

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: P581456

Luminaire Tested: **HC407D010-HM40525835-41RWWC**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P581456
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-14)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC407D010-HM40525835-41RWWC
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 914.0 lumens
Efficiency: N/A
Efficacy: 114.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.15 / 1.21
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

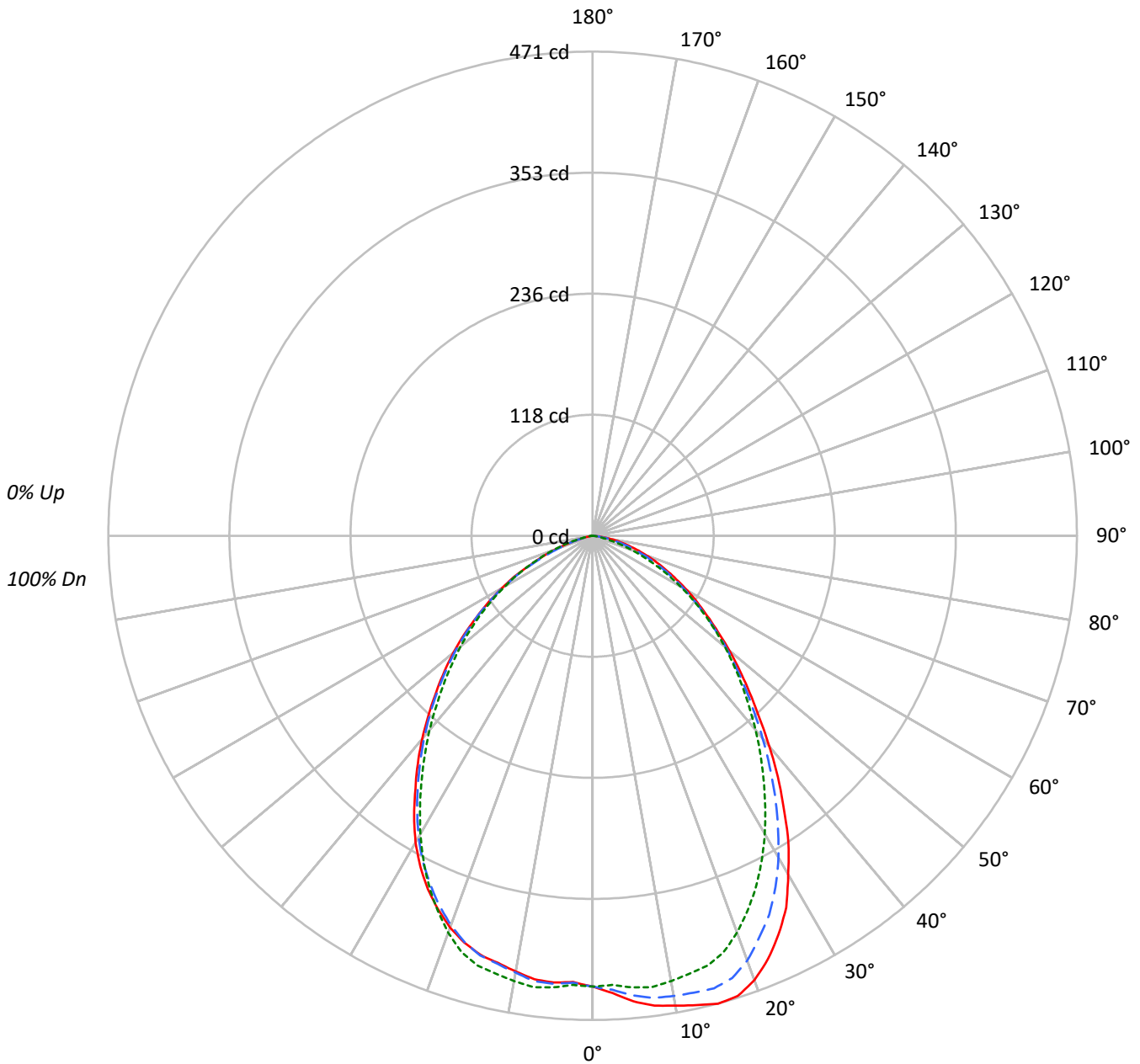
Input Watts (W): 8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | | | | | | | | | 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 | 107 | 103 | 100 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 | | | | 88 | | | | | | | | | | | | | | | |
| 2 | 102 | 95 | 90 | 85 | 100 | 94 | 88 | 84 | 90 | 86 | 82 | 87 | 83 | 80 | 84 | 81 | 78 | 76 | | | | 76 | | | | | | | | | | | | | | | |
| 3 | 95 | 85 | 78 | 73 | 92 | 84 | 77 | 72 | 81 | 75 | 71 | 78 | 74 | 70 | 76 | 72 | 69 | 67 | | | | 67 | | | | | | | | | | | | | | | |
| 4 | 87 | 77 | 69 | 63 | 85 | 76 | 68 | 63 | 73 | 67 | 62 | 71 | 66 | 61 | 69 | 64 | 60 | 58 | | | | 58 | | | | | | | | | | | | | | | |
| 5 | 81 | 70 | 62 | 56 | 79 | 68 | 61 | 55 | 66 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 54 | 52 | | | | 52 | | | | | | | | | | | | | | | |
| 6 | 75 | 63 | 55 | 49 | 74 | 62 | 55 | 49 | 61 | 54 | 49 | 59 | 53 | 48 | 58 | 52 | 48 | 46 | | | | 46 | | | | | | | | | | | | | | | |
| 7 | 70 | 58 | 50 | 44 | 69 | 57 | 49 | 44 | 56 | 49 | 44 | 54 | 48 | 44 | 53 | 47 | 43 | 41 | | | | 41 | | | | | | | | | | | | | | | |
| 8 | 66 | 53 | 45 | 40 | 64 | 53 | 45 | 40 | 51 | 44 | 40 | 50 | 44 | 39 | 49 | 43 | 39 | 37 | | | | 37 | | | | | | | | | | | | | | | |
| 9 | 62 | 49 | 42 | 36 | 60 | 49 | 41 | 36 | 47 | 41 | 36 | 46 | 40 | 36 | 45 | 40 | 36 | 34 | | | | 34 | | | | | | | | | | | | | | | |
| 10 | 58 | 46 | 38 | 33 | 57 | 45 | 38 | 33 | 44 | 38 | 33 | 43 | 37 | 33 | 42 | 37 | 33 | 31 | | | | 31 | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|-------|-------|-------|
| 0° | 54099 | 54099 | 54099 |
| 5° | 56287 | 54603 | 54009 |
| 10° | 58128 | 55084 | 53894 |
| 15° | 60171 | 55254 | 53888 |
| 20° | 60380 | 53909 | 53227 |
| 25° | 58236 | 51213 | 51622 |
| 30° | 54194 | 47699 | 49052 |
| 35° | 48817 | 43637 | 45248 |
| 40° | 43040 | 39707 | 41526 |
| 45° | 37644 | 35777 | 37539 |
| 50° | 33332 | 32180 | 33888 |
| 55° | 29311 | 28408 | 29569 |
| 60° | 26174 | 24274 | 25014 |
| 65° | 23028 | 19730 | 19350 |
| 70° | 20124 | 14534 | 13271 |
| 75° | 16632 | 8721 | 7053 |
| 80° | 12644 | 3410 | 2131 |
| 85° | 5802 | 849 | 849 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 42.3 | 4.6 |
| 10°-20° | 123.5 | 13.5 |
| 20°-30° | 178.8 | 19.6 |
| 30°-40° | 188.6 | 20.6 |
| 40°-50° | 163.3 | 17.9 |
| 50°-60° | 120.9 | 13.2 |
| 60°-70° | 69.7 | 7.6 |
| 70°-80° | 24.3 | 2.7 |
| 80°-90° | 2.5 | 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° | 344.6 | 37.7 |
| 0°-40° | 533.2 | 58.3 |
| 0°-60° | 817.4 | 89.4 |
| 0°-90° | 914.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 914.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0° | 439 | 439 | 439 | 439 | 439 | |
| 5° | 455 | 449 | 441 | 437 | 436 | 44 |
| 15° | 471 | 456 | 433 | 423 | 422 | 133 |
| 25° | 428 | 407 | 376 | 374 | 379 | 196 |
| 35° | 324 | 309 | 290 | 296 | 300 | 203 |
| 45° | 216 | 210 | 205 | 213 | 215 | 167 |
| 55° | 136 | 133 | 132 | 137 | 138 | 123 |
| 65° | 79 | 74 | 68 | 64 | 66 | 79 |
| 75° | 35 | 30 | 18 | 15 | 15 | 38 |
| 85° | 4 | 2 | 1 | 1 | 1 | 6 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P581456

CATALOG NUMBER: HC407D010-HM40525835-41RWWC

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|
| 0° | 438.6 | 438.6 | 438.6 | 438.6 | 438.6 | 438.6 | 438.6 | 438.6 | 438.6 |
| 2.5° | 445.2 | 443.9 | 442.1 | 439.8 | 437.4 | 435.6 | 435.1 | 434.5 | 434.5 |
| 5° | 454.6 | 452.2 | 448.7 | 443.9 | 441.0 | 439.2 | 437.4 | 436.2 | 436.2 |
| 7.5° | 461.1 | 458.7 | 453.4 | 446.9 | 442.8 | 439.2 | 436.9 | 435.1 | 435.1 |
| 10° | 464.1 | 461.1 | 454.6 | 446.3 | 439.8 | 435.1 | 431.5 | 430.3 | 430.3 |
| 12.5° | 467.6 | 464.1 | 455.2 | 444.5 | 436.2 | 430.3 | 426.7 | 425.6 | 425.6 |
| 15° | 471.2 | 467.0 | 455.8 | 443.4 | 432.7 | 425.6 | 422.7 | 422.0 | 422.0 |
| 17.5° | 469.4 | 464.1 | 451.1 | 436.2 | 424.4 | 417.3 | 414.3 | 414.3 | 414.9 |
| 20° | 460.0 | 454.6 | 439.8 | 423.2 | 410.7 | 405.5 | 403.1 | 404.2 | 405.5 |
| 22.5° | 445.8 | 439.2 | 423.2 | 407.2 | 394.2 | 389.4 | 389.4 | 391.2 | 393.0 |
| 25° | 427.9 | 422.0 | 406.6 | 388.9 | 376.3 | 372.8 | 373.9 | 377.0 | 379.3 |
| 27.5° | 407.7 | 401.3 | 385.2 | 368.7 | 356.2 | 354.5 | 357.4 | 361.5 | 362.8 |
| 30° | 380.5 | 375.2 | 361.5 | 345.5 | 334.9 | 334.3 | 338.4 | 341.4 | 344.4 |
| 32.5° | 354.5 | 348.6 | 335.5 | 320.1 | 312.4 | 313.0 | 317.7 | 321.3 | 323.1 |
| 35° | 324.2 | 318.9 | 309.4 | 296.9 | 289.8 | 291.0 | 296.3 | 299.9 | 300.5 |
| 37.5° | 295.8 | 292.2 | 282.7 | 273.2 | 267.9 | 270.3 | 275.1 | 279.2 | 279.2 |
| 40° | 267.3 | 264.4 | 257.2 | 249.6 | 246.6 | 249.6 | 254.2 | 257.9 | 257.9 |
| 42.5° | 240.0 | 238.3 | 232.4 | 227.0 | 225.2 | 229.4 | 233.5 | 236.5 | 235.9 |
| 45° | 215.8 | 213.9 | 209.8 | 205.6 | 205.1 | 209.3 | 212.8 | 214.5 | 215.2 |
| 47.5° | 193.8 | 192.7 | 189.0 | 186.1 | 186.1 | 190.3 | 193.2 | 195.1 | 195.6 |
| 50° | 173.7 | 172.5 | 169.6 | 167.2 | 167.7 | 171.8 | 174.2 | 176.0 | 176.6 |
| 52.5° | 153.5 | 152.9 | 150.6 | 147.6 | 149.4 | 152.4 | 155.3 | 156.5 | 157.0 |
| 55° | 136.3 | 136.3 | 133.4 | 131.0 | 132.1 | 135.2 | 136.9 | 137.5 | 137.5 |
| 57.5° | 121.0 | 120.3 | 116.8 | 114.4 | 114.9 | 117.9 | 119.1 | 119.7 | 119.7 |
| 60° | 106.1 | 105.5 | 102.0 | 98.4 | 98.4 | 100.1 | 100.7 | 101.4 | 101.4 |
| 62.5° | 91.8 | 91.3 | 87.2 | 84.2 | 83.0 | 82.4 | 82.4 | 83.5 | 85.9 |
| 65° | 78.9 | 78.3 | 74.1 | 69.3 | 67.6 | 65.8 | 64.1 | 65.2 | 66.3 |
| 67.5° | 67.0 | 65.8 | 61.7 | 57.5 | 53.4 | 50.4 | 47.5 | 49.2 | 51.6 |
| 70° | 55.8 | 54.5 | 49.8 | 45.1 | 40.3 | 35.6 | 33.2 | 35.6 | 36.8 |
| 72.5° | 45.1 | 43.8 | 39.1 | 34.4 | 28.4 | 23.7 | 23.1 | 23.7 | 24.4 |
| 75° | 34.9 | 34.4 | 29.6 | 24.4 | 18.3 | 14.8 | 14.8 | 14.8 | 14.8 |
| 77.5° | 26.1 | 24.9 | 20.1 | 15.4 | 10.7 | 8.3 | 7.7 | 7.7 | 7.7 |
| 80° | 17.8 | 16.6 | 12.4 | 8.9 | 4.8 | 3.5 | 3.5 | 3.0 | 3.0 |
| 82.5° | 10.1 | 9.4 | 6.5 | 3.5 | 1.8 | 1.1 | 1.1 | 1.1 | 1.1 |
| 85° | 4.1 | 3.5 | 2.4 | 1.1 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 87.5° | 0.6 | 0.6 | 0.6 | 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)