

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: P837519

Luminaire Tested: HCSQ440D010-HM43040830-41SQH

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837519  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-2)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ440D010-HM43040830-41SQH  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: -

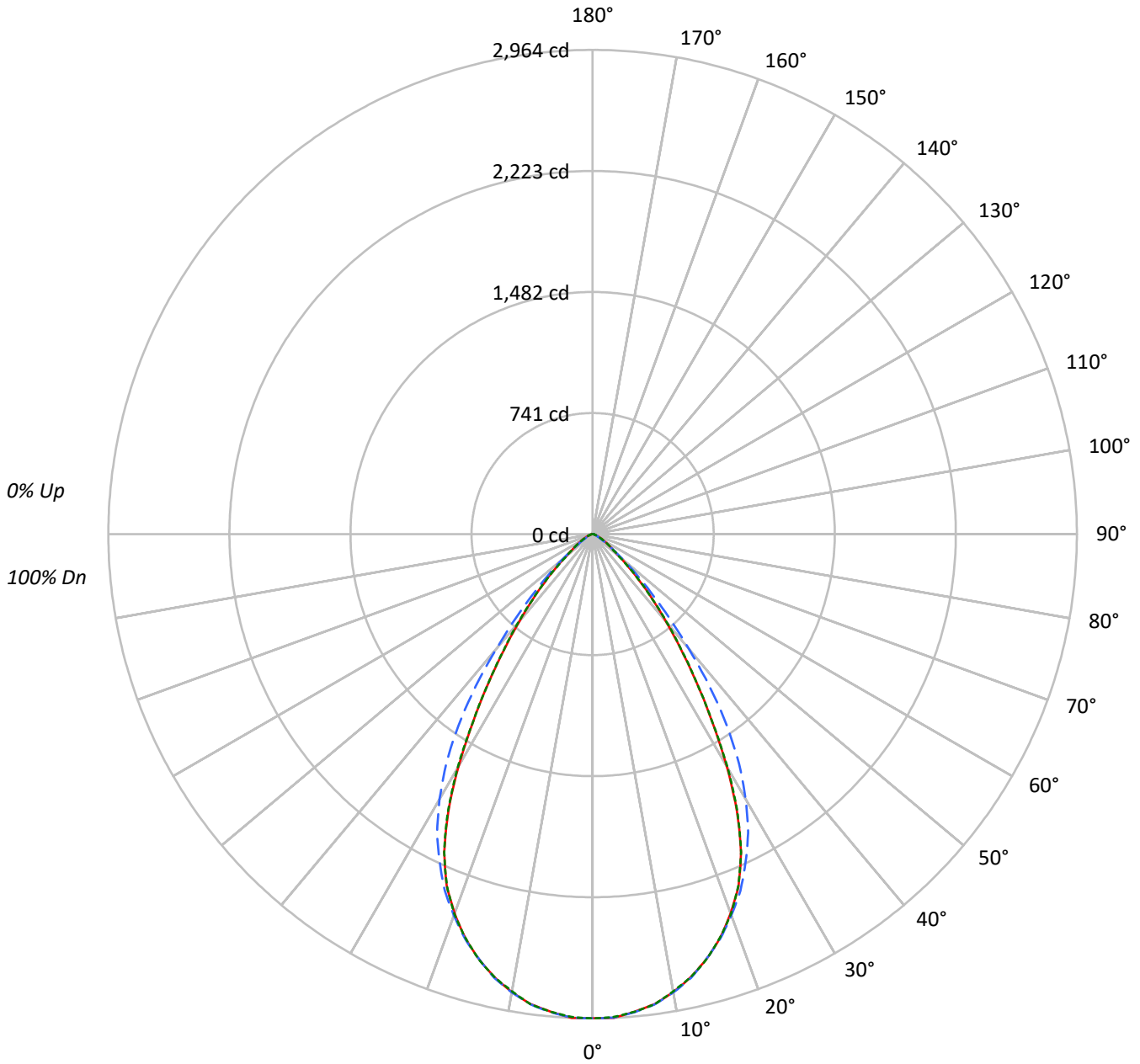
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3332.2 lumens  
Efficiency: N/A  
Efficacy: 81.3 lumens/watt  
Spacing Criteria (0/90/45): 0.98 / 0.98 / 1.01  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' 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	96	95	94	92				92															
2	107	101	97	93	104	100	95	92	96	93	90	93	90	88	90	88	86	85				85															
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77				77															
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71				71															
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65				65															
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62	60				60															
7	80	70	63	59	78	69	63	58	68	62	58	66	61	58	65	61	57	56				56															
8	75	65	59	54	74	65	58	54	63	58	54	62	57	54	61	57	53	52				52															
9	72	61	55	50	70	61	54	50	60	54	50	59	54	50	58	53	50	48				48															
10	68	57	51	47	67	57	51	47	56	51	47	55	50	47	55	50	46	45				45															

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

	0°	45°	90°
0°	287178	287178	287178
5°	285425	285775	285425
10°	280079	280256	279538
15°	270129	269938	270309
20°	254639	255959	255206
25°	229771	236815	229771
30°	183521	209529	184953
35°	131000	169554	131225
40°	88447	115308	89839
45°	56185	68227	56445
50°	32011	36427	30911
55°	21028	17633	20724
60°	14551	10288	14183
65°	10063	7564	10063
70°	7251	5693	7251
75°	4791	4791	4791
80°	3068	4073	4073
85°	4113	4113	4113

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 68227 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	277.7	8.3
10°-20°	755.1	22.7
20°-30°	988.7	29.7
30°-40°	777.1	23.3
40°-50°	363.0	10.9
50°-60°	112.5	3.4
60°-70°	40.1	1.2
70°-80°	14.1	0.4
80°-90°	3.9	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°	2021.5	60.7
0°-40°	2798.6	84.0
0°-60°	3274.1	98.3
0°-90°	3332.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3332.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2964	2964	2964	2964	2964	
5°	2935	2937	2939	2942	2935	278
15°	2693	2693	2692	2693	2695	754
25°	2150	2179	2216	2181	2150	967
35°	1108	1208	1434	1223	1110	698
45°	410	460	498	450	412	327
55°	124	117	104	115	123	117
65°	44	40	33	38	44	46
75°	13	13	13	13	13	15
85°	4	4	4	4	4	3
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2964.4	2964.4	2964.4	2964.4	2964.4
2.5°	2964.4	2960.7	2962.5	2958.9	2958.9
5°	2935.1	2936.9	2938.7	2942.4	2935.1
7.5°	2902.1	2905.8	2903.9	2903.9	2903.9
10°	2847.2	2849.0	2849.0	2849.0	2841.7
12.5°	2777.6	2781.3	2783.1	2777.6	2777.6
15°	2693.4	2693.4	2691.5	2693.4	2695.2
17.5°	2592.7	2598.2	2598.2	2592.7	2590.8
20°	2470.0	2479.1	2482.8	2475.5	2475.5
22.5°	2332.7	2341.8	2363.8	2345.5	2330.8
25°	2149.6	2178.9	2215.5	2180.7	2149.6
27.5°	1913.4	1977.5	2061.7	1988.4	1918.9
30°	1640.6	1744.9	1873.1	1750.4	1653.4
32.5°	1362.2	1479.4	1668.0	1488.6	1362.2
35°	1107.7	1208.4	1433.7	1223.1	1109.6
37.5°	880.7	977.7	1175.5	988.7	893.5
40°	699.4	778.2	911.8	776.3	710.4
42.5°	545.6	602.4	690.3	600.6	543.8
45°	410.1	459.6	498.0	450.4	412.0
47.5°	302.1	335.1	357.0	329.6	294.8
50°	212.4	236.2	241.7	230.7	205.1
52.5°	159.3	159.3	161.1	157.5	155.6
55°	124.5	117.2	104.4	115.4	122.7
57.5°	97.0	89.7	73.2	86.1	95.2
60°	75.1	67.7	53.1	65.9	73.2
62.5°	58.6	51.3	42.1	51.3	56.8
65°	43.9	40.3	33.0	38.5	43.9
67.5°	33.0	29.3	25.6	29.3	33.0
70°	25.6	23.8	20.1	22.0	25.6
72.5°	18.3	16.5	16.5	16.5	18.3
75°	12.8	12.8	12.8	12.8	12.8
77.5°	9.2	9.2	9.2	9.2	9.2
80°	5.5	5.5	7.3	7.3	7.3
82.5°	3.7	3.7	5.5	5.5	5.5
85°	3.7	3.7	3.7	3.7	3.7
87.5°	1.8	1.8	1.8	3.7	3.7
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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