

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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: P837259

Luminaire Tested: HCSQ407D010-HM40525930-41SQH

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837259  
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: HCSQ407D010-HM40525930-41SQH  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: -

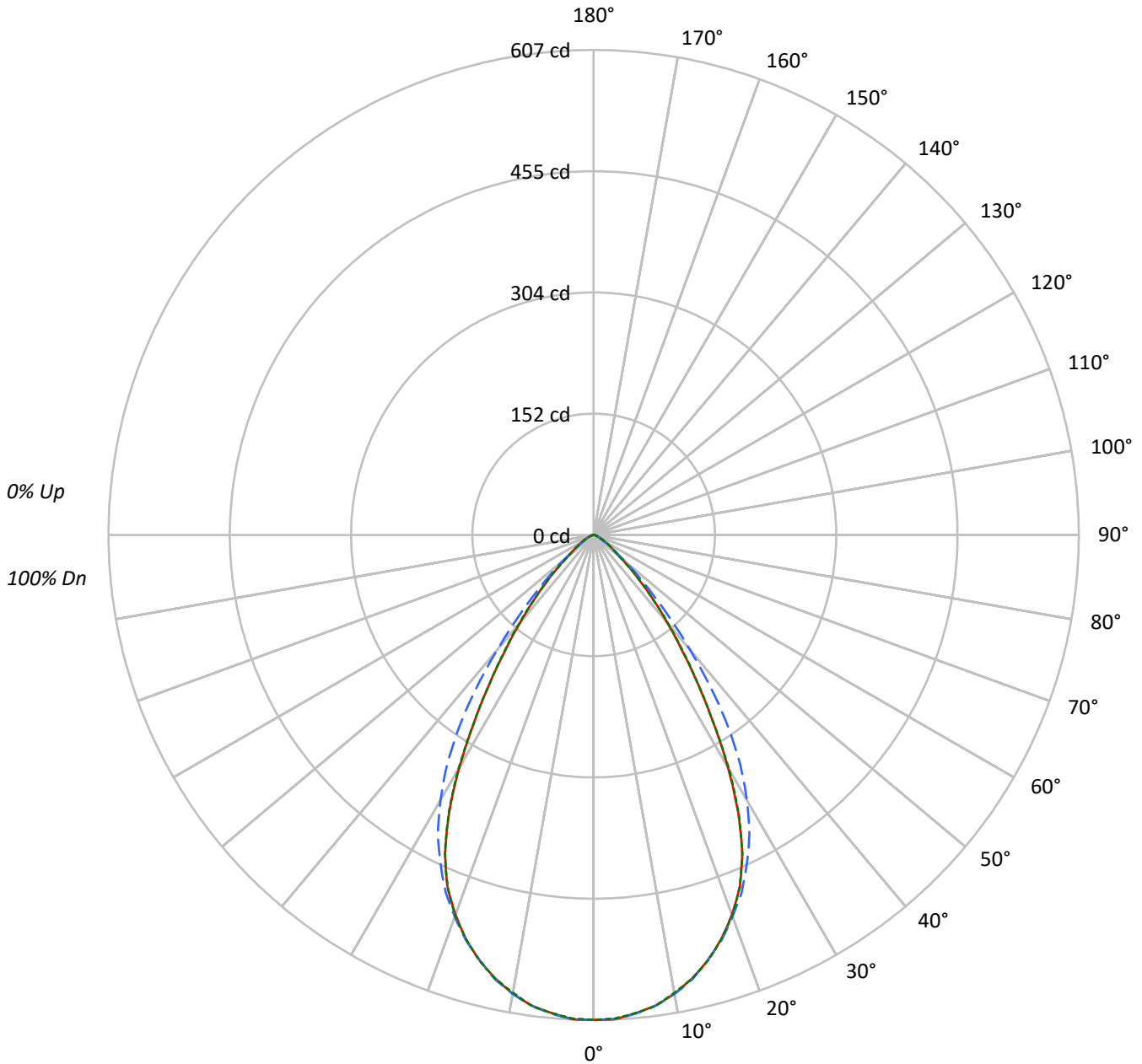
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 682.2 lumens  
Efficiency: N/A  
Efficacy: 85.3 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): 8  
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°	58794	58794	58794
5°	58435	58503	58435
10°	57340	57379	57232
15°	55301	55261	55342
20°	52134	52402	52247
25°	47042	48485	47042
30°	37574	42899	37865
35°	26822	34710	26869
40°	18109	23610	18388
45°	11508	13974	11549
50°	6556	7460	6330
55°	4307	3614	4239
60°	2984	2112	2906
65°	2063	1536	2063
70°	1473	1161	1473
75°	973	973	973
80°	614	837	837
85°	778	778	778

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 13974 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	56.9	8.3
10°-20°	154.6	22.7
20°-30°	202.4	29.7
30°-40°	159.1	23.3
40°-50°	74.3	10.9
50°-60°	23.0	3.4
60°-70°	8.2	1.2
70°-80°	2.9	0.4
80°-90°	0.8	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°	413.9	60.7
0°-40°	573.0	84.0
0°-60°	670.3	98.3
0°-90°	682.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	682.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	607	607	607	607	607	
5°	601	601	602	602	601	57
15°	551	551	551	551	552	154
25°	440	446	454	446	440	198
35°	227	247	294	250	227	143
45°	84	94	102	92	84	67
55°	26	24	21	24	25	24
65°	9	8	7	8	9	9
75°	3	3	3	3	3	3
85°	1	1	1	1	1	1
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	606.9	606.9	606.9	606.9	606.9
2.5°	606.9	606.1	606.5	605.8	605.8
5°	600.9	601.3	601.6	602.4	600.9
7.5°	594.2	594.9	594.5	594.5	594.5
10°	582.9	583.3	583.3	583.3	581.8
12.5°	568.7	569.4	569.8	568.7	568.7
15°	551.4	551.4	551.0	551.4	551.8
17.5°	530.8	531.9	531.9	530.8	530.4
20°	505.7	507.6	508.3	506.8	506.8
22.5°	477.6	479.4	483.9	480.2	477.2
25°	440.1	446.1	453.6	446.5	440.1
27.5°	391.7	404.8	422.1	407.1	392.9
30°	335.9	357.2	383.5	358.4	338.5
32.5°	278.9	302.9	341.5	304.8	278.9
35°	226.8	247.4	293.5	250.4	227.2
37.5°	180.3	200.2	240.7	202.4	182.9
40°	143.2	159.3	186.7	158.9	145.4
42.5°	111.7	123.3	141.3	123.0	111.3
45°	84.0	94.1	102.0	92.2	84.3
47.5°	61.9	68.6	73.1	67.5	60.4
50°	43.5	48.4	49.5	47.2	42.0
52.5°	32.6	32.6	33.0	32.2	31.9
55°	25.5	24.0	21.4	23.6	25.1
57.5°	19.9	18.4	15.0	17.6	19.5
60°	15.4	13.9	10.9	13.5	15.0
62.5°	12.0	10.5	8.6	10.5	11.6
65°	9.0	8.2	6.7	7.9	9.0
67.5°	6.7	6.0	5.2	6.0	6.7
70°	5.2	4.9	4.1	4.5	5.2
72.5°	3.7	3.4	3.4	3.4	3.7
75°	2.6	2.6	2.6	2.6	2.6
77.5°	1.9	1.9	1.9	1.9	1.9
80°	1.1	1.1	1.5	1.5	1.5
82.5°	0.7	0.7	1.1	1.1	1.1
85°	0.7	0.7	0.7	0.7	0.7
87.5°	0.4	0.4	0.4	0.7	0.7
90°	0.0	0.0	0.0	0.0	0.0

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Scaled Data Report



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Scaled Data Report







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

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(END OF REPORT)