

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: P580051

Luminaire Tested: **HC420D010-HM40525927-41WDW**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580051
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: HC420D010-HM40525927-41WDW
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WIDE DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1541.7 lumens
Efficiency: N/A
Efficacy: 77.1 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

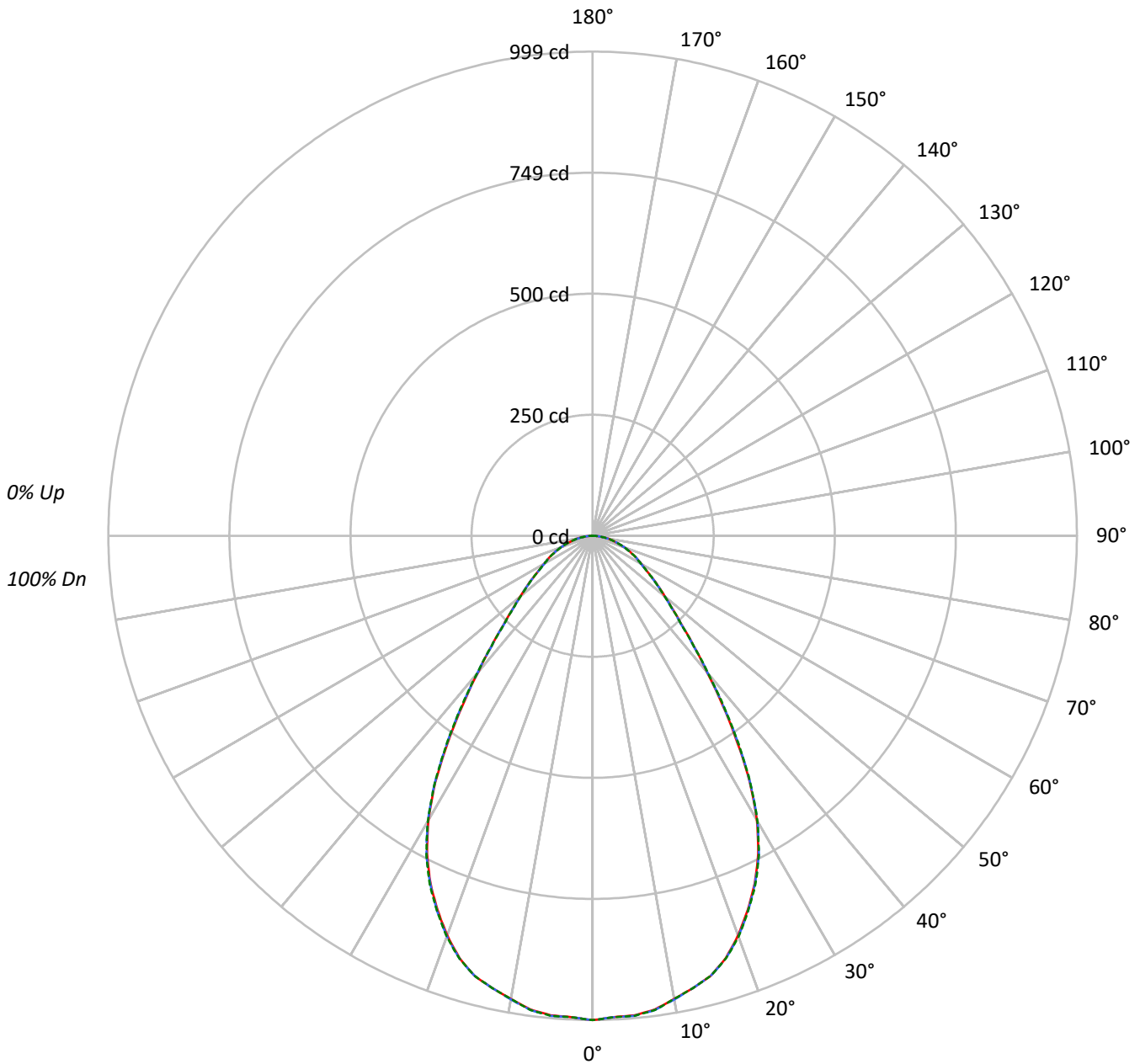
Input Watts (W): 20
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|---|--|--|--|--|--|--|----|--|--|--|--|--|--|--|--|---|
| RF | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | |
| RC | 80 | | | | | | | | | 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° | 123259 | 123259 | 123259 |
| 5° | 122950 | 123086 | 123086 |
| 10° | 121516 | 121654 | 121516 |
| 15° | 120073 | 120073 | 120073 |
| 20° | 115130 | 115405 | 115550 |
| 25° | 107693 | 107830 | 108115 |
| 30° | 96494 | 96794 | 96794 |
| 35° | 78345 | 78963 | 79113 |
| 40° | 59125 | 59463 | 59640 |
| 45° | 45301 | 45109 | 45109 |
| 50° | 37304 | 37112 | 37112 |
| 55° | 32042 | 31827 | 31827 |
| 60° | 28567 | 28320 | 28320 |
| 65° | 26880 | 26880 | 26880 |
| 70° | 24992 | 24992 | 24992 |
| 75° | 22685 | 23161 | 22685 |
| 80° | 21381 | 20599 | 21381 |
| 85° | 17549 | 17549 | 17549 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 94.1 | 6.1 |
| 10°-20° | 263.5 | 17.1 |
| 20°-30° | 362.0 | 23.5 |
| 30°-40° | 325.5 | 21.1 |
| 40°-50° | 205.7 | 13.3 |
| 50°-60° | 134.3 | 8.7 |
| 60°-70° | 91.0 | 5.9 |
| 70°-80° | 51.2 | 3.3 |
| 80°-90° | 14.4 | 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° | 719.6 | 46.7 |
| 0°-40° | 1045.2 | 67.8 |
| 0°-60° | 1385.1 | 89.8 |
| 0°-90° | 1541.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1541.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 999 | 999 | 999 | 999 | 999 | |
| 5° | 993 | 993 | 994 | 994 | 994 | 94 |
| 15° | 940 | 940 | 940 | 940 | 940 | 263 |
| 25° | 791 | 792 | 792 | 794 | 794 | 361 |
| 35° | 520 | 522 | 524 | 526 | 525 | 324 |
| 45° | 260 | 259 | 259 | 259 | 259 | 206 |
| 55° | 149 | 149 | 148 | 149 | 148 | 135 |
| 65° | 92 | 92 | 92 | 92 | 92 | 91 |
| 75° | 48 | 49 | 49 | 49 | 48 | 51 |
| 85° | 12 | 12 | 12 | 12 | 12 | 14 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 999.3 | 999.3 | 999.3 | 999.3 | 999.3 |
| 2.5° | 994.1 | 994.1 | 994.1 | 994.1 | 994.1 |
| 5° | 993.0 | 993.0 | 994.1 | 994.1 | 994.1 |
| 7.5° | 985.7 | 986.8 | 986.8 | 986.8 | 986.8 |
| 10° | 970.2 | 970.2 | 971.3 | 971.3 | 970.2 |
| 12.5° | 955.8 | 955.8 | 955.8 | 956.8 | 955.8 |
| 15° | 940.3 | 940.3 | 940.3 | 940.3 | 940.3 |
| 17.5° | 913.4 | 914.4 | 914.4 | 914.4 | 914.4 |
| 20° | 877.1 | 879.2 | 879.2 | 880.3 | 880.3 |
| 22.5° | 835.8 | 836.9 | 837.9 | 838.9 | 837.9 |
| 25° | 791.3 | 792.3 | 792.3 | 794.4 | 794.4 |
| 27.5° | 739.6 | 740.6 | 742.7 | 742.7 | 742.7 |
| 30° | 677.5 | 678.6 | 679.6 | 679.6 | 679.6 |
| 32.5° | 604.1 | 604.1 | 606.2 | 607.2 | 606.2 |
| 35° | 520.3 | 522.3 | 524.4 | 526.5 | 525.4 |
| 37.5° | 440.7 | 442.7 | 443.8 | 443.8 | 444.8 |
| 40° | 367.2 | 369.3 | 369.3 | 371.4 | 370.4 |
| 42.5° | 309.2 | 308.2 | 308.2 | 310.3 | 309.2 |
| 45° | 259.7 | 258.6 | 258.6 | 258.6 | 258.6 |
| 47.5° | 223.4 | 222.4 | 222.4 | 222.4 | 222.4 |
| 50° | 194.4 | 193.4 | 193.4 | 193.4 | 193.4 |
| 52.5° | 170.7 | 169.6 | 169.6 | 169.6 | 168.6 |
| 55° | 149.0 | 149.0 | 148.0 | 149.0 | 148.0 |
| 57.5° | 129.3 | 129.3 | 129.3 | 129.3 | 129.3 |
| 60° | 115.8 | 114.8 | 114.8 | 114.8 | 114.8 |
| 62.5° | 103.5 | 103.5 | 103.5 | 103.5 | 103.5 |
| 65° | 92.1 | 92.1 | 92.1 | 92.1 | 92.1 |
| 67.5° | 80.6 | 79.6 | 80.6 | 80.6 | 79.6 |
| 70° | 69.3 | 68.2 | 69.3 | 69.3 | 69.3 |
| 72.5° | 57.9 | 57.9 | 57.9 | 59.0 | 57.9 |
| 75° | 47.6 | 48.6 | 48.6 | 48.6 | 47.6 |
| 77.5° | 38.3 | 39.3 | 38.3 | 38.3 | 38.3 |
| 80° | 30.1 | 29.0 | 29.0 | 29.0 | 30.1 |
| 82.5° | 20.6 | 20.6 | 20.6 | 20.6 | 20.6 |
| 85° | 12.4 | 12.4 | 12.4 | 12.4 | 12.4 |
| 87.5° | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 |
| 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)