

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: P580233

Luminaire Tested: **HCC4S25D010SL-HM40525935-41RWWH**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580233
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: HCC4S25D010SL-HM40525935-41RWWH
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

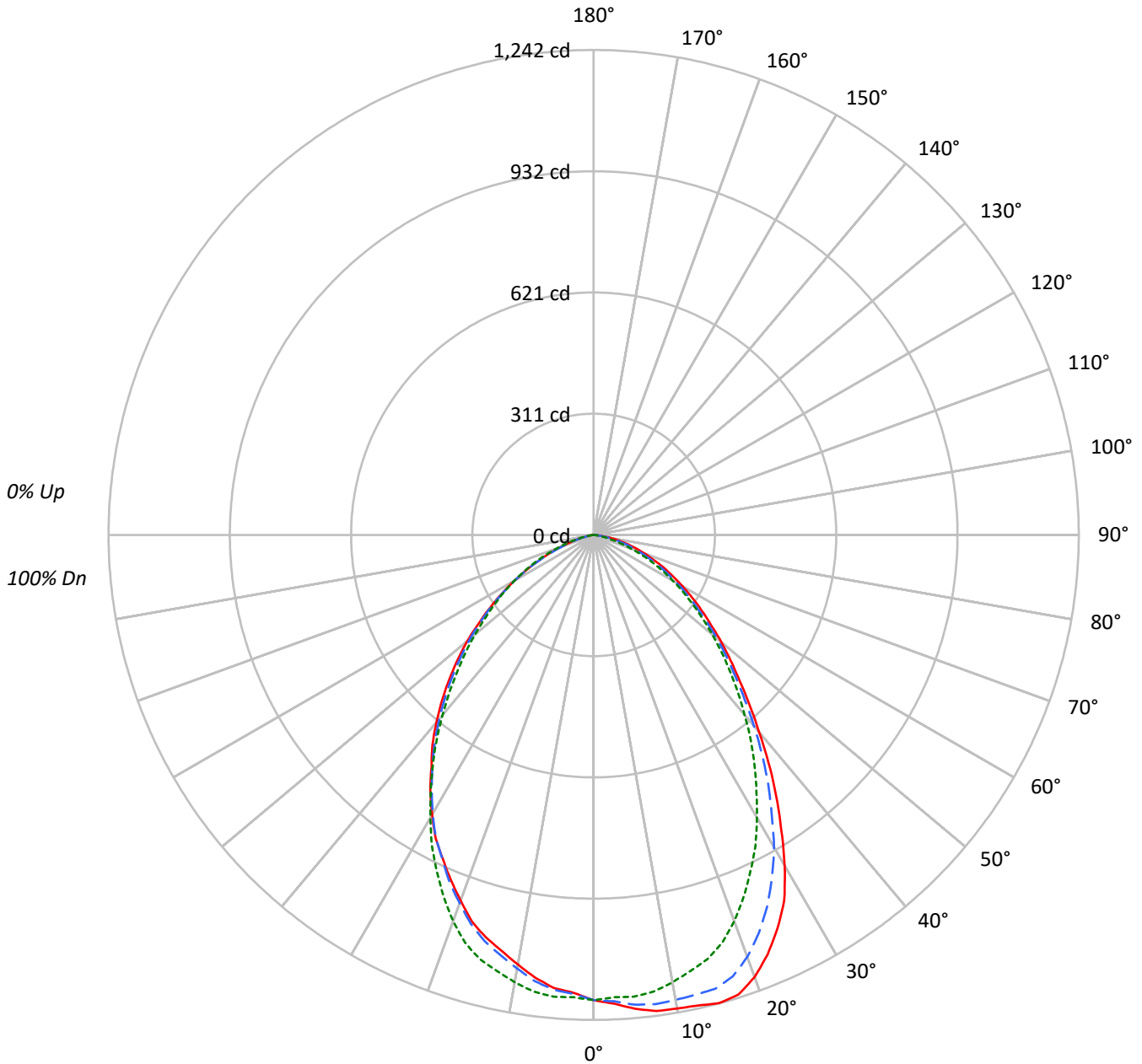
Lumens per Lamp: N/A
Luminaire Lumens: 2270.7 lumens
Efficiency: N/A
Efficacy: 84.7 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 26.8
Input Voltage (V): NR
Input Current (A_{in}): 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° | 146942 | 146942 | 146942 |
| 5° | 150809 | 146958 | 144209 |
| 10° | 154218 | 145689 | 139940 |
| 15° | 158561 | 143621 | 136252 |
| 20° | 158118 | 138114 | 130737 |
| 25° | 151462 | 129306 | 124474 |
| 30° | 139322 | 119083 | 117816 |
| 35° | 122555 | 108069 | 108973 |
| 40° | 106029 | 96755 | 100796 |
| 45° | 92173 | 85963 | 91126 |
| 50° | 81784 | 75836 | 80940 |
| 55° | 72578 | 66514 | 69396 |
| 60° | 64608 | 57676 | 57676 |
| 65° | 57438 | 47953 | 44917 |
| 70° | 49624 | 36280 | 31989 |
| 75° | 41605 | 24019 | 19730 |
| 80° | 31538 | 11578 | 10513 |
| 85° | 16841 | 4104 | 4104 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 112.8 | 5.0 |
| 10°-20° | 319.9 | 14.1 |
| 20°-30° | 451.1 | 19.9 |
| 30°-40° | 466.0 | 20.5 |
| 40°-50° | 395.0 | 17.4 |
| 50°-60° | 287.4 | 12.7 |
| 60°-70° | 167.9 | 7.4 |
| 70°-80° | 62.4 | 2.7 |
| 80°-90° | 8.2 | 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° | 883.7 | 38.9 |
| 0°-40° | 1349.7 | 59.4 |
| 0°-60° | 2032.1 | 89.5 |
| 0°-90° | 2270.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2270.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 1191 | 1191 | 1191 | 1191 | 1191 | |
| 5° | 1218 | 1208 | 1187 | 1169 | 1165 | 117 |
| 15° | 1242 | 1203 | 1125 | 1077 | 1067 | 349 |
| 25° | 1113 | 1051 | 950 | 916 | 915 | 509 |
| 35° | 814 | 778 | 718 | 719 | 724 | 508 |
| 45° | 528 | 514 | 493 | 510 | 522 | 411 |
| 55° | 338 | 321 | 309 | 320 | 323 | 304 |
| 65° | 197 | 180 | 164 | 154 | 154 | 195 |
| 75° | 87 | 72 | 50 | 40 | 41 | 94 |
| 85° | 12 | 8 | 3 | 3 | 3 | 17 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P580233

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1191.3 | 1191.3 | 1191.3 | 1191.3 | 1191.3 | 1191.3 | 1191.3 | 1191.3 | 1191.3 |
| 2.5° | 1201.7 | 1198.7 | 1195.7 | 1191.3 | 1185.3 | 1180.9 | 1176.5 | 1173.6 | 1173.6 |
| 5° | 1218.0 | 1213.4 | 1207.6 | 1197.2 | 1186.9 | 1178.0 | 1169.1 | 1164.7 | 1164.7 |
| 7.5° | 1229.8 | 1223.8 | 1212.0 | 1197.2 | 1179.5 | 1166.1 | 1152.8 | 1147.0 | 1143.9 |
| 10° | 1231.3 | 1225.3 | 1209.0 | 1186.9 | 1163.2 | 1142.4 | 1127.6 | 1118.8 | 1117.3 |
| 12.5° | 1234.2 | 1226.8 | 1206.1 | 1175.1 | 1143.9 | 1118.8 | 1102.5 | 1093.7 | 1090.7 |
| 15° | 1241.7 | 1231.3 | 1203.2 | 1163.2 | 1124.7 | 1095.1 | 1077.4 | 1070.0 | 1067.0 |
| 17.5° | 1234.2 | 1219.4 | 1185.3 | 1138.0 | 1095.1 | 1062.5 | 1044.8 | 1037.4 | 1037.4 |
| 20° | 1204.6 | 1189.9 | 1149.9 | 1098.1 | 1052.2 | 1021.1 | 1003.3 | 998.9 | 996.0 |
| 22.5° | 1163.2 | 1147.0 | 1104.0 | 1049.3 | 1003.3 | 975.2 | 963.4 | 957.5 | 956.0 |
| 25° | 1112.9 | 1096.6 | 1050.8 | 994.5 | 950.1 | 926.5 | 916.1 | 916.1 | 914.6 |
| 27.5° | 1056.6 | 1036.0 | 988.6 | 939.8 | 896.8 | 879.0 | 874.6 | 874.6 | 876.1 |
| 30° | 978.2 | 963.4 | 923.4 | 876.1 | 836.1 | 824.3 | 824.3 | 827.2 | 827.2 |
| 32.5° | 893.8 | 883.4 | 848.0 | 806.6 | 775.5 | 768.1 | 771.0 | 777.0 | 778.4 |
| 35° | 813.9 | 802.0 | 778.4 | 741.4 | 717.7 | 714.8 | 719.2 | 723.7 | 723.7 |
| 37.5° | 735.5 | 723.7 | 707.4 | 677.7 | 660.0 | 661.5 | 667.5 | 673.3 | 677.7 |
| 40° | 658.5 | 649.6 | 637.9 | 614.2 | 600.9 | 606.7 | 614.2 | 620.0 | 626.0 |
| 42.5° | 590.5 | 581.5 | 572.7 | 554.9 | 546.1 | 553.4 | 562.4 | 568.2 | 574.2 |
| 45° | 528.4 | 522.4 | 513.5 | 498.7 | 492.8 | 500.1 | 510.5 | 516.5 | 522.4 |
| 47.5° | 475.1 | 472.0 | 460.3 | 447.0 | 443.9 | 451.4 | 460.3 | 467.6 | 472.0 |
| 50° | 426.2 | 421.8 | 411.4 | 398.1 | 395.2 | 407.0 | 412.9 | 417.3 | 421.8 |
| 52.5° | 378.9 | 374.4 | 362.5 | 350.8 | 350.8 | 359.6 | 364.1 | 365.6 | 370.0 |
| 55° | 337.5 | 332.9 | 321.1 | 312.3 | 309.3 | 316.7 | 319.6 | 319.6 | 322.7 |
| 57.5° | 299.0 | 294.4 | 282.7 | 272.3 | 270.8 | 275.3 | 275.3 | 275.3 | 276.7 |
| 60° | 261.9 | 257.5 | 245.7 | 236.8 | 233.8 | 235.3 | 233.8 | 232.3 | 233.8 |
| 62.5° | 227.9 | 223.4 | 211.6 | 201.3 | 198.3 | 198.3 | 193.8 | 192.4 | 193.8 |
| 65° | 196.8 | 189.4 | 180.5 | 170.1 | 164.3 | 159.9 | 153.9 | 153.9 | 153.9 |
| 67.5° | 165.7 | 159.9 | 149.5 | 139.1 | 131.8 | 124.3 | 115.4 | 118.4 | 119.9 |
| 70° | 137.6 | 133.2 | 121.4 | 111.0 | 100.6 | 91.8 | 84.3 | 87.3 | 88.7 |
| 72.5° | 112.4 | 106.6 | 96.2 | 84.3 | 75.5 | 63.7 | 59.2 | 62.2 | 62.2 |
| 75° | 87.3 | 81.4 | 72.5 | 60.6 | 50.4 | 40.0 | 40.0 | 41.4 | 41.4 |
| 77.5° | 65.1 | 59.2 | 50.4 | 40.0 | 31.0 | 23.7 | 25.2 | 25.2 | 25.2 |
| 80° | 44.4 | 40.0 | 32.5 | 23.7 | 16.3 | 13.3 | 13.3 | 13.3 | 14.8 |
| 82.5° | 25.2 | 22.2 | 17.7 | 11.9 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 |
| 85° | 11.9 | 8.9 | 7.5 | 4.4 | 2.9 | 2.9 | 2.9 | 2.9 | 2.9 |
| 87.5° | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| 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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— 0°-180° - - 45°-225° - - - - 90°-270°

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