

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: P583275

Luminaire Tested: **HC660D010-HM64560940-61WWBB**

Issue Date: 9/16/2021

Test Information

Test Method: LM-41-14
Report Number: P583275
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2105-241-17)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/16/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC660D010-HM64560940-61WWBB
Description: HALO COMMERCIAL 6" ROUND, NEW CONSTRUCTION FRAME, WITH 6" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4632.2 lumens
Efficiency: N/A
Efficacy: 84.2 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.06 / 1.14
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

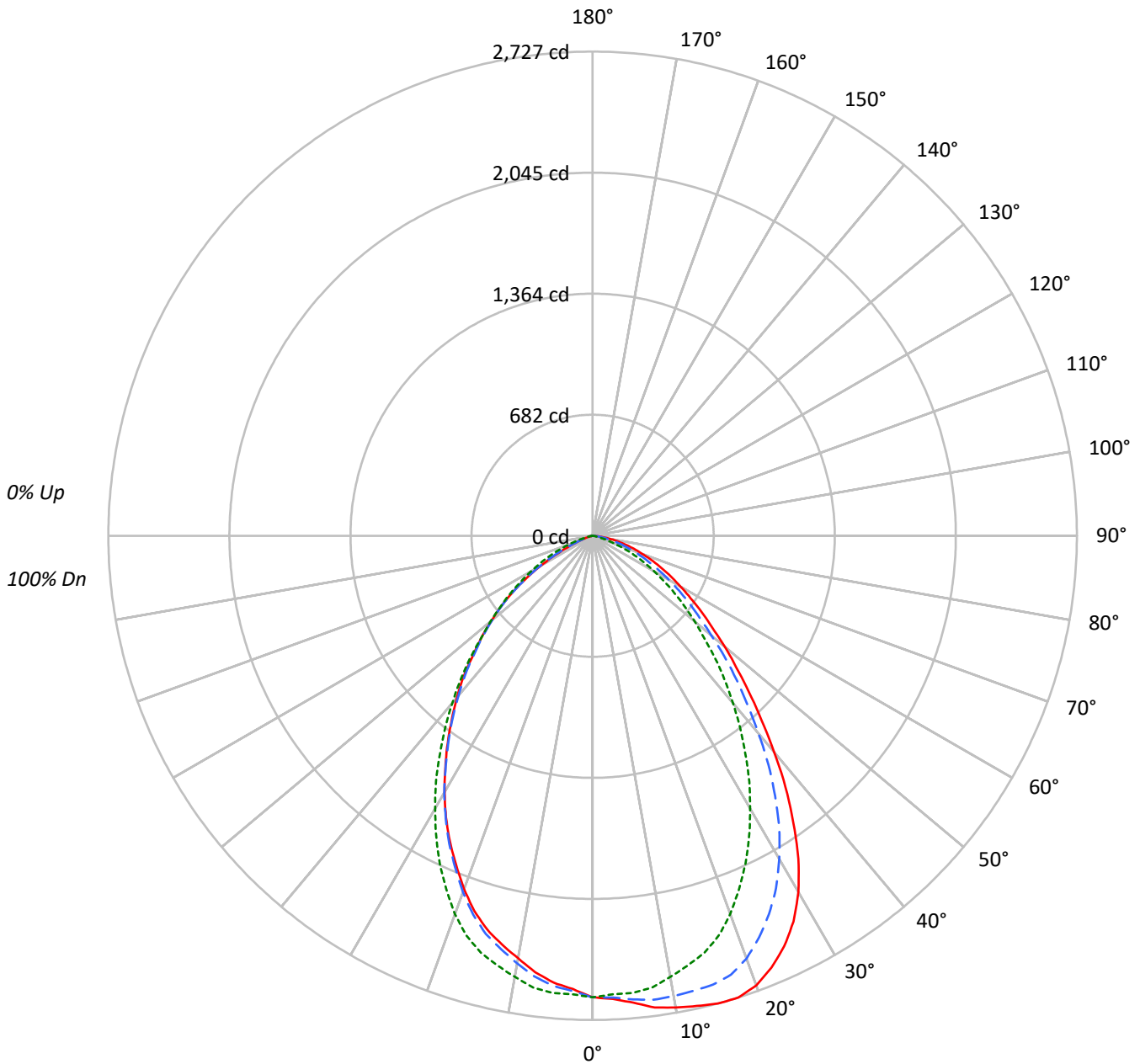
Input Watts (W): 55
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 |
| 1 | 111 | 108 | 104 | 101 | 109 | 105 | 102 | 100 | 101 | 99 | 97 | 97 | 95 | 94 | 94 | 92 | 91 | 89 | | | 89 |
| 2 | 103 | 97 | 91 | 87 | 101 | 95 | 90 | 86 | 91 | 87 | 84 | 88 | 85 | 82 | 85 | 83 | 80 | 78 | | | 78 |
| 3 | 96 | 87 | 80 | 75 | 93 | 86 | 79 | 74 | 83 | 77 | 73 | 80 | 76 | 72 | 78 | 74 | 71 | 69 | | | 69 |
| 4 | 89 | 79 | 71 | 66 | 87 | 78 | 71 | 65 | 75 | 69 | 64 | 73 | 68 | 64 | 71 | 66 | 63 | 61 | | | 61 |
| 5 | 83 | 72 | 64 | 58 | 81 | 71 | 63 | 58 | 69 | 62 | 57 | 67 | 61 | 57 | 65 | 60 | 56 | 54 | | | 54 |
| 6 | 77 | 65 | 58 | 52 | 75 | 65 | 57 | 52 | 63 | 56 | 51 | 61 | 55 | 51 | 60 | 55 | 51 | 49 | | | 49 |
| 7 | 72 | 60 | 52 | 47 | 70 | 59 | 52 | 47 | 58 | 51 | 46 | 56 | 51 | 46 | 55 | 50 | 46 | 44 | | | 44 |
| 8 | 67 | 55 | 48 | 43 | 66 | 55 | 47 | 42 | 53 | 47 | 42 | 52 | 46 | 42 | 51 | 46 | 42 | 40 | | | 40 |
| 9 | 63 | 51 | 44 | 39 | 62 | 51 | 44 | 39 | 50 | 43 | 39 | 49 | 43 | 38 | 48 | 42 | 38 | 37 | | | 37 |
| 10 | 60 | 48 | 40 | 36 | 58 | 47 | 40 | 36 | 46 | 40 | 36 | 45 | 40 | 35 | 45 | 39 | 35 | 34 | | | 34 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|--------|--------|--------|
| 0° | 142500 | 142500 | 142500 |
| 5° | 145251 | 142235 | 139016 |
| 10° | 150192 | 140423 | 134522 |
| 15° | 154791 | 137975 | 130307 |
| 20° | 157187 | 132236 | 123485 |
| 25° | 154352 | 123170 | 114986 |
| 30° | 146719 | 112245 | 105523 |
| 35° | 131879 | 100311 | 95178 |
| 40° | 113806 | 87908 | 85031 |
| 45° | 96367 | 75675 | 73690 |
| 50° | 82624 | 63921 | 63290 |
| 55° | 71634 | 53809 | 51716 |
| 60° | 62539 | 43692 | 36883 |
| 65° | 55012 | 33674 | 20404 |
| 70° | 47460 | 22279 | 9954 |
| 75° | 40265 | 10845 | 3876 |
| 80° | 31159 | 4609 | 2305 |
| 85° | 18429 | 2327 | 2327 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 245.3 | 5.3 |
| 10°-20° | 693.7 | 15.0 |
| 20°-30° | 976.8 | 21.1 |
| 30°-40° | 998.0 | 21.5 |
| 40°-50° | 804.7 | 17.4 |
| 50°-60° | 539.7 | 11.7 |
| 60°-70° | 273.1 | 5.9 |
| 70°-80° | 87.3 | 1.9 |
| 80°-90° | 13.5 | 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° | 1915.8 | 41.4 |
| 0°-40° | 2913.8 | 62.9 |
| 0°-60° | 4258.3 | 91.9 |
| 0°-90° | 4632.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4632.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 2599 | 2599 | 2599 | 2599 | 2599 | |
| 5° | 2640 | 2621 | 2585 | 2544 | 2526 | 254 |
| 15° | 2727 | 2618 | 2431 | 2322 | 2296 | 770 |
| 25° | 2552 | 2351 | 2036 | 1912 | 1901 | 1168 |
| 35° | 1971 | 1791 | 1499 | 1415 | 1422 | 1226 |
| 45° | 1243 | 1144 | 976 | 943 | 950 | 967 |
| 55° | 750 | 665 | 563 | 537 | 541 | 674 |
| 65° | 424 | 351 | 260 | 172 | 157 | 423 |
| 75° | 190 | 135 | 51 | 18 | 18 | 204 |
| 85° | 29 | 15 | 4 | 4 | 4 | 39 |
| 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° | 2599.4 | 2599.4 | 2599.4 | 2599.4 | 2599.4 | 2599.4 | 2599.4 | 2599.4 | 2599.4 |
| 2.5° | 2610.4 | 2606.7 | 2603.0 | 2595.7 | 2584.7 | 2573.8 | 2566.4 | 2559.1 | 2555.5 |
| 5° | 2639.5 | 2632.3 | 2621.3 | 2606.7 | 2584.7 | 2559.1 | 2544.5 | 2529.9 | 2526.2 |
| 7.5° | 2679.8 | 2665.1 | 2635.9 | 2603.0 | 2566.4 | 2529.9 | 2504.3 | 2489.7 | 2478.7 |
| 10° | 2698.1 | 2672.5 | 2632.3 | 2577.4 | 2522.6 | 2478.7 | 2445.8 | 2423.8 | 2416.6 |
| 12.5° | 2712.7 | 2683.4 | 2625.0 | 2551.8 | 2478.7 | 2420.2 | 2383.7 | 2365.4 | 2358.1 |
| 15° | 2727.4 | 2698.1 | 2617.7 | 2522.6 | 2431.1 | 2361.7 | 2321.5 | 2303.3 | 2296.0 |
| 17.5° | 2727.4 | 2687.1 | 2592.1 | 2471.4 | 2361.7 | 2277.7 | 2237.4 | 2219.1 | 2215.4 |
| 20° | 2694.4 | 2650.5 | 2533.5 | 2391.0 | 2266.7 | 2171.6 | 2135.0 | 2124.1 | 2116.7 |
| 22.5° | 2632.3 | 2581.1 | 2449.4 | 2288.6 | 2153.3 | 2062.0 | 2021.7 | 2014.4 | 2007.1 |
| 25° | 2551.8 | 2500.7 | 2350.7 | 2179.0 | 2036.3 | 1945.0 | 1912.0 | 1904.7 | 1901.0 |
| 27.5° | 2449.4 | 2394.7 | 2237.4 | 2062.0 | 1908.4 | 1820.6 | 1791.4 | 1791.4 | 1787.7 |
| 30° | 2317.8 | 2255.7 | 2102.1 | 1926.7 | 1773.2 | 1692.7 | 1670.7 | 1670.7 | 1667.0 |
| 32.5° | 2157.0 | 2094.9 | 1955.9 | 1787.7 | 1641.5 | 1557.5 | 1539.2 | 1546.5 | 1542.8 |
| 35° | 1970.6 | 1919.3 | 1791.4 | 1626.9 | 1498.9 | 1422.2 | 1414.9 | 1422.2 | 1422.2 |
| 37.5° | 1784.0 | 1736.6 | 1626.9 | 1484.3 | 1363.6 | 1294.2 | 1294.2 | 1305.2 | 1301.5 |
| 40° | 1590.3 | 1553.8 | 1451.3 | 1327.1 | 1228.4 | 1180.9 | 1173.5 | 1184.5 | 1188.2 |
| 42.5° | 1407.5 | 1378.3 | 1290.5 | 1188.2 | 1100.5 | 1052.9 | 1063.9 | 1071.2 | 1074.8 |
| 45° | 1243.0 | 1213.8 | 1144.3 | 1038.2 | 976.1 | 943.2 | 943.2 | 954.2 | 950.5 |
| 47.5° | 1096.8 | 1074.8 | 1005.4 | 903.1 | 848.2 | 833.5 | 840.8 | 848.2 | 848.2 |
| 50° | 968.8 | 935.9 | 870.1 | 789.7 | 749.5 | 731.2 | 738.5 | 742.1 | 742.1 |
| 52.5° | 848.2 | 826.2 | 760.4 | 687.4 | 650.8 | 639.8 | 639.8 | 643.4 | 643.4 |
| 55° | 749.5 | 723.8 | 665.4 | 592.2 | 563.0 | 548.4 | 537.4 | 533.8 | 541.1 |
| 57.5° | 654.4 | 632.5 | 577.7 | 508.1 | 475.3 | 460.7 | 438.7 | 431.4 | 438.7 |
| 60° | 570.4 | 552.1 | 497.2 | 431.4 | 398.5 | 369.3 | 343.7 | 329.0 | 336.4 |
| 62.5° | 497.2 | 475.3 | 420.4 | 365.6 | 329.0 | 296.1 | 256.0 | 234.0 | 245.0 |
| 65° | 424.1 | 405.8 | 351.0 | 296.1 | 259.6 | 219.4 | 171.8 | 157.3 | 157.3 |
| 67.5° | 358.3 | 340.0 | 288.8 | 241.3 | 197.4 | 149.9 | 106.0 | 102.4 | 106.0 |
| 70° | 296.1 | 277.8 | 234.0 | 186.4 | 139.0 | 91.4 | 62.1 | 62.1 | 62.1 |
| 72.5° | 245.0 | 223.0 | 182.8 | 135.3 | 87.7 | 47.6 | 32.9 | 36.6 | 36.6 |
| 75° | 190.1 | 171.8 | 135.3 | 91.4 | 51.2 | 22.0 | 18.3 | 18.3 | 18.3 |
| 77.5° | 142.6 | 128.0 | 95.0 | 58.4 | 25.6 | 7.3 | 7.3 | 7.3 | 7.3 |
| 80° | 98.7 | 84.1 | 62.1 | 36.6 | 14.6 | 7.3 | 7.3 | 7.3 | 7.3 |
| 82.5° | 58.4 | 51.2 | 36.6 | 18.3 | 7.3 | 3.7 | 3.7 | 3.7 | 3.7 |
| 85° | 29.3 | 25.6 | 14.6 | 7.3 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| 87.5° | 7.3 | 7.3 | 3.7 | 3.7 | 0.0 | 3.7 | 3.7 | 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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— 0°-180° - - 45°-225° - - - - 90°-270°







(END OF REPORT)