

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: P867457

Luminaire Tested: **MEM2-HTN-SA-40-750-U-T1**

Issue Date: 08/21/2024



Test Information

Test Method: LM-79-08
Report Number: P867457
Test Lab: INNOVATION CENTER(G3)
Issue Date: 08/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: MEM2-HTN-SA-40-750-U-T1
Description: EPIC MODERN TALL HOUSING DISCRETE LED ARRAYS 40W 70CRI 5000K
FIXTURE w/ TYPE 1 DISTRIBUTION OPTIC
Light Source: (10) 5000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

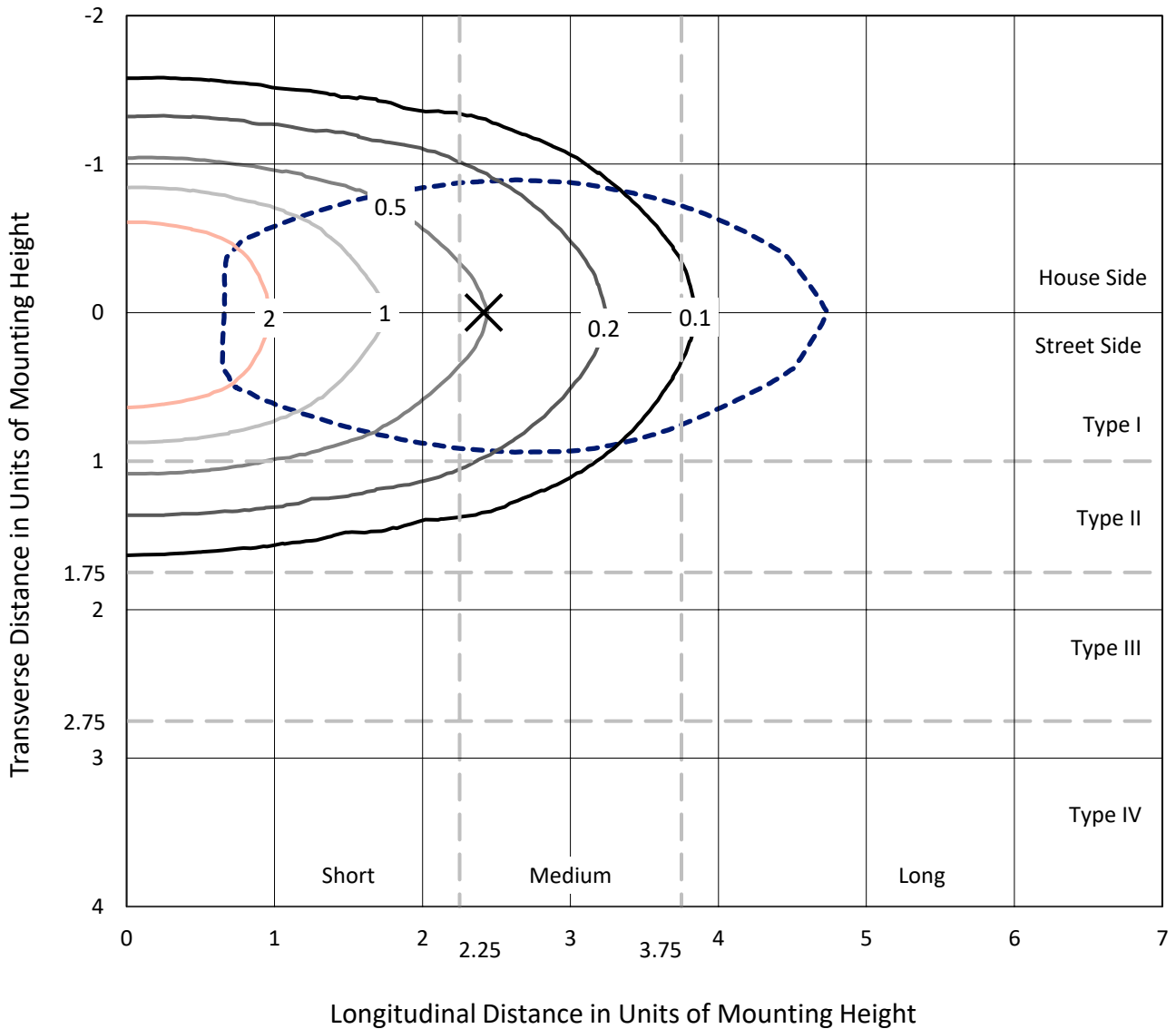
Lumens per Lamp: N/A
Luminaire Lumens: 6409.9 lumens
Efficiency: N/A
Efficacy: 145.7 lumens/watt
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
IES Classification: Type I - Short
BUG Rating: B2 - U0 - G2

Input Watts (W): 44
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 6.91%
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

REPORT NUMBER: P867457
 CATALOG NUMBER: MEM2-HTN-SA-40-750-U-T1

Iso-Footcandle Lines of Horizontal Illumination

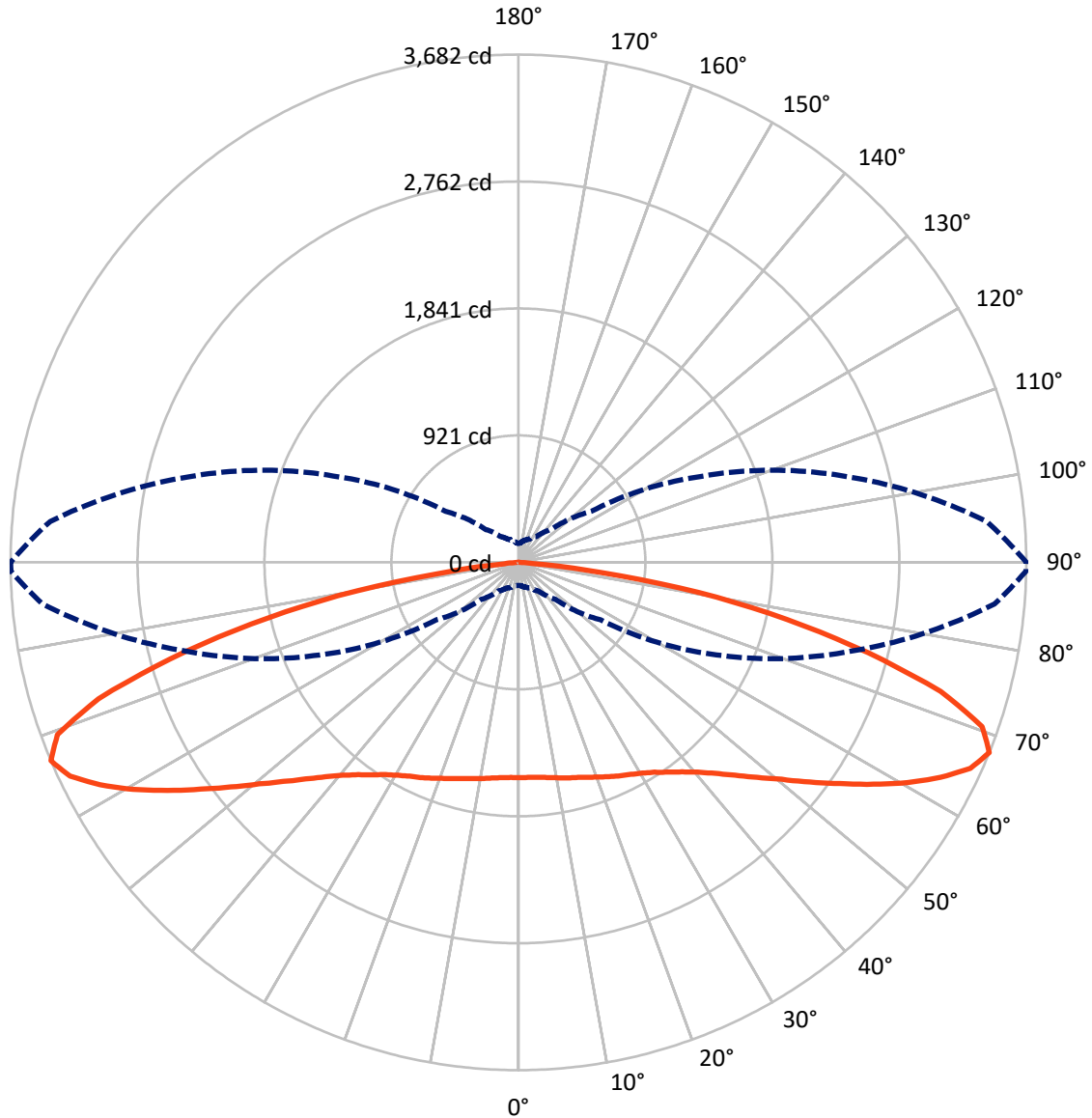
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.9 fc
 Type I - Short - N/A

REPORT NUMBER: P867457
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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 | 3148.0 | 0.0 | 3148.0 |
| | % Fixture | 49.1 | 0.0 | 49.1 |
| Street Side | Lumens | 3261.9 | 0.0 | 3261.9 |
| | % Fixture | 50.9 | 0.0 | 50.9 |
| Total | Lumens | 6409.9 | 0.0 | 6409.9 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 149.7 | 2.3 |
| 10°-20° | 449.8 | 7.0 |
| 20°-30° | 744.4 | 11.6 |
| 30°-40° | 987.1 | 15.4 |
| 40°-50° | 1112.9 | 17.4 |
| 50°-60° | 1140.9 | 17.8 |
| 60°-70° | 1077.5 | 16.8 |
| 70°-80° | 661.2 | 10.3 |
| 80°-90° | 86.5 | 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° | 6409.9 | 100.0 |
| 0°-180° | 6409.9 | 100.0 |



REPORT NUMBER: P867457

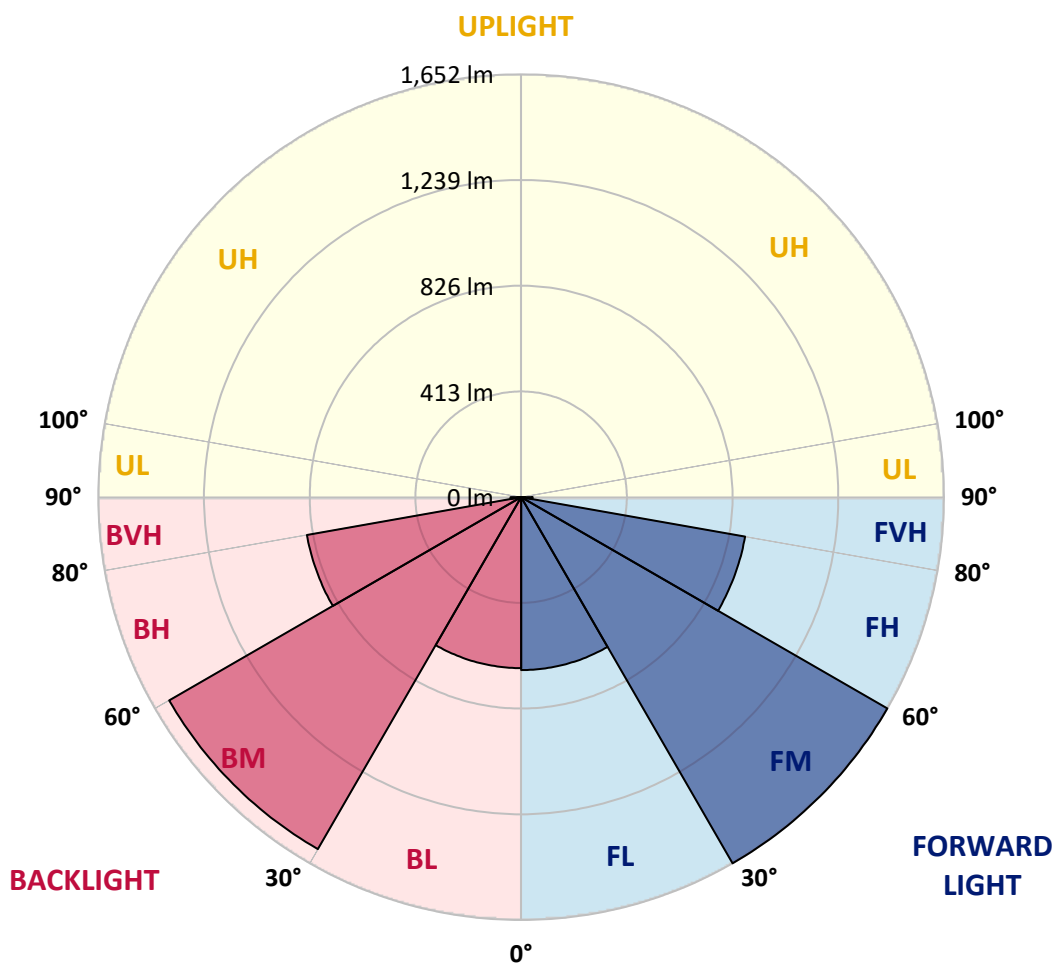
CATALOG NUMBER: MEM2-HTN-SA-40-750-U-T1

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 675.8 | 10.5 | | | |
| FM (30°-60°) | 1652.4 | 25.8 | | | |
| FH (60°-80°) | 888.6 | 13.9 | | | G1/1800 |
| FVH (80°-90°) | 45.1 | 0.7 | | | G1/100 |
| BL (0°-30°) | 668.1 | 10.4 | B2/1000 | | |
| BM (30°-60°) | 1588.4 | 24.8 | B2/2500 | | |
| BH (60°-80°) | 850.1 | 13.3 | B2/1000 | | G2/1000 |
| BVH (80°-90°) | 41.4 | 0.6 | | | 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 I Short





REPORT NUMBER: P867457

CATALOG NUMBER: MEM2-HTN-SA-40-750-U-T1

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 89° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1561.8 | 1561.8 | 1561.8 | 1561.8 | 1561.8 | 1561.8 | 1561.8 | 1561.8 | 1561.8 | 1561.8 | 1561.8 |
| 2.5° | 1567.9 | 1567.9 | 1564.2 | 1558.1 | 1556.8 | 1558.1 | 1565.5 | 1561.8 | 1561.8 | 1563.0 | 1561.8 |
| 5° | 1567.9 | 1567.9 | 1565.5 | 1559.3 | 1559.3 | 1559.3 | 1567.9 | 1564.2 | 1565.5 | 1566.7 | 1566.7 |
| 7.5° | 1570.4 | 1570.4 | 1567.9 | 1563.0 | 1563.0 | 1563.0 | 1575.3 | 1572.8 | 1572.8 | 1576.5 | 1574.1 |
| 10° | 1576.5 | 1574.1 | 1571.6 | 1572.8 | 1569.2 | 1575.3 | 1581.5 | 1582.7 | 1587.6 | 1590.1 | 1588.8 |
| 12.5° | 1576.5 | 1574.1 | 1567.9 | 1575.3 | 1575.3 | 1583.9 | 1592.5 | 1597.5 | 1603.6 | 1603.6 | 1603.6 |
| 15° | 1569.2 | 1566.7 | 1561.8 | 1574.1 | 1579.0 | 1590.1 | 1602.4 | 1609.8 | 1620.8 | 1620.8 | 1619.6 |
| 17.5° | 1560.5 | 1556.8 | 1554.4 | 1572.8 | 1583.9 | 1598.7 | 1617.1 | 1627.0 | 1639.3 | 1640.5 | 1638.1 |
| 20° | 1544.5 | 1543.3 | 1544.5 | 1569.2 | 1588.8 | 1609.8 | 1631.9 | 1645.5 | 1661.5 | 1666.4 | 1662.7 |
| 22.5° | 1527.3 | 1527.3 | 1532.2 | 1565.5 | 1596.2 | 1624.5 | 1654.1 | 1671.3 | 1687.3 | 1692.2 | 1687.3 |
| 25° | 1503.9 | 1503.9 | 1513.8 | 1553.2 | 1598.7 | 1640.5 | 1675.0 | 1698.4 | 1713.1 | 1718.1 | 1715.6 |
| 27.5° | 1468.2 | 1468.2 | 1479.3 | 1528.5 | 1591.3 | 1652.8 | 1697.1 | 1724.2 | 1740.2 | 1745.1 | 1742.7 |
| 30° | 1417.8 | 1415.3 | 1430.1 | 1491.6 | 1577.8 | 1666.4 | 1723.0 | 1751.3 | 1772.2 | 1775.9 | 1772.2 |
| 32.5° | 1337.8 | 1341.5 | 1363.6 | 1441.2 | 1555.6 | 1675.0 | 1753.8 | 1787.0 | 1810.4 | 1817.8 | 1815.3 |
| 35° | 1240.6 | 1246.7 | 1277.5 | 1377.2 | 1513.8 | 1673.8 | 1785.8 | 1826.4 | 1857.1 | 1867.0 | 1865.8 |
| 37.5° | 1124.9 | 1133.5 | 1171.6 | 1288.5 | 1451.0 | 1655.3 | 1815.3 | 1870.7 | 1911.3 | 1923.6 | 1926.1 |
| 40° | 998.1 | 1006.7 | 1055.9 | 1185.2 | 1366.1 | 1612.2 | 1832.5 | 1921.1 | 1975.3 | 1999.9 | 2003.6 |
| 42.5° | 864.0 | 878.7 | 937.8 | 1063.3 | 1263.9 | 1543.3 | 1832.5 | 1970.4 | 2036.8 | 2082.4 | 2086.0 |
| 45° | 734.7 | 747.0 | 818.4 | 941.5 | 1154.4 | 1454.7 | 1811.6 | 2019.6 | 2120.5 | 2199.3 | 2196.8 |
| 47.5° | 622.7 | 626.4 | 691.7 | 816.0 | 1032.6 | 1353.8 | 1768.5 | 2063.9 | 2209.1 | 2313.7 | 2335.9 |
| 50° | 507.1 | 515.7 | 571.0 | 694.1 | 908.3 | 1243.0 | 1695.9 | 2092.2 | 2300.2 | 2459.0 | 2487.3 |
| 52.5° | 425.8 | 427.1 | 468.9 | 582.1 | 779.0 | 1108.9 | 1608.5 | 2099.6 | 2387.6 | 2616.5 | 2650.9 |
| 55° | 347.1 | 353.2 | 388.9 | 473.8 | 654.7 | 977.2 | 1495.3 | 2088.5 | 2467.6 | 2769.1 | 2833.1 |
| 57.5° | 297.8 | 299.1 | 324.9 | 392.6 | 552.6 | 836.9 | 1369.8 | 2051.6 | 2534.0 | 2937.7 | 3018.9 |
| 60° | 256.0 | 256.0 | 275.7 | 327.4 | 446.7 | 700.3 | 1222.1 | 1986.4 | 2570.9 | 3118.6 | 3236.8 |
| 62.5° | 222.8 | 224.0 | 241.2 | 279.4 | 371.7 | 578.4 | 1059.6 | 1884.2 | 2584.5 | 3293.4 | 3428.7 |
| 65° | 201.8 | 203.1 | 212.9 | 238.8 | 306.4 | 470.1 | 893.5 | 1759.9 | 2566.0 | 3423.8 | 3599.8 |
| 67.5° | 167.4 | 168.6 | 185.8 | 205.5 | 254.8 | 377.8 | 726.1 | 1587.6 | 2490.9 | 3464.4 | 3679.8 |
| 70° | 128.0 | 131.7 | 155.1 | 176.0 | 211.7 | 301.5 | 557.5 | 1359.9 | 2311.3 | 3326.6 | 3548.1 |
| 72.5° | 107.1 | 108.3 | 125.5 | 148.9 | 177.2 | 236.3 | 423.4 | 1070.7 | 2038.0 | 2970.9 | 3217.1 |
| 75° | 93.5 | 94.8 | 104.6 | 125.5 | 147.7 | 189.5 | 294.1 | 739.7 | 1625.8 | 2402.3 | 2627.6 |
| 77.5° | 84.9 | 86.1 | 88.6 | 105.8 | 124.3 | 146.5 | 208.0 | 439.4 | 1147.0 | 1836.2 | 1954.4 |
| 80° | 81.2 | 81.2 | 75.1 | 87.4 | 102.1 | 114.5 | 139.1 | 252.3 | 736.0 | 1238.1 | 1332.9 |
| 82.5° | 57.8 | 56.6 | 51.7 | 54.2 | 62.8 | 62.8 | 71.4 | 104.6 | 281.8 | 523.1 | 567.4 |
| 85° | 3.7 | 3.7 | 6.2 | 7.4 | 11.1 | 14.8 | 18.5 | 24.6 | 71.4 | 97.2 | 100.9 |
| 87.5° | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 2.5 | 2.5 | 2.5 | 3.7 | 4.9 | 4.9 |
| 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: P867457

CATALOG NUMBER: MEM2-HTN-SA-40-750-U-T1

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1561.8 | 1561.8 | 1561.8 | 1561.8 | 1561.8 | 1561.8 | 1561.8 | 1561.8 | 1561.8 | 1561.8 | 1561.8 |
| 2.5° | 1560.5 | 1561.8 | 1561.8 | 1564.2 | 1566.7 | 1565.5 | 1564.2 | 1566.7 | 1563.0 | 1555.6 | 1554.4 |
| 5° | 1565.5 | 1565.5 | 1564.2 | 1566.7 | 1569.2 | 1566.7 | 1564.2 | 1564.2 | 1561.8 | 1554.4 | 1553.2 |
| 7.5° | 1575.3 | 1574.1 | 1574.1 | 1574.1 | 1574.1 | 1570.4 | 1566.7 | 1564.2 | 1560.5 | 1553.2 | 1549.5 |
| 10° | 1588.8 | 1587.6 | 1586.4 | 1585.1 | 1579.0 | 1575.3 | 1569.2 | 1565.5 | 1560.5 | 1551.9 | 1549.5 |
| 12.5° | 1603.6 | 1601.1 | 1598.7 | 1599.9 | 1587.6 | 1576.5 | 1570.4 | 1561.8 | 1558.1 | 1538.4 | 1534.7 |
| 15° | 1618.4 | 1614.7 | 1613.5 | 1608.5 | 1596.2 | 1580.2 | 1567.9 | 1555.6 | 1543.3 | 1524.8 | 1518.7 |
| 17.5° | 1638.1 | 1635.6 | 1628.2 | 1623.3 | 1606.1 | 1583.9 | 1565.5 | 1548.2 | 1532.2 | 1510.1 | 1506.4 |
| 20° | 1661.5 | 1659.0 | 1651.6 | 1641.8 | 1619.6 | 1592.5 | 1566.7 | 1539.6 | 1519.9 | 1494.1 | 1487.9 |
| 22.5° | 1687.3 | 1683.6 | 1677.5 | 1666.4 | 1638.1 | 1606.1 | 1570.4 | 1534.7 | 1505.2 | 1475.6 | 1471.9 |
| 25° | 1714.4 | 1711.9 | 1705.8 | 1689.8 | 1659.0 | 1619.6 | 1570.4 | 1517.5 | 1480.5 | 1454.7 | 1443.6 |
| 27.5° | 1740.2 | 1739.0 | 1731.6 | 1713.1 | 1681.1 | 1629.5 | 1559.3 | 1489.2 | 1439.9 | 1405.5 | 1398.1 |
| 30° | 1773.4 | 1771.0 | 1762.4 | 1741.4 | 1705.8 | 1635.6 | 1537.2 | 1441.2 | 1379.6 | 1341.5 | 1330.4 |
| 32.5° | 1814.1 | 1811.6 | 1799.3 | 1773.4 | 1735.3 | 1636.8 | 1505.2 | 1379.6 | 1298.4 | 1257.8 | 1244.2 |
| 35° | 1868.2 | 1863.3 | 1847.3 | 1816.5 | 1763.6 | 1624.5 | 1448.5 | 1300.9 | 1201.2 | 1148.2 | 1129.8 |
| 37.5° | 1927.3 | 1921.1 | 1900.2 | 1862.1 | 1783.3 | 1591.3 | 1368.5 | 1195.0 | 1081.8 | 1019.0 | 1005.5 |
| 40° | 1999.9 | 1991.3 | 1959.3 | 1906.4 | 1790.7 | 1533.5 | 1278.7 | 1086.7 | 966.1 | 897.2 | 881.2 |
| 42.5° | 2091.0 | 2076.2 | 2024.5 | 1955.6 | 1775.9 | 1454.7 | 1171.6 | 974.7 | 836.9 | 772.9 | 769.2 |
| 45° | 2200.5 | 2177.1 | 2099.6 | 2003.6 | 1743.9 | 1356.2 | 1058.4 | 849.2 | 717.5 | 654.7 | 638.7 |
| 47.5° | 2329.7 | 2301.4 | 2187.0 | 2040.5 | 1681.1 | 1255.3 | 936.6 | 727.3 | 606.7 | 542.7 | 530.4 |
| 50° | 2472.5 | 2445.4 | 2279.3 | 2061.4 | 1613.5 | 1137.2 | 817.2 | 619.0 | 498.4 | 445.5 | 445.5 |
| 52.5° | 2646.0 | 2584.5 | 2367.9 | 2063.9 | 1510.1 | 1006.7 | 702.7 | 513.2 | 418.4 | 371.7 | 361.8 |
| 55° | 2830.6 | 2758.0 | 2447.9 | 2041.7 | 1403.0 | 887.3 | 579.7 | 427.1 | 343.4 | 310.1 | 301.5 |
| 57.5° | 3036.2 | 2925.4 | 2505.7 | 1997.4 | 1267.6 | 756.9 | 483.7 | 352.0 | 289.2 | 262.1 | 258.4 |
| 60° | 3242.9 | 3100.1 | 2540.2 | 1922.4 | 1123.6 | 636.3 | 402.4 | 294.1 | 248.6 | 228.9 | 225.2 |
| 62.5° | 3434.9 | 3242.9 | 2542.6 | 1812.8 | 983.3 | 530.4 | 329.8 | 253.5 | 220.3 | 205.5 | 205.5 |
| 65° | 3601.0 | 3362.3 | 2500.8 | 1672.5 | 804.9 | 425.8 | 272.0 | 214.1 | 192.0 | 176.0 | 172.3 |
| 67.5° | 3682.3 | 3407.8 | 2427.0 | 1480.5 | 644.9 | 337.2 | 228.9 | 185.8 | 164.9 | 140.3 | 137.8 |
| 70° | 3567.8 | 3276.1 | 2237.4 | 1234.4 | 498.4 | 268.3 | 190.8 | 158.8 | 137.8 | 116.9 | 114.5 |
| 72.5° | 3202.3 | 2925.4 | 1931.0 | 956.3 | 375.4 | 216.6 | 158.8 | 135.4 | 113.2 | 102.1 | 99.7 |
| 75° | 2620.2 | 2433.1 | 1526.1 | 658.4 | 262.1 | 169.8 | 132.9 | 114.5 | 96.0 | 91.1 | 89.8 |
| 77.5° | 1988.8 | 1809.1 | 1115.0 | 412.3 | 179.7 | 132.9 | 113.2 | 97.2 | 83.7 | 87.4 | 84.9 |
| 80° | 1327.9 | 1245.5 | 740.9 | 233.8 | 120.6 | 97.2 | 86.1 | 71.4 | 64.0 | 73.8 | 71.4 |
| 82.5° | 603.0 | 571.0 | 348.3 | 102.1 | 54.2 | 41.8 | 29.5 | 22.2 | 17.2 | 16.0 | 18.5 |
| 85° | 100.9 | 88.6 | 24.6 | 11.1 | 6.2 | 3.7 | 2.5 | 2.5 | 1.2 | 1.2 | 1.2 |
| 87.5° | 4.9 | 3.7 | 3.7 | 2.5 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 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

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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)