

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: P582286

Luminaire Tested: **HC635D010-HM63040827-61WWW**

Issue Date: 9/16/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P582286  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2105-241-16)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/16/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC635D010-HM63040827-61WWW  
Description: HALO COMMERCIAL 6" ROUND, NEW CONSTRUCTION FRAME, WITH 6" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3366.3 lumens  
Efficiency: N/A  
Efficacy: 99.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1.06 / 1.14  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

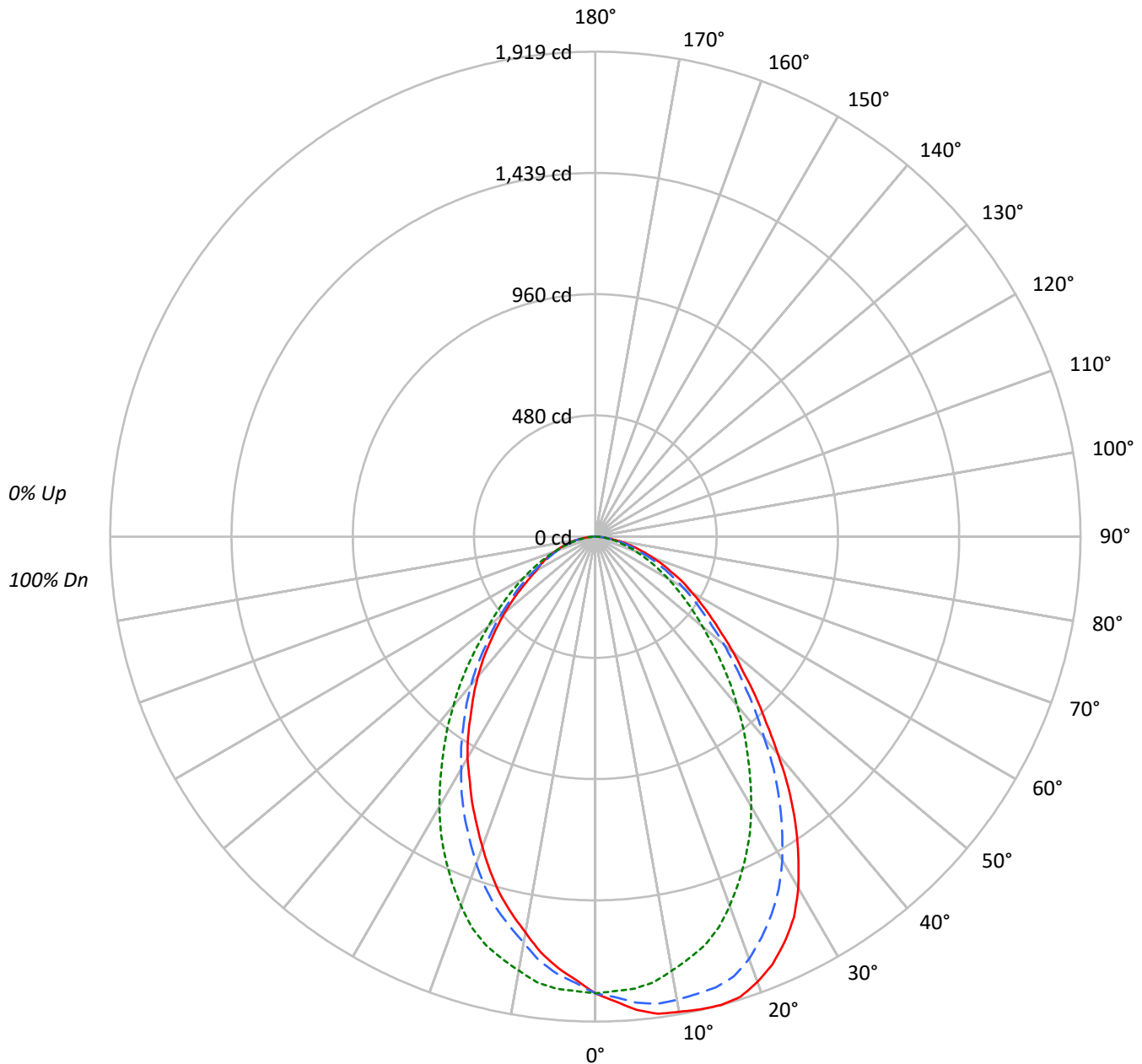
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30 | 10 |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |
| 1   | 110 | 106 | 103 | 99  | 108 | 104 | 101 | 98  | 100 | 97  | 95  | 96  | 94  | 92  | 93  | 91  | 89  | 87  |    |    |
| 2   | 102 | 95  | 89  | 84  | 99  | 93  | 88  | 83  | 90  | 85  | 81  | 86  | 83  | 79  | 83  | 80  | 78  | 76  |    |    |
| 3   | 94  | 85  | 78  | 72  | 92  | 83  | 77  | 71  | 80  | 75  | 70  | 78  | 73  | 69  | 75  | 71  | 68  | 66  |    |    |
| 4   | 87  | 76  | 69  | 63  | 85  | 75  | 68  | 62  | 73  | 67  | 62  | 71  | 65  | 61  | 69  | 64  | 60  | 58  |    |    |
| 5   | 81  | 69  | 61  | 55  | 79  | 68  | 61  | 55  | 66  | 60  | 55  | 64  | 59  | 54  | 63  | 58  | 53  | 51  |    |    |
| 6   | 75  | 63  | 55  | 49  | 73  | 62  | 55  | 49  | 61  | 54  | 49  | 59  | 53  | 48  | 57  | 52  | 48  | 46  |    |    |
| 7   | 70  | 58  | 50  | 44  | 69  | 57  | 50  | 44  | 56  | 49  | 44  | 54  | 48  | 44  | 53  | 48  | 43  | 42  |    |    |
| 8   | 66  | 53  | 46  | 40  | 64  | 53  | 45  | 40  | 51  | 45  | 40  | 50  | 44  | 40  | 49  | 44  | 39  | 38  |    |    |
| 9   | 62  | 49  | 42  | 37  | 60  | 49  | 42  | 37  | 48  | 41  | 36  | 47  | 41  | 36  | 46  | 40  | 36  | 34  |    |    |
| 10  | 58  | 46  | 39  | 34  | 57  | 45  | 38  | 34  | 44  | 38  | 33  | 44  | 38  | 33  | 43  | 37  | 33  | 32  |    |    |

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

|     | 0°     | 90°   | 180°  |
|-----|--------|-------|-------|
| 0°  | 99071  | 99071 | 99071 |
| 5°  | 103467 | 98778 | 94227 |
| 10° | 106283 | 97081 | 88548 |
| 15° | 108911 | 94972 | 82963 |
| 20° | 109402 | 90670 | 76196 |
| 25° | 107105 | 84888 | 69881 |
| 30° | 101617 | 78063 | 64048 |
| 35° | 92287  | 70155 | 57460 |
| 40° | 80415  | 62481 | 51697 |
| 45° | 69581  | 54680 | 45447 |
| 50° | 60783  | 47086 | 39828 |
| 55° | 53695  | 41384 | 34178 |
| 60° | 48264  | 36269 | 29592 |
| 65° | 43221  | 31547 | 28719 |
| 70° | 38596  | 26896 | 26896 |
| 75° | 33487  | 22664 | 25248 |
| 80° | 26866  | 19194 | 23014 |
| 85° | 18367  | 16794 | 19876 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 169.8  | 5.0       |
| 10°-20°   | 472.1  | 14.0      |
| 20°-30°   | 658.0  | 19.5      |
| 30°-40°   | 677.9  | 20.1      |
| 40°-50°   | 561.9  | 16.7      |
| 50°-60°   | 403.8  | 12.0      |
| 60°-70°   | 257.2  | 7.6       |
| 70°-80°   | 132.0  | 3.9       |
| 80°-90°   | 33.6   | 1.0       |
| 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°    | 1300.0 | 38.6      |
| 0°-40°    | 1977.9 | 58.8      |
| 0°-60°    | 2943.5 | 87.4      |
| 0°-90°    | 3366.3 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3366.3 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45°  | 90°  | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 1807 | 1807 | 1807 | 1807 | 1807 |      |
| 5°  | 1880 | 1851 | 1795 | 1737 | 1712 | 180  |
| 15° | 1919 | 1846 | 1673 | 1520 | 1462 | 541  |
| 25° | 1771 | 1649 | 1403 | 1223 | 1155 | 811  |
| 35° | 1379 | 1267 | 1048 | 910  | 859  | 857  |
| 45° | 898  | 834  | 705  | 615  | 586  | 695  |
| 55° | 562  | 516  | 433  | 384  | 358  | 506  |
| 65° | 333  | 297  | 243  | 212  | 221  | 334  |
| 75° | 158  | 136  | 107  | 112  | 119  | 169  |
| 85° | 29   | 27   | 27   | 29   | 32   | 37   |
| 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°    | 1807.2 | 1807.2 | 1807.2 | 1807.2 | 1807.2 | 1807.2 | 1807.2 | 1807.2 | 1807.2 |
| 2.5°  | 1841.2 | 1833.9 | 1824.1 | 1814.5 | 1799.9 | 1782.8 | 1768.2 | 1763.3 | 1756.1 |
| 5°    | 1880.2 | 1870.4 | 1851.0 | 1826.6 | 1795.0 | 1763.3 | 1736.6 | 1719.6 | 1712.3 |
| 7.5°  | 1904.4 | 1892.3 | 1865.6 | 1824.1 | 1777.9 | 1731.7 | 1692.9 | 1668.6 | 1658.8 |
| 10°   | 1909.3 | 1897.2 | 1860.7 | 1804.8 | 1744.0 | 1680.7 | 1632.0 | 1602.9 | 1590.7 |
| 12.5° | 1916.6 | 1899.6 | 1853.4 | 1787.7 | 1709.9 | 1637.0 | 1576.2 | 1539.6 | 1527.5 |
| 15°   | 1919.0 | 1899.6 | 1846.1 | 1765.8 | 1673.4 | 1585.8 | 1520.1 | 1476.4 | 1461.8 |
| 17.5° | 1909.3 | 1887.4 | 1824.1 | 1726.9 | 1622.4 | 1529.9 | 1452.1 | 1405.9 | 1386.4 |
| 20°   | 1875.3 | 1851.0 | 1777.9 | 1668.6 | 1554.2 | 1456.9 | 1376.7 | 1328.0 | 1306.1 |
| 22.5° | 1831.5 | 1799.9 | 1717.1 | 1600.4 | 1481.3 | 1379.0 | 1298.9 | 1250.2 | 1228.3 |
| 25°   | 1770.7 | 1741.5 | 1649.1 | 1525.0 | 1403.4 | 1296.4 | 1223.4 | 1172.4 | 1155.3 |
| 27.5° | 1700.2 | 1666.1 | 1571.2 | 1447.2 | 1323.1 | 1216.1 | 1145.6 | 1099.4 | 1077.5 |
| 30°   | 1605.3 | 1573.7 | 1478.8 | 1354.8 | 1233.2 | 1133.4 | 1060.5 | 1021.6 | 1011.8 |
| 32.5° | 1493.4 | 1466.7 | 1374.3 | 1257.4 | 1140.7 | 1048.3 | 987.5  | 946.2  | 936.4  |
| 35°   | 1379.0 | 1347.4 | 1267.2 | 1157.8 | 1048.3 | 965.6  | 909.7  | 873.1  | 858.6  |
| 37.5° | 1255.0 | 1225.8 | 1157.8 | 1060.5 | 963.1  | 885.3  | 836.7  | 805.1  | 790.5  |
| 40°   | 1123.7 | 1101.8 | 1038.6 | 960.8  | 873.1  | 805.1  | 763.7  | 737.0  | 722.4  |
| 42.5° | 1002.1 | 980.2  | 936.4  | 863.5  | 790.5  | 729.7  | 693.2  | 668.9  | 656.7  |
| 45°   | 897.5  | 878.1  | 834.3  | 771.0  | 705.3  | 654.2  | 615.4  | 598.3  | 586.2  |
| 47.5° | 792.9  | 783.2  | 744.3  | 685.8  | 625.0  | 581.3  | 554.6  | 535.1  | 525.4  |
| 50°   | 712.7  | 700.4  | 664.0  | 603.2  | 552.1  | 518.0  | 493.8  | 476.7  | 467.0  |
| 52.5° | 629.9  | 617.8  | 583.7  | 532.6  | 491.3  | 459.7  | 435.4  | 420.8  | 411.0  |
| 55°   | 561.8  | 552.1  | 515.6  | 469.4  | 433.0  | 406.2  | 384.3  | 367.3  | 357.6  |
| 57.5° | 498.7  | 488.9  | 454.8  | 411.0  | 379.4  | 355.1  | 335.6  | 321.0  | 308.9  |
| 60°   | 440.2  | 433.0  | 398.9  | 357.6  | 330.8  | 306.5  | 289.4  | 277.3  | 269.9  |
| 62.5° | 389.2  | 374.6  | 345.4  | 308.9  | 284.6  | 265.1  | 248.1  | 240.8  | 245.7  |
| 65°   | 333.2  | 325.9  | 296.8  | 265.1  | 243.2  | 223.7  | 211.6  | 216.5  | 221.4  |
| 67.5° | 287.0  | 277.3  | 253.0  | 223.7  | 204.3  | 189.8  | 182.4  | 192.2  | 194.5  |
| 70°   | 240.8  | 231.1  | 209.1  | 184.9  | 167.8  | 158.1  | 158.1  | 165.4  | 167.8  |
| 72.5° | 197.0  | 189.8  | 170.3  | 150.8  | 138.6  | 131.3  | 136.2  | 141.1  | 143.5  |
| 75°   | 158.1  | 150.8  | 136.2  | 119.2  | 107.0  | 107.0  | 111.9  | 116.7  | 119.2  |
| 77.5° | 121.6  | 116.7  | 102.1  | 90.0   | 85.1   | 85.1   | 90.0   | 92.4   | 94.9   |
| 80°   | 85.1   | 80.3   | 72.9   | 65.7   | 60.8   | 65.7   | 70.5   | 70.5   | 72.9   |
| 82.5° | 55.9   | 53.6   | 48.7   | 43.8   | 43.8   | 46.2   | 48.7   | 51.1   | 51.1   |
| 85°   | 29.2   | 29.2   | 26.7   | 24.3   | 26.7   | 29.2   | 29.2   | 31.6   | 31.6   |
| 87.5° | 9.7    | 9.7    | 9.7    | 9.7    | 12.1   | 12.1   | 12.1   | 12.1   | 12.1   |
| 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)