

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: P838322

Luminaire Tested: HCSQ607D010-HM60525930-61SQMB

Issue Date: 5/21/2024



**Test Information**

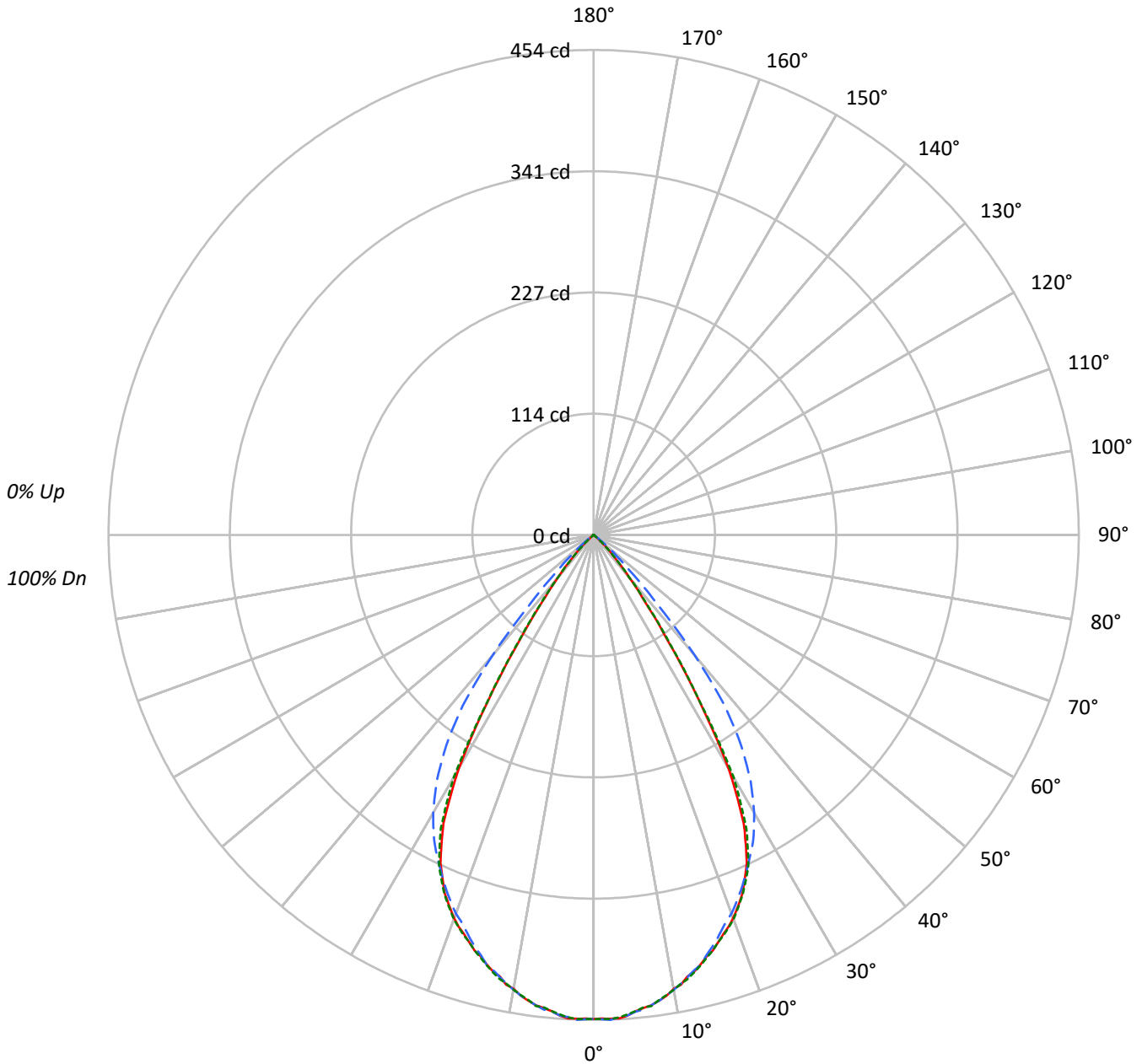
Test Method: LM-79-2019  
Report Number: P838322  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-4)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ607D010-HM60525930-61SQMB  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 450.5 lumens  
Efficiency: N/A  
Efficacy: 56.3 lumens/watt  
Spacing Criteria (0/90/45): 1 / 1.01 / 1.03  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 8  
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  |     |     |     |     |     |     |     |     | 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   | 113 | 111 | 108 | 106 | 111 | 109 | 106 | 104 | 105 | 103 | 101 | 101 | 99  | 98  | 97  | 96  | 95  | 93  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 108 | 103 | 99  | 96  | 106 | 101 | 98  | 94  | 98  | 95  | 92  | 95  | 93  | 90  | 92  | 90  | 89  | 87  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 102 | 96  | 91  | 87  | 100 | 94  | 90  | 86  | 92  | 88  | 85  | 89  | 86  | 83  | 87  | 85  | 82  | 81  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 97  | 89  | 84  | 80  | 95  | 88  | 83  | 79  | 86  | 82  | 78  | 84  | 80  | 77  | 82  | 79  | 76  | 75  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 92  | 84  | 78  | 73  | 90  | 83  | 77  | 73  | 81  | 76  | 72  | 79  | 75  | 72  | 78  | 74  | 71  | 70  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 87  | 78  | 72  | 68  | 86  | 77  | 72  | 68  | 76  | 71  | 67  | 75  | 70  | 67  | 73  | 69  | 66  | 65  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 83  | 73  | 67  | 63  | 81  | 73  | 67  | 63  | 71  | 66  | 63  | 70  | 66  | 62  | 69  | 65  | 62  | 60  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 79  | 69  | 63  | 59  | 77  | 68  | 63  | 59  | 67  | 62  | 58  | 66  | 62  | 58  | 65  | 61  | 58  | 56  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 75  | 65  | 59  | 55  | 74  | 64  | 59  | 55  | 63  | 58  | 55  | 63  | 58  | 54  | 62  | 57  | 54  | 53  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 71  | 61  | 55  | 51  | 70  | 61  | 55  | 51  | 60  | 55  | 51  | 59  | 54  | 51  | 58  | 54  | 51  | 50  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 19513 | 19513 | 19513 |
| 5°  | 19350 | 19363 | 19350 |
| 10° | 18865 | 18896 | 18896 |
| 15° | 18213 | 18164 | 18262 |
| 20° | 17494 | 17287 | 17544 |
| 25° | 16110 | 16228 | 16266 |
| 30° | 12553 | 14935 | 13031 |
| 35° | 6365  | 12657 | 6596  |
| 40° | 2895  | 8279  | 2895  |
| 45° | 1120  | 3118  | 1096  |
| 50° | 174   | 985   | 174   |
| 55° | 53    | 195   | 53    |
| 60° | 34    | 34    | 34    |
| 65° | 41    | 0     | 41    |
| 70° | 0     | 0     | 50    |
| 75° | 0     | 0     | 67    |
| 80° | 0     | 0     | 0     |
| 85° | 0     | 0     | 0     |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 3118 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 42.3   | 9.4       |
| 10°-20°   | 114.8  | 25.5      |
| 20°-30°   | 154.7  | 34.3      |
| 30°-40°   | 108.8  | 24.1      |
| 40°-50°   | 27.8   | 6.2       |
| 50°-60°   | 1.9    | 0.4       |
| 60°-70°   | 0.3    | 0.1       |
| 70°-80°   | 0.0    | 0.0       |
| 80°-90°   | 0.0    | 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°    | 311.8  | 69.2      |
| 0°-40°    | 420.5  | 93.3      |
| 0°-60°    | 450.2  | 99.9      |
| 0°-90°    | 450.5  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 450.5  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 453 | 453   | 453 | 453   | 453 |      |
| 5°  | 448 | 448   | 448 | 448   | 448 | 42   |
| 15° | 409 | 408   | 408 | 409   | 410 | 115  |
| 25° | 339 | 340   | 342 | 343   | 342 | 152  |
| 35° | 121 | 160   | 241 | 165   | 126 | 82   |
| 45° | 18  | 28    | 51  | 28    | 18  | 16   |
| 55° | 1   | 1     | 3   | 1     | 1   | 1    |
| 65° | 0   | 0     | 0   | 0     | 0   | 0    |
| 75° | 0   | 0     | 0   | 0     | 0   | 0    |
| 85° | 0   | 0     | 0   | 0     | 0   | 0    |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 453.2 | 453.2 | 453.2 | 453.2 | 453.2 |
| 1°    | 452.8 | 453.2 | 453.5 | 453.5 | 453.2 |
| 2°    | 453.2 | 452.1 | 454.3 | 453.2 | 453.5 |
| 3°    | 453.2 | 451.0 | 452.1 | 452.8 | 452.4 |
| 4°    | 451.3 | 449.9 | 451.0 | 450.6 | 449.9 |
| 5°    | 447.7 | 448.4 | 448.0 | 448.4 | 447.7 |
| 6°    | 445.4 | 446.2 | 446.9 | 445.8 | 444.7 |
| 7°    | 443.6 | 443.2 | 443.6 | 444.3 | 444.3 |
| 8°    | 440.3 | 441.0 | 440.3 | 440.7 | 439.6 |
| 9°    | 436.6 | 436.6 | 436.6 | 437.3 | 436.2 |
| 10°   | 431.5 | 433.3 | 432.2 | 432.9 | 432.2 |
| 11°   | 428.9 | 428.1 | 428.1 | 428.5 | 428.1 |
| 12°   | 422.6 | 423.4 | 423.0 | 423.7 | 424.8 |
| 13°   | 419.3 | 419.7 | 418.2 | 420.0 | 420.0 |
| 14°   | 414.2 | 413.8 | 414.5 | 414.2 | 414.9 |
| 15°   | 408.6 | 407.9 | 407.5 | 408.6 | 409.7 |
| 16°   | 404.6 | 402.7 | 401.6 | 403.1 | 404.6 |
| 17°   | 398.7 | 396.9 | 395.4 | 398.3 | 398.7 |
| 18°   | 392.8 | 392.1 | 388.4 | 392.1 | 393.9 |
| 19°   | 388.0 | 385.4 | 382.1 | 386.2 | 388.4 |
| 20°   | 381.8 | 379.6 | 377.3 | 379.6 | 382.9 |
| 22.5° | 363.7 | 361.9 | 360.0 | 362.6 | 364.5 |
| 25°   | 339.1 | 340.2 | 341.6 | 342.7 | 342.4 |
| 27.5° | 304.1 | 314.0 | 323.2 | 317.3 | 309.6 |
| 30°   | 252.5 | 277.6 | 300.4 | 281.6 | 262.1 |
| 32.5° | 183.0 | 225.7 | 273.2 | 234.1 | 184.8 |
| 35°   | 121.1 | 160.5 | 240.8 | 164.6 | 125.5 |
| 37.5° | 78.8  | 107.9 | 201.0 | 108.2 | 82.5  |
| 40°   | 51.5  | 70.3  | 147.3 | 71.8  | 51.5  |
| 42.5° | 31.7  | 44.5  | 89.5  | 46.4  | 31.7  |
| 45°   | 18.4  | 27.6  | 51.2  | 28.0  | 18.0  |
| 47.5° | 8.5   | 15.1  | 29.1  | 14.7  | 8.8   |
| 50°   | 2.6   | 6.6   | 14.7  | 6.6   | 2.6   |
| 52.5° | 1.1   | 1.8   | 7.0   | 1.8   | 1.1   |
| 55°   | 0.7   | 0.7   | 2.6   | 0.7   | 0.7   |
| 57.5° | 0.7   | 0.4   | 0.7   | 0.7   | 0.7   |
| 60°   | 0.4   | 0.4   | 0.4   | 0.4   | 0.4   |
| 62.5° | 0.4   | 0.4   | 0.4   | 0.4   | 0.4   |
| 65°   | 0.4   | 0.4   | 0.0   | 0.4   | 0.4   |
| 67.5° | 0.4   | 0.0   | 0.0   | 0.0   | 0.4   |
| 70°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.4   |
| 72.5° | 0.0   | 0.0   | 0.0   | 0.0   | 0.4   |
| 75°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.4   |



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**CANDELA DISTRIBUTION (continued):**

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



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Scaled Data Report



|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| 77.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Signify Classified - Internal  
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Scaled Data Report



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