

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: P838725

Luminaire Tested: HCSQ655D010-HM64560935-61SQH

Issue Date: 5/21/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P838725  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-2)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ655D010-HM64560935-61SQH  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: -

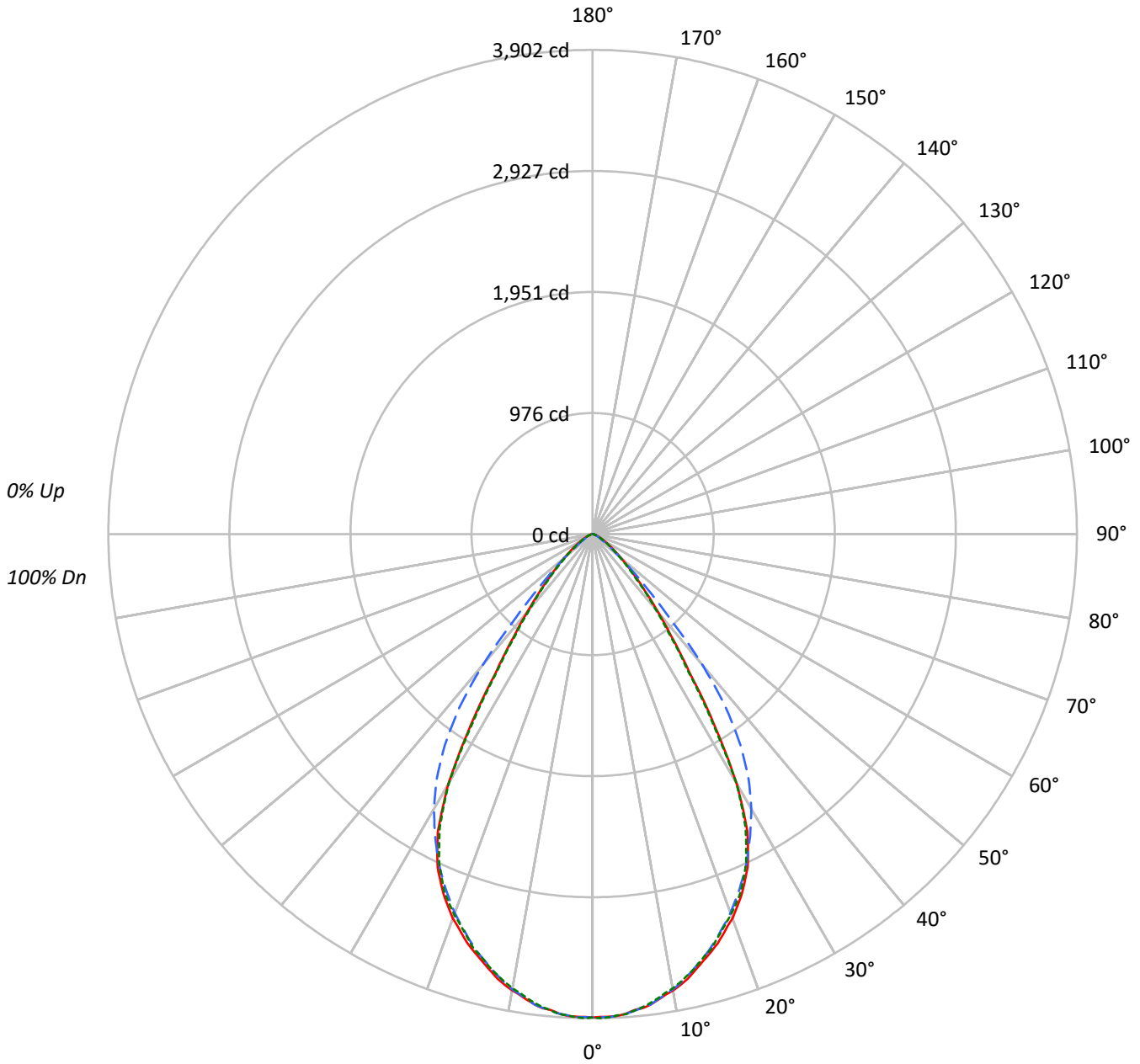
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4381.7 lumens  
Efficiency: N/A  
Efficacy: 81.1 lumens/watt  
Spacing Criteria (0/90/45): 1.02 / 1.01 / 1.04  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
CIE Type: Direct

Input Watts (W): 54  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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 |     |     |     |     | 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  | 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 | 100 | 98 | 97 | 97 | 95 | 94 | 92 |
|     | 1  | 113 | 110 | 107 | 105 | 110 | 108 | 105 | 103 | 104 | 102 | 100 | 100 | 98  | 97  | 97  | 95  | 94  | 92  | 92  | 92  | 97 | 95 | 94 | 92 | 92 | 92 |
|     | 2  | 107 | 101 | 97  | 93  | 104 | 100 | 96  | 92  | 96  | 93  | 90  | 93  | 91  | 88  | 91  | 88  | 86  | 85  | 85  | 85  | 91 | 88 | 86 | 85 | 85 | 85 |
|     | 3  | 101 | 94  | 88  | 84  | 99  | 92  | 87  | 83  | 90  | 85  | 82  | 87  | 84  | 81  | 85  | 82  | 79  | 78  | 78  | 85  | 82 | 79 | 78 | 78 | 78 | 78 |
|     | 4  | 95  | 87  | 81  | 76  | 93  | 86  | 80  | 76  | 83  | 78  | 75  | 81  | 77  | 74  | 79  | 76  | 73  | 71  | 71  | 79  | 76 | 73 | 71 | 71 | 71 | 71 |
|     | 5  | 90  | 80  | 74  | 69  | 88  | 79  | 74  | 69  | 78  | 72  | 68  | 76  | 71  | 68  | 74  | 70  | 67  | 66  | 66  | 74  | 70 | 67 | 66 | 66 | 66 | 66 |
|     | 6  | 85  | 75  | 68  | 64  | 83  | 74  | 68  | 63  | 72  | 67  | 63  | 71  | 66  | 63  | 70  | 65  | 62  | 61  | 61  | 70  | 65 | 62 | 61 | 61 | 61 | 61 |
|     | 7  | 80  | 70  | 63  | 59  | 79  | 69  | 63  | 59  | 68  | 62  | 58  | 67  | 62  | 58  | 65  | 61  | 58  | 56  | 56  | 67  | 62 | 58 | 56 | 56 | 56 | 56 |
|     | 8  | 76  | 65  | 59  | 54  | 74  | 65  | 59  | 54  | 64  | 58  | 54  | 63  | 57  | 54  | 62  | 57  | 54  | 52  | 52  | 62  | 57 | 54 | 52 | 52 | 52 | 52 |
|     | 9  | 72  | 61  | 55  | 51  | 70  | 61  | 55  | 50  | 60  | 54  | 50  | 59  | 54  | 50  | 58  | 53  | 50  | 48  | 48  | 58  | 53 | 50 | 48 | 48 | 48 | 48 |
|     | 10 | 68  | 58  | 51  | 47  | 67  | 57  | 51  | 47  | 56  | 51  | 47  | 55  | 50  | 47  | 55  | 50  | 47  | 45  | 45  | 55  | 50 | 47 | 45 | 45 | 45 | 45 |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°     | 45°    | 90°    |
|-----|--------|--------|--------|
| 0°  | 167745 | 167745 | 167745 |
| 5°  | 166423 | 166704 | 166609 |
| 10° | 163246 | 162870 | 162489 |
| 15° | 157482 | 156613 | 156519 |
| 20° | 150987 | 148806 | 149502 |
| 25° | 140534 | 139304 | 138995 |
| 30° | 115486 | 127090 | 115163 |
| 35° | 71326  | 109149 | 69623  |
| 40° | 45785  | 77366  | 44205  |
| 45° | 29866  | 37496  | 28417  |
| 50° | 19827  | 18668  | 18527  |
| 55° | 13459  | 9728   | 12491  |
| 60° | 9119   | 5950   | 8370   |
| 65° | 6388   | 4401   | 5726   |
| 70° | 4079   | 3260   | 3814   |
| 75° | 2878   | 2512   | 2512   |
| 80° | 2132   | 1612   | 1612   |
| 85° | 1087   | 2124   | 1087   |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 37496 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 363.9  | 8.3       |
| 10°-20°   | 987.5  | 22.5      |
| 20°-30°   | 1333.1 | 30.4      |
| 30°-40°   | 1040.4 | 23.7      |
| 40°-50°   | 435.8  | 9.9       |
| 50°-60°   | 147.7  | 3.4       |
| 60°-70°   | 52.7   | 1.2       |
| 70°-80°   | 17.1   | 0.4       |
| 80°-90°   | 3.5    | 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°    | 2684.5 | 61.3      |
| 0°-40°    | 3724.9 | 85.0      |
| 0°-60°    | 4308.4 | 98.3      |
| 0°-90°    | 4381.7 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4381.7 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 3896 | 3896  | 3896 | 3896  | 3896 |      |
| 5°  | 3851 | 3855  | 3857 | 3851  | 3855 | 364  |
| 15° | 3533 | 3524  | 3514 | 3509  | 3511 | 994  |
| 25° | 2958 | 2945  | 2932 | 2932  | 2926 | 1331 |
| 35° | 1357 | 1592  | 2077 | 1590  | 1325 | 892  |
| 45° | 490  | 525   | 616  | 501   | 467  | 394  |
| 55° | 179  | 164   | 130  | 156   | 166  | 166  |
| 65° | 63   | 52    | 43   | 50    | 56   | 64   |
| 75° | 17   | 15    | 15   | 15    | 15   | 19   |
| 85° | 2    | 2     | 4    | 2     | 2    | 4    |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°            | 22.5°         | 45°           | 67.5°         | 90°           |
|-------|---------------|---------------|---------------|---------------|---------------|
| 0°    | 3896.0        | 3896.0        | 3896.0        | 3896.0        | <i>3896.0</i> |
| 1°    | <i>3891.7</i> | <i>3898.1</i> | <i>3893.8</i> | <i>3896.0</i> | <i>3902.5</i> |
| 2°    | 3891.7        | 3891.7        | 3896.0        | 3893.8        | <i>3896.0</i> |
| 3°    | 3887.3        | 3887.3        | 3883.0        | 3883.0        | <i>3883.0</i> |
| 4°    | 3874.4        | 3874.4        | 3874.4        | 3870.1        | <i>3878.7</i> |
| 5°    | 3850.6        | 3854.9        | 3857.1        | 3850.6        | <i>3854.9</i> |
| 6°    | 3842.0        | 3844.1        | 3839.8        | 3837.6        | <i>3833.3</i> |
| 7°    | 3822.5        | 3816.0        | 3822.5        | 3807.4        | <i>3809.5</i> |
| 8°    | 3790.1        | 3790.1        | 3785.8        | 3781.5        | <i>3777.1</i> |
| 9°    | 3759.8        | 3759.8        | 3755.5        | 3749.0        | <i>3744.7</i> |
| 10°   | 3733.9        | 3727.4        | 3725.3        | 3718.8        | <i>3716.6</i> |
| 11°   | 3703.7        | 3690.7        | 3688.5        | 3682.1        | <i>3682.1</i> |
| 12°   | 3666.9        | 3660.5        | 3645.3        | 3643.2        | <i>3643.2</i> |
| 13°   | 3621.6        | 3615.1        | 3604.3        | 3595.6        | <i>3604.3</i> |
| 14°   | 3578.3        | 3574.0        | 3554.6        | 3561.1        | <i>3558.9</i> |
| 15°   | 3533.0        | 3524.3        | 3513.5        | 3509.2        | <i>3511.4</i> |
| 16°   | 3491.9        | 3476.8        | 3461.7        | 3463.8        | <i>3476.8</i> |
| 17°   | 3448.7        | 3427.1        | 3412.0        | 3409.8        | <i>3416.3</i> |
| 18°   | 3394.7        | 3377.4        | 3353.6        | 3362.3        | <i>3362.3</i> |
| 19°   | 3340.6        | 3316.9        | 3301.8        | 3299.6        | <i>3308.2</i> |
| 20°   | 3295.3        | 3258.5        | 3247.7        | 3245.6        | <i>3262.9</i> |
| 22.5° | 3139.7        | 3103.0        | 3094.3        | 3103.0        | <i>3120.2</i> |
| 25°   | 2958.2        | 2945.2        | 2932.3        | 2932.3        | <i>2925.8</i> |
| 27.5° | 2701.0        | 2731.3        | 2746.4        | 2716.2        | <i>2666.5</i> |
| 30°   | 2322.9        | 2450.4        | 2556.3        | 2435.3        | <i>2316.4</i> |
| 32.5° | 1830.2        | 2093.8        | 2338.0        | 2087.4        | <i>1787.0</i> |
| 35°   | 1357.0        | 1592.5        | 2076.6        | 1590.4        | <i>1324.6</i> |
| 37.5° | 1045.8        | 1197.1        | 1765.4        | 1177.7        | <i>1015.6</i> |
| 40°   | 814.6         | 903.2         | 1376.5        | 892.4         | <i>786.5</i>  |
| 42.5° | 633.1         | 689.3         | 916.2         | 676.3         | <i>611.5</i>  |
| 45°   | 490.5         | 525.1         | 615.8         | 501.3         | <i>466.7</i>  |
| 47.5° | 382.5         | 397.6         | 421.4         | 380.3         | <i>360.9</i>  |
| 50°   | 296.0         | 296.0         | 278.7         | 285.2         | <i>276.6</i>  |
| 52.5° | 229.0         | 220.4         | 188.0         | 207.4         | <i>211.8</i>  |
| 55°   | 179.3         | 164.2         | 129.6         | 155.6         | <i>166.4</i>  |
| 57.5° | 136.1         | 121.0         | 92.9          | 114.5         | <i>125.3</i>  |
| 60°   | 105.9         | 90.8          | 69.1          | 86.4          | <i>97.2</i>   |
| 62.5° | 82.1          | 69.1          | 54.0          | 64.8          | <i>73.5</i>   |
| 65°   | 62.7          | 51.9          | 43.2          | 49.7          | <i>56.2</i>   |
| 67.5° | 47.5          | 38.9          | 32.4          | 36.7          | <i>43.2</i>   |
| 70°   | 32.4          | 30.3          | 25.9          | 28.1          | <i>30.3</i>   |
| 72.5° | 23.8          | 21.6          | 19.4          | 19.4          | <i>21.6</i>   |
| 75°   | 17.3          | 15.1          | 15.1          | 15.1          | <i>15.1</i>   |



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**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 82.5° | 4.3 | 4.3   | 4.3 | 4.3   | 4.3 |
| 85°   | 2.2 | 2.2   | 4.3 | 2.2   | 2.2 |
| 87.5° | 2.2 | 2.2   | 2.2 | 2.2   | 2.2 |
| 90°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |

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

Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9



Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
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Scaled Data Report





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

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Scaled Data Report



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Scaled Data Report





|       |      |      |      |      |      |
|-------|------|------|------|------|------|
| 77.5° | 10.8 | 10.8 | 10.8 | 10.8 | 10.8 |
| 80°   | 8.6  | 8.6  | 6.5  | 6.5  | 6.5  |

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Scaled Data Report



(END OF REPORT)