

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: P593105

Luminaire Tested: **HC615D010-HM60525850-61WWWB**

Issue Date: 9/16/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P593105  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2105-241-18)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/16/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC615D010-HM60525850-61WWWB  
Description: HALO COMMERCIAL 6" ROUND, NEW CONSTRUCTION FRAME, WITH 6" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1602.6 lumens  
Efficiency: N/A  
Efficacy: 114.5 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.09 / 1.17  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

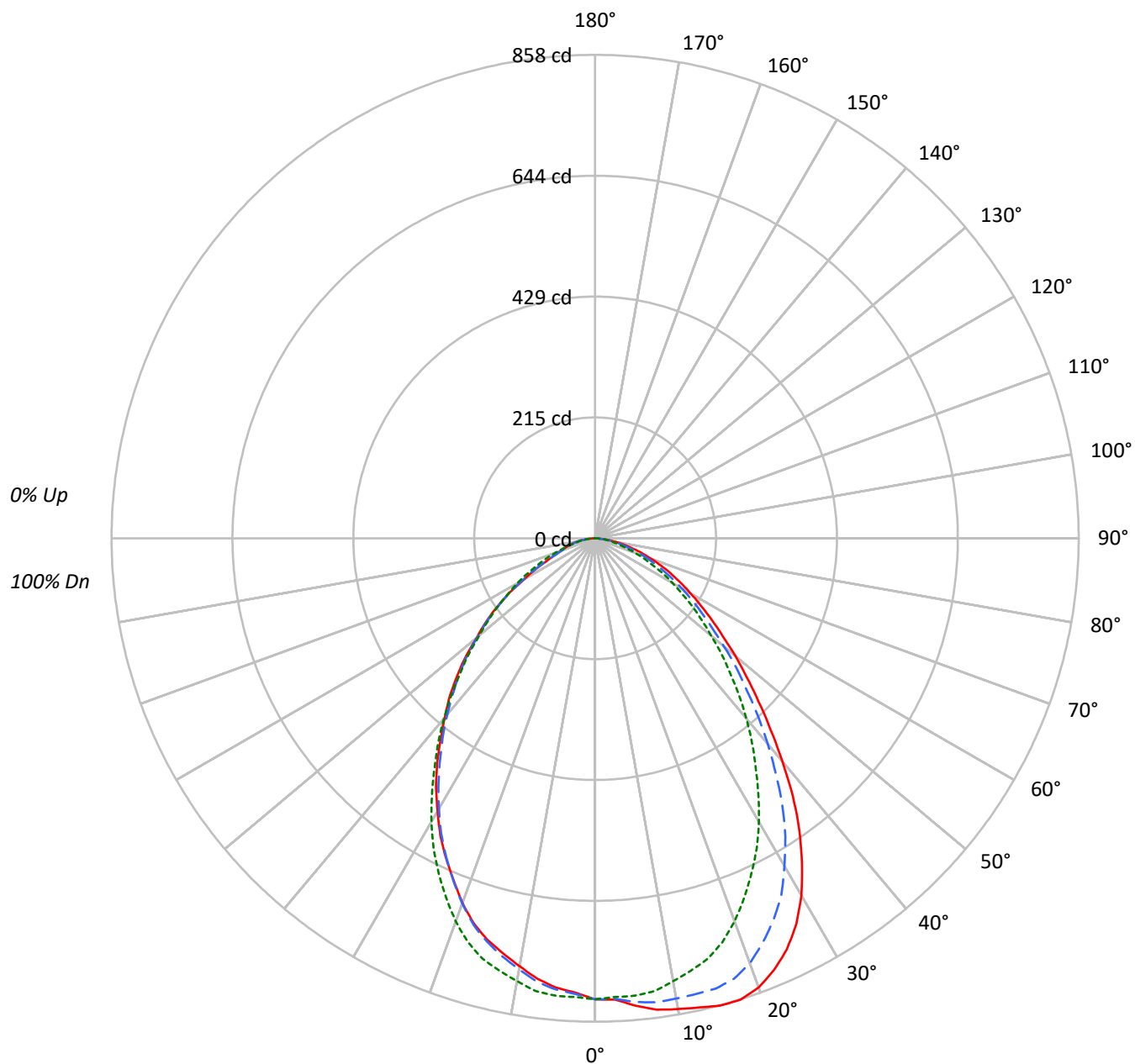
Input Watts (W): 14  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30 | 10 |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |
| 1   | 111 | 107 | 103 | 100 | 108 | 104 | 101 | 98  | 100 | 97  | 95  | 96  | 94  | 92  | 93  | 91  | 89  | 87  |    |    |
| 2   | 102 | 95  | 89  | 84  | 100 | 93  | 88  | 83  | 90  | 85  | 81  | 87  | 83  | 80  | 84  | 81  | 78  | 76  |    |    |
| 3   | 94  | 85  | 78  | 72  | 92  | 84  | 77  | 72  | 81  | 75  | 71  | 78  | 73  | 69  | 76  | 72  | 68  | 66  |    |    |
| 4   | 87  | 77  | 69  | 63  | 85  | 75  | 68  | 63  | 73  | 67  | 62  | 71  | 65  | 61  | 69  | 64  | 60  | 58  |    |    |
| 5   | 81  | 70  | 61  | 56  | 79  | 68  | 61  | 55  | 66  | 60  | 55  | 65  | 59  | 54  | 63  | 58  | 54  | 52  |    |    |
| 6   | 75  | 63  | 55  | 49  | 74  | 62  | 55  | 49  | 61  | 54  | 49  | 59  | 53  | 48  | 58  | 52  | 48  | 46  |    |    |
| 7   | 70  | 58  | 50  | 44  | 69  | 57  | 50  | 44  | 56  | 49  | 44  | 54  | 48  | 44  | 53  | 48  | 43  | 42  |    |    |
| 8   | 66  | 53  | 46  | 40  | 64  | 53  | 45  | 40  | 51  | 45  | 40  | 50  | 44  | 40  | 49  | 44  | 39  | 38  |    |    |
| 9   | 62  | 49  | 42  | 37  | 60  | 49  | 42  | 37  | 48  | 41  | 36  | 47  | 41  | 36  | 46  | 40  | 36  | 34  |    |    |
| 10  | 58  | 46  | 38  | 34  | 57  | 45  | 38  | 33  | 44  | 38  | 33  | 43  | 37  | 33  | 43  | 37  | 33  | 31  |    |    |

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

|     | 0°    | 90°   | 180°  |
|-----|-------|-------|-------|
| 0°  | 44859 | 44859 | 44859 |
| 5°  | 45834 | 44844 | 44046 |
| 10° | 47232 | 44432 | 42935 |
| 15° | 48723 | 43842 | 41879 |
| 20° | 49500 | 42196 | 40172 |
| 25° | 48686 | 39698 | 37871 |
| 30° | 46349 | 36797 | 35385 |
| 35° | 42269 | 33214 | 32692 |
| 40° | 36955 | 29842 | 29677 |
| 45° | 31810 | 26259 | 26863 |
| 50° | 27649 | 22882 | 23360 |
| 55° | 24152 | 20090 | 20300 |
| 60° | 21457 | 17411 | 15931 |
| 65° | 19146 | 14645 | 12180 |
| 70° | 16846 | 12005 | 10210 |
| 75° | 14445 | 9468  | 9722  |
| 80° | 11649 | 8145  | 9534  |
| 85° | 7737  | 6982  | 8428  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 77.5   | 4.8       |
| 10°-20°   | 220.6  | 13.8      |
| 20°-30°   | 314.9  | 19.6      |
| 30°-40°   | 329.8  | 20.6      |
| 40°-50°   | 277.7  | 17.3      |
| 50°-60°   | 197.6  | 12.3      |
| 60°-70°   | 115.7  | 7.2       |
| 70°-80°   | 54.7   | 3.4       |
| 80°-90°   | 14.1   | 0.9       |
| 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°    | 612.9  | 38.2      |
| 0°-40°    | 942.7  | 58.8      |
| 0°-60°    | 1418.1 | 88.5      |
| 0°-90°    | 1602.6 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1602.6 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0°  | 818 | 818 | 818 | 818  | 818  |      |
| 5°  | 833 | 826 | 815 | 804  | 800  | 80   |
| 15° | 858 | 827 | 772 | 741  | 738  | 242  |
| 25° | 805 | 748 | 656 | 625  | 626  | 368  |
| 35° | 632 | 579 | 496 | 480  | 488  | 392  |
| 45° | 410 | 380 | 339 | 340  | 346  | 319  |
| 55° | 253 | 231 | 210 | 210  | 212  | 228  |
| 65° | 148 | 131 | 113 | 95   | 94   | 147  |
| 75° | 68  | 57  | 45  | 44   | 46   | 73   |
| 85° | 12  | 10  | 11  | 13   | 13   | 16   |
| 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°    | 818.3 | 818.3 | 818.3 | 818.3 | 818.3 | 818.3  | 818.3 | 818.3  | 818.3 |
| 2.5°  | 819.5 | 819.5 | 818.3 | 817.2 | 814.9 | 811.6  | 809.4 | 807.1  | 807.1 |
| 5°    | 832.9 | 830.6 | 826.2 | 820.6 | 814.9 | 808.2  | 803.8 | 800.4  | 800.4 |
| 7.5°  | 844.0 | 839.6 | 830.6 | 820.6 | 810.5 | 801.5  | 793.7 | 789.3  | 788.1 |
| 10°   | 848.5 | 843.0 | 829.5 | 813.8 | 798.2 | 785.9  | 776.9 | 771.3  | 771.3 |
| 12.5° | 853.0 | 846.3 | 828.4 | 806.1 | 785.9 | 769.2  | 760.2 | 755.7  | 754.5 |
| 15°   | 858.5 | 849.7 | 827.3 | 799.3 | 772.5 | 753.5  | 741.2 | 737.9  | 737.9 |
| 17.5° | 858.5 | 847.4 | 819.5 | 784.7 | 751.3 | 730.0  | 718.8 | 715.5  | 716.6 |
| 20°   | 848.5 | 836.2 | 802.7 | 760.2 | 723.3 | 701.0  | 689.7 | 687.5  | 688.6 |
| 22.5° | 829.5 | 814.9 | 776.9 | 731.2 | 690.9 | 667.4  | 657.4 | 657.4  | 656.3 |
| 25°   | 804.9 | 789.3 | 747.9 | 699.8 | 656.3 | 632.8  | 624.9 | 626.1  | 626.1 |
| 27.5° | 772.5 | 756.8 | 715.5 | 664.1 | 620.5 | 597.0  | 591.3 | 593.6  | 594.7 |
| 30°   | 732.2 | 715.5 | 671.9 | 621.5 | 581.3 | 557.9  | 554.4 | 557.9  | 559.0 |
| 32.5° | 683.0 | 670.8 | 628.2 | 576.8 | 538.8 | 518.7  | 517.6 | 521.0  | 525.4 |
| 35°   | 631.6 | 618.2 | 579.1 | 532.1 | 496.3 | 479.5  | 479.5 | 485.2  | 488.5 |
| 37.5° | 575.8 | 562.3 | 526.5 | 487.4 | 457.2 | 441.6  | 443.8 | 449.5  | 450.5 |
| 40°   | 516.4 | 506.4 | 476.2 | 442.6 | 417.0 | 404.7  | 408.0 | 413.6  | 414.7 |
| 42.5° | 460.6 | 451.6 | 427.1 | 396.9 | 377.8 | 368.9  | 373.4 | 380.1  | 382.4 |
| 45°   | 410.3 | 400.2 | 380.1 | 354.3 | 338.7 | 334.3  | 339.8 | 344.4  | 346.5 |
| 47.5° | 364.4 | 355.5 | 338.7 | 315.3 | 304.1 | 301.8  | 307.5 | 309.6  | 311.9 |
| 50°   | 324.2 | 315.3 | 298.5 | 277.3 | 268.3 | 268.3  | 272.7 | 275.0  | 273.9 |
| 52.5° | 285.1 | 277.3 | 261.6 | 243.7 | 238.1 | 238.1  | 241.5 | 242.5  | 244.8 |
| 55°   | 252.7 | 244.8 | 231.4 | 214.6 | 210.2 | 207.9  | 210.2 | 210.2  | 212.4 |
| 57.5° | 222.5 | 215.8 | 203.5 | 187.8 | 182.2 | 180.0  | 178.9 | 177.7  | 180.0 |
| 60°   | 195.7 | 190.0 | 176.6 | 163.2 | 158.8 | 153.1  | 148.7 | 144.3  | 145.3 |
| 62.5° | 171.0 | 165.5 | 153.1 | 139.7 | 135.3 | 127.5  | 121.9 | 116.2  | 118.5 |
| 65°   | 147.6 | 142.0 | 130.8 | 119.6 | 112.9 | 104.0  | 95.0  | 91.7   | 93.9  |
| 67.5° | 126.3 | 121.9 | 110.7 | 99.5  | 93.9  | 83.9   | 74.9  | 74.9   | 76.0  |
| 70°   | 105.1 | 100.6 | 91.7  | 81.6  | 74.9  | 65.9   | 62.7  | 63.7   | 63.7  |
| 72.5° | 86.0  | 82.7  | 73.8  | 64.8  | 58.1  | 52.6   | 52.6  | 53.7   | 54.8  |
| 75°   | 68.2  | 65.9  | 57.0  | 49.1  | 44.7  | 41.3   | 43.6  | 44.7   | 45.9  |
| 77.5° | 52.6  | 49.1  | 42.4  | 36.9  | 33.5  | 34.6   | 36.9  | 38.0   | 39.2  |
| 80°   | 36.9  | 35.8  | 30.2  | 26.8  | 25.8  | 26.8   | 29.1  | 30.2   | 30.2  |
| 82.5° | 23.5  | 22.4  | 19.0  | 17.9  | 17.9  | 19.0   | 21.2  | 21.2   | 21.2  |
| 85°   | 12.3  | 11.1  | 10.1  | 10.1  | 11.1  | 12.3   | 13.4  | 13.4   | 13.4  |
| 87.5° | 4.4   | 3.4   | 4.4   | 4.4   | 5.6   | 5.6    | 5.6   | 5.6    | 5.6   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0    | 0.0   |



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







(END OF REPORT)