

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: P838663

Luminaire Tested: HCSQ650D010-HM64560830-61SQMW

Issue Date: 5/21/2024



**Test Information**

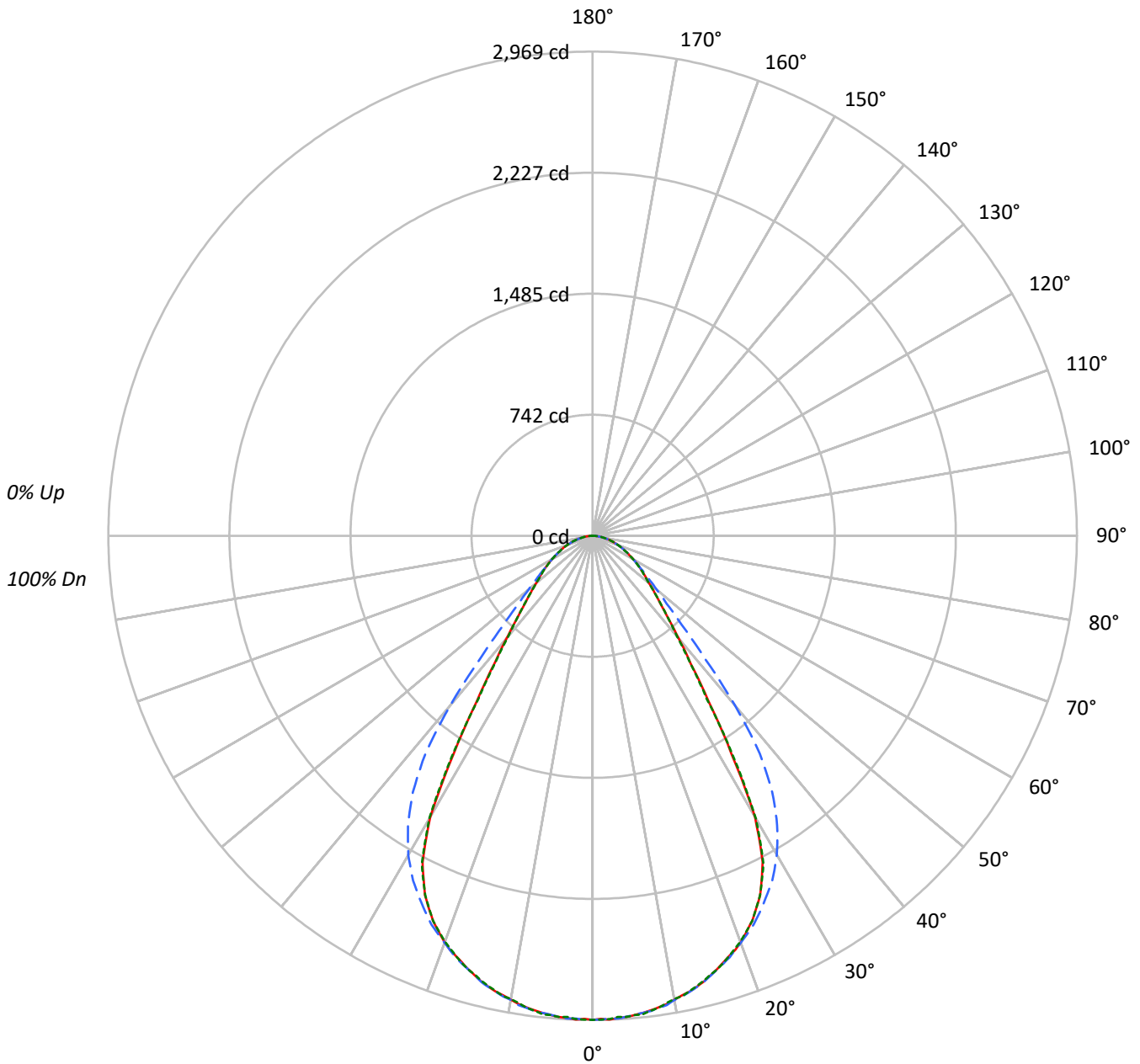
Test Method: LM-79-2019  
Report Number: P838663  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-3)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ650D010-HM64560830-61SQMW  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4379.3 lumens  
Efficiency: N/A  
Efficacy: 88.1 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): 49.7  
Input Voltage (V): NR  
Input Current (Ain): 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: P838663  
CATALOG NUMBER: HCSQ650D010-HM64560830-61SQMW

### Luminous Intensity Polar Plot





TEST NUMBER: P838663

CATALOG NUMBER: HCSQ650D010-HM64560830-61SQMW

**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	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°	127832	127832	127832
5°	127512	127426	127512
10°	126267	126359	126084
15°	124390	124483	124202
20°	121585	121681	121301
25°	115517	117983	115422
30°	98921	112329	99542
35°	64997	100981	64014
40°	45948	76147	45127
45°	35627	46867	35876
50°	30296	34188	30022
55°	27256	28037	27256
60°	24654	24654	24654
65°	22617	22403	22403
70°	20633	20633	20897
75°	19330	18632	18981
80°	16984	16984	16984
85°	14326	14326	14326

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 46867 cd/sqm



TEST NUMBER: P838663

CATALOG NUMBER: HCSQ650D010-HM64560830-61SQMW

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	279.9	6.4
10°-20°	786.1	17.9
20°-30°	1120.1	25.6
30°-40°	955.1	21.8
40°-50°	528.4	12.1
50°-60°	332.8	7.6
60°-70°	221.0	5.0
70°-80°	121.4	2.8
80°-90°	34.5	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°	2186.1	49.9
0°-40°	3141.2	71.7
0°-60°	4002.4	91.4
0°-90°	4379.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4379.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2969	2969	2969	2969	2969	
5°	2950	2954	2948	2944	2950	280
15°	2791	2791	2793	2791	2786	786
25°	2432	2461	2484	2459	2430	1098
35°	1237	1459	1921	1461	1218	804
45°	585	641	770	637	589	464
55°	363	369	374	367	363	326
65°	222	224	220	222	220	221
75°	116	114	112	114	114	122
85°	29	29	29	31	29	35
90°	0	0	0	0	0	



TEST NUMBER: P838663

CATALOG NUMBER: HCSQ650D010-HM64560830-61SQMW

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2969.0	2969.0	2969.0	2969.0	2969.0
1°	2962.8	2966.9	2966.9	2964.9	2966.9
2°	2969.0	2962.8	2962.8	2962.8	2964.9
3°	2960.7	2964.9	2964.9	2958.6	2954.5
4°	2958.6	2956.6	2956.6	2962.8	2958.6
5°	2950.3	2954.5	2948.3	2944.1	2950.3
6°	2942.0	2944.1	2942.0	2944.1	2950.3
7°	2931.7	2937.9	2935.8	2933.7	2933.7
8°	2919.2	2927.5	2923.4	2923.4	2921.3
9°	2906.8	2908.8	2913.0	2913.0	2900.5
10°	2888.1	2894.3	2890.2	2892.2	2883.9
11°	2871.5	2879.8	2877.7	2873.6	2875.6
12°	2857.0	2861.1	2859.0	2852.8	2854.9
13°	2838.3	2842.4	2840.4	2840.4	2834.2
14°	2817.6	2813.4	2819.6	2815.5	2813.4
15°	2790.6	2790.6	2792.7	2790.6	2786.4
16°	2765.7	2767.8	2767.8	2765.7	2767.8
17°	2736.6	2744.9	2742.9	2738.7	2740.8
18°	2709.7	2715.9	2718.0	2715.9	2709.7
19°	2684.8	2688.9	2686.8	2678.5	2678.5
20°	2653.6	2655.7	2655.7	2651.6	2647.4
22.5°	2556.1	2570.7	2581.0	2572.7	2556.1
25°	2431.6	2460.7	2483.5	2458.6	2429.6
27.5°	2257.4	2315.5	2383.9	2321.7	2267.7
30°	1989.7	2122.5	2259.4	2134.9	2002.2
32.5°	1583.1	1844.5	2105.9	1869.4	1608.0
35°	1236.6	1458.6	1921.2	1460.6	1217.9
37.5°	987.6	1145.3	1684.7	1134.9	977.2
40°	817.5	923.3	1354.8	919.1	802.9
42.5°	682.6	763.5	1014.6	755.2	682.6
45°	585.1	641.1	769.7	637.0	589.2
47.5°	512.5	547.7	616.2	545.7	512.5
50°	452.3	473.0	510.4	471.0	448.2
52.5°	404.6	417.0	431.6	412.9	400.4
55°	363.1	369.3	373.5	367.2	363.1
57.5°	323.7	327.8	325.7	323.7	321.6
60°	286.3	288.4	286.3	288.4	286.3
62.5°	253.1	255.2	251.0	253.1	251.0
65°	222.0	224.1	219.9	222.0	219.9
67.5°	193.0	193.0	193.0	193.0	190.9
70°	163.9	166.0	163.9	166.0	166.0
72.5°	139.0	139.0	136.9	139.0	139.0
75°	116.2	114.1	112.0	114.1	114.1



TEST NUMBER: P838663

CATALOG NUMBER: HCSQ650D010-HM64560830-61SQMW

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
82.5°	49.8	49.8	47.7	49.8	49.8
85°	29.0	29.0	29.0	31.1	29.0
87.5°	14.5	12.4	12.4	14.5	14.5
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





77.5°	91.3	91.3	89.2	91.3	91.3
80°	68.5	70.5	68.5	70.5	68.5

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

Scaled Data Report



(END OF REPORT)