

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: P592580

Luminaire Tested: **HCC4S07D010BZ-HM40525850-41RWWH**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P592580  
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: HCC4S07D010BZ-HM40525850-41RWWH  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT  
CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

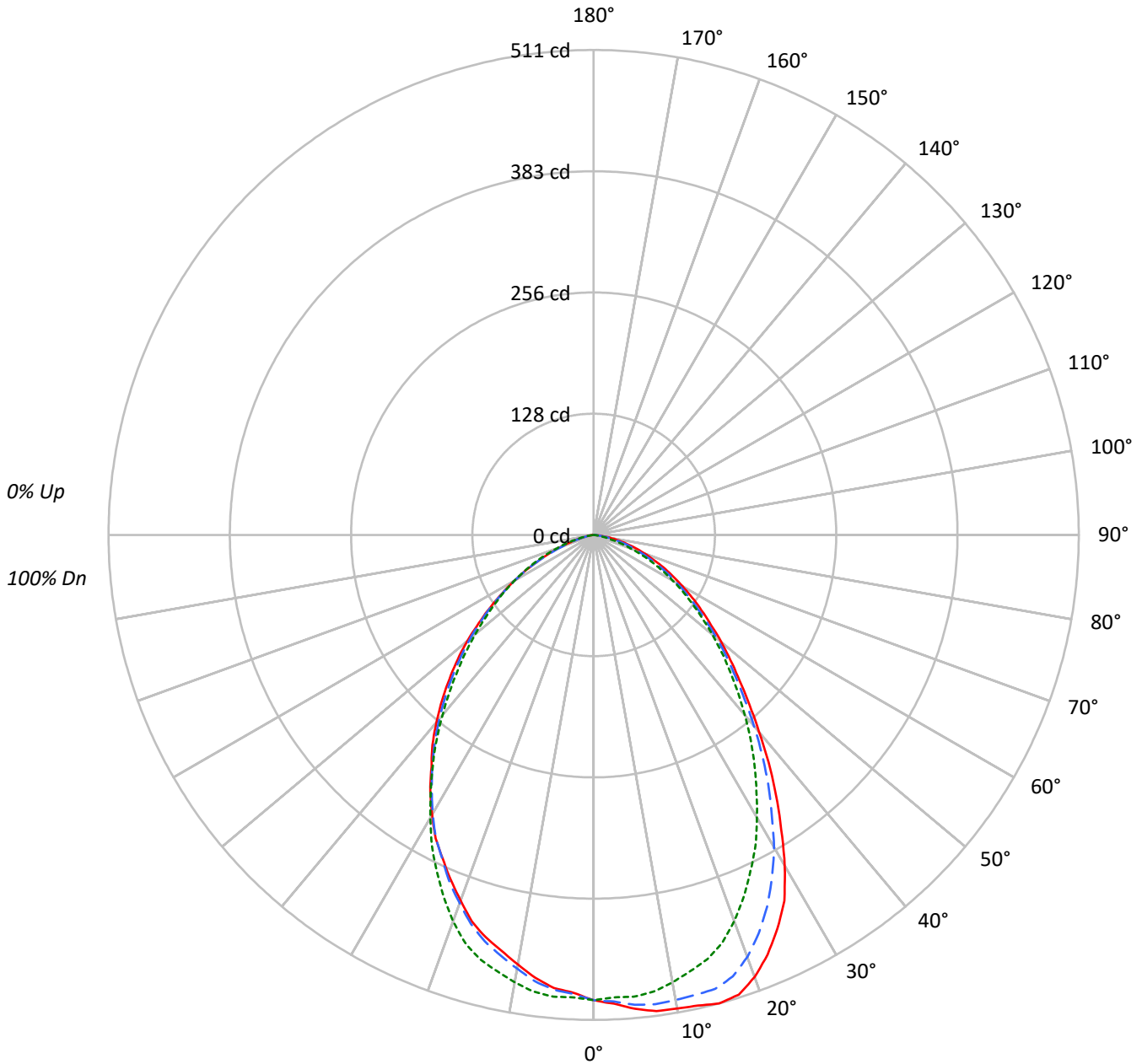
Lumens per Lamp: N/A  
Luminaire Lumens: 934.4 lumens  
Efficiency: N/A  
Efficacy: 116.8 lumens/watt  
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 8  
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  |     |     |    |    | 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 | 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°  | 60476 | 60476 | 60476 |
| 5°  | 62057 | 60472 | 59333 |
| 10° | 63451 | 59944 | 57589 |
| 15° | 65253 | 59098 | 56059 |
| 20° | 65066 | 56836 | 53791 |
| 25° | 62319 | 53200 | 51213 |
| 30° | 57327 | 48995 | 48482 |
| 35° | 50428 | 44465 | 44842 |
| 40° | 43635 | 39819 | 41478 |
| 45° | 37923 | 35376 | 37504 |
| 50° | 33658 | 31202 | 33293 |
| 55° | 29848 | 27354 | 28558 |
| 60° | 26593 | 23732 | 23732 |
| 65° | 23641 | 19730 | 18504 |
| 70° | 20448 | 14930 | 13163 |
| 75° | 17157 | 9865  | 8149  |
| 80° | 12999 | 4759  | 4333  |
| 85° | 6935  | 1840  | 1840  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 46.4   | 5.0       |
| 10°-20°   | 131.6  | 14.1      |
| 20°-30°   | 185.6  | 19.9      |
| 30°-40°   | 191.7  | 20.5      |
| 40°-50°   | 162.5  | 17.4      |
| 50°-60°   | 118.3  | 12.7      |
| 60°-70°   | 69.1   | 7.4       |
| 70°-80°   | 25.7   | 2.7       |
| 80°-90°   | 3.4    | 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°    | 363.7  | 38.9      |
| 0°-40°    | 555.4  | 59.4      |
| 0°-60°    | 836.2  | 89.5      |
| 0°-90°    | 934.4  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 934.4  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0°  | 490 | 490 | 490 | 490  | 490  |      |
| 5°  | 501 | 497 | 488 | 481  | 479  | 48   |
| 15° | 511 | 495 | 463 | 443  | 439  | 144  |
| 25° | 458 | 432 | 391 | 377  | 376  | 209  |
| 35° | 335 | 320 | 295 | 296  | 298  | 209  |
| 45° | 217 | 211 | 203 | 210  | 215  | 169  |
| 55° | 139 | 132 | 127 | 132  | 133  | 125  |
| 65° | 81  | 74  | 68  | 63   | 63   | 80   |
| 75° | 36  | 30  | 21  | 16   | 17   | 39   |
| 85° | 5   | 3   | 1   | 1    | 1    | 7    |
| 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°    | 490.3 | 490.3 | 490.3 | 490.3 | 490.3 | 490.3  | 490.3 | 490.3  | 490.3 |
| 2.5°  | 494.5 | 493.2 | 492.1 | 490.3 | 487.7 | 485.9  | 484.1 | 482.9  | 482.9 |
| 5°    | 501.2 | 499.4 | 497.0 | 492.6 | 488.4 | 484.8  | 481.0 | 479.2  | 479.2 |
| 7.5°  | 506.1 | 503.6 | 498.8 | 492.6 | 485.4 | 479.9  | 474.4 | 471.9  | 470.7 |
| 10°   | 506.6 | 504.2 | 497.5 | 488.4 | 478.6 | 470.1  | 464.1 | 460.4  | 459.8 |
| 12.5° | 507.9 | 504.8 | 496.3 | 483.5 | 470.7 | 460.4  | 453.7 | 450.1  | 448.8 |
| 15°   | 511.0 | 506.6 | 495.1 | 478.6 | 462.8 | 450.6  | 443.4 | 440.3  | 439.0 |
| 17.5° | 507.9 | 501.7 | 487.7 | 468.3 | 450.6 | 437.2  | 429.9 | 426.9  | 426.9 |
| 20°   | 495.7 | 489.6 | 473.2 | 451.9 | 433.0 | 420.1  | 412.9 | 411.0  | 409.8 |
| 22.5° | 478.6 | 471.9 | 454.3 | 431.8 | 412.9 | 401.3  | 396.5 | 394.0  | 393.4 |
| 25°   | 457.9 | 451.2 | 432.3 | 409.2 | 390.9 | 381.2  | 376.9 | 376.9  | 376.3 |
| 27.5° | 434.8 | 426.3 | 406.8 | 386.7 | 369.1 | 361.8  | 359.9 | 359.9  | 360.5 |
| 30°   | 402.5 | 396.5 | 380.0 | 360.5 | 344.0 | 339.2  | 339.2 | 340.4  | 340.4 |
| 32.5° | 367.8 | 363.6 | 348.9 | 331.8 | 319.1 | 316.0  | 317.3 | 319.7  | 320.3 |
| 35°   | 334.9 | 330.0 | 320.3 | 305.1 | 295.3 | 294.2  | 296.0 | 297.8  | 297.8 |
| 37.5° | 302.7 | 297.8 | 291.1 | 278.9 | 271.6 | 272.2  | 274.6 | 277.1  | 278.9 |
| 40°   | 271.0 | 267.3 | 262.4 | 252.7 | 247.3 | 249.7  | 252.7 | 255.1  | 257.6 |
| 42.5° | 243.0 | 239.3 | 235.7 | 228.4 | 224.8 | 227.7  | 231.4 | 233.9  | 236.2 |
| 45°   | 217.4 | 215.0 | 211.3 | 205.2 | 202.8 | 205.9  | 210.1 | 212.6  | 215.0 |
| 47.5° | 195.5 | 194.3 | 189.4 | 183.9 | 182.6 | 185.7  | 189.4 | 192.4  | 194.3 |
| 50°   | 175.4 | 173.5 | 169.3 | 163.8 | 162.6 | 167.5  | 169.9 | 171.7  | 173.5 |
| 52.5° | 155.9 | 154.1 | 149.2 | 144.3 | 144.3 | 147.9  | 149.8 | 150.4  | 152.3 |
| 55°   | 138.8 | 137.0 | 132.1 | 128.5 | 127.2 | 130.3  | 131.6 | 131.6  | 132.8 |
| 57.5° | 123.0 | 121.2 | 116.3 | 112.1 | 111.4 | 113.2  | 113.2 | 113.2  | 113.9 |
| 60°   | 107.8 | 105.9 | 101.1 | 97.4  | 96.2  | 96.8   | 96.2  | 95.6   | 96.2  |
| 62.5° | 93.8  | 92.0  | 87.1  | 82.8  | 81.6  | 81.6   | 79.8  | 79.2   | 79.8  |
| 65°   | 81.0  | 78.0  | 74.3  | 70.0  | 67.6  | 65.8   | 63.4  | 63.4   | 63.4  |
| 67.5° | 68.2  | 65.8  | 61.5  | 57.2  | 54.2  | 51.2   | 47.5  | 48.7   | 49.3  |
| 70°   | 56.7  | 54.9  | 50.0  | 45.6  | 41.4  | 37.8   | 34.7  | 36.0   | 36.5  |
| 72.5° | 46.3  | 43.8  | 39.6  | 34.7  | 31.1  | 26.2   | 24.4  | 25.6   | 25.6  |
| 75°   | 36.0  | 33.5  | 29.8  | 24.9  | 20.7  | 16.4   | 16.4  | 17.1   | 17.1  |
| 77.5° | 26.7  | 24.4  | 20.7  | 16.4  | 12.7  | 9.8    | 10.4  | 10.4   | 10.4  |
| 80°   | 18.3  | 16.4  | 13.4  | 9.8   | 6.7   | 5.5    | 5.5   | 5.5    | 6.1   |
| 82.5° | 10.4  | 9.1   | 7.3   | 4.9   | 3.1   | 3.1    | 3.1   | 3.1    | 3.1   |
| 85°   | 4.9   | 3.6   | 3.1   | 1.8   | 1.3   | 1.3    | 1.3   | 1.3    | 1.3   |
| 87.5° | 0.6   | 0.6   | 0.6   | 0.6   | 0.6   | 0.6    | 0.6   | 0.6    | 0.6   |
| 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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