

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: P838580

Luminaire Tested: HCSQ640D010-HM63040830-61SQH

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838580
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: HCSQ640D010-HM63040830-61SQH
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: -

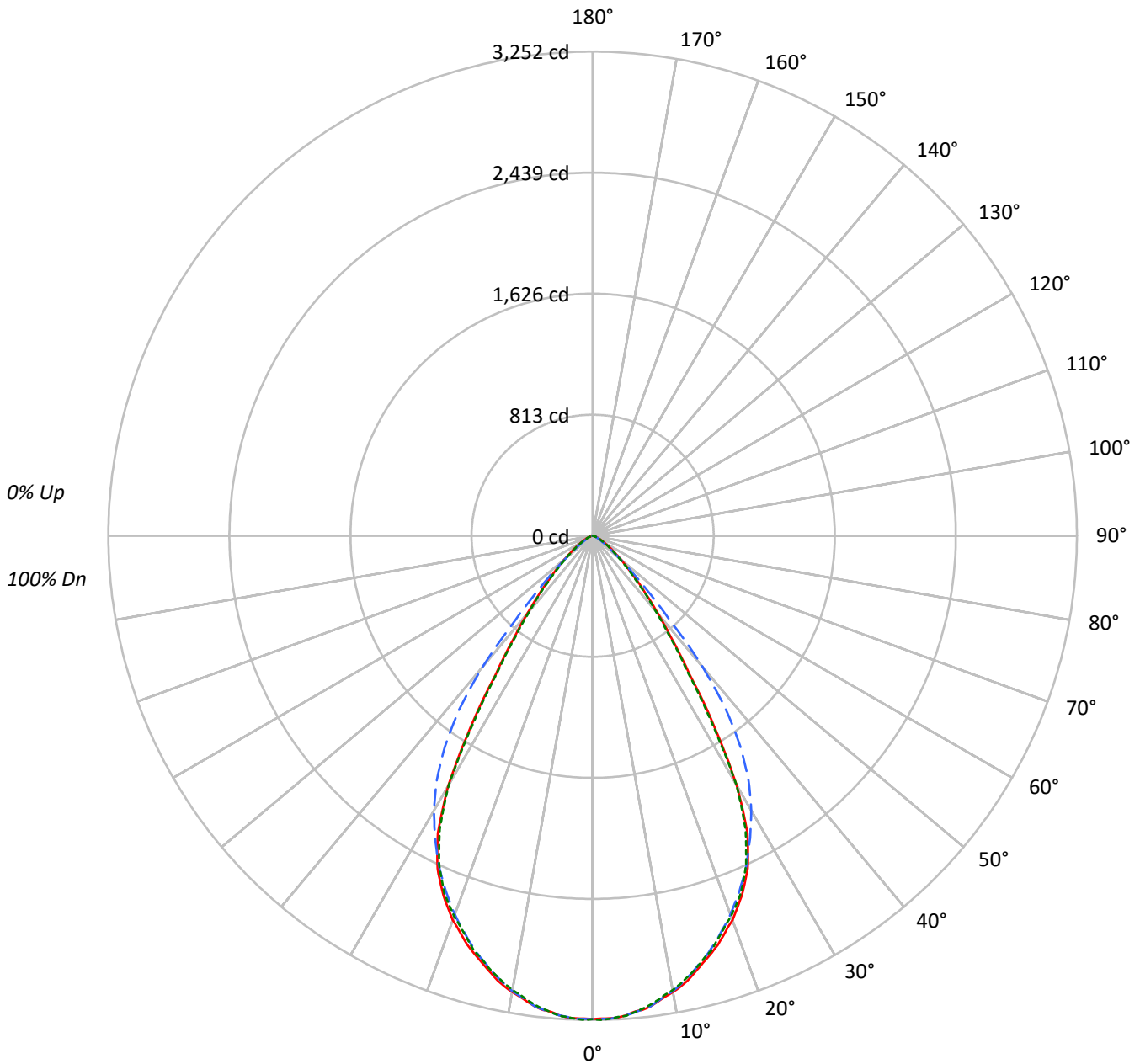
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3651.6 lumens
Efficiency: N/A
Efficacy: 89.1 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): 41
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





TEST NUMBER: P838580

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

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|--------|--------|--------|
| 0° | 139793 | 139793 | 139793 |
| 5° | 138693 | 138927 | 138849 |
| 10° | 136043 | 135728 | 135414 |
| 15° | 131241 | 130519 | 130438 |
| 20° | 125828 | 124013 | 124591 |
| 25° | 117118 | 116092 | 115831 |
| 30° | 96241 | 105911 | 95973 |
| 35° | 59442 | 90957 | 58022 |
| 40° | 38158 | 64473 | 36842 |
| 45° | 24892 | 31249 | 23686 |
| 50° | 16525 | 15560 | 15440 |
| 55° | 11222 | 8107 | 10412 |
| 60° | 7595 | 4960 | 6975 |
| 65° | 5318 | 3668 | 4768 |
| 70° | 3399 | 2719 | 3172 |
| 75° | 2396 | 2096 | 2096 |
| 80° | 1785 | 1339 | 1339 |
| 85° | 889 | 1778 | 889 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 31249 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 303.2 | 8.3 |
| 10°-20° | 823.0 | 22.5 |
| 20°-30° | 1111.0 | 30.4 |
| 30°-40° | 867.0 | 23.7 |
| 40°-50° | 363.2 | 9.9 |
| 50°-60° | 123.1 | 3.4 |
| 60°-70° | 43.9 | 1.2 |
| 70°-80° | 14.3 | 0.4 |
| 80°-90° | 2.9 | 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° | 2237.2 | 61.3 |
| 0°-40° | 3104.2 | 85.0 |
| 0°-60° | 3590.5 | 98.3 |
| 0°-90° | 3651.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3651.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 3247 | 3247 | 3247 | 3247 | 3247 | |
| 5° | 3209 | 3213 | 3214 | 3209 | 3213 | 304 |
| 15° | 2944 | 2937 | 2928 | 2924 | 2926 | 828 |
| 25° | 2465 | 2454 | 2444 | 2444 | 2438 | 1109 |
| 35° | 1131 | 1327 | 1730 | 1325 | 1104 | 744 |
| 45° | 409 | 438 | 513 | 418 | 389 | 328 |
| 55° | 150 | 137 | 108 | 130 | 139 | 138 |
| 65° | 52 | 43 | 36 | 41 | 47 | 54 |
| 75° | 14 | 13 | 13 | 13 | 13 | 16 |
| 85° | 2 | 2 | 4 | 2 | 2 | 3 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CATALOG NUMBER: HCSQ640D010-HM63040830-61SQH

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 3246.8 | 3246.8 | 3246.8 | 3246.8 | 3246.8 |
| 1° | 3243.2 | 3248.6 | 3245.0 | 3246.8 | 3252.2 |
| 2° | 3243.2 | 3243.2 | 3246.8 | 3245.0 | 3246.8 |
| 3° | 3239.6 | 3239.6 | 3236.0 | 3236.0 | 3236.0 |
| 4° | 3228.8 | 3228.8 | 3228.8 | 3225.2 | 3232.4 |
| 5° | 3209.0 | 3212.6 | 3214.4 | 3209.0 | 3212.6 |
| 6° | 3201.8 | 3203.6 | 3200.0 | 3198.2 | 3194.6 |
| 7° | 3185.6 | 3180.2 | 3185.6 | 3173.0 | 3174.8 |
| 8° | 3158.6 | 3158.6 | 3155.0 | 3151.4 | 3147.8 |
| 9° | 3133.3 | 3133.3 | 3129.7 | 3124.3 | 3120.7 |
| 10° | 3111.7 | 3106.3 | 3104.5 | 3099.1 | 3097.3 |
| 11° | 3086.5 | 3075.7 | 3073.9 | 3068.5 | 3068.5 |
| 12° | 3055.9 | 3050.5 | 3037.9 | 3036.1 | 3036.1 |
| 13° | 3018.1 | 3012.7 | 3003.7 | 2996.5 | 3003.7 |
| 14° | 2982.1 | 2978.5 | 2962.3 | 2967.7 | 2965.9 |
| 15° | 2944.3 | 2937.1 | 2928.1 | 2924.5 | 2926.3 |
| 16° | 2910.1 | 2897.4 | 2884.8 | 2886.6 | 2897.4 |
| 17° | 2874.0 | 2856.0 | 2843.4 | 2841.6 | 2847.0 |
| 18° | 2829.0 | 2814.6 | 2794.8 | 2802.0 | 2802.0 |
| 19° | 2784.0 | 2764.2 | 2751.6 | 2749.8 | 2757.0 |
| 20° | 2746.2 | 2715.6 | 2706.6 | 2704.8 | 2719.2 |
| 22.5° | 2616.5 | 2585.9 | 2578.7 | 2585.9 | 2600.3 |
| 25° | 2465.3 | 2454.5 | 2443.7 | 2443.7 | 2438.2 |
| 27.5° | 2251.0 | 2276.2 | 2288.8 | 2263.6 | 2222.2 |
| 30° | 1935.8 | 2042.1 | 2130.3 | 2029.5 | 1930.4 |
| 32.5° | 1525.3 | 1745.0 | 1948.4 | 1739.5 | 1489.2 |
| 35° | 1130.9 | 1327.2 | 1730.5 | 1325.4 | 1103.9 |
| 37.5° | 871.6 | 997.6 | 1471.2 | 981.4 | 846.4 |
| 40° | 678.9 | 752.7 | 1147.1 | 743.7 | 655.5 |
| 42.5° | 527.6 | 574.4 | 763.5 | 563.6 | 509.6 |
| 45° | 408.8 | 437.6 | 513.2 | 417.8 | 389.0 |
| 47.5° | 318.7 | 331.3 | 351.2 | 316.9 | 300.7 |
| 50° | 246.7 | 246.7 | 232.3 | 237.7 | 230.5 |
| 52.5° | 190.9 | 183.7 | 156.7 | 172.9 | 176.5 |
| 55° | 149.5 | 136.9 | 108.0 | 129.7 | 138.7 |
| 57.5° | 113.4 | 100.8 | 77.4 | 95.4 | 104.4 |
| 60° | 88.2 | 75.6 | 57.6 | 72.0 | 81.0 |
| 62.5° | 68.4 | 57.6 | 45.0 | 54.0 | 61.2 |
| 65° | 52.2 | 43.2 | 36.0 | 41.4 | 46.8 |
| 67.5° | 39.6 | 32.4 | 27.0 | 30.6 | 36.0 |
| 70° | 27.0 | 25.2 | 21.6 | 23.4 | 25.2 |
| 72.5° | 19.8 | 18.0 | 16.2 | 16.2 | 18.0 |
| 75° | 14.4 | 12.6 | 12.6 | 12.6 | 12.6 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 82.5° | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 |
| 85° | 1.8 | 1.8 | 3.6 | 1.8 | 1.8 |
| 87.5° | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| 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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1121 Highway 74 South
Peachtree City, GA 30269

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° | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 80° | 7.2 | 7.2 | 5.4 | 5.4 | 5.4 |

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Scaled Data Report



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