

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: P582494

Luminaire Tested: **HC640D010-HM63040927-61RWWC**

Issue Date: 9/16/2021

Test Information

Test Method: LM-41-14
Report Number: P582494
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2105-241-14)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/16/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC640D010-HM63040927-61RWWC
Description: HALO COMMERCIAL 6" ROUND, NEW CONSTRUCTION FRAME, WITH 6" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3553.4 lumens
Efficiency: N/A
Efficacy: 86.7 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.15 / 1.2
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

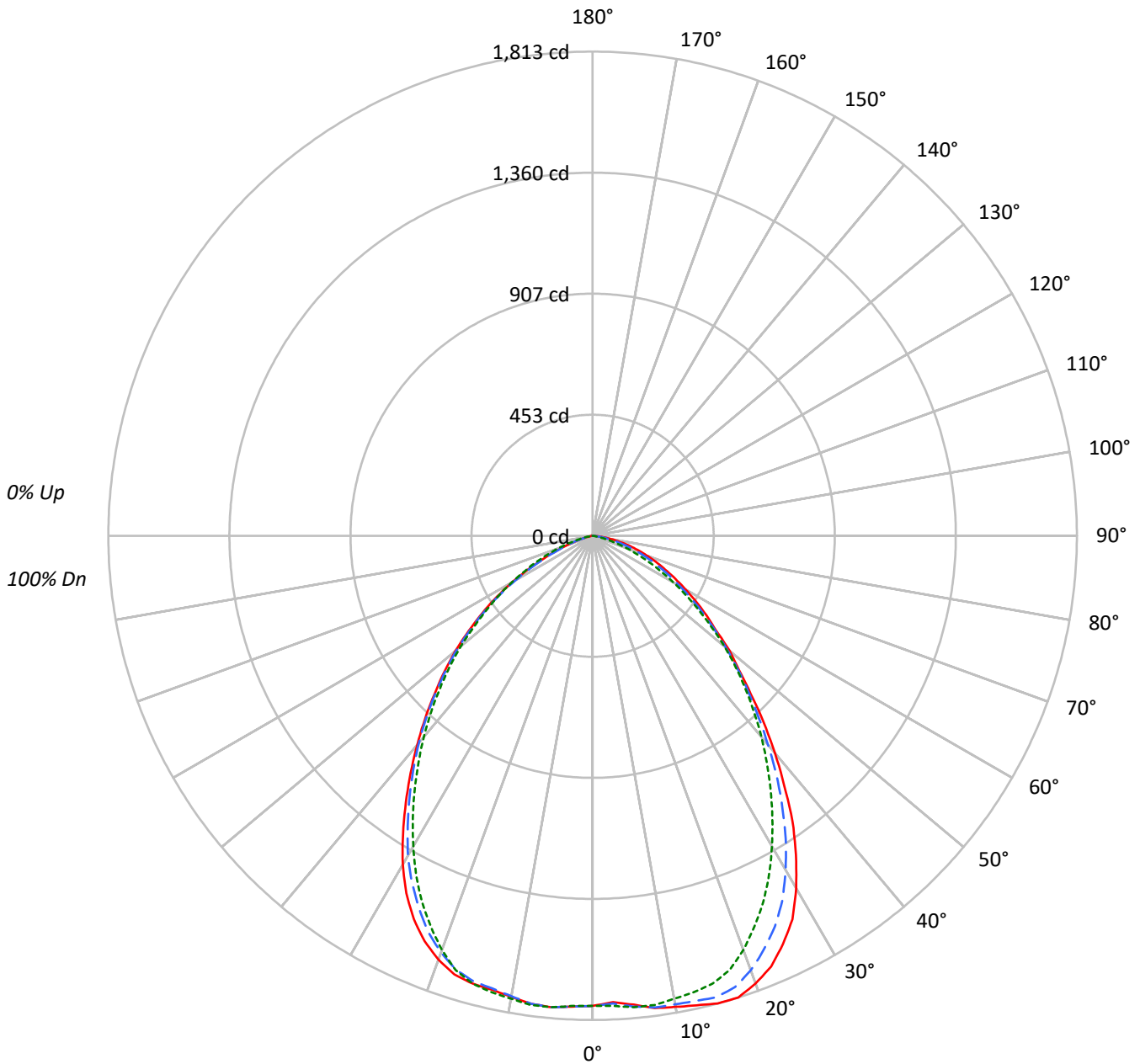
Input Watts (W): 41
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 101 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 94 | 92 | 90 | 88 | | | |
| 2 | 103 | 96 | 90 | 86 | 100 | 94 | 89 | 85 | 91 | 86 | 83 | 88 | 84 | 81 | 85 | 82 | 79 | 77 | | | |
| 3 | 95 | 86 | 79 | 74 | 93 | 85 | 78 | 73 | 82 | 76 | 72 | 79 | 75 | 71 | 77 | 73 | 69 | 68 | | | |
| 4 | 88 | 78 | 70 | 64 | 86 | 76 | 69 | 64 | 74 | 68 | 63 | 72 | 67 | 62 | 70 | 65 | 61 | 60 | | | |
| 5 | 82 | 70 | 62 | 57 | 80 | 69 | 62 | 56 | 67 | 61 | 56 | 65 | 60 | 55 | 64 | 59 | 55 | 53 | | | |
| 6 | 76 | 64 | 56 | 50 | 74 | 63 | 56 | 50 | 62 | 55 | 50 | 60 | 54 | 49 | 58 | 53 | 49 | 47 | | | |
| 7 | 71 | 59 | 51 | 45 | 69 | 58 | 50 | 45 | 56 | 50 | 45 | 55 | 49 | 45 | 54 | 48 | 44 | 42 | | | |
| 8 | 66 | 54 | 46 | 41 | 65 | 53 | 46 | 41 | 52 | 45 | 41 | 51 | 45 | 40 | 50 | 44 | 40 | 38 | | | |
| 9 | 62 | 50 | 42 | 37 | 61 | 49 | 42 | 37 | 48 | 42 | 37 | 47 | 41 | 37 | 46 | 41 | 37 | 35 | | | |
| 10 | 59 | 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° | 96489 | 96489 | 96489 |
| 5° | 96984 | 97518 | 97518 |
| 10° | 99703 | 97977 | 97582 |
| 15° | 102872 | 98536 | 98536 |
| 20° | 104070 | 96276 | 98510 |
| 25° | 101994 | 91463 | 95788 |
| 30° | 96471 | 84994 | 89982 |
| 35° | 87308 | 77731 | 81566 |
| 40° | 75949 | 70325 | 73051 |
| 45° | 64906 | 62681 | 64906 |
| 50° | 56953 | 54915 | 57158 |
| 55° | 49690 | 46278 | 48094 |
| 60° | 43933 | 38440 | 37914 |
| 65° | 38980 | 30315 | 25995 |
| 70° | 34397 | 21414 | 15660 |
| 75° | 29314 | 12115 | 7562 |
| 80° | 21815 | 3757 | 2241 |
| 85° | 12014 | 1510 | 1510 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 168.8 | 4.8 |
| 10°-20° | 494.0 | 13.9 |
| 20°-30° | 721.5 | 20.3 |
| 30°-40° | 756.6 | 21.3 |
| 40°-50° | 637.4 | 17.9 |
| 50°-60° | 446.6 | 12.6 |
| 60°-70° | 239.4 | 6.7 |
| 70°-80° | 80.3 | 2.3 |
| 80°-90° | 8.7 | 0.2 |
| 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° | 1384.3 | 39.0 |
| 0°-40° | 2140.9 | 60.2 |
| 0°-60° | 3224.9 | 90.8 |
| 0°-90° | 3553.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3553.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 1760 | 1760 | 1760 | 1760 | 1760 | |
| 5° | 1762 | 1770 | 1772 | 1772 | 1772 | 169 |
| 15° | 1813 | 1789 | 1736 | 1727 | 1736 | 511 |
| 25° | 1686 | 1615 | 1512 | 1538 | 1584 | 772 |
| 35° | 1305 | 1238 | 1162 | 1195 | 1219 | 810 |
| 45° | 837 | 823 | 808 | 830 | 837 | 652 |
| 55° | 520 | 503 | 484 | 494 | 503 | 468 |
| 65° | 300 | 274 | 234 | 193 | 200 | 300 |
| 75° | 138 | 107 | 57 | 36 | 36 | 147 |
| 85° | 19 | 10 | 2 | 2 | 2 | 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° | 1760.1 | 1760.1 | 1760.1 | 1760.1 | 1760.1 | 1760.1 | 1760.1 | 1760.1 | 1760.1 |
| 2.5° | 1748.2 | 1748.2 | 1753.0 | 1757.7 | 1762.4 | 1762.4 | 1764.8 | 1767.2 | 1764.8 |
| 5° | 1762.4 | 1762.4 | 1769.7 | 1772.1 | 1772.1 | 1769.7 | 1772.1 | 1772.1 | 1772.1 |
| 7.5° | 1783.9 | 1779.2 | 1781.6 | 1776.8 | 1772.1 | 1769.7 | 1767.2 | 1767.2 | 1767.2 |
| 10° | 1791.1 | 1786.3 | 1781.6 | 1772.1 | 1760.1 | 1753.0 | 1750.6 | 1753.0 | 1753.0 |
| 12.5° | 1800.7 | 1795.8 | 1783.9 | 1764.8 | 1750.6 | 1738.6 | 1736.2 | 1741.1 | 1741.1 |
| 15° | 1812.6 | 1807.8 | 1788.7 | 1757.7 | 1736.2 | 1724.3 | 1726.7 | 1731.5 | 1736.2 |
| 17.5° | 1812.6 | 1803.1 | 1772.1 | 1731.5 | 1705.2 | 1693.3 | 1702.8 | 1714.8 | 1722.0 |
| 20° | 1783.9 | 1774.5 | 1731.5 | 1681.3 | 1650.3 | 1643.2 | 1660.0 | 1681.3 | 1688.6 |
| 22.5° | 1745.8 | 1726.7 | 1676.6 | 1617.0 | 1583.6 | 1583.6 | 1607.5 | 1633.7 | 1643.2 |
| 25° | 1686.2 | 1671.8 | 1614.6 | 1545.5 | 1512.1 | 1509.7 | 1538.3 | 1574.1 | 1583.6 |
| 27.5° | 1619.3 | 1600.3 | 1538.3 | 1466.7 | 1431.0 | 1433.4 | 1464.4 | 1500.1 | 1509.7 |
| 30° | 1524.0 | 1500.1 | 1445.2 | 1376.1 | 1342.7 | 1352.2 | 1383.2 | 1409.5 | 1421.5 |
| 32.5° | 1416.6 | 1395.2 | 1345.1 | 1280.7 | 1252.1 | 1261.6 | 1287.9 | 1311.7 | 1321.2 |
| 35° | 1304.6 | 1280.7 | 1237.7 | 1180.5 | 1161.5 | 1171.0 | 1194.9 | 1214.0 | 1218.8 |
| 37.5° | 1178.1 | 1161.5 | 1130.5 | 1085.1 | 1070.9 | 1082.8 | 1101.9 | 1113.8 | 1118.5 |
| 40° | 1061.3 | 1047.0 | 1020.8 | 987.4 | 982.7 | 992.2 | 1011.3 | 1018.4 | 1020.8 |
| 42.5° | 946.8 | 934.9 | 918.2 | 894.4 | 894.4 | 903.9 | 920.5 | 925.4 | 927.8 |
| 45° | 837.2 | 829.9 | 822.8 | 803.7 | 808.5 | 820.4 | 829.9 | 837.2 | 837.2 |
| 47.5° | 741.7 | 744.0 | 734.6 | 720.3 | 725.1 | 736.9 | 744.0 | 751.3 | 751.3 |
| 50° | 667.8 | 660.7 | 651.1 | 636.8 | 643.9 | 653.4 | 663.1 | 667.8 | 670.2 |
| 52.5° | 581.9 | 579.6 | 572.4 | 555.7 | 560.4 | 565.2 | 574.8 | 581.9 | 584.3 |
| 55° | 519.9 | 512.8 | 503.2 | 484.2 | 484.2 | 489.0 | 493.7 | 498.5 | 503.2 |
| 57.5° | 460.3 | 453.1 | 438.8 | 417.3 | 415.0 | 415.0 | 412.6 | 417.3 | 424.6 |
| 60° | 400.7 | 398.3 | 376.8 | 357.7 | 350.6 | 343.5 | 333.8 | 336.2 | 345.8 |
| 62.5° | 348.2 | 343.5 | 324.3 | 300.5 | 286.2 | 274.2 | 262.3 | 260.0 | 269.5 |
| 65° | 300.5 | 295.7 | 274.2 | 250.5 | 233.7 | 212.2 | 193.2 | 193.2 | 200.4 |
| 67.5° | 257.6 | 248.0 | 229.0 | 202.7 | 181.2 | 155.0 | 136.0 | 140.7 | 143.1 |
| 70° | 214.6 | 207.5 | 186.0 | 159.7 | 133.6 | 107.4 | 95.4 | 97.7 | 97.7 |
| 72.5° | 176.5 | 167.0 | 145.5 | 119.2 | 93.0 | 69.1 | 64.4 | 62.0 | 62.0 |
| 75° | 138.4 | 128.7 | 107.4 | 81.1 | 57.2 | 40.5 | 35.7 | 35.7 | 35.7 |
| 77.5° | 100.1 | 93.0 | 74.0 | 50.1 | 31.0 | 19.1 | 16.8 | 14.2 | 14.2 |
| 80° | 69.1 | 62.0 | 45.4 | 26.2 | 11.9 | 7.1 | 7.1 | 7.1 | 7.1 |
| 82.5° | 40.5 | 33.4 | 21.5 | 11.9 | 4.7 | 2.4 | 2.4 | 2.4 | 2.4 |
| 85° | 19.1 | 14.2 | 9.5 | 4.7 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
| 87.5° | 2.4 | 2.4 | 2.4 | 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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— 0°-180° - - 45°-225° - - - - 90°-270°







(END OF REPORT)