

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: P580272

Luminaire Tested: **HCC4W30D010BZ-HM43040827-41WWWB**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580272  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-18)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HCC4W30D010BZ-HM43040827-41WWWB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

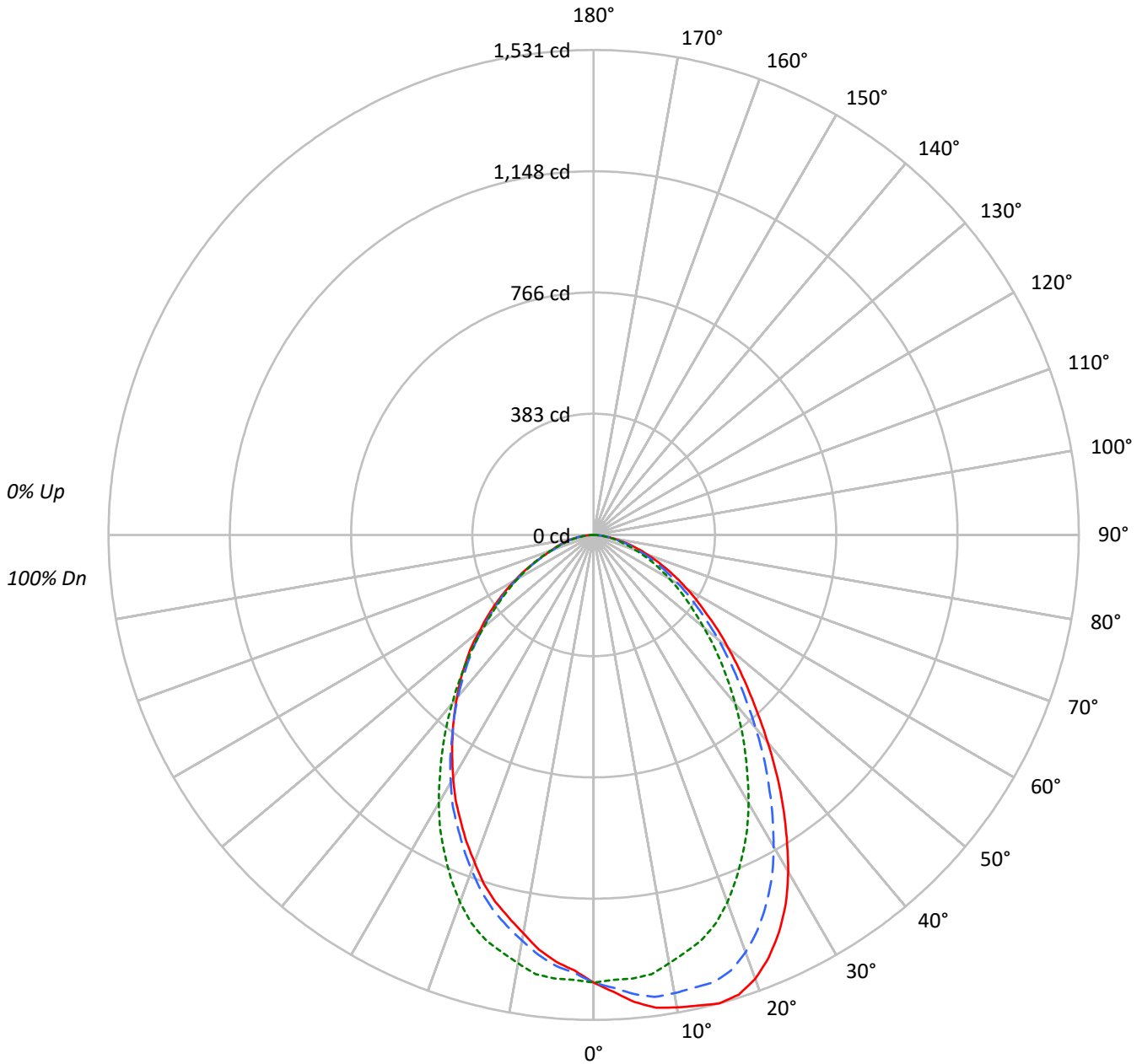
Lumens per Lamp: N/A  
Luminaire Lumens: 2740.4 lumens  
Efficiency: N/A  
Efficacy: 97.9 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.07 / 1.15  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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  |     |     |    |    |    |  |  |  |  |   |
| 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   | 110 | 106 | 103 | 99  | 108 | 104 | 101 | 98  | 100 | 97  | 95  | 96  | 94  | 92  | 92  | 91  | 89  | 87  |    |    |    |  |  |  |  |   |
| 2   | 102 | 95  | 89  | 84  | 99  | 93  | 87  | 83  | 89  | 85  | 81  | 86  | 82  | 79  | 83  | 80  | 77  | 75  |    |    |    |  |  |  |  |   |
| 3   | 94  | 85  | 77  | 72  | 92  | 83  | 76  | 71  | 80  | 75  | 70  | 78  | 73  | 69  | 75  | 71  | 68  | 66  |    |    |    |  |  |  |  |   |
| 4   | 87  | 76  | 68  | 62  | 85  | 75  | 68  | 62  | 72  | 66  | 61  | 70  | 65  | 60  | 68  | 63  | 60  | 58  |    |    |    |  |  |  |  |   |
| 5   | 81  | 69  | 61  | 55  | 79  | 68  | 60  | 55  | 66  | 59  | 54  | 64  | 58  | 53  | 62  | 57  | 53  | 51  |    |    |    |  |  |  |  |   |
| 6   | 75  | 63  | 55  | 49  | 73  | 62  | 54  | 49  | 60  | 53  | 48  | 59  | 53  | 48  | 57  | 52  | 47  | 46  |    |    |    |  |  |  |  |   |
| 7   | 70  | 58  | 50  | 44  | 68  | 57  | 49  | 44  | 55  | 48  | 43  | 54  | 48  | 43  | 53  | 47  | 43  | 41  |    |    |    |  |  |  |  |   |
| 8   | 65  | 53  | 45  | 40  | 64  | 52  | 45  | 40  | 51  | 44  | 39  | 50  | 44  | 39  | 49  | 43  | 39  | 37  |    |    |    |  |  |  |  |   |
| 9   | 61  | 49  | 41  | 36  | 60  | 48  | 41  | 36  | 47  | 41  | 36  | 46  | 40  | 36  | 45  | 40  | 36  | 34  |    |    |    |  |  |  |  |   |
| 10  | 58  | 45  | 38  | 33  | 57  | 45  | 38  | 33  | 44  | 38  | 33  | 43  | 37  | 33  | 42  | 37  | 33  | 31  |    |    |    |  |  |  |  |   |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°     | 90°    | 180°   |
|-----|--------|--------|--------|
| 0°  | 174287 | 174287 | 174287 |
| 5°  | 183274 | 174062 | 167536 |
| 10° | 189714 | 171979 | 159942 |
| 15° | 195491 | 168866 | 153121 |
| 20° | 195724 | 161911 | 144283 |
| 25° | 188372 | 151340 | 135280 |
| 30° | 174915 | 139265 | 126347 |
| 35° | 156766 | 125371 | 116908 |
| 40° | 137556 | 111858 | 108074 |
| 45° | 120239 | 99028  | 99673  |
| 50° | 106174 | 86677  | 89805  |
| 55° | 93610  | 76858  | 80750  |
| 60° | 83678  | 68013  | 70702  |
| 65° | 74103  | 59831  | 59831  |
| 70° | 64771  | 51030  | 51030  |
| 75° | 55330  | 43225  | 48420  |
| 80° | 43827  | 38641  | 43827  |
| 85° | 28305  | 33399  | 41042  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 133.9  | 4.9       |
| 10°-20°   | 377.0  | 13.8      |
| 20°-30°   | 528.2  | 19.3      |
| 30°-40°   | 544.2  | 19.9      |
| 40°-50°   | 463.3  | 16.9      |
| 50°-60°   | 343.3  | 12.5      |
| 60°-70°   | 215.4  | 7.9       |
| 70°-80°   | 107.0  | 3.9       |
| 80°-90°   | 28.1   | 1.0       |
| 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°    | 1039.1 | 37.9      |
| 0°-40°    | 1583.3 | 57.8      |
| 0°-60°    | 2389.9 | 87.2      |
| 0°-90°    | 2740.4 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2740.4 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45°  | 90°  | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 1413 | 1413 | 1413 | 1413 | 1413 |      |
| 5°  | 1480 | 1455 | 1406 | 1366 | 1353 | 142  |
| 15° | 1531 | 1462 | 1322 | 1226 | 1199 | 430  |
| 25° | 1384 | 1288 | 1112 | 1016 | 994  | 633  |
| 35° | 1041 | 963  | 833  | 778  | 776  | 649  |
| 45° | 689  | 642  | 568  | 557  | 571  | 535  |
| 55° | 435  | 401  | 357  | 365  | 376  | 394  |
| 65° | 254  | 228  | 205  | 201  | 205  | 253  |
| 75° | 116  | 103  | 91   | 98   | 102  | 124  |
| 85° | 20   | 20   | 24   | 27   | 29   | 26   |
| 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°    | 1413.0 | 1413.0 | 1413.0 | 1413.0 | 1413.0 | 1413.0 | 1413.0 | 1413.0 | 1413.0 |
| 2.5°  | 1443.8 | 1438.4 | 1431.2 | 1418.5 | 1405.8 | 1394.9 | 1384.1 | 1378.6 | 1376.7 |
| 5°    | 1480.2 | 1469.3 | 1454.8 | 1431.2 | 1405.8 | 1384.1 | 1365.9 | 1356.9 | 1353.1 |
| 7.5°  | 1505.5 | 1494.7 | 1471.1 | 1434.8 | 1398.5 | 1365.9 | 1336.9 | 1324.2 | 1320.5 |
| 10°   | 1514.7 | 1501.9 | 1469.3 | 1420.3 | 1373.1 | 1333.3 | 1300.6 | 1284.2 | 1277.0 |
| 12.5° | 1521.9 | 1505.5 | 1463.8 | 1405.8 | 1347.7 | 1298.8 | 1264.3 | 1242.5 | 1237.1 |
| 15°   | 1530.9 | 1512.9 | 1462.0 | 1391.3 | 1322.4 | 1264.3 | 1226.2 | 1206.3 | 1199.1 |
| 17.5° | 1521.9 | 1501.9 | 1442.0 | 1362.3 | 1284.2 | 1220.8 | 1179.1 | 1160.9 | 1153.7 |
| 20°   | 1491.1 | 1469.3 | 1402.2 | 1316.9 | 1233.5 | 1168.2 | 1126.4 | 1108.3 | 1099.2 |
| 22.5° | 1443.8 | 1420.3 | 1351.3 | 1260.7 | 1175.4 | 1112.0 | 1072.1 | 1053.9 | 1048.5 |
| 25°   | 1384.1 | 1360.5 | 1288.0 | 1195.3 | 1112.0 | 1050.3 | 1015.8 | 999.5  | 994.0  |
| 27.5° | 1313.3 | 1289.8 | 1218.9 | 1128.2 | 1048.5 | 990.4  | 963.2  | 946.8  | 943.2  |
| 30°   | 1228.1 | 1204.5 | 1135.6 | 1052.1 | 977.8  | 923.3  | 901.5  | 888.9  | 887.1  |
| 32.5° | 1133.8 | 1113.8 | 1050.3 | 974.0  | 903.3  | 858.0  | 841.7  | 832.6  | 830.8  |
| 35°   | 1041.1 | 1019.5 | 963.2  | 894.3  | 832.6  | 792.6  | 778.2  | 776.4  | 776.4  |
| 37.5° | 946.8  | 925.1  | 879.7  | 816.2  | 763.7  | 727.3  | 721.9  | 723.7  | 723.7  |
| 40°   | 854.3  | 834.4  | 794.5  | 741.9  | 694.7  | 667.6  | 665.7  | 669.4  | 671.2  |
| 42.5° | 767.3  | 751.0  | 714.7  | 669.4  | 629.4  | 607.7  | 609.5  | 616.8  | 622.2  |
| 45°   | 689.3  | 674.8  | 642.2  | 602.2  | 567.7  | 551.5  | 556.9  | 565.9  | 571.4  |
| 47.5° | 618.6  | 605.8  | 575.1  | 538.7  | 509.7  | 498.8  | 506.1  | 517.0  | 524.2  |
| 50°   | 553.3  | 542.3  | 513.4  | 475.2  | 451.7  | 444.4  | 453.5  | 464.4  | 468.0  |
| 52.5° | 495.2  | 484.4  | 453.5  | 420.9  | 402.7  | 399.1  | 408.1  | 417.2  | 422.7  |
| 55°   | 435.3  | 426.3  | 400.9  | 371.9  | 357.4  | 355.5  | 364.6  | 371.9  | 375.5  |
| 57.5° | 386.3  | 377.3  | 353.7  | 328.4  | 315.6  | 313.8  | 322.8  | 328.4  | 330.2  |
| 60°   | 339.2  | 330.2  | 308.4  | 284.8  | 275.7  | 275.7  | 281.2  | 284.8  | 286.6  |
| 62.5° | 295.6  | 286.6  | 266.7  | 246.7  | 239.5  | 239.5  | 239.5  | 241.3  | 246.7  |
| 65°   | 253.9  | 246.7  | 228.5  | 210.4  | 205.0  | 201.3  | 201.3  | 201.3  | 205.0  |
| 67.5° | 215.9  | 208.6  | 194.1  | 177.8  | 172.4  | 166.8  | 165.0  | 168.7  | 168.7  |
| 70°   | 179.6  | 174.2  | 159.6  | 147.0  | 141.5  | 136.0  | 134.2  | 141.5  | 141.5  |
| 72.5° | 147.0  | 141.5  | 132.4  | 119.7  | 114.3  | 112.5  | 116.1  | 119.7  | 121.5  |
| 75°   | 116.1  | 110.7  | 103.4  | 96.1   | 90.7   | 92.5   | 97.9   | 99.7   | 101.6  |
| 77.5° | 87.1   | 85.3   | 77.9   | 72.5   | 72.5   | 74.3   | 77.9   | 81.7   | 83.5   |
| 80°   | 61.7   | 59.9   | 56.3   | 52.6   | 54.4   | 58.1   | 59.9   | 63.5   | 61.7   |
| 82.5° | 38.1   | 38.1   | 36.3   | 36.3   | 38.1   | 41.7   | 43.5   | 45.3   | 47.2   |
| 85°   | 20.0   | 20.0   | 20.0   | 21.8   | 23.6   | 25.4   | 27.2   | 29.0   | 29.0   |
| 87.5° | 5.4    | 7.2    | 7.2    | 9.0    | 10.8   | 10.8   | 12.7   | 12.7   | 12.7   |
| 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





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Scaled Data Report



— 0°-180°    - - 45°-225°    - - - - 90°-270°

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