

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: P580645

Luminaire Tested: **HCC4S40D010MW-HM43040930-41WDW**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580645  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-9)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HCC4S40D010MW-HM43040930-41WDW  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WIDE DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

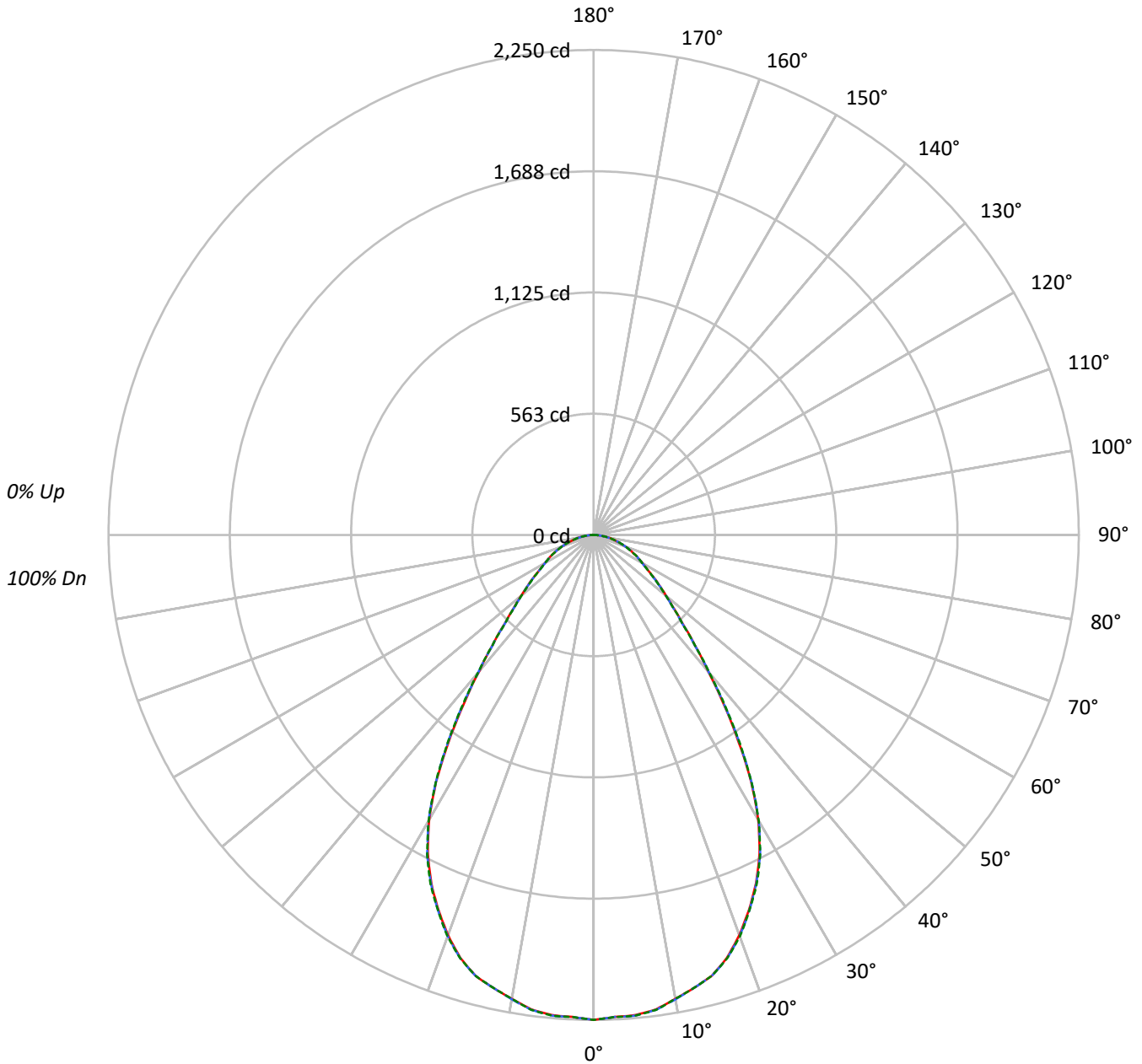
Lumens per Lamp: N/A  
Luminaire Lumens: 3471.9 lumens  
Efficiency: N/A  
Efficacy: 84.7 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 1.07 / 1.04  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 41  
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   | 111 | 107 | 104 | 101 | 108 | 105 | 102 | 99  | 101 | 98  | 96  | 97  | 95  | 93  | 94  | 92  | 90  | 89  |    |    |    |  |  |  |  |   |
| 2   | 103 | 97  | 91  | 87  | 101 | 95  | 90  | 86  | 91  | 87  | 84  | 88  | 85  | 82  | 85  | 83  | 80  | 78  |    |    |    |  |  |  |  |   |
| 3   | 96  | 87  | 81  | 76  | 94  | 86  | 80  | 75  | 83  | 78  | 74  | 81  | 76  | 72  | 78  | 74  | 71  | 69  |    |    |    |  |  |  |  |   |
| 4   | 90  | 80  | 72  | 67  | 87  | 78  | 72  | 66  | 76  | 70  | 66  | 74  | 69  | 65  | 72  | 68  | 64  | 62  |    |    |    |  |  |  |  |   |
| 5   | 84  | 73  | 65  | 60  | 82  | 72  | 65  | 59  | 70  | 64  | 59  | 68  | 63  | 58  | 66  | 62  | 58  | 56  |    |    |    |  |  |  |  |   |
| 6   | 78  | 67  | 59  | 54  | 77  | 66  | 59  | 54  | 64  | 58  | 53  | 63  | 57  | 53  | 61  | 56  | 53  | 51  |    |    |    |  |  |  |  |   |
| 7   | 73  | 62  | 54  | 49  | 72  | 61  | 54  | 49  | 60  | 53  | 49  | 58  | 53  | 48  | 57  | 52  | 48  | 46  |    |    |    |  |  |  |  |   |
| 8   | 69  | 57  | 50  | 45  | 68  | 57  | 50  | 45  | 55  | 49  | 45  | 54  | 49  | 44  | 53  | 48  | 44  | 42  |    |    |    |  |  |  |  |   |
| 9   | 65  | 53  | 46  | 41  | 64  | 53  | 46  | 41  | 52  | 45  | 41  | 51  | 45  | 41  | 50  | 45  | 41  | 39  |    |    |    |  |  |  |  |   |
| 10  | 61  | 50  | 43  | 38  | 60  | 49  | 43  | 38  | 48  | 42  | 38  | 48  | 42  | 38  | 47  | 42  | 38  | 36  |    |    |    |  |  |  |  |   |

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

|     | 0°     | 45°    | 90°    |
|-----|--------|--------|--------|
| 0°  | 277565 | 277565 | 277565 |
| 5°  | 276891 | 277176 | 277176 |
| 10° | 273680 | 273968 | 273680 |
| 15° | 270398 | 270398 | 270398 |
| 20° | 259294 | 259898 | 260213 |
| 25° | 242538 | 242851 | 243477 |
| 30° | 217316 | 217985 | 217985 |
| 35° | 176446 | 177847 | 178178 |
| 40° | 133160 | 133917 | 134271 |
| 45° | 101993 | 101592 | 101592 |
| 50° | 84049  | 83588  | 83588  |
| 55° | 72127  | 71654  | 71654  |
| 60° | 64362  | 63794  | 63794  |
| 65° | 60503  | 60503  | 60503  |
| 70° | 56260  | 56260  | 56260  |
| 75° | 51088  | 52185  | 51088  |
| 80° | 48018  | 46313  | 48018  |
| 85° | 39485  | 39485  | 39485  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 212.0  | 6.1       |
| 10°-20°   | 593.3  | 17.1      |
| 20°-30°   | 815.3  | 23.5      |
| 30°-40°   | 733.1  | 21.1      |
| 40°-50°   | 463.2  | 13.3      |
| 50°-60°   | 302.4  | 8.7       |
| 60°-70°   | 204.9  | 5.9       |
| 70°-80°   | 115.3  | 3.3       |
| 80°-90°   | 32.4   | 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°    | 1620.6 | 46.7      |
| 0°-40°    | 2353.7 | 67.8      |
| 0°-60°    | 3119.3 | 89.8      |
| 0°-90°    | 3471.9 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3471.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2250 | 2250  | 2250 | 2250  | 2250 |      |
| 5°  | 2236 | 2236  | 2239 | 2239  | 2239 | 212  |
| 15° | 2118 | 2118  | 2118 | 2118  | 2118 | 593  |
| 25° | 1782 | 1784  | 1784 | 1789  | 1789 | 813  |
| 35° | 1172 | 1176  | 1181 | 1186  | 1183 | 730  |
| 45° | 585  | 582   | 582  | 582   | 582  | 464  |
| 55° | 335  | 335   | 333  | 335   | 333  | 304  |
| 65° | 207  | 207   | 207  | 207   | 207  | 205  |
| 75° | 107  | 110   | 110  | 110   | 107  | 115  |
| 85° | 28   | 28    | 28   | 28    | 28   | 33   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2250.3 | 2250.3 | 2250.3 | 2250.3 | 2250.3 |
| 2.5°  | 2238.6 | 2238.6 | 2238.6 | 2238.6 | 2238.6 |
| 5°    | 2236.3 | 2236.3 | 2238.6 | 2238.6 | 2238.6 |
| 7.5°  | 2220.0 | 2222.4 | 2222.4 | 2222.4 | 2222.4 |
| 10°   | 2185.1 | 2185.1 | 2187.4 | 2187.4 | 2185.1 |
| 12.5° | 2152.4 | 2152.4 | 2152.4 | 2154.8 | 2152.4 |
| 15°   | 2117.5 | 2117.5 | 2117.5 | 2117.5 | 2117.5 |
| 17.5° | 2056.9 | 2059.3 | 2059.3 | 2059.3 | 2059.3 |
| 20°   | 1975.4 | 1980.0 | 1980.0 | 1982.4 | 1982.4 |
| 22.5° | 1882.3 | 1884.5 | 1886.9 | 1889.2 | 1886.9 |
| 25°   | 1782.1 | 1784.4 | 1784.4 | 1789.0 | 1789.0 |
| 27.5° | 1665.6 | 1667.9 | 1672.5 | 1672.5 | 1672.5 |
| 30°   | 1525.8 | 1528.1 | 1530.5 | 1530.5 | 1530.5 |
| 32.5° | 1360.4 | 1360.4 | 1365.0 | 1367.4 | 1365.0 |
| 35°   | 1171.8 | 1176.4 | 1181.1 | 1185.7 | 1183.3 |
| 37.5° | 992.3  | 997.0  | 999.4  | 999.4  | 1001.7 |
| 40°   | 827.0  | 831.7  | 831.7  | 836.3  | 833.9  |
| 42.5° | 696.5  | 694.2  | 694.2  | 698.8  | 696.5  |
| 45°   | 584.7  | 582.4  | 582.4  | 582.4  | 582.4  |
| 47.5° | 503.2  | 500.9  | 500.9  | 500.9  | 500.9  |
| 50°   | 438.0  | 435.6  | 435.6  | 435.6  | 435.6  |
| 52.5° | 384.4  | 382.0  | 382.0  | 382.0  | 379.7  |
| 55°   | 335.4  | 335.4  | 333.2  | 335.4  | 333.2  |
| 57.5° | 291.2  | 291.2  | 291.2  | 291.2  | 291.2  |
| 60°   | 260.9  | 258.6  | 258.6  | 258.6  | 258.6  |
| 62.5° | 232.9  | 232.9  | 232.9  | 232.9  | 232.9  |
| 65°   | 207.3  | 207.3  | 207.3  | 207.3  | 207.3  |
| 67.5° | 181.7  | 179.4  | 181.7  | 181.7  | 179.4  |
| 70°   | 156.0  | 153.8  | 156.0  | 156.0  | 156.0  |
| 72.5° | 130.5  | 130.5  | 130.5  | 132.7  | 130.5  |
| 75°   | 107.2  | 109.5  | 109.5  | 109.5  | 107.2  |
| 77.5° | 86.2   | 88.6   | 86.2   | 86.2   | 86.2   |
| 80°   | 67.6   | 65.2   | 65.2   | 65.2   | 67.6   |
| 82.5° | 46.6   | 46.6   | 46.6   | 46.6   | 46.6   |
| 85°   | 27.9   | 27.9   | 27.9   | 27.9   | 27.9   |
| 87.5° | 11.7   | 11.7   | 11.7   | 11.7   | 11.7   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

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Scaled Data Report



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

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