

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: P837654

Luminaire Tested: HCSQ455D010-HM44560927-41SQH

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837654  
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: HCSQ455D010-HM44560927-41SQH  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: -

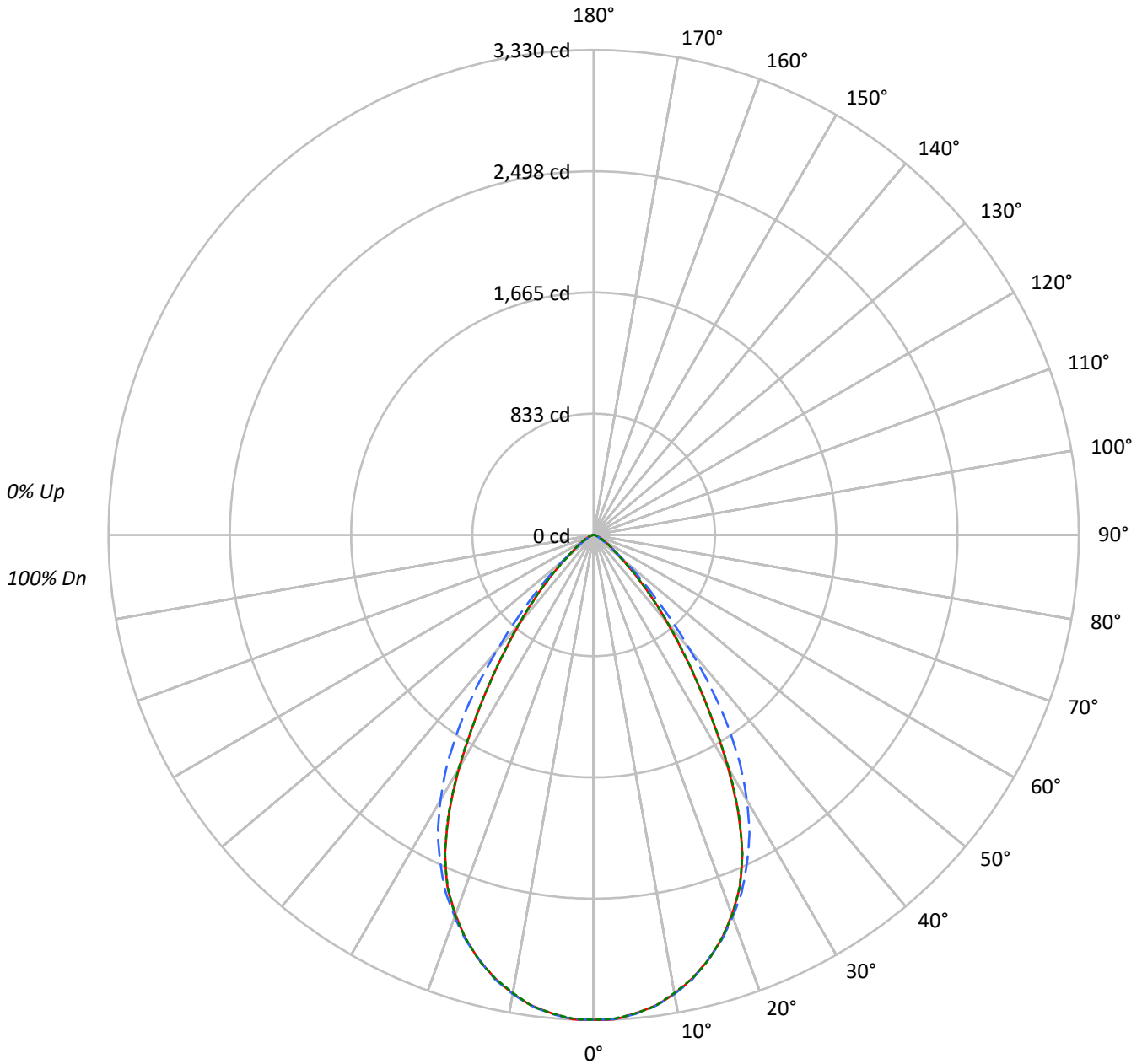
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3743.2 lumens  
Efficiency: N/A  
Efficacy: 69.3 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): 54  
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					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	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92								
2	107	101	97	93	104	100	95	92	96	93	90	93	90	88	90	88	86	85								
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77								
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71								
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65								
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62	60								
7	80	70	63	59	78	69	63	58	68	62	58	66	61	58	65	61	57	56								
8	75	65	59	54	74	65	58	54	63	58	54	62	57	54	61	57	53	52								
9	72	61	55	50	70	61	54	50	60	54	50	59	54	50	58	53	50	48								
10	68	57	51	47	67	57	51	47	56	51	47	55	50	47	55	50	46	45								

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

	0°	45°	90°
0°	322595	322595	322595
5°	320618	321027	320618
10°	314616	314823	314007
15°	303436	303235	303647
20°	286041	287525	286680
25°	258108	266018	258108
30°	206151	235369	207761
35°	147167	190463	147403
40°	99361	129535	100917
45°	63117	76639	63405
50°	35960	40918	34724
55°	23629	19795	23274
60°	16333	11548	15946
65°	11324	8481	11324
70°	8157	6401	8157
75°	5390	5390	5390
80°	3459	4575	4575
85°	4557	4557	4557

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 76639 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	312.0	8.3
10°-20°	848.3	22.7
20°-30°	1110.6	29.7
30°-40°	872.9	23.3
40°-50°	407.7	10.9
50°-60°	126.4	3.4
60°-70°	45.1	1.2
70°-80°	15.9	0.4
80°-90°	4.4	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°	2270.8	60.7
0°-40°	3143.8	84.0
0°-60°	3677.8	98.3
0°-90°	3743.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3743.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3330	3330	3330	3330	3330	
5°	3297	3299	3301	3305	3297	312
15°	3026	3026	3024	3026	3028	847
25°	2415	2448	2489	2450	2415	1086
35°	1244	1358	1610	1374	1246	784
45°	461	516	559	506	463	367
55°	140	132	117	130	138	131
65°	49	45	37	43	49	51
75°	14	14	14	14	14	17
85°	4	4	4	4	4	4
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3330.0	3330.0	3330.0	3330.0	3330.0
2.5°	3330.0	3325.8	3327.9	3323.8	3323.8
5°	3297.0	3299.1	3301.2	3305.3	3297.0
7.5°	3260.0	3264.1	3262.1	3262.1	3262.1
10°	3198.3	3200.4	3200.4	3200.4	3192.1
12.5°	3120.2	3124.3	3126.3	3120.2	3120.2
15°	3025.5	3025.5	3023.5	3025.5	3027.6
17.5°	2912.4	2918.6	2918.6	2912.4	2910.4
20°	2774.6	2784.9	2789.0	2780.8	2780.8
22.5°	2620.4	2630.6	2655.3	2634.8	2618.3
25°	2414.7	2447.6	2488.7	2449.6	2414.7
27.5°	2149.4	2221.3	2316.0	2233.7	2155.5
30°	1842.9	1960.1	2104.1	1966.3	1857.3
32.5°	1530.3	1661.9	1873.7	1672.2	1530.3
35°	1244.4	1357.5	1610.5	1373.9	1246.4
37.5°	989.3	1098.3	1320.5	1110.7	1003.7
40°	785.7	874.1	1024.3	872.1	798.0
42.5°	612.9	676.7	775.4	674.6	610.9
45°	460.7	516.3	559.4	506.0	462.8
47.5°	339.4	376.4	401.1	370.2	331.1
50°	238.6	265.3	271.5	259.2	230.4
52.5°	178.9	178.9	181.0	176.9	174.8
55°	139.9	131.6	117.2	129.6	137.8
57.5°	109.0	100.8	82.3	96.7	107.0
60°	84.3	76.1	59.6	74.0	82.3
62.5°	65.8	57.6	47.3	57.6	63.8
65°	49.4	45.2	37.0	43.2	49.4
67.5°	37.0	32.9	28.8	32.9	37.0
70°	28.8	26.7	22.6	24.7	28.8
72.5°	20.6	18.5	18.5	18.5	20.6
75°	14.4	14.4	14.4	14.4	14.4
77.5°	10.3	10.3	10.3	10.3	10.3
80°	6.2	6.2	8.2	8.2	8.2
82.5°	4.1	4.1	6.2	6.2	6.2
85°	4.1	4.1	4.1	4.1	4.1
87.5°	2.1	2.1	2.1	4.1	4.1
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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