

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: P838629

Luminaire Tested: HCSQ645D010-HM64560840-61SQC

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838629
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-1)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ645D010-HM64560840-61SQC
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: -

Summary

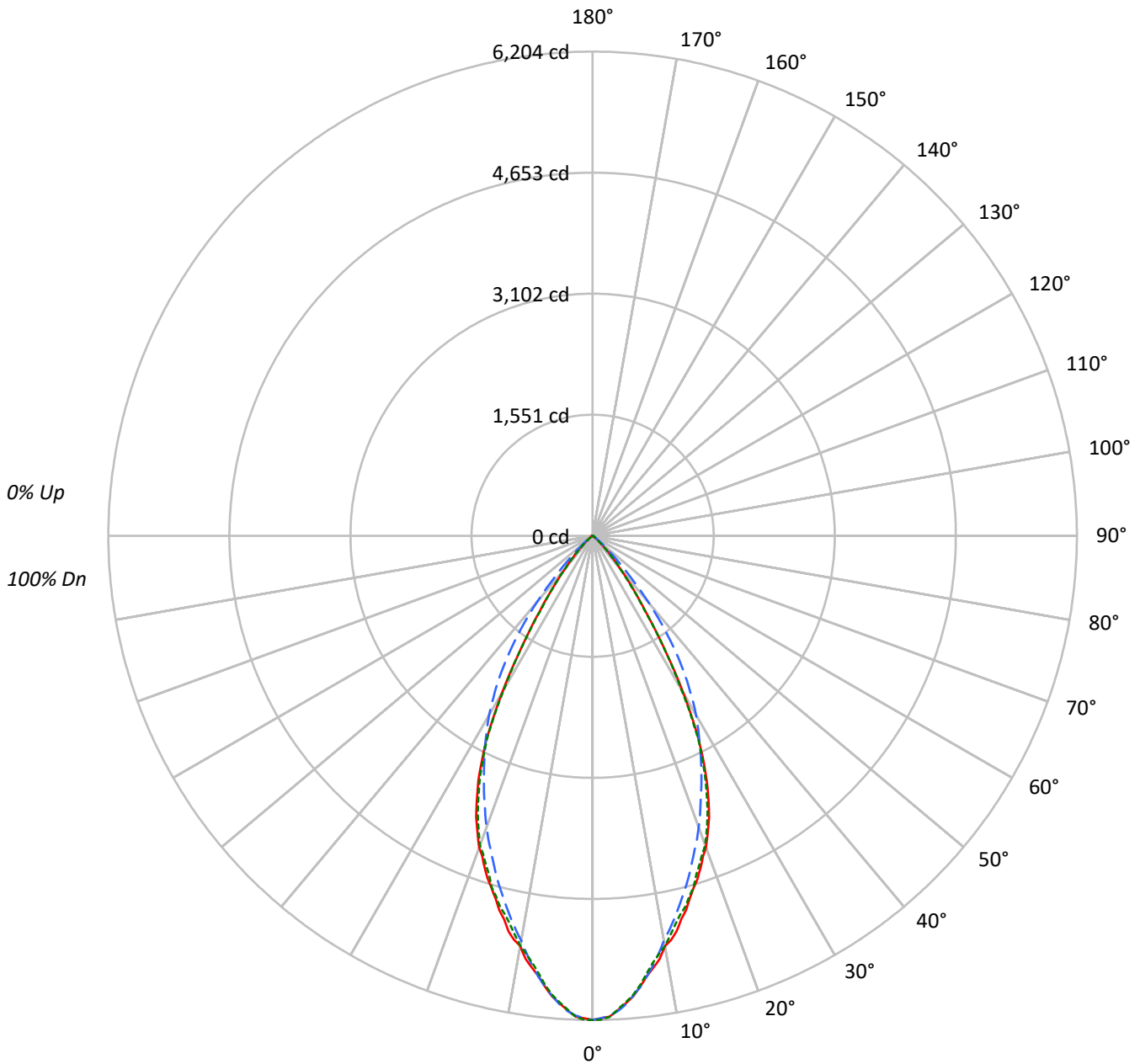
Lumens per Lamp: N/A
Luminaire Lumens: 4647.0 lumens
Efficiency: N/A
Efficacy: 101.2 lumens/watt
Spacing Criteria (0/90/45): 0.82 / 0.81 / 0.85
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
CIE Type: Direct

Input Watts (W): 45.9
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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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 | 107 | 105 | 105 | 103 | 101 | 101 | 100 | 98 | 98 | 96 | 95 | 94 | | | | | | | | | | | | | | | | | | | |
| 2 | 108 | 103 | 99 | 96 | 106 | 102 | 98 | 95 | 98 | 95 | 93 | 95 | 93 | 91 | 93 | 91 | 89 | 87 | | | | | | | | | | | | | | | | | | | |
| 3 | 103 | 97 | 92 | 88 | 101 | 95 | 91 | 87 | 93 | 89 | 86 | 90 | 87 | 84 | 88 | 85 | 83 | 81 | | | | | | | | | | | | | | | | | | | |
| 4 | 98 | 90 | 85 | 81 | 96 | 89 | 84 | 80 | 87 | 83 | 79 | 85 | 81 | 78 | 83 | 80 | 78 | 76 | | | | | | | | | | | | | | | | | | | |
| 5 | 93 | 85 | 79 | 75 | 91 | 84 | 78 | 74 | 82 | 77 | 74 | 80 | 76 | 73 | 79 | 75 | 72 | 71 | | | | | | | | | | | | | | | | | | | |
| 6 | 88 | 80 | 74 | 70 | 87 | 79 | 73 | 69 | 77 | 72 | 69 | 76 | 72 | 68 | 75 | 71 | 68 | 66 | | | | | | | | | | | | | | | | | | | |
| 7 | 84 | 75 | 69 | 65 | 83 | 74 | 69 | 65 | 73 | 68 | 64 | 72 | 67 | 64 | 71 | 67 | 64 | 62 | | | | | | | | | | | | | | | | | | | |
| 8 | 80 | 71 | 65 | 61 | 79 | 70 | 65 | 61 | 69 | 64 | 60 | 68 | 64 | 60 | 67 | 63 | 60 | 59 | | | | | | | | | | | | | | | | | | | |
| 9 | 76 | 67 | 61 | 57 | 75 | 66 | 61 | 57 | 65 | 60 | 57 | 65 | 60 | 57 | 64 | 60 | 56 | 55 | | | | | | | | | | | | | | | | | | | |
| 10 | 73 | 63 | 58 | 54 | 72 | 63 | 57 | 54 | 62 | 57 | 54 | 61 | 57 | 53 | 61 | 56 | 53 | 52 | | | | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|--------|--------|--------|
| 0° | 267122 | 267122 | 267122 |
| 5° | 256231 | 255781 | 255422 |
| 10° | 233372 | 230203 | 233193 |
| 15° | 214475 | 206621 | 213182 |
| 20° | 194639 | 182103 | 193305 |
| 25° | 164497 | 156525 | 162231 |
| 30° | 115178 | 131763 | 113219 |
| 35° | 61865 | 101075 | 60666 |
| 40° | 30632 | 62545 | 30396 |
| 45° | 13378 | 26371 | 13122 |
| 50° | 4300 | 9579 | 4300 |
| 55° | 2177 | 3108 | 2019 |
| 60° | 1429 | 1429 | 1429 |
| 65° | 1060 | 1060 | 1060 |
| 70° | 780 | 780 | 780 |
| 75° | 682 | 682 | 682 |
| 80° | 521 | 521 | 521 |
| 85° | 1037 | 1037 | 1037 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 26371 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 544.8 | 11.7 |
| 10°-20° | 1315.5 | 28.3 |
| 20°-30° | 1519.7 | 32.7 |
| 30°-40° | 949.0 | 20.4 |
| 40°-50° | 263.7 | 5.7 |
| 50°-60° | 36.9 | 0.8 |
| 60°-70° | 10.9 | 0.2 |
| 70°-80° | 4.6 | 0.1 |
| 80°-90° | 2.0 | 0.0 |
| 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° | 3380.0 | 72.7 |
| 0°-40° | 4329.0 | 93.2 |
| 0°-60° | 4629.5 | 99.6 |
| 0°-90° | 4647.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4647.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 6204 | 6204 | 6204 | 6204 | 6204 | |
| 5° | 5928 | 5912 | 5918 | 5910 | 5910 | 546 |
| 15° | 4812 | 4720 | 4635 | 4708 | 4783 | 1348 |
| 25° | 3463 | 3361 | 3295 | 3359 | 3415 | 1546 |
| 35° | 1177 | 1453 | 1923 | 1436 | 1154 | 782 |
| 45° | 220 | 280 | 433 | 278 | 216 | 190 |
| 55° | 29 | 29 | 41 | 29 | 27 | 29 |
| 65° | 10 | 10 | 10 | 10 | 10 | 11 |
| 75° | 4 | 4 | 4 | 4 | 4 | 4 |
| 85° | 2 | 2 | 2 | 2 | 2 | 2 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 6204.1 | 6204.1 | 6204.1 | 6204.1 | 6204.1 |
| 1° | 6185.4 | 6185.4 | 6185.4 | 6202.0 | 6202.0 |
| 2° | 6166.8 | 6162.6 | 6152.3 | 6164.7 | 6170.9 |
| 3° | 6090.1 | 6098.4 | 6102.5 | 6096.3 | 6081.8 |
| 4° | 6011.4 | 6003.1 | 6025.9 | 6011.4 | 5998.9 |
| 5° | 5928.5 | 5911.9 | 5918.1 | 5909.8 | 5909.8 |
| 6° | 5812.4 | 5833.2 | 5816.6 | 5802.1 | 5793.8 |
| 7° | 5686.0 | 5702.6 | 5692.3 | 5671.5 | 5657.0 |
| 8° | 5586.6 | 5576.2 | 5559.6 | 5555.5 | 5530.6 |
| 9° | 5491.3 | 5454.0 | 5416.7 | 5422.9 | 5429.1 |
| 10° | 5337.9 | 5342.1 | 5265.4 | 5323.4 | 5333.8 |
| 11° | 5273.7 | 5250.9 | 5149.3 | 5197.0 | 5213.6 |
| 12° | 5180.4 | 5107.9 | 5020.9 | 5060.2 | 5091.3 |
| 13° | 5045.7 | 4971.1 | 4892.4 | 4952.5 | 4983.6 |
| 14° | 4944.2 | 4859.2 | 4759.8 | 4836.4 | 4900.7 |
| 15° | 4811.6 | 4720.4 | 4635.4 | 4708.0 | 4782.6 |
| 16° | 4695.5 | 4589.9 | 4504.9 | 4575.4 | 4687.3 |
| 17° | 4594.0 | 4463.5 | 4359.9 | 4434.4 | 4542.2 |
| 18° | 4475.9 | 4324.6 | 4229.3 | 4308.0 | 4430.3 |
| 19° | 4345.3 | 4192.0 | 4107.0 | 4171.3 | 4312.2 |
| 20° | 4248.0 | 4076.0 | 3974.4 | 4036.6 | 4218.9 |
| 22.5° | 3899.8 | 3719.5 | 3626.3 | 3700.9 | 3846.0 |
| 25° | 3462.6 | 3361.1 | 3294.8 | 3359.0 | 3414.9 |
| 27.5° | 2944.6 | 2944.6 | 2967.4 | 2940.4 | 2923.8 |
| 30° | 2316.7 | 2484.5 | 2650.3 | 2476.2 | 2277.3 |
| 32.5° | 1690.9 | 1960.3 | 2293.9 | 1995.5 | 1688.8 |
| 35° | 1177.0 | 1452.6 | 1923.0 | 1436.0 | 1154.2 |
| 37.5° | 818.5 | 1000.9 | 1516.8 | 1011.2 | 808.1 |
| 40° | 545.0 | 671.4 | 1112.8 | 683.8 | 540.8 |
| 42.5° | 356.4 | 443.4 | 719.0 | 445.5 | 348.1 |
| 45° | 219.7 | 279.7 | 433.1 | 277.7 | 215.5 |
| 47.5° | 128.5 | 165.8 | 252.8 | 167.8 | 126.4 |
| 50° | 64.2 | 97.4 | 143.0 | 95.3 | 64.2 |
| 52.5° | 37.3 | 51.8 | 78.7 | 49.7 | 37.3 |
| 55° | 29.0 | 29.0 | 41.4 | 29.0 | 26.9 |
| 57.5° | 22.8 | 22.8 | 22.8 | 22.8 | 20.7 |
| 60° | 16.6 | 18.6 | 16.6 | 16.6 | 16.6 |
| 62.5° | 14.5 | 14.5 | 12.4 | 14.5 | 12.4 |
| 65° | 10.4 | 10.4 | 10.4 | 10.4 | 10.4 |
| 67.5° | 8.3 | 8.3 | 8.3 | 8.3 | 8.3 |
| 70° | 6.2 | 6.2 | 6.2 | 6.2 | 6.2 |
| 72.5° | 4.1 | 6.2 | 4.1 | 6.2 | 6.2 |
| 75° | 4.1 | 4.1 | 4.1 | 4.1 | 4.1 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 82.5° | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 |
| 85° | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 |
| 87.5° | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 |
| 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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| | | | | | |
|-------|-----|-----|-----|-----|-----|
| 77.5° | 4.1 | 4.1 | 4.1 | 4.1 | 2.1 |
| 80° | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 |

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