

Classified
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P580415

Luminaire Tested: **HCC4W35D010BZ-HM43040827-41WWW**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580415
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-16)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HCC4W35D010BZ-HM43040827-41WWW
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

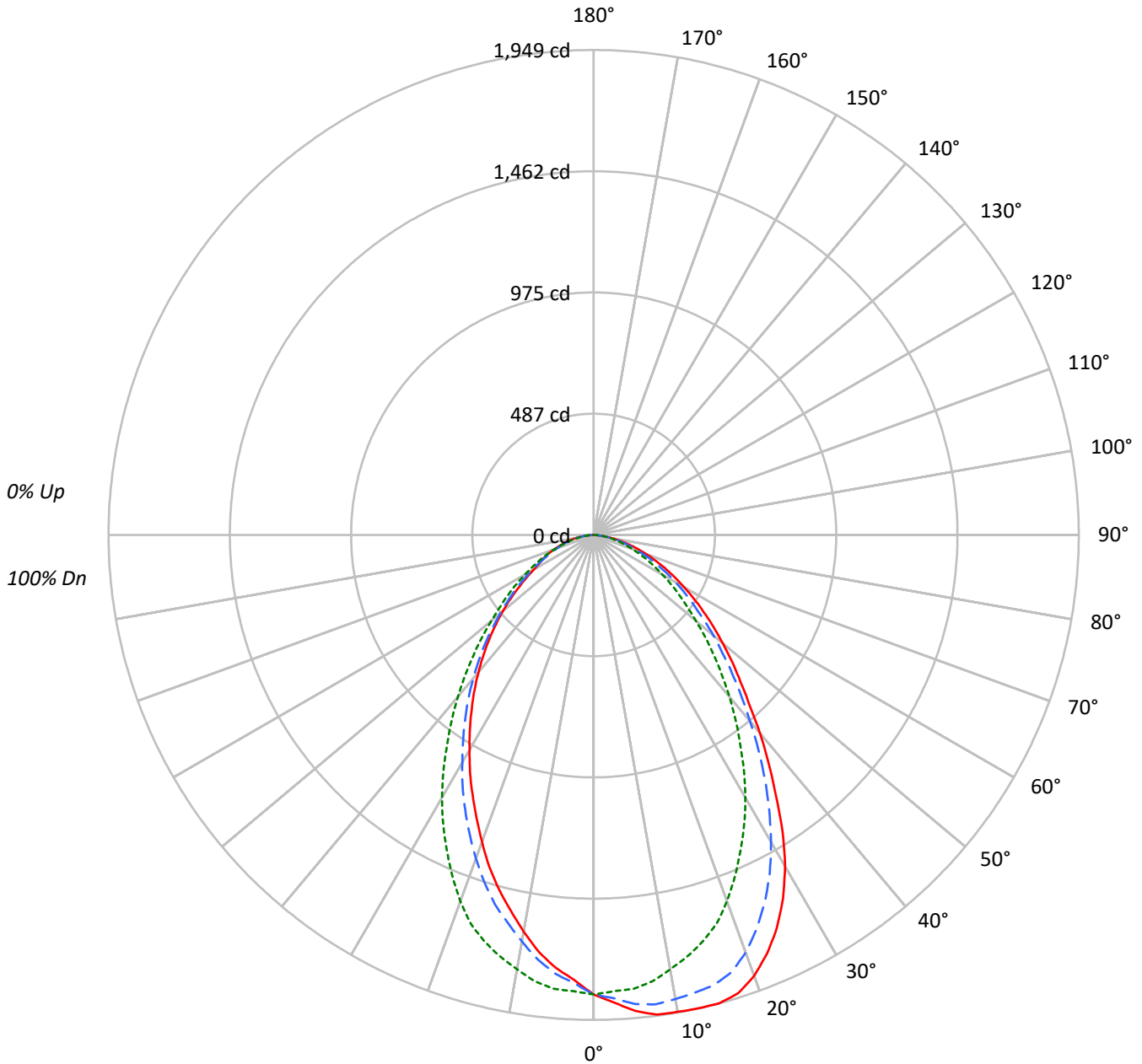
Lumens per Lamp: N/A
Luminaire Lumens: 3297.5 lumens
Efficiency: N/A
Efficacy: 97.8 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.03 / 1.1
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 33.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|-----|--|--|--|---|
| RF | 20 | | | | | 20 | | | | | 20 | | | | | 20 | | | | | 20 | | | | | |
| RC | 80 | | | | | 70 | | | | | 50 | | | | | 30 | | | | | 10 | | | | | 0 |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 | | | | | |
| RCR | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | | | | 100 | | | | |
| 1 | 111 | 106 | 103 | 100 | 108 | 104 | 101 | 98 | 100 | 97 | 95 | 96 | 94 | 92 | 93 | 91 | 89 | 87 | | | | 87 | | | | |
| 2 | 102 | 95 | 89 | 84 | 100 | 93 | 88 | 83 | 90 | 85 | 81 | 87 | 83 | 80 | 84 | 81 | 78 | 76 | | | | 76 | | | | |
| 3 | 94 | 85 | 78 | 72 | 92 | 84 | 77 | 72 | 81 | 75 | 71 | 78 | 73 | 69 | 76 | 72 | 68 | 66 | | | | 66 | | | | |
| 4 | 87 | 77 | 69 | 63 | 85 | 76 | 68 | 63 | 73 | 67 | 62 | 71 | 66 | 61 | 69 | 64 | 60 | 58 | | | | 58 | | | | |
| 5 | 81 | 70 | 62 | 56 | 79 | 69 | 61 | 56 | 67 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 54 | 52 | | | | 52 | | | | |
| 6 | 76 | 64 | 56 | 50 | 74 | 63 | 55 | 50 | 61 | 54 | 49 | 59 | 53 | 49 | 58 | 53 | 48 | 47 | | | | 47 | | | | |
| 7 | 71 | 58 | 50 | 45 | 69 | 58 | 50 | 45 | 56 | 49 | 44 | 55 | 49 | 44 | 53 | 48 | 44 | 42 | | | | 42 | | | | |
| 8 | 66 | 54 | 46 | 41 | 65 | 53 | 46 | 41 | 52 | 45 | 40 | 51 | 45 | 40 | 50 | 44 | 40 | 38 | | | | 38 | | | | |
| 9 | 62 | 50 | 42 | 37 | 61 | 49 | 42 | 37 | 48 | 42 | 37 | 47 | 41 | 37 | 46 | 41 | 37 | 35 | | | | 35 | | | | |
| 10 | 59 | 46 | 39 | 34 | 57 | 46 | 39 | 34 | 45 | 38 | 34 | 44 | 38 | 34 | 43 | 38 | 34 | 32 | | | | 32 | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|--------|--------|--------|
| 0° | 227758 | 227758 | 227758 |
| 5° | 237778 | 226746 | 216258 |
| 10° | 243784 | 222028 | 202702 |
| 15° | 248830 | 216101 | 188085 |
| 20° | 247507 | 205595 | 172242 |
| 25° | 237108 | 190100 | 156688 |
| 30° | 219067 | 173562 | 142014 |
| 35° | 192016 | 154387 | 128563 |
| 40° | 167199 | 136429 | 115771 |
| 45° | 145515 | 119001 | 103441 |
| 50° | 129642 | 102528 | 91302 |
| 55° | 115846 | 90169 | 78944 |
| 60° | 103438 | 78769 | 68062 |
| 65° | 91907 | 69113 | 64647 |
| 70° | 80711 | 59541 | 60335 |
| 75° | 68340 | 50707 | 55902 |
| 80° | 52422 | 43187 | 50930 |
| 85° | 30711 | 33824 | 43165 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 173.1 | 5.2 |
| 10°-20° | 477.4 | 14.5 |
| 20°-30° | 652.3 | 19.8 |
| 30°-40° | 655.0 | 19.9 |
| 40°-50° | 541.8 | 16.4 |
| 50°-60° | 392.7 | 11.9 |
| 60°-70° | 248.7 | 7.5 |
| 70°-80° | 125.7 | 3.8 |
| 80°-90° | 30.8 | 0.9 |
| 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°-30° | 1302.8 | 39.5 |
| 0°-40° | 1957.8 | 59.4 |
| 0°-60° | 2892.3 | 87.7 |
| 0°-90° | 3297.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3297.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 1846 | 1846 | 1846 | 1846 | 1846 | |
| 5° | 1920 | 1892 | 1831 | 1770 | 1747 | 184 |
| 15° | 1949 | 1873 | 1692 | 1536 | 1473 | 548 |
| 25° | 1742 | 1627 | 1397 | 1221 | 1151 | 796 |
| 35° | 1275 | 1199 | 1025 | 899 | 854 | 799 |
| 45° | 834 | 786 | 682 | 615 | 593 | 649 |
| 55° | 539 | 491 | 419 | 382 | 367 | 485 |
| 65° | 315 | 280 | 237 | 213 | 222 | 314 |
| 75° | 143 | 124 | 106 | 111 | 117 | 153 |
| 85° | 22 | 22 | 24 | 28 | 30 | 30 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1846.5 | 1846.5 | 1846.5 | 1846.5 | 1846.5 | 1846.5 | 1846.5 | 1846.5 | 1846.5 |
| 2.5° | 1881.2 | 1874.7 | 1863.9 | 1850.9 | 1835.6 | 1818.3 | 1803.0 | 1794.4 | 1790.0 |
| 5° | 1920.4 | 1911.7 | 1892.1 | 1863.9 | 1831.3 | 1798.7 | 1770.5 | 1753.1 | 1746.6 |
| 7.5° | 1944.3 | 1931.3 | 1902.9 | 1859.5 | 1809.5 | 1761.8 | 1720.5 | 1696.6 | 1690.0 |
| 10° | 1946.4 | 1931.3 | 1894.3 | 1835.6 | 1772.7 | 1709.6 | 1659.7 | 1625.0 | 1618.4 |
| 12.5° | 1948.6 | 1929.0 | 1883.5 | 1813.9 | 1735.7 | 1657.6 | 1596.6 | 1555.4 | 1544.6 |
| 15° | 1948.6 | 1929.0 | 1872.6 | 1790.0 | 1692.3 | 1603.2 | 1535.8 | 1488.1 | 1472.9 |
| 17.5° | 1931.3 | 1909.5 | 1842.1 | 1746.6 | 1640.1 | 1540.2 | 1462.0 | 1412.1 | 1396.8 |
| 20° | 1885.6 | 1861.7 | 1785.7 | 1681.4 | 1566.3 | 1462.0 | 1383.8 | 1331.6 | 1312.2 |
| 22.5° | 1820.4 | 1792.2 | 1711.9 | 1598.9 | 1483.7 | 1377.2 | 1301.3 | 1247.0 | 1229.5 |
| 25° | 1742.2 | 1714.0 | 1627.1 | 1516.3 | 1396.8 | 1296.9 | 1220.9 | 1170.9 | 1151.3 |
| 27.5° | 1646.7 | 1616.2 | 1531.6 | 1420.7 | 1309.9 | 1210.0 | 1140.5 | 1094.9 | 1075.3 |
| 30° | 1538.1 | 1505.5 | 1425.1 | 1318.7 | 1218.6 | 1123.1 | 1055.8 | 1018.8 | 997.1 |
| 32.5° | 1412.1 | 1383.8 | 1312.2 | 1216.5 | 1123.1 | 1031.8 | 975.4 | 942.8 | 925.4 |
| 35° | 1275.2 | 1260.0 | 1199.2 | 1116.6 | 1025.3 | 949.3 | 899.3 | 869.0 | 853.8 |
| 37.5° | 1153.6 | 1138.3 | 1086.2 | 1016.7 | 936.3 | 866.7 | 825.5 | 799.4 | 786.4 |
| 40° | 1038.4 | 1025.3 | 975.4 | 916.7 | 847.3 | 786.4 | 751.6 | 732.1 | 719.0 |
| 42.5° | 925.4 | 918.9 | 877.6 | 823.3 | 762.5 | 710.4 | 682.2 | 666.9 | 656.1 |
| 45° | 834.2 | 825.5 | 786.4 | 734.3 | 682.2 | 638.7 | 614.8 | 603.9 | 593.0 |
| 47.5° | 753.8 | 743.0 | 701.7 | 656.1 | 608.3 | 569.2 | 547.4 | 536.6 | 532.2 |
| 50° | 675.6 | 664.7 | 627.9 | 582.2 | 534.3 | 506.1 | 488.8 | 477.9 | 475.8 |
| 52.5° | 606.1 | 595.3 | 553.9 | 510.5 | 473.5 | 449.7 | 434.4 | 423.6 | 419.3 |
| 55° | 538.7 | 525.7 | 491.0 | 449.7 | 419.3 | 397.6 | 382.4 | 371.5 | 367.1 |
| 57.5° | 477.9 | 464.9 | 434.4 | 395.4 | 367.1 | 347.5 | 334.5 | 323.7 | 319.3 |
| 60° | 419.3 | 408.3 | 380.1 | 343.3 | 319.3 | 301.9 | 288.9 | 280.2 | 275.9 |
| 62.5° | 365.0 | 356.3 | 328.0 | 295.4 | 275.9 | 260.7 | 249.9 | 241.1 | 245.5 |
| 65° | 314.9 | 306.3 | 280.2 | 252.0 | 236.8 | 221.5 | 212.9 | 212.9 | 221.5 |
| 67.5° | 267.2 | 258.5 | 236.8 | 212.9 | 199.8 | 188.9 | 182.4 | 188.9 | 195.5 |
| 70° | 223.8 | 215.0 | 195.5 | 175.9 | 165.1 | 156.5 | 156.5 | 163.0 | 167.3 |
| 72.5° | 182.4 | 173.8 | 158.6 | 143.4 | 134.7 | 128.1 | 134.7 | 139.0 | 143.4 |
| 75° | 143.4 | 136.9 | 123.9 | 113.0 | 106.4 | 104.3 | 110.8 | 115.1 | 117.3 |
| 77.5° | 106.4 | 102.1 | 93.4 | 84.7 | 80.4 | 82.5 | 89.0 | 91.3 | 93.4 |
| 80° | 73.8 | 71.7 | 65.2 | 60.8 | 60.8 | 62.9 | 67.3 | 69.5 | 71.7 |
| 82.5° | 45.6 | 45.6 | 41.3 | 39.1 | 41.3 | 45.6 | 47.8 | 50.0 | 50.0 |
| 85° | 21.7 | 23.9 | 21.7 | 21.7 | 23.9 | 28.2 | 28.2 | 30.5 | 30.5 |
| 87.5° | 6.5 | 6.5 | 8.7 | 8.7 | 10.9 | 10.9 | 10.9 | 10.9 | 13.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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Scaled Data Report



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— 0°-180° - - 45°-225° - - - - 90°-270°

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