

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: P580467

Luminaire Tested: **HCC4W35D010MB-HM43040840-41RWWH**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580467
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-15)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HCC4W35D010MB-HM43040840-41RWWH
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

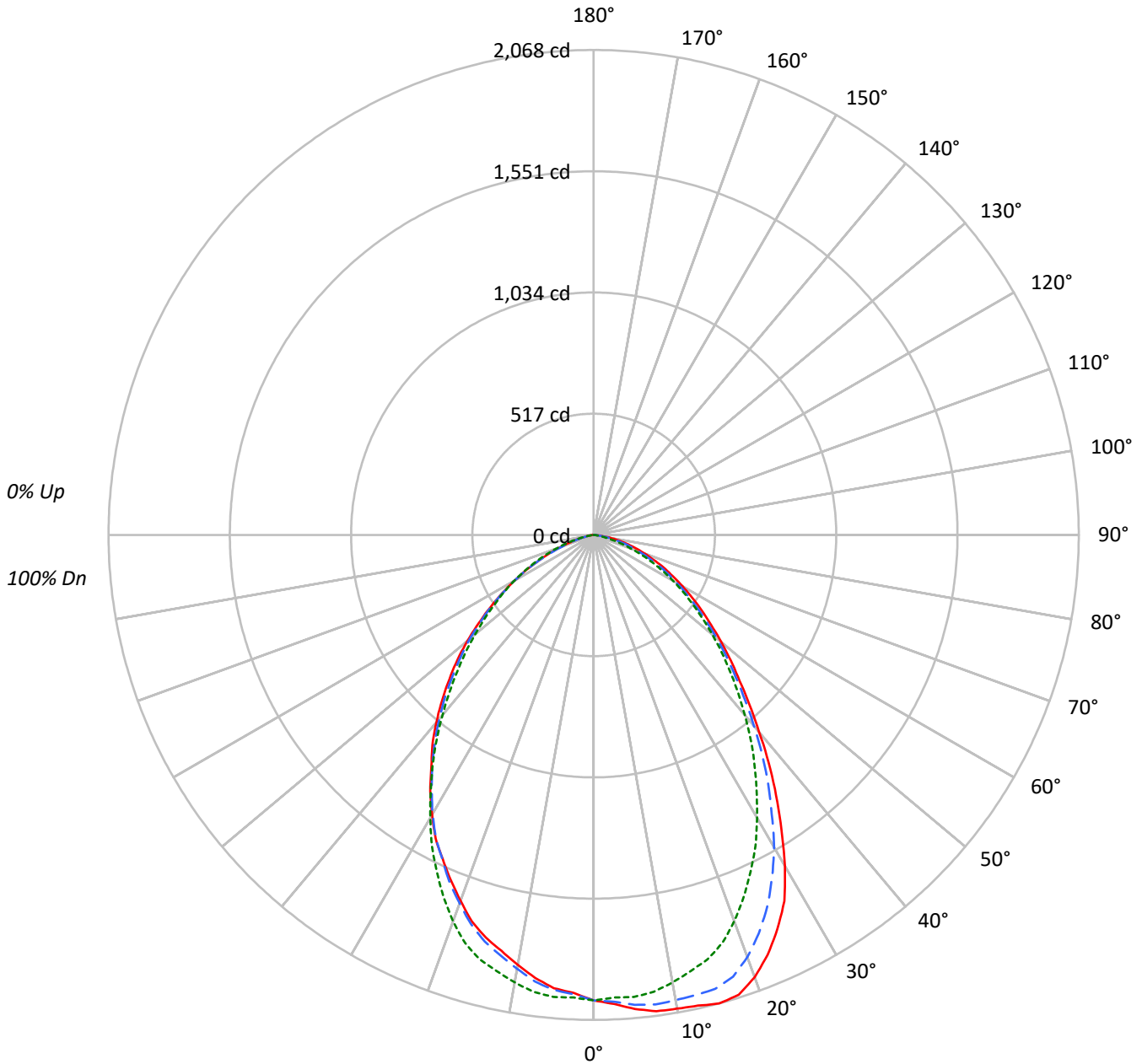
Lumens per Lamp: N/A
Luminaire Lumens: 3782.8 lumens
Efficiency: N/A
Efficacy: 112.2 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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 | | | | | | | | |
| 1 | 111 | 107 | 104 | 100 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 | | | | | | | | |
| 2 | 103 | 96 | 90 | 85 | 100 | 94 | 89 | 84 | 90 | 86 | 82 | 87 | 84 | 80 | 84 | 81 | 79 | 77 | | | | | | | | |
| 3 | 95 | 86 | 79 | 73 | 92 | 84 | 78 | 73 | 81 | 76 | 71 | 79 | 74 | 70 | 76 | 72 | 69 | 67 | | | | | | | | |
| 4 | 88 | 77 | 70 | 64 | 86 | 76 | 69 | 63 | 74 | 67 | 62 | 71 | 66 | 62 | 69 | 65 | 61 | 59 | | | | | | | | |
| 5 | 81 | 70 | 62 | 56 | 79 | 69 | 61 | 56 | 67 | 60 | 55 | 65 | 59 | 55 | 63 | 58 | 54 | 52 | | | | | | | | |
| 6 | 76 | 64 | 56 | 50 | 74 | 63 | 55 | 50 | 61 | 54 | 49 | 60 | 54 | 49 | 58 | 53 | 49 | 47 | | | | | | | | |
| 7 | 71 | 58 | 51 | 45 | 69 | 58 | 50 | 45 | 56 | 49 | 45 | 55 | 49 | 44 | 54 | 48 | 44 | 42 | | | | | | | | |
| 8 | 66 | 54 | 46 | 41 | 65 | 53 | 46 | 41 | 52 | 45 | 40 | 51 | 45 | 40 | 50 | 44 | 40 | 38 | | | | | | | | |
| 9 | 62 | 50 | 42 | 37 | 61 | 49 | 42 | 37 | 48 | 41 | 37 | 47 | 41 | 37 | 46 | 41 | 37 | 35 | | | | | | | | |
| 10 | 58 | 46 | 39 | 34 | 57 | 46 | 39 | 34 | 45 | 38 | 34 | 44 | 38 | 34 | 43 | 38 | 34 | 32 | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|--------|--------|--------|
| 0° | 244792 | 244792 | 244792 |
| 5° | 251224 | 244811 | 240229 |
| 10° | 256910 | 242706 | 233125 |
| 15° | 264141 | 239265 | 226981 |
| 20° | 263416 | 230089 | 217776 |
| 25° | 252310 | 215414 | 207357 |
| 30° | 232099 | 198401 | 196279 |
| 35° | 204183 | 180045 | 181536 |
| 40° | 176651 | 161161 | 167908 |
| 45° | 153522 | 143213 | 151813 |
| 50° | 136243 | 126303 | 134823 |
| 55° | 120878 | 110792 | 115588 |
| 60° | 107631 | 96111 | 96111 |
| 65° | 95701 | 79882 | 74833 |
| 70° | 82694 | 60479 | 53338 |
| 75° | 69293 | 39984 | 32883 |
| 80° | 52564 | 19250 | 17474 |
| 85° | 27880 | 6935 | 6935 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 188.0 | 5.0 |
| 10°-20° | 532.8 | 14.1 |
| 20°-30° | 751.5 | 19.9 |
| 30°-40° | 776.3 | 20.5 |
| 40°-50° | 658.1 | 17.4 |
| 50°-60° | 478.8 | 12.7 |
| 60°-70° | 279.8 | 7.4 |
| 70°-80° | 104.0 | 2.7 |
| 80°-90° | 13.6 | 0.4 |
| 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° | 1472.3 | 38.9 |
| 0°-40° | 2248.5 | 59.4 |
| 0°-60° | 3385.4 | 89.5 |
| 0°-90° | 3782.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3782.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 1985 | 1985 | 1985 | 1985 | 1985 | |
| 5° | 2029 | 2012 | 1977 | 1948 | 1940 | 194 |
| 15° | 2068 | 2004 | 1874 | 1795 | 1778 | 581 |
| 25° | 1854 | 1750 | 1583 | 1526 | 1524 | 848 |
| 35° | 1356 | 1297 | 1196 | 1198 | 1206 | 847 |
| 45° | 880 | 856 | 821 | 850 | 870 | 685 |
| 55° | 562 | 535 | 515 | 533 | 538 | 506 |
| 65° | 328 | 301 | 274 | 256 | 256 | 325 |
| 75° | 145 | 121 | 84 | 66 | 69 | 156 |
| 85° | 20 | 12 | 5 | 5 | 5 | 27 |
| 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° | 1984.6 | 1984.6 | 1984.6 | 1984.6 | 1984.6 | 1984.6 | 1984.6 | 1984.6 | 1984.6 |
| 2.5° | 2001.8 | 1996.9 | 1992.1 | 1984.6 | 1974.8 | 1967.3 | 1959.9 | 1955.1 | 1955.1 |
| 5° | 2029.0 | 2021.6 | 2011.7 | 1994.5 | 1977.2 | 1962.4 | 1947.7 | 1940.2 | 1940.2 |
| 7.5° | 2048.7 | 2038.8 | 2019.2 | 1994.5 | 1964.9 | 1942.7 | 1920.5 | 1910.7 | 1905.7 |
| 10° | 2051.2 | 2041.3 | 2014.2 | 1977.2 | 1937.8 | 1903.3 | 1878.7 | 1863.8 | 1861.3 |
| 12.5° | 2056.1 | 2043.8 | 2009.3 | 1957.4 | 1905.7 | 1863.8 | 1836.7 | 1821.9 | 1816.9 |
| 15° | 2068.5 | 2051.2 | 2004.3 | 1937.8 | 1873.7 | 1824.4 | 1794.8 | 1782.4 | 1777.5 |
| 17.5° | 2056.1 | 2031.5 | 1974.8 | 1895.9 | 1824.4 | 1770.2 | 1740.5 | 1728.3 | 1728.3 |
| 20° | 2006.8 | 1982.2 | 1915.6 | 1829.3 | 1752.9 | 1701.1 | 1671.5 | 1664.1 | 1659.1 |
| 22.5° | 1937.8 | 1910.7 | 1839.2 | 1747.9 | 1671.5 | 1624.6 | 1605.0 | 1595.1 | 1592.6 |
| 25° | 1853.9 | 1826.8 | 1750.4 | 1656.8 | 1582.8 | 1543.4 | 1526.1 | 1526.1 | 1523.6 |
| 27.5° | 1760.3 | 1725.8 | 1646.9 | 1565.5 | 1494.0 | 1464.5 | 1457.0 | 1457.0 | 1459.5 |
| 30° | 1629.6 | 1605.0 | 1538.4 | 1459.5 | 1393.0 | 1373.2 | 1373.2 | 1378.1 | 1378.1 |
| 32.5° | 1489.1 | 1471.9 | 1412.6 | 1343.6 | 1291.8 | 1279.6 | 1284.5 | 1294.3 | 1296.8 |
| 35° | 1356.0 | 1336.2 | 1296.8 | 1235.2 | 1195.7 | 1190.8 | 1198.2 | 1205.6 | 1205.6 |
| 37.5° | 1225.3 | 1205.6 | 1178.4 | 1129.2 | 1099.6 | 1102.0 | 1111.9 | 1121.8 | 1129.2 |
| 40° | 1097.1 | 1082.3 | 1062.5 | 1023.2 | 1000.9 | 1010.8 | 1023.2 | 1033.0 | 1042.8 |
| 42.5° | 983.7 | 968.9 | 954.1 | 924.5 | 909.8 | 922.0 | 936.9 | 946.7 | 956.5 |
| 45° | 880.1 | 870.3 | 855.5 | 830.9 | 821.0 | 833.3 | 850.5 | 860.4 | 870.3 |
| 47.5° | 791.4 | 786.5 | 766.7 | 744.5 | 739.6 | 752.0 | 766.7 | 779.0 | 786.5 |
| 50° | 710.0 | 702.6 | 685.4 | 663.2 | 658.2 | 678.0 | 687.9 | 695.2 | 702.6 |
| 52.5° | 631.1 | 623.7 | 604.0 | 584.3 | 584.3 | 599.1 | 606.5 | 609.0 | 616.3 |
| 55° | 562.1 | 554.7 | 535.0 | 520.2 | 515.2 | 527.6 | 532.6 | 532.6 | 537.5 |
| 57.5° | 498.0 | 490.6 | 470.8 | 453.6 | 451.2 | 458.6 | 458.6 | 458.6 | 461.1 |
| 60° | 436.3 | 428.9 | 409.2 | 394.4 | 389.6 | 391.9 | 389.6 | 387.1 | 389.6 |
| 62.5° | 379.7 | 372.3 | 352.6 | 335.3 | 330.3 | 330.3 | 322.9 | 320.5 | 322.9 |
| 65° | 327.9 | 315.6 | 300.8 | 283.5 | 273.7 | 266.3 | 256.4 | 256.4 | 256.4 |
| 67.5° | 276.2 | 266.3 | 249.0 | 231.8 | 219.4 | 207.0 | 192.3 | 197.3 | 199.7 |
| 70° | 229.3 | 221.9 | 202.2 | 184.9 | 167.7 | 152.9 | 140.5 | 145.4 | 147.9 |
| 72.5° | 187.4 | 177.5 | 160.3 | 140.5 | 125.8 | 106.0 | 98.6 | 103.5 | 103.5 |
| 75° | 145.4 | 135.6 | 120.8 | 101.0 | 83.9 | 66.5 | 66.5 | 69.0 | 69.0 |
| 77.5° | 108.5 | 98.6 | 83.9 | 66.5 | 51.8 | 39.5 | 41.9 | 41.9 | 41.9 |
| 80° | 74.0 | 66.5 | 54.3 | 39.5 | 27.1 | 22.1 | 22.1 | 22.1 | 24.6 |
| 82.5° | 41.9 | 37.0 | 29.6 | 19.7 | 12.4 | 12.4 | 12.4 | 12.4 | 12.4 |
| 85° | 19.7 | 14.8 | 12.4 | 7.4 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 |
| 87.5° | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| 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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