

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: P580145

Luminaire Tested: **HCC4S25D010SL-HM40525830-41WWW**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580145
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-16)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HCC4S25D010SL-HM40525830-41WWW
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

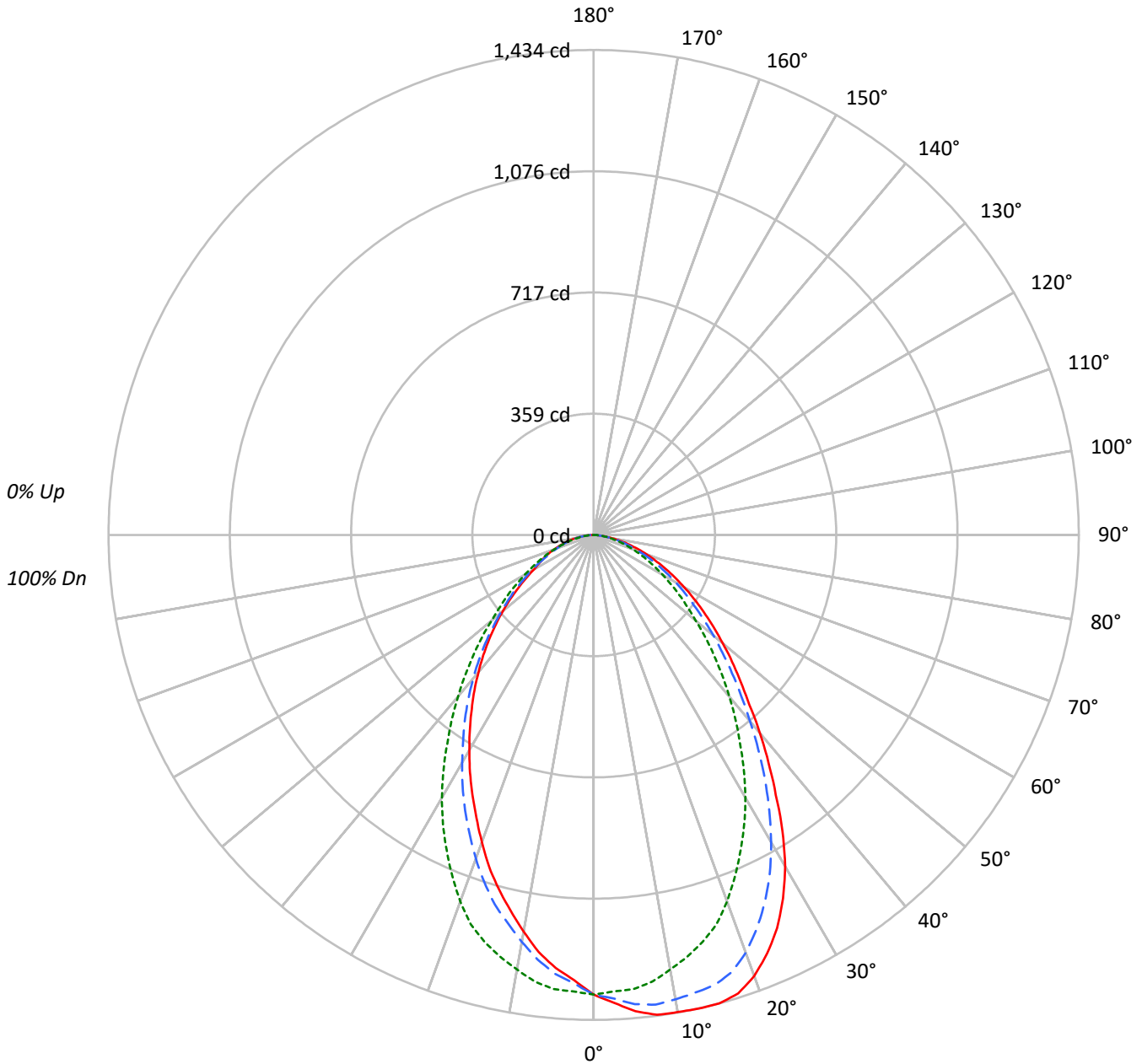
Lumens per Lamp: N/A
Luminaire Lumens: 2427.3 lumens
Efficiency: N/A
Efficacy: 90.6 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.03 / 1.1
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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 | 0 | | | | | |
| RCR | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | | | | | | | | |
| 1 | 111 | 106 | 103 | 100 | 108 | 104 | 101 | 98 | 100 | 97 | 95 | 96 | 94 | 92 | 93 | 91 | 89 | 87 | | | | | | | | |
| 2 | 102 | 95 | 89 | 84 | 100 | 93 | 88 | 83 | 90 | 85 | 81 | 87 | 83 | 80 | 84 | 81 | 78 | 76 | | | | | | | | |
| 3 | 94 | 85 | 78 | 72 | 92 | 84 | 77 | 72 | 81 | 75 | 71 | 78 | 73 | 69 | 76 | 72 | 68 | 66 | | | | | | | | |
| 4 | 87 | 77 | 69 | 63 | 85 | 76 | 68 | 63 | 73 | 67 | 62 | 71 | 66 | 61 | 69 | 64 | 60 | 58 | | | | | | | | |
| 5 | 81 | 70 | 62 | 56 | 79 | 69 | 61 | 56 | 67 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 54 | 52 | | | | | | | | |
| 6 | 76 | 64 | 56 | 50 | 74 | 63 | 55 | 50 | 61 | 54 | 49 | 59 | 53 | 49 | 58 | 53 | 48 | 47 | | | | | | | | |
| 7 | 71 | 58 | 50 | 45 | 69 | 58 | 50 | 45 | 56 | 49 | 44 | 55 | 49 | 44 | 53 | 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 | 42 | 37 | 47 | 41 | 37 | 46 | 41 | 37 | 35 | | | | | | | | |
| 10 | 59 | 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° | 167651 | 167651 | 167651 |
| 5° | 175027 | 166905 | 159191 |
| 10° | 179456 | 163437 | 149208 |
| 15° | 183168 | 159072 | 138449 |
| 20° | 182191 | 151332 | 126786 |
| 25° | 174531 | 139935 | 115342 |
| 30° | 161256 | 127771 | 104542 |
| 35° | 141347 | 113641 | 94623 |
| 40° | 123065 | 100426 | 85226 |
| 45° | 107122 | 87585 | 76159 |
| 50° | 95428 | 75471 | 67200 |
| 55° | 85287 | 66385 | 58127 |
| 60° | 76154 | 57997 | 50103 |
| 65° | 67682 | 50871 | 47602 |
| 70° | 59397 | 43818 | 44431 |
| 75° | 50326 | 37363 | 41176 |
| 80° | 38641 | 31822 | 37434 |
| 85° | 22644 | 24908 | 31701 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 127.4 | 5.2 |
| 10°-20° | 351.4 | 14.5 |
| 20°-30° | 480.1 | 19.8 |
| 30°-40° | 482.1 | 19.9 |
| 40°-50° | 398.8 | 16.4 |
| 50°-60° | 289.0 | 11.9 |
| 60°-70° | 183.1 | 7.5 |
| 70°-80° | 92.6 | 3.8 |
| 80°-90° | 22.7 | 0.9 |
| 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° | 959.0 | 39.5 |
| 0°-40° | 1441.1 | 59.4 |
| 0°-60° | 2129.0 | 87.7 |
| 0°-90° | 2427.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2427.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 1359 | 1359 | 1359 | 1359 | 1359 | |
| 5° | 1414 | 1393 | 1348 | 1303 | 1286 | 135 |
| 15° | 1434 | 1378 | 1246 | 1131 | 1084 | 403 |
| 25° | 1282 | 1198 | 1028 | 899 | 848 | 586 |
| 35° | 939 | 883 | 755 | 662 | 628 | 588 |
| 45° | 614 | 579 | 502 | 452 | 437 | 478 |
| 55° | 397 | 361 | 309 | 282 | 270 | 357 |
| 65° | 232 | 206 | 174 | 157 | 163 | 231 |
| 75° | 106 | 91 | 78 | 82 | 86 | 113 |
| 85° | 16 | 16 | 18 | 21 | 22 | 22 |
| 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° | 1359.2 | 1359.2 | 1359.2 | 1359.2 | 1359.2 | 1359.2 | 1359.2 | 1359.2 | 1359.2 |
| 2.5° | 1384.8 | 1380.0 | 1372.1 | 1362.5 | 1351.2 | 1338.4 | 1327.3 | 1320.8 | 1317.7 |
| 5° | 1413.6 | 1407.2 | 1392.8 | 1372.1 | 1348.0 | 1324.1 | 1303.3 | 1290.4 | 1285.7 |
| 7.5° | 1431.2 | 1421.6 | 1400.9 | 1368.8 | 1332.1 | 1296.9 | 1266.5 | 1248.9 | 1244.0 |
| 10° | 1432.8 | 1421.6 | 1394.4 | 1351.2 | 1304.9 | 1258.5 | 1221.7 | 1196.2 | 1191.3 |
| 12.5° | 1434.4 | 1420.1 | 1386.4 | 1335.3 | 1277.7 | 1220.1 | 1175.3 | 1144.9 | 1137.0 |
| 15° | 1434.4 | 1420.1 | 1378.4 | 1317.7 | 1245.7 | 1180.1 | 1130.6 | 1095.4 | 1084.2 |
| 17.5° | 1421.6 | 1405.6 | 1356.0 | 1285.7 | 1207.4 | 1133.7 | 1076.2 | 1039.5 | 1028.2 |
| 20° | 1388.0 | 1370.4 | 1314.5 | 1237.7 | 1152.9 | 1076.2 | 1018.6 | 980.2 | 965.9 |
| 22.5° | 1340.0 | 1319.2 | 1260.1 | 1177.0 | 1092.2 | 1013.8 | 957.8 | 917.9 | 905.1 |
| 25° | 1282.4 | 1261.7 | 1197.8 | 1116.1 | 1028.2 | 954.7 | 898.7 | 861.9 | 847.5 |
| 27.5° | 1212.1 | 1189.7 | 1127.4 | 1045.8 | 964.3 | 890.7 | 839.5 | 806.0 | 791.5 |
| 30° | 1132.2 | 1108.2 | 1049.0 | 970.6 | 897.1 | 826.8 | 777.2 | 750.0 | 734.0 |
| 32.5° | 1039.5 | 1018.6 | 965.9 | 895.5 | 826.8 | 759.6 | 718.0 | 694.0 | 681.2 |
| 35° | 938.7 | 927.5 | 882.7 | 821.9 | 754.7 | 698.9 | 662.0 | 639.7 | 628.4 |
| 37.5° | 849.1 | 837.9 | 799.6 | 748.4 | 689.3 | 638.0 | 607.6 | 588.4 | 578.8 |
| 40° | 764.3 | 754.7 | 718.0 | 674.8 | 623.7 | 578.8 | 553.3 | 538.9 | 529.3 |
| 42.5° | 681.2 | 676.4 | 646.0 | 606.0 | 561.3 | 523.0 | 502.1 | 490.9 | 482.9 |
| 45° | 614.1 | 607.6 | 578.8 | 540.5 | 502.1 | 470.1 | 452.5 | 444.6 | 436.6 |
| 47.5° | 554.9 | 546.9 | 516.5 | 482.9 | 447.8 | 419.0 | 402.9 | 394.9 | 391.8 |
| 50° | 497.3 | 489.3 | 462.1 | 428.6 | 393.3 | 372.6 | 359.8 | 351.8 | 350.2 |
| 52.5° | 446.2 | 438.2 | 407.8 | 375.8 | 348.6 | 331.0 | 319.8 | 311.8 | 308.7 |
| 55° | 396.6 | 387.0 | 361.4 | 331.0 | 308.7 | 292.6 | 281.5 | 273.4 | 270.3 |
| 57.5° | 351.8 | 342.2 | 319.8 | 291.1 | 270.3 | 255.8 | 246.2 | 238.2 | 235.1 |
| 60° | 308.7 | 300.7 | 279.9 | 252.7 | 235.1 | 222.3 | 212.7 | 206.3 | 203.1 |
| 62.5° | 268.7 | 262.3 | 241.5 | 217.4 | 203.1 | 191.9 | 183.9 | 177.5 | 180.8 |
| 65° | 231.9 | 225.5 | 206.3 | 185.5 | 174.3 | 163.1 | 156.7 | 156.7 | 163.1 |
| 67.5° | 196.7 | 190.3 | 174.3 | 156.7 | 147.1 | 139.1 | 134.4 | 139.1 | 143.9 |
| 70° | 164.7 | 158.3 | 143.9 | 129.5 | 121.5 | 115.2 | 115.2 | 119.9 | 123.2 |
| 72.5° | 134.4 | 127.9 | 116.7 | 105.6 | 99.1 | 94.4 | 99.1 | 102.3 | 105.6 |
| 75° | 105.6 | 100.7 | 91.1 | 83.2 | 78.4 | 76.8 | 81.5 | 84.8 | 86.4 |
| 77.5° | 78.4 | 75.2 | 68.8 | 62.3 | 59.2 | 60.7 | 65.6 | 67.2 | 68.8 |
| 80° | 54.4 | 52.7 | 48.0 | 44.8 | 44.8 | 46.4 | 49.6 | 51.1 | 52.7 |
| 82.5° | 33.5 | 33.5 | 30.4 | 28.8 | 30.4 | 33.5 | 35.2 | 36.8 | 36.8 |
| 85° | 16.0 | 17.6 | 16.0 | 16.0 | 17.6 | 20.8 | 20.8 | 22.4 | 22.4 |
| 87.5° | 4.7 | 4.7 | 6.4 | 6.4 | 8.0 | 8.0 | 8.0 | 8.0 | 9.6 |
| 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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— 0°-180° - - 45°-225° - - - - 90°-270°

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