

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: P582188

Luminaire Tested: **HC630D010-HM63040840-61RWWC**

Issue Date: 9/16/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P582188  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2105-241-14)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/16/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC630D010-HM63040840-61RWWC  
Description: HALO COMMERCIAL 6" ROUND, NEW CONSTRUCTION FRAME, WITH 6" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3568.1 lumens  
Efficiency: N/A  
Efficacy: 127.4 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.15 / 1.2  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

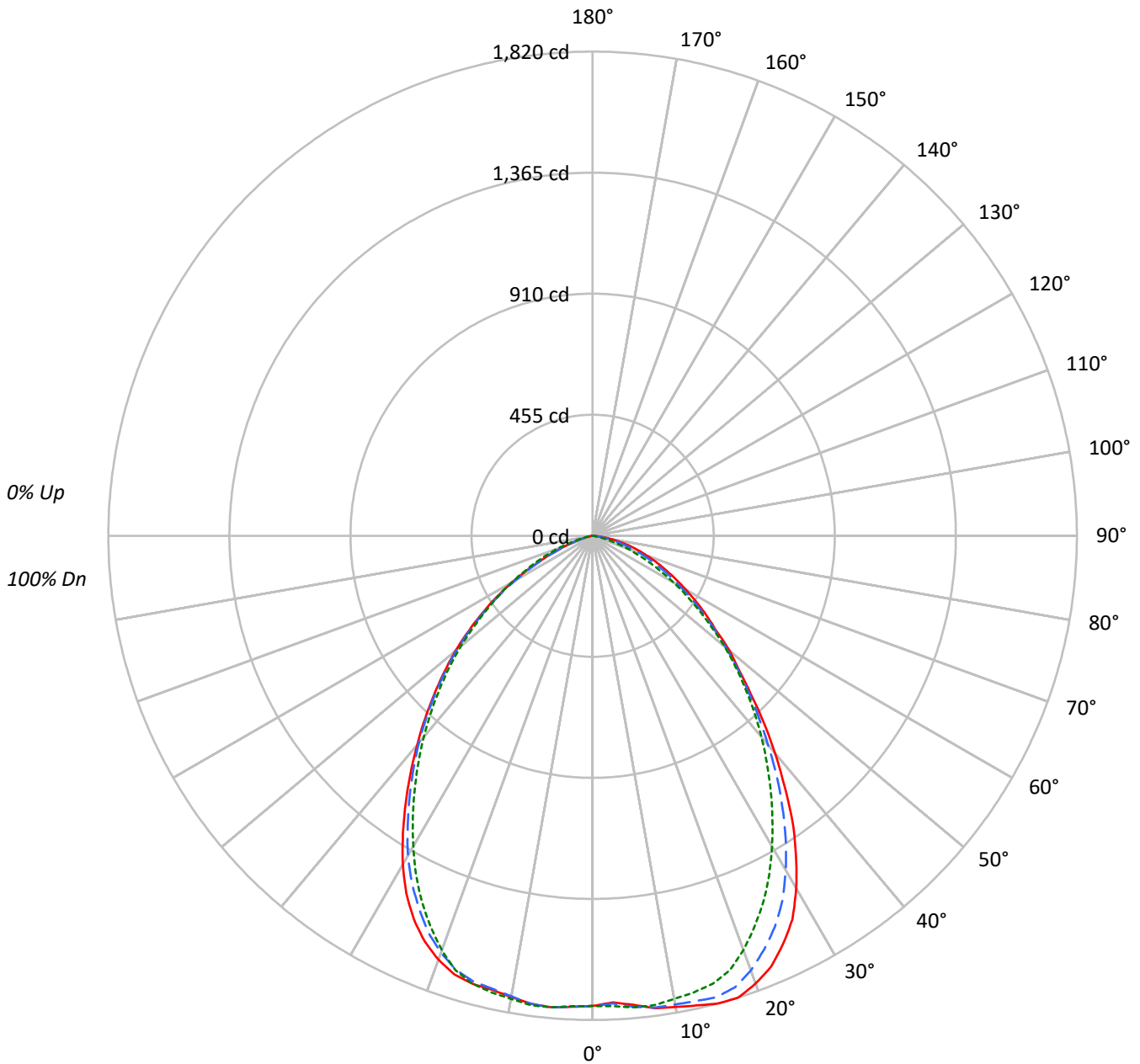
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|-----|
| RF  | 20  |     |     |     | 20  |     |     |     | 20  |     |     |     | 20  |     |     |     | 20  |     |    |    | 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 | 104 | 101 | 108 | 105 | 102 | 99  | 101 | 98  | 96  | 97  | 95  | 93  | 94  | 92  | 90  | 88  |    |    |    | 88  |
| 2   | 103 | 96  | 90  | 86  | 100 | 94  | 89  | 85  | 91  | 86  | 83  | 88  | 84  | 81  | 85  | 82  | 79  | 77  |    |    |    | 77  |
| 3   | 95  | 86  | 79  | 74  | 93  | 85  | 78  | 73  | 82  | 76  | 72  | 79  | 75  | 71  | 77  | 73  | 69  | 68  |    |    |    | 68  |
| 4   | 88  | 78  | 70  | 64  | 86  | 76  | 69  | 64  | 74  | 68  | 63  | 72  | 67  | 62  | 70  | 65  | 61  | 60  |    |    |    | 60  |
| 5   | 82  | 70  | 62  | 57  | 80  | 69  | 62  | 56  | 67  | 61  | 56  | 65  | 60  | 55  | 64  | 59  | 55  | 53  |    |    |    | 53  |
| 6   | 76  | 64  | 56  | 50  | 74  | 63  | 56  | 50  | 62  | 55  | 50  | 60  | 54  | 49  | 58  | 53  | 49  | 47  |    |    |    | 47  |
| 7   | 71  | 59  | 51  | 45  | 69  | 58  | 50  | 45  | 56  | 50  | 45  | 55  | 49  | 45  | 54  | 48  | 44  | 42  |    |    |    | 42  |
| 8   | 66  | 54  | 46  | 41  | 65  | 53  | 46  | 41  | 52  | 45  | 41  | 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°  | 96889  | 96889 | 96889 |
| 5°  | 97391  | 97914 | 97914 |
| 10° | 100115 | 98384 | 97983 |
| 15° | 103298 | 98945 | 98945 |
| 20° | 104502 | 96678 | 98913 |
| 25° | 102411 | 91844 | 96187 |
| 30° | 96876  | 85349 | 90349 |
| 35° | 87663  | 78052 | 81894 |
| 40° | 76264  | 70604 | 73352 |
| 45° | 65170  | 62937 | 65170 |
| 50° | 57192  | 55145 | 57397 |
| 55° | 49900  | 46469 | 48295 |
| 60° | 44119  | 38604 | 38078 |
| 65° | 39148  | 30444 | 26099 |
| 70° | 34557  | 21494 | 15740 |
| 75° | 29420  | 12158 | 7604  |
| 80° | 21909  | 3788  | 2241  |
| 85° | 12014  | 1510  | 1510  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 169.5  | 4.8       |
| 10°-20°   | 496.0  | 13.9      |
| 20°-30°   | 724.5  | 20.3      |
| 30°-40°   | 759.8  | 21.3      |
| 40°-50°   | 640.1  | 17.9      |
| 50°-60°   | 448.5  | 12.6      |
| 60°-70°   | 240.4  | 6.7       |
| 70°-80°   | 80.6   | 2.3       |
| 80°-90°   | 8.8    | 0.2       |
| 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°    | 1390.0 | 39.0      |
| 0°-40°    | 2149.8 | 60.2      |
| 0°-60°    | 3238.3 | 90.8      |
| 0°-90°    | 3568.1 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3568.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45°  | 90°  | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 1767 | 1767 | 1767 | 1767 | 1767 |      |
| 5°  | 1770 | 1777 | 1779 | 1779 | 1779 | 170  |
| 15° | 1820 | 1796 | 1743 | 1734 | 1743 | 513  |
| 25° | 1693 | 1621 | 1518 | 1545 | 1590 | 776  |
| 35° | 1310 | 1243 | 1166 | 1200 | 1224 | 813  |
| 45° | 841  | 826  | 812  | 833  | 841  | 655  |
| 55° | 522  | 505  | 486  | 496  | 505  | 470  |
| 65° | 302  | 275  | 235  | 194  | 201  | 301  |
| 75° | 139  | 108  | 57   | 36   | 36   | 147  |
| 85° | 19   | 10   | 2    | 2    | 2    | 26   |
| 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°    | 1767.4 | 1767.4 | 1767.4 | 1767.4 | 1767.4 | 1767.4 | 1767.4 | 1767.4 | 1767.4 |
| 2.5°  | 1755.4 | 1755.4 | 1760.2 | 1765.0 | 1769.8 | 1769.8 | 1772.2 | 1774.6 | 1772.2 |
| 5°    | 1769.8 | 1769.8 | 1777.0 | 1779.3 | 1779.3 | 1777.0 | 1779.3 | 1779.3 | 1779.3 |
| 7.5°  | 1791.3 | 1786.6 | 1789.0 | 1784.2 | 1779.3 | 1777.0 | 1774.6 | 1774.6 | 1774.6 |
| 10°   | 1798.5 | 1793.7 | 1789.0 | 1779.3 | 1767.4 | 1760.2 | 1757.8 | 1760.2 | 1760.2 |
| 12.5° | 1808.1 | 1803.4 | 1791.3 | 1772.2 | 1757.8 | 1745.8 | 1743.4 | 1748.2 | 1748.2 |
| 15°   | 1820.1 | 1815.2 | 1796.1 | 1765.0 | 1743.4 | 1731.4 | 1733.9 | 1738.7 | 1743.4 |
| 17.5° | 1820.1 | 1810.5 | 1779.3 | 1738.7 | 1712.3 | 1700.4 | 1709.9 | 1721.9 | 1729.0 |
| 20°   | 1791.3 | 1781.7 | 1738.7 | 1688.4 | 1657.2 | 1650.1 | 1666.9 | 1688.4 | 1695.5 |
| 22.5° | 1753.1 | 1733.9 | 1683.6 | 1623.7 | 1590.2 | 1590.2 | 1614.1 | 1640.5 | 1650.1 |
| 25°   | 1693.1 | 1678.7 | 1621.3 | 1551.9 | 1518.4 | 1516.0 | 1544.6 | 1580.5 | 1590.2 |
| 27.5° | 1626.1 | 1606.9 | 1544.6 | 1472.8 | 1436.9 | 1439.3 | 1470.4 | 1506.3 | 1516.0 |
| 30°   | 1530.4 | 1506.3 | 1451.3 | 1381.9 | 1348.3 | 1357.8 | 1389.0 | 1415.4 | 1427.3 |
| 32.5° | 1422.5 | 1401.0 | 1350.7 | 1286.0 | 1257.2 | 1266.9 | 1293.2 | 1317.2 | 1326.7 |
| 35°   | 1309.9 | 1286.0 | 1243.0 | 1185.4 | 1166.3 | 1175.9 | 1199.8 | 1219.0 | 1223.7 |
| 37.5° | 1183.1 | 1166.3 | 1135.1 | 1089.6 | 1075.3 | 1087.2 | 1106.4 | 1118.4 | 1123.1 |
| 40°   | 1065.7 | 1051.3 | 1025.0 | 991.5  | 986.6  | 996.3  | 1015.4 | 1022.5 | 1025.0 |
| 42.5° | 950.7  | 938.8  | 922.1  | 898.1  | 898.1  | 907.7  | 924.4  | 929.2  | 931.6  |
| 45°   | 840.6  | 833.4  | 826.2  | 807.1  | 811.8  | 823.9  | 833.4  | 840.6  | 840.6  |
| 47.5° | 744.8  | 747.2  | 737.7  | 723.3  | 728.0  | 740.0  | 747.2  | 754.4  | 754.4  |
| 50°   | 670.6  | 663.3  | 653.8  | 639.4  | 646.6  | 656.2  | 665.7  | 670.6  | 673.0  |
| 52.5° | 584.4  | 581.9  | 574.8  | 558.0  | 562.8  | 567.6  | 577.1  | 584.4  | 586.8  |
| 55°   | 522.1  | 514.8  | 505.3  | 486.2  | 486.2  | 490.9  | 495.7  | 500.6  | 505.3  |
| 57.5° | 462.2  | 455.0  | 440.6  | 419.1  | 416.7  | 416.7  | 414.4  | 419.1  | 426.3  |
| 60°   | 402.4  | 400.0  | 378.3  | 359.2  | 352.1  | 344.8  | 335.3  | 337.7  | 347.3  |
| 62.5° | 349.7  | 344.8  | 325.7  | 301.8  | 287.4  | 275.4  | 263.5  | 261.0  | 270.6  |
| 65°   | 301.8  | 297.0  | 275.4  | 251.5  | 234.7  | 213.2  | 193.9  | 193.9  | 201.2  |
| 67.5° | 258.6  | 249.1  | 230.0  | 203.6  | 182.0  | 155.6  | 136.5  | 141.3  | 143.6  |
| 70°   | 215.6  | 208.3  | 186.8  | 160.4  | 134.1  | 107.7  | 95.8   | 98.2   | 98.2   |
| 72.5° | 177.2  | 167.6  | 146.1  | 119.7  | 93.5   | 69.4   | 64.7   | 62.3   | 62.3   |
| 75°   | 138.9  | 129.4  | 107.7  | 81.4   | 57.4   | 40.7   | 35.9   | 35.9   | 35.9   |
| 77.5° | 100.6  | 93.5   | 74.2   | 50.3   | 31.2   | 19.1   | 16.8   | 14.4   | 14.4   |
| 80°   | 69.4   | 62.3   | 45.5   | 26.4   | 12.0   | 7.1    | 7.1    | 7.1    | 7.1    |
| 82.5° | 40.7   | 33.5   | 21.5   | 12.0   | 4.8    | 2.4    | 2.4    | 2.4    | 2.4    |
| 85°   | 19.1   | 14.4   | 9.6    | 4.8    | 2.4    | 2.4    | 2.4    | 2.4    | 2.4    |
| 87.5° | 2.4    | 2.4    | 2.4    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 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)