

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: P581043

Luminaire Tested: **HCC4W05D010BZ-HM40525840-41RWWH**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P581043
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-15)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HCC4W05D010BZ-HM40525840-41RWWH
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

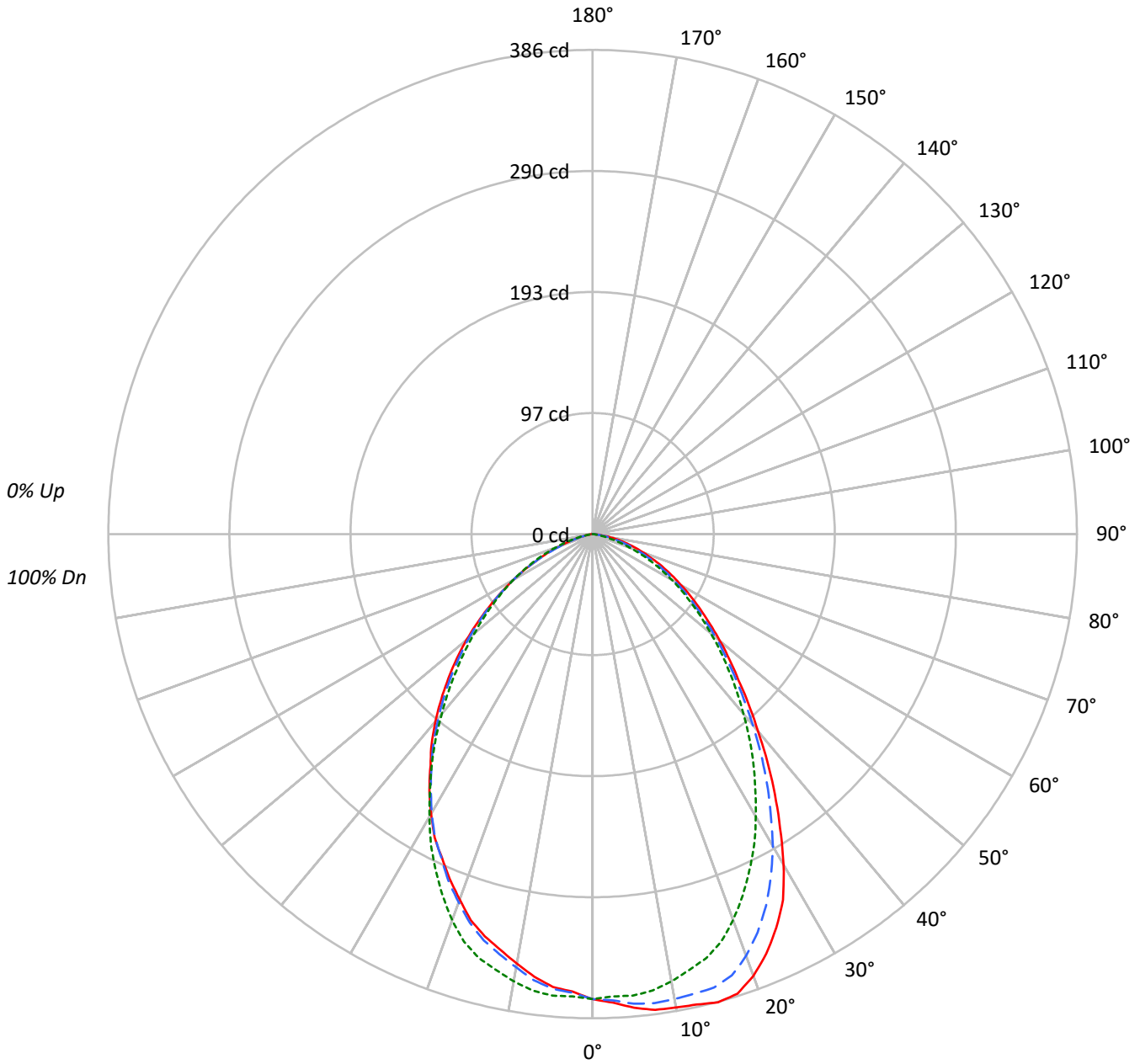
Lumens per Lamp: N/A
Luminaire Lumens: 706.5 lumens
Efficiency: N/A
Efficacy: 117.8 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 6
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 | | | 100 |
| 1 | 111 | 107 | 104 | 100 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 | | | 88 |
| 2 | 103 | 96 | 90 | 85 | 100 | 94 | 89 | 84 | 90 | 86 | 82 | 87 | 84 | 80 | 84 | 81 | 79 | 77 | | | 77 |
| 3 | 95 | 86 | 79 | 73 | 92 | 84 | 78 | 73 | 81 | 76 | 71 | 79 | 74 | 70 | 76 | 72 | 69 | 67 | | | 67 |
| 4 | 88 | 77 | 70 | 64 | 86 | 76 | 69 | 63 | 74 | 67 | 62 | 71 | 66 | 62 | 69 | 65 | 61 | 59 | | | 59 |
| 5 | 81 | 70 | 62 | 56 | 79 | 69 | 61 | 56 | 67 | 60 | 55 | 65 | 59 | 55 | 63 | 58 | 54 | 52 | | | 52 |
| 6 | 76 | 64 | 56 | 50 | 74 | 63 | 55 | 50 | 61 | 54 | 49 | 60 | 54 | 49 | 58 | 53 | 49 | 47 | | | 47 |
| 7 | 71 | 58 | 51 | 45 | 69 | 58 | 50 | 45 | 56 | 49 | 45 | 55 | 49 | 44 | 54 | 48 | 44 | 42 | | | 42 |
| 8 | 66 | 54 | 46 | 41 | 65 | 53 | 46 | 41 | 52 | 45 | 40 | 51 | 45 | 40 | 50 | 44 | 40 | 38 | | | 38 |
| 9 | 62 | 50 | 42 | 37 | 61 | 49 | 42 | 37 | 48 | 41 | 37 | 47 | 41 | 37 | 46 | 41 | 37 | 35 | | | 35 |
| 10 | 58 | 46 | 39 | 34 | 57 | 46 | 39 | 34 | 45 | 38 | 34 | 44 | 38 | 34 | 43 | 38 | 34 | 32 | | | 32 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|-------|-------|-------|
| 0° | 45724 | 45724 | 45724 |
| 5° | 46927 | 45726 | 44871 |
| 10° | 47983 | 45340 | 43549 |
| 15° | 49342 | 44681 | 42395 |
| 20° | 49197 | 42975 | 40678 |
| 25° | 47130 | 40244 | 38720 |
| 30° | 43355 | 37045 | 36661 |
| 35° | 38126 | 33639 | 33910 |
| 40° | 32992 | 30094 | 31366 |
| 45° | 28660 | 26741 | 28346 |
| 50° | 25445 | 23583 | 25176 |
| 55° | 22580 | 20687 | 21569 |
| 60° | 20105 | 17959 | 17959 |
| 65° | 17891 | 14914 | 13980 |
| 70° | 15435 | 11288 | 9954 |
| 75° | 12915 | 7482 | 6148 |
| 80° | 9802 | 3623 | 3339 |
| 85° | 5095 | 1274 | 1274 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 35.1 | 5.0 |
| 10°-20° | 99.5 | 14.1 |
| 20°-30° | 140.4 | 19.9 |
| 30°-40° | 145.0 | 20.5 |
| 40°-50° | 122.9 | 17.4 |
| 50°-60° | 89.4 | 12.7 |
| 60°-70° | 52.3 | 7.4 |
| 70°-80° | 19.4 | 2.7 |
| 80°-90° | 2.6 | 0.4 |
| 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° | 275.0 | 38.9 |
| 0°-40° | 420.0 | 59.4 |
| 0°-60° | 632.3 | 89.5 |
| 0°-90° | 706.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 706.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0° | 371 | 371 | 371 | 371 | 371 | |
| 5° | 379 | 376 | 369 | 364 | 362 | 36 |
| 15° | 386 | 374 | 350 | 335 | 332 | 109 |
| 25° | 346 | 327 | 296 | 285 | 284 | 158 |
| 35° | 253 | 242 | 223 | 224 | 225 | 158 |
| 45° | 164 | 160 | 153 | 159 | 162 | 128 |
| 55° | 105 | 100 | 96 | 99 | 100 | 94 |
| 65° | 61 | 56 | 51 | 48 | 48 | 61 |
| 75° | 27 | 23 | 16 | 12 | 13 | 29 |
| 85° | 4 | 2 | 1 | 1 | 1 | 5 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|
| 0° | 370.7 | 370.7 | 370.7 | 370.7 | 370.7 | 370.7 | 370.7 | 370.7 | 370.7 |
| 2.5° | 373.9 | 373.0 | 372.1 | 370.7 | 368.9 | 367.5 | 366.0 | 365.1 | 365.1 |
| 5° | 379.0 | 377.6 | 375.8 | 372.5 | 369.3 | 366.5 | 363.8 | 362.4 | 362.4 |
| 7.5° | 382.6 | 380.8 | 377.2 | 372.5 | 366.9 | 362.9 | 358.7 | 356.8 | 355.9 |
| 10° | 383.1 | 381.2 | 376.3 | 369.3 | 362.0 | 355.5 | 350.8 | 348.1 | 347.7 |
| 12.5° | 384.1 | 381.7 | 375.2 | 365.6 | 355.9 | 348.1 | 343.1 | 340.3 | 339.4 |
| 15° | 386.4 | 383.1 | 374.3 | 362.0 | 349.9 | 340.7 | 335.3 | 332.9 | 332.0 |
| 17.5° | 384.1 | 379.4 | 368.9 | 354.1 | 340.7 | 330.6 | 325.1 | 322.8 | 322.8 |
| 20° | 374.8 | 370.2 | 357.8 | 341.6 | 327.4 | 317.7 | 312.2 | 310.9 | 309.9 |
| 22.5° | 362.0 | 356.8 | 343.6 | 326.4 | 312.2 | 303.5 | 299.8 | 297.9 | 297.5 |
| 25° | 346.3 | 341.2 | 327.0 | 309.4 | 295.7 | 288.3 | 285.0 | 285.0 | 284.5 |
| 27.5° | 328.8 | 322.3 | 307.6 | 292.4 | 279.1 | 273.5 | 272.2 | 272.2 | 272.6 |
| 30° | 304.4 | 299.8 | 287.4 | 272.6 | 260.1 | 256.5 | 256.5 | 257.4 | 257.4 |
| 32.5° | 278.1 | 274.9 | 263.9 | 250.9 | 241.3 | 239.0 | 239.9 | 241.8 | 242.2 |
| 35° | 253.2 | 249.6 | 242.2 | 230.7 | 223.4 | 222.5 | 223.8 | 225.2 | 225.2 |
| 37.5° | 228.8 | 225.2 | 220.1 | 210.9 | 205.3 | 205.9 | 207.7 | 209.5 | 210.9 |
| 40° | 204.9 | 202.1 | 198.5 | 191.1 | 186.9 | 188.8 | 191.1 | 193.0 | 194.8 |
| 42.5° | 183.8 | 180.9 | 178.2 | 172.6 | 169.9 | 172.2 | 175.0 | 176.8 | 178.6 |
| 45° | 164.3 | 162.5 | 159.8 | 155.2 | 153.3 | 155.6 | 158.9 | 160.7 | 162.5 |
| 47.5° | 147.8 | 146.9 | 143.2 | 139.0 | 138.1 | 140.4 | 143.2 | 145.5 | 146.9 |
| 50° | 132.6 | 131.2 | 128.0 | 123.8 | 122.9 | 126.7 | 128.5 | 129.8 | 131.2 |
| 52.5° | 117.9 | 116.5 | 112.8 | 109.2 | 109.2 | 111.9 | 113.3 | 113.7 | 115.1 |
| 55° | 105.0 | 103.6 | 99.9 | 97.2 | 96.2 | 98.5 | 99.4 | 99.4 | 100.3 |
| 57.5° | 93.1 | 91.6 | 88.0 | 84.7 | 84.2 | 85.7 | 85.7 | 85.7 | 86.1 |
| 60° | 81.5 | 80.1 | 76.4 | 73.7 | 72.8 | 73.2 | 72.8 | 72.3 | 72.8 |
| 62.5° | 70.9 | 69.6 | 65.8 | 62.7 | 61.7 | 61.7 | 60.3 | 59.8 | 60.3 |
| 65° | 61.3 | 58.9 | 56.2 | 53.0 | 51.1 | 49.7 | 47.9 | 47.9 | 47.9 |
| 67.5° | 51.5 | 49.7 | 46.5 | 43.2 | 41.0 | 38.7 | 35.9 | 36.9 | 37.3 |
| 70° | 42.8 | 41.4 | 37.8 | 34.5 | 31.3 | 28.6 | 26.2 | 27.1 | 27.6 |
| 72.5° | 35.0 | 33.1 | 30.0 | 26.2 | 23.5 | 19.7 | 18.4 | 19.3 | 19.3 |
| 75° | 27.1 | 25.3 | 22.6 | 18.8 | 15.7 | 12.5 | 12.5 | 12.9 | 12.9 |
| 77.5° | 20.3 | 18.4 | 15.7 | 12.5 | 9.6 | 7.4 | 7.8 | 7.8 | 7.8 |
| 80° | 13.8 | 12.5 | 10.1 | 7.4 | 5.1 | 4.2 | 4.2 | 4.2 | 4.7 |
| 82.5° | 7.8 | 6.9 | 5.6 | 3.6 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 |
| 85° | 3.6 | 2.7 | 2.3 | 1.4 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |
| 87.5° | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 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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