

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: P580214

Luminaire Tested: **HCC4W25D010SL-HM40525930-41RWWC**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580214  
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: HCC4W25D010SL-HM40525930-41RWWC  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

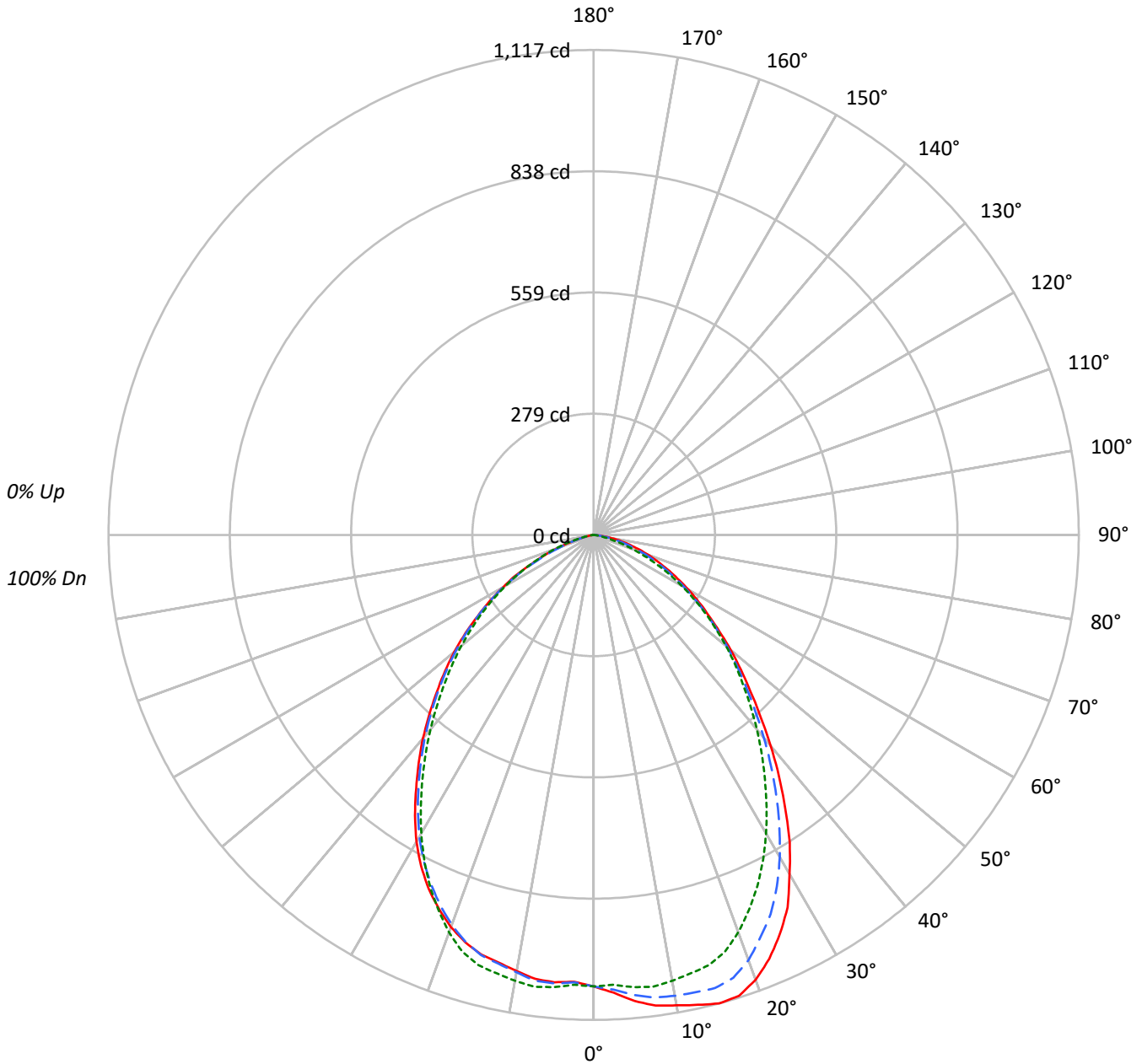
Lumens per Lamp: N/A  
Luminaire Lumens: 2166.9 lumens  
Efficiency: N/A  
Efficacy: 80.9 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.15 / 1.21  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 26.8  
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 | 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°  | 128255 | 128255 | 128255 |
| 5°  | 133437 | 129450 | 128051 |
| 10° | 137798 | 130584 | 127778 |
| 15° | 142650 | 130991 | 127761 |
| 20° | 143128 | 127823 | 126156 |
| 25° | 138070 | 121426 | 122405 |
| 30° | 128498 | 113073 | 116278 |
| 35° | 115734 | 103462 | 107271 |
| 40° | 102036 | 94130  | 98413  |
| 45° | 89207  | 84794  | 88980  |
| 50° | 79002  | 76296  | 80345  |
| 55° | 69503  | 67396  | 70127  |
| 60° | 62043  | 57553  | 59280  |
| 65° | 54520  | 46756  | 45939  |
| 70° | 47640  | 34441  | 31448  |
| 75° | 39508  | 20778  | 16728  |
| 80° | 29904  | 8027   | 4972   |
| 85° | 13869  | 1981   | 1981   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 100.3  | 4.6       |
| 10°-20°   | 292.7  | 13.5      |
| 20°-30°   | 423.9  | 19.6      |
| 30°-40°   | 447.2  | 20.6      |
| 40°-50°   | 387.0  | 17.9      |
| 50°-60°   | 286.7  | 13.2      |
| 60°-70°   | 165.3  | 7.6       |
| 70°-80°   | 57.7   | 2.7       |
| 80°-90°   | 6.1    | 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°    | 816.9  | 37.7      |
| 0°-40°    | 1264.1 | 58.3      |
| 0°-60°    | 1937.8 | 89.4      |
| 0°-90°    | 2166.9 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2166.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45°  | 90°  | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 1040 | 1040 | 1040 | 1040 | 1040 |      |
| 5°  | 1078 | 1064 | 1046 | 1037 | 1034 | 104  |
| 15° | 1117 | 1081 | 1026 | 1002 | 1000 | 314  |
| 25° | 1014 | 964  | 892  | 887  | 899  | 464  |
| 35° | 769  | 734  | 687  | 703  | 712  | 480  |
| 45° | 511  | 497  | 486  | 504  | 510  | 397  |
| 55° | 323  | 316  | 313  | 325  | 326  | 291  |
| 65° | 187  | 176  | 160  | 152  | 157  | 187  |
| 75° | 83   | 70   | 44   | 35   | 35   | 89   |
| 85° | 10   | 6    | 1    | 1    | 1    | 15   |
| 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°    | 1039.8 | 1039.8 | 1039.8 | 1039.8 | 1039.8 | 1039.8 | 1039.8 | 1039.8 | 1039.8 |
| 2.5°  | 1055.3 | 1052.5 | 1048.3 | 1042.6 | 1037.0 | 1032.8 | 1031.5 | 1030.0 | 1030.0 |
| 5°    | 1077.7 | 1072.2 | 1063.7 | 1052.5 | 1045.5 | 1041.3 | 1037.0 | 1034.2 | 1034.2 |
| 7.5°  | 1093.2 | 1087.6 | 1074.9 | 1059.5 | 1049.6 | 1041.3 | 1035.6 | 1031.5 | 1031.5 |
| 10°   | 1100.2 | 1093.2 | 1077.7 | 1058.1 | 1042.6 | 1031.5 | 1023.0 | 1020.2 | 1020.2 |
| 12.5° | 1108.7 | 1100.2 | 1079.2 | 1053.9 | 1034.2 | 1020.2 | 1011.7 | 1008.9 | 1008.9 |
| 15°   | 1117.1 | 1107.3 | 1080.6 | 1051.1 | 1025.8 | 1008.9 | 1001.9 | 1000.5 | 1000.5 |
| 17.5° | 1112.9 | 1100.2 | 1069.4 | 1034.2 | 1006.2 | 989.2  | 982.2  | 982.2  | 983.6  |
| 20°   | 1090.4 | 1077.7 | 1042.6 | 1003.3 | 973.8  | 961.1  | 955.5  | 958.3  | 961.1  |
| 22.5° | 1056.7 | 1041.3 | 1003.3 | 965.4  | 934.5  | 923.2  | 923.2  | 927.5  | 931.7  |
| 25°   | 1014.5 | 1000.5 | 963.9  | 921.8  | 892.2  | 883.9  | 886.7  | 893.7  | 899.4  |
| 27.5° | 966.8  | 951.3  | 913.4  | 874.1  | 844.5  | 840.3  | 847.3  | 857.1  | 860.0  |
| 30°   | 902.2  | 889.4  | 857.1  | 819.2  | 793.9  | 792.6  | 802.4  | 809.4  | 816.4  |
| 32.5° | 840.3  | 826.2  | 795.4  | 758.8  | 740.5  | 742.0  | 753.2  | 761.6  | 765.8  |
| 35°   | 768.6  | 756.0  | 733.5  | 704.0  | 687.1  | 689.9  | 702.6  | 711.0  | 712.4  |
| 37.5° | 701.2  | 692.8  | 670.3  | 647.8  | 635.2  | 640.8  | 652.0  | 661.8  | 661.8  |
| 40°   | 633.7  | 626.7  | 609.9  | 591.6  | 584.6  | 591.6  | 602.8  | 611.2  | 611.2  |
| 42.5° | 569.1  | 564.8  | 550.8  | 538.2  | 534.0  | 543.8  | 553.7  | 560.7  | 559.3  |
| 45°   | 511.4  | 507.3  | 497.4  | 487.6  | 486.1  | 496.1  | 504.4  | 508.7  | 510.1  |
| 47.5° | 459.5  | 456.7  | 448.2  | 441.2  | 441.2  | 451.0  | 458.0  | 462.3  | 463.7  |
| 50°   | 411.7  | 408.9  | 401.9  | 396.3  | 397.6  | 407.5  | 413.1  | 417.4  | 418.7  |
| 52.5° | 364.0  | 362.5  | 356.9  | 349.9  | 354.1  | 361.2  | 368.2  | 371.0  | 372.3  |
| 55°   | 323.2  | 323.2  | 316.1  | 310.6  | 313.4  | 320.4  | 324.6  | 326.1  | 326.1  |
| 57.5° | 286.7  | 285.3  | 276.8  | 271.2  | 272.7  | 279.7  | 282.5  | 283.8  | 283.8  |
| 60°   | 251.5  | 250.1  | 241.7  | 233.3  | 233.3  | 237.4  | 238.9  | 240.3  | 240.3  |
| 62.5° | 217.8  | 216.4  | 206.6  | 199.5  | 196.7  | 195.3  | 195.3  | 198.1  | 203.8  |
| 65°   | 186.8  | 185.5  | 175.7  | 164.4  | 160.2  | 156.0  | 151.7  | 154.6  | 157.4  |
| 67.5° | 158.7  | 156.0  | 146.1  | 136.3  | 126.4  | 119.4  | 112.4  | 116.6  | 122.3  |
| 70°   | 132.1  | 129.3  | 118.0  | 106.8  | 95.5   | 84.3   | 78.7   | 84.3   | 87.2   |
| 72.5° | 106.8  | 104.0  | 92.7   | 81.5   | 67.4   | 56.2   | 54.8   | 56.2   | 57.6   |
| 75°   | 82.9   | 81.5   | 70.2   | 57.6   | 43.6   | 35.1   | 35.1   | 35.1   | 35.1   |
| 77.5° | 61.9   | 59.0   | 47.8   | 36.6   | 25.3   | 19.6   | 18.3   | 18.3   | 18.3   |
| 80°   | 42.1   | 39.3   | 29.5   | 21.1   | 11.3   | 8.5    | 8.5    | 7.0    | 7.0    |
| 82.5° | 23.9   | 22.5   | 15.5   | 8.5    | 4.2    | 2.8    | 2.8    | 2.8    | 2.8    |
| 85°   | 9.8    | 8.5    | 5.6    | 2.8    | 1.4    | 1.4    | 1.4    | 1.4    | 1.4    |
| 87.5° | 1.4    | 1.4    | 1.4    | 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





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Scaled Data Report



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

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