

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: P592725

Luminaire Tested: **HCC4S25D010MW-HM40525950-41WWBB**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P592725  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-17)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HCC4S25D010MW-HM40525950-41WWBB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT  
CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

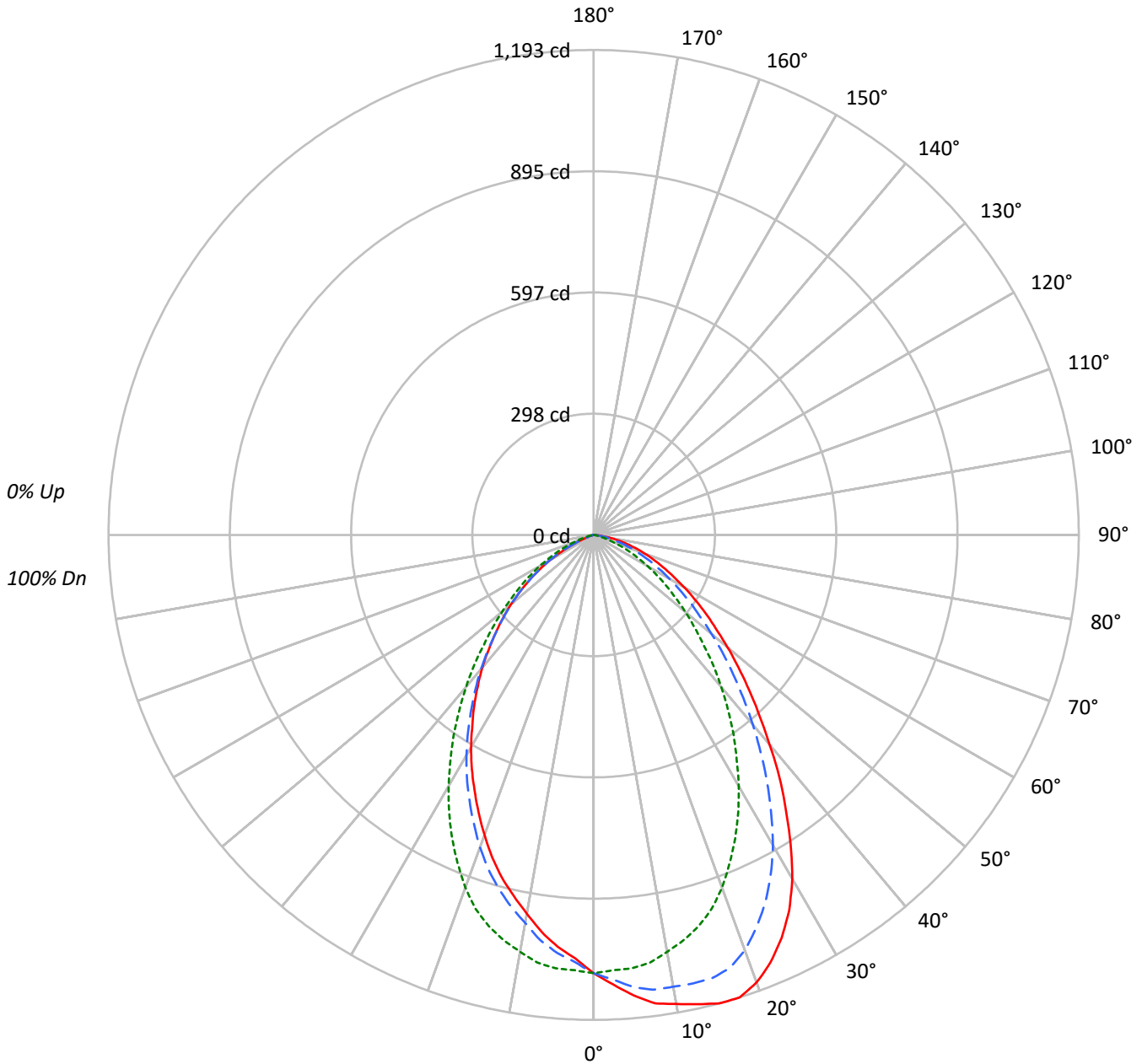
Lumens per Lamp: N/A  
Luminaire Lumens: 1862.0 lumens  
Efficiency: N/A  
Efficacy: 69.5 lumens/watt  
Spacing Criteria (0/90/45): 1.11 / 1.04 / 1.12  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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 |    |    |    |  |  |  |  |   |
| 1   | 111 | 108 | 104 | 101 | 109 | 105 | 102 | 100 | 101 | 99  | 97  | 97  | 95  | 94  | 94  | 92  | 91  | 89  |    |    |    |  |  |  |  |   |
| 2   | 103 | 97  | 91  | 87  | 101 | 95  | 90  | 86  | 92  | 87  | 84  | 88  | 85  | 82  | 85  | 83  | 80  | 78  |    |    |    |  |  |  |  |   |
| 3   | 96  | 87  | 80  | 75  | 94  | 86  | 79  | 74  | 83  | 78  | 73  | 80  | 76  | 72  | 78  | 74  | 71  | 69  |    |    |    |  |  |  |  |   |
| 4   | 89  | 79  | 72  | 66  | 87  | 78  | 71  | 65  | 75  | 69  | 65  | 73  | 68  | 64  | 71  | 67  | 63  | 61  |    |    |    |  |  |  |  |   |
| 5   | 83  | 72  | 64  | 58  | 81  | 71  | 64  | 58  | 69  | 62  | 58  | 67  | 61  | 57  | 65  | 60  | 56  | 55  |    |    |    |  |  |  |  |   |
| 6   | 77  | 66  | 58  | 52  | 75  | 65  | 57  | 52  | 63  | 57  | 52  | 61  | 56  | 51  | 60  | 55  | 51  | 49  |    |    |    |  |  |  |  |   |
| 7   | 72  | 60  | 53  | 47  | 71  | 59  | 52  | 47  | 58  | 51  | 47  | 57  | 51  | 46  | 55  | 50  | 46  | 44  |    |    |    |  |  |  |  |   |
| 8   | 68  | 56  | 48  | 43  | 66  | 55  | 48  | 43  | 54  | 47  | 42  | 53  | 47  | 42  | 51  | 46  | 42  | 40  |    |    |    |  |  |  |  |   |
| 9   | 64  | 52  | 44  | 39  | 62  | 51  | 44  | 39  | 50  | 43  | 39  | 49  | 43  | 39  | 48  | 43  | 39  | 37  |    |    |    |  |  |  |  |   |
| 10  | 60  | 48  | 41  | 36  | 59  | 47  | 41  | 36  | 46  | 40  | 36  | 46  | 40  | 36  | 45  | 39  | 36  | 34  |    |    |    |  |  |  |  |   |

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

|     | 0°     | 90°    | 180°   |
|-----|--------|--------|--------|
| 0°  | 132967 | 132967 | 132967 |
| 5°  | 140879 | 132521 | 125885 |
| 10° | 146741 | 130409 | 118498 |
| 15° | 152342 | 127275 | 111415 |
| 20° | 153786 | 121168 | 103054 |
| 25° | 148795 | 112062 | 94329  |
| 30° | 139123 | 101565 | 85841  |
| 35° | 123985 | 90286  | 77111  |
| 40° | 108380 | 78512  | 68641  |
| 45° | 94405  | 66600  | 59378  |
| 50° | 82398  | 56493  | 50909  |
| 55° | 72213  | 46837  | 41224  |
| 60° | 63178  | 37818  | 30269  |
| 65° | 55074  | 28194  | 17015  |
| 70° | 48109  | 18248  | 5554   |
| 75° | 39460  | 9531   | 1430   |
| 80° | 29407  | 4333   | 1137   |
| 85° | 17407  | 2264   | 2264   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 101.7  | 5.5       |
| 10°-20°   | 284.7  | 15.3      |
| 20°-30°   | 393.7  | 21.1      |
| 30°-40°   | 395.9  | 21.3      |
| 40°-50°   | 319.4  | 17.2      |
| 50°-60°   | 216.0  | 11.6      |
| 60°-70°   | 109.9  | 5.9       |
| 70°-80°   | 35.2   | 1.9       |
| 80°-90°   | 5.4    | 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°    | 780.2  | 41.9      |
| 0°-40°    | 1176.1 | 63.2      |
| 0°-60°    | 1711.5 | 91.9      |
| 0°-90°    | 1862.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1862.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45°  | 90°  | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 1078 | 1078 | 1078 | 1078 | 1078 |      |
| 5°  | 1138 | 1116 | 1070 | 1032 | 1017 | 110  |
| 15° | 1193 | 1128 | 997  | 902  | 872  | 336  |
| 25° | 1093 | 998  | 823  | 722  | 693  | 500  |
| 35° | 823  | 744  | 600  | 524  | 512  | 515  |
| 45° | 541  | 485  | 382  | 340  | 340  | 419  |
| 55° | 336  | 290  | 218  | 190  | 192  | 302  |
| 65° | 189  | 153  | 97   | 63   | 58   | 189  |
| 75° | 83   | 58   | 20   | 5    | 3    | 89   |
| 85° | 12   | 6    | 2    | 2    | 2    | 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°    | 1078.0 | 1078.0 | 1078.0 | 1078.0 | 1078.0 | 1078.0 | 1078.0 | 1078.0 | 1078.0 |
| 2.5°  | 1107.1 | 1101.0 | 1094.8 | 1084.1 | 1071.9 | 1059.6 | 1051.9 | 1045.8 | 1042.7 |
| 5°    | 1137.8 | 1130.1 | 1116.4 | 1093.3 | 1070.3 | 1048.8 | 1032.0 | 1021.3 | 1016.7 |
| 7.5°  | 1162.3 | 1151.6 | 1128.5 | 1096.4 | 1061.1 | 1027.4 | 1005.9 | 990.6  | 984.5  |
| 10°   | 1171.6 | 1159.3 | 1128.5 | 1085.6 | 1041.2 | 999.7  | 969.1  | 953.8  | 946.1  |
| 12.5° | 1182.3 | 1168.4 | 1130.1 | 1076.5 | 1021.3 | 972.2  | 937.0  | 917.0  | 909.3  |
| 15°   | 1193.0 | 1174.6 | 1128.5 | 1062.6 | 996.7  | 940.0  | 901.6  | 881.7  | 872.5  |
| 17.5° | 1193.0 | 1171.6 | 1116.4 | 1039.7 | 964.5  | 904.7  | 861.8  | 838.7  | 831.1  |
| 20°   | 1171.6 | 1147.0 | 1087.2 | 1002.9 | 923.1  | 858.7  | 817.3  | 794.3  | 785.1  |
| 22.5° | 1137.8 | 1110.1 | 1045.8 | 958.4  | 874.1  | 811.2  | 769.8  | 748.3  | 739.0  |
| 25°   | 1093.3 | 1065.7 | 998.3  | 907.7  | 823.4  | 760.6  | 722.2  | 702.4  | 693.1  |
| 27.5° | 1041.2 | 1010.5 | 943.1  | 852.6  | 769.8  | 709.9  | 674.7  | 656.3  | 648.6  |
| 30°   | 976.8  | 947.7  | 881.7  | 792.8  | 713.1  | 657.9  | 625.6  | 608.8  | 602.7  |
| 32.5° | 901.6  | 877.1  | 812.7  | 729.9  | 654.7  | 604.1  | 575.0  | 561.2  | 555.1  |
| 35°   | 823.4  | 800.5  | 743.7  | 667.0  | 599.6  | 552.0  | 524.4  | 515.3  | 512.1  |
| 37.5° | 749.9  | 729.9  | 674.7  | 604.1  | 542.8  | 501.4  | 476.9  | 470.8  | 467.6  |
| 40°   | 673.1  | 659.3  | 608.8  | 544.4  | 487.6  | 450.8  | 430.9  | 426.3  | 426.3  |
| 42.5° | 604.1  | 588.8  | 544.4  | 486.0  | 435.5  | 398.6  | 384.9  | 380.2  | 381.8  |
| 45°   | 541.2  | 526.0  | 484.6  | 430.9  | 381.8  | 351.1  | 340.4  | 340.4  | 340.4  |
| 47.5° | 483.0  | 469.2  | 430.9  | 375.7  | 335.8  | 311.3  | 300.5  | 300.5  | 302.1  |
| 50°   | 429.4  | 420.1  | 377.2  | 329.7  | 294.4  | 271.4  | 263.7  | 262.3  | 265.3  |
| 52.5° | 378.8  | 368.1  | 329.7  | 286.8  | 253.0  | 234.6  | 226.9  | 225.5  | 226.9  |
| 55°   | 335.8  | 323.6  | 289.8  | 248.4  | 217.8  | 199.4  | 190.1  | 188.7  | 191.7  |
| 57.5° | 294.4  | 285.2  | 250.0  | 213.2  | 184.0  | 165.6  | 157.9  | 154.9  | 156.4  |
| 60°   | 256.1  | 246.9  | 214.6  | 179.4  | 153.3  | 134.9  | 124.2  | 121.1  | 122.7  |
| 62.5° | 220.8  | 213.2  | 182.4  | 148.7  | 122.7  | 105.8  | 95.1   | 87.4   | 90.4   |
| 65°   | 188.7  | 181.0  | 153.3  | 119.6  | 96.6   | 78.2   | 62.9   | 56.8   | 58.3   |
| 67.5° | 161.0  | 151.9  | 125.8  | 95.1   | 72.0   | 52.2   | 35.2   | 32.2   | 32.2   |
| 70°   | 133.4  | 124.2  | 101.2  | 73.6   | 50.6   | 27.5   | 15.4   | 15.4   | 15.4   |
| 72.5° | 107.4  | 99.7   | 78.2   | 55.2   | 32.2   | 12.3   | 6.1    | 6.1    | 6.1    |
| 75°   | 82.8   | 76.7   | 58.3   | 38.4   | 20.0   | 6.1    | 4.6    | 3.0    | 3.0    |
| 77.5° | 61.3   | 55.2   | 41.4   | 26.1   | 12.3   | 3.0    | 3.0    | 3.0    | 3.0    |
| 80°   | 41.4   | 36.8   | 27.5   | 15.4   | 6.1    | 1.6    | 1.6    | 1.6    | 1.6    |
| 82.5° | 24.5   | 21.5   | 15.4   | 7.7    | 3.0    | 1.6    | 1.6    | 1.6    | 1.6    |
| 85°   | 12.3   | 9.1    | 6.1    | 3.0    | 1.6    | 1.6    | 1.6    | 1.6    | 1.6    |
| 87.5° | 3.0    | 1.6    | 1.6    | 1.6    | 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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