

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: P580251

Luminaire Tested: **HCC4S25D010MB-HM40525940-41RWWH**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580251  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-15)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HCC4S25D010MB-HM40525940-41RWWH  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

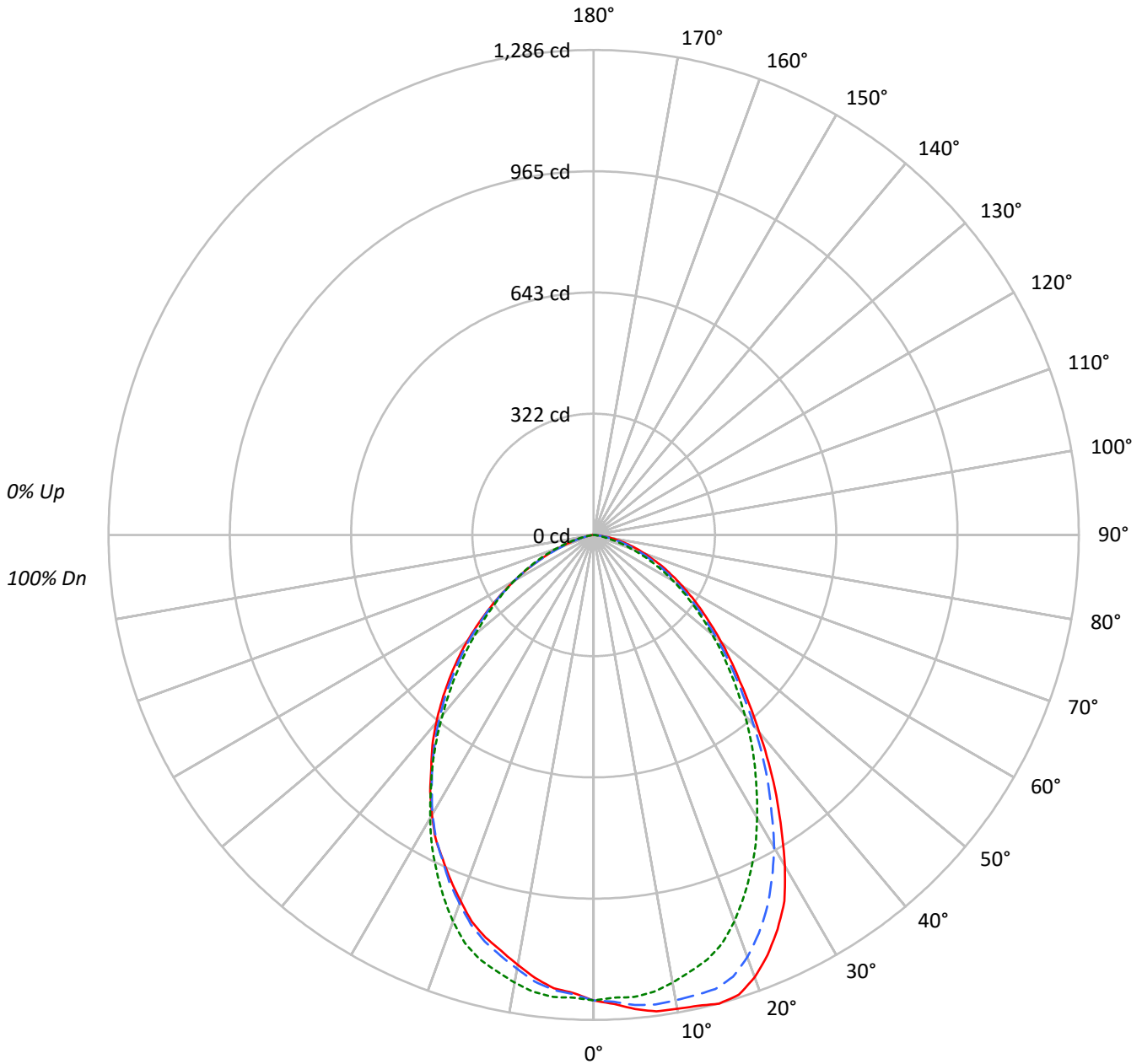
Lumens per Lamp: N/A  
Luminaire Lumens: 2352.8 lumens  
Efficiency: N/A  
Efficacy: 87.8 lumens/watt  
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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 | 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 | 104 | 100 | 108 | 105 | 102 | 99  | 101 | 98  | 96  | 97  | 95  | 93  | 93  | 92  | 90  | 88  |    |    |    |    | 88  |   |  |   |
| 2   | 103 | 96  | 90  | 85  | 100 | 94  | 89  | 84  | 90  | 86  | 82  | 87  | 84  | 80  | 84  | 81  | 79  | 77  |    |    |    |    | 77  |   |  |   |
| 3   | 95  | 86  | 79  | 73  | 92  | 84  | 78  | 73  | 81  | 76  | 71  | 79  | 74  | 70  | 76  | 72  | 69  | 67  |    |    |    |    | 67  |   |  |   |
| 4   | 88  | 77  | 70  | 64  | 86  | 76  | 69  | 63  | 74  | 67  | 62  | 71  | 66  | 62  | 69  | 65  | 61  | 59  |    |    |    |    | 59  |   |  |   |
| 5   | 81  | 70  | 62  | 56  | 79  | 69  | 61  | 56  | 67  | 60  | 55  | 65  | 59  | 55  | 63  | 58  | 54  | 52  |    |    |    |    | 52  |   |  |   |
| 6   | 76  | 64  | 56  | 50  | 74  | 63  | 55  | 50  | 61  | 54  | 49  | 60  | 54  | 49  | 58  | 53  | 49  | 47  |    |    |    |    | 47  |   |  |   |
| 7   | 71  | 58  | 51  | 45  | 69  | 58  | 50  | 45  | 56  | 49  | 45  | 55  | 49  | 44  | 54  | 48  | 44  | 42  |    |    |    |    | 42  |   |  |   |
| 8   | 66  | 54  | 46  | 41  | 65  | 53  | 46  | 41  | 52  | 45  | 40  | 51  | 45  | 40  | 50  | 44  | 40  | 38  |    |    |    |    | 38  |   |  |   |
| 9   | 62  | 50  | 42  | 37  | 61  | 49  | 42  | 37  | 48  | 41  | 37  | 47  | 41  | 37  | 46  | 41  | 37  | 35  |    |    |    |    | 35  |   |  |   |
| 10  | 58  | 46  | 39  | 34  | 57  | 46  | 39  | 34  | 45  | 38  | 34  | 44  | 38  | 34  | 43  | 38  | 34  | 32  |    |    |    |    | 32  |   |  |   |

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

|     | 0°     | 90°    | 180°   |
|-----|--------|--------|--------|
| 0°  | 152258 | 152258 | 152258 |
| 5°  | 156257 | 152270 | 149422 |
| 10° | 159792 | 150962 | 145013 |
| 15° | 164282 | 148818 | 141182 |
| 20° | 163841 | 143115 | 135462 |
| 25° | 156947 | 133987 | 128979 |
| 30° | 144364 | 123399 | 122074 |
| 35° | 126997 | 111984 | 112918 |
| 40° | 109878 | 100233 | 104435 |
| 45° | 95504  | 89068  | 94440  |
| 50° | 84759  | 78560  | 83857  |
| 55° | 75202  | 68922  | 71890  |
| 60° | 66952  | 59773  | 59773  |
| 65° | 59510  | 49704  | 46552  |
| 70° | 51427  | 37615  | 33179  |
| 75° | 43082  | 24877  | 20445  |
| 80° | 32675  | 11933  | 10939  |
| 85° | 17407  | 4246   | 4246   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 116.9  | 5.0       |
| 10°-20°   | 331.4  | 14.1      |
| 20°-30°   | 467.4  | 19.9      |
| 30°-40°   | 482.8  | 20.5      |
| 40°-50°   | 409.3  | 17.4      |
| 50°-60°   | 297.8  | 12.7      |
| 60°-70°   | 174.0  | 7.4       |
| 70°-80°   | 64.7   | 2.7       |
| 80°-90°   | 8.5    | 0.4       |
| 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°    | 915.7  | 38.9      |
| 0°-40°    | 1398.6 | 59.4      |
| 0°-60°    | 2105.7 | 89.5      |
| 0°-90°    | 2352.8 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2352.8 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45°  | 90°  | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 1234 | 1234 | 1234 | 1234 | 1234 |      |
| 5°  | 1262 | 1251 | 1230 | 1211 | 1207 | 121  |
| 15° | 1286 | 1247 | 1165 | 1116 | 1106 | 362  |
| 25° | 1153 | 1089 | 984  | 949  | 948  | 527  |
| 35° | 843  | 807  | 744  | 745  | 750  | 527  |
| 45° | 548  | 532  | 511  | 529  | 541  | 426  |
| 55° | 350  | 333  | 320  | 331  | 334  | 315  |
| 65° | 204  | 187  | 170  | 160  | 160  | 202  |
| 75° | 90   | 75   | 52   | 41   | 43   | 97   |
| 85° | 12   | 8    | 3    | 3    | 3    | 17   |
| 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°    | 1234.4 | 1234.4 | 1234.4 | 1234.4 | 1234.4 | 1234.4 | 1234.4 | 1234.4 | 1234.4 |
| 2.5°  | 1245.2 | 1242.1 | 1239.0 | 1234.4 | 1228.2 | 1223.7 | 1219.1 | 1216.0 | 1216.0 |
| 5°    | 1262.0 | 1257.4 | 1251.3 | 1240.5 | 1229.8 | 1220.6 | 1211.4 | 1206.8 | 1206.8 |
| 7.5°  | 1274.3 | 1268.1 | 1255.9 | 1240.5 | 1222.1 | 1208.4 | 1194.6 | 1188.4 | 1185.3 |
| 10°   | 1275.8 | 1269.7 | 1252.9 | 1229.8 | 1205.3 | 1183.8 | 1168.5 | 1159.3 | 1157.8 |
| 12.5° | 1278.9 | 1271.3 | 1249.8 | 1217.5 | 1185.3 | 1159.3 | 1142.4 | 1133.2 | 1130.1 |
| 15°   | 1286.5 | 1275.8 | 1246.6 | 1205.3 | 1165.4 | 1134.8 | 1116.4 | 1108.7 | 1105.6 |
| 17.5° | 1278.9 | 1263.6 | 1228.2 | 1179.2 | 1134.8 | 1101.0 | 1082.6 | 1074.9 | 1074.9 |
| 20°   | 1248.2 | 1232.9 | 1191.4 | 1137.8 | 1090.3 | 1058.1 | 1039.7 | 1035.1 | 1032.0 |
| 22.5° | 1205.3 | 1188.4 | 1143.9 | 1087.2 | 1039.7 | 1010.6 | 998.3  | 992.2  | 990.6  |
| 25°   | 1153.2 | 1136.2 | 1088.7 | 1030.4 | 984.5  | 959.9  | 949.2  | 949.2  | 947.7  |
| 27.5° | 1094.9 | 1073.5 | 1024.3 | 973.8  | 929.3  | 910.9  | 906.2  | 906.2  | 907.8  |
| 30°   | 1013.6 | 998.3  | 956.8  | 907.8  | 866.4  | 854.1  | 854.1  | 857.1  | 857.1  |
| 32.5° | 926.2  | 915.5  | 878.7  | 835.7  | 803.5  | 795.8  | 798.9  | 805.1  | 806.6  |
| 35°   | 843.4  | 831.2  | 806.6  | 768.3  | 743.7  | 740.6  | 745.3  | 749.9  | 749.9  |
| 37.5° | 762.1  | 749.9  | 732.9  | 702.4  | 683.9  | 685.4  | 691.6  | 697.7  | 702.4  |
| 40°   | 682.4  | 673.2  | 660.9  | 636.4  | 622.5  | 628.7  | 636.4  | 642.5  | 648.6  |
| 42.5° | 611.8  | 602.7  | 593.4  | 575.0  | 565.9  | 573.5  | 582.7  | 588.9  | 595.0  |
| 45°   | 547.5  | 541.4  | 532.1  | 516.7  | 510.6  | 518.3  | 529.0  | 535.1  | 541.4  |
| 47.5° | 492.2  | 489.2  | 476.9  | 463.1  | 460.1  | 467.7  | 476.9  | 484.6  | 489.2  |
| 50°   | 441.7  | 437.0  | 426.3  | 412.5  | 409.4  | 421.7  | 427.8  | 432.4  | 437.0  |
| 52.5° | 392.6  | 387.9  | 375.7  | 363.4  | 363.4  | 372.6  | 377.2  | 378.8  | 383.4  |
| 55°   | 349.7  | 345.0  | 332.7  | 323.6  | 320.5  | 328.2  | 331.2  | 331.2  | 334.3  |
| 57.5° | 309.8  | 305.2  | 292.9  | 282.1  | 280.7  | 285.2  | 285.2  | 285.2  | 286.8  |
| 60°   | 271.4  | 266.8  | 254.6  | 245.3  | 242.3  | 243.9  | 242.3  | 240.7  | 242.3  |
| 62.5° | 236.2  | 231.6  | 219.3  | 208.5  | 205.5  | 205.5  | 200.8  | 199.4  | 200.8  |
| 65°   | 203.9  | 196.3  | 187.1  | 176.3  | 170.3  | 165.6  | 159.5  | 159.5  | 159.5  |
| 67.5° | 171.7  | 165.6  | 154.9  | 144.2  | 136.5  | 128.8  | 119.6  | 122.7  | 124.2  |
| 70°   | 142.6  | 138.0  | 125.8  | 115.0  | 104.3  | 95.1   | 87.4   | 90.4   | 92.0   |
| 72.5° | 116.5  | 110.4  | 99.7   | 87.4   | 78.2   | 65.9   | 61.3   | 64.4   | 64.4   |
| 75°   | 90.4   | 84.3   | 75.2   | 62.9   | 52.2   | 41.4   | 41.4   | 42.9   | 42.9   |
| 77.5° | 67.5   | 61.3   | 52.2   | 41.4   | 32.2   | 24.5   | 26.1   | 26.1   | 26.1   |
| 80°   | 46.0   | 41.4   | 33.8   | 24.5   | 16.8   | 13.8   | 13.8   | 13.8   | 15.4   |
| 82.5° | 26.1   | 23.0   | 18.4   | 12.3   | 7.7    | 7.7    | 7.7    | 7.7    | 7.7    |
| 85°   | 12.3   | 9.1    | 7.7    | 4.6    | 3.0    | 3.0    | 3.0    | 3.0    | 3.0    |
| 87.5° | 1.6    | 1.6    | 1.6    | 1.6    | 1.6    | 1.6    | 1.6    | 1.6    | 1.6    |
| 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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