

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: HALO COMMERCIAL

Report Number: P837375

Luminaire Tested: HCSQ420D010-HM40525927-41SQLWW

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837375
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-5)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ420D010-HM40525927-41SQLWW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

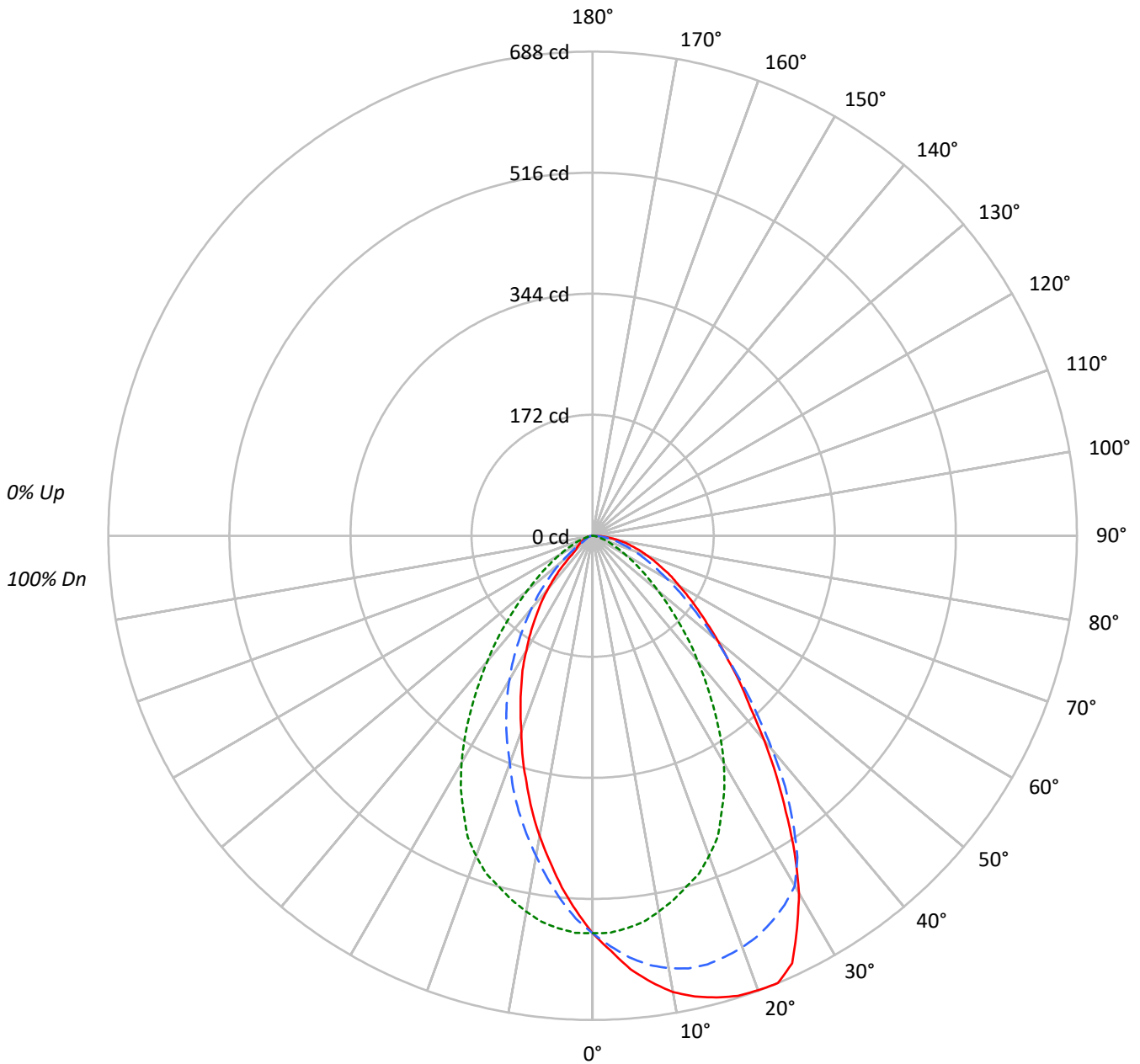
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 913.3 lumens
Efficiency: N/A
Efficacy: 45.7 lumens/watt
Spacing Criteria (0/90/45): 1.07 / 1.04 / 1.12
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 20
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: 24 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 | 109 | 105 | 102 | 99 | 101 | 99 | 96 | 97 | 95 | 93 | 94 | 92 | 91 | 89 | | | | | | | | |
| 2 | 103 | 97 | 91 | 87 | 101 | 95 | 90 | 86 | 92 | 87 | 84 | 88 | 85 | 82 | 86 | 83 | 80 | 78 | | | | | | | | |
| 3 | 96 | 87 | 81 | 76 | 94 | 86 | 80 | 75 | 83 | 78 | 74 | 81 | 76 | 72 | 78 | 74 | 71 | 69 | | | | | | | | |
| 4 | 89 | 79 | 72 | 67 | 87 | 78 | 71 | 66 | 76 | 70 | 65 | 74 | 69 | 64 | 72 | 67 | 64 | 62 | | | | | | | | |
| 5 | 83 | 72 | 65 | 59 | 81 | 71 | 64 | 59 | 69 | 63 | 58 | 68 | 62 | 58 | 66 | 61 | 57 | 55 | | | | | | | | |
| 6 | 78 | 66 | 59 | 53 | 76 | 66 | 58 | 53 | 64 | 57 | 53 | 62 | 57 | 52 | 61 | 56 | 52 | 50 | | | | | | | | |
| 7 | 73 | 61 | 54 | 48 | 71 | 60 | 53 | 48 | 59 | 53 | 48 | 58 | 52 | 48 | 56 | 51 | 47 | 45 | | | | | | | | |
| 8 | 68 | 57 | 49 | 44 | 67 | 56 | 49 | 44 | 55 | 48 | 44 | 54 | 48 | 43 | 52 | 47 | 43 | 42 | | | | | | | | |
| 9 | 64 | 53 | 45 | 40 | 63 | 52 | 45 | 40 | 51 | 45 | 40 | 50 | 44 | 40 | 49 | 44 | 40 | 38 | | | | | | | | |
| 10 | 61 | 49 | 42 | 37 | 60 | 48 | 42 | 37 | 48 | 41 | 37 | 47 | 41 | 37 | 46 | 41 | 37 | 35 | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° | 135° | 180° |
|-----|-------|-------|-------|-------|-------|
| 0° | 54706 | 54706 | 54706 | 54706 | 54706 |
| 5° | 60127 | 58493 | 54448 | 50470 | 48759 |
| 10° | 64767 | 61373 | 53336 | 45467 | 42624 |
| 15° | 68119 | 63225 | 51731 | 40649 | 36386 |
| 20° | 70845 | 64155 | 49876 | 35423 | 30557 |
| 25° | 71659 | 64551 | 46316 | 31073 | 25686 |
| 30° | 65585 | 64242 | 41657 | 26433 | 21052 |
| 35° | 56553 | 58635 | 35526 | 21689 | 16675 |
| 40° | 47916 | 50142 | 29377 | 17123 | 12456 |
| 45° | 40608 | 41594 | 23482 | 12728 | 8015 |
| 50° | 35010 | 34166 | 18221 | 8575 | 4823 |
| 55° | 30841 | 28138 | 13934 | 4729 | 4324 |
| 60° | 27474 | 23579 | 10404 | 2635 | 3875 |
| 65° | 25146 | 20195 | 7702 | 2384 | 3484 |
| 70° | 23368 | 17476 | 5665 | 2266 | 3399 |
| 75° | 21896 | 15271 | 3893 | 2096 | 2994 |
| 80° | 20976 | 13389 | 2678 | 2232 | 2678 |
| 85° | 20452 | 11560 | 1778 | 1778 | 1778 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 42252 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 53.0 | 5.8 |
| 10°-20° | 145.8 | 16.0 |
| 20°-30° | 203.8 | 22.3 |
| 30°-40° | 199.2 | 21.8 |
| 40°-50° | 144.6 | 15.8 |
| 50°-60° | 87.1 | 9.5 |
| 60°-70° | 49.0 | 5.4 |
| 70°-80° | 24.3 | 2.7 |
| 80°-90° | 6.6 | 0.7 |
| 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° | 402.5 | 44.1 |
| 0°-40° | 601.8 | 65.9 |
| 0°-60° | 833.5 | 91.3 |
| 0°-90° | 913.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 913.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0° | 565 | 565 | 565 | 565 | 565 | |
| 5° | 618 | 602 | 560 | 519 | 501 | 60 |
| 15° | 679 | 630 | 516 | 405 | 363 | 192 |
| 25° | 670 | 604 | 433 | 291 | 240 | 302 |
| 35° | 478 | 496 | 300 | 183 | 141 | 299 |
| 45° | 296 | 304 | 171 | 93 | 58 | 230 |
| 55° | 183 | 167 | 82 | 28 | 26 | 164 |
| 65° | 110 | 88 | 34 | 10 | 15 | 110 |
| 75° | 58 | 41 | 10 | 6 | 8 | 63 |
| 85° | 18 | 10 | 2 | 2 | 2 | 20 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P837375

CATALOG NUMBER: HCSQ420D010-HM40525927-41SQLWW

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|
| 0° | 564.7 | 564.7 | 564.7 | 564.7 | 564.7 | 564.7 | 564.7 | 564.7 | 564.7 |
| 2.5° | 590.3 | 588.7 | 583.9 | 574.3 | 564.7 | 553.5 | 544.7 | 538.2 | 533.4 |
| 5° | 618.3 | 615.1 | 601.5 | 581.5 | 559.9 | 538.2 | 519.0 | 507.8 | 501.4 |
| 7.5° | 640.0 | 634.4 | 615.1 | 587.1 | 553.5 | 520.6 | 491.0 | 473.4 | 466.2 |
| 10° | 658.4 | 648.8 | 623.9 | 586.3 | 542.2 | 499.0 | 462.2 | 441.3 | 433.3 |
| 12.5° | 670.4 | 660.0 | 629.6 | 585.5 | 530.2 | 477.4 | 434.1 | 406.9 | 398.9 |
| 15° | 679.2 | 666.4 | 630.4 | 579.1 | 515.8 | 454.9 | 405.3 | 373.2 | 362.8 |
| 17.5° | 685.6 | 668.0 | 627.1 | 571.9 | 503.0 | 431.7 | 375.6 | 341.2 | 330.8 |
| 20° | 687.2 | 668.0 | 622.3 | 561.5 | 483.8 | 408.5 | 343.6 | 309.2 | 296.4 |
| 22.5° | 688.0 | 665.6 | 615.1 | 548.7 | 463.8 | 382.1 | 317.2 | 281.1 | 267.5 |
| 25° | 670.4 | 657.6 | 603.9 | 527.0 | 433.3 | 353.2 | 290.7 | 251.5 | 240.3 |
| 27.5° | 628.8 | 627.9 | 591.1 | 498.2 | 405.3 | 322.0 | 263.5 | 225.9 | 215.5 |
| 30° | 586.3 | 587.1 | 574.3 | 466.2 | 372.4 | 292.3 | 236.3 | 199.4 | 188.2 |
| 32.5° | 534.2 | 542.2 | 541.4 | 430.1 | 337.2 | 264.3 | 209.9 | 175.4 | 164.2 |
| 35° | 478.2 | 492.6 | 495.8 | 389.3 | 300.4 | 232.3 | 183.4 | 152.2 | 141.0 |
| 37.5° | 427.7 | 442.1 | 449.3 | 353.2 | 265.9 | 204.2 | 158.6 | 131.4 | 120.1 |
| 40° | 378.9 | 390.9 | 396.5 | 311.6 | 232.3 | 175.4 | 135.4 | 109.7 | 98.5 |
| 42.5° | 331.6 | 349.2 | 347.6 | 276.3 | 202.6 | 152.2 | 114.5 | 88.9 | 77.7 |
| 45° | 296.4 | 308.4 | 303.6 | 239.5 | 171.4 | 128.2 | 92.9 | 68.9 | 58.5 |
| 47.5° | 261.1 | 269.9 | 262.7 | 208.2 | 145.0 | 105.7 | 75.3 | 50.5 | 39.2 |
| 50° | 232.3 | 236.3 | 226.7 | 177.0 | 120.9 | 86.5 | 56.9 | 33.6 | 32.0 |
| 52.5° | 205.0 | 207.4 | 193.8 | 150.6 | 100.1 | 69.7 | 41.6 | 26.4 | 28.0 |
| 55° | 182.6 | 181.8 | 166.6 | 127.4 | 82.5 | 53.7 | 28.0 | 24.0 | 25.6 |
| 57.5° | 161.0 | 158.6 | 143.4 | 105.7 | 67.3 | 41.6 | 16.8 | 20.8 | 22.4 |
| 60° | 141.8 | 139.4 | 121.7 | 87.3 | 53.7 | 31.2 | 13.6 | 18.4 | 20.0 |
| 62.5° | 126.6 | 120.9 | 103.3 | 72.1 | 43.3 | 22.4 | 12.0 | 16.0 | 17.6 |
| 65° | 109.7 | 104.9 | 88.1 | 58.5 | 33.6 | 16.0 | 10.4 | 13.6 | 15.2 |
| 67.5° | 96.1 | 90.5 | 74.5 | 48.1 | 27.2 | 11.2 | 9.6 | 12.0 | 13.6 |
| 70° | 82.5 | 77.7 | 61.7 | 38.4 | 20.0 | 7.2 | 8.0 | 10.4 | 12.0 |
| 72.5° | 71.3 | 65.7 | 51.3 | 30.4 | 15.2 | 5.6 | 7.2 | 8.8 | 9.6 |
| 75° | 58.5 | 53.7 | 40.8 | 23.2 | 10.4 | 4.8 | 5.6 | 7.2 | 8.0 |
| 77.5° | 48.9 | 44.1 | 32.0 | 17.6 | 7.2 | 4.0 | 4.8 | 6.4 | 6.4 |
| 80° | 37.6 | 33.6 | 24.0 | 12.0 | 4.8 | 2.4 | 4.0 | 4.8 | 4.8 |
| 82.5° | 27.2 | 24.0 | 16.8 | 8.0 | 2.4 | 2.4 | 2.4 | 3.2 | 3.2 |
| 85° | 18.4 | 16.0 | 10.4 | 4.8 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 87.5° | 10.4 | 8.0 | 4.8 | 1.6 | 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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1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9

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Scaled Data Report





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

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