

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: P838448

Luminaire Tested: HCSQ620D010-HM60525935-61SQMW

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838448
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-3)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ620D010-HM60525935-61SQMW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: -

Summary

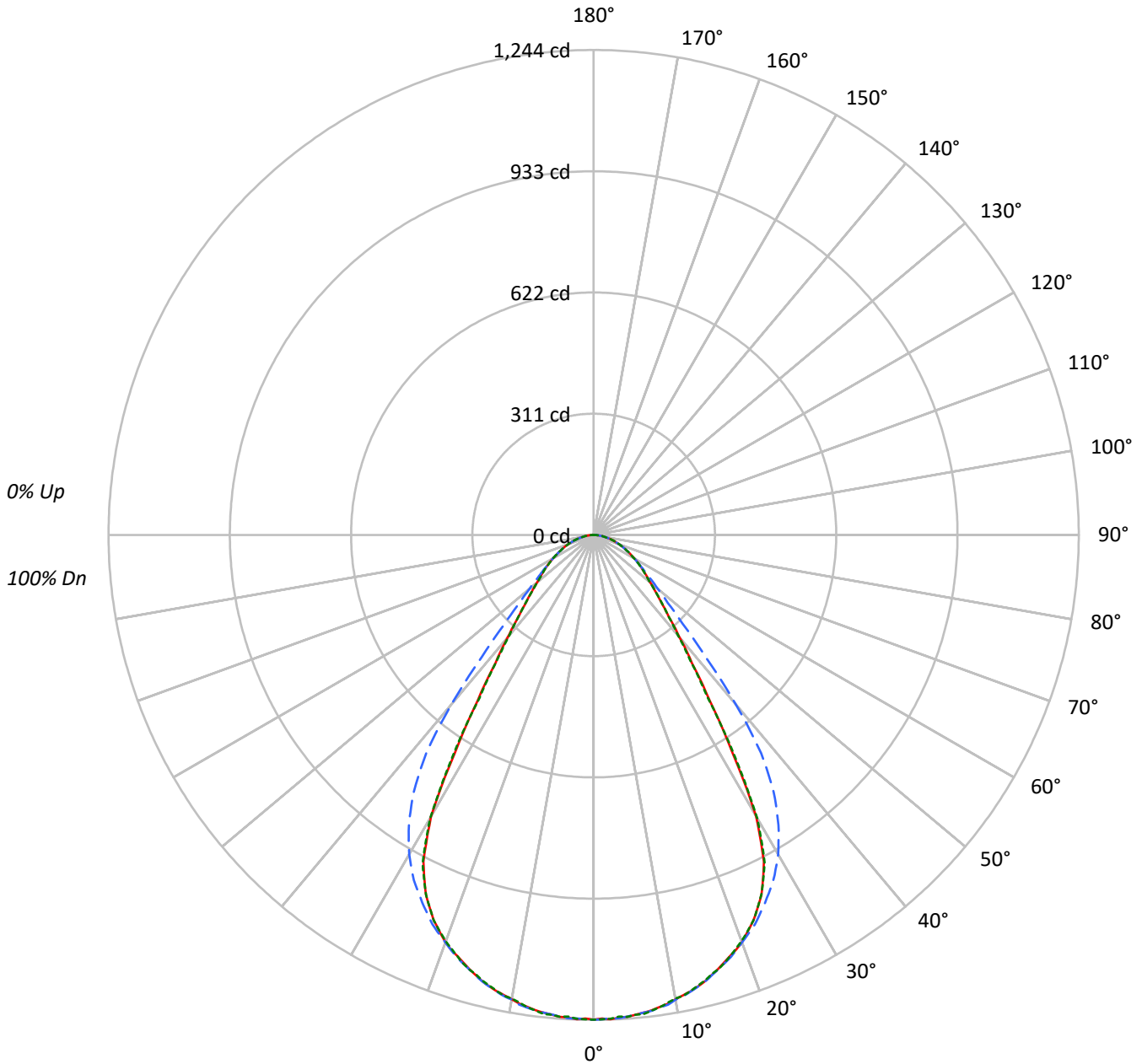
Lumens per Lamp: N/A
Luminaire Lumens: 1834.2 lumens
Efficiency: N/A
Efficacy: 91.7 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
CIE Type: Direct

Input Watts (W): 20
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 | | | | | 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 | 0 | | | | | |
| RCR | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | | | | | | | | |
| 1 | 111 | 108 | 105 | 102 | 109 | 106 | 103 | 100 | 101 | 99 | 97 | 98 | 96 | 94 | 94 | 93 | 91 | 89 | | | | | | | | |
| 2 | 104 | 98 | 92 | 88 | 102 | 96 | 91 | 87 | 92 | 88 | 85 | 89 | 86 | 83 | 86 | 84 | 81 | 79 | | | | | | | | |
| 3 | 97 | 89 | 82 | 77 | 95 | 87 | 81 | 77 | 84 | 79 | 75 | 82 | 78 | 74 | 79 | 76 | 73 | 71 | | | | | | | | |
| 4 | 91 | 81 | 74 | 69 | 89 | 80 | 73 | 68 | 77 | 72 | 67 | 75 | 70 | 67 | 73 | 69 | 66 | 64 | | | | | | | | |
| 5 | 85 | 74 | 67 | 62 | 83 | 73 | 66 | 61 | 71 | 65 | 61 | 70 | 64 | 60 | 68 | 63 | 60 | 58 | | | | | | | | |
| 6 | 80 | 69 | 61 | 56 | 78 | 68 | 61 | 56 | 66 | 60 | 55 | 64 | 59 | 55 | 63 | 58 | 54 | 53 | | | | | | | | |
| 7 | 75 | 63 | 56 | 51 | 73 | 63 | 56 | 51 | 61 | 55 | 51 | 60 | 54 | 50 | 59 | 54 | 50 | 48 | | | | | | | | |
| 8 | 70 | 59 | 52 | 47 | 69 | 58 | 51 | 47 | 57 | 51 | 46 | 56 | 50 | 46 | 55 | 50 | 46 | 44 | | | | | | | | |
| 9 | 66 | 55 | 48 | 43 | 65 | 54 | 48 | 43 | 53 | 47 | 43 | 52 | 47 | 43 | 51 | 46 | 43 | 41 | | | | | | | | |
| 10 | 63 | 51 | 45 | 40 | 62 | 51 | 44 | 40 | 50 | 44 | 40 | 49 | 44 | 40 | 48 | 43 | 40 | 38 | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 53540 | 53540 | 53540 |
| 5° | 53407 | 53368 | 53407 |
| 10° | 52884 | 52923 | 52809 |
| 15° | 52099 | 52134 | 52018 |
| 20° | 50923 | 50964 | 50804 |
| 25° | 48381 | 49416 | 48343 |
| 30° | 41429 | 47047 | 41692 |
| 35° | 27221 | 42296 | 26811 |
| 40° | 19245 | 31891 | 18902 |
| 45° | 14918 | 19631 | 15028 |
| 50° | 12687 | 14321 | 12573 |
| 55° | 11417 | 11740 | 11417 |
| 60° | 10325 | 10325 | 10325 |
| 65° | 9475 | 9383 | 9383 |
| 70° | 8636 | 8636 | 8749 |
| 75° | 8101 | 7802 | 7952 |
| 80° | 7116 | 7116 | 7116 |
| 85° | 6027 | 6027 | 6027 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 19631 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 117.2 | 6.4 |
| 10°-20° | 329.2 | 17.9 |
| 20°-30° | 469.1 | 25.6 |
| 30°-40° | 400.0 | 21.8 |
| 40°-50° | 221.3 | 12.1 |
| 50°-60° | 139.4 | 7.6 |
| 60°-70° | 92.5 | 5.0 |
| 70°-80° | 50.8 | 2.8 |
| 80°-90° | 14.5 | 0.8 |
| 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° | 915.6 | 49.9 |
| 0°-40° | 1315.6 | 71.7 |
| 0°-60° | 1676.3 | 91.4 |
| 0°-90° | 1834.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1834.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1244 | 1244 | 1244 | 1244 | 1244 | |
| 5° | 1236 | 1237 | 1235 | 1233 | 1236 | 117 |
| 15° | 1169 | 1169 | 1170 | 1169 | 1167 | 329 |
| 25° | 1018 | 1031 | 1040 | 1030 | 1018 | 460 |
| 35° | 518 | 611 | 805 | 612 | 510 | 337 |
| 45° | 245 | 268 | 322 | 267 | 247 | 194 |
| 55° | 152 | 155 | 156 | 154 | 152 | 137 |
| 65° | 93 | 94 | 92 | 93 | 92 | 93 |
| 75° | 49 | 48 | 47 | 48 | 48 | 51 |
| 85° | 12 | 12 | 12 | 13 | 12 | 15 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1243.5 | 1243.5 | 1243.5 | 1243.5 | 1243.5 |
| 1° | 1240.9 | 1242.6 | 1242.6 | 1241.8 | 1242.6 |
| 2° | 1243.5 | 1240.9 | 1240.9 | 1240.9 | 1241.8 |
| 3° | 1240.0 | 1241.8 | 1241.8 | 1239.1 | 1237.4 |
| 4° | 1239.1 | 1238.3 | 1238.3 | 1240.9 | 1239.1 |
| 5° | 1235.7 | 1237.4 | 1234.8 | 1233.1 | 1235.7 |
| 6° | 1232.2 | 1233.1 | 1232.2 | 1233.1 | 1235.7 |
| 7° | 1227.9 | 1230.5 | 1229.6 | 1228.7 | 1228.7 |
| 8° | 1222.6 | 1226.1 | 1224.4 | 1224.4 | 1223.5 |
| 9° | 1217.4 | 1218.3 | 1220.0 | 1220.0 | 1214.8 |
| 10° | 1209.6 | 1212.2 | 1210.5 | 1211.3 | 1207.9 |
| 11° | 1202.7 | 1206.1 | 1205.3 | 1203.5 | 1204.4 |
| 12° | 1196.6 | 1198.3 | 1197.4 | 1194.8 | 1195.7 |
| 13° | 1188.7 | 1190.5 | 1189.6 | 1189.6 | 1187.0 |
| 14° | 1180.1 | 1178.3 | 1180.9 | 1179.2 | 1178.3 |
| 15° | 1168.8 | 1168.8 | 1169.6 | 1168.8 | 1167.0 |
| 16° | 1158.3 | 1159.2 | 1159.2 | 1158.3 | 1159.2 |
| 17° | 1146.2 | 1149.6 | 1148.8 | 1147.0 | 1147.9 |
| 18° | 1134.9 | 1137.5 | 1138.3 | 1137.5 | 1134.9 |
| 19° | 1124.4 | 1126.2 | 1125.3 | 1121.8 | 1121.8 |
| 20° | 1111.4 | 1112.3 | 1112.3 | 1110.5 | 1108.8 |
| 22.5° | 1070.6 | 1076.7 | 1081.0 | 1077.5 | 1070.6 |
| 25° | 1018.4 | 1030.6 | 1040.2 | 1029.7 | 1017.6 |
| 27.5° | 945.4 | 969.8 | 998.4 | 972.4 | 949.8 |
| 30° | 833.3 | 889.0 | 946.3 | 894.2 | 838.6 |
| 32.5° | 663.0 | 772.5 | 882.0 | 782.9 | 673.4 |
| 35° | 517.9 | 610.9 | 804.7 | 611.8 | 510.1 |
| 37.5° | 413.6 | 479.7 | 705.6 | 475.3 | 409.3 |
| 40° | 342.4 | 386.7 | 567.4 | 385.0 | 336.3 |
| 42.5° | 285.9 | 319.8 | 424.9 | 316.3 | 285.9 |
| 45° | 245.0 | 268.5 | 322.4 | 266.8 | 246.8 |
| 47.5° | 214.6 | 229.4 | 258.1 | 228.5 | 214.6 |
| 50° | 189.4 | 198.1 | 213.8 | 197.3 | 187.7 |
| 52.5° | 169.4 | 174.7 | 180.7 | 172.9 | 167.7 |
| 55° | 152.1 | 154.7 | 156.4 | 153.8 | 152.1 |
| 57.5° | 135.6 | 137.3 | 136.4 | 135.6 | 134.7 |
| 60° | 119.9 | 120.8 | 119.9 | 120.8 | 119.9 |
| 62.5° | 106.0 | 106.9 | 105.1 | 106.0 | 105.1 |
| 65° | 93.0 | 93.8 | 92.1 | 93.0 | 92.1 |
| 67.5° | 80.8 | 80.8 | 80.8 | 80.8 | 79.9 |
| 70° | 68.6 | 69.5 | 68.6 | 69.5 | 69.5 |
| 72.5° | 58.2 | 58.2 | 57.4 | 58.2 | 58.2 |
| 75° | 48.7 | 47.8 | 46.9 | 47.8 | 47.8 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|------|-------|------|-------|------|
| 82.5° | 20.9 | 20.9 | 20.0 | 20.9 | 20.9 |
| 85° | 12.2 | 12.2 | 12.2 | 13.0 | 12.2 |
| 87.5° | 6.1 | 5.2 | 5.2 | 6.1 | 6.1 |
| 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
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° | 38.2 | 38.2 | 37.4 | 38.2 | 38.2 |
| 80° | 28.7 | 29.5 | 28.7 | 29.5 | 28.7 |

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Scaled Data Report



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