

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: P838752

Luminaire Tested: HCSQ660D010-HM64560840-61SQMB

Issue Date: 5/21/2024

**Test Information**

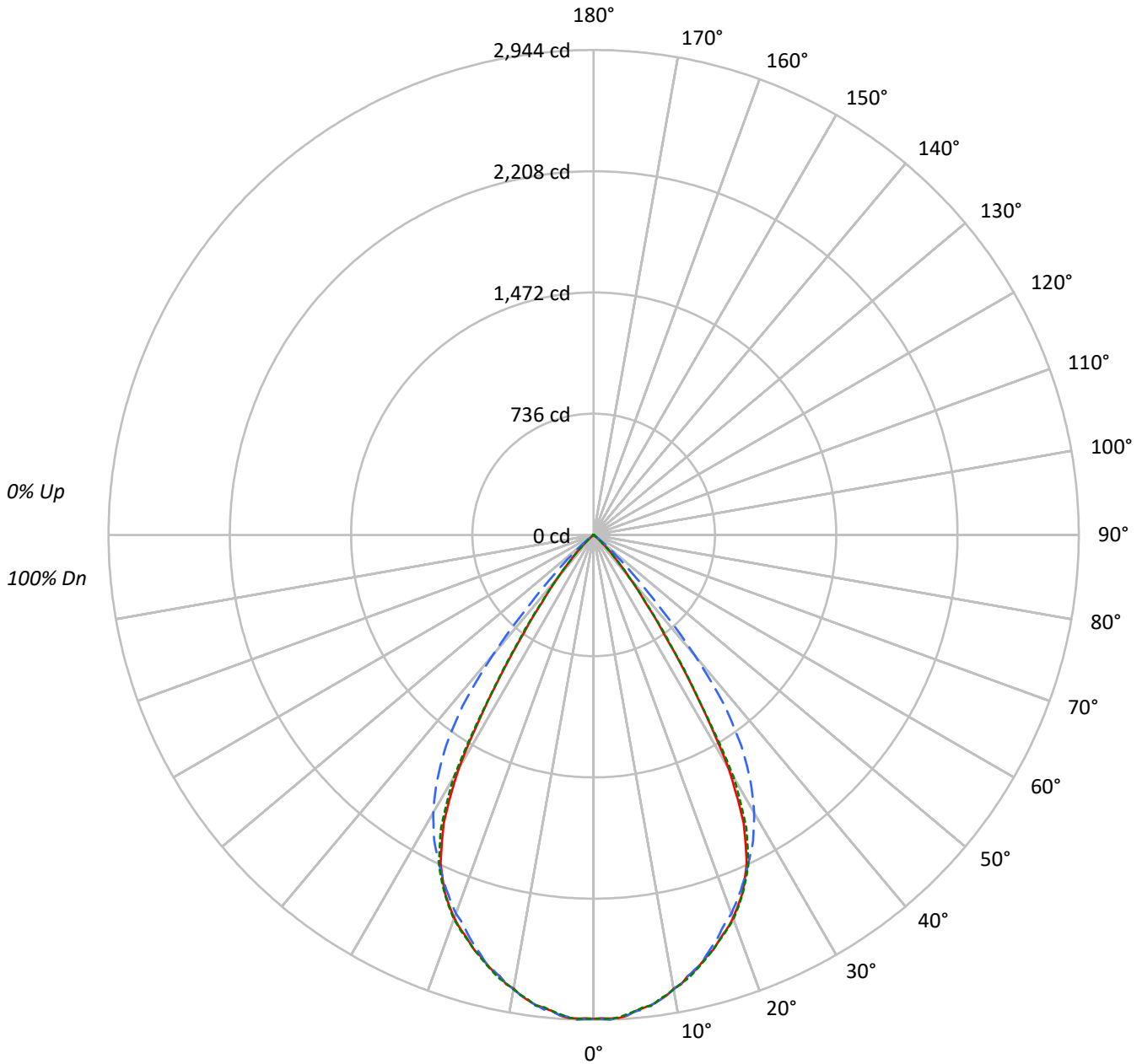
Test Method: LM-79-2019  
Report Number: P838752  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-4)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ660D010-HM64560840-61SQMB  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2919.7 lumens  
Efficiency: N/A  
Efficacy: 52.1 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): 56  
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

TEST NUMBER: P838752  
CATALOG NUMBER: HCSQ660D010-HM64560840-61SQMB

### Luminous Intensity Polar Plot





TEST NUMBER: P838752

CATALOG NUMBER: HCSQ660D010-HM64560840-61SQMB

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				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	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	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°	126459	126459	126459
5°	125395	125498	125395
10°	122258	122464	122464
15°	118051	117735	118372
20°	113370	112055	113695
25°	104396	105189	105417
30°	81376	96798	84458
35°	41261	82017	42764
40°	18773	53642	18773
45°	7264	20191	7118
50°	1119	6390	1119
55°	360	1254	360
60°	207	207	207
65°	245	0	245
70°	0	0	302
75°	0	0	399
80°	0	0	0
85°	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 20191 cd/sqm



TEST NUMBER: P838752  
 CATALOG NUMBER: HCSQ660D010-HM64560840-61SQMB

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	274.2	9.4
10°-20°	743.8	25.5
20°-30°	1002.6	34.3
30°-40°	704.9	24.1
40°-50°	180.0	6.2
50°-60°	12.4	0.4
60°-70°	1.5	0.1
70°-80°	0.2	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°	2020.6	69.2
0°-40°	2725.6	93.4
0°-60°	2918.0	99.9
0°-90°	2919.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2919.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2937	2937	2937	2937	2937	
5°	2901	2906	2904	2906	2901	274
15°	2648	2644	2641	2648	2656	745
25°	2198	2205	2214	2221	2219	982
35°	785	1040	1560	1066	814	528
45°	119	179	332	181	117	104
55°	5	5	17	5	5	6
65°	2	2	0	2	2	2
75°	0	0	0	0	2	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



TEST NUMBER: P838752

CATALOG NUMBER: HCSQ660D010-HM64560840-61SQMB

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2937.1	2937.1	2937.1	2937.1	2937.1
1°	2934.7	2937.1	2939.5	2939.5	2937.1
2°	2937.1	2930.0	2944.3	2937.1	2939.5
3°	2937.1	2922.8	2930.0	2934.7	2932.4
4°	2925.2	2915.7	2922.8	2920.4	2915.7
5°	2901.3	2906.1	2903.7	2906.1	2901.3
6°	2887.0	2891.8	2896.6	2889.4	2882.3
7°	2875.1	2872.7	2875.1	2879.9	2879.9
8°	2853.6	2858.4	2853.6	2856.0	2848.8
9°	2829.8	2829.8	2829.8	2834.5	2827.4
10°	2796.4	2808.3	2801.1	2805.9	2801.1
11°	2779.7	2774.9	2774.9	2777.3	2774.9
12°	2739.1	2743.9	2741.5	2746.3	2753.4
13°	2717.6	2720.0	2710.5	2722.4	2722.4
14°	2684.2	2681.8	2686.6	2684.2	2689.0
15°	2648.4	2643.7	2641.3	2648.4	2655.6
16°	2622.2	2610.3	2603.1	2612.6	2622.2
17°	2584.0	2572.1	2562.5	2581.6	2584.0
18°	2545.8	2541.1	2517.2	2541.1	2553.0
19°	2514.8	2498.1	2476.6	2502.9	2517.2
20°	2474.3	2459.9	2445.6	2459.9	2481.4
22.5°	2357.3	2345.4	2333.5	2350.2	2362.1
25°	2197.5	2204.6	2214.2	2221.3	2219.0
27.5°	1970.8	2035.2	2094.9	2056.7	2006.6
30°	1636.8	1799.0	1947.0	1825.3	1698.8
32.5°	1185.8	1462.6	1770.4	1517.5	1197.8
35°	785.0	1040.3	1560.4	1066.5	813.6
37.5°	510.6	699.1	1302.7	701.5	534.5
40°	334.0	455.7	954.4	465.3	334.0
42.5°	205.2	288.7	579.8	300.6	205.2
45°	119.3	178.9	331.6	181.3	116.9
47.5°	54.9	97.8	188.5	95.4	57.3
50°	16.7	42.9	95.4	42.9	16.7
52.5°	7.2	11.9	45.3	11.9	7.2
55°	4.8	4.8	16.7	4.8	4.8
57.5°	4.8	2.4	4.8	4.8	4.8
60°	2.4	2.4	2.4	2.4	2.4
62.5°	2.4	2.4	2.4	2.4	2.4
65°	2.4	2.4	0.0	2.4	2.4
67.5°	2.4	0.0	0.0	0.0	2.4
70°	0.0	0.0	0.0	0.0	2.4
72.5°	0.0	0.0	0.0	0.0	2.4
75°	0.0	0.0	0.0	0.0	2.4



TEST NUMBER: P838752

CATALOG NUMBER: HCSQ660D010-HM64560840-61SQMB

**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  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report





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

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

Scaled Data Report



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

Scaled Data Report



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

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  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)