

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: P838683

Luminaire Tested: HCSQ650D010-HM64560930-61SQMW

Issue Date: 5/21/2024



Test Information

Test Method: LM-79-2019
Report Number: P838683
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-HM64560930-61SQMW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

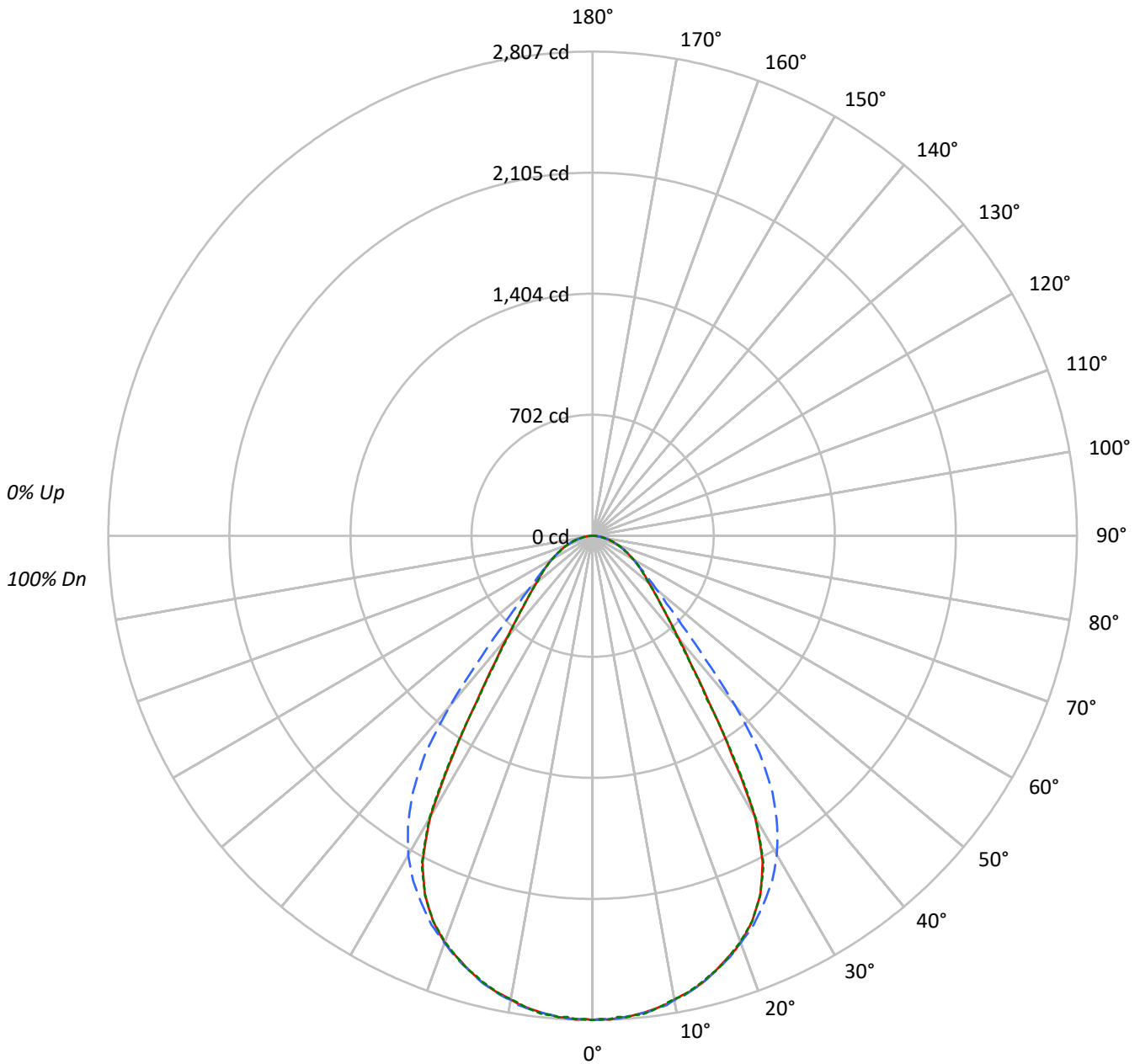
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4140.9 lumens
Efficiency: N/A
Efficacy: 83.3 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

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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	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°	120870	120870	120870
5°	120571	120485	120571
10°	119390	119478	119220
15°	117614	117703	117440
20°	114964	115056	114698
25°	109227	111560	109137
30°	93536	106214	94118
35°	61455	95483	60530
40°	43447	72004	42671
45°	33684	44316	33928
50°	28649	32326	28381
55°	25770	26506	25770
60°	23310	23310	23310
65°	21384	21191	21191
70°	19512	19512	19752
75°	18282	17617	17950
80°	16042	16042	16042
85°	13585	13585	13585

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 44316 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	264.7	6.4
10°-20°	743.3	17.9
20°-30°	1059.1	25.6
30°-40°	903.1	21.8
40°-50°	499.6	12.1
50°-60°	314.7	7.6
60°-70°	208.9	5.0
70°-80°	114.8	2.8
80°-90°	32.7	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°	2067.1	49.9
0°-40°	2970.1	71.7
0°-60°	3784.5	91.4
0°-90°	4140.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4140.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2807	2807	2807	2807	2807	
5°	2790	2794	2788	2784	2790	264
15°	2639	2639	2641	2639	2635	743
25°	2299	2327	2348	2325	2297	1039
35°	1169	1379	1817	1381	1152	760
45°	553	606	728	602	557	439
55°	343	349	353	347	343	308
65°	210	212	208	210	208	209
75°	110	108	106	108	108	115
85°	28	28	28	29	28	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2807.3	2807.3	2807.3	2807.3	2807.3
1°	2801.5	2805.4	2805.4	2803.4	2805.4
2°	2807.3	2801.5	2801.5	2801.5	2803.4
3°	2799.5	2803.4	2803.4	2797.5	2793.6
4°	2797.5	2795.6	2795.6	2801.5	2797.5
5°	2789.7	2793.6	2787.7	2783.8	2789.7
6°	2781.8	2783.8	2781.8	2783.8	2789.7
7°	2772.0	2777.9	2776.0	2774.0	2774.0
8°	2760.3	2768.1	2764.2	2764.2	2762.2
9°	2748.5	2750.5	2754.4	2754.4	2742.6
10°	2730.8	2736.7	2732.8	2734.8	2726.9
11°	2715.1	2723.0	2721.0	2717.1	2719.1
12°	2701.4	2705.3	2703.4	2697.5	2699.4
13°	2683.7	2687.7	2685.7	2685.7	2679.8
14°	2664.1	2660.2	2666.1	2662.2	2660.2
15°	2638.6	2638.6	2640.6	2638.6	2634.7
16°	2615.1	2617.0	2617.0	2615.1	2617.0
17°	2587.6	2595.5	2593.5	2589.6	2591.5
18°	2562.1	2568.0	2570.0	2568.0	2562.1
19°	2538.6	2542.5	2540.5	2532.7	2532.7
20°	2509.1	2511.1	2511.1	2507.2	2503.3
22.5°	2416.9	2430.7	2440.5	2432.6	2416.9
25°	2299.2	2326.7	2348.3	2324.7	2297.3
27.5°	2134.4	2189.4	2254.1	2195.3	2144.3
30°	1881.4	2006.9	2136.4	2018.7	1893.1
32.5°	1496.9	1744.0	1991.2	1767.6	1520.4
35°	1169.2	1379.1	1816.6	1381.1	1151.6
37.5°	933.8	1082.9	1593.0	1073.1	924.0
40°	773.0	873.0	1281.1	869.1	759.2
42.5°	645.4	721.9	959.3	714.1	645.4
45°	553.2	606.2	727.8	602.3	557.2
47.5°	484.6	517.9	582.7	516.0	484.6
50°	427.7	447.3	482.6	445.3	423.7
52.5°	382.6	394.3	408.1	390.4	378.6
55°	343.3	349.2	353.1	347.2	343.3
57.5°	306.0	310.0	308.0	306.0	304.1
60°	270.7	272.7	270.7	272.7	270.7
62.5°	239.3	241.3	237.4	239.3	237.4
65°	209.9	211.9	208.0	209.9	208.0
67.5°	182.4	182.4	182.4	182.4	180.5
70°	155.0	156.9	155.0	156.9	156.9
72.5°	131.4	131.4	129.5	131.4	131.4
75°	109.9	107.9	105.9	107.9	107.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
82.5°	47.1	47.1	45.1	47.1	47.1
85°	27.5	27.5	27.5	29.4	27.5
87.5°	13.7	11.8	11.8	13.7	13.7
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



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Scaled Data Report





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

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77.5°	86.3	86.3	84.4	86.3	86.3
80°	64.7	66.7	64.7	66.7	64.7

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Scaled Data Report



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