

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: P838658

Luminaire Tested: HCSQ650D010-HM64560827-61SQMW

Issue Date: 5/21/2024



Test Information

Test Method: LM-79-2019
Report Number: P838658
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-HM64560827-61SQMW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: -

Summary

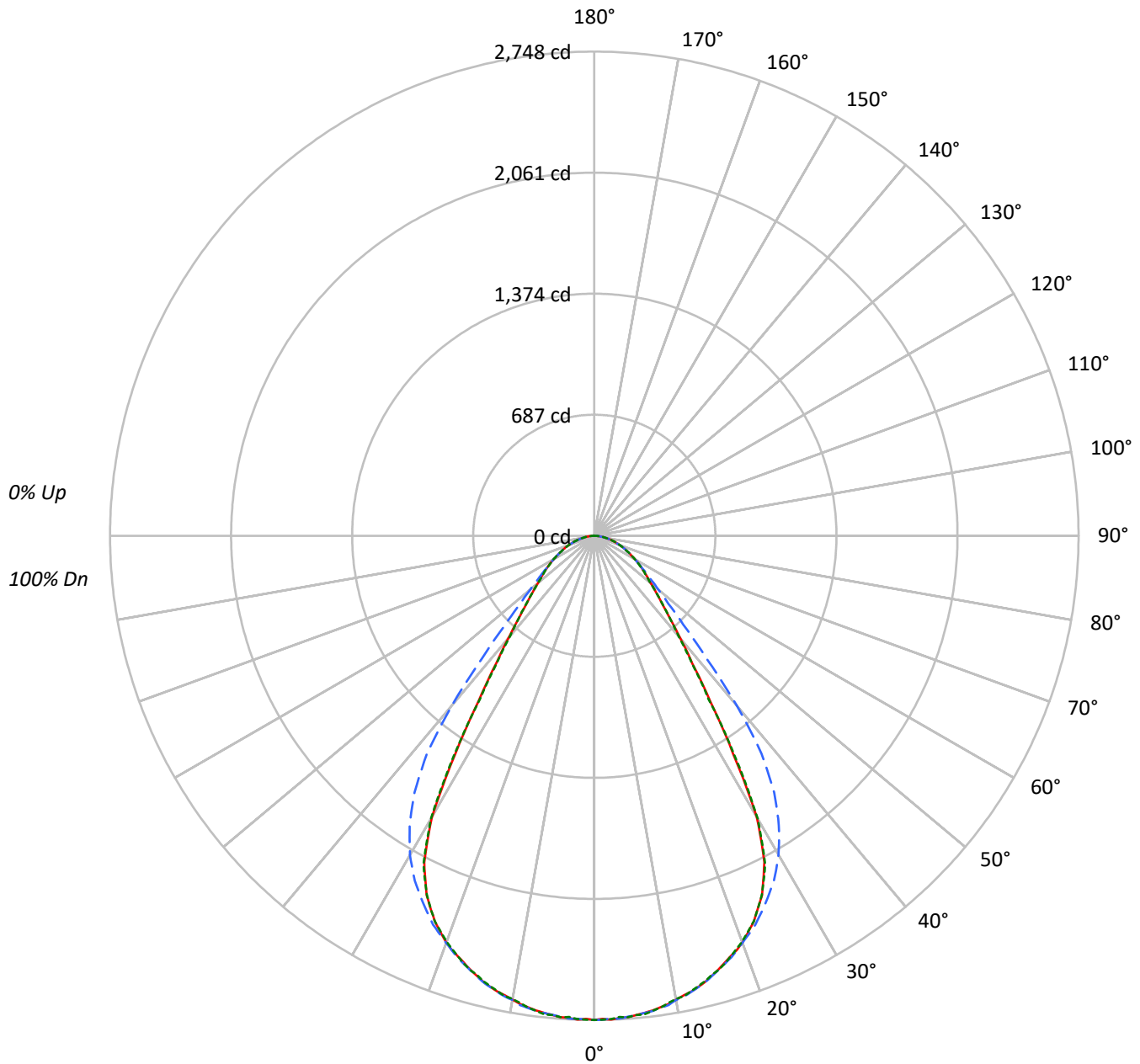
Lumens per Lamp: N/A
Luminaire Lumens: 4053.9 lumens
Efficiency: N/A
Efficacy: 81.6 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
CIE Type: Direct

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: P838658

CATALOG NUMBER: HCSQ650D010-HM64560827-61SQMW

Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
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°	118334	118334	118334
5°	118038	117956	118038
10°	116885	116968	116715
15°	115145	115230	114971
20°	112549	112637	112288
25°	106933	109213	106842
30°	91568	103982	92144
35°	60167	93480	59258
40°	42530	70487	41777
45°	32978	43384	33209
50°	28046	31649	27784
55°	25229	25950	25229
60°	22819	22819	22819
65°	20936	20742	20742
70°	19097	19097	19336
75°	17900	17251	17567
80°	15720	15720	15720
85°	13289	13289	13289

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 43384 cd/sqm



TEST NUMBER: P838658

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	259.1	6.4
10°-20°	727.6	17.9
20°-30°	1036.9	25.6
30°-40°	884.1	21.8
40°-50°	489.1	12.1
50°-60°	308.1	7.6
60°-70°	204.5	5.0
70°-80°	112.4	2.8
80°-90°	32.0	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°	2023.6	49.9
0°-40°	2907.8	71.7
0°-60°	3705.0	91.4
0°-90°	4053.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4053.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2748	2748	2748	2748	2748	
5°	2731	2735	2729	2725	2731	259
15°	2583	2583	2585	2583	2579	727
25°	2251	2278	2299	2276	2249	1017
35°	1145	1350	1778	1352	1127	744
45°	542	594	712	590	545	429
55°	336	342	346	340	336	302
65°	206	207	204	206	204	204
75°	108	106	104	106	106	113
85°	27	27	27	29	27	32
90°	0	0	0	0	0	

TEST NUMBER: P838658

CATALOG NUMBER: HCSQ650D010-HM64560827-61SQMW

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2748.4	2748.4	2748.4	2748.4	2748.4
1°	2742.6	2746.4	2746.4	2744.5	2746.4
2°	2748.4	2742.6	2742.6	2742.6	2744.5
3°	2740.7	2744.5	2744.5	2738.8	2734.9
4°	2738.8	2736.8	2736.8	2742.6	2738.8
5°	2731.1	2734.9	2729.2	2725.3	2731.1
6°	2723.4	2725.3	2723.4	2725.3	2731.1
7°	2713.8	2719.5	2717.6	2715.7	2715.7
8°	2702.3	2709.9	2706.1	2706.1	2704.2
9°	2690.7	2692.7	2696.5	2696.5	2685.0
10°	2673.5	2679.2	2675.4	2677.3	2669.6
11°	2658.1	2665.8	2663.9	2660.0	2661.9
12°	2644.6	2648.5	2646.6	2640.8	2642.7
13°	2627.4	2631.2	2629.3	2629.3	2623.5
14°	2608.2	2604.3	2610.1	2606.2	2604.3
15°	2583.2	2583.2	2585.1	2583.2	2579.3
16°	2560.1	2562.1	2562.1	2560.1	2562.1
17°	2533.3	2540.9	2539.0	2535.2	2537.1
18°	2508.3	2514.0	2516.0	2514.0	2508.3
19°	2485.2	2489.1	2487.2	2479.5	2479.5
20°	2456.4	2458.3	2458.3	2454.5	2450.7
22.5°	2366.2	2379.6	2389.2	2381.5	2366.2
25°	2250.9	2277.8	2298.9	2275.9	2249.0
27.5°	2089.6	2143.4	2206.8	2149.1	2099.2
30°	1841.8	1964.8	2091.5	1976.3	1853.4
32.5°	1465.4	1707.4	1949.4	1730.4	1488.5
35°	1144.7	1350.2	1778.5	1352.1	1127.4
37.5°	914.2	1060.2	1559.5	1050.6	904.6
40°	756.7	854.7	1254.1	850.8	743.3
42.5°	631.9	706.8	939.2	699.1	631.9
45°	541.6	593.5	712.5	589.6	545.4
47.5°	474.4	507.0	570.4	505.1	474.4
50°	418.7	437.9	472.5	436.0	414.8
52.5°	374.5	386.0	399.5	382.2	370.7
55°	336.1	341.9	345.7	339.9	336.1
57.5°	299.6	303.5	301.5	299.6	297.7
60°	265.0	267.0	265.0	267.0	265.0
62.5°	234.3	236.2	232.4	234.3	232.4
65°	205.5	207.4	203.6	205.5	203.6
67.5°	178.6	178.6	178.6	178.6	176.7
70°	151.7	153.6	151.7	153.6	153.6
72.5°	128.7	128.7	126.8	128.7	128.7
75°	107.6	105.6	103.7	105.6	105.6



TEST NUMBER: P838658

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
82.5°	46.1	46.1	44.2	46.1	46.1
85°	26.9	26.9	26.9	28.8	26.9
87.5°	13.4	11.5	11.5	13.4	13.4
90°	0.0	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - 90°-270°







77.5°	84.5	84.5	82.6	84.5	84.5
80°	63.4	65.3	63.4	65.3	63.4



(END OF REPORT)