

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: P581365

Luminaire Tested: **HC460D010-HM44560930-41WDW**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P581365
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-HM44560930-41WDW
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WIDE DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4308.7 lumens
Efficiency: N/A
Efficacy: 78.3 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

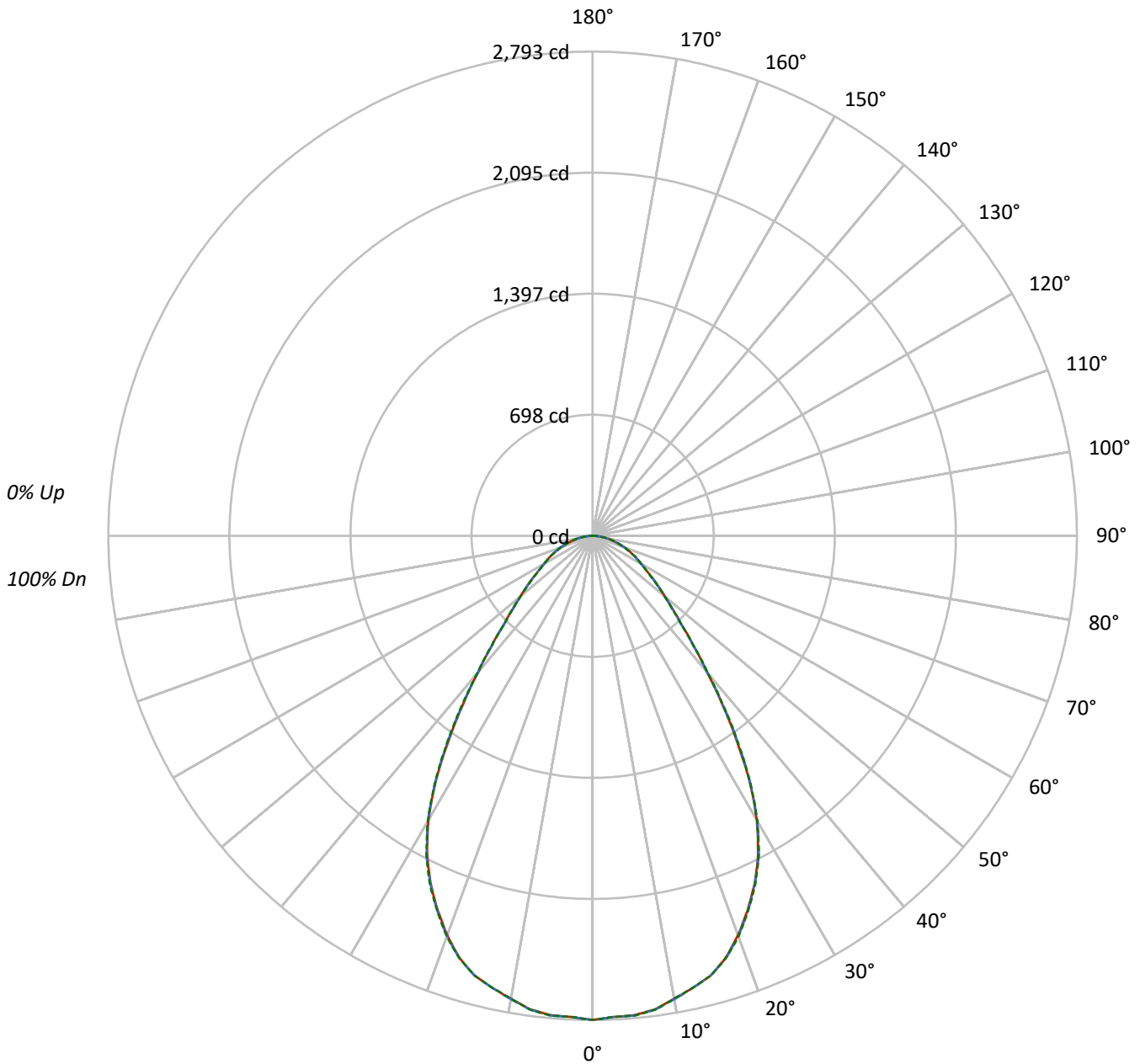
Input Watts (W): 55
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 344455 | 344455 | 344455 |
| 5° | 343629 | 343988 | 343988 |
| 10° | 339636 | 339987 | 339636 |
| 15° | 335574 | 335574 | 335574 |
| 20° | 321788 | 322536 | 322930 |
| 25° | 300992 | 301386 | 302162 |
| 30° | 269700 | 270512 | 270512 |
| 35° | 218954 | 220701 | 221123 |
| 40° | 165251 | 166169 | 166636 |
| 45° | 126572 | 126066 | 126066 |
| 50° | 104293 | 103756 | 103756 |
| 55° | 89524 | 88900 | 88900 |
| 60° | 79854 | 79163 | 79163 |
| 65° | 75096 | 75096 | 75096 |
| 70° | 69856 | 69856 | 69856 |
| 75° | 63384 | 64766 | 63384 |
| 80° | 59525 | 57536 | 59525 |
| 85° | 49109 | 49109 | 49109 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 263.1 | 6.1 |
| 10°-20° | 736.3 | 17.1 |
| 20°-30° | 1011.8 | 23.5 |
| 30°-40° | 909.8 | 21.1 |
| 40°-50° | 574.8 | 13.3 |
| 50°-60° | 375.3 | 8.7 |
| 60°-70° | 254.3 | 5.9 |
| 70°-80° | 143.1 | 3.3 |
| 80°-90° | 40.2 | 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° | 2011.2 | 46.7 |
| 0°-40° | 2921.0 | 67.8 |
| 0°-60° | 3871.1 | 89.8 |
| 0°-90° | 4308.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4308.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2793 | 2793 | 2793 | 2793 | 2793 | |
| 5° | 2775 | 2775 | 2778 | 2778 | 2778 | 263 |
| 15° | 2628 | 2628 | 2628 | 2628 | 2628 | 736 |
| 25° | 2212 | 2214 | 2214 | 2220 | 2220 | 1009 |
| 35° | 1454 | 1460 | 1466 | 1472 | 1468 | 905 |
| 45° | 726 | 723 | 723 | 723 | 723 | 576 |
| 55° | 416 | 416 | 413 | 416 | 413 | 377 |
| 65° | 257 | 257 | 257 | 257 | 257 | 255 |
| 75° | 133 | 136 | 136 | 136 | 133 | 143 |
| 85° | 35 | 35 | 35 | 35 | 35 | 41 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2792.6 | 2792.6 | 2792.6 | 2792.6 | 2792.6 |
| 2.5° | 2778.2 | 2778.2 | 2778.2 | 2778.2 | 2778.2 |
| 5° | 2775.3 | 2775.3 | 2778.2 | 2778.2 | 2778.2 |
| 7.5° | 2755.0 | 2758.0 | 2758.0 | 2758.0 | 2758.0 |
| 10° | 2711.7 | 2711.7 | 2714.5 | 2714.5 | 2711.7 |
| 12.5° | 2671.2 | 2671.2 | 2671.2 | 2674.1 | 2671.2 |
| 15° | 2627.9 | 2627.9 | 2627.9 | 2627.9 | 2627.9 |
| 17.5° | 2552.7 | 2555.6 | 2555.6 | 2555.6 | 2555.6 |
| 20° | 2451.5 | 2457.2 | 2457.2 | 2460.2 | 2460.2 |
| 22.5° | 2335.9 | 2338.8 | 2341.6 | 2344.5 | 2341.6 |
| 25° | 2211.6 | 2214.5 | 2214.5 | 2220.2 | 2220.2 |
| 27.5° | 2067.1 | 2069.9 | 2075.6 | 2075.6 | 2075.6 |
| 30° | 1893.6 | 1896.4 | 1899.3 | 1899.3 | 1899.3 |
| 32.5° | 1688.3 | 1688.3 | 1694.0 | 1697.0 | 1694.0 |
| 35° | 1454.1 | 1460.0 | 1465.7 | 1471.5 | 1468.5 |
| 37.5° | 1231.6 | 1237.3 | 1240.2 | 1240.2 | 1243.1 |
| 40° | 1026.3 | 1032.0 | 1032.0 | 1037.9 | 1034.9 |
| 42.5° | 864.4 | 861.5 | 861.5 | 867.3 | 864.4 |
| 45° | 725.6 | 722.7 | 722.7 | 722.7 | 722.7 |
| 47.5° | 624.5 | 621.5 | 621.5 | 621.5 | 621.5 |
| 50° | 543.5 | 540.7 | 540.7 | 540.7 | 540.7 |
| 52.5° | 477.0 | 474.1 | 474.1 | 474.1 | 471.2 |
| 55° | 416.3 | 416.3 | 413.4 | 416.3 | 413.4 |
| 57.5° | 361.4 | 361.4 | 361.4 | 361.4 | 361.4 |
| 60° | 323.7 | 320.9 | 320.9 | 320.9 | 320.9 |
| 62.5° | 289.1 | 289.1 | 289.1 | 289.1 | 289.1 |
| 65° | 257.3 | 257.3 | 257.3 | 257.3 | 257.3 |
| 67.5° | 225.5 | 222.6 | 225.5 | 225.5 | 222.6 |
| 70° | 193.7 | 190.7 | 193.7 | 193.7 | 193.7 |
| 72.5° | 161.9 | 161.9 | 161.9 | 164.8 | 161.9 |
| 75° | 133.0 | 135.9 | 135.9 | 135.9 | 133.0 |
| 77.5° | 106.9 | 109.9 | 106.9 | 106.9 | 106.9 |
| 80° | 83.8 | 81.0 | 81.0 | 81.0 | 83.8 |
| 82.5° | 57.9 | 57.9 | 57.9 | 57.9 | 57.9 |
| 85° | 34.7 | 34.7 | 34.7 | 34.7 | 34.7 |
| 87.5° | 14.4 | 14.4 | 14.4 | 14.4 | 14.4 |
| 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)