

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: P580143

Luminaire Tested: **HCC4S25D010BZ-HM40525830-41RWWH**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580143  
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: HCC4S25D010BZ-HM40525830-41RWWH  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

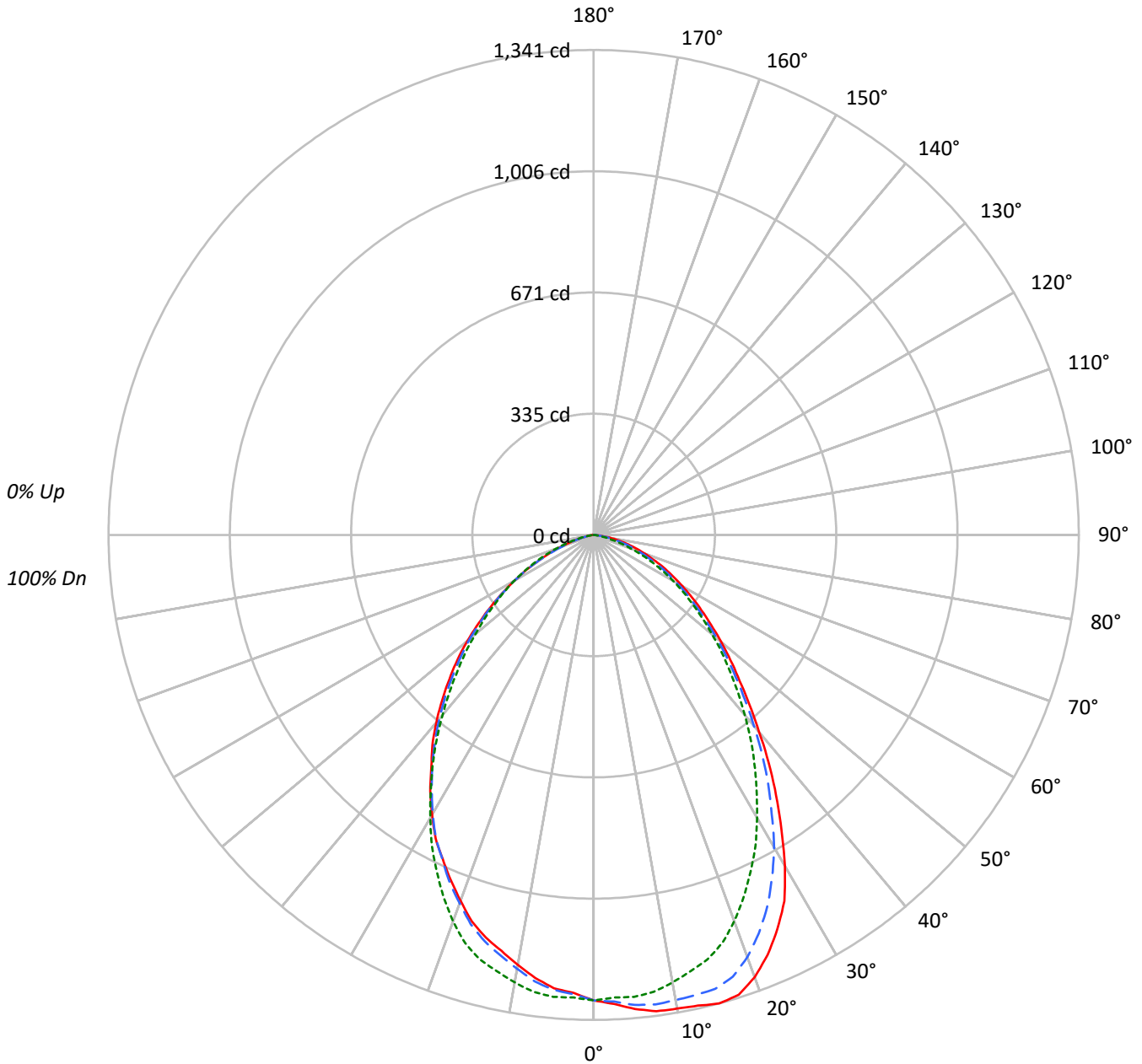
Lumens per Lamp: N/A  
Luminaire Lumens: 2452.9 lumens  
Efficiency: N/A  
Efficacy: 91.5 lumens/watt  
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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 | 0  |  |  |  |  |   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |  |  |  |  |   |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |    |  |  |  |  |   |
| 1   | 111 | 107 | 104 | 100 | 108 | 105 | 102 | 99  | 101 | 98  | 96  | 97  | 95  | 93  | 93  | 92  | 90  | 88  |    |    |    |  |  |  |  |   |
| 2   | 103 | 96  | 90  | 85  | 100 | 94  | 89  | 84  | 90  | 86  | 82  | 87  | 84  | 80  | 84  | 81  | 79  | 77  |    |    |    |  |  |  |  |   |
| 3   | 95  | 86  | 79  | 73  | 92  | 84  | 78  | 73  | 81  | 76  | 71  | 79  | 74  | 70  | 76  | 72  | 69  | 67  |    |    |    |  |  |  |  |   |
| 4   | 88  | 77  | 70  | 64  | 86  | 76  | 69  | 63  | 74  | 67  | 62  | 71  | 66  | 62  | 69  | 65  | 61  | 59  |    |    |    |  |  |  |  |   |
| 5   | 81  | 70  | 62  | 56  | 79  | 69  | 61  | 56  | 67  | 60  | 55  | 65  | 59  | 55  | 63  | 58  | 54  | 52  |    |    |    |  |  |  |  |   |
| 6   | 76  | 64  | 56  | 50  | 74  | 63  | 55  | 50  | 61  | 54  | 49  | 60  | 54  | 49  | 58  | 53  | 49  | 47  |    |    |    |  |  |  |  |   |
| 7   | 71  | 58  | 51  | 45  | 69  | 58  | 50  | 45  | 56  | 49  | 45  | 55  | 49  | 44  | 54  | 48  | 44  | 42  |    |    |    |  |  |  |  |   |
| 8   | 66  | 54  | 46  | 41  | 65  | 53  | 46  | 41  | 52  | 45  | 40  | 51  | 45  | 40  | 50  | 44  | 40  | 38  |    |    |    |  |  |  |  |   |
| 9   | 62  | 50  | 42  | 37  | 61  | 49  | 42  | 37  | 48  | 41  | 37  | 47  | 41  | 37  | 46  | 41  | 37  | 35  |    |    |    |  |  |  |  |   |
| 10  | 58  | 46  | 39  | 34  | 57  | 46  | 39  | 34  | 45  | 38  | 34  | 44  | 38  | 34  | 43  | 38  | 34  | 32  |    |    |    |  |  |  |  |   |

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

|     | 0°     | 90°    | 180°   |
|-----|--------|--------|--------|
| 0°  | 158733 | 158733 | 158733 |
| 5°  | 162906 | 158746 | 155786 |
| 10° | 166593 | 157387 | 151175 |
| 15° | 171280 | 155152 | 147183 |
| 20° | 170811 | 149205 | 141224 |
| 25° | 163616 | 139690 | 134464 |
| 30° | 150503 | 128640 | 127273 |
| 35° | 132403 | 116758 | 117706 |
| 40° | 114547 | 104516 | 108895 |
| 45° | 99551  | 92853  | 98435  |
| 50° | 88347  | 81919  | 87445  |
| 55° | 78363  | 71847  | 74944  |
| 60° | 69789  | 62314  | 62314  |
| 65° | 62050  | 51805  | 48536  |
| 70° | 53627  | 39201  | 34621  |
| 75° | 44941  | 25878  | 21303  |
| 80° | 34095  | 12502  | 11365  |
| 85° | 18115  | 4529   | 4529   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 121.9  | 5.0       |
| 10°-20°   | 345.5  | 14.1      |
| 20°-30°   | 487.3  | 19.9      |
| 30°-40°   | 503.4  | 20.5      |
| 40°-50°   | 426.7  | 17.4      |
| 50°-60°   | 310.5  | 12.7      |
| 60°-70°   | 181.4  | 7.4       |
| 70°-80°   | 67.4   | 2.7       |
| 80°-90°   | 8.8    | 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°    | 954.7  | 38.9      |
| 0°-40°    | 1458.1 | 59.4      |
| 0°-60°    | 2195.3 | 89.5      |
| 0°-90°    | 2452.9 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2452.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45°  | 90°  | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 1287 | 1287 | 1287 | 1287 | 1287 |      |
| 5°  | 1316 | 1305 | 1282 | 1263 | 1258 | 126  |
| 15° | 1341 | 1300 | 1215 | 1164 | 1153 | 377  |
| 25° | 1202 | 1135 | 1026 | 990  | 988  | 550  |
| 35° | 879  | 841  | 775  | 777  | 782  | 549  |
| 45° | 571  | 555  | 532  | 552  | 564  | 444  |
| 55° | 364  | 347  | 334  | 345  | 348  | 328  |
| 65° | 213  | 195  | 178  | 166  | 166  | 211  |
| 75° | 94   | 78   | 54   | 43   | 45   | 101  |
| 85° | 13   | 8    | 3    | 3    | 3    | 18   |
| 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°    | 1286.9 | 1286.9 | 1286.9 | 1286.9 | 1286.9 | 1286.9 | 1286.9 | 1286.9 | 1286.9 |
| 2.5°  | 1298.1 | 1295.0 | 1291.7 | 1286.9 | 1280.5 | 1275.8 | 1270.9 | 1267.8 | 1267.8 |
| 5°    | 1315.7 | 1310.9 | 1304.6 | 1293.3 | 1282.1 | 1272.5 | 1262.9 | 1258.2 | 1258.2 |
| 7.5°  | 1328.5 | 1322.1 | 1309.3 | 1293.3 | 1274.2 | 1259.7 | 1245.4 | 1239.0 | 1235.8 |
| 10°   | 1330.1 | 1323.6 | 1306.1 | 1282.1 | 1256.6 | 1234.2 | 1218.2 | 1208.6 | 1207.0 |
| 12.5° | 1333.2 | 1325.3 | 1302.9 | 1269.3 | 1235.8 | 1208.6 | 1191.0 | 1181.4 | 1178.2 |
| 15°   | 1341.3 | 1330.1 | 1299.7 | 1256.6 | 1215.0 | 1183.0 | 1163.8 | 1155.9 | 1152.6 |
| 17.5° | 1333.2 | 1317.3 | 1280.5 | 1229.4 | 1183.0 | 1147.9 | 1128.7 | 1120.6 | 1120.6 |
| 20°   | 1301.3 | 1285.4 | 1242.1 | 1186.2 | 1136.7 | 1103.0 | 1083.8 | 1079.1 | 1075.9 |
| 22.5° | 1256.6 | 1239.0 | 1192.6 | 1133.4 | 1083.8 | 1053.5 | 1040.7 | 1034.4 | 1032.7 |
| 25°   | 1202.2 | 1184.7 | 1135.1 | 1074.4 | 1026.4 | 1000.7 | 989.6  | 989.6  | 988.0  |
| 27.5° | 1141.4 | 1119.1 | 1067.9 | 1015.2 | 968.8  | 949.6  | 944.9  | 944.9  | 946.4  |
| 30°   | 1056.7 | 1040.7 | 997.6  | 946.4  | 903.2  | 890.4  | 890.4  | 893.6  | 893.6  |
| 32.5° | 965.6  | 954.5  | 916.1  | 871.2  | 837.7  | 829.7  | 832.9  | 839.3  | 840.9  |
| 35°   | 879.3  | 866.5  | 840.9  | 800.9  | 775.4  | 772.1  | 777.0  | 781.7  | 781.7  |
| 37.5° | 794.6  | 781.7  | 764.1  | 732.2  | 713.0  | 714.7  | 721.0  | 727.4  | 732.2  |
| 40°   | 711.4  | 701.8  | 689.0  | 663.4  | 649.1  | 655.5  | 663.4  | 669.8  | 676.3  |
| 42.5° | 637.9  | 628.3  | 618.7  | 599.5  | 589.9  | 597.9  | 607.5  | 613.8  | 620.3  |
| 45°   | 570.7  | 564.3  | 554.8  | 538.8  | 532.3  | 540.3  | 551.5  | 558.0  | 564.3  |
| 47.5° | 513.1  | 510.0  | 497.2  | 482.8  | 479.6  | 487.6  | 497.2  | 505.2  | 510.0  |
| 50°   | 460.4  | 455.7  | 444.4  | 430.0  | 426.9  | 439.6  | 446.1  | 450.8  | 455.7  |
| 52.5° | 409.3  | 404.4  | 391.7  | 378.9  | 378.9  | 388.5  | 393.2  | 394.9  | 399.7  |
| 55°   | 364.4  | 359.7  | 346.9  | 337.3  | 334.1  | 342.1  | 345.4  | 345.4  | 348.5  |
| 57.5° | 322.9  | 318.2  | 305.4  | 294.1  | 292.5  | 297.4  | 297.4  | 297.4  | 299.0  |
| 60°   | 282.9  | 278.2  | 265.4  | 255.8  | 252.6  | 254.1  | 252.6  | 251.0  | 252.6  |
| 62.5° | 246.2  | 241.4  | 228.6  | 217.4  | 214.2  | 214.2  | 209.4  | 207.8  | 209.4  |
| 65°   | 212.6  | 204.6  | 195.1  | 183.8  | 177.5  | 172.6  | 166.3  | 166.3  | 166.3  |
| 67.5° | 179.1  | 172.6  | 161.4  | 150.3  | 142.3  | 134.2  | 124.6  | 127.9  | 129.5  |
| 70°   | 148.7  | 143.8  | 131.1  | 119.9  | 108.7  | 99.1   | 91.1   | 94.3   | 96.0   |
| 72.5° | 121.5  | 115.2  | 103.9  | 91.1   | 81.5   | 68.8   | 63.9   | 67.2   | 67.2   |
| 75°   | 94.3   | 87.9   | 78.4   | 65.6   | 54.3   | 43.1   | 43.1   | 44.7   | 44.7   |
| 77.5° | 70.3   | 63.9   | 54.3   | 43.1   | 33.5   | 25.6   | 27.2   | 27.2   | 27.2   |
| 80°   | 48.0   | 43.1   | 35.2   | 25.6   | 17.6   | 14.3   | 14.3   | 14.3   | 16.0   |
| 82.5° | 27.2   | 23.9   | 19.2   | 12.8   | 8.0    | 8.0    | 8.0    | 8.0    | 8.0    |
| 85°   | 12.8   | 9.6    | 8.0    | 4.7    | 3.2    | 3.2    | 3.2    | 3.2    | 3.2    |
| 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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