

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: P592760

Luminaire Tested: **HCC4S30D010SL-HM43040950-41RWWH**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P592760
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: HCC4S30D010SL-HM43040950-41RWWH
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

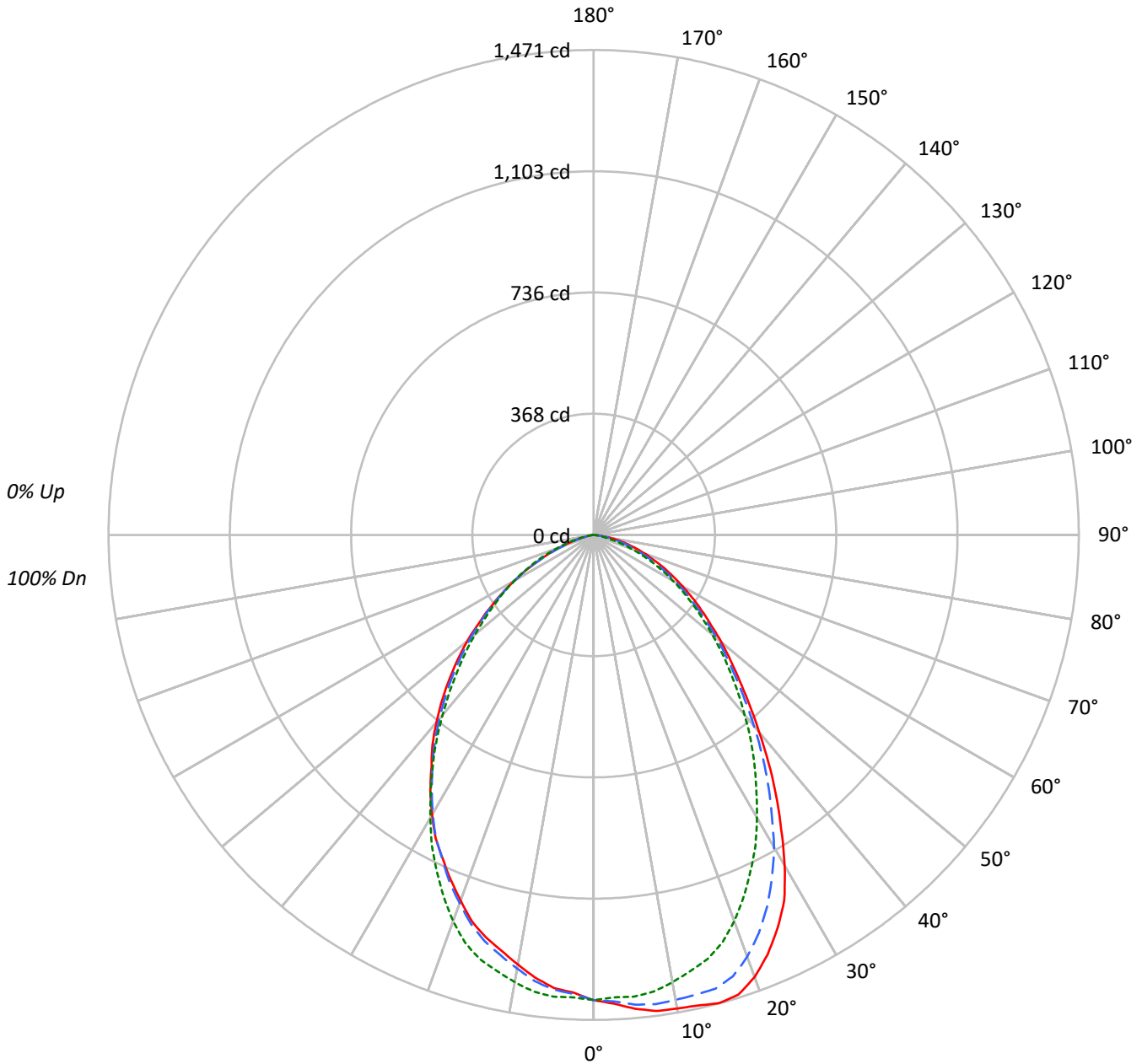
Lumens per Lamp: N/A
Luminaire Lumens: 2689.3 lumens
Efficiency: N/A
Efficacy: 96.0 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 28
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 | 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° | 174028 | 174028 | 174028 |
| 5° | 178606 | 174049 | 170793 |
| 10° | 182650 | 172542 | 165741 |
| 15° | 187791 | 170105 | 161370 |
| 20° | 187271 | 163578 | 154823 |
| 25° | 179389 | 153150 | 147420 |
| 30° | 165016 | 141046 | 139550 |
| 35° | 145156 | 128006 | 129060 |
| 40° | 125593 | 114595 | 119377 |
| 45° | 109145 | 101801 | 107924 |
| 50° | 96867 | 89805 | 95850 |
| 55° | 85954 | 78793 | 82169 |
| 60° | 76524 | 68309 | 68309 |
| 65° | 68062 | 56796 | 53206 |
| 70° | 58784 | 42988 | 37903 |
| 75° | 49277 | 28404 | 23400 |
| 80° | 37363 | 13709 | 12431 |
| 85° | 19813 | 4953 | 4953 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 133.6 | 5.0 |
| 10°-20° | 378.8 | 14.1 |
| 20°-30° | 534.2 | 19.9 |
| 30°-40° | 551.9 | 20.5 |
| 40°-50° | 467.8 | 17.4 |
| 50°-60° | 340.4 | 12.7 |
| 60°-70° | 198.9 | 7.4 |
| 70°-80° | 73.9 | 2.7 |
| 80°-90° | 9.7 | 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° | 1046.7 | 38.9 |
| 0°-40° | 1598.6 | 59.4 |
| 0°-60° | 2406.8 | 89.5 |
| 0°-90° | 2689.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2689.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 1411 | 1411 | 1411 | 1411 | 1411 | |
| 5° | 1442 | 1430 | 1406 | 1385 | 1379 | 138 |
| 15° | 1471 | 1425 | 1332 | 1276 | 1264 | 413 |
| 25° | 1318 | 1244 | 1125 | 1085 | 1083 | 603 |
| 35° | 964 | 922 | 850 | 852 | 857 | 602 |
| 45° | 626 | 608 | 584 | 605 | 619 | 487 |
| 55° | 400 | 380 | 366 | 379 | 382 | 359 |
| 65° | 233 | 214 | 195 | 182 | 182 | 231 |
| 75° | 103 | 86 | 60 | 47 | 49 | 111 |
| 85° | 14 | 9 | 4 | 4 | 4 | 20 |
| 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° | 1410.9 | 1410.9 | 1410.9 | 1410.9 | 1410.9 | 1410.9 | 1410.9 | 1410.9 | 1410.9 |
| 2.5° | 1423.2 | 1419.7 | 1416.2 | 1410.9 | 1403.9 | 1398.7 | 1393.4 | 1389.9 | 1389.9 |
| 5° | 1442.5 | 1437.2 | 1430.2 | 1417.9 | 1405.7 | 1395.2 | 1384.6 | 1379.4 | 1379.4 |
| 7.5° | 1456.5 | 1449.5 | 1435.5 | 1417.9 | 1396.9 | 1381.1 | 1365.3 | 1358.3 | 1354.8 |
| 10° | 1458.3 | 1451.3 | 1432.0 | 1405.7 | 1377.6 | 1353.1 | 1335.6 | 1325.1 | 1323.3 |
| 12.5° | 1461.8 | 1453.0 | 1428.5 | 1391.6 | 1354.8 | 1325.1 | 1305.8 | 1295.3 | 1291.8 |
| 15° | 1470.6 | 1458.3 | 1425.0 | 1377.6 | 1332.1 | 1297.0 | 1276.0 | 1267.2 | 1263.7 |
| 17.5° | 1461.8 | 1444.3 | 1403.9 | 1347.8 | 1297.0 | 1258.5 | 1237.4 | 1228.6 | 1228.6 |
| 20° | 1426.7 | 1409.2 | 1361.8 | 1300.5 | 1246.2 | 1209.3 | 1188.3 | 1183.0 | 1179.5 |
| 22.5° | 1377.6 | 1358.3 | 1307.6 | 1242.7 | 1188.3 | 1155.1 | 1141.0 | 1134.0 | 1132.3 |
| 25° | 1318.1 | 1298.8 | 1244.4 | 1177.9 | 1125.3 | 1097.2 | 1084.9 | 1084.9 | 1083.2 |
| 27.5° | 1251.4 | 1226.9 | 1170.9 | 1113.0 | 1062.1 | 1041.1 | 1035.8 | 1035.8 | 1037.6 |
| 30° | 1158.6 | 1141.0 | 1093.7 | 1037.6 | 990.3 | 976.3 | 976.3 | 979.8 | 979.8 |
| 32.5° | 1058.6 | 1046.3 | 1004.3 | 955.2 | 918.4 | 909.6 | 913.1 | 920.2 | 921.9 |
| 35° | 964.0 | 950.0 | 921.9 | 878.1 | 850.1 | 846.6 | 851.9 | 857.1 | 857.1 |
| 37.5° | 871.2 | 857.1 | 837.8 | 802.8 | 781.7 | 783.5 | 790.5 | 797.5 | 802.8 |
| 40° | 780.0 | 769.4 | 755.4 | 727.3 | 711.7 | 718.6 | 727.3 | 734.4 | 741.4 |
| 42.5° | 699.4 | 688.9 | 678.3 | 657.3 | 646.8 | 655.5 | 666.1 | 673.1 | 680.1 |
| 45° | 625.7 | 618.7 | 608.2 | 590.6 | 583.6 | 592.4 | 604.7 | 611.7 | 618.7 |
| 47.5° | 562.6 | 559.1 | 545.0 | 529.4 | 525.8 | 534.6 | 545.0 | 553.8 | 559.1 |
| 50° | 504.8 | 499.5 | 487.3 | 471.5 | 468.0 | 482.0 | 489.0 | 494.3 | 499.5 |
| 52.5° | 448.7 | 443.4 | 429.4 | 415.4 | 415.4 | 425.9 | 431.1 | 432.9 | 438.2 |
| 55° | 399.7 | 394.3 | 380.4 | 369.9 | 366.4 | 375.1 | 378.6 | 378.6 | 382.1 |
| 57.5° | 354.1 | 348.8 | 334.8 | 322.5 | 320.8 | 326.0 | 326.0 | 326.0 | 327.8 |
| 60° | 310.2 | 305.0 | 290.9 | 280.4 | 276.9 | 278.7 | 276.9 | 275.2 | 276.9 |
| 62.5° | 269.9 | 264.6 | 250.6 | 238.3 | 234.8 | 234.8 | 229.7 | 227.9 | 229.7 |
| 65° | 233.2 | 224.4 | 213.9 | 201.6 | 194.6 | 189.3 | 182.3 | 182.3 | 182.3 |
| 67.5° | 196.3 | 189.3 | 177.0 | 164.8 | 156.0 | 147.2 | 136.7 | 140.2 | 142.0 |
| 70° | 163.0 | 157.7 | 143.7 | 131.4 | 119.2 | 108.6 | 99.9 | 103.4 | 105.1 |
| 72.5° | 133.2 | 126.2 | 113.9 | 99.9 | 89.3 | 75.4 | 70.2 | 73.7 | 73.7 |
| 75° | 103.4 | 96.4 | 85.8 | 71.9 | 59.6 | 47.4 | 47.4 | 49.1 | 49.1 |
| 77.5° | 77.2 | 70.2 | 59.6 | 47.4 | 36.8 | 28.1 | 29.8 | 29.8 | 29.8 |
| 80° | 52.6 | 47.4 | 38.6 | 28.1 | 19.3 | 15.8 | 15.8 | 15.8 | 17.5 |
| 82.5° | 29.8 | 26.3 | 21.0 | 14.0 | 8.8 | 8.8 | 8.8 | 8.8 | 8.8 |
| 85° | 14.0 | 10.5 | 8.8 | 5.3 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| 87.5° | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| 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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