 8280.4 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 100.1 | 1.2 |
| 10°-20° | 332.3 | 4.0 |
| 20°-30° | 604.7 | 7.3 |
| 30°-40° | 935.9 | 11.3 |
| 40°-50° | 1414.7 | 17.1 |
| 50°-60° | 1840.5 | 22.2 |
| 60°-70° | 1815.6 | 21.9 |
| 70°-80° | 1105.2 | 13.3 |
| 80°-90° | 131.4 | 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° | 8280.4 | 100.0 |
| 0°-180° | 8280.4 | 100.0 |

Coefficient of Utilization



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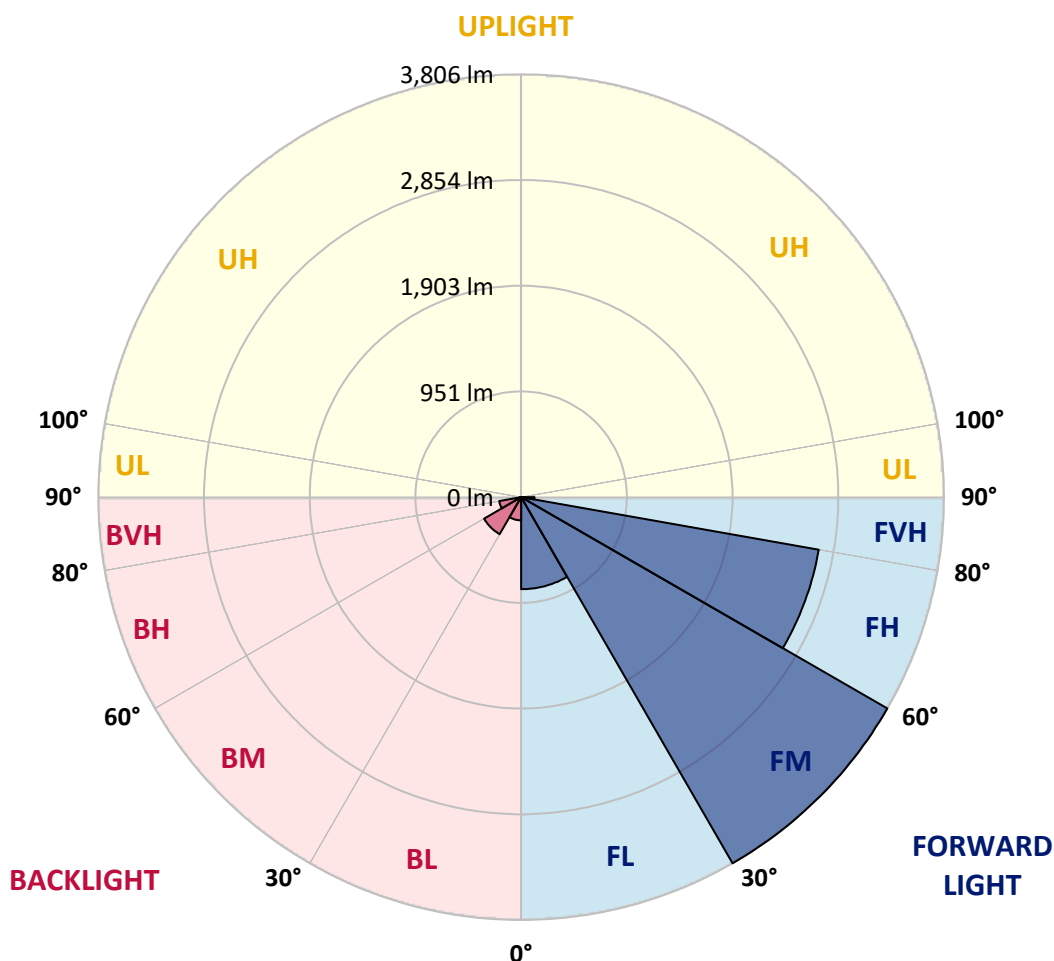
CATALOG NUMBER: MEM2-HTN-SA-100-727-U-T3-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 828.6 | 10.0 | | | |
| FM (30°-60°) | 3805.7 | 46.0 | | | |
| FH (60°-80°) | 2720.1 | 32.9 | | | G2/5000 |
| FVH (80°-90°) | 120.1 | 1.5 | | | G2/225 |
| BL (0°-30°) | 208.6 | 2.5 | B1/500 | | |
| BM (30°-60°) | 385.4 | 4.7 | B1/1000 | | |
| BH (60°-80°) | 200.7 | 2.4 | B1/500 | | G1/500 |
| BVH (80°-90°) | 11.3 | 0.1 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G2

Type III Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 64° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1023.2 | 1023.2 | 1023.2 | 1023.2 | 1023.2 | 1023.2 | 1023.2 | 1023.2 | 1023.2 | 1023.2 | 1023.2 |
| 2.5° | 1195.7 | 1186.2 | 1193.3 | 1176.8 | 1157.9 | 1143.7 | 1115.3 | 1091.7 | 1089.3 | 1065.7 | 1039.7 |
| 5° | 1424.9 | 1394.2 | 1396.5 | 1363.5 | 1323.3 | 1280.8 | 1235.9 | 1176.8 | 1176.8 | 1120.1 | 1061.0 |
| 7.5° | 1630.5 | 1625.8 | 1604.5 | 1552.5 | 1505.2 | 1439.1 | 1356.4 | 1280.8 | 1264.2 | 1176.8 | 1084.6 |
| 10° | 1829.0 | 1821.9 | 1803.0 | 1762.8 | 1682.5 | 1609.2 | 1505.2 | 1391.8 | 1370.5 | 1245.3 | 1113.0 |
| 12.5° | 1987.3 | 1989.7 | 1968.4 | 1935.3 | 1864.4 | 1777.0 | 1639.9 | 1498.1 | 1479.2 | 1311.5 | 1141.3 |
| 15° | 2126.7 | 2124.3 | 2119.6 | 2091.3 | 2022.7 | 1942.4 | 1781.7 | 1616.3 | 1585.6 | 1382.4 | 1169.7 |
| 17.5° | 2233.0 | 2228.3 | 2218.9 | 2195.2 | 2162.2 | 2084.2 | 1930.6 | 1741.5 | 1715.5 | 1465.1 | 1202.8 |
| 20° | 2263.8 | 2261.4 | 2261.4 | 2277.9 | 2263.8 | 2216.5 | 2079.5 | 1871.5 | 1843.1 | 1552.5 | 1247.7 |
| 22.5° | 2320.5 | 2318.1 | 2315.8 | 2332.3 | 2341.7 | 2337.0 | 2218.9 | 2003.8 | 1977.8 | 1654.1 | 1304.4 |
| 25° | 2393.7 | 2389.0 | 2381.9 | 2398.5 | 2410.3 | 2438.6 | 2358.3 | 2159.8 | 2129.1 | 1772.3 | 1361.1 |
| 27.5° | 2490.6 | 2495.3 | 2485.9 | 2483.5 | 2483.5 | 2500.1 | 2481.2 | 2299.2 | 2270.9 | 1885.7 | 1427.3 |
| 30° | 2618.2 | 2625.3 | 2608.8 | 2596.9 | 2575.7 | 2573.3 | 2578.0 | 2455.2 | 2415.0 | 2008.6 | 1495.8 |
| 32.5° | 2743.5 | 2750.5 | 2741.1 | 2724.6 | 2670.2 | 2648.9 | 2667.8 | 2587.5 | 2561.5 | 2143.3 | 1583.2 |
| 35° | 2845.1 | 2861.6 | 2861.6 | 2828.5 | 2752.9 | 2741.1 | 2771.8 | 2717.5 | 2698.6 | 2301.6 | 1687.2 |
| 37.5° | 2982.1 | 2991.6 | 2982.1 | 2920.7 | 2826.2 | 2840.3 | 2887.6 | 2854.5 | 2842.7 | 2471.7 | 1810.1 |
| 40° | 3275.1 | 3286.9 | 3225.5 | 3079.0 | 2927.8 | 2944.3 | 3027.0 | 3008.1 | 2989.2 | 2639.5 | 1923.5 |
| 42.5° | 3683.9 | 3655.6 | 3643.8 | 3317.7 | 3083.7 | 3074.3 | 3178.3 | 3152.3 | 3149.9 | 2809.6 | 2027.5 |
| 45° | 3953.3 | 3962.8 | 3903.7 | 3594.1 | 3412.2 | 3235.0 | 3346.0 | 3336.6 | 3317.7 | 2982.1 | 2152.7 |
| 47.5° | 4140.0 | 4118.7 | 3972.2 | 3823.4 | 3858.8 | 3445.3 | 3532.7 | 3556.3 | 3544.5 | 3178.3 | 2306.3 |
| 50° | 4218.0 | 4196.7 | 4099.8 | 4000.6 | 4043.1 | 3686.3 | 3724.1 | 3802.1 | 3790.3 | 3376.7 | 2436.3 |
| 52.5° | 4121.1 | 4095.1 | 4102.2 | 4128.2 | 4106.9 | 3875.3 | 3960.4 | 4083.3 | 4069.1 | 3608.3 | 2587.5 |
| 55° | 3504.3 | 3572.9 | 3837.5 | 4102.2 | 4095.1 | 4019.5 | 4213.2 | 4392.8 | 4364.5 | 3849.3 | 2717.5 |
| 57.5° | 2826.2 | 2864.0 | 3199.5 | 3915.5 | 4057.3 | 4140.0 | 4501.5 | 4723.7 | 4714.2 | 4090.4 | 2835.6 |
| 60° | 2247.2 | 2287.4 | 2542.6 | 3528.0 | 3969.9 | 4265.2 | 4796.9 | 5089.9 | 5080.5 | 4333.8 | 2920.7 |
| 62.5° | 1786.4 | 1786.4 | 2013.3 | 2970.3 | 3802.1 | 4338.5 | 5030.9 | 5458.6 | 5442.0 | 4529.9 | 2941.9 |
| 65° | 1285.5 | 1302.0 | 1472.2 | 2389.0 | 3530.3 | 4319.6 | 5144.3 | 5720.9 | 5711.4 | 4641.0 | 2897.1 |
| 67.5° | 949.9 | 968.8 | 1082.3 | 1791.2 | 3128.6 | 4130.5 | 5040.3 | 5779.9 | 5784.7 | 4643.3 | 2750.5 |
| 70° | 742.0 | 746.7 | 831.8 | 1245.3 | 2563.9 | 3709.9 | 4650.4 | 5583.8 | 5583.8 | 4527.5 | 2533.1 |
| 72.5° | 564.8 | 569.5 | 642.7 | 848.3 | 1888.0 | 3067.2 | 4066.7 | 5063.9 | 5099.4 | 4220.3 | 2211.8 |
| 75° | 437.2 | 446.6 | 496.2 | 609.7 | 1183.9 | 2181.1 | 3341.3 | 4147.1 | 4244.0 | 3624.9 | 1821.9 |
| 77.5° | 337.9 | 347.4 | 387.5 | 446.6 | 690.0 | 1344.6 | 2348.8 | 3100.3 | 3187.7 | 2854.5 | 1406.0 |
| 80° | 271.7 | 276.5 | 302.5 | 335.5 | 418.3 | 692.4 | 1434.3 | 2036.9 | 2062.9 | 1940.0 | 931.0 |
| 82.5° | 125.2 | 134.7 | 163.0 | 184.3 | 207.9 | 321.4 | 612.0 | 753.8 | 786.9 | 770.3 | 382.8 |
| 85° | 14.2 | 14.2 | 16.5 | 18.9 | 21.3 | 33.1 | 42.5 | 37.8 | 37.8 | 44.9 | 40.2 |
| 87.5° | 0.0 | 0.0 | 0.0 | 2.4 | 4.7 | 4.7 | 7.1 | 7.1 | 7.1 | 7.1 | 7.1 |
| 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: P867648

CATALOG NUMBER: MEM2-HTN-SA-100-727-U-T3-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1023.2 | 1023.2 | 1023.2 | 1023.2 | 1023.2 | 1023.2 | 1023.2 | 1023.2 | 1023.2 | 1023.2 | 1023.2 |
| 2.5° | 1025.5 | 1009.0 | 978.3 | 952.3 | 928.7 | 905.0 | 893.2 | 864.9 | 857.8 | 862.5 | 846.0 |
| 5° | 1030.3 | 997.2 | 933.4 | 874.3 | 824.7 | 777.4 | 737.3 | 694.7 | 685.3 | 671.1 | 664.0 |
| 7.5° | 1037.4 | 987.7 | 888.5 | 796.3 | 720.7 | 652.2 | 602.6 | 569.5 | 543.5 | 536.4 | 534.0 |
| 10° | 1046.8 | 975.9 | 838.9 | 723.1 | 619.1 | 548.2 | 503.3 | 479.7 | 470.2 | 463.2 | 465.5 |
| 12.5° | 1053.9 | 964.1 | 791.6 | 640.4 | 538.8 | 475.0 | 453.7 | 434.8 | 430.1 | 427.7 | 427.7 |
| 15° | 1063.4 | 952.3 | 734.9 | 567.1 | 470.2 | 432.4 | 411.2 | 404.1 | 404.1 | 401.7 | 401.7 |
| 17.5° | 1075.2 | 942.8 | 687.6 | 510.4 | 430.1 | 394.6 | 385.2 | 375.7 | 375.7 | 375.7 | 373.4 |
| 20° | 1098.8 | 938.1 | 645.1 | 463.2 | 394.6 | 371.0 | 356.8 | 349.7 | 347.4 | 345.0 | 345.0 |
| 22.5° | 1122.4 | 938.1 | 597.8 | 427.7 | 371.0 | 345.0 | 330.8 | 323.7 | 321.4 | 321.4 | 321.4 |
| 25° | 1155.5 | 935.8 | 560.0 | 397.0 | 349.7 | 319.0 | 304.8 | 297.7 | 293.0 | 293.0 | 290.7 |
| 27.5° | 1193.3 | 935.8 | 527.0 | 373.4 | 326.1 | 295.4 | 278.8 | 271.7 | 264.7 | 264.7 | 262.3 |
| 30° | 1231.1 | 940.5 | 498.6 | 354.5 | 302.5 | 274.1 | 252.8 | 243.4 | 238.7 | 236.3 | 236.3 |
| 32.5° | 1280.8 | 954.7 | 479.7 | 340.3 | 281.2 | 252.8 | 231.6 | 222.1 | 217.4 | 215.0 | 215.0 |
| 35° | 1356.4 | 990.1 | 482.1 | 333.2 | 267.0 | 233.9 | 212.7 | 200.9 | 198.5 | 198.5 | 196.1 |
| 37.5° | 1436.7 | 1023.2 | 489.1 | 328.5 | 252.8 | 219.8 | 198.5 | 186.7 | 184.3 | 184.3 | 184.3 |
| 40° | 1505.2 | 1051.5 | 498.6 | 326.1 | 241.0 | 205.6 | 186.7 | 177.2 | 172.5 | 172.5 | 172.5 |
| 42.5° | 1573.8 | 1068.1 | 501.0 | 319.0 | 233.9 | 193.8 | 177.2 | 167.8 | 163.0 | 165.4 | 165.4 |
| 45° | 1642.3 | 1079.9 | 493.9 | 309.6 | 226.8 | 184.3 | 167.8 | 158.3 | 153.6 | 153.6 | 153.6 |
| 47.5° | 1725.0 | 1105.9 | 482.1 | 295.4 | 222.1 | 177.2 | 158.3 | 148.9 | 146.5 | 146.5 | 146.5 |
| 50° | 1807.7 | 1127.2 | 472.6 | 278.8 | 210.3 | 167.8 | 151.2 | 139.4 | 137.1 | 137.1 | 137.1 |
| 52.5° | 1876.2 | 1136.6 | 460.8 | 257.6 | 198.5 | 158.3 | 141.8 | 130.0 | 125.2 | 125.2 | 125.2 |
| 55° | 1928.2 | 1139.0 | 444.2 | 241.0 | 182.0 | 148.9 | 132.3 | 120.5 | 115.8 | 113.4 | 113.4 |
| 57.5° | 1970.8 | 1136.6 | 427.7 | 224.5 | 167.8 | 137.1 | 120.5 | 111.1 | 104.0 | 101.6 | 101.6 |
| 60° | 1994.4 | 1129.5 | 404.1 | 203.2 | 148.9 | 125.2 | 111.1 | 99.2 | 94.5 | 92.2 | 92.2 |
| 62.5° | 1980.2 | 1110.6 | 371.0 | 170.1 | 134.7 | 113.4 | 101.6 | 92.2 | 85.1 | 82.7 | 82.7 |
| 65° | 1914.0 | 1072.8 | 328.5 | 139.4 | 120.5 | 101.6 | 92.2 | 82.7 | 73.3 | 70.9 | 70.9 |
| 67.5° | 1798.3 | 1009.0 | 271.7 | 118.2 | 111.1 | 92.2 | 82.7 | 73.3 | 66.2 | 61.4 | 61.4 |
| 70° | 1637.6 | 923.9 | 212.7 | 101.6 | 99.2 | 85.1 | 75.6 | 66.2 | 59.1 | 54.3 | 54.3 |
| 72.5° | 1408.4 | 784.5 | 158.3 | 87.4 | 87.4 | 78.0 | 68.5 | 61.4 | 54.3 | 49.6 | 49.6 |
| 75° | 1139.0 | 593.1 | 120.5 | 80.3 | 78.0 | 70.9 | 61.4 | 54.3 | 49.6 | 44.9 | 44.9 |
| 77.5° | 831.8 | 394.6 | 99.2 | 73.3 | 73.3 | 63.8 | 56.7 | 49.6 | 44.9 | 42.5 | 42.5 |
| 80° | 505.7 | 226.8 | 70.9 | 56.7 | 56.7 | 54.3 | 47.3 | 42.5 | 40.2 | 35.4 | 33.1 |
| 82.5° | 205.6 | 87.4 | 37.8 | 28.4 | 28.4 | 26.0 | 16.5 | 14.2 | 14.2 | 14.2 | 11.8 |
| 85° | 21.3 | 14.2 | 9.5 | 7.1 | 7.1 | 7.1 | 4.7 | 4.7 | 4.7 | 4.7 | 4.7 |
| 87.5° | 7.1 | 7.1 | 4.7 | 4.7 | 4.7 | 4.7 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
| 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: SP1-2407-157-3

Test Date: 08/07/2024

Luminaire Tested: MEM2-HTN-SA-40-727-U-5WQ-2

Data in this report applies to families of products including MEM2-HTN-SA-40-727-U-5WQ-2

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-157-3
 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-40-727-U-5WQ-2**
 Description: Epic Modern Light Square 40W 5WQ Optic and Flare Trim

Spectral Parameters

CCT (K): 2747
 CIE u': 0.2606
 CIE v': 0.5257
 Duv: -0.0005
 CIE x: 0.4552
 CIE y: 0.4082
 CIE z: 0.1366
 Peak Wavelength (nm): 597
 Dominant Wavelength (nm): 584
 Purity: 59.16856
 Rf: 75.5
 Rg: 93.6

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 71.7 | | |
| R1: | 68.1 | R9: | -35.3 |
| R2: | 83.9 | R10: | 64.2 |
| R3: | 94.7 | R11: | 61.7 |
| R4: | 66.3 | R12: | 53.9 |
| R5: | 67.4 | R13: | 71.2 |
| R6: | 78.7 | R14: | 97.6 |
| R7: | 75.0 | R15: | 59.3 |
| R8: | 39.4 | | |



Test Conditions

Stabilization Time: 22M
 Operation Time: 1H 22M
 Sphere Temperature (°C): 24.2

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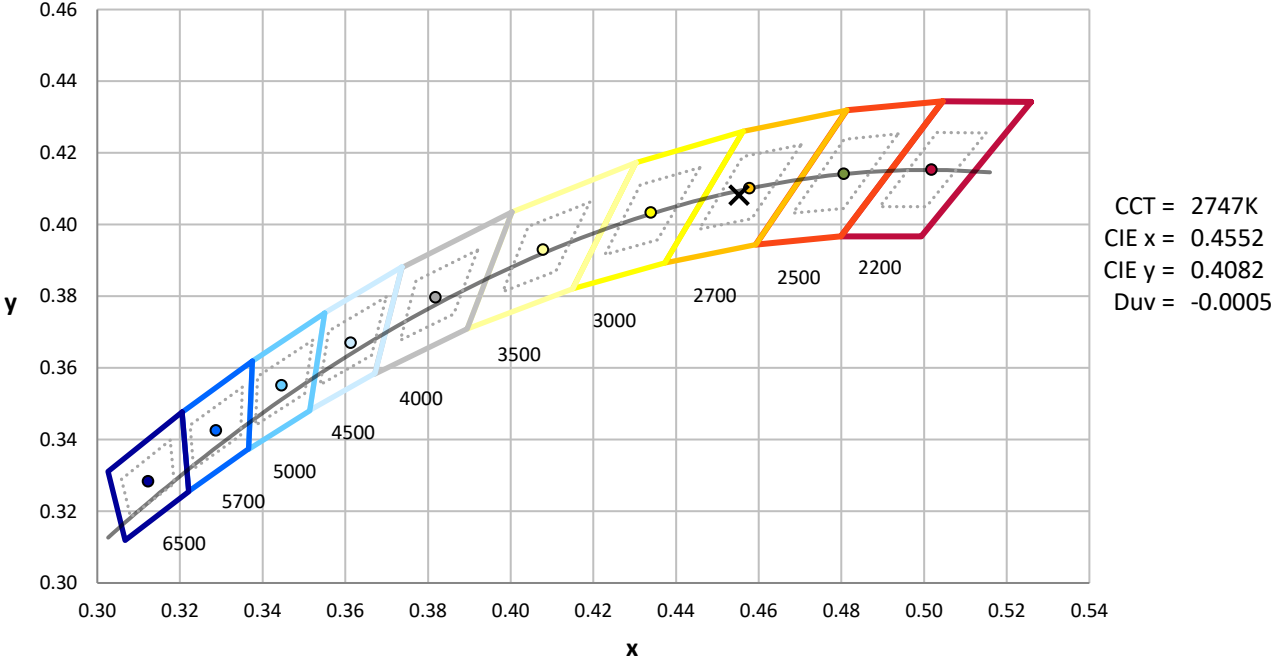
| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 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 |

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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 2700K 4-step quadrangle

REPORT NUMBER: SP1-2407-157-3

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 | 103 | NR | 620 | 846 | NR | 750 | 20 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 130 | NR | 625 | 784 | NR | 755 | 17 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 171 | NR | 630 | 720 | NR | 760 | 15 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 221 | NR | 635 | 652 | NR | 765 | 13 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 268 | NR | 640 | 587 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 313 | NR | 645 | 521 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 350 | NR | 650 | 461 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 0 | NR | 525 | 381 | NR | 655 | 406 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 0 | NR | 530 | 407 | NR | 660 | 353 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 2 | NR | 535 | 435 | NR | 665 | 307 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 4 | NR | 540 | 462 | NR | 670 | 264 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 9 | NR | 545 | 496 | NR | 675 | 227 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 20 | NR | 550 | 534 | NR | 680 | 196 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 38 | NR | 555 | 582 | NR | 685 | 167 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 69 | NR | 560 | 638 | NR | 690 | 144 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 120 | NR | 565 | 700 | NR | 695 | 122 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 193 | NR | 570 | 767 | NR | 700 | 103 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 316 | NR | 575 | 836 | NR | 705 | 88 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 469 | NR | 580 | 898 | NR | 710 | 74 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 431 | NR | 585 | 947 | NR | 715 | 63 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 264 | NR | 590 | 982 | NR | 720 | 54 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 197 | NR | 595 | 997 | NR | 725 | 46 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 155 | NR | 600 | 997 | NR | 730 | 39 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 108 | NR | 605 | 978 | NR | 735 | 33 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 90 | NR | 610 | 947 | NR | 740 | 28 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 92 | NR | 615 | 900 | NR | 745 | 24 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2407-157-3

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.13

| 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 | 103 | NR | 620 | 846 | NR | 750 | 20 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 130 | NR | 625 | 784 | NR | 755 | 17 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 171 | NR | 630 | 720 | NR | 760 | 15 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 221 | NR | 635 | 652 | NR | 765 | 13 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 268 | NR | 640 | 587 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 313 | NR | 645 | 521 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 350 | NR | 650 | 461 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 0 | NR | 525 | 381 | NR | 655 | 406 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 0 | NR | 530 | 407 | NR | 660 | 353 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 2 | NR | 535 | 435 | NR | 665 | 307 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 4 | NR | 540 | 462 | NR | 670 | 264 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 9 | NR | 545 | 496 | NR | 675 | 227 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 20 | NR | 550 | 534 | NR | 680 | 196 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 38 | NR | 555 | 582 | NR | 685 | 167 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 69 | NR | 560 | 638 | NR | 690 | 144 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 120 | NR | 565 | 700 | NR | 695 | 122 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 193 | NR | 570 | 767 | NR | 700 | 103 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 316 | NR | 575 | 836 | NR | 705 | 88 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 469 | NR | 580 | 898 | NR | 710 | 74 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 431 | NR | 585 | 947 | NR | 715 | 63 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 264 | NR | 590 | 982 | NR | 720 | 54 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 197 | NR | 595 | 997 | NR | 725 | 46 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 155 | NR | 600 | 997 | NR | 730 | 39 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 108 | NR | 605 | 978 | NR | 735 | 33 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 90 | NR | 610 | 947 | NR | 740 | 28 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 92 | NR | 615 | 900 | NR | 745 | 24 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2407-157-3

Melanopic Flux vs. Wavelength



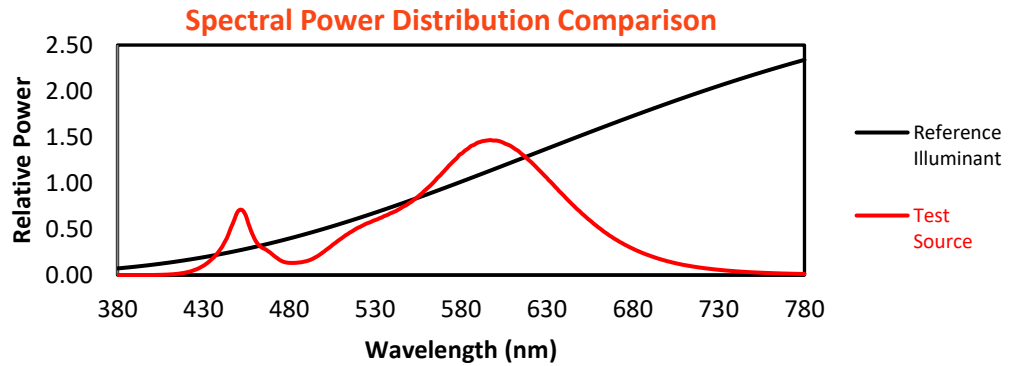
Melanopic Lumens: NR

M/P: 2.04

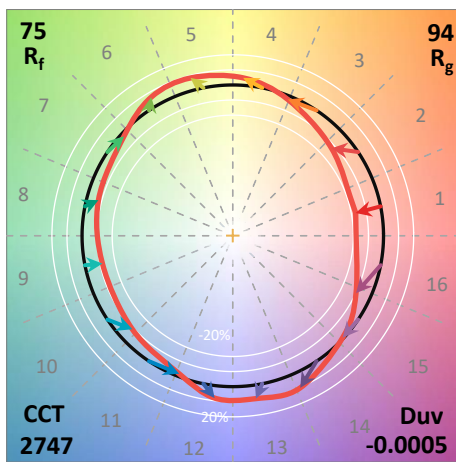
| λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360 | 0 | NR | 490 | 103 | NR | 620 | 846 | NR | 750 | 20 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 130 | NR | 625 | 784 | NR | 755 | 17 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 171 | NR | 630 | 720 | NR | 760 | 15 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 221 | NR | 635 | 652 | NR | 765 | 13 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 268 | NR | 640 | 587 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 313 | NR | 645 | 521 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 350 | NR | 650 | 461 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 0 | NR | 525 | 381 | NR | 655 | 406 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 0 | NR | 530 | 407 | NR | 660 | 353 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 2 | NR | 535 | 435 | NR | 665 | 307 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 4 | NR | 540 | 462 | NR | 670 | 264 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 9 | NR | 545 | 496 | NR | 675 | 227 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 20 | NR | 550 | 534 | NR | 680 | 196 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 38 | NR | 555 | 582 | NR | 685 | 167 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 69 | NR | 560 | 638 | NR | 690 | 144 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 120 | NR | 565 | 700 | NR | 695 | 122 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 193 | NR | 570 | 767 | NR | 700 | 103 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 316 | NR | 575 | 836 | NR | 705 | 88 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 469 | NR | 580 | 898 | NR | 710 | 74 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 431 | NR | 585 | 947 | NR | 715 | 63 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 264 | NR | 590 | 982 | NR | 720 | 54 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 197 | NR | 595 | 997 | NR | 725 | 46 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 155 | NR | 600 | 997 | NR | 730 | 39 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 108 | NR | 605 | 978 | NR | 735 | 33 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 90 | NR | 610 | 947 | NR | 740 | 28 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 92 | NR | 615 | 900 | NR | 745 | 24 | NR | 875 | 1 | NR | | | |

Summary

$R_f = 75.5$
 $R_g = 93.6$
 $CIE R_a = 71.7$
 $R_g = -35.3$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 68 | CES51 = 87 | CES76 = 63 |
| CES02 = 63 | CES27 = 90 | CES52 = 85 | CES77 = 79 |
| CES03 = 31 | CES28 = 87 | CES53 = 78 | CES78 = 66 |
| CES04 = 71 | CES29 = 71 | CES54 = 86 | CES79 = 87 |
| CES05 = 50 | CES30 = 85 | CES55 = 84 | CES80 = 85 |
| CES06 = 52 | CES31 = 74 | CES56 = 75 | CES81 = 67 |
| CES07 = 42 | CES32 = 66 | CES57 = 75 | CES82 = 93 |
| CES08 = 41 | CES33 = 80 | CES58 = 76 | CES83 = 91 |
| CES09 = 29 | CES34 = 79 | CES59 = 85 | CES84 = 89 |
| CES10 = 77 | CES35 = 89 | CES60 = 90 | CES85 = 72 |
| CES11 = 60 | CES36 = 93 | CES61 = 81 | CES86 = 59 |
| CES12 = 66 | CES37 = 88 | CES62 = 91 | CES87 = 77 |
| CES13 = 43 | CES38 = 93 | CES63 = 77 | CES88 = 79 |
| CES14 = 74 | CES39 = 97 | CES64 = 67 | CES89 = 65 |
| CES15 = 72 | CES40 = 93 | CES65 = 66 | CES90 = 80 |
| CES16 = 48 | CES41 = 93 | CES66 = 63 | CES91 = 80 |
| CES17 = 51 | CES42 = 89 | CES67 = 61 | CES92 = 55 |
| CES18 = 57 | CES43 = 78 | CES68 = 68 | CES93 = 72 |
| CES19 = 73 | CES44 = 99 | CES69 = 78 | CES94 = 48 |
| CES20 = 67 | CES45 = 85 | CES70 = 63 | CES95 = 66 |
| CES21 = 88 | CES46 = 81 | CES71 = 61 | CES96 = 76 |
| CES22 = 80 | CES47 = 86 | CES72 = 86 | CES97 = 81 |
| CES23 = 92 | CES48 = 74 | CES73 = 56 | CES98 = 76 |
| CES24 = 91 | CES49 = 79 | CES74 = 93 | CES99 = 64 |
| CES25 = 73 | CES50 = 86 | CES75 = 66 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)