

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: P580286

Luminaire Tested: **HCC4S30D010BZ-HM43040830-41RWWC**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580286
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-14)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HCC4S30D010BZ-HM43040830-41RWWC
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

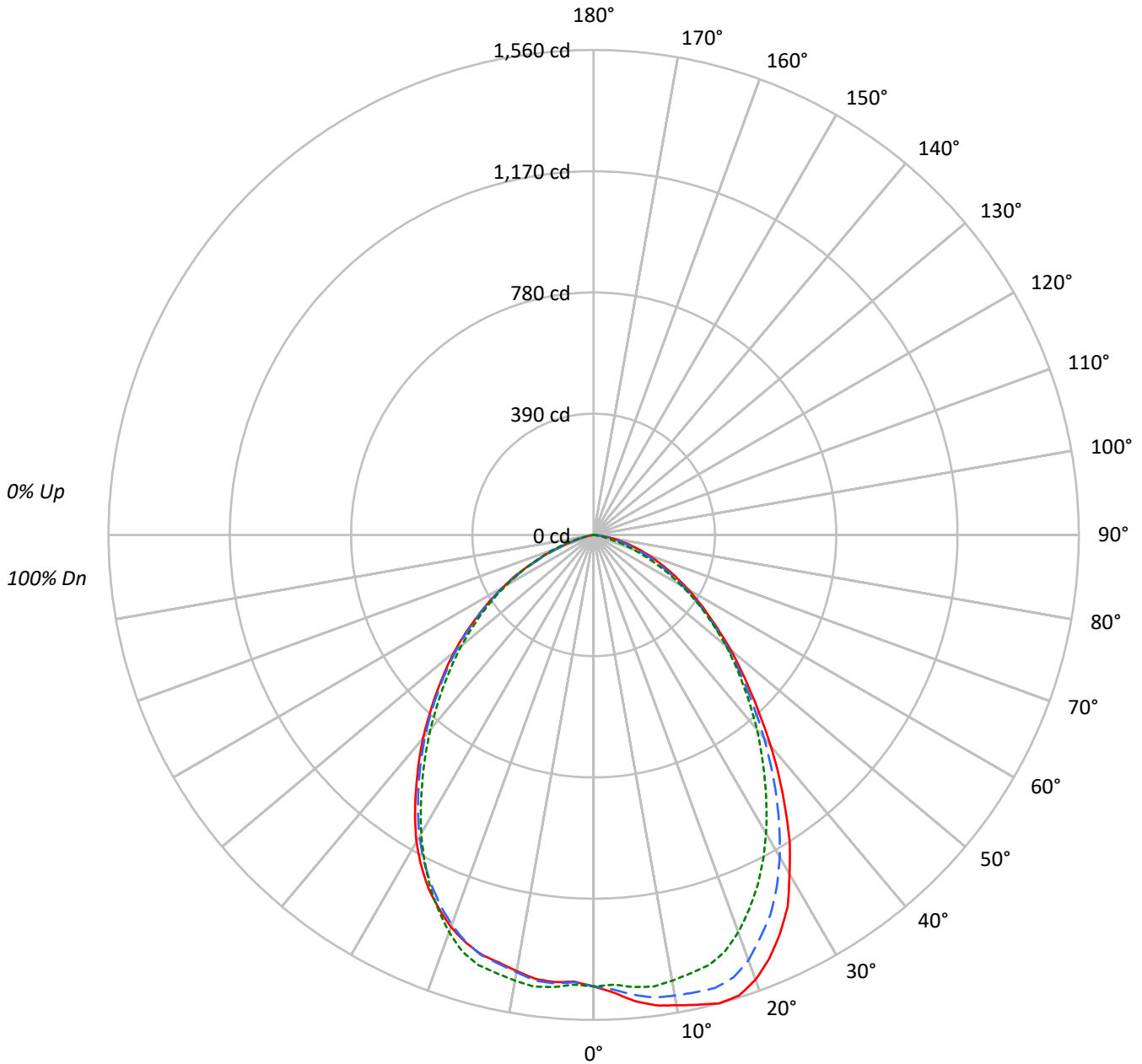
Lumens per Lamp: N/A
Luminaire Lumens: 3025.6 lumens
Efficiency: N/A
Efficacy: 108.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.15 / 1.21
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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 | 103 | 100 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 | | | | | | | | |
| 2 | 102 | 95 | 90 | 85 | 100 | 94 | 88 | 84 | 90 | 86 | 82 | 87 | 83 | 80 | 84 | 81 | 78 | 76 | | | | | | | | |
| 3 | 95 | 85 | 78 | 73 | 92 | 84 | 77 | 72 | 81 | 75 | 71 | 78 | 74 | 70 | 76 | 72 | 69 | 67 | | | | | | | | |
| 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 | 68 | 61 | 55 | 66 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 54 | 52 | | | | | | | | |
| 6 | 75 | 63 | 55 | 49 | 74 | 62 | 55 | 49 | 61 | 54 | 49 | 59 | 53 | 48 | 58 | 52 | 48 | 46 | | | | | | | | |
| 7 | 70 | 58 | 50 | 44 | 69 | 57 | 49 | 44 | 56 | 49 | 44 | 54 | 48 | 44 | 53 | 47 | 43 | 41 | | | | | | | | |
| 8 | 66 | 53 | 45 | 40 | 64 | 53 | 45 | 40 | 51 | 44 | 40 | 50 | 44 | 39 | 49 | 43 | 39 | 37 | | | | | | | | |
| 9 | 62 | 49 | 42 | 36 | 60 | 49 | 41 | 36 | 47 | 41 | 36 | 46 | 40 | 36 | 45 | 40 | 36 | 34 | | | | | | | | |
| 10 | 58 | 46 | 38 | 33 | 57 | 45 | 38 | 33 | 44 | 38 | 33 | 43 | 37 | 33 | 42 | 37 | 33 | 31 | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|--------|--------|--------|
| 0° | 179098 | 179098 | 179098 |
| 5° | 186332 | 180735 | 178804 |
| 10° | 192419 | 182337 | 178404 |
| 15° | 199181 | 182900 | 178392 |
| 20° | 199859 | 178476 | 176166 |
| 25° | 192808 | 169563 | 170897 |
| 30° | 179401 | 157895 | 162367 |
| 35° | 161615 | 144479 | 149794 |
| 40° | 142483 | 131421 | 137411 |
| 45° | 124566 | 118408 | 124234 |
| 50° | 110299 | 106557 | 112180 |
| 55° | 97051 | 94104 | 97868 |
| 60° | 86663 | 80347 | 82765 |
| 65° | 76146 | 65289 | 64122 |
| 70° | 66502 | 48109 | 43854 |
| 75° | 55139 | 28976 | 23400 |
| 80° | 41838 | 11152 | 6961 |
| 85° | 19530 | 2689 | 2689 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 140.0 | 4.6 |
| 10°-20° | 408.7 | 13.5 |
| 20°-30° | 591.9 | 19.6 |
| 30°-40° | 624.4 | 20.6 |
| 40°-50° | 540.4 | 17.9 |
| 50°-60° | 400.3 | 13.2 |
| 60°-70° | 230.8 | 7.6 |
| 70°-80° | 80.6 | 2.7 |
| 80°-90° | 8.5 | 0.3 |
| 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° | 1140.6 | 37.7 |
| 0°-40° | 1765.0 | 58.3 |
| 0°-60° | 2705.8 | 89.4 |
| 0°-90° | 3025.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3025.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 1452 | 1452 | 1452 | 1452 | 1452 | |
| 5° | 1505 | 1485 | 1460 | 1448 | 1444 | 145 |
| 15° | 1560 | 1509 | 1432 | 1399 | 1397 | 439 |
| 25° | 1417 | 1346 | 1246 | 1238 | 1256 | 648 |
| 35° | 1073 | 1024 | 960 | 981 | 995 | 670 |
| 45° | 714 | 695 | 679 | 704 | 712 | 554 |
| 55° | 451 | 442 | 438 | 453 | 455 | 407 |
| 65° | 261 | 245 | 224 | 212 | 220 | 261 |
| 75° | 116 | 98 | 61 | 49 | 49 | 125 |
| 85° | 14 | 8 | 2 | 2 | 2 | 21 |
| 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° | 1452.0 | 1452.0 | 1452.0 | 1452.0 | 1452.0 | 1452.0 | 1452.0 | 1452.0 | 1452.0 |
| 2.5° | 1473.5 | 1469.6 | 1463.7 | 1455.8 | 1448.0 | 1442.1 | 1440.1 | 1438.2 | 1438.2 |
| 5° | 1504.9 | 1497.1 | 1485.2 | 1469.6 | 1459.7 | 1453.9 | 1448.0 | 1444.1 | 1444.1 |
| 7.5° | 1526.5 | 1518.6 | 1500.9 | 1479.4 | 1465.6 | 1453.9 | 1446.0 | 1440.1 | 1440.1 |
| 10° | 1536.3 | 1526.5 | 1504.9 | 1477.5 | 1455.8 | 1440.1 | 1428.4 | 1424.4 | 1424.4 |
| 12.5° | 1548.1 | 1536.3 | 1506.9 | 1471.6 | 1444.1 | 1424.4 | 1412.7 | 1408.8 | 1408.8 |
| 15° | 1559.8 | 1546.1 | 1508.8 | 1467.6 | 1432.3 | 1408.8 | 1398.9 | 1397.0 | 1397.0 |
| 17.5° | 1553.9 | 1536.3 | 1493.1 | 1444.1 | 1404.8 | 1381.2 | 1371.4 | 1371.4 | 1373.5 |
| 20° | 1522.6 | 1504.9 | 1455.8 | 1400.9 | 1359.7 | 1342.1 | 1334.2 | 1338.1 | 1342.1 |
| 22.5° | 1475.4 | 1453.9 | 1400.9 | 1348.0 | 1304.8 | 1289.1 | 1289.1 | 1294.9 | 1300.8 |
| 25° | 1416.7 | 1397.0 | 1345.9 | 1287.2 | 1245.9 | 1234.1 | 1238.1 | 1247.9 | 1255.7 |
| 27.5° | 1349.9 | 1328.3 | 1275.3 | 1220.4 | 1179.2 | 1173.3 | 1183.2 | 1196.8 | 1200.8 |
| 30° | 1259.6 | 1241.9 | 1196.8 | 1143.9 | 1108.6 | 1106.6 | 1120.3 | 1130.1 | 1140.0 |
| 32.5° | 1173.3 | 1153.7 | 1110.5 | 1059.5 | 1034.0 | 1036.0 | 1051.6 | 1063.5 | 1069.3 |
| 35° | 1073.3 | 1055.6 | 1024.2 | 982.9 | 959.5 | 963.3 | 981.0 | 992.8 | 994.8 |
| 37.5° | 979.1 | 967.3 | 935.9 | 904.5 | 886.8 | 894.7 | 910.4 | 924.2 | 924.2 |
| 40° | 884.9 | 875.1 | 851.5 | 826.0 | 816.2 | 826.0 | 841.7 | 853.4 | 853.4 |
| 42.5° | 794.7 | 788.7 | 769.1 | 751.5 | 745.6 | 759.4 | 773.0 | 782.8 | 780.9 |
| 45° | 714.1 | 708.3 | 694.6 | 680.9 | 678.8 | 692.6 | 704.3 | 710.3 | 712.2 |
| 47.5° | 641.6 | 637.7 | 625.9 | 616.1 | 616.1 | 629.9 | 639.6 | 645.6 | 647.5 |
| 50° | 574.8 | 571.0 | 561.2 | 553.3 | 555.3 | 569.0 | 576.9 | 582.7 | 584.6 |
| 52.5° | 508.2 | 506.2 | 498.4 | 488.5 | 494.4 | 504.2 | 514.0 | 518.0 | 519.9 |
| 55° | 451.3 | 451.3 | 441.5 | 433.6 | 437.6 | 447.4 | 453.2 | 455.1 | 455.1 |
| 57.5° | 400.2 | 398.3 | 386.6 | 378.7 | 380.6 | 390.4 | 394.3 | 396.4 | 396.4 |
| 60° | 351.3 | 349.2 | 337.5 | 325.7 | 325.7 | 331.6 | 333.5 | 335.5 | 335.5 |
| 62.5° | 304.1 | 302.2 | 288.4 | 278.6 | 274.7 | 272.8 | 272.8 | 276.7 | 284.5 |
| 65° | 260.9 | 259.0 | 245.2 | 229.5 | 223.7 | 217.8 | 212.0 | 215.8 | 219.7 |
| 67.5° | 221.8 | 217.8 | 204.1 | 190.3 | 176.5 | 166.7 | 157.0 | 162.9 | 170.7 |
| 70° | 184.4 | 180.5 | 164.8 | 149.1 | 133.4 | 117.8 | 109.9 | 117.8 | 121.6 |
| 72.5° | 149.1 | 145.2 | 129.5 | 113.8 | 94.2 | 78.5 | 76.5 | 78.5 | 80.4 |
| 75° | 115.7 | 113.8 | 98.1 | 80.4 | 60.8 | 49.1 | 49.1 | 49.1 | 49.1 |
| 77.5° | 86.3 | 82.5 | 66.7 | 51.0 | 35.3 | 27.5 | 25.5 | 25.5 | 25.5 |
| 80° | 58.9 | 54.9 | 41.2 | 29.4 | 15.7 | 11.7 | 11.7 | 9.8 | 9.8 |
| 82.5° | 33.4 | 31.4 | 21.5 | 11.7 | 5.9 | 3.9 | 3.9 | 3.9 | 3.9 |
| 85° | 13.8 | 11.7 | 7.9 | 3.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 |
| 87.5° | 1.9 | 1.9 | 1.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 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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