

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: P867461

Luminaire Tested: **MEM2-HTN-SA-110-750-U-T1**

Issue Date: 08/21/2024



Test Information

Test Method: LM-79-08
Report Number: P867461
Test Lab: INNOVATION CENTER(G3)
Issue Date: 08/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: MEM2-HTN-SA-110-750-U-T1
Description: EPIC MODERN TALL HOUSING DISCRETE LED ARRAYS 110W 70CRI 5000K
FIXTURE w/ TYPE 1 DISTRIBUTION OPTIC
Light Source: (30) 5000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

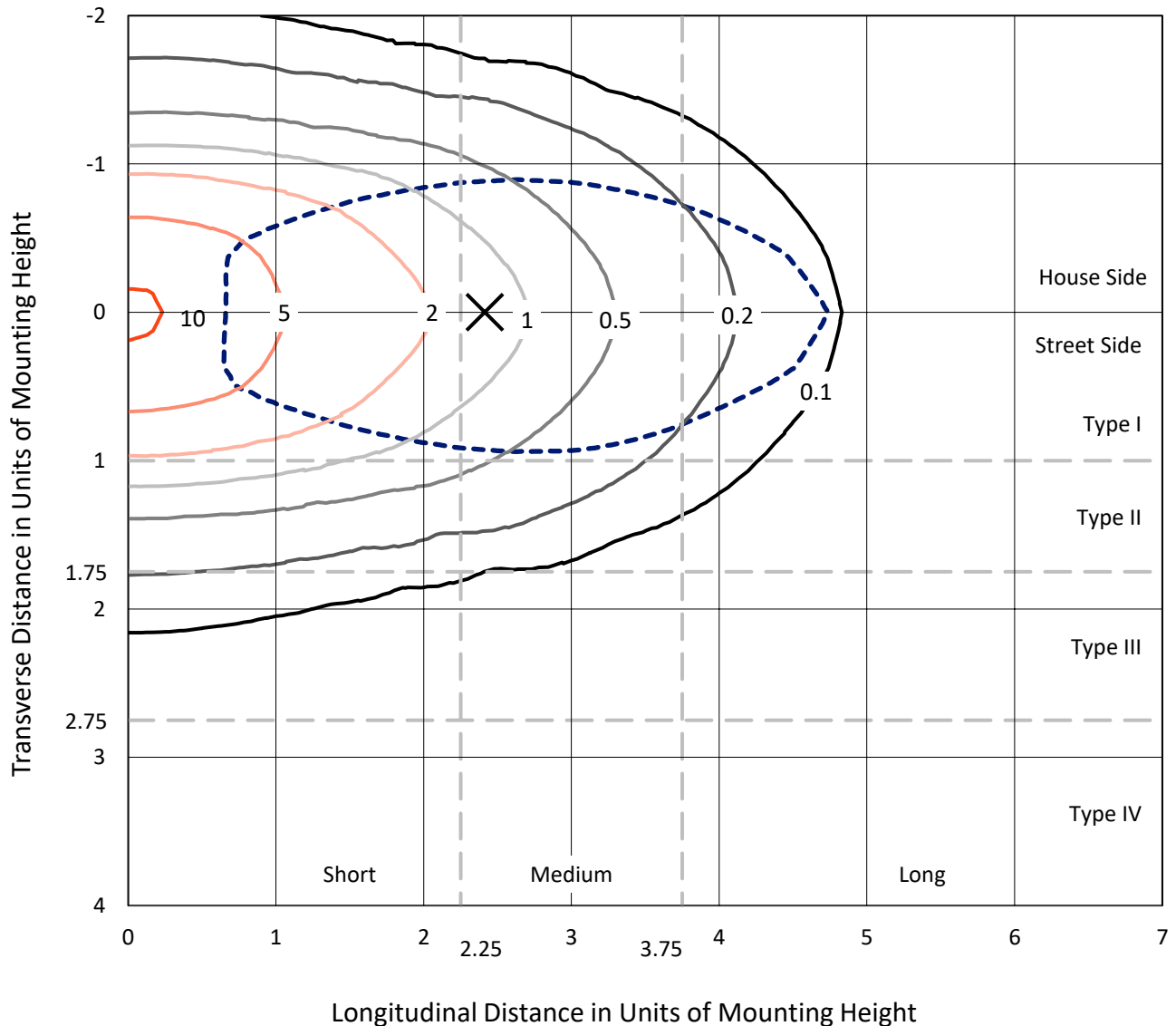
Lumens per Lamp: N/A
Luminaire Lumens: 17297.2 lumens
Efficiency: N/A
Efficacy: 153.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.33' x H: 0')
IES Classification: Type I - Short
BUG Rating: B3 - U0 - G3

Input Watts (W): 113
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 7.77%
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

REPORT NUMBER: P867461
 CATALOG NUMBER: MEM2-HTN-SA-110-750-U-T1

Iso-Footcandle Lines of Horizontal Illumination

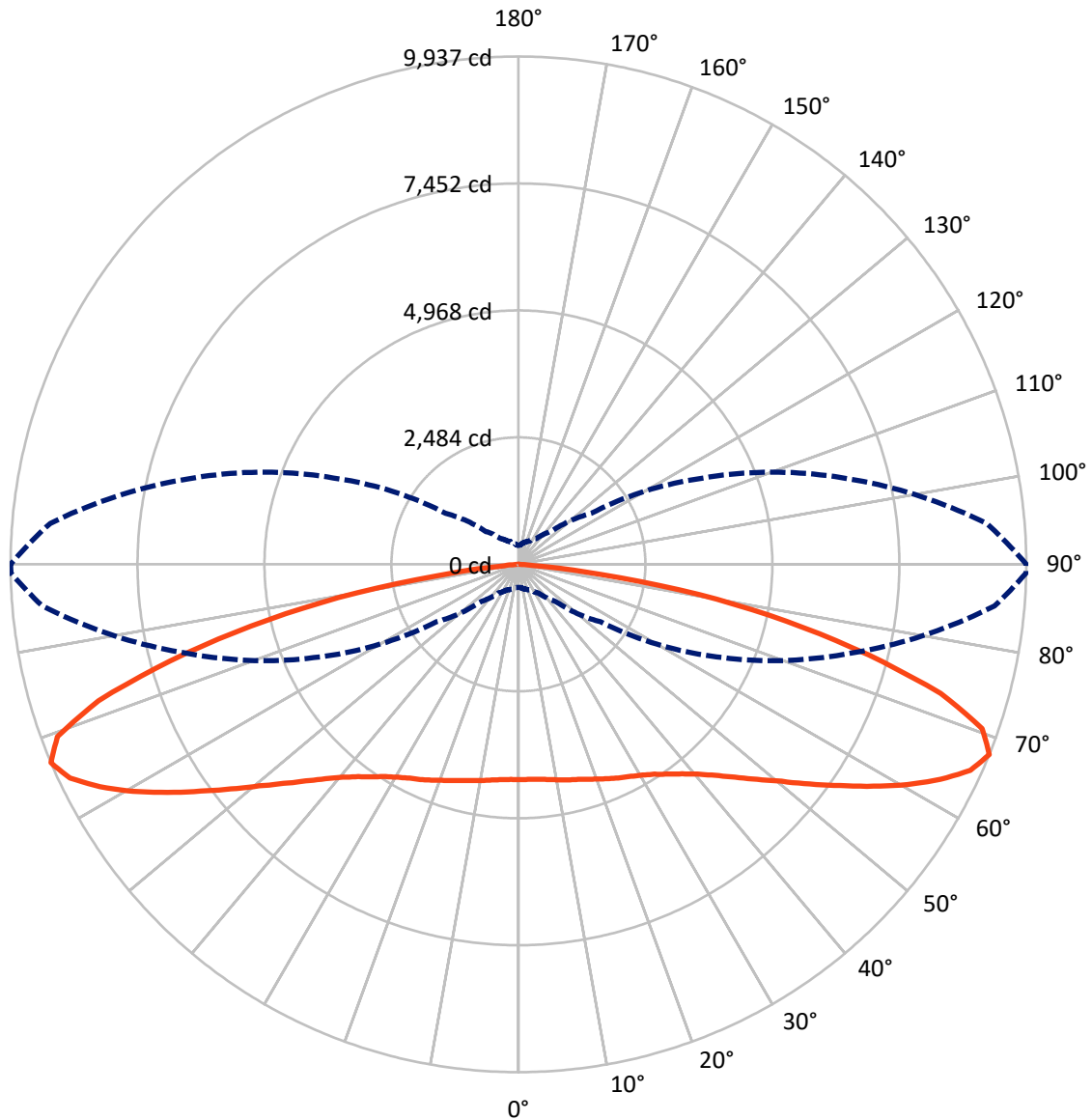
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 10.5 fc
 Type I - Short - N/A

REPORT NUMBER: P867461
CATALOG NUMBER: MEM2-HTN-SA-110-750-U-T1

Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 8495.0 | 0.0 | 8495.0 |
| | % Fixture | 49.1 | 0.0 | 49.1 |
| Street Side | Lumens | 8802.2 | 0.0 | 8802.2 |
| | % Fixture | 50.9 | 0.0 | 50.9 |
| Total | Lumens | 17297.2 | 0.0 | 17297.2 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 403.9 | 2.3 |
| 10°-20° | 1213.8 | 7.0 |
| 20°-30° | 2008.7 | 11.6 |
| 30°-40° | 2663.6 | 15.4 |
| 40°-50° | 3003.1 | 17.4 |
| 50°-60° | 3078.7 | 17.8 |
| 60°-70° | 2907.8 | 16.8 |
| 70°-80° | 1784.2 | 10.3 |
| 80°-90° | 233.4 | 1.3 |
| 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° | 17297.2 | 100.0 |
| 0°-180° | 17297.2 | 100.0 |



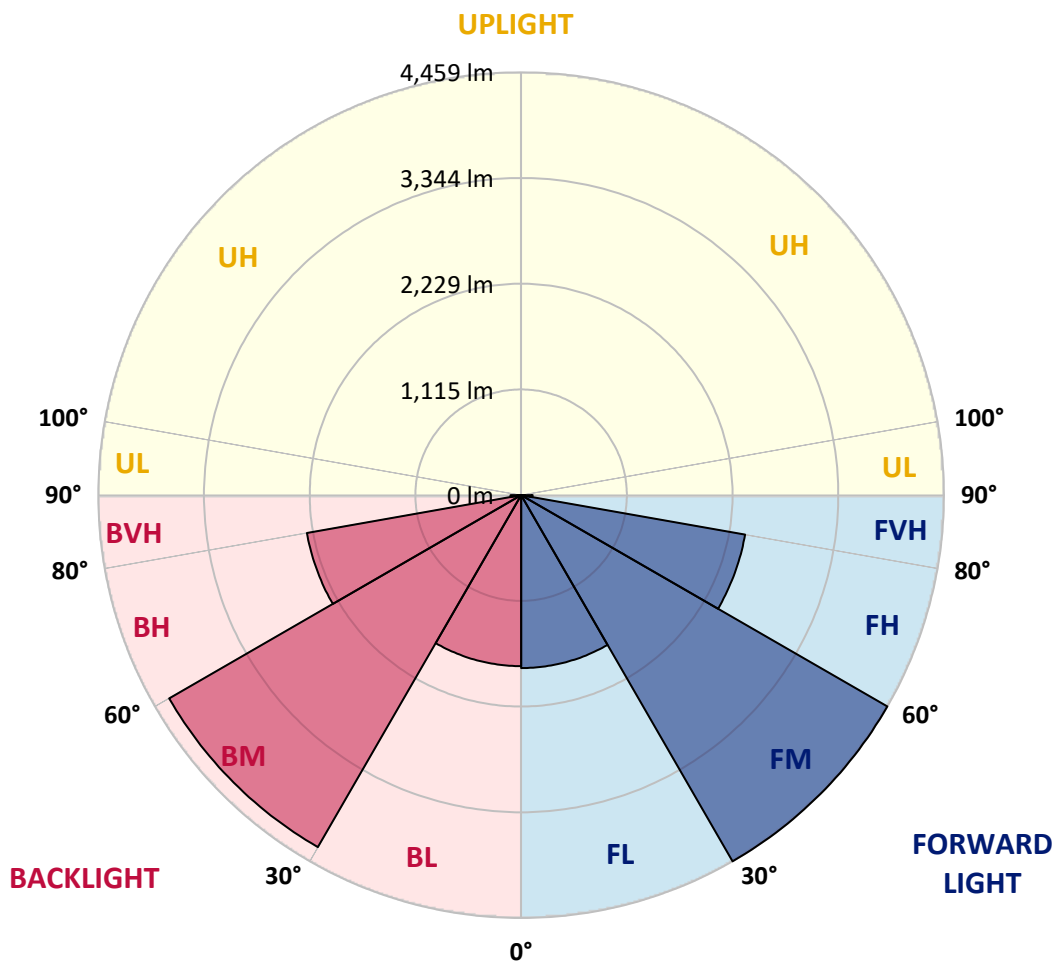
REPORT NUMBER: P867461
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1823.6 | 10.5 | | | |
| FM (30°-60°) | 4459.0 | 25.8 | | | |
| FH (60°-80°) | 2398.0 | 13.9 | | | G2/5000 |
| FVH (80°-90°) | 121.6 | 0.7 | | | G2/225 |
| BL (0°-30°) | 1802.8 | 10.4 | B3/2500 | | |
| BM (30°-60°) | 4286.4 | 24.8 | B3/5000 | | |
| BH (60°-80°) | 2294.0 | 13.3 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 111.8 | 0.6 | | | G2/225 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G3

Type I Short





REPORT NUMBER: P867461

CATALOG NUMBER: MEM2-HTN-SA-110-750-U-T1

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 89° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 4214.4 | 4214.4 | 4214.4 | 4214.4 | 4214.4 | 4214.4 | 4214.4 | 4214.4 | 4214.4 | 4214.4 | 4214.4 |
| 2.5° | 4231.0 | 4231.0 | 4221.1 | 4204.5 | 4201.1 | 4204.5 | 4224.4 | 4214.4 | 4214.4 | 4217.7 | 4214.4 |
| 5° | 4231.0 | 4231.0 | 4224.4 | 4207.8 | 4207.8 | 4207.8 | 4231.0 | 4221.1 | 4224.4 | 4227.7 | 4227.7 |
| 7.5° | 4237.7 | 4237.7 | 4231.0 | 4217.7 | 4217.7 | 4217.7 | 4251.0 | 4244.3 | 4244.3 | 4254.3 | 4247.6 |
| 10° | 4254.3 | 4247.6 | 4241.0 | 4244.3 | 4234.4 | 4251.0 | 4267.6 | 4270.9 | 4284.2 | 4290.8 | 4287.5 |
| 12.5° | 4254.3 | 4247.6 | 4231.0 | 4251.0 | 4251.0 | 4274.2 | 4297.5 | 4310.7 | 4327.3 | 4327.3 | 4327.3 |
| 15° | 4234.4 | 4227.7 | 4214.4 | 4247.6 | 4260.9 | 4290.8 | 4324.0 | 4343.9 | 4373.8 | 4373.8 | 4370.5 |
| 17.5° | 4211.1 | 4201.1 | 4194.5 | 4244.3 | 4274.2 | 4314.1 | 4363.9 | 4390.4 | 4423.7 | 4427.0 | 4420.3 |
| 20° | 4167.9 | 4164.6 | 4167.9 | 4234.4 | 4287.5 | 4343.9 | 4403.7 | 4440.3 | 4483.4 | 4496.7 | 4486.8 |
| 22.5° | 4121.4 | 4121.4 | 4134.7 | 4224.4 | 4307.4 | 4383.8 | 4463.5 | 4510.0 | 4553.2 | 4566.5 | 4553.2 |
| 25° | 4058.3 | 4058.3 | 4084.9 | 4191.2 | 4314.1 | 4427.0 | 4520.0 | 4583.1 | 4622.9 | 4636.2 | 4629.6 |
| 27.5° | 3962.0 | 3962.0 | 3991.9 | 4124.8 | 4294.1 | 4460.2 | 4579.7 | 4652.8 | 4696.0 | 4709.3 | 4702.6 |
| 30° | 3825.9 | 3819.2 | 3859.1 | 4025.1 | 4257.6 | 4496.7 | 4649.5 | 4725.9 | 4782.3 | 4792.3 | 4782.3 |
| 32.5° | 3610.0 | 3620.0 | 3679.7 | 3889.0 | 4197.8 | 4520.0 | 4732.5 | 4822.2 | 4885.3 | 4905.2 | 4898.6 |
| 35° | 3347.6 | 3364.2 | 3447.3 | 3716.3 | 4084.9 | 4516.6 | 4818.9 | 4928.5 | 5011.5 | 5038.0 | 5034.7 |
| 37.5° | 3035.4 | 3058.7 | 3161.6 | 3477.1 | 3915.5 | 4466.8 | 4898.6 | 5048.0 | 5157.6 | 5190.8 | 5197.5 |
| 40° | 2693.4 | 2716.6 | 2849.5 | 3198.2 | 3686.4 | 4350.6 | 4945.1 | 5184.2 | 5330.3 | 5396.7 | 5406.7 |
| 42.5° | 2331.4 | 2371.2 | 2530.6 | 2869.4 | 3410.7 | 4164.6 | 4945.1 | 5317.0 | 5496.4 | 5619.2 | 5629.2 |
| 45° | 1982.7 | 2015.9 | 2208.5 | 2540.6 | 3115.2 | 3925.5 | 4888.6 | 5449.9 | 5722.2 | 5934.7 | 5928.1 |
| 47.5° | 1680.5 | 1690.4 | 1866.4 | 2201.9 | 2786.4 | 3653.2 | 4772.4 | 5569.4 | 5961.3 | 6243.6 | 6303.4 |
| 50° | 1368.3 | 1391.5 | 1541.0 | 1873.1 | 2450.9 | 3354.3 | 4576.4 | 5645.8 | 6207.1 | 6635.5 | 6711.9 |
| 52.5° | 1149.1 | 1152.4 | 1265.3 | 1570.9 | 2102.2 | 2992.3 | 4340.6 | 5665.7 | 6442.9 | 7060.6 | 7153.6 |
| 55° | 936.5 | 953.1 | 1049.5 | 1278.6 | 1766.8 | 2636.9 | 4035.1 | 5635.8 | 6658.7 | 7472.4 | 7645.1 |
| 57.5° | 803.7 | 807.0 | 876.8 | 1059.4 | 1491.2 | 2258.3 | 3696.3 | 5536.2 | 6838.1 | 7927.4 | 8146.6 |
| 60° | 690.8 | 690.8 | 743.9 | 883.4 | 1205.5 | 1889.7 | 3297.8 | 5360.2 | 6937.7 | 8415.6 | 8734.4 |
| 62.5° | 601.1 | 604.4 | 650.9 | 753.9 | 1003.0 | 1560.9 | 2859.4 | 5084.5 | 6974.2 | 8887.2 | 9252.5 |
| 65° | 544.7 | 548.0 | 574.5 | 644.3 | 826.9 | 1268.6 | 2411.1 | 4749.1 | 6924.4 | 9239.2 | 9714.1 |
| 67.5° | 451.7 | 455.0 | 501.5 | 554.6 | 687.5 | 1019.6 | 1959.4 | 4284.2 | 6721.8 | 9348.8 | 9930.0 |
| 70° | 345.4 | 355.4 | 418.5 | 474.9 | 571.2 | 813.7 | 1504.4 | 3669.8 | 6236.9 | 8976.8 | 9574.6 |
| 72.5° | 288.9 | 292.3 | 338.7 | 401.8 | 478.2 | 637.6 | 1142.4 | 2889.3 | 5499.7 | 8017.0 | 8681.2 |
| 75° | 252.4 | 255.7 | 282.3 | 338.7 | 398.5 | 511.4 | 793.7 | 1996.0 | 4387.1 | 6482.7 | 7090.5 |
| 77.5° | 229.2 | 232.5 | 239.1 | 285.6 | 335.4 | 395.2 | 561.3 | 1185.6 | 3095.2 | 4955.0 | 5273.8 |
| 80° | 219.2 | 219.2 | 202.6 | 235.8 | 275.6 | 308.9 | 375.3 | 680.8 | 1986.0 | 3341.0 | 3596.7 |
| 82.5° | 156.1 | 152.8 | 139.5 | 146.1 | 169.4 | 169.4 | 192.6 | 282.3 | 760.5 | 1411.5 | 1531.0 |
| 85° | 10.0 | 10.0 | 16.6 | 19.9 | 29.9 | 39.9 | 49.8 | 66.4 | 192.6 | 262.4 | 272.3 |
| 87.5° | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 6.6 | 6.6 | 6.6 | 10.0 | 13.3 | 13.3 |
| 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: P867461
 CATALOG NUMBER: MEM2-HTN-SA-110-750-U-T1

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 4214.4 | 4214.4 | 4214.4 | 4214.4 | 4214.4 | 4214.4 | 4214.4 | 4214.4 | 4214.4 | 4214.4 | 4214.4 |
| 2.5° | 4211.1 | 4214.4 | 4214.4 | 4221.1 | 4227.7 | 4224.4 | 4221.1 | 4227.7 | 4217.7 | 4197.8 | 4194.5 |
| 5° | 4224.4 | 4224.4 | 4221.1 | 4227.7 | 4234.4 | 4227.7 | 4221.1 | 4221.1 | 4214.4 | 4194.5 | 4191.2 |
| 7.5° | 4251.0 | 4247.6 | 4247.6 | 4247.6 | 4247.6 | 4237.7 | 4227.7 | 4221.1 | 4211.1 | 4191.2 | 4181.2 |
| 10° | 4287.5 | 4284.2 | 4280.8 | 4277.5 | 4260.9 | 4251.0 | 4234.4 | 4224.4 | 4211.1 | 4187.9 | 4181.2 |
| 12.5° | 4327.3 | 4320.7 | 4314.1 | 4317.4 | 4284.2 | 4254.3 | 4237.7 | 4214.4 | 4204.5 | 4151.3 | 4141.4 |
| 15° | 4367.2 | 4357.2 | 4353.9 | 4340.6 | 4307.4 | 4264.2 | 4231.0 | 4197.8 | 4164.6 | 4114.8 | 4098.2 |
| 17.5° | 4420.3 | 4413.7 | 4393.8 | 4380.5 | 4334.0 | 4274.2 | 4224.4 | 4177.9 | 4134.7 | 4074.9 | 4065.0 |
| 20° | 4483.4 | 4476.8 | 4456.9 | 4430.3 | 4370.5 | 4297.5 | 4227.7 | 4154.6 | 4101.5 | 4031.8 | 4015.2 |
| 22.5° | 4553.2 | 4543.2 | 4526.6 | 4496.7 | 4420.3 | 4334.0 | 4237.7 | 4141.4 | 4061.7 | 3981.9 | 3972.0 |
| 25° | 4626.2 | 4619.6 | 4603.0 | 4559.8 | 4476.8 | 4370.5 | 4237.7 | 4094.9 | 3995.2 | 3925.5 | 3895.6 |
| 27.5° | 4696.0 | 4692.7 | 4672.7 | 4622.9 | 4536.6 | 4397.1 | 4207.8 | 4018.5 | 3885.6 | 3792.6 | 3772.7 |
| 30° | 4785.6 | 4779.0 | 4755.8 | 4699.3 | 4603.0 | 4413.7 | 4148.0 | 3889.0 | 3722.9 | 3620.0 | 3590.1 |
| 32.5° | 4895.2 | 4888.6 | 4855.4 | 4785.6 | 4682.7 | 4417.0 | 4061.7 | 3722.9 | 3503.7 | 3394.1 | 3357.6 |
| 35° | 5041.4 | 5028.1 | 4984.9 | 4901.9 | 4759.1 | 4383.8 | 3908.9 | 3510.4 | 3241.4 | 3098.5 | 3048.7 |
| 37.5° | 5200.8 | 5184.2 | 5127.7 | 5024.8 | 4812.2 | 4294.1 | 3693.0 | 3224.7 | 2919.2 | 2749.8 | 2713.3 |
| 40° | 5396.7 | 5373.5 | 5287.1 | 5144.3 | 4832.1 | 4138.0 | 3450.6 | 2932.5 | 2607.0 | 2421.1 | 2377.9 |
| 42.5° | 5642.5 | 5602.6 | 5463.1 | 5277.2 | 4792.3 | 3925.5 | 3161.6 | 2630.3 | 2258.3 | 2085.6 | 2075.7 |
| 45° | 5938.1 | 5875.0 | 5665.7 | 5406.7 | 4705.9 | 3659.8 | 2856.1 | 2291.5 | 1936.2 | 1766.8 | 1723.6 |
| 47.5° | 6286.8 | 6210.4 | 5901.5 | 5506.3 | 4536.6 | 3387.5 | 2527.3 | 1962.7 | 1637.3 | 1464.6 | 1431.4 |
| 50° | 6672.0 | 6598.9 | 6150.6 | 5562.8 | 4353.9 | 3068.7 | 2205.2 | 1670.5 | 1345.0 | 1202.2 | 1202.2 |
| 52.5° | 7140.3 | 6974.2 | 6389.7 | 5569.4 | 4074.9 | 2716.6 | 1896.3 | 1384.9 | 1129.2 | 1003.0 | 976.4 |
| 55° | 7638.4 | 7442.5 | 6605.6 | 5509.6 | 3786.0 | 2394.5 | 1564.2 | 1152.4 | 926.6 | 836.9 | 813.7 |
| 57.5° | 8193.1 | 7894.2 | 6761.7 | 5390.1 | 3420.7 | 2042.5 | 1305.2 | 949.8 | 780.4 | 707.4 | 697.4 |
| 60° | 8751.0 | 8365.7 | 6854.7 | 5187.5 | 3032.1 | 1717.0 | 1086.0 | 793.7 | 670.9 | 617.7 | 607.8 |
| 62.5° | 9269.1 | 8751.0 | 6861.3 | 4891.9 | 2653.5 | 1431.4 | 890.0 | 684.1 | 594.5 | 554.6 | 554.6 |
| 65° | 9717.4 | 9073.1 | 6748.4 | 4513.3 | 2172.0 | 1149.1 | 734.0 | 577.9 | 518.1 | 474.9 | 464.9 |
| 67.5° | 9936.6 | 9196.0 | 6549.1 | 3995.2 | 1740.2 | 910.0 | 617.7 | 501.5 | 445.0 | 378.6 | 372.0 |
| 70° | 9627.8 | 8840.7 | 6037.7 | 3331.0 | 1345.0 | 724.0 | 514.8 | 428.4 | 372.0 | 315.5 | 308.9 |
| 72.5° | 8641.4 | 7894.2 | 5210.7 | 2580.5 | 1012.9 | 584.5 | 428.4 | 365.3 | 305.5 | 275.6 | 269.0 |
| 75° | 7070.5 | 6565.7 | 4118.1 | 1776.8 | 707.4 | 458.3 | 358.7 | 308.9 | 259.0 | 245.8 | 242.4 |
| 77.5° | 5366.8 | 4882.0 | 3008.9 | 1112.6 | 484.9 | 358.7 | 305.5 | 262.4 | 225.8 | 235.8 | 229.2 |
| 80° | 3583.4 | 3360.9 | 1999.3 | 631.0 | 325.5 | 262.4 | 232.5 | 192.6 | 172.7 | 199.3 | 192.6 |
| 82.5° | 1627.3 | 1541.0 | 939.9 | 275.6 | 146.1 | 112.9 | 79.7 | 59.8 | 46.5 | 43.2 | 49.8 |
| 85° | 272.3 | 239.1 | 66.4 | 29.9 | 16.6 | 10.0 | 6.6 | 6.6 | 3.3 | 3.3 | 3.3 |
| 87.5° | 13.3 | 10.0 | 10.0 | 6.6 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 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-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Report Prepared for

Cooper Lighting Solutions

Streetworks

Report Number: SP1-2407-157-6

Test Date: 08/07/2024

Luminaire Tested: MEM2-HTN-SA-30-750-U-5WQ-2

Data in this report applies to families of products including MEM2-HTN-SA-30-750-U-5WQ-2

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-157-6
 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-30-750-U-5WQ-2**
 Description: Epic Modern Light Square 30W 5WQ Optic and Flare Trim

Spectral Parameters

CCT (K): 5094
 CIE u': 0.2082
 CIE v': 0.4867
 Duv: 0.0032
 CIE x: 0.3430
 CIE y: 0.3564
 CIE z: 0.3006
 Peak Wavelength (nm): 451
 Dominant Wavelength (nm): 568
 Purity: 9.86439
 Rf: 73.7
 Rg: 93

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 72.0 | | |
| R1: | 68.6 | R9: | -39.6 |
| R2: | 78.1 | R10: | 47.6 |
| R3: | 84.6 | R11: | 68.2 |
| R4: | 71.6 | R12: | 41.4 |
| R5: | 69.6 | R13: | 70.4 |
| R6: | 69.4 | R14: | 91.4 |
| R7: | 80.9 | R15: | 61.4 |
| R8: | 53.1 | | |



Test Conditions

Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2407-157-6

| 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: SP1-2407-157-6

CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 5000K 4-step quadrangle

REPORT NUMBER: SP1-2407-157-6

Photopic Flux vs. Wavelength

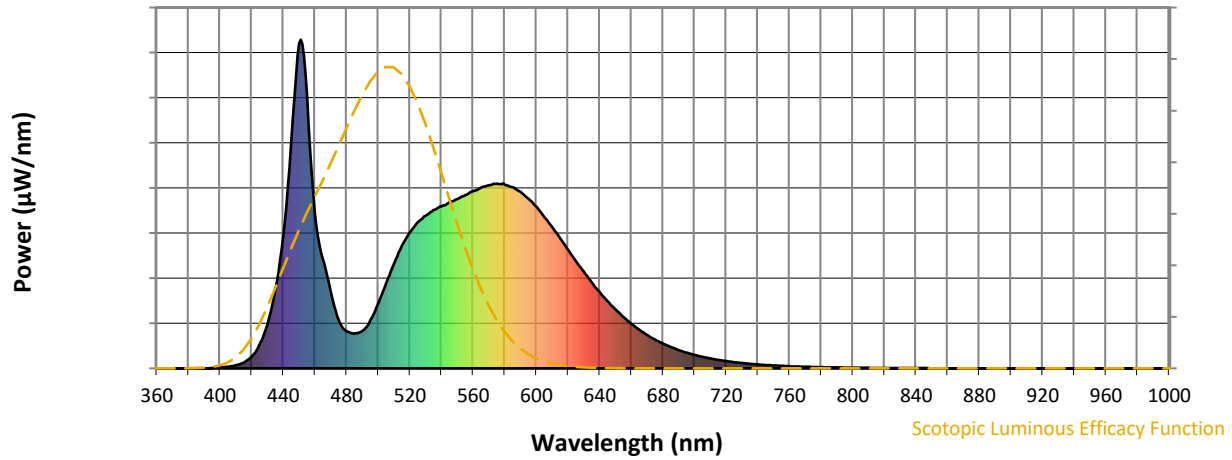


Photopic Lumens: NR

| 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 | 114 | NR | 620 | 361 | NR | 750 | 9 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 145 | NR | 625 | 326 | NR | 755 | 8 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 197 | NR | 630 | 294 | NR | 760 | 7 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 259 | NR | 635 | 261 | NR | 765 | 6 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 319 | NR | 640 | 232 | NR | 770 | 5 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 373 | NR | 645 | 204 | NR | 775 | 4 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 414 | NR | 650 | 179 | NR | 780 | 4 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 445 | NR | 655 | 157 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 465 | NR | 660 | 136 | NR | 790 | 3 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 482 | NR | 665 | 118 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 9 | NR | 540 | 493 | NR | 670 | 102 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 18 | NR | 545 | 505 | NR | 675 | 87 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 515 | NR | 680 | 75 | NR | 810 | 2 | NR | 940 | 0 | NR |
| 425 | 72 | NR | 555 | 527 | NR | 685 | 65 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 134 | NR | 560 | 540 | NR | 690 | 56 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 242 | NR | 565 | 550 | NR | 695 | 48 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 407 | NR | 570 | 557 | NR | 700 | 41 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 684 | NR | 575 | 561 | NR | 705 | 35 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 988 | NR | 580 | 559 | NR | 710 | 30 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 828 | NR | 585 | 551 | NR | 715 | 26 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 473 | NR | 590 | 537 | NR | 720 | 22 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 333 | NR | 595 | 516 | NR | 725 | 19 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 232 | NR | 600 | 491 | NR | 730 | 16 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 146 | NR | 605 | 461 | NR | 735 | 14 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 113 | NR | 610 | 429 | NR | 740 | 12 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 106 | NR | 615 | 395 | NR | 745 | 10 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2407-157-6

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.81

| 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 | 114 | NR | 620 | 361 | NR | 750 | 9 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 145 | NR | 625 | 326 | NR | 755 | 8 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 197 | NR | 630 | 294 | NR | 760 | 7 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 259 | NR | 635 | 261 | NR | 765 | 6 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 319 | NR | 640 | 232 | NR | 770 | 5 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 373 | NR | 645 | 204 | NR | 775 | 4 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 414 | NR | 650 | 179 | NR | 780 | 4 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 445 | NR | 655 | 157 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 465 | NR | 660 | 136 | NR | 790 | 3 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 482 | NR | 665 | 118 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 9 | NR | 540 | 493 | NR | 670 | 102 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 18 | NR | 545 | 505 | NR | 675 | 87 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 515 | NR | 680 | 75 | NR | 810 | 2 | NR | 940 | 0 | NR |
| 425 | 72 | NR | 555 | 527 | NR | 685 | 65 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 134 | NR | 560 | 540 | NR | 690 | 56 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 242 | NR | 565 | 550 | NR | 695 | 48 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 407 | NR | 570 | 557 | NR | 700 | 41 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 684 | NR | 575 | 561 | NR | 705 | 35 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 988 | NR | 580 | 559 | NR | 710 | 30 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 828 | NR | 585 | 551 | NR | 715 | 26 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 473 | NR | 590 | 537 | NR | 720 | 22 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 333 | NR | 595 | 516 | NR | 725 | 19 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 232 | NR | 600 | 491 | NR | 730 | 16 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 146 | NR | 605 | 461 | NR | 735 | 14 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 113 | NR | 610 | 429 | NR | 740 | 12 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 106 | NR | 615 | 395 | NR | 745 | 10 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2407-157-6

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.73

| 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 | 114 | NR | 620 | 361 | NR | 750 | 9 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 145 | NR | 625 | 326 | NR | 755 | 8 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 197 | NR | 630 | 294 | NR | 760 | 7 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 259 | NR | 635 | 261 | NR | 765 | 6 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 319 | NR | 640 | 232 | NR | 770 | 5 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 373 | NR | 645 | 204 | NR | 775 | 4 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 414 | NR | 650 | 179 | NR | 780 | 4 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 445 | NR | 655 | 157 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 465 | NR | 660 | 136 | NR | 790 | 3 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 482 | NR | 665 | 118 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 9 | NR | 540 | 493 | NR | 670 | 102 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 18 | NR | 545 | 505 | NR | 675 | 87 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 515 | NR | 680 | 75 | NR | 810 | 2 | NR | 940 | 0 | NR |
| 425 | 72 | NR | 555 | 527 | NR | 685 | 65 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 134 | NR | 560 | 540 | NR | 690 | 56 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 242 | NR | 565 | 550 | NR | 695 | 48 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 407 | NR | 570 | 557 | NR | 700 | 41 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 684 | NR | 575 | 561 | NR | 705 | 35 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 988 | NR | 580 | 559 | NR | 710 | 30 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 828 | NR | 585 | 551 | NR | 715 | 26 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 473 | NR | 590 | 537 | NR | 720 | 22 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 333 | NR | 595 | 516 | NR | 725 | 19 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 232 | NR | 600 | 491 | NR | 730 | 16 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 146 | NR | 605 | 461 | NR | 735 | 14 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 113 | NR | 610 | 429 | NR | 740 | 12 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 106 | NR | 615 | 395 | NR | 745 | 10 | NR | 875 | 0 | NR | | | |

Summary

$R_f = 73.7$
 $R_g = 93$
 $CIE R_a = 72.0$
 $R_9 = -39.6$

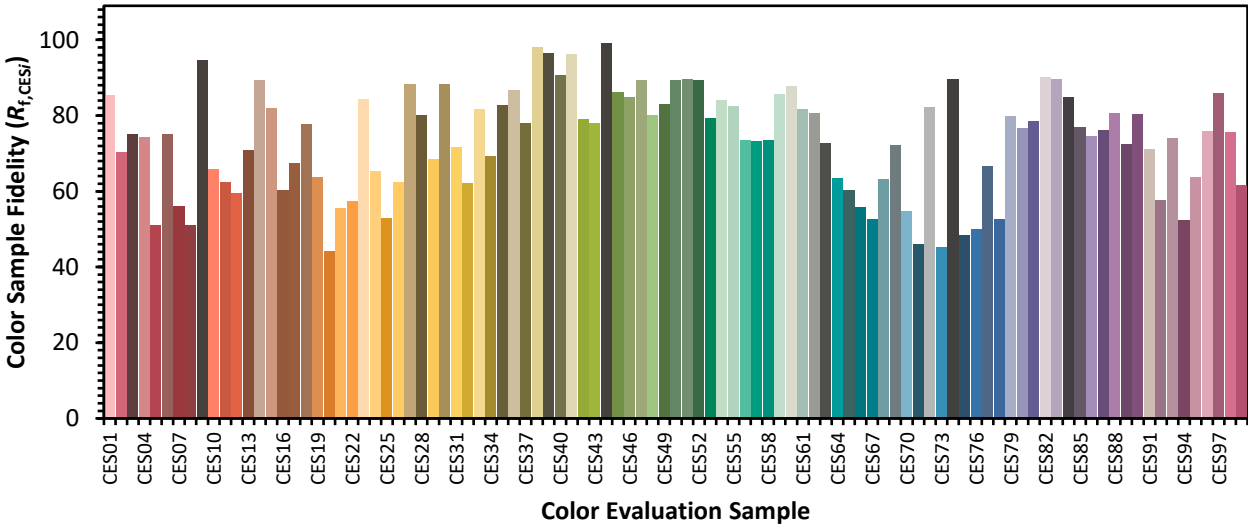


Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 62 | CES51 = 90 | CES76 = 50 |
| CES02 = 59 | CES27 = 88 | CES52 = 89 | CES77 = 67 |
| CES03 = 30 | CES28 = 80 | CES53 = 79 | CES78 = 53 |
| CES04 = 69 | CES29 = 69 | CES54 = 84 | CES79 = 80 |
| CES05 = 46 | CES30 = 88 | CES55 = 83 | CES80 = 77 |
| CES06 = 50 | CES31 = 72 | CES56 = 74 | CES81 = 78 |
| CES07 = 38 | CES32 = 62 | CES57 = 73 | CES82 = 90 |
| CES08 = 38 | CES33 = 82 | CES58 = 73 | CES83 = 90 |
| CES09 = 29 | CES34 = 69 | CES59 = 86 | CES84 = 85 |
| CES10 = 72 | CES35 = 83 | CES60 = 88 | CES85 = 77 |
| CES11 = 56 | CES36 = 87 | CES61 = 82 | CES86 = 75 |
| CES12 = 61 | CES37 = 78 | CES62 = 81 | CES87 = 76 |
| CES13 = 41 | CES38 = 98 | CES63 = 73 | CES88 = 81 |
| CES14 = 74 | CES39 = 96 | CES64 = 63 | CES89 = 72 |
| CES15 = 70 | CES40 = 91 | CES65 = 60 | CES90 = 80 |
| CES16 = 46 | CES41 = 96 | CES66 = 56 | CES91 = 71 |
| CES17 = 49 | CES42 = 79 | CES67 = 53 | CES92 = 58 |
| CES18 = 55 | CES43 = 78 | CES68 = 63 | CES93 = 74 |
| CES19 = 71 | CES44 = 99 | CES69 = 72 | CES94 = 52 |
| CES20 = 63 | CES45 = 86 | CES70 = 55 | CES95 = 64 |
| CES21 = 85 | CES46 = 85 | CES71 = 46 | CES96 = 76 |
| CES22 = 77 | CES47 = 89 | CES72 = 82 | CES97 = 86 |
| CES23 = 91 | CES48 = 80 | CES73 = 45 | CES98 = 76 |
| CES24 = 90 | CES49 = 83 | CES74 = 90 | CES99 = 62 |
| CES25 = 71 | CES50 = 89 | CES75 = 48 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)