

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: P837703

Luminaire Tested: HCSQ460D010-HM44560935-41SQC

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837703  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-1)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ460D010-HM44560935-41SQC  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: -

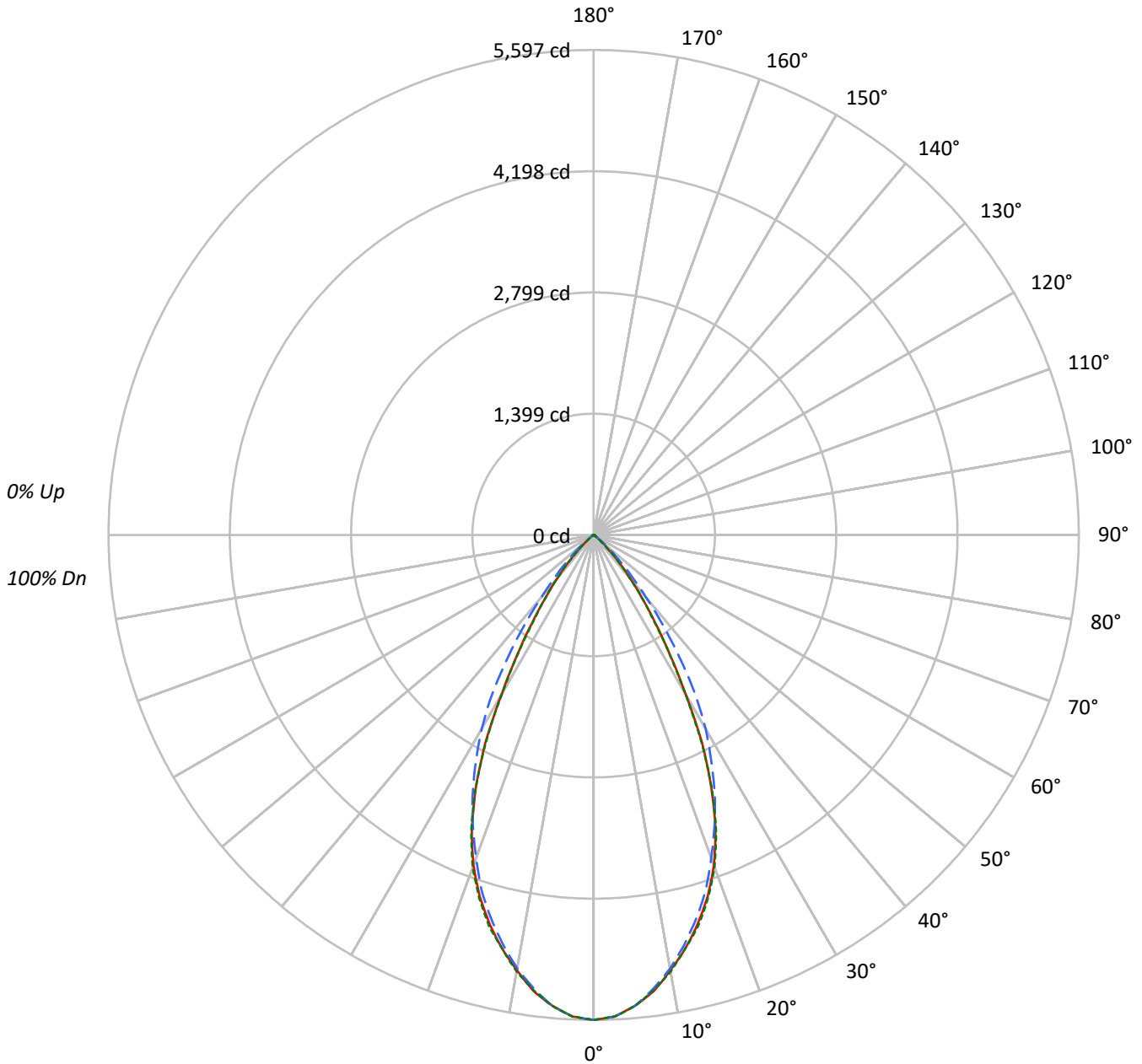
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4523.3 lumens  
Efficiency: N/A  
Efficacy: 80.8 lumens/watt  
Spacing Criteria (0/90/45): 0.85 / 0.85 / 0.87  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 56  
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																			
1	114	111	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95	94																			
2	108	103	99	96	106	101	98	95	98	95	93	95	93	91	93	91	89	87																			
3	103	96	91	87	101	95	90	87	92	89	85	90	87	84	88	85	83	81																			
4	98	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77	76																			
5	93	84	79	74	91	83	78	74	82	77	73	80	76	73	78	75	72	71																			
6	88	79	73	69	87	79	73	69	77	72	68	76	71	68	74	70	68	66																			
7	84	75	69	65	82	74	68	64	73	68	64	71	67	64	70	66	63	62																			
8	80	70	64	60	79	70	64	60	69	64	60	68	63	60	67	63	60	58																			
9	76	67	61	57	75	66	60	57	65	60	56	64	60	56	63	59	56	55																			
10	73	63	57	53	72	63	57	53	62	57	53	61	56	53	60	56	53	52																			

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

	0°	45°	90°
0°	542251	542251	542251
5°	530630	530844	530844
10°	501903	499670	503241
15°	465690	459311	468197
20°	418031	408670	420608
25°	343342	353304	344561
30°	237338	288671	235559
35°	146149	203909	142661
40°	82453	119216	81871
45°	37662	59761	36100
50°	9585	23963	9932
55°	4611	7296	4222
60°	3081	2635	3526
65°	2613	2086	2613
70°	1926	1926	2578
75°	1684	1684	2545
80°	2510	2510	2510
85°	2556	5002	5002

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 59761 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	509.2	11.3
10°-20°	1285.9	28.4
20°-30°	1470.0	32.5
30°-40°	912.5	20.2
40°-50°	287.6	6.4
50°-60°	37.2	0.8
60°-70°	11.0	0.2
70°-80°	5.8	0.1
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°	3265.2	72.2
0°-40°	4177.7	92.4
0°-60°	4502.5	99.5
0°-90°	4523.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4523.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5597	5597	5597	5597	5597	
5°	5457	5452	5459	5454	5459	510
15°	4643	4609	4580	4609	4668	1295
25°	3212	3258	3305	3258	3224	1441
35°	1236	1427	1724	1392	1206	794
45°	275	329	436	332	264	232
55°	27	27	43	27	25	27
65°	11	11	9	11	11	11
75°	4	4	4	4	7	6
85°	2	4	4	4	4	2
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5597.4	5597.4	5597.4	5597.4	5597.4
2.5°	5563.3	5567.9	5563.3	5572.4	5563.3
5°	5456.6	5452.0	5458.8	5454.3	5458.8
7.5°	5311.2	5283.9	5281.6	5299.8	5302.1
10°	5102.2	5095.4	5079.5	5095.4	5115.8
12.5°	4888.6	4861.4	4838.7	4870.5	4888.6
15°	4643.3	4609.2	4579.7	4609.2	4668.3
17.5°	4373.0	4325.3	4300.3	4334.4	4391.1
20°	4054.9	4005.0	3964.1	3993.6	4079.9
22.5°	3673.3	3668.8	3641.5	3657.4	3689.2
25°	3212.1	3257.6	3305.3	3257.6	3223.5
27.5°	2705.6	2828.2	2937.3	2794.2	2685.1
30°	2121.7	2308.0	2580.6	2294.4	2105.8
32.5°	1640.1	1835.5	2183.1	1810.5	1626.5
35°	1235.8	1426.6	1724.2	1392.5	1206.3
37.5°	908.7	1051.8	1310.8	1042.7	908.7
40°	652.0	745.1	942.7	742.8	647.4
42.5°	452.1	513.4	658.8	508.9	438.4
45°	274.9	329.4	436.2	331.7	263.5
47.5°	145.4	209.0	274.9	199.9	145.4
50°	63.6	111.3	159.0	109.0	65.9
52.5°	34.1	47.7	86.3	47.7	34.1
55°	27.3	27.3	43.2	27.3	25.0
57.5°	20.4	20.4	22.7	20.4	20.4
60°	15.9	15.9	13.6	15.9	18.2
62.5°	13.6	13.6	11.4	13.6	13.6
65°	11.4	11.4	9.1	11.4	11.4
67.5°	9.1	9.1	9.1	9.1	9.1
70°	6.8	6.8	6.8	9.1	9.1
72.5°	6.8	6.8	6.8	6.8	6.8
75°	4.5	4.5	4.5	4.5	6.8
77.5°	4.5	4.5	4.5	4.5	4.5
80°	4.5	4.5	4.5	4.5	4.5
82.5°	2.3	4.5	4.5	4.5	4.5
85°	2.3	4.5	4.5	4.5	4.5
87.5°	2.3	2.3	4.5	4.5	4.5
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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