

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: P581492

Luminaire Tested: **HC407D010-HM40525927-41RWWC**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P581492  
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: HC407D010-HM40525927-41RWWC  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 696.5 lumens  
Efficiency: N/A  
Efficacy: 87.1 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

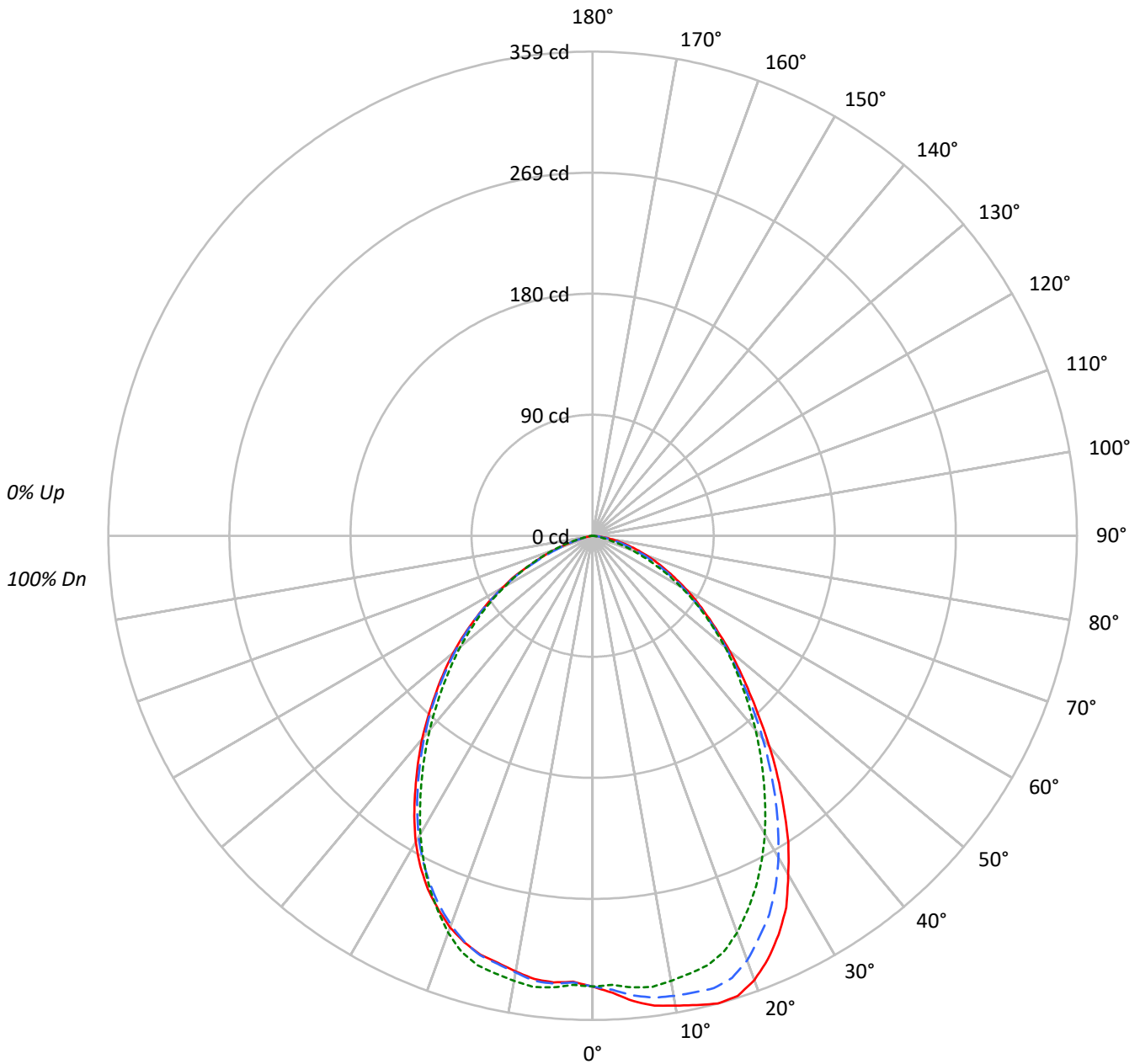
Input Watts (W): 8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P581492

CATALOG NUMBER: HC407D010-HM40525927-41RWWC

### Luminous Intensity Polar Plot





TEST NUMBER: P581492

CATALOG NUMBER: HC407D010-HM40525927-41RWWC

**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°  | 41222 | 41222 | 41222 |
| 5°  | 42890 | 41615 | 41157 |
| 10° | 44300 | 41971 | 41081 |
| 15° | 45843 | 42102 | 41067 |
| 20° | 46007 | 41098 | 40560 |
| 25° | 44395 | 39033 | 39346 |
| 30° | 41304 | 36362 | 37373 |
| 35° | 37208 | 33263 | 34482 |
| 40° | 32799 | 30255 | 31640 |
| 45° | 28677 | 27247 | 28608 |
| 50° | 25387 | 24524 | 25829 |
| 55° | 22343 | 21655 | 22537 |
| 60° | 19933 | 18502 | 19069 |
| 65° | 17541 | 15002 | 14768 |
| 70° | 15291 | 11072 | 10098 |
| 75° | 12677 | 6672  | 5385  |
| 80° | 9589  | 2557  | 1634  |
| 85° | 4529  | 708   | 708   |



TEST NUMBER: P581492

CATALOG NUMBER: HC407D010-HM40525927-41RWWC

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 32.2   | 4.6       |
| 10°-20°   | 94.1   | 13.5      |
| 20°-30°   | 136.3  | 19.6      |
| 30°-40°   | 143.8  | 20.6      |
| 40°-50°   | 124.4  | 17.9      |
| 50°-60°   | 92.2   | 13.2      |
| 60°-70°   | 53.1   | 7.6       |
| 70°-80°   | 18.6   | 2.7       |
| 80°-90°   | 2.0    | 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°    | 262.6  | 37.7      |
| 0°-40°    | 406.3  | 58.3      |
| 0°-60°    | 622.9  | 89.4      |
| 0°-90°    | 696.5  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 696.5  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0°  | 334 | 334 | 334 | 334  | 334  |      |
| 5°  | 346 | 342 | 336 | 333  | 332  | 33   |
| 15° | 359 | 347 | 330 | 322  | 322  | 101  |
| 25° | 326 | 310 | 287 | 285  | 289  | 149  |
| 35° | 247 | 236 | 221 | 226  | 229  | 154  |
| 45° | 164 | 160 | 156 | 162  | 164  | 128  |
| 55° | 104 | 102 | 101 | 104  | 105  | 94   |
| 65° | 60  | 56  | 51  | 49   | 51   | 60   |
| 75° | 27  | 22  | 14  | 11   | 11   | 29   |
| 85° | 3   | 2   | 0   | 0    | 0    | 5    |
| 90° | 0   | 0   | 0   | 0    | 0    |      |



TEST NUMBER: P581492

CATALOG NUMBER: HC407D010-HM40525927-41RWWC

**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   | 112.5° | 135°  | 157.5° | 180°  |
|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|
| 0°    | 334.2 | 334.2 | 334.2 | 334.2 | 334.2 | 334.2  | 334.2 | 334.2  | 334.2 |
| 2.5°  | 339.2 | 338.3 | 337.0 | 335.1 | 333.3 | 332.0  | 331.5 | 331.0  | 331.0 |
| 5°    | 346.4 | 344.6 | 342.0 | 338.3 | 336.1 | 334.7  | 333.3 | 332.4  | 332.4 |
| 7.5°  | 351.4 | 349.6 | 345.5 | 340.6 | 337.4 | 334.7  | 332.9 | 331.5  | 331.5 |
| 10°   | 353.7 | 351.4 | 346.4 | 340.1 | 335.1 | 331.5  | 328.8 | 328.0  | 328.0 |
| 12.5° | 356.4 | 353.7 | 346.9 | 338.8 | 332.4 | 328.0  | 325.2 | 324.3  | 324.3 |
| 15°   | 359.0 | 356.0 | 347.3 | 337.9 | 329.7 | 324.3  | 322.1 | 321.6  | 321.6 |
| 17.5° | 357.7 | 353.7 | 343.7 | 332.4 | 323.4 | 318.0  | 315.7 | 315.7  | 316.1 |
| 20°   | 350.5 | 346.4 | 335.1 | 322.5 | 313.1 | 309.0  | 307.1 | 308.1  | 309.0 |
| 22.5° | 339.7 | 334.7 | 322.5 | 310.3 | 300.3 | 296.8  | 296.8 | 298.2  | 299.4 |
| 25°   | 326.2 | 321.6 | 309.9 | 296.3 | 286.8 | 284.2  | 285.0 | 287.2  | 289.1 |
| 27.5° | 310.8 | 305.8 | 293.6 | 281.0 | 271.4 | 270.0  | 272.3 | 275.5  | 276.4 |
| 30°   | 290.0 | 285.9 | 275.5 | 263.3 | 255.3 | 254.8  | 257.9 | 260.1  | 262.4 |
| 32.5° | 270.0 | 265.6 | 255.6 | 243.9 | 238.1 | 238.5  | 242.1 | 244.8  | 246.1 |
| 35°   | 247.1 | 243.0 | 235.8 | 226.2 | 220.9 | 221.8  | 225.9 | 228.5  | 229.0 |
| 37.5° | 225.4 | 222.7 | 215.4 | 208.3 | 204.2 | 206.0  | 209.6 | 212.7  | 212.7 |
| 40°   | 203.7 | 201.4 | 196.1 | 190.2 | 187.9 | 190.2  | 193.8 | 196.5  | 196.5 |
| 42.5° | 182.9 | 181.6 | 177.1 | 173.0 | 171.6 | 174.8  | 178.0 | 180.3  | 179.8 |
| 45°   | 164.4 | 163.1 | 159.9 | 156.7 | 156.2 | 159.4  | 162.2 | 163.5  | 164.0 |
| 47.5° | 147.7 | 146.8 | 144.1 | 141.8 | 141.8 | 145.0  | 147.3 | 148.6  | 149.1 |
| 50°   | 132.3 | 131.4 | 129.2 | 127.3 | 127.8 | 131.0  | 132.8 | 134.2  | 134.6 |
| 52.5° | 117.0 | 116.5 | 114.7 | 112.4 | 113.8 | 116.1  | 118.4 | 119.3  | 119.7 |
| 55°   | 103.9 | 103.9 | 101.6 | 99.8  | 100.7 | 103.0  | 104.4 | 104.8  | 104.8 |
| 57.5° | 92.2  | 91.7  | 89.0  | 87.2  | 87.6  | 89.9   | 90.8  | 91.3   | 91.3  |
| 60°   | 80.8  | 80.3  | 77.7  | 75.0  | 75.0  | 76.4   | 76.8  | 77.3   | 77.3  |
| 62.5° | 70.0  | 69.5  | 66.3  | 64.2  | 63.3  | 62.8   | 62.8  | 63.7   | 65.5  |
| 65°   | 60.1  | 59.6  | 56.4  | 52.8  | 51.4  | 50.2   | 48.8  | 49.7   | 50.6  |
| 67.5° | 51.1  | 50.2  | 47.0  | 43.8  | 40.6  | 38.4   | 36.2  | 37.4   | 39.3  |
| 70°   | 42.4  | 41.5  | 37.9  | 34.4  | 30.7  | 27.1   | 25.3  | 27.1   | 28.0  |
| 72.5° | 34.4  | 33.5  | 29.8  | 26.2  | 21.7  | 18.1   | 17.6  | 18.1   | 18.5  |
| 75°   | 26.6  | 26.2  | 22.5  | 18.5  | 14.0  | 11.3   | 11.3  | 11.3   | 11.3  |
| 77.5° | 19.9  | 19.0  | 15.4  | 11.7  | 8.1   | 6.4    | 5.9   | 5.9    | 5.9   |
| 80°   | 13.5  | 12.6  | 9.4   | 6.8   | 3.6   | 2.7    | 2.7   | 2.3    | 2.3   |
| 82.5° | 7.6   | 7.3   | 5.0   | 2.7   | 1.4   | 0.9    | 0.9   | 0.9    | 0.9   |
| 85°   | 3.2   | 2.7   | 1.8   | 0.9   | 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   |



Report Generated By 670245859 / DESKTOP-HRDQ47P







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







(END OF REPORT)