

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: P580540

Luminaire Tested: **HCC4S35D010MW-HM43040940-41WWBB**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580540
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-17)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HCC4S35D010MW-HM43040940-41WWBB
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

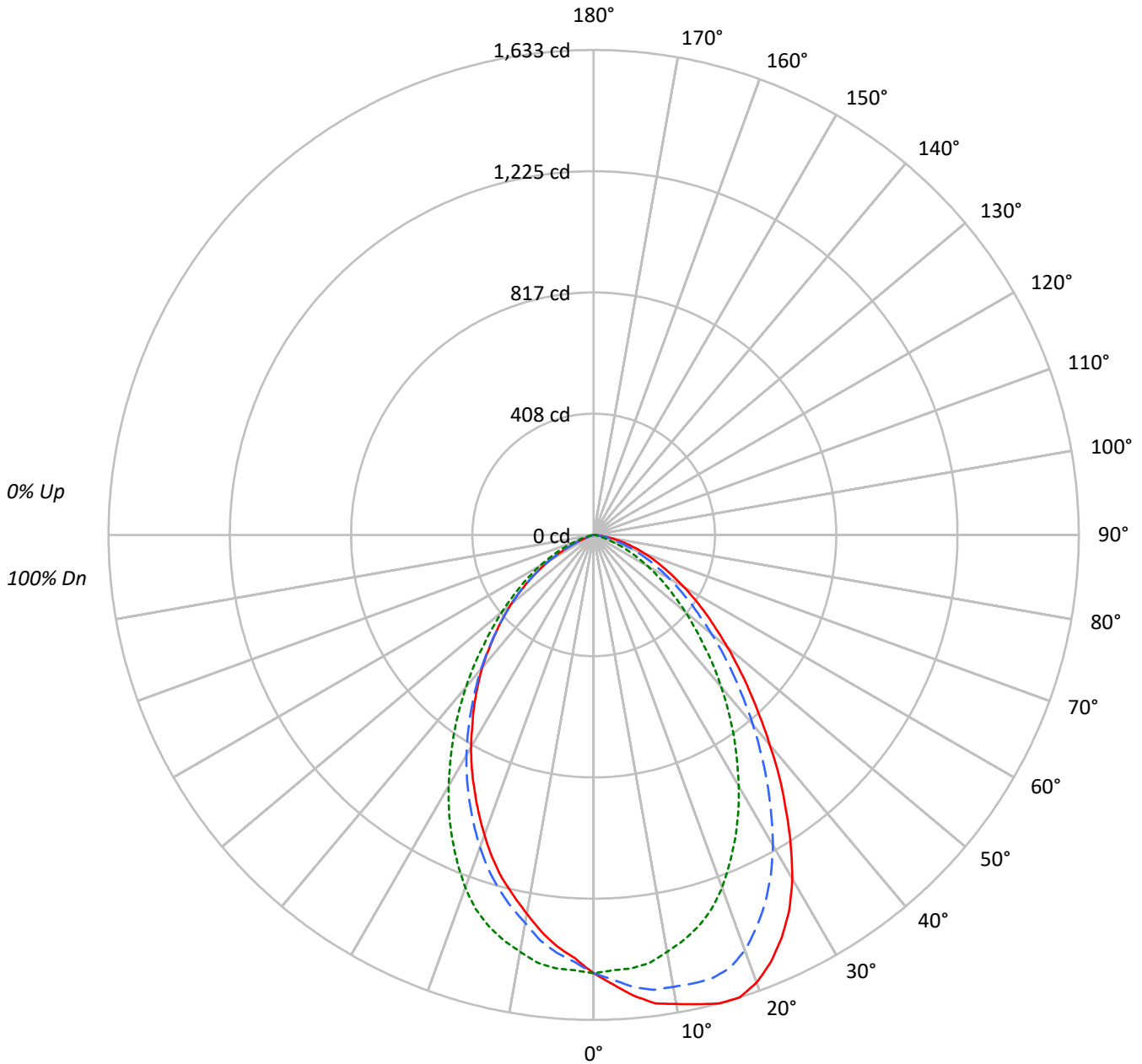
Lumens per Lamp: N/A
Luminaire Lumens: 2549.1 lumens
Efficiency: N/A
Efficacy: 75.6 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 1.04 / 1.12
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 33.7
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 | 100 | 100 | 100 |
| 1 | 111 | 108 | 104 | 101 | 109 | 105 | 102 | 100 | 101 | 99 | 97 | 97 | 95 | 94 | 94 | 92 | 91 | 89 | 89 | 89 | 89 |
| 2 | 103 | 97 | 91 | 87 | 101 | 95 | 90 | 86 | 92 | 87 | 84 | 88 | 85 | 82 | 85 | 83 | 80 | 78 | 78 | 78 | 78 |
| 3 | 96 | 87 | 80 | 75 | 94 | 86 | 79 | 74 | 83 | 78 | 73 | 80 | 76 | 72 | 78 | 74 | 71 | 69 | 69 | 69 | 69 |
| 4 | 89 | 79 | 72 | 66 | 87 | 78 | 71 | 65 | 75 | 69 | 65 | 73 | 68 | 64 | 71 | 67 | 63 | 61 | 61 | 61 | 61 |
| 5 | 83 | 72 | 64 | 58 | 81 | 71 | 64 | 58 | 69 | 62 | 58 | 67 | 61 | 57 | 65 | 60 | 56 | 55 | 55 | 55 | 55 |
| 6 | 77 | 66 | 58 | 52 | 75 | 65 | 57 | 52 | 63 | 57 | 52 | 61 | 56 | 51 | 60 | 55 | 51 | 49 | 49 | 49 | 49 |
| 7 | 72 | 60 | 53 | 47 | 71 | 59 | 52 | 47 | 58 | 51 | 47 | 57 | 51 | 46 | 55 | 50 | 46 | 44 | 44 | 44 | 44 |
| 8 | 68 | 56 | 48 | 43 | 66 | 55 | 48 | 43 | 54 | 47 | 42 | 53 | 47 | 42 | 51 | 46 | 42 | 40 | 40 | 40 | 40 |
| 9 | 64 | 52 | 44 | 39 | 62 | 51 | 44 | 39 | 50 | 43 | 39 | 49 | 43 | 39 | 48 | 43 | 39 | 37 | 37 | 37 | 37 |
| 10 | 60 | 48 | 41 | 36 | 59 | 47 | 41 | 36 | 46 | 40 | 36 | 46 | 40 | 36 | 45 | 39 | 36 | 34 | 34 | 34 | 34 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|--------|--------|--------|
| 0° | 182033 | 182033 | 182033 |
| 5° | 192857 | 181416 | 172328 |
| 10° | 200873 | 178517 | 162222 |
| 15° | 208554 | 174242 | 152534 |
| 20° | 210517 | 165875 | 141080 |
| 25° | 203696 | 153422 | 129142 |
| 30° | 190454 | 139037 | 117502 |
| 35° | 169746 | 123609 | 105585 |
| 40° | 148393 | 107478 | 93969 |
| 45° | 129275 | 91178 | 81288 |
| 50° | 112775 | 77352 | 69695 |
| 55° | 98857 | 64105 | 56450 |
| 60° | 86490 | 51805 | 41419 |
| 65° | 75358 | 38613 | 23290 |
| 70° | 65853 | 24956 | 7573 |
| 75° | 54043 | 13010 | 2002 |
| 80° | 40204 | 5967 | 1492 |
| 85° | 23634 | 2972 | 2972 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 139.3 | 5.5 |
| 10°-20° | 389.8 | 15.3 |
| 20°-30° | 539.0 | 21.1 |
| 30°-40° | 541.9 | 21.3 |
| 40°-50° | 437.3 | 17.2 |
| 50°-60° | 295.7 | 11.6 |
| 60°-70° | 150.5 | 5.9 |
| 70°-80° | 48.2 | 1.9 |
| 80°-90° | 7.4 | 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° | 1068.1 | 41.9 |
| 0°-40° | 1610.0 | 63.2 |
| 0°-60° | 2343.1 | 91.9 |
| 0°-90° | 2549.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2549.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 1476 | 1476 | 1476 | 1476 | 1476 | |
| 5° | 1558 | 1528 | 1465 | 1413 | 1392 | 150 |
| 15° | 1633 | 1545 | 1364 | 1234 | 1194 | 460 |
| 25° | 1497 | 1367 | 1127 | 989 | 949 | 685 |
| 35° | 1127 | 1018 | 821 | 718 | 701 | 704 |
| 45° | 741 | 663 | 523 | 466 | 466 | 574 |
| 55° | 460 | 397 | 298 | 260 | 262 | 413 |
| 65° | 258 | 210 | 132 | 86 | 80 | 259 |
| 75° | 113 | 80 | 27 | 6 | 4 | 122 |
| 85° | 17 | 8 | 2 | 2 | 2 | 23 |
| 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° | 1475.8 | 1475.8 | 1475.8 | 1475.8 | 1475.8 | 1475.8 | 1475.8 | 1475.8 | 1475.8 |
| 2.5° | 1515.7 | 1507.3 | 1498.9 | 1484.1 | 1467.4 | 1450.6 | 1440.1 | 1431.6 | 1427.5 |
| 5° | 1557.6 | 1547.2 | 1528.3 | 1496.7 | 1465.2 | 1435.9 | 1412.8 | 1398.1 | 1391.8 |
| 7.5° | 1591.2 | 1576.5 | 1545.1 | 1501.0 | 1452.7 | 1406.5 | 1377.1 | 1356.1 | 1347.7 |
| 10° | 1603.8 | 1587.1 | 1545.1 | 1486.3 | 1425.3 | 1368.7 | 1326.8 | 1305.8 | 1295.2 |
| 12.5° | 1618.6 | 1599.7 | 1547.2 | 1473.7 | 1398.1 | 1330.9 | 1282.6 | 1255.4 | 1244.8 |
| 15° | 1633.2 | 1608.0 | 1545.1 | 1454.8 | 1364.5 | 1286.9 | 1234.4 | 1207.1 | 1194.5 |
| 17.5° | 1633.2 | 1603.8 | 1528.3 | 1423.3 | 1320.5 | 1238.5 | 1179.8 | 1148.3 | 1137.8 |
| 20° | 1603.8 | 1570.2 | 1488.4 | 1373.0 | 1263.7 | 1175.6 | 1118.9 | 1087.4 | 1074.8 |
| 22.5° | 1557.6 | 1519.9 | 1431.6 | 1312.0 | 1196.6 | 1110.5 | 1053.9 | 1024.4 | 1011.8 |
| 25° | 1496.7 | 1459.0 | 1366.6 | 1242.8 | 1127.3 | 1041.3 | 988.8 | 961.5 | 948.9 |
| 27.5° | 1425.3 | 1383.4 | 1291.0 | 1167.2 | 1053.9 | 971.9 | 923.7 | 898.5 | 888.0 |
| 30° | 1337.2 | 1297.3 | 1207.1 | 1085.3 | 976.2 | 900.5 | 856.5 | 833.4 | 825.0 |
| 32.5° | 1234.4 | 1200.8 | 1112.6 | 999.2 | 896.4 | 827.2 | 787.2 | 768.4 | 759.9 |
| 35° | 1127.3 | 1095.8 | 1018.1 | 913.1 | 820.9 | 755.8 | 717.9 | 705.3 | 701.2 |
| 37.5° | 1026.5 | 999.2 | 923.7 | 827.2 | 743.2 | 686.4 | 652.8 | 644.5 | 640.2 |
| 40° | 921.6 | 902.7 | 833.4 | 745.2 | 667.5 | 617.2 | 589.9 | 583.6 | 583.6 |
| 42.5° | 827.2 | 806.1 | 745.2 | 665.4 | 596.2 | 545.8 | 526.9 | 520.6 | 522.7 |
| 45° | 741.1 | 720.0 | 663.4 | 589.9 | 522.7 | 480.7 | 466.0 | 466.0 | 466.0 |
| 47.5° | 661.2 | 642.4 | 589.9 | 514.3 | 459.7 | 426.1 | 411.5 | 411.5 | 413.5 |
| 50° | 587.7 | 575.2 | 516.4 | 451.3 | 403.1 | 371.6 | 361.0 | 359.0 | 363.2 |
| 52.5° | 518.5 | 503.8 | 451.3 | 392.6 | 346.4 | 321.2 | 310.7 | 308.5 | 310.7 |
| 55° | 459.7 | 443.0 | 396.8 | 340.1 | 298.1 | 272.9 | 260.3 | 258.2 | 262.5 |
| 57.5° | 403.1 | 390.5 | 342.1 | 291.8 | 251.9 | 226.7 | 216.3 | 212.0 | 214.1 |
| 60° | 350.6 | 338.0 | 293.9 | 245.6 | 210.0 | 184.8 | 170.1 | 165.8 | 167.9 |
| 62.5° | 302.2 | 291.8 | 249.9 | 203.7 | 167.9 | 144.9 | 130.2 | 119.7 | 123.9 |
| 65° | 258.2 | 247.7 | 210.0 | 163.8 | 132.3 | 107.1 | 86.1 | 77.7 | 79.8 |
| 67.5° | 220.4 | 207.8 | 172.1 | 130.2 | 98.7 | 71.4 | 48.3 | 44.1 | 44.1 |
| 70° | 182.6 | 170.1 | 138.6 | 100.7 | 69.2 | 37.8 | 21.0 | 21.0 | 21.0 |
| 72.5° | 146.9 | 136.5 | 107.1 | 75.5 | 44.1 | 16.7 | 8.4 | 8.4 | 8.4 |
| 75° | 113.4 | 105.0 | 79.8 | 52.5 | 27.3 | 8.4 | 6.3 | 4.2 | 4.2 |
| 77.5° | 84.0 | 75.5 | 56.6 | 35.7 | 16.7 | 4.2 | 4.2 | 4.2 | 4.2 |
| 80° | 56.6 | 50.4 | 37.8 | 21.0 | 8.4 | 2.1 | 2.1 | 2.1 | 2.1 |
| 82.5° | 33.6 | 29.3 | 21.0 | 10.5 | 4.2 | 2.1 | 2.1 | 2.1 | 2.1 |
| 85° | 16.7 | 12.6 | 8.4 | 4.2 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 |
| 87.5° | 4.2 | 2.1 | 2.1 | 2.1 | 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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