

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: P582170

Luminaire Tested: **HC630D010-HM63040835-61RWWC**

Issue Date: 9/16/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P582170  
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-HM63040835-61RWWC  
Description: HALO COMMERCIAL 6" ROUND, NEW CONSTRUCTION FRAME, WITH 6" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3395.9 lumens  
Efficiency: N/A  
Efficacy: 121.3 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

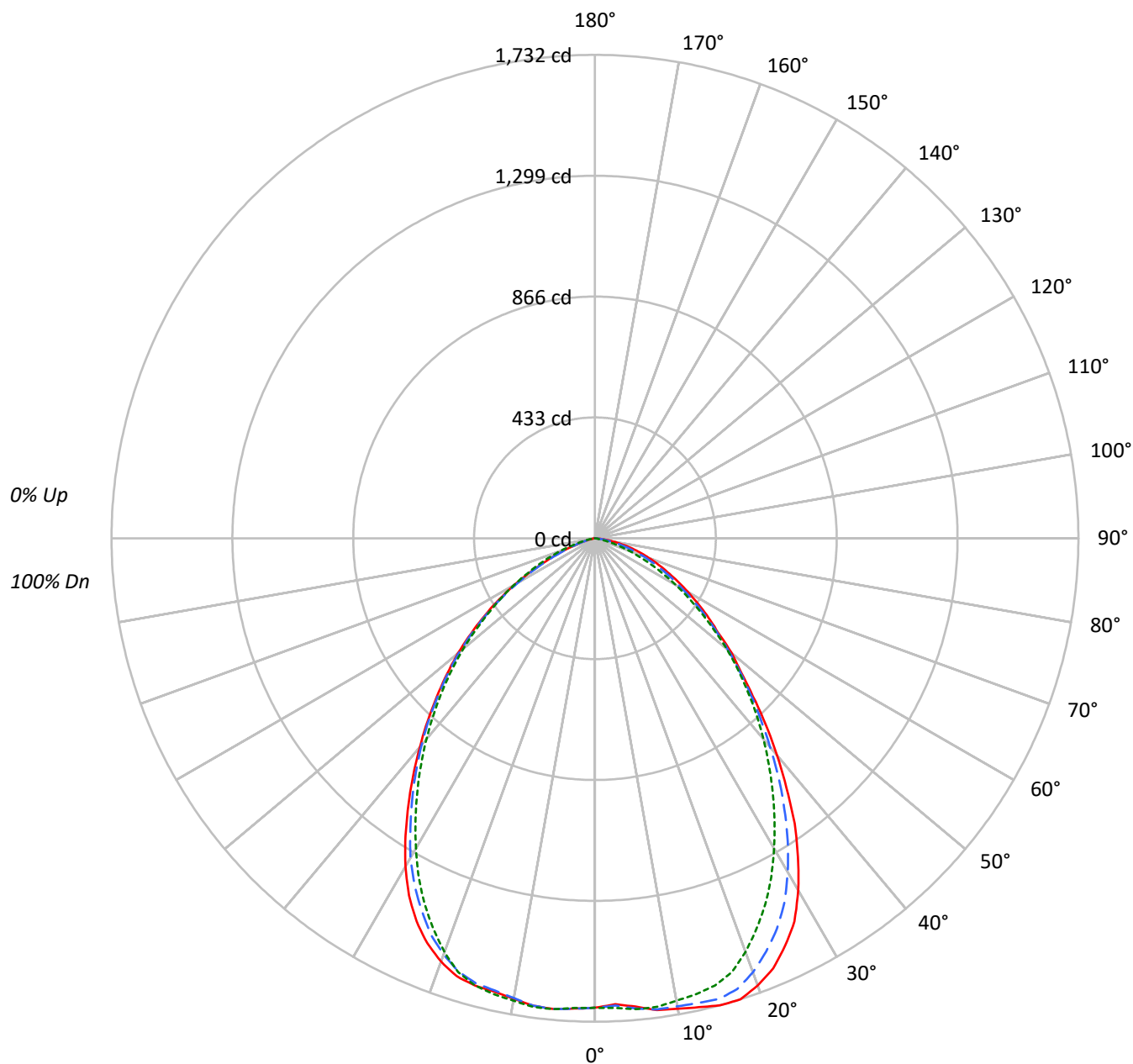
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

|     |     |     |     |     |  |     |     |     |     |  |     |     |     |  |     |     |     |  |     |     |     |
|-----|-----|-----|-----|-----|--|-----|-----|-----|-----|--|-----|-----|-----|--|-----|-----|-----|--|-----|-----|-----|
| RF  | 20  |     |     |     |  | 20  |     |     |     |  | 20  |     |     |  |     | 20  |     |  |     |     | 20  |
| RC  | 80  |     |     |     |  | 70  |     |     |     |  | 50  |     |     |  |     | 30  |     |  |     |     | 10  |
| RW  | 70  | 50  | 30  | 10  |  | 70  | 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 |
| 1   | 111 | 107 | 104 | 101 |  | 108 | 105 | 102 | 99  |  | 101 | 98  | 96  |  | 97  | 95  | 93  |  | 94  | 92  | 90  |
| 2   | 103 | 96  | 90  | 86  |  | 100 | 94  | 89  | 85  |  | 91  | 86  | 83  |  | 88  | 84  | 81  |  | 85  | 82  | 79  |
| 3   | 95  | 86  | 79  | 74  |  | 93  | 85  | 78  | 73  |  | 82  | 76  | 72  |  | 79  | 75  | 71  |  | 77  | 73  | 69  |
| 4   | 88  | 78  | 70  | 64  |  | 86  | 76  | 69  | 64  |  | 74  | 68  | 63  |  | 72  | 67  | 62  |  | 70  | 65  | 61  |
| 5   | 82  | 70  | 62  | 57  |  | 80  | 69  | 62  | 56  |  | 67  | 61  | 56  |  | 65  | 60  | 55  |  | 64  | 59  | 55  |
| 6   | 76  | 64  | 56  | 50  |  | 74  | 63  | 56  | 50  |  | 62  | 55  | 50  |  | 60  | 54  | 49  |  | 58  | 53  | 49  |
| 7   | 71  | 59  | 51  | 45  |  | 69  | 58  | 50  | 45  |  | 56  | 50  | 45  |  | 55  | 49  | 45  |  | 54  | 48  | 44  |
| 8   | 66  | 54  | 46  | 41  |  | 65  | 53  | 46  | 41  |  | 52  | 45  | 41  |  | 51  | 45  | 40  |  | 50  | 44  | 40  |
| 9   | 62  | 50  | 42  | 37  |  | 61  | 49  | 42  | 37  |  | 48  | 42  | 37  |  | 47  | 41  | 37  |  | 46  | 41  | 37  |
| 10  | 59  | 46  | 39  | 34  |  | 57  | 46  | 39  | 34  |  | 45  | 38  | 34  |  | 44  | 38  | 34  |  | 43  | 38  | 34  |

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

|     | 0°    | 90°   | 180°  |
|-----|-------|-------|-------|
| 0°  | 92213 | 92213 | 92213 |
| 5°  | 92686 | 93193 | 93193 |
| 10° | 95283 | 93636 | 93257 |
| 15° | 98315 | 94166 | 94166 |
| 20° | 99461 | 92011 | 94141 |
| 25° | 97475 | 87404 | 91548 |
| 30° | 92191 | 81228 | 85988 |
| 35° | 83440 | 74291 | 77945 |
| 40° | 72579 | 67204 | 69817 |
| 45° | 62022 | 59898 | 62022 |
| 50° | 54420 | 52484 | 54625 |
| 55° | 47492 | 44213 | 45972 |
| 60° | 41981 | 36740 | 36236 |
| 65° | 37241 | 28978 | 24828 |
| 70° | 32874 | 20452 | 14987 |
| 75° | 28001 | 11586 | 7244  |
| 80° | 20868 | 3599  | 2178  |
| 85° | 11448 | 1447  | 1447  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 161.4  | 4.8       |
| 10°-20°   | 472.1  | 13.9      |
| 20°-30°   | 689.5  | 20.3      |
| 30°-40°   | 723.1  | 21.3      |
| 40°-50°   | 609.2  | 17.9      |
| 50°-60°   | 426.8  | 12.6      |
| 60°-70°   | 228.8  | 6.7       |
| 70°-80°   | 76.7   | 2.3       |
| 80°-90°   | 8.4    | 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°    | 1322.9 | 39.0      |
| 0°-40°    | 2046.0 | 60.2      |
| 0°-60°    | 3082.0 | 90.8      |
| 0°-90°    | 3395.9 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3395.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45°  | 90°  | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 1682 | 1682 | 1682 | 1682 | 1682 |      |
| 5°  | 1684 | 1691 | 1694 | 1694 | 1694 | 162  |
| 15° | 1732 | 1709 | 1659 | 1650 | 1659 | 489  |
| 25° | 1612 | 1543 | 1445 | 1470 | 1514 | 738  |
| 35° | 1247 | 1183 | 1110 | 1142 | 1165 | 774  |
| 45° | 800  | 786  | 773  | 793  | 800  | 623  |
| 55° | 497  | 481  | 463  | 472  | 481  | 447  |
| 65° | 287  | 262  | 223  | 185  | 191  | 287  |
| 75° | 132  | 103  | 55   | 34   | 34   | 140  |
| 85° | 18   | 9    | 2    | 2    | 2    | 25   |
| 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°    | 1682.1 | 1682.1 | 1682.1 | 1682.1 | 1682.1 | 1682.1 | 1682.1 | 1682.1 | 1682.1 |
| 2.5°  | 1670.7 | 1670.7 | 1675.3 | 1679.8 | 1684.3 | 1684.3 | 1686.6 | 1689.0 | 1686.6 |
| 5°    | 1684.3 | 1684.3 | 1691.2 | 1693.5 | 1693.5 | 1691.2 | 1693.5 | 1693.5 | 1693.5 |
| 7.5°  | 1704.9 | 1700.3 | 1702.6 | 1698.0 | 1693.5 | 1691.2 | 1689.0 | 1689.0 | 1689.0 |
| 10°   | 1711.7 | 1707.2 | 1702.6 | 1693.5 | 1682.1 | 1675.3 | 1672.9 | 1675.3 | 1675.3 |
| 12.5° | 1720.8 | 1716.3 | 1704.9 | 1686.6 | 1672.9 | 1661.6 | 1659.2 | 1663.9 | 1663.9 |
| 15°   | 1732.3 | 1727.6 | 1709.4 | 1679.8 | 1659.2 | 1648.0 | 1650.2 | 1654.7 | 1659.2 |
| 17.5° | 1732.3 | 1723.1 | 1693.5 | 1654.7 | 1629.6 | 1618.2 | 1627.4 | 1638.8 | 1645.6 |
| 20°   | 1704.9 | 1695.8 | 1654.7 | 1606.8 | 1577.2 | 1570.4 | 1586.4 | 1606.8 | 1613.7 |
| 22.5° | 1668.4 | 1650.2 | 1602.3 | 1545.3 | 1513.5 | 1513.5 | 1536.2 | 1561.3 | 1570.4 |
| 25°   | 1611.5 | 1597.8 | 1543.1 | 1477.0 | 1445.0 | 1442.7 | 1470.1 | 1504.3 | 1513.5 |
| 27.5° | 1547.6 | 1529.4 | 1470.1 | 1401.7 | 1367.6 | 1369.8 | 1399.5 | 1433.7 | 1442.7 |
| 30°   | 1456.4 | 1433.7 | 1381.3 | 1315.2 | 1283.2 | 1292.3 | 1321.9 | 1347.0 | 1358.4 |
| 32.5° | 1353.9 | 1333.3 | 1285.5 | 1224.0 | 1196.6 | 1205.8 | 1230.7 | 1253.6 | 1262.7 |
| 35°   | 1246.8 | 1224.0 | 1182.9 | 1128.2 | 1110.1 | 1119.1 | 1141.9 | 1160.1 | 1164.7 |
| 37.5° | 1126.0 | 1110.1 | 1080.3 | 1037.0 | 1023.4 | 1034.8 | 1053.0 | 1064.4 | 1068.9 |
| 40°   | 1014.2 | 1000.5 | 975.6  | 943.6  | 939.1  | 948.1  | 966.4  | 973.2  | 975.6  |
| 42.5° | 904.8  | 893.4  | 877.5  | 854.8  | 854.8  | 863.8  | 879.7  | 884.4  | 886.6  |
| 45°   | 800.0  | 793.2  | 786.3  | 768.1  | 772.6  | 784.0  | 793.2  | 800.0  | 800.0  |
| 47.5° | 708.9  | 711.1  | 702.0  | 688.3  | 692.9  | 704.2  | 711.1  | 717.9  | 717.9  |
| 50°   | 638.1  | 631.4  | 622.2  | 608.5  | 615.4  | 624.5  | 633.6  | 638.1  | 640.5  |
| 52.5° | 556.1  | 553.8  | 547.1  | 531.0  | 535.6  | 540.2  | 549.3  | 556.1  | 558.5  |
| 55°   | 496.9  | 490.0  | 481.0  | 462.6  | 462.6  | 467.3  | 471.8  | 476.3  | 481.0  |
| 57.5° | 439.9  | 433.0  | 419.4  | 398.9  | 396.5  | 396.5  | 394.3  | 398.9  | 405.7  |
| 60°   | 382.9  | 380.6  | 360.1  | 341.8  | 335.1  | 328.2  | 319.1  | 321.4  | 330.5  |
| 62.5° | 332.8  | 328.2  | 310.0  | 287.1  | 273.5  | 262.1  | 250.8  | 248.4  | 257.5  |
| 65°   | 287.1  | 282.6  | 262.1  | 239.3  | 223.4  | 202.8  | 184.7  | 184.7  | 191.4  |
| 67.5° | 246.1  | 237.1  | 218.8  | 193.7  | 173.2  | 148.1  | 130.0  | 134.5  | 136.7  |
| 70°   | 205.1  | 198.3  | 177.8  | 152.7  | 127.6  | 102.6  | 91.2   | 93.5   | 93.5   |
| 72.5° | 168.7  | 159.6  | 139.0  | 113.9  | 88.9   | 66.1   | 61.6   | 59.2   | 59.2   |
| 75°   | 132.2  | 123.1  | 102.6  | 77.5   | 54.7   | 38.8   | 34.2   | 34.2   | 34.2   |
| 77.5° | 95.7   | 88.9   | 70.6   | 47.9   | 29.6   | 18.2   | 15.9   | 13.7   | 13.7   |
| 80°   | 66.1   | 59.2   | 43.3   | 25.1   | 11.4   | 6.9    | 6.9    | 6.9    | 6.9    |
| 82.5° | 38.8   | 31.9   | 20.6   | 11.4   | 4.5    | 2.3    | 2.3    | 2.3    | 2.3    |
| 85°   | 18.2   | 13.7   | 9.2    | 4.5    | 2.3    | 2.3    | 2.3    | 2.3    | 2.3    |
| 87.5° | 2.3    | 2.3    | 2.3    | 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)