

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: P592745

Luminaire Tested: **HCC4W30D010MW-HM43040850-41WWWB**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P592745  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-18)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HCC4W30D010MW-HM43040850-41WWWB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT  
CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

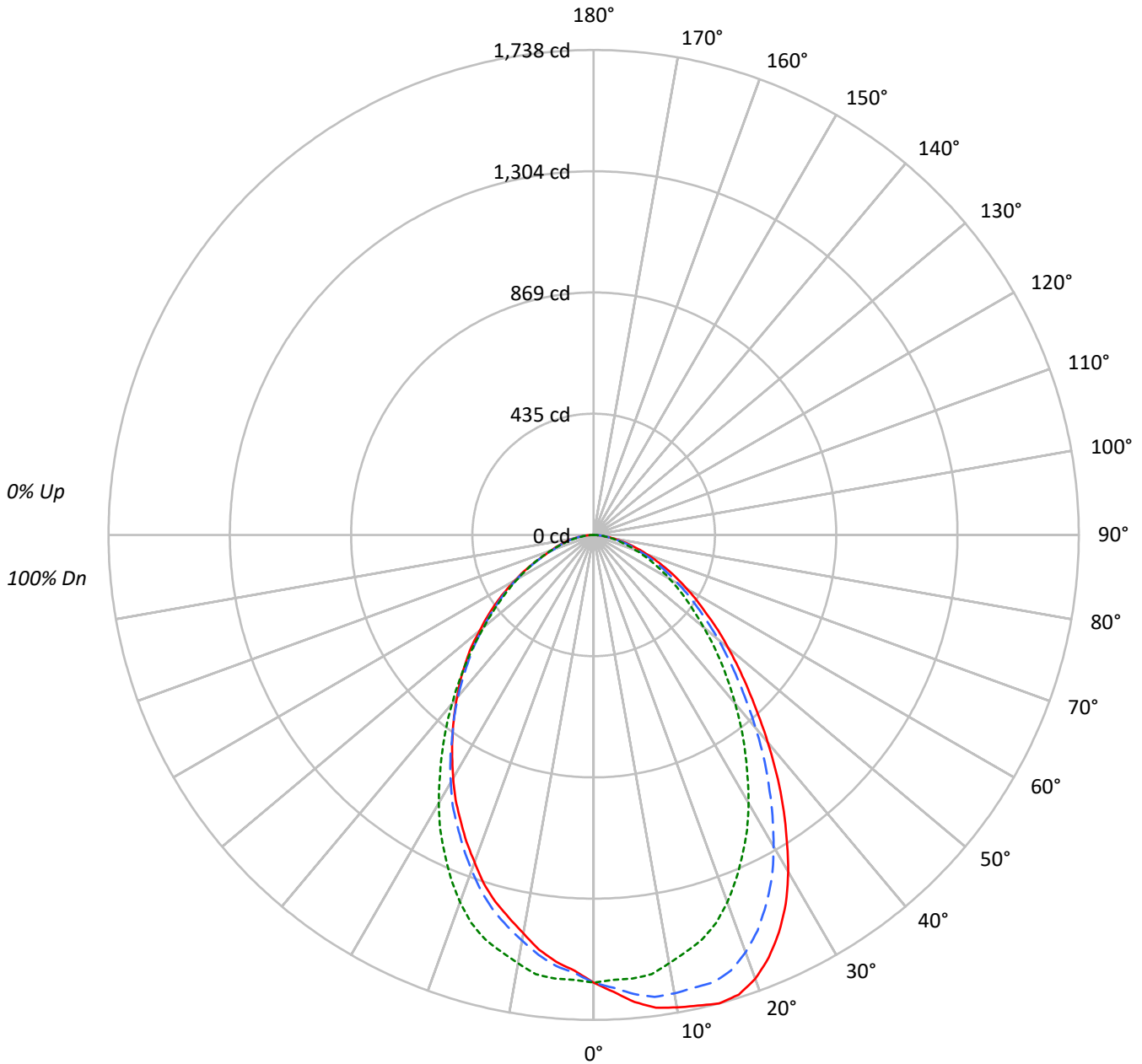
Lumens per Lamp: N/A  
Luminaire Lumens: 3110.9 lumens  
Efficiency: N/A  
Efficacy: 111.1 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.07 / 1.15  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 28  
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 |    |    |    |  |  |  |  |   |
| 1   | 110 | 106 | 103 | 99  | 108 | 104 | 101 | 98  | 100 | 97  | 95  | 96  | 94  | 92  | 92  | 91  | 89  | 87  |    |    |    |  |  |  |  |   |
| 2   | 102 | 95  | 89  | 84  | 99  | 93  | 87  | 83  | 89  | 85  | 81  | 86  | 82  | 79  | 83  | 80  | 77  | 75  |    |    |    |  |  |  |  |   |
| 3   | 94  | 85  | 77  | 72  | 92  | 83  | 76  | 71  | 80  | 75  | 70  | 78  | 73  | 69  | 75  | 71  | 68  | 66  |    |    |    |  |  |  |  |   |
| 4   | 87  | 76  | 68  | 62  | 85  | 75  | 68  | 62  | 72  | 66  | 61  | 70  | 65  | 60  | 68  | 63  | 60  | 58  |    |    |    |  |  |  |  |   |
| 5   | 81  | 69  | 61  | 55  | 79  | 68  | 60  | 55  | 66  | 59  | 54  | 64  | 58  | 53  | 62  | 57  | 53  | 51  |    |    |    |  |  |  |  |   |
| 6   | 75  | 63  | 55  | 49  | 73  | 62  | 54  | 49  | 60  | 53  | 48  | 59  | 53  | 48  | 57  | 52  | 47  | 46  |    |    |    |  |  |  |  |   |
| 7   | 70  | 58  | 50  | 44  | 68  | 57  | 49  | 44  | 55  | 48  | 43  | 54  | 48  | 43  | 53  | 47  | 43  | 41  |    |    |    |  |  |  |  |   |
| 8   | 65  | 53  | 45  | 40  | 64  | 52  | 45  | 40  | 51  | 44  | 39  | 50  | 44  | 39  | 49  | 43  | 39  | 37  |    |    |    |  |  |  |  |   |
| 9   | 61  | 49  | 41  | 36  | 60  | 48  | 41  | 36  | 47  | 41  | 36  | 46  | 40  | 36  | 45  | 40  | 36  | 34  |    |    |    |  |  |  |  |   |
| 10  | 58  | 45  | 38  | 33  | 57  | 45  | 38  | 33  | 44  | 38  | 33  | 43  | 37  | 33  | 42  | 37  | 33  | 31  |    |    |    |  |  |  |  |   |

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

|     | 0°     | 90°    | 180°   |
|-----|--------|--------|--------|
| 0°  | 197859 | 197859 | 197859 |
| 5°  | 208049 | 197599 | 190195 |
| 10° | 215352 | 195237 | 181573 |
| 15° | 221924 | 191686 | 173821 |
| 20° | 222187 | 183793 | 163801 |
| 25° | 213835 | 171781 | 153585 |
| 30° | 198558 | 158066 | 143424 |
| 35° | 177967 | 142326 | 132704 |
| 40° | 156170 | 126994 | 122678 |
| 45° | 136497 | 112425 | 113140 |
| 50° | 120527 | 98383  | 101952 |
| 55° | 106276 | 87223  | 91674  |
| 60° | 95001  | 77214  | 80249  |
| 65° | 84143  | 67916  | 67916  |
| 70° | 73498  | 57919  | 57919  |
| 75° | 62812  | 49087  | 54949  |
| 80° | 49722  | 43898  | 49722  |
| 85° | 32126  | 37787  | 46561  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 152.0  | 4.9       |
| 10°-20°   | 428.0  | 13.8      |
| 20°-30°   | 599.6  | 19.3      |
| 30°-40°   | 617.7  | 19.9      |
| 40°-50°   | 525.9  | 16.9      |
| 50°-60°   | 389.7  | 12.5      |
| 60°-70°   | 244.5  | 7.9       |
| 70°-80°   | 121.5  | 3.9       |
| 80°-90°   | 31.9   | 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°    | 1179.6 | 37.9      |
| 0°-40°    | 1797.3 | 57.8      |
| 0°-60°    | 2712.9 | 87.2      |
| 0°-90°    | 3110.9 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3110.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45°  | 90°  | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 1604 | 1604 | 1604 | 1604 | 1604 |      |
| 5°  | 1680 | 1652 | 1596 | 1550 | 1536 | 162  |
| 15° | 1738 | 1660 | 1501 | 1392 | 1361 | 489  |
| 25° | 1571 | 1462 | 1262 | 1153 | 1128 | 719  |
| 35° | 1182 | 1093 | 945  | 883  | 881  | 737  |
| 45° | 782  | 729  | 644  | 632  | 649  | 607  |
| 55° | 494  | 455  | 406  | 414  | 426  | 447  |
| 65° | 288  | 259  | 233  | 228  | 233  | 288  |
| 75° | 132  | 117  | 103  | 111  | 115  | 141  |
| 85° | 23   | 23   | 27   | 31   | 33   | 29   |
| 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°    | 1604.1 | 1604.1 | 1604.1 | 1604.1 | 1604.1 | 1604.1 | 1604.1 | 1604.1 | 1604.1 |
| 2.5°  | 1639.1 | 1632.9 | 1624.7 | 1610.2 | 1595.9 | 1583.5 | 1571.2 | 1565.0 | 1563.0 |
| 5°    | 1680.3 | 1668.0 | 1651.5 | 1624.7 | 1595.9 | 1571.2 | 1550.5 | 1540.3 | 1536.1 |
| 7.5°  | 1709.1 | 1696.7 | 1670.0 | 1628.8 | 1587.7 | 1550.5 | 1517.6 | 1503.2 | 1499.1 |
| 10°   | 1719.4 | 1705.0 | 1668.0 | 1612.4 | 1558.8 | 1513.4 | 1476.4 | 1457.9 | 1449.7 |
| 12.5° | 1727.6 | 1709.1 | 1661.8 | 1595.9 | 1529.9 | 1474.4 | 1435.3 | 1410.6 | 1404.4 |
| 15°   | 1737.9 | 1717.4 | 1659.7 | 1579.4 | 1501.1 | 1435.3 | 1392.0 | 1369.4 | 1361.2 |
| 17.5° | 1727.6 | 1705.0 | 1637.1 | 1546.5 | 1457.9 | 1385.9 | 1338.5 | 1317.8 | 1309.6 |
| 20°   | 1692.7 | 1668.0 | 1591.7 | 1494.9 | 1400.2 | 1326.1 | 1278.7 | 1258.2 | 1247.9 |
| 22.5° | 1639.1 | 1612.4 | 1534.1 | 1431.1 | 1334.3 | 1262.2 | 1217.0 | 1196.4 | 1190.2 |
| 25°   | 1571.2 | 1544.3 | 1462.0 | 1357.0 | 1262.2 | 1192.3 | 1153.2 | 1134.7 | 1128.5 |
| 27.5° | 1490.9 | 1464.0 | 1383.7 | 1280.8 | 1190.2 | 1124.3 | 1093.4 | 1074.9 | 1070.8 |
| 30°   | 1394.1 | 1367.2 | 1289.1 | 1194.3 | 1109.8 | 1048.1 | 1023.4 | 1009.0 | 1007.0 |
| 32.5° | 1286.9 | 1264.4 | 1192.3 | 1105.8 | 1025.5 | 974.0  | 955.4  | 945.2  | 943.1  |
| 35°   | 1181.9 | 1157.2 | 1093.4 | 1015.2 | 945.2  | 899.8  | 883.3  | 881.3  | 881.3  |
| 37.5° | 1074.9 | 1050.2 | 998.7  | 926.7  | 866.9  | 825.7  | 819.5  | 821.6  | 821.6  |
| 40°   | 969.9  | 947.2  | 901.9  | 842.2  | 788.7  | 757.8  | 755.8  | 759.8  | 761.9  |
| 42.5° | 871.0  | 852.5  | 811.3  | 759.8  | 714.5  | 689.8  | 691.9  | 700.1  | 706.2  |
| 45°   | 782.5  | 766.0  | 728.9  | 683.7  | 644.5  | 626.0  | 632.1  | 642.5  | 648.6  |
| 47.5° | 702.2  | 687.7  | 652.8  | 611.6  | 578.7  | 566.3  | 574.5  | 586.9  | 595.1  |
| 50°   | 628.1  | 615.7  | 582.7  | 539.5  | 512.7  | 504.4  | 514.8  | 527.1  | 531.3  |
| 52.5° | 562.2  | 549.8  | 514.8  | 477.7  | 457.2  | 453.0  | 463.3  | 473.6  | 479.7  |
| 55°   | 494.2  | 483.9  | 455.0  | 422.1  | 405.6  | 403.6  | 413.9  | 422.1  | 426.3  |
| 57.5° | 438.6  | 428.3  | 401.6  | 372.7  | 358.3  | 356.2  | 366.5  | 372.7  | 374.7  |
| 60°   | 385.1  | 374.7  | 350.0  | 323.3  | 313.0  | 313.0  | 319.2  | 323.3  | 325.3  |
| 62.5° | 335.7  | 325.3  | 302.6  | 280.1  | 271.8  | 271.8  | 271.8  | 273.9  | 280.1  |
| 65°   | 288.3  | 280.1  | 259.4  | 238.9  | 232.7  | 228.5  | 228.5  | 228.5  | 232.7  |
| 67.5° | 245.0  | 236.8  | 220.3  | 201.8  | 195.6  | 189.4  | 187.4  | 191.5  | 191.5  |
| 70°   | 203.8  | 197.6  | 181.2  | 166.8  | 160.6  | 154.4  | 152.4  | 160.6  | 160.6  |
| 72.5° | 166.8  | 160.6  | 150.4  | 135.9  | 129.7  | 127.7  | 131.8  | 135.9  | 138.0  |
| 75°   | 131.8  | 125.7  | 117.4  | 109.2  | 103.0  | 105.0  | 111.2  | 113.3  | 115.3  |
| 77.5° | 98.8   | 96.8   | 88.5   | 82.3   | 82.3   | 84.4   | 88.5   | 92.6   | 94.8   |
| 80°   | 70.0   | 67.9   | 63.8   | 59.7   | 61.8   | 65.9   | 67.9   | 72.1   | 70.0   |
| 82.5° | 43.2   | 43.2   | 41.2   | 41.2   | 43.2   | 47.4   | 49.4   | 51.4   | 53.6   |
| 85°   | 22.7   | 22.7   | 22.7   | 24.7   | 26.7   | 28.9   | 30.9   | 32.9   | 32.9   |
| 87.5° | 6.2    | 8.2    | 8.2    | 10.3   | 12.4   | 12.4   | 14.4   | 14.4   | 14.4   |
| 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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Scaled Data Report





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Scaled Data Report



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

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