

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: P579753

Luminaire Tested: **HC410D010-HM40525840-41WWBB**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P579753
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: HC410D010-HM40525840-41WWBB
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 916.0 lumens
Efficiency: N/A
Efficacy: 92.5 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

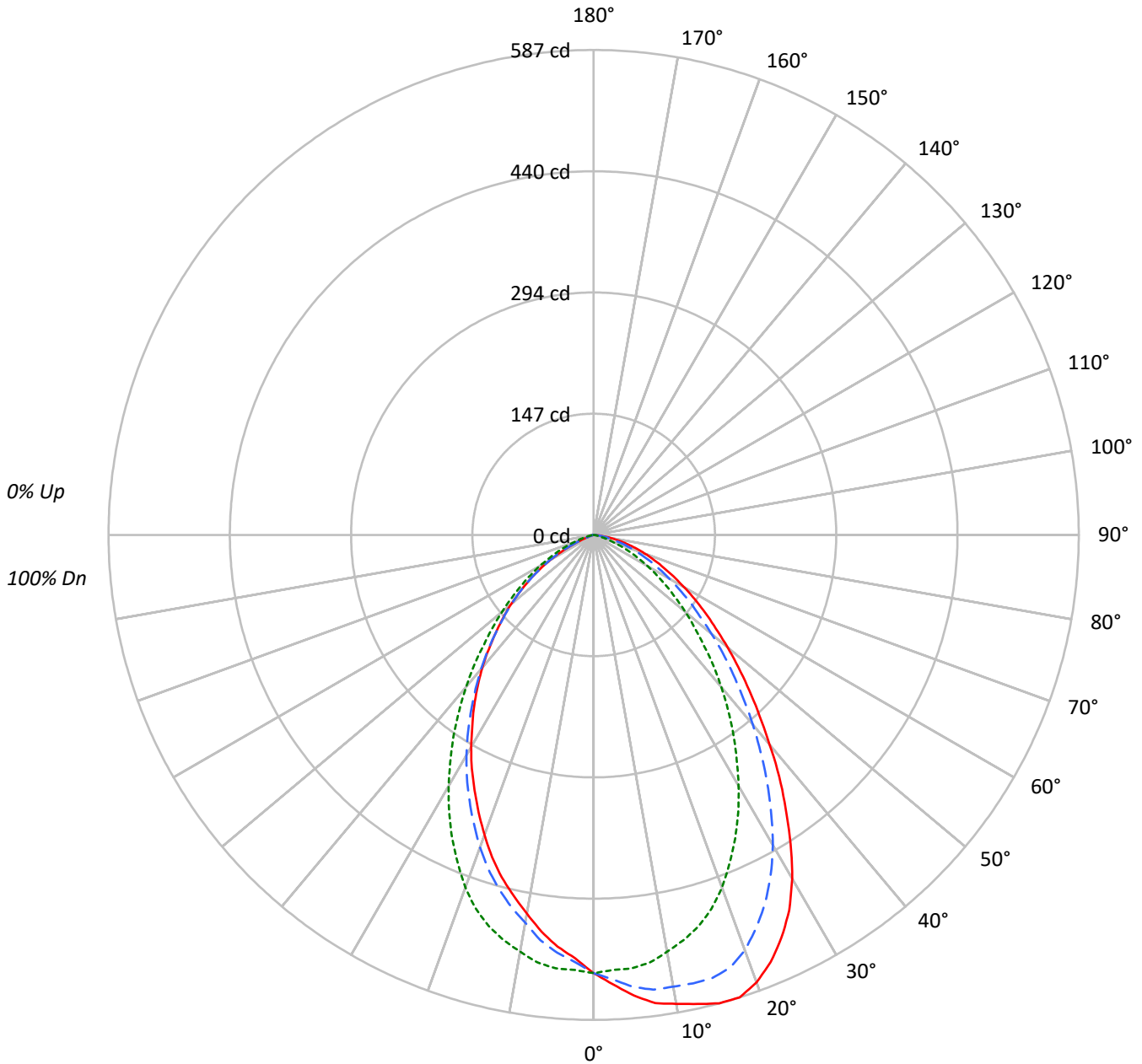
Input Watts (W): 9.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P579753

CATALOG NUMBER: HC410D010-HM40525840-41WWBB

Luminous Intensity Polar Plot





TEST NUMBER: P579753

CATALOG NUMBER: HC410D010-HM40525840-41WWBB

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|---|--|--|--|--|--|--|----|--|--|--|--|--|--|--|--|---|
| RF | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | |
| RC | 80 | | | | | | | | | 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 | 108 | 104 | 101 | 109 | 105 | 102 | 100 | 101 | 99 | 97 | 97 | 95 | 94 | 94 | 92 | 91 | 89 | | | | | | | | | | | | | | | | | | | |
| 2 | 103 | 97 | 91 | 87 | 101 | 95 | 90 | 86 | 92 | 87 | 84 | 88 | 85 | 82 | 85 | 83 | 80 | 78 | | | | | | | | | | | | | | | | | | | |
| 3 | 96 | 87 | 80 | 75 | 94 | 86 | 79 | 74 | 83 | 78 | 73 | 80 | 76 | 72 | 78 | 74 | 71 | 69 | | | | | | | | | | | | | | | | | | | |
| 4 | 89 | 79 | 72 | 66 | 87 | 78 | 71 | 65 | 75 | 69 | 65 | 73 | 68 | 64 | 71 | 67 | 63 | 61 | | | | | | | | | | | | | | | | | | | |
| 5 | 83 | 72 | 64 | 58 | 81 | 71 | 64 | 58 | 69 | 62 | 58 | 67 | 61 | 57 | 65 | 60 | 56 | 55 | | | | | | | | | | | | | | | | | | | |
| 6 | 77 | 66 | 58 | 52 | 75 | 65 | 57 | 52 | 63 | 57 | 52 | 61 | 56 | 51 | 60 | 55 | 51 | 49 | | | | | | | | | | | | | | | | | | | |
| 7 | 72 | 60 | 53 | 47 | 71 | 59 | 52 | 47 | 58 | 51 | 47 | 57 | 51 | 46 | 55 | 50 | 46 | 44 | | | | | | | | | | | | | | | | | | | |
| 8 | 68 | 56 | 48 | 43 | 66 | 55 | 48 | 43 | 54 | 47 | 42 | 53 | 47 | 42 | 51 | 46 | 42 | 40 | | | | | | | | | | | | | | | | | | | |
| 9 | 64 | 52 | 44 | 39 | 62 | 51 | 44 | 39 | 50 | 43 | 39 | 49 | 43 | 39 | 48 | 43 | 39 | 37 | | | | | | | | | | | | | | | | | | | |
| 10 | 60 | 48 | 41 | 36 | 59 | 47 | 41 | 36 | 46 | 40 | 36 | 46 | 40 | 36 | 45 | 39 | 36 | 34 | | | | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|-------|-------|-------|
| 0° | 65410 | 65410 | 65410 |
| 5° | 69300 | 65202 | 61933 |
| 10° | 72181 | 64152 | 58291 |
| 15° | 74945 | 62623 | 54820 |
| 20° | 75646 | 59606 | 50693 |
| 25° | 73193 | 55133 | 46395 |
| 30° | 68436 | 49949 | 42215 |
| 35° | 60999 | 44420 | 37945 |
| 40° | 53329 | 38628 | 33765 |
| 45° | 46453 | 32777 | 29218 |
| 50° | 40528 | 27805 | 25042 |
| 55° | 35526 | 23031 | 20279 |
| 60° | 31083 | 18601 | 14875 |
| 65° | 27055 | 13893 | 8376 |
| 70° | 23694 | 8980 | 2705 |
| 75° | 19396 | 4670 | 715 |
| 80° | 14491 | 2202 | 568 |
| 85° | 8491 | 1132 | 1132 |



TEST NUMBER: P579753

CATALOG NUMBER: HC410D010-HM40525840-41WWBB

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 50.1 | 5.5 |
| 10°-20° | 140.1 | 15.3 |
| 20°-30° | 193.7 | 21.1 |
| 30°-40° | 194.7 | 21.3 |
| 40°-50° | 157.2 | 17.2 |
| 50°-60° | 106.2 | 11.6 |
| 60°-70° | 54.1 | 5.9 |
| 70°-80° | 17.3 | 1.9 |
| 80°-90° | 2.7 | 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° | 383.8 | 41.9 |
| 0°-40° | 578.5 | 63.2 |
| 0°-60° | 841.9 | 91.9 |
| 0°-90° | 916.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 916.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0° | 530 | 530 | 530 | 530 | 530 | |
| 5° | 560 | 549 | 527 | 508 | 500 | 54 |
| 15° | 587 | 555 | 490 | 444 | 429 | 165 |
| 25° | 538 | 491 | 405 | 355 | 341 | 246 |
| 35° | 405 | 366 | 295 | 258 | 252 | 253 |
| 45° | 266 | 238 | 188 | 168 | 168 | 206 |
| 55° | 165 | 143 | 107 | 94 | 94 | 148 |
| 65° | 93 | 75 | 48 | 31 | 29 | 93 |
| 75° | 41 | 29 | 10 | 2 | 2 | 44 |
| 85° | 6 | 3 | 1 | 1 | 1 | 8 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P579753

CATALOG NUMBER: HC410D010-HM40525840-41WWBB

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|
| 0° | 530.3 | 530.3 | 530.3 | 530.3 | 530.3 | 530.3 | 530.3 | 530.3 | 530.3 |
| 2.5° | 544.6 | 541.6 | 538.6 | 533.3 | 527.2 | 521.2 | 517.4 | 514.5 | 512.9 |
| 5° | 559.7 | 555.9 | 549.2 | 537.8 | 526.6 | 516.0 | 507.7 | 502.4 | 500.2 |
| 7.5° | 571.7 | 566.5 | 555.2 | 539.3 | 522.0 | 505.4 | 494.8 | 487.3 | 484.3 |
| 10° | 576.3 | 570.3 | 555.2 | 534.1 | 512.2 | 491.8 | 476.7 | 469.2 | 465.4 |
| 12.5° | 581.6 | 574.8 | 555.9 | 529.5 | 502.4 | 478.3 | 460.9 | 451.1 | 447.3 |
| 15° | 586.9 | 577.8 | 555.2 | 522.8 | 490.4 | 462.4 | 443.6 | 433.7 | 429.3 |
| 17.5° | 586.9 | 576.3 | 549.2 | 511.4 | 474.4 | 445.1 | 423.9 | 412.6 | 408.9 |
| 20° | 576.3 | 564.2 | 534.9 | 493.3 | 454.1 | 422.4 | 402.1 | 390.8 | 386.2 |
| 22.5° | 559.7 | 546.1 | 514.5 | 471.5 | 429.9 | 399.1 | 378.7 | 368.1 | 363.6 |
| 25° | 537.8 | 524.3 | 491.0 | 446.6 | 405.1 | 374.2 | 355.3 | 345.5 | 340.9 |
| 27.5° | 512.2 | 497.1 | 464.0 | 419.4 | 378.7 | 349.3 | 332.0 | 322.9 | 319.1 |
| 30° | 480.5 | 466.1 | 433.7 | 390.0 | 350.7 | 323.6 | 307.7 | 299.5 | 296.4 |
| 32.5° | 443.6 | 431.5 | 399.8 | 359.0 | 322.1 | 297.2 | 282.9 | 276.1 | 273.1 |
| 35° | 405.1 | 393.7 | 365.9 | 328.1 | 295.0 | 271.5 | 258.0 | 253.4 | 252.0 |
| 37.5° | 368.8 | 359.0 | 332.0 | 297.2 | 267.1 | 246.7 | 234.5 | 231.6 | 230.1 |
| 40° | 331.2 | 324.3 | 299.5 | 267.8 | 239.9 | 221.8 | 212.0 | 209.7 | 209.7 |
| 42.5° | 297.2 | 289.6 | 267.8 | 239.1 | 214.3 | 196.1 | 189.4 | 187.1 | 187.9 |
| 45° | 266.3 | 258.8 | 238.4 | 212.0 | 187.9 | 172.7 | 167.5 | 167.5 | 167.5 |
| 47.5° | 237.6 | 230.8 | 212.0 | 184.8 | 165.2 | 153.2 | 147.8 | 147.8 | 148.6 |
| 50° | 211.2 | 206.7 | 185.6 | 162.2 | 144.9 | 133.5 | 129.7 | 128.9 | 130.5 |
| 52.5° | 186.3 | 181.1 | 162.2 | 141.1 | 124.5 | 115.4 | 111.6 | 110.8 | 111.6 |
| 55° | 165.2 | 159.2 | 142.6 | 122.2 | 107.1 | 98.1 | 93.5 | 92.7 | 94.3 |
| 57.5° | 144.9 | 140.3 | 122.9 | 104.8 | 90.5 | 81.5 | 77.7 | 76.1 | 76.9 |
| 60° | 126.0 | 121.4 | 105.6 | 88.3 | 75.4 | 66.3 | 61.1 | 59.6 | 60.3 |
| 62.5° | 108.7 | 104.8 | 89.8 | 73.2 | 60.3 | 52.0 | 46.8 | 43.0 | 44.5 |
| 65° | 92.7 | 89.0 | 75.4 | 58.8 | 47.6 | 38.5 | 31.0 | 27.9 | 28.7 |
| 67.5° | 79.2 | 74.7 | 61.9 | 46.8 | 35.5 | 25.6 | 17.3 | 15.8 | 15.8 |
| 70° | 65.7 | 61.1 | 49.7 | 36.2 | 24.9 | 13.5 | 7.5 | 7.5 | 7.5 |
| 72.5° | 52.8 | 49.0 | 38.5 | 27.2 | 15.8 | 6.0 | 3.1 | 3.1 | 3.1 |
| 75° | 40.7 | 37.7 | 28.7 | 18.9 | 9.8 | 3.1 | 2.3 | 1.5 | 1.5 |
| 77.5° | 30.2 | 27.2 | 20.4 | 12.9 | 6.0 | 1.5 | 1.5 | 1.5 | 1.5 |
| 80° | 20.4 | 18.1 | 13.5 | 7.5 | 3.1 | 0.8 | 0.8 | 0.8 | 0.8 |
| 82.5° | 12.1 | 10.6 | 7.5 | 3.8 | 1.5 | 0.8 | 0.8 | 0.8 | 0.8 |
| 85° | 6.0 | 4.6 | 3.1 | 1.5 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 87.5° | 1.5 | 0.8 | 0.8 | 0.8 | 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 |



Report Generated By 670245859 / DESKTOP-HRDQ47P





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







(END OF REPORT)