

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: P592614

Luminaire Tested: **HC410D010-HM40525950-41WDW**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P592614
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: HC410D010-HM40525950-41WDW
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: 1012.4 lumens
Efficiency: N/A
Efficacy: 102.3 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

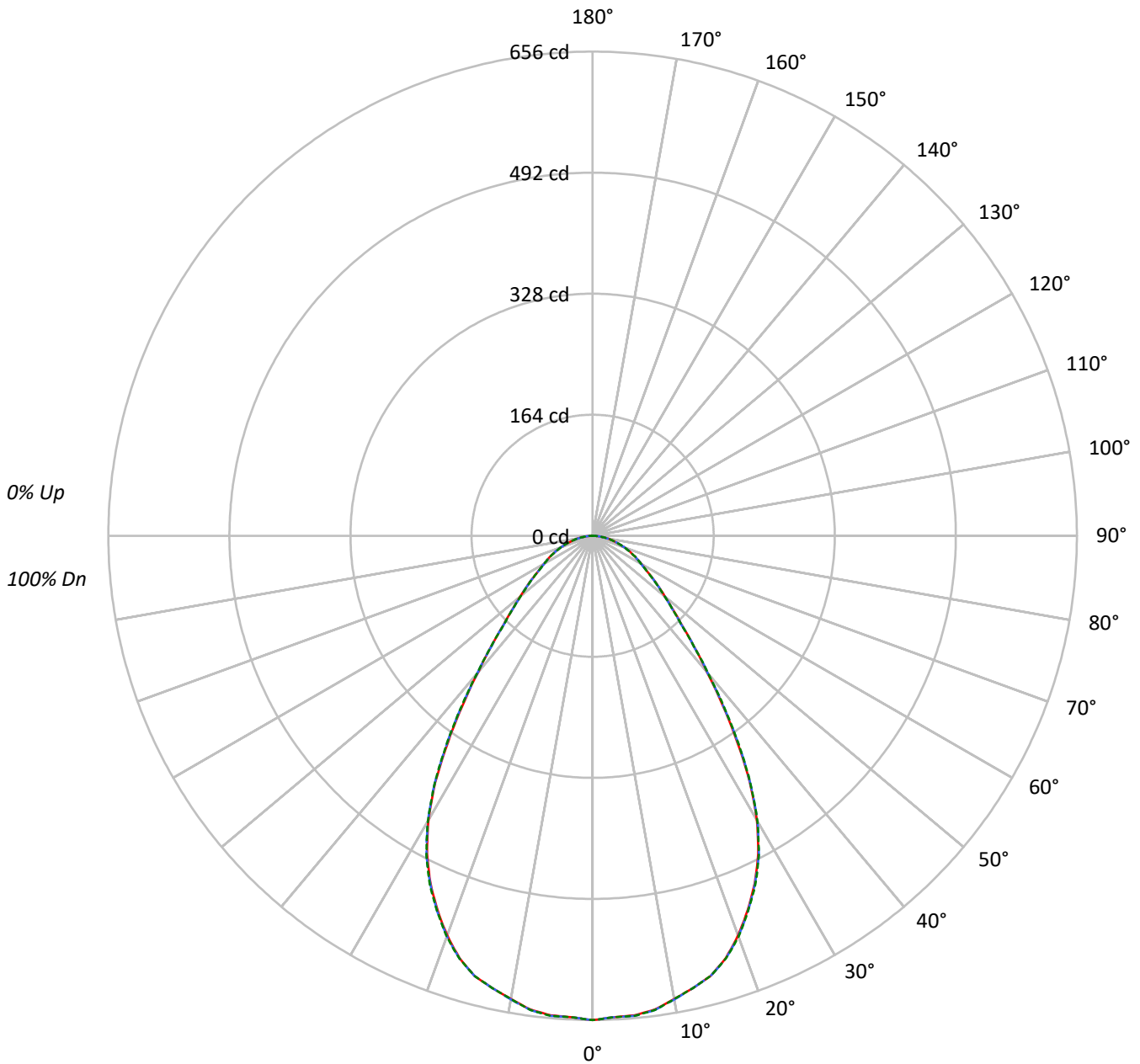
Input Watts (W): 9.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 80939 | 80939 | 80939 |
| 5° | 80741 | 80828 | 80828 |
| 10° | 79808 | 79883 | 79808 |
| 15° | 78853 | 78853 | 78853 |
| 20° | 75620 | 75790 | 75882 |
| 25° | 70716 | 70811 | 71002 |
| 30° | 63380 | 63565 | 63565 |
| 35° | 51437 | 51859 | 51949 |
| 40° | 38821 | 39046 | 39159 |
| 45° | 29742 | 29619 | 29619 |
| 50° | 24505 | 24370 | 24370 |
| 55° | 21053 | 20903 | 20903 |
| 60° | 18773 | 18601 | 18601 |
| 65° | 17628 | 17628 | 17628 |
| 70° | 16409 | 16409 | 16409 |
| 75° | 14917 | 15250 | 14917 |
| 80° | 13993 | 13496 | 13993 |
| 85° | 11605 | 11605 | 11605 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 61.8 | 6.1 |
| 10°-20° | 173.0 | 17.1 |
| 20°-30° | 237.7 | 23.5 |
| 30°-40° | 213.8 | 21.1 |
| 40°-50° | 135.1 | 13.3 |
| 50°-60° | 88.2 | 8.7 |
| 60°-70° | 59.7 | 5.9 |
| 70°-80° | 33.6 | 3.3 |
| 80°-90° | 9.4 | 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° | 472.6 | 46.7 |
| 0°-40° | 686.3 | 67.8 |
| 0°-60° | 909.6 | 89.8 |
| 0°-90° | 1012.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1012.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 656 | 656 | 656 | 656 | 656 | |
| 5° | 652 | 652 | 653 | 653 | 653 | 62 |
| 15° | 618 | 618 | 618 | 618 | 618 | 173 |
| 25° | 520 | 520 | 520 | 522 | 522 | 237 |
| 35° | 342 | 343 | 344 | 346 | 345 | 213 |
| 45° | 170 | 170 | 170 | 170 | 170 | 135 |
| 55° | 98 | 98 | 97 | 98 | 97 | 89 |
| 65° | 60 | 60 | 60 | 60 | 60 | 60 |
| 75° | 31 | 32 | 32 | 32 | 31 | 33 |
| 85° | 8 | 8 | 8 | 8 | 8 | 10 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 656.2 | 656.2 | 656.2 | 656.2 | 656.2 |
| 2.5° | 652.8 | 652.8 | 652.8 | 652.8 | 652.8 |
| 5° | 652.1 | 652.1 | 652.8 | 652.8 | 652.8 |
| 7.5° | 647.3 | 648.0 | 648.0 | 648.0 | 648.0 |
| 10° | 637.2 | 637.2 | 637.8 | 637.8 | 637.2 |
| 12.5° | 627.6 | 627.6 | 627.6 | 628.3 | 627.6 |
| 15° | 617.5 | 617.5 | 617.5 | 617.5 | 617.5 |
| 17.5° | 599.8 | 600.4 | 600.4 | 600.4 | 600.4 |
| 20° | 576.1 | 577.4 | 577.4 | 578.1 | 578.1 |
| 22.5° | 548.9 | 549.5 | 550.2 | 550.9 | 550.2 |
| 25° | 519.6 | 520.3 | 520.3 | 521.7 | 521.7 |
| 27.5° | 485.7 | 486.4 | 487.7 | 487.7 | 487.7 |
| 30° | 445.0 | 445.6 | 446.3 | 446.3 | 446.3 |
| 32.5° | 396.7 | 396.7 | 398.1 | 398.8 | 398.1 |
| 35° | 341.6 | 343.0 | 344.4 | 345.7 | 345.0 |
| 37.5° | 289.4 | 290.8 | 291.4 | 291.4 | 292.1 |
| 40° | 241.1 | 242.5 | 242.5 | 243.9 | 243.2 |
| 42.5° | 203.1 | 202.5 | 202.5 | 203.8 | 203.1 |
| 45° | 170.5 | 169.8 | 169.8 | 169.8 | 169.8 |
| 47.5° | 146.7 | 146.0 | 146.0 | 146.0 | 146.0 |
| 50° | 127.7 | 127.0 | 127.0 | 127.0 | 127.0 |
| 52.5° | 112.1 | 111.4 | 111.4 | 111.4 | 110.7 |
| 55° | 97.9 | 97.9 | 97.2 | 97.9 | 97.2 |
| 57.5° | 84.9 | 84.9 | 84.9 | 84.9 | 84.9 |
| 60° | 76.1 | 75.4 | 75.4 | 75.4 | 75.4 |
| 62.5° | 67.9 | 67.9 | 67.9 | 67.9 | 67.9 |
| 65° | 60.4 | 60.4 | 60.4 | 60.4 | 60.4 |
| 67.5° | 53.0 | 52.3 | 53.0 | 53.0 | 52.3 |
| 70° | 45.5 | 44.8 | 45.5 | 45.5 | 45.5 |
| 72.5° | 38.0 | 38.0 | 38.0 | 38.7 | 38.0 |
| 75° | 31.3 | 32.0 | 32.0 | 32.0 | 31.3 |
| 77.5° | 25.1 | 25.8 | 25.1 | 25.1 | 25.1 |
| 80° | 19.7 | 19.0 | 19.0 | 19.0 | 19.7 |
| 82.5° | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 |
| 85° | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 |
| 87.5° | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 |
| 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)