

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: P581115

Luminaire Tested: **HCC4W05D010BZ-HM40525940-41RWWH**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P581115  
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-HM40525940-41RWWH  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

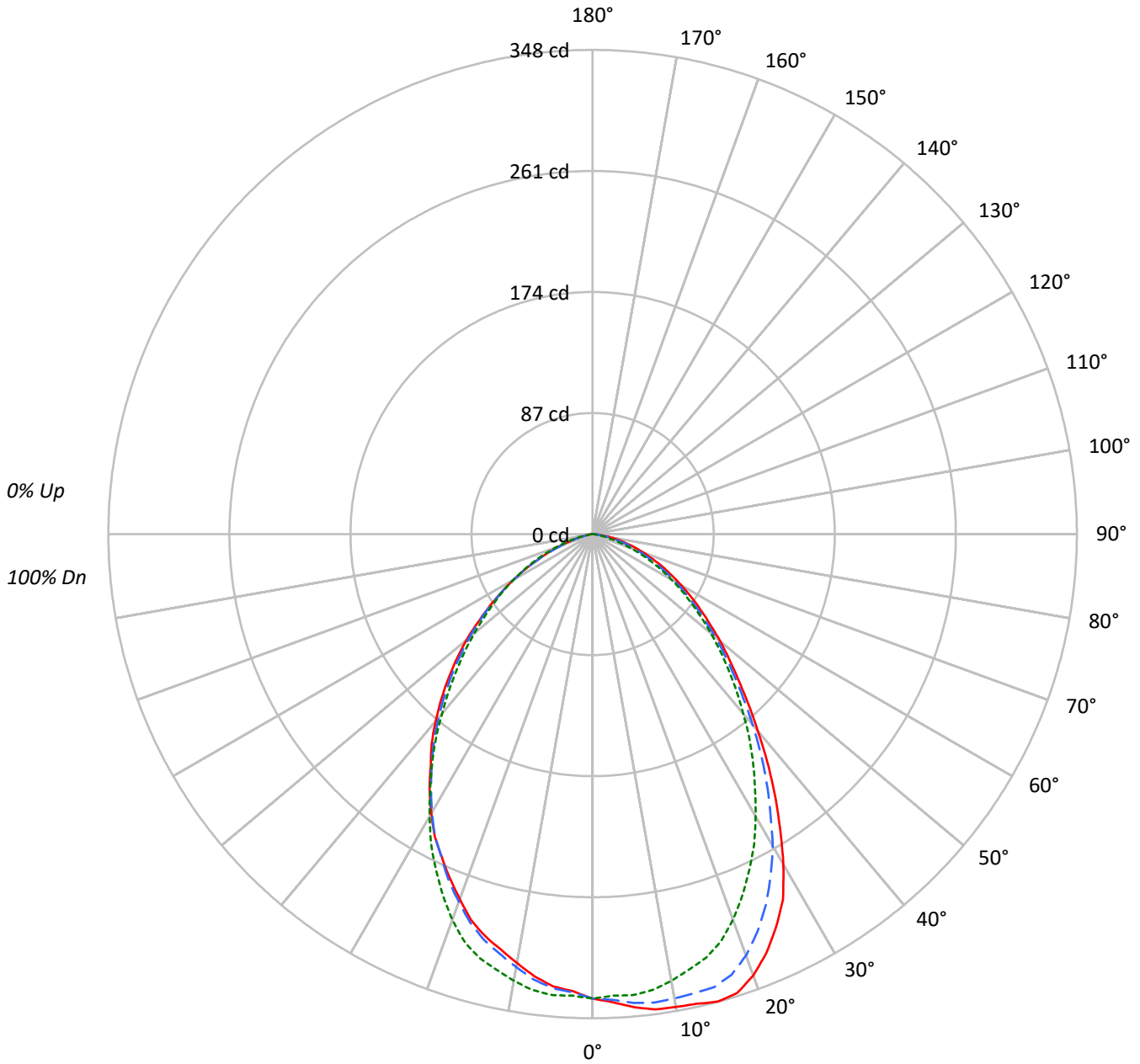
Lumens per Lamp: N/A  
Luminaire Lumens: 636.2 lumens  
Efficiency: N/A  
Efficacy: 106.0 lumens/watt  
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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  |     |     |     |     | 70  |     |     |     |     | 50  |     |     |     |     | 30  |     |     |  |  |
| RW  | 70  | 50  | 30  | 10  | 70  | 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 | 100 | 108 | 105 | 102 | 99  | 101 | 98  | 96  | 97  | 95  | 93  | 93  | 92  | 90  | 88  |  |  |
| 2   | 103 | 96  | 90  | 85  | 100 | 94  | 89  | 84  | 90  | 86  | 82  | 87  | 84  | 80  | 84  | 81  | 79  | 77  |  |  |
| 3   | 95  | 86  | 79  | 73  | 92  | 84  | 78  | 73  | 81  | 76  | 71  | 79  | 74  | 70  | 76  | 72  | 69  | 67  |  |  |
| 4   | 88  | 77  | 70  | 64  | 86  | 76  | 69  | 63  | 74  | 67  | 62  | 71  | 66  | 62  | 69  | 65  | 61  | 59  |  |  |
| 5   | 81  | 70  | 62  | 56  | 79  | 69  | 61  | 56  | 67  | 60  | 55  | 65  | 59  | 55  | 63  | 58  | 54  | 52  |  |  |
| 6   | 76  | 64  | 56  | 50  | 74  | 63  | 55  | 50  | 61  | 54  | 49  | 60  | 54  | 49  | 58  | 53  | 49  | 47  |  |  |
| 7   | 71  | 58  | 51  | 45  | 69  | 58  | 50  | 45  | 56  | 49  | 45  | 55  | 49  | 44  | 54  | 48  | 44  | 42  |  |  |
| 8   | 66  | 54  | 46  | 41  | 65  | 53  | 46  | 41  | 52  | 45  | 40  | 51  | 45  | 40  | 50  | 44  | 40  | 38  |  |  |
| 9   | 62  | 50  | 42  | 37  | 61  | 49  | 42  | 37  | 48  | 41  | 37  | 47  | 41  | 37  | 46  | 41  | 37  | 35  |  |  |
| 10  | 58  | 46  | 39  | 34  | 57  | 46  | 39  | 34  | 45  | 38  | 34  | 44  | 38  | 34  | 43  | 38  | 34  | 32  |  |  |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°    | 90°   | 180°  |
|-----|-------|-------|-------|
| 0°  | 41173 | 41173 | 41173 |
| 5°  | 42259 | 41181 | 40401 |
| 10° | 43211 | 40831 | 39203 |
| 15° | 44426 | 40250 | 38181 |
| 20° | 44301 | 38709 | 36635 |
| 25° | 42435 | 36243 | 34882 |
| 30° | 39039 | 33371 | 33015 |
| 35° | 34332 | 30281 | 30537 |
| 40° | 29724 | 27099 | 28242 |
| 45° | 25817 | 24090 | 25538 |
| 50° | 22912 | 21242 | 22682 |
| 55° | 20322 | 18645 | 19419 |
| 60° | 18107 | 16158 | 16158 |
| 65° | 16111 | 13455 | 12579 |
| 70° | 13921 | 10134 | 8980  |
| 75° | 11676 | 6720  | 5528  |
| 80° | 8879  | 3196  | 2983  |
| 85° | 4670  | 1132  | 1132  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 31.6   | 5.0       |
| 10°-20°   | 89.6   | 14.1      |
| 20°-30°   | 126.4  | 19.9      |
| 30°-40°   | 130.6  | 20.5      |
| 40°-50°   | 110.7  | 17.4      |
| 50°-60°   | 80.5   | 12.7      |
| 60°-70°   | 47.1   | 7.4       |
| 70°-80°   | 17.5   | 2.7       |
| 80°-90°   | 2.3    | 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°    | 247.6  | 38.9      |
| 0°-40°    | 378.2  | 59.4      |
| 0°-60°    | 569.4  | 89.5      |
| 0°-90°    | 636.2  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 636.2  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0°  | 334 | 334 | 334 | 334  | 334  |      |
| 5°  | 341 | 338 | 333 | 328  | 326  | 33   |
| 15° | 348 | 337 | 315 | 302  | 299  | 98   |
| 25° | 312 | 294 | 266 | 257  | 256  | 143  |
| 35° | 228 | 218 | 201 | 202  | 203  | 142  |
| 45° | 148 | 144 | 138 | 143  | 146  | 115  |
| 55° | 94  | 90  | 87  | 90   | 90   | 85   |
| 65° | 55  | 51  | 46  | 43   | 43   | 55   |
| 75° | 24  | 20  | 14  | 11   | 12   | 26   |
| 85° | 3   | 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°    | 333.8 | 333.8 | 333.8 | 333.8 | 333.8 | 333.8  | 333.8 | 333.8  | 333.8 |
| 2.5°  | 336.8 | 335.8 | 335.1 | 333.8 | 332.1 | 330.9  | 329.6 | 328.8  | 328.8 |
| 5°    | 341.3 | 340.0 | 338.3 | 335.5 | 332.6 | 330.1  | 327.6 | 326.3  | 326.3 |
| 7.5°  | 344.6 | 342.9 | 339.6 | 335.5 | 330.5 | 326.8  | 323.0 | 321.3  | 320.5 |
| 10°   | 345.0 | 343.3 | 338.8 | 332.6 | 326.0 | 320.1  | 316.0 | 313.5  | 313.0 |
| 12.5° | 345.8 | 343.8 | 338.0 | 329.3 | 320.5 | 313.5  | 308.9 | 306.4  | 305.7 |
| 15°   | 347.9 | 345.0 | 337.1 | 326.0 | 315.2 | 306.9  | 301.9 | 299.8  | 299.0 |
| 17.5° | 345.8 | 341.6 | 332.1 | 318.8 | 306.9 | 297.7  | 292.7 | 290.7  | 290.7 |
| 20°   | 337.5 | 333.3 | 322.2 | 307.7 | 294.9 | 286.1  | 281.1 | 279.9  | 279.1 |
| 22.5° | 326.0 | 321.3 | 309.3 | 294.0 | 281.1 | 273.3  | 269.9 | 268.3  | 267.9 |
| 25°   | 311.8 | 307.2 | 294.4 | 278.6 | 266.3 | 259.6  | 256.6 | 256.6  | 256.3 |
| 27.5° | 296.1 | 290.2 | 276.9 | 263.3 | 251.3 | 246.3  | 245.0 | 245.0  | 245.5 |
| 30°   | 274.1 | 269.9 | 258.8 | 245.5 | 234.3 | 231.0  | 231.0 | 231.8  | 231.8 |
| 32.5° | 250.5 | 247.5 | 237.6 | 226.0 | 217.2 | 215.2  | 216.0 | 217.7  | 218.1 |
| 35°   | 228.0 | 224.7 | 218.1 | 207.7 | 201.1 | 200.3  | 201.6 | 202.8  | 202.8 |
| 37.5° | 206.1 | 202.8 | 198.2 | 189.9 | 184.9 | 185.3  | 187.0 | 188.6  | 189.9 |
| 40°   | 184.6 | 182.1 | 178.8 | 172.1 | 168.3 | 170.0  | 172.1 | 173.8  | 175.4 |
| 42.5° | 165.5 | 163.0 | 160.5 | 155.5 | 153.0 | 155.0  | 157.5 | 159.2  | 160.9 |
| 45°   | 148.0 | 146.4 | 143.9 | 139.7 | 138.1 | 140.2  | 143.0 | 144.7  | 146.4 |
| 47.5° | 133.1 | 132.2 | 128.9 | 125.2 | 124.4 | 126.4  | 128.9 | 131.0  | 132.2 |
| 50°   | 119.4 | 118.2 | 115.3 | 111.6 | 110.7 | 114.1  | 115.7 | 116.9  | 118.2 |
| 52.5° | 106.1 | 104.9 | 101.6 | 98.3  | 98.3  | 100.8  | 102.0 | 102.4  | 103.6 |
| 55°   | 94.5  | 93.3  | 90.0  | 87.5  | 86.7  | 88.8   | 89.6  | 89.6   | 90.3  |
| 57.5° | 83.8  | 82.5  | 79.2  | 76.3  | 75.9  | 77.2   | 77.2  | 77.2   | 77.5  |
| 60°   | 73.4  | 72.2  | 68.8  | 66.4  | 65.5  | 65.9   | 65.5  | 65.1   | 65.5  |
| 62.5° | 63.9  | 62.7  | 59.2  | 56.4  | 55.6  | 55.6   | 54.4  | 53.9   | 54.4  |
| 65°   | 55.2  | 53.1  | 50.6  | 47.7  | 46.1  | 44.8   | 43.1  | 43.1   | 43.1  |
| 67.5° | 46.4  | 44.8  | 41.9  | 38.9  | 36.9  | 34.8   | 32.3  | 33.1   | 33.6  |
| 70°   | 38.6  | 37.3  | 34.0  | 31.1  | 28.1  | 25.8   | 23.6  | 24.5   | 24.9  |
| 72.5° | 31.6  | 29.9  | 26.9  | 23.6  | 21.1  | 17.8   | 16.6  | 17.4   | 17.4  |
| 75°   | 24.5  | 22.8  | 20.3  | 17.0  | 14.1  | 11.2   | 11.2  | 11.6   | 11.6  |
| 77.5° | 18.3  | 16.6  | 14.1  | 11.2  | 8.7   | 6.6    | 7.0   | 7.0    | 7.0   |
| 80°   | 12.5  | 11.2  | 9.1   | 6.6   | 4.5   | 3.7    | 3.7   | 3.7    | 4.2   |
| 82.5° | 7.0   | 6.2   | 5.0   | 3.3   | 2.0   | 2.0    | 2.0   | 2.0    | 2.0   |
| 85°   | 3.3   | 2.5   | 2.0   | 1.2   | 0.8   | 0.8    | 0.8   | 0.8    | 0.8   |
| 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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Scaled Data Report





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Scaled Data Report



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

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