

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: P582323

Luminaire Tested: **HC635D010-HM63040835-61WWWB**

Issue Date: 9/16/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P582323  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2105-241-18)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/16/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC635D010-HM63040835-61WWWB  
Description: HALO COMMERCIAL 6" ROUND, NEW CONSTRUCTION FRAME, WITH 6" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3880.4 lumens  
Efficiency: N/A  
Efficacy: 115.1 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.09 / 1.17  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

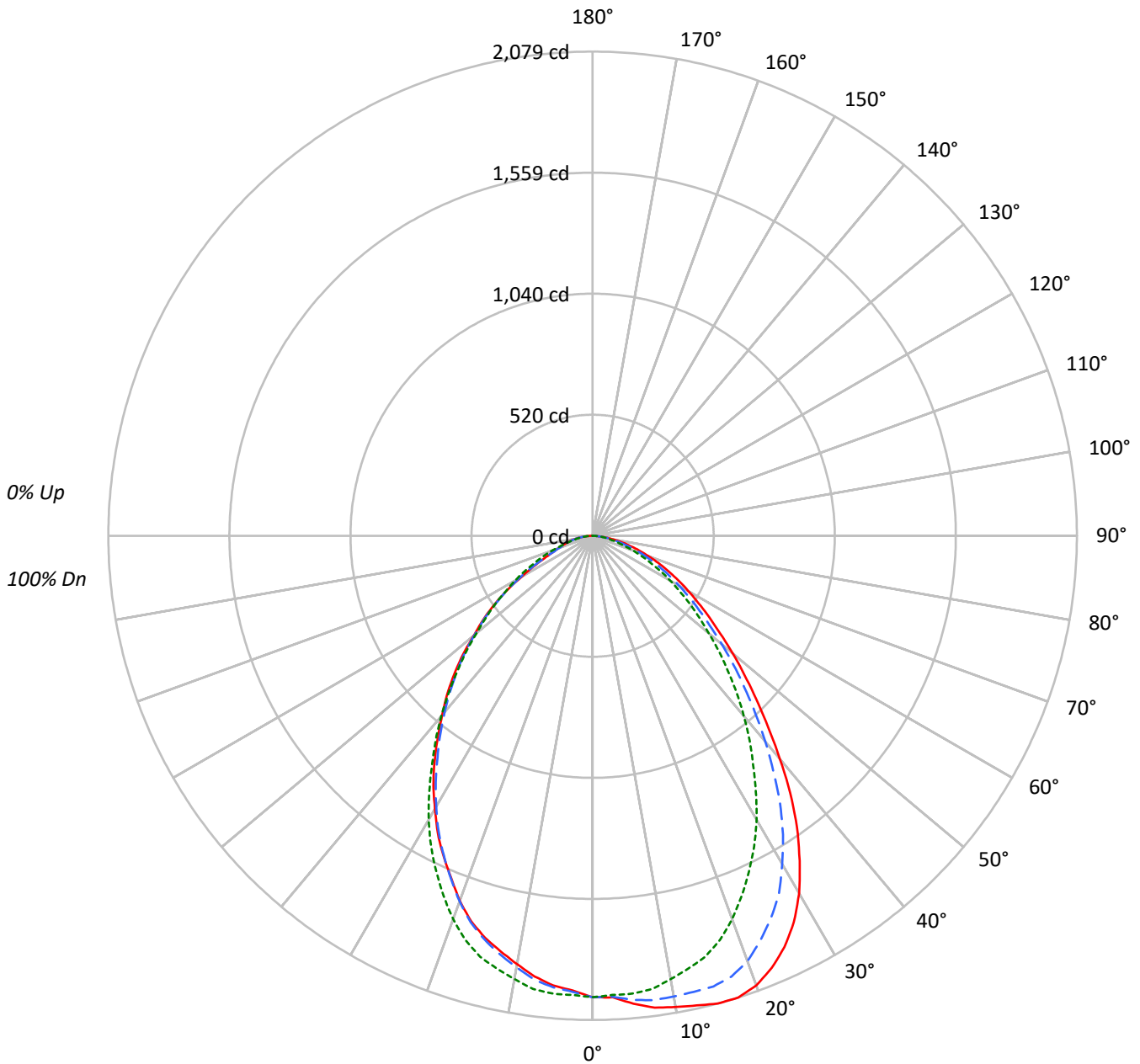
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 | 107 | 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  | 75  | 68  | 63  | 73  | 67  | 62  | 71  | 65  | 61  | 69  | 64  | 60  | 58  |    |    | 58  |
| 5   | 81  | 70  | 61  | 56  | 79  | 68  | 61  | 55  | 66  | 60  | 55  | 65  | 59  | 54  | 63  | 58  | 54  | 52  |    |    | 52  |
| 6   | 75  | 63  | 55  | 49  | 74  | 62  | 55  | 49  | 61  | 54  | 49  | 59  | 53  | 48  | 58  | 52  | 48  | 46  |    |    | 46  |
| 7   | 70  | 58  | 50  | 44  | 69  | 57  | 50  | 44  | 56  | 49  | 44  | 54  | 48  | 44  | 53  | 48  | 43  | 42  |    |    | 42  |
| 8   | 66  | 53  | 46  | 40  | 64  | 53  | 45  | 40  | 51  | 45  | 40  | 50  | 44  | 40  | 49  | 44  | 39  | 38  |    |    | 38  |
| 9   | 62  | 49  | 42  | 37  | 60  | 49  | 42  | 37  | 48  | 41  | 36  | 47  | 41  | 36  | 46  | 40  | 36  | 34  |    |    | 34  |
| 10  | 58  | 46  | 38  | 34  | 57  | 45  | 38  | 33  | 44  | 38  | 33  | 43  | 37  | 33  | 43  | 37  | 33  | 31  |    |    | 31  |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°     | 90°    | 180°   |
|-----|--------|--------|--------|
| 0°  | 108621 | 108621 | 108621 |
| 5°  | 110978 | 108595 | 106658 |
| 10° | 114366 | 107591 | 103973 |
| 15° | 117986 | 106158 | 101397 |
| 20° | 119856 | 102174 | 97273  |
| 25° | 117890 | 96114  | 91693  |
| 30° | 112232 | 89102  | 85678  |
| 35° | 102359 | 80435  | 79163  |
| 40° | 89496  | 72257  | 71870  |
| 45° | 77023  | 63588  | 65061  |
| 50° | 66949  | 55410  | 56561  |
| 55° | 58464  | 48639  | 49155  |
| 60° | 51937  | 42146  | 38582  |
| 65° | 46347  | 35464  | 29484  |
| 70° | 40776  | 29075  | 24732  |
| 75° | 34970  | 22939  | 23511  |
| 80° | 28192  | 19636  | 23077  |
| 85° | 18744  | 17046  | 20379  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 187.6  | 4.8       |
| 10°-20°   | 534.1  | 13.8      |
| 20°-30°   | 762.4  | 19.6      |
| 30°-40°   | 798.6  | 20.6      |
| 40°-50°   | 672.4  | 17.3      |
| 50°-60°   | 478.6  | 12.3      |
| 60°-70°   | 280.1  | 7.2       |
| 70°-80°   | 132.6  | 3.4       |
| 80°-90°   | 34.1   | 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°    | 1484.1 | 38.2      |
| 0°-40°    | 2282.7 | 58.8      |
| 0°-60°    | 3433.7 | 88.5      |
| 0°-90°    | 3880.4 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3880.4 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45°  | 90°  | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 1981 | 1981 | 1981 | 1981 | 1981 |      |
| 5°  | 2017 | 2000 | 1973 | 1946 | 1938 | 194  |
| 15° | 2079 | 2003 | 1870 | 1795 | 1787 | 587  |
| 25° | 1949 | 1811 | 1589 | 1513 | 1516 | 892  |
| 35° | 1530 | 1402 | 1202 | 1161 | 1183 | 950  |
| 45° | 994  | 920  | 820  | 823  | 839  | 771  |
| 55° | 612  | 560  | 509  | 509  | 514  | 551  |
| 65° | 357  | 317  | 273  | 230  | 227  | 356  |
| 75° | 165  | 138  | 108  | 106  | 111  | 177  |
| 85° | 30   | 24   | 27   | 32   | 32   | 39   |
| 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°    | 1981.4 | 1981.4 | 1981.4 | 1981.4 | 1981.4 | 1981.4 | 1981.4 | 1981.4 | 1981.4 |
| 2.5°  | 1984.1 | 1984.1 | 1981.4 | 1978.8 | 1973.4 | 1965.2 | 1959.9 | 1954.4 | 1954.4 |
| 5°    | 2016.7 | 2011.2 | 2000.5 | 1986.9 | 1973.4 | 1957.1 | 1946.3 | 1938.2 | 1938.2 |
| 7.5°  | 2043.8 | 2032.9 | 2011.2 | 1986.9 | 1962.5 | 1940.8 | 1921.9 | 1911.1 | 1908.4 |
| 10°   | 2054.5 | 2041.0 | 2008.5 | 1970.6 | 1932.8 | 1902.9 | 1881.3 | 1867.8 | 1867.8 |
| 12.5° | 2065.4 | 2049.1 | 2005.8 | 1951.7 | 1902.9 | 1862.4 | 1840.7 | 1829.9 | 1827.2 |
| 15°   | 2078.9 | 2057.3 | 2003.2 | 1935.5 | 1870.5 | 1824.5 | 1794.7 | 1786.6 | 1786.6 |
| 17.5° | 2078.9 | 2051.8 | 1984.1 | 1900.2 | 1819.0 | 1767.7 | 1740.6 | 1732.4 | 1735.1 |
| 20°   | 2054.5 | 2024.7 | 1943.5 | 1840.7 | 1751.4 | 1697.3 | 1670.2 | 1664.7 | 1667.4 |
| 22.5° | 2008.5 | 1973.4 | 1881.3 | 1770.3 | 1672.9 | 1616.1 | 1591.7 | 1591.7 | 1589.0 |
| 25°   | 1949.0 | 1911.1 | 1811.0 | 1694.5 | 1589.0 | 1532.2 | 1513.1 | 1515.9 | 1515.9 |
| 27.5° | 1870.5 | 1832.5 | 1732.4 | 1607.9 | 1502.4 | 1445.4 | 1431.9 | 1437.4 | 1440.1 |
| 30°   | 1773.0 | 1732.4 | 1626.9 | 1505.1 | 1407.6 | 1350.8 | 1342.6 | 1350.8 | 1353.5 |
| 32.5° | 1654.0 | 1624.1 | 1521.3 | 1396.8 | 1304.7 | 1256.0 | 1253.4 | 1261.4 | 1272.3 |
| 35°   | 1529.5 | 1496.9 | 1402.2 | 1288.5 | 1201.9 | 1161.3 | 1161.3 | 1174.8 | 1182.9 |
| 37.5° | 1394.1 | 1361.5 | 1274.9 | 1180.2 | 1107.1 | 1069.2 | 1074.7 | 1088.2 | 1090.9 |
| 40°   | 1250.6 | 1226.3 | 1153.1 | 1071.9 | 1009.7 | 979.9  | 988.0  | 1001.5 | 1004.3 |
| 42.5° | 1115.3 | 1093.6 | 1034.1 | 960.9  | 914.9  | 893.3  | 904.1  | 920.4  | 925.8  |
| 45°   | 993.5  | 969.1  | 920.4  | 858.1  | 820.2  | 809.3  | 822.9  | 833.7  | 839.2  |
| 47.5° | 882.5  | 860.8  | 820.2  | 763.3  | 736.3  | 730.9  | 744.4  | 749.8  | 755.3  |
| 50°   | 785.0  | 763.3  | 722.7  | 671.4  | 649.7  | 649.7  | 660.5  | 665.9  | 663.2  |
| 52.5° | 690.3  | 671.4  | 633.4  | 590.2  | 576.6  | 576.6  | 584.7  | 587.4  | 592.8  |
| 55°   | 611.7  | 592.8  | 560.3  | 519.8  | 508.9  | 503.4  | 508.9  | 508.9  | 514.3  |
| 57.5° | 538.7  | 522.5  | 492.7  | 454.8  | 441.2  | 435.8  | 433.1  | 430.4  | 435.8  |
| 60°   | 473.7  | 460.1  | 427.7  | 395.3  | 384.4  | 370.9  | 360.0  | 349.2  | 351.9  |
| 62.5° | 414.2  | 400.6  | 370.9  | 338.3  | 327.6  | 308.6  | 295.0  | 281.5  | 287.0  |
| 65°   | 357.3  | 343.8  | 316.7  | 289.6  | 273.4  | 251.7  | 230.1  | 222.0  | 227.3  |
| 67.5° | 305.9  | 295.0  | 267.9  | 240.9  | 227.3  | 203.1  | 181.4  | 181.4  | 184.0  |
| 70°   | 254.4  | 243.7  | 222.0  | 197.6  | 181.4  | 159.8  | 151.6  | 154.3  | 154.3  |
| 72.5° | 208.4  | 200.3  | 178.7  | 157.0  | 140.7  | 127.2  | 127.2  | 129.9  | 132.7  |
| 75°   | 165.1  | 159.8  | 138.1  | 119.2  | 108.3  | 100.1  | 105.6  | 108.3  | 111.0  |
| 77.5° | 127.2  | 119.2  | 102.8  | 89.3   | 81.2   | 83.9   | 89.3   | 92.1   | 94.8   |
| 80°   | 89.3   | 86.6   | 73.1   | 65.0   | 62.2   | 65.0   | 70.4   | 73.1   | 73.1   |
| 82.5° | 56.8   | 54.1   | 46.0   | 43.3   | 43.3   | 46.0   | 51.5   | 51.5   | 51.5   |
| 85°   | 29.8   | 27.1   | 24.4   | 24.4   | 27.1   | 29.8   | 32.4   | 32.4   | 32.4   |
| 87.5° | 10.9   | 8.2    | 10.9   | 10.9   | 13.5   | 13.5   | 13.5   | 13.5   | 13.5   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



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







(END OF REPORT)