

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: P838595

Luminaire Tested: HCSQ640D010-HM63040927-61SQH

Issue Date: 5/21/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P838595  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-2)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ640D010-HM63040927-61SQH  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: -

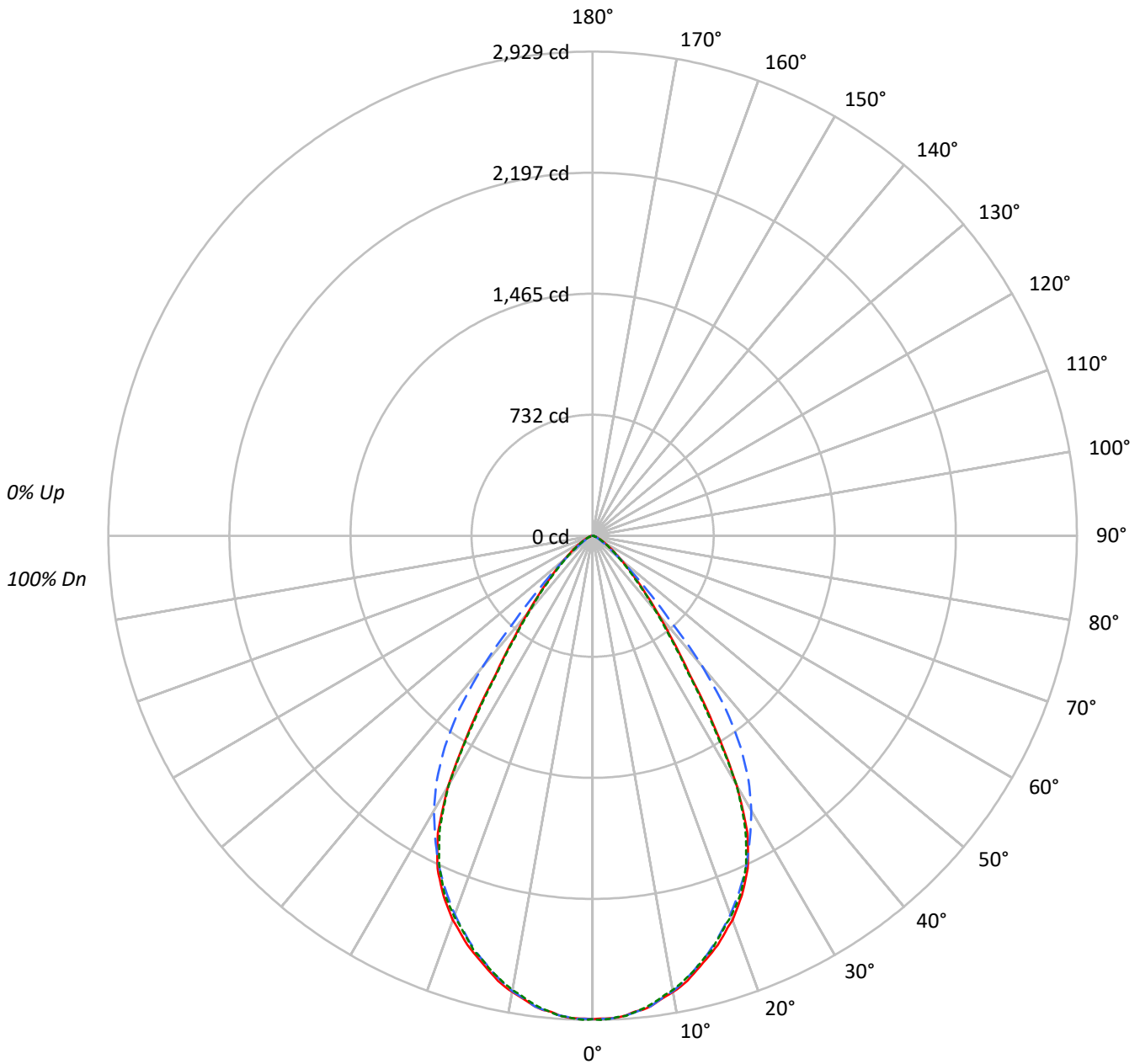
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3288.8 lumens  
Efficiency: N/A  
Efficacy: 80.2 lumens/watt  
Spacing Criteria (0/90/45): 1.02 / 1.01 / 1.04  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 41  
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

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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									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			100																
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	97	95	94	92			92																
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	91	88	86	85			85																
3	101	94	88	84	99	92	87	83	90	85	82	87	84	81	85	82	79	78			78																
4	95	87	81	76	93	86	80	76	83	78	75	81	77	74	79	76	73	71			71																
5	90	80	74	69	88	79	74	69	78	72	68	76	71	68	74	70	67	66			66																
6	85	75	68	64	83	74	68	63	72	67	63	71	66	63	70	65	62	61			61																
7	80	70	63	59	79	69	63	59	68	62	58	67	62	58	65	61	58	56			56																
8	76	65	59	54	74	65	59	54	64	58	54	63	57	54	62	57	54	52			52																
9	72	61	55	51	70	61	55	50	60	54	50	59	54	50	58	53	50	48			48																
10	68	58	51	47	67	57	51	47	56	51	47	55	50	47	55	50	47	45			45																

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	125908	125908	125908
5°	124915	125127	125057
10°	122529	122245	121965
15°	118203	117552	117481
20°	113328	111693	112215
25°	105484	104557	104325
30°	86681	95391	86442
35°	53534	81922	52256
40°	34369	58066	33184
45°	22420	28143	21330
50°	14884	14013	13906
55°	10104	7304	9376
60°	6846	4469	6286
65°	4788	3301	4299
70°	3059	2455	2858
75°	2163	1896	1896
80°	1612	1215	1215
85°	790	1581	790

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 28143 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	273.1	8.3
10°-20°	741.2	22.5
20°-30°	1000.6	30.4
30°-40°	780.9	23.7
40°-50°	327.1	9.9
50°-60°	110.9	3.4
60°-70°	39.5	1.2
70°-80°	12.9	0.4
80°-90°	2.6	0.1
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°	2014.9	61.3
0°-40°	2795.8	85.0
0°-60°	3233.8	98.3
0°-90°	3288.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3288.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2924	2924	2924	2924	2924	
5°	2890	2894	2895	2890	2894	273
15°	2652	2645	2637	2634	2636	746
25°	2220	2211	2201	2201	2196	999
35°	1018	1195	1559	1194	994	670
45°	368	394	462	376	350	296
55°	135	123	97	117	125	124
65°	47	39	32	37	42	48
75°	13	11	11	11	11	14
85°	2	2	3	2	2	3
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2924.3	2924.3	2924.3	2924.3	2924.3
1°	2921.0	2925.9	2922.6	2924.3	2929.1
2°	2921.0	2921.0	2924.3	2922.6	2924.3
3°	2917.8	2917.8	2914.5	2914.5	2914.5
4°	2908.0	2908.0	2908.0	2904.8	2911.3
5°	2890.2	2893.5	2895.1	2890.2	2893.5
6°	2883.7	2885.3	2882.1	2880.5	2877.2
7°	2869.1	2864.3	2869.1	2857.8	2859.4
8°	2844.8	2844.8	2841.6	2838.3	2835.1
9°	2822.1	2822.1	2818.8	2814.0	2810.7
10°	2802.6	2797.8	2796.1	2791.3	2789.7
11°	2779.9	2770.2	2768.6	2763.7	2763.7
12°	2752.3	2747.5	2736.1	2734.5	2734.5
13°	2718.3	2713.4	2705.3	2698.8	2705.3
14°	2685.9	2682.6	2668.0	2672.9	2671.3
15°	2651.8	2645.3	2637.2	2633.9	2635.6
16°	2621.0	2609.6	2598.3	2599.9	2609.6
17°	2588.5	2572.3	2561.0	2559.3	2564.2
18°	2548.0	2535.0	2517.2	2523.7	2523.7
19°	2507.4	2489.6	2478.2	2476.6	2483.1
20°	2473.4	2445.8	2437.7	2436.1	2449.1
22.5°	2356.6	2329.0	2322.5	2329.0	2342.0
25°	2220.4	2210.6	2200.9	2200.9	2196.0
27.5°	2027.4	2050.1	2061.4	2038.7	2001.4
30°	1743.5	1839.2	1918.7	1827.9	1738.7
32.5°	1373.7	1571.6	1754.9	1566.7	1341.3
35°	1018.5	1195.3	1558.6	1193.7	994.2
37.5°	785.0	898.5	1325.1	883.9	762.3
40°	611.5	678.0	1033.1	669.8	590.4
42.5°	475.2	517.4	687.7	507.7	459.0
45°	368.2	394.1	462.2	376.3	350.3
47.5°	287.1	298.4	316.3	285.5	270.9
50°	222.2	222.2	209.2	214.1	207.6
52.5°	171.9	165.4	141.1	155.7	158.9
55°	134.6	123.3	97.3	116.8	124.9
57.5°	102.2	90.8	69.7	86.0	94.1
60°	79.5	68.1	51.9	64.9	73.0
62.5°	61.6	51.9	40.5	48.7	55.1
65°	47.0	38.9	32.4	37.3	42.2
67.5°	35.7	29.2	24.3	27.6	32.4
70°	24.3	22.7	19.5	21.1	22.7
72.5°	17.8	16.2	14.6	14.6	16.2
75°	13.0	11.4	11.4	11.4	11.4



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
82.5°	3.2	3.2	3.2	3.2	3.2
85°	1.6	1.6	3.2	1.6	1.6
87.5°	1.6	1.6	1.6	1.6	1.6
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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Scaled Data Report





77.5°	8.1	8.1	8.1	8.1	8.1
80°	6.5	6.5	4.9	4.9	4.9

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Scaled Data Report



(END OF REPORT)