

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: P837208

Luminaire Tested: HCSQ405D010-HM40525840-41SQC

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837208
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-1)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ405D010-HM40525840-41SQC
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: -

Summary

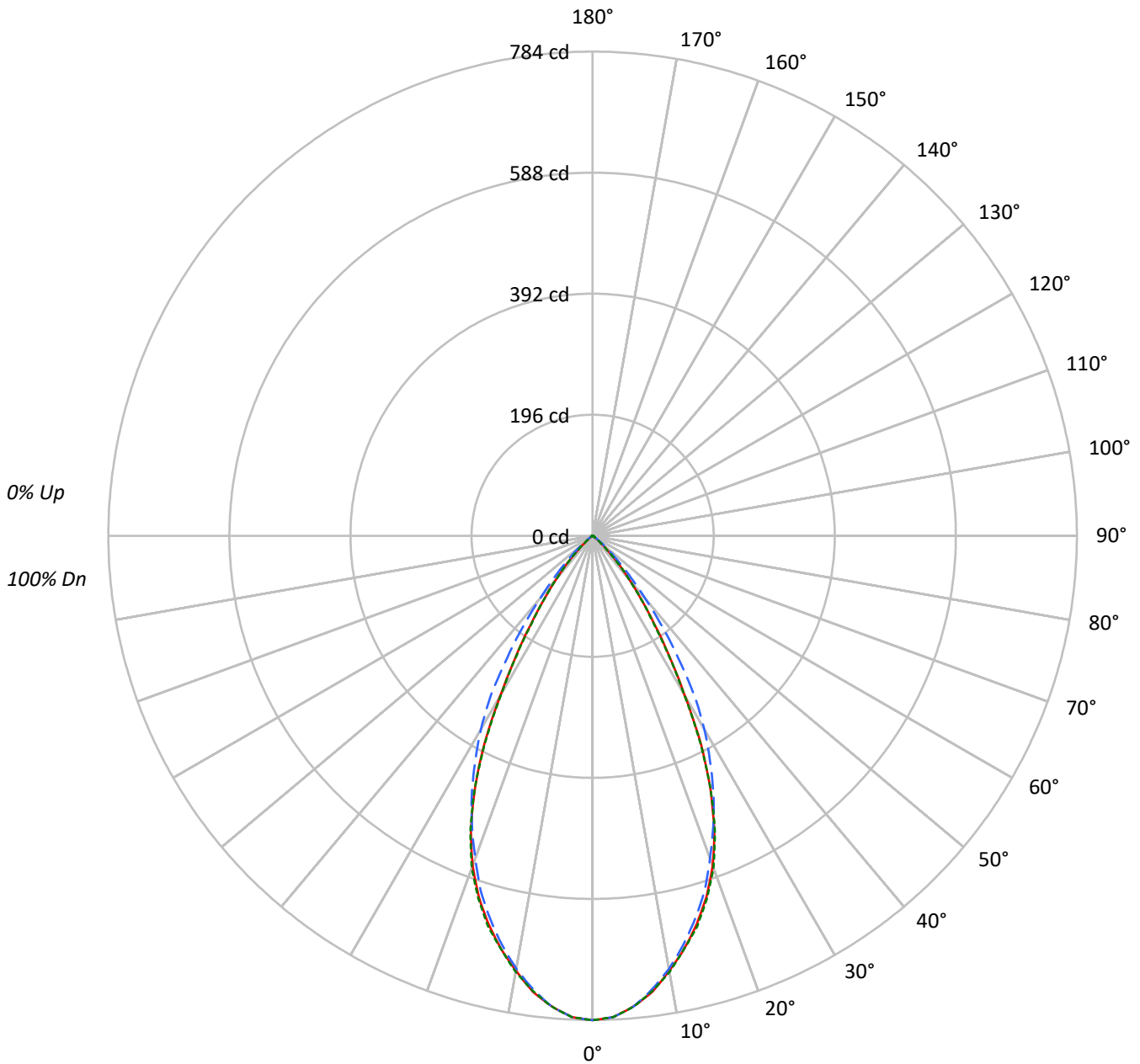
Lumens per Lamp: N/A
Luminaire Lumens: 634.0 lumens
Efficiency: N/A
Efficacy: 105.7 lumens/watt
Spacing Criteria (0/90/45): 0.85 / 0.85 / 0.87
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 6
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: 24 FT

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CATALOG NUMBER: HCSQ405D010-HM40525840-41SQC

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 | | | | | | | | | | | | | | | | | | | |
| 1 | 114 | 111 | 108 | 106 | 111 | 109 | 106 | 104 | 105 | 103 | 101 | 101 | 99 | 98 | 97 | 96 | 95 | 94 | | | | | | | | | | | | | | | | | | | |
| 2 | 108 | 103 | 99 | 96 | 106 | 101 | 98 | 95 | 98 | 95 | 93 | 95 | 93 | 91 | 93 | 91 | 89 | 87 | | | | | | | | | | | | | | | | | | | |
| 3 | 103 | 96 | 91 | 87 | 101 | 95 | 90 | 87 | 92 | 89 | 85 | 90 | 87 | 84 | 88 | 85 | 83 | 81 | | | | | | | | | | | | | | | | | | | |
| 4 | 98 | 90 | 85 | 80 | 96 | 89 | 84 | 80 | 87 | 82 | 79 | 85 | 81 | 78 | 83 | 80 | 77 | 76 | | | | | | | | | | | | | | | | | | | |
| 5 | 93 | 84 | 79 | 74 | 91 | 83 | 78 | 74 | 82 | 77 | 73 | 80 | 76 | 73 | 78 | 75 | 72 | 71 | | | | | | | | | | | | | | | | | | | |
| 6 | 88 | 79 | 73 | 69 | 87 | 79 | 73 | 69 | 77 | 72 | 68 | 76 | 71 | 68 | 74 | 70 | 68 | 66 | | | | | | | | | | | | | | | | | | | |
| 7 | 84 | 75 | 69 | 65 | 82 | 74 | 68 | 64 | 73 | 68 | 64 | 72 | 67 | 64 | 70 | 66 | 63 | 62 | | | | | | | | | | | | | | | | | | | |
| 8 | 80 | 70 | 64 | 60 | 79 | 70 | 64 | 60 | 69 | 64 | 60 | 68 | 63 | 60 | 67 | 63 | 60 | 58 | | | | | | | | | | | | | | | | | | | |
| 9 | 76 | 67 | 61 | 57 | 75 | 66 | 60 | 57 | 65 | 60 | 56 | 64 | 60 | 56 | 63 | 59 | 56 | 55 | | | | | | | | | | | | | | | | | | | |
| 10 | 73 | 63 | 57 | 53 | 72 | 63 | 57 | 53 | 62 | 57 | 53 | 61 | 56 | 53 | 60 | 56 | 53 | 52 | | | | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 75999 | 75999 | 75999 |
| 5° | 74373 | 74403 | 74403 |
| 10° | 70344 | 70030 | 70531 |
| 15° | 65271 | 64378 | 65622 |
| 20° | 58588 | 57278 | 58948 |
| 25° | 48122 | 49522 | 48293 |
| 30° | 33268 | 40461 | 33022 |
| 35° | 20483 | 28584 | 19998 |
| 40° | 11559 | 16706 | 11470 |
| 45° | 5275 | 8371 | 5055 |
| 50° | 1341 | 3361 | 1387 |
| 55° | 642 | 1013 | 591 |
| 60° | 426 | 368 | 484 |
| 65° | 367 | 298 | 367 |
| 70° | 283 | 283 | 368 |
| 75° | 225 | 225 | 374 |
| 80° | 335 | 335 | 335 |
| 85° | 333 | 667 | 667 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 8371 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 71.4 | 11.3 |
| 10°-20° | 180.2 | 28.4 |
| 20°-30° | 206.0 | 32.5 |
| 30°-40° | 127.9 | 20.2 |
| 40°-50° | 40.3 | 6.4 |
| 50°-60° | 5.2 | 0.8 |
| 60°-70° | 1.6 | 0.2 |
| 70°-80° | 0.8 | 0.1 |
| 80°-90° | 0.5 | 0.1 |
| 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° | 457.6 | 72.2 |
| 0°-40° | 585.5 | 92.4 |
| 0°-60° | 631.1 | 99.5 |
| 0°-90° | 634.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 634.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 784 | 784 | 784 | 784 | 784 | |
| 5° | 765 | 764 | 765 | 764 | 765 | 71 |
| 15° | 651 | 646 | 642 | 646 | 654 | 181 |
| 25° | 450 | 457 | 463 | 457 | 452 | 202 |
| 35° | 173 | 200 | 242 | 195 | 169 | 111 |
| 45° | 38 | 46 | 61 | 46 | 37 | 32 |
| 55° | 4 | 4 | 6 | 4 | 4 | 4 |
| 65° | 2 | 2 | 1 | 2 | 2 | 2 |
| 75° | 1 | 1 | 1 | 1 | 1 | 1 |
| 85° | 0 | 1 | 1 | 1 | 1 | 0 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 784.5 | 784.5 | 784.5 | 784.5 | 784.5 |
| 2.5° | 779.8 | 780.4 | 779.8 | 781.0 | 779.8 |
| 5° | 764.8 | 764.2 | 765.1 | 764.5 | 765.1 |
| 7.5° | 744.4 | 740.6 | 740.3 | 742.8 | 743.1 |
| 10° | 715.1 | 714.2 | 711.9 | 714.2 | 717.0 |
| 12.5° | 685.2 | 681.4 | 678.2 | 682.6 | 685.2 |
| 15° | 650.8 | 646.0 | 641.9 | 646.0 | 654.3 |
| 17.5° | 612.9 | 606.2 | 602.7 | 607.5 | 615.5 |
| 20° | 568.3 | 561.3 | 555.6 | 559.7 | 571.8 |
| 22.5° | 514.9 | 514.2 | 510.4 | 512.6 | 517.1 |
| 25° | 450.2 | 456.6 | 463.3 | 456.6 | 451.8 |
| 27.5° | 379.2 | 396.4 | 411.7 | 391.6 | 376.3 |
| 30° | 297.4 | 323.5 | 361.7 | 321.6 | 295.2 |
| 32.5° | 229.9 | 257.3 | 306.0 | 253.8 | 228.0 |
| 35° | 173.2 | 200.0 | 241.7 | 195.2 | 169.1 |
| 37.5° | 127.4 | 147.4 | 183.7 | 146.1 | 127.4 |
| 40° | 91.4 | 104.4 | 132.1 | 104.1 | 90.7 |
| 42.5° | 63.4 | 72.0 | 92.3 | 71.3 | 61.5 |
| 45° | 38.5 | 46.2 | 61.1 | 46.5 | 36.9 |
| 47.5° | 20.4 | 29.3 | 38.5 | 28.0 | 20.4 |
| 50° | 8.9 | 15.6 | 22.3 | 15.3 | 9.2 |
| 52.5° | 4.8 | 6.7 | 12.1 | 6.7 | 4.8 |
| 55° | 3.8 | 3.8 | 6.0 | 3.8 | 3.5 |
| 57.5° | 2.9 | 2.9 | 3.2 | 2.9 | 2.9 |
| 60° | 2.2 | 2.2 | 1.9 | 2.2 | 2.5 |
| 62.5° | 1.9 | 1.9 | 1.6 | 1.9 | 1.9 |
| 65° | 1.6 | 1.6 | 1.3 | 1.6 | 1.6 |
| 67.5° | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 |
| 70° | 1.0 | 1.0 | 1.0 | 1.3 | 1.3 |
| 72.5° | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 75° | 0.6 | 0.6 | 0.6 | 0.6 | 1.0 |
| 77.5° | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 80° | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 82.5° | 0.3 | 0.6 | 0.6 | 0.6 | 0.6 |
| 85° | 0.3 | 0.6 | 0.6 | 0.6 | 0.6 |
| 87.5° | 0.3 | 0.3 | 0.6 | 0.6 | 0.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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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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