

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: P592974

Luminaire Tested: **HC460D010-HM44560950-41WDW**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P592974
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: HC460D010-HM44560950-41WDW
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WIDE DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4450.0 lumens
Efficiency: N/A
Efficacy: 80.9 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

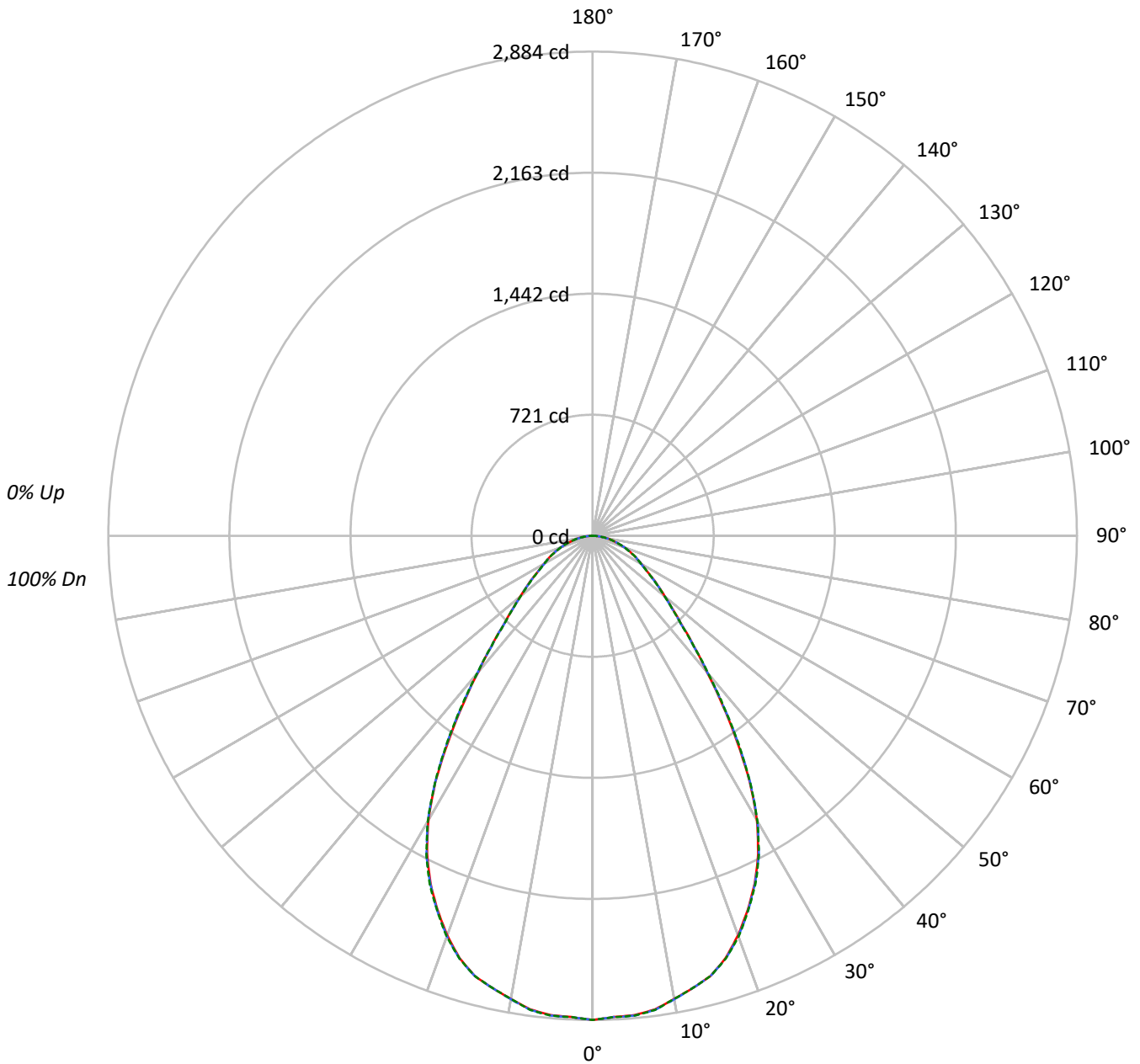
Input Watts (W): 55
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | | | 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 | 100 | 100 |
| 1 | 111 | 107 | 104 | 101 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 94 | 92 | 90 | 89 | 89 | 89 | 89 |
| 2 | 103 | 97 | 91 | 87 | 101 | 95 | 90 | 86 | 91 | 87 | 84 | 88 | 85 | 82 | 85 | 83 | 80 | 78 | 78 | 78 | 78 |
| 3 | 96 | 87 | 81 | 76 | 94 | 86 | 80 | 75 | 83 | 78 | 74 | 81 | 76 | 72 | 78 | 74 | 71 | 69 | 69 | 69 | 69 |
| 4 | 90 | 80 | 72 | 67 | 87 | 78 | 72 | 66 | 76 | 70 | 66 | 74 | 69 | 65 | 72 | 68 | 64 | 62 | 62 | 62 | 62 |
| 5 | 84 | 73 | 65 | 60 | 82 | 72 | 65 | 59 | 70 | 64 | 59 | 68 | 63 | 58 | 66 | 62 | 58 | 56 | 56 | 56 | 56 |
| 6 | 78 | 67 | 59 | 54 | 77 | 66 | 59 | 54 | 64 | 58 | 53 | 63 | 57 | 53 | 61 | 56 | 53 | 51 | 51 | 51 | 51 |
| 7 | 73 | 62 | 54 | 49 | 72 | 61 | 54 | 49 | 60 | 53 | 49 | 58 | 53 | 48 | 57 | 52 | 48 | 46 | 46 | 46 | 46 |
| 8 | 69 | 57 | 50 | 45 | 68 | 57 | 50 | 45 | 55 | 49 | 45 | 54 | 49 | 44 | 53 | 48 | 44 | 42 | 42 | 42 | 42 |
| 9 | 65 | 53 | 46 | 41 | 64 | 53 | 46 | 41 | 52 | 45 | 41 | 51 | 45 | 41 | 50 | 45 | 41 | 39 | 39 | 39 | 39 |
| 10 | 61 | 50 | 43 | 38 | 60 | 49 | 43 | 38 | 48 | 42 | 38 | 48 | 42 | 38 | 47 | 42 | 38 | 36 | 36 | 36 | 36 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|--------|--------|--------|
| 0° | 355753 | 355753 | 355753 |
| 5° | 354884 | 355268 | 355268 |
| 10° | 350771 | 351134 | 350771 |
| 15° | 346569 | 346569 | 346569 |
| 20° | 332341 | 333129 | 333510 |
| 25° | 310859 | 311253 | 312070 |
| 30° | 278531 | 279385 | 279385 |
| 35° | 226137 | 227944 | 228380 |
| 40° | 170661 | 171611 | 172110 |
| 45° | 130723 | 130200 | 130200 |
| 50° | 107709 | 107152 | 107152 |
| 55° | 92470 | 91803 | 91803 |
| 60° | 82518 | 81753 | 81753 |
| 65° | 77577 | 77577 | 77577 |
| 70° | 72128 | 72128 | 72128 |
| 75° | 65481 | 66863 | 65481 |
| 80° | 61514 | 59383 | 61514 |
| 85° | 50807 | 50807 | 50807 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 271.7 | 6.1 |
| 10°-20° | 760.5 | 17.1 |
| 20°-30° | 1045.0 | 23.5 |
| 30°-40° | 939.6 | 21.1 |
| 40°-50° | 593.7 | 13.3 |
| 50°-60° | 387.6 | 8.7 |
| 60°-70° | 262.6 | 5.9 |
| 70°-80° | 147.8 | 3.3 |
| 80°-90° | 41.5 | 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° | 2077.2 | 46.7 |
| 0°-40° | 3016.7 | 67.8 |
| 0°-60° | 3998.1 | 89.8 |
| 0°-90° | 4450.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4450.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2884 | 2884 | 2884 | 2884 | 2884 | |
| 5° | 2866 | 2866 | 2869 | 2869 | 2869 | 272 |
| 15° | 2714 | 2714 | 2714 | 2714 | 2714 | 760 |
| 25° | 2284 | 2287 | 2287 | 2293 | 2293 | 1042 |
| 35° | 1502 | 1508 | 1514 | 1520 | 1517 | 935 |
| 45° | 749 | 746 | 746 | 746 | 746 | 594 |
| 55° | 430 | 430 | 427 | 430 | 427 | 389 |
| 65° | 266 | 266 | 266 | 266 | 266 | 263 |
| 75° | 137 | 140 | 140 | 140 | 137 | 147 |
| 85° | 36 | 36 | 36 | 36 | 36 | 42 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2884.2 | 2884.2 | 2884.2 | 2884.2 | 2884.2 |
| 2.5° | 2869.3 | 2869.3 | 2869.3 | 2869.3 | 2869.3 |
| 5° | 2866.2 | 2866.2 | 2869.3 | 2869.3 | 2869.3 |
| 7.5° | 2845.4 | 2848.3 | 2848.3 | 2848.3 | 2848.3 |
| 10° | 2800.6 | 2800.6 | 2803.5 | 2803.5 | 2800.6 |
| 12.5° | 2758.7 | 2758.7 | 2758.7 | 2761.8 | 2758.7 |
| 15° | 2714.0 | 2714.0 | 2714.0 | 2714.0 | 2714.0 |
| 17.5° | 2636.4 | 2639.3 | 2639.3 | 2639.3 | 2639.3 |
| 20° | 2531.9 | 2537.9 | 2537.9 | 2540.8 | 2540.8 |
| 22.5° | 2412.5 | 2415.4 | 2418.4 | 2421.4 | 2418.4 |
| 25° | 2284.1 | 2287.0 | 2287.0 | 2293.0 | 2293.0 |
| 27.5° | 2134.7 | 2137.8 | 2143.8 | 2143.8 | 2143.8 |
| 30° | 1955.6 | 1958.7 | 1961.6 | 1961.6 | 1961.6 |
| 32.5° | 1743.7 | 1743.7 | 1749.6 | 1752.6 | 1749.6 |
| 35° | 1501.8 | 1507.8 | 1513.8 | 1519.8 | 1516.7 |
| 37.5° | 1271.9 | 1277.9 | 1280.8 | 1280.8 | 1283.9 |
| 40° | 1059.9 | 1065.8 | 1065.8 | 1071.8 | 1068.9 |
| 42.5° | 892.7 | 889.8 | 889.8 | 895.7 | 892.7 |
| 45° | 749.4 | 746.4 | 746.4 | 746.4 | 746.4 |
| 47.5° | 644.9 | 641.9 | 641.9 | 641.9 | 641.9 |
| 50° | 561.3 | 558.4 | 558.4 | 558.4 | 558.4 |
| 52.5° | 492.6 | 489.7 | 489.7 | 489.7 | 486.6 |
| 55° | 430.0 | 430.0 | 426.9 | 430.0 | 426.9 |
| 57.5° | 373.3 | 373.3 | 373.3 | 373.3 | 373.3 |
| 60° | 334.5 | 331.4 | 331.4 | 331.4 | 331.4 |
| 62.5° | 298.6 | 298.6 | 298.6 | 298.6 | 298.6 |
| 65° | 265.8 | 265.8 | 265.8 | 265.8 | 265.8 |
| 67.5° | 232.9 | 229.9 | 232.9 | 232.9 | 229.9 |
| 70° | 200.0 | 197.1 | 200.0 | 200.0 | 200.0 |
| 72.5° | 167.2 | 167.2 | 167.2 | 170.2 | 167.2 |
| 75° | 137.4 | 140.3 | 140.3 | 140.3 | 137.4 |
| 77.5° | 110.4 | 113.5 | 110.4 | 110.4 | 110.4 |
| 80° | 86.6 | 83.6 | 83.6 | 83.6 | 86.6 |
| 82.5° | 59.7 | 59.7 | 59.7 | 59.7 | 59.7 |
| 85° | 35.9 | 35.9 | 35.9 | 35.9 | 35.9 |
| 87.5° | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



Report Generated By 670245859 / DESKTOP-HRDQ47P





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







(END OF REPORT)