

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: P592561

Luminaire Tested: **HCC4W05D010MB-HM40525950-41RWWC**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P592561  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-14)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HCC4W05D010MB-HM40525950-41RWWC  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT  
CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

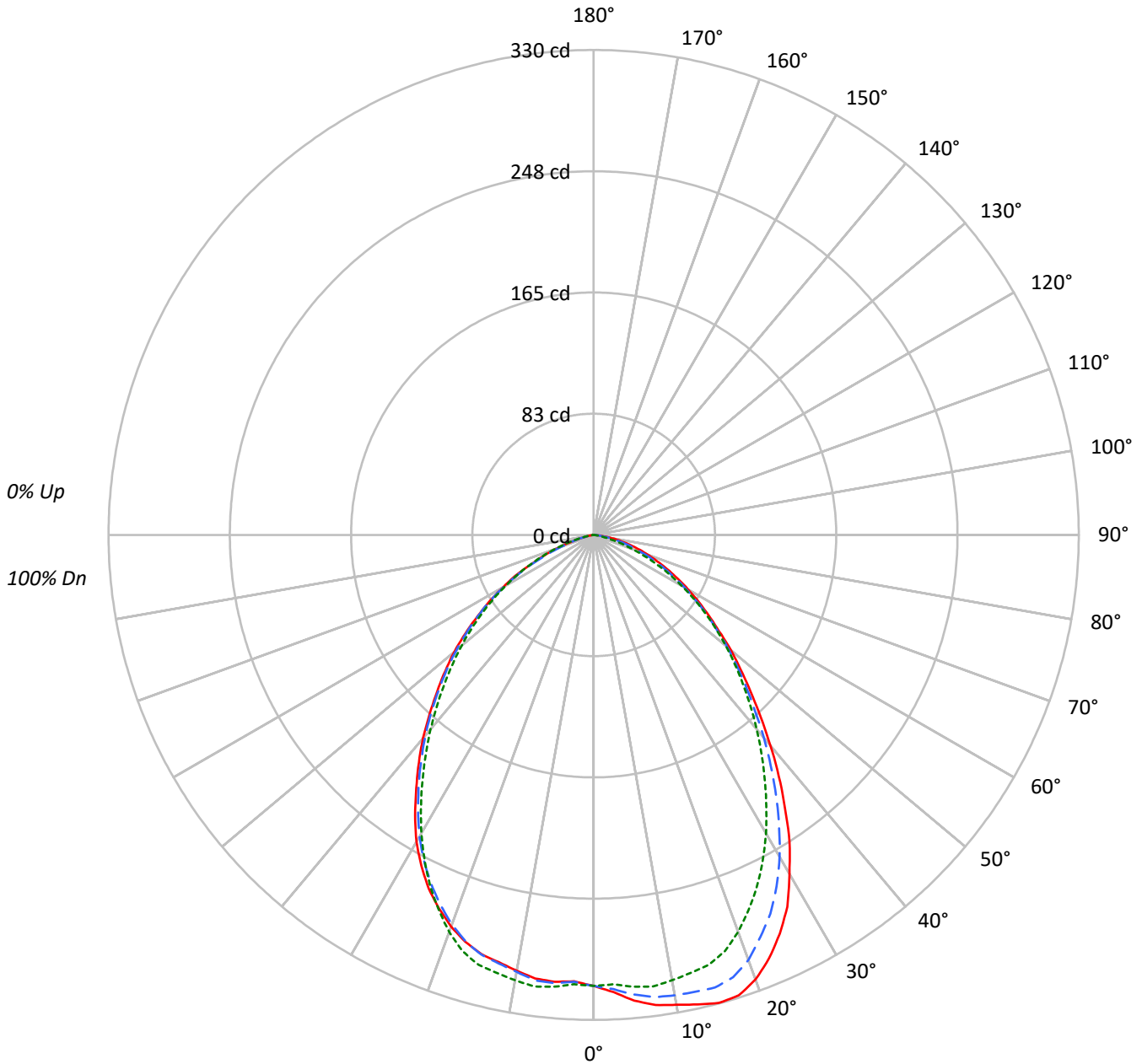
Lumens per Lamp: N/A  
Luminaire Lumens: 639.6 lumens  
Efficiency: N/A  
Efficacy: 106.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.15 / 1.21  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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  |     |     |    |    | 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 | 103 | 100 | 108 | 105 | 102 | 99  | 101 | 98  | 96  | 97  | 95  | 93  | 93  | 92  | 90  | 88  |    |    |    | 88  |  |  |  |   |
| 2   | 102 | 95  | 90  | 85  | 100 | 94  | 88  | 84  | 90  | 86  | 82  | 87  | 83  | 80  | 84  | 81  | 78  | 76  |    |    |    | 76  |  |  |  |   |
| 3   | 95  | 85  | 78  | 73  | 92  | 84  | 77  | 72  | 81  | 75  | 71  | 78  | 74  | 70  | 76  | 72  | 69  | 67  |    |    |    | 67  |  |  |  |   |
| 4   | 87  | 77  | 69  | 63  | 85  | 76  | 68  | 63  | 73  | 67  | 62  | 71  | 66  | 61  | 69  | 64  | 60  | 58  |    |    |    | 58  |  |  |  |   |
| 5   | 81  | 70  | 61  | 56  | 79  | 68  | 61  | 55  | 66  | 60  | 55  | 65  | 59  | 54  | 63  | 58  | 54  | 52  |    |    |    | 52  |  |  |  |   |
| 6   | 75  | 63  | 55  | 49  | 74  | 62  | 55  | 49  | 61  | 54  | 49  | 59  | 53  | 48  | 58  | 52  | 48  | 46  |    |    |    | 46  |  |  |  |   |
| 7   | 70  | 58  | 50  | 44  | 69  | 57  | 49  | 44  | 56  | 49  | 44  | 54  | 48  | 44  | 53  | 47  | 43  | 41  |    |    |    | 41  |  |  |  |   |
| 8   | 66  | 53  | 45  | 40  | 64  | 53  | 45  | 40  | 51  | 44  | 40  | 50  | 44  | 39  | 49  | 43  | 39  | 37  |    |    |    | 37  |  |  |  |   |
| 9   | 62  | 49  | 42  | 36  | 60  | 49  | 41  | 36  | 47  | 41  | 36  | 46  | 40  | 36  | 45  | 40  | 36  | 34  |    |    |    | 34  |  |  |  |   |
| 10  | 58  | 46  | 38  | 33  | 57  | 45  | 38  | 33  | 44  | 38  | 33  | 43  | 37  | 33  | 42  | 37  | 33  | 31  |    |    |    | 31  |  |  |  |   |

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

|     | 0°    | 90°   | 180°  |
|-----|-------|-------|-------|
| 0°  | 37855 | 37855 | 37855 |
| 5°  | 39386 | 38210 | 37789 |
| 10° | 40668 | 38539 | 37712 |
| 15° | 42102 | 38667 | 37709 |
| 20° | 42253 | 37725 | 37226 |
| 25° | 40747 | 35834 | 36134 |
| 30° | 37928 | 33385 | 34325 |
| 35° | 34166 | 30537 | 31666 |
| 40° | 30110 | 27775 | 29063 |
| 45° | 26340 | 25032 | 26253 |
| 50° | 23334 | 22528 | 23718 |
| 55° | 20494 | 19892 | 20687 |
| 60° | 18304 | 16997 | 17490 |
| 65° | 16111 | 13805 | 13542 |
| 70° | 14029 | 10134 | 9304  |
| 75° | 11676 | 6100  | 4909  |
| 80° | 8879  | 2344  | 1421  |
| 85° | 4246  | 708   | 708   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 29.6   | 4.6       |
| 10°-20°   | 86.4   | 13.5      |
| 20°-30°   | 125.1  | 19.6      |
| 30°-40°   | 132.0  | 20.6      |
| 40°-50°   | 114.2  | 17.9      |
| 50°-60°   | 84.6   | 13.2      |
| 60°-70°   | 48.8   | 7.6       |
| 70°-80°   | 17.0   | 2.7       |
| 80°-90°   | 1.8    | 0.3       |
| 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°    | 241.1  | 37.7      |
| 0°-40°    | 373.1  | 58.3      |
| 0°-60°    | 571.9  | 89.4      |
| 0°-90°    | 639.6  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 639.6  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0°  | 307 | 307 | 307 | 307  | 307  |      |
| 5°  | 318 | 314 | 309 | 306  | 305  | 31   |
| 15° | 330 | 319 | 303 | 296  | 295  | 93   |
| 25° | 299 | 284 | 263 | 262  | 266  | 137  |
| 35° | 227 | 216 | 203 | 207  | 210  | 142  |
| 45° | 151 | 147 | 144 | 149  | 150  | 117  |
| 55° | 95  | 93  | 92  | 96   | 96   | 86   |
| 65° | 55  | 52  | 47  | 45   | 46   | 55   |
| 75° | 24  | 21  | 13  | 10   | 10   | 26   |
| 85° | 3   | 2   | 0   | 0    | 0    | 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°    | 306.9 | 306.9 | 306.9 | 306.9 | 306.9 | 306.9  | 306.9 | 306.9  | 306.9 |
| 2.5°  | 311.4 | 310.6 | 309.4 | 307.7 | 306.1 | 304.9  | 304.4 | 304.0  | 304.0 |
| 5°    | 318.1 | 316.4 | 313.9 | 310.6 | 308.6 | 307.4  | 306.1 | 305.2  | 305.2 |
| 7.5°  | 322.7 | 321.0 | 317.2 | 312.7 | 309.9 | 307.4  | 305.7 | 304.4  | 304.4 |
| 10°   | 324.7 | 322.7 | 318.1 | 312.4 | 307.7 | 304.4  | 301.9 | 301.1  | 301.1 |
| 12.5° | 327.2 | 324.7 | 318.5 | 311.1 | 305.2 | 301.1  | 298.6 | 297.8  | 297.8 |
| 15°   | 329.7 | 326.8 | 318.9 | 310.2 | 302.8 | 297.8  | 295.7 | 295.3  | 295.3 |
| 17.5° | 328.5 | 324.7 | 315.6 | 305.2 | 296.9 | 292.0  | 289.9 | 289.9  | 290.3 |
| 20°   | 321.9 | 318.1 | 307.7 | 296.1 | 287.4 | 283.6  | 282.0 | 282.8  | 283.6 |
| 22.5° | 311.9 | 307.4 | 296.1 | 284.9 | 275.8 | 272.5  | 272.5 | 273.8  | 275.0 |
| 25°   | 299.4 | 295.3 | 284.5 | 272.1 | 263.3 | 260.8  | 261.7 | 263.8  | 265.5 |
| 27.5° | 285.3 | 280.8 | 269.6 | 258.0 | 249.2 | 248.0  | 250.0 | 253.0  | 253.8 |
| 30°   | 266.3 | 262.5 | 253.0 | 241.8 | 234.4 | 233.9  | 236.9 | 238.9  | 241.0 |
| 32.5° | 248.0 | 243.9 | 234.7 | 223.9 | 218.6 | 218.9  | 222.3 | 224.8  | 226.1 |
| 35°   | 226.9 | 223.1 | 216.4 | 207.8 | 202.8 | 203.6  | 207.4 | 209.9  | 210.3 |
| 37.5° | 206.9 | 204.4 | 197.8 | 191.2 | 187.5 | 189.1  | 192.5 | 195.3  | 195.3 |
| 40°   | 187.0 | 185.0 | 180.0 | 174.6 | 172.5 | 174.6  | 178.0 | 180.5  | 180.5 |
| 42.5° | 168.0 | 166.7 | 162.5 | 158.9 | 157.7 | 160.5  | 163.4 | 165.5  | 165.0 |
| 45°   | 151.0 | 149.7 | 146.9 | 143.9 | 143.5 | 146.4  | 148.9 | 150.2  | 150.5 |
| 47.5° | 135.6 | 134.8 | 132.3 | 130.2 | 130.2 | 133.1  | 135.2 | 136.4  | 136.9 |
| 50°   | 121.6 | 120.7 | 118.6 | 116.9 | 117.4 | 120.3  | 121.9 | 123.1  | 123.6 |
| 52.5° | 107.4 | 107.0 | 105.3 | 103.3 | 104.5 | 106.6  | 108.6 | 109.5  | 109.9 |
| 55°   | 95.3  | 95.3  | 93.3  | 91.7  | 92.5  | 94.5   | 95.8  | 96.2   | 96.2  |
| 57.5° | 84.6  | 84.2  | 81.7  | 80.0  | 80.5  | 82.5   | 83.3  | 83.8   | 83.8  |
| 60°   | 74.2  | 73.8  | 71.4  | 68.9  | 68.9  | 70.1   | 70.5  | 70.9   | 70.9  |
| 62.5° | 64.2  | 63.9  | 60.9  | 58.9  | 58.1  | 57.7   | 57.7  | 58.5   | 60.2  |
| 65°   | 55.2  | 54.7  | 51.9  | 48.6  | 47.3  | 46.1   | 44.8  | 45.6   | 46.4  |
| 67.5° | 46.9  | 46.1  | 43.1  | 40.2  | 37.3  | 35.3   | 33.1  | 34.4   | 36.1  |
| 70°   | 38.9  | 38.1  | 34.8  | 31.6  | 28.1  | 24.9   | 23.3  | 24.9   | 25.8  |
| 72.5° | 31.6  | 30.6  | 27.4  | 24.1  | 19.9  | 16.6   | 16.2  | 16.6   | 17.0  |
| 75°   | 24.5  | 24.1  | 20.8  | 17.0  | 12.8  | 10.3   | 10.3  | 10.3   | 10.3  |
| 77.5° | 18.3  | 17.4  | 14.1  | 10.8  | 7.5   | 5.8    | 5.4   | 5.4    | 5.4   |
| 80°   | 12.5  | 11.6  | 8.7   | 6.2   | 3.3   | 2.5    | 2.5   | 2.0    | 2.0   |
| 82.5° | 7.0   | 6.6   | 4.5   | 2.5   | 1.2   | 0.8    | 0.8   | 0.8    | 0.8   |
| 85°   | 3.0   | 2.5   | 1.7   | 0.8   | 0.5   | 0.5    | 0.5   | 0.5    | 0.5   |
| 87.5° | 0.5   | 0.5   | 0.5   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0    | 0.0   |
| 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



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

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