

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: P837603

Luminaire Tested: HCSQ450D010-HM44560835-41SQC

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837603
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: HCSQ450D010-HM44560835-41SQC
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: -

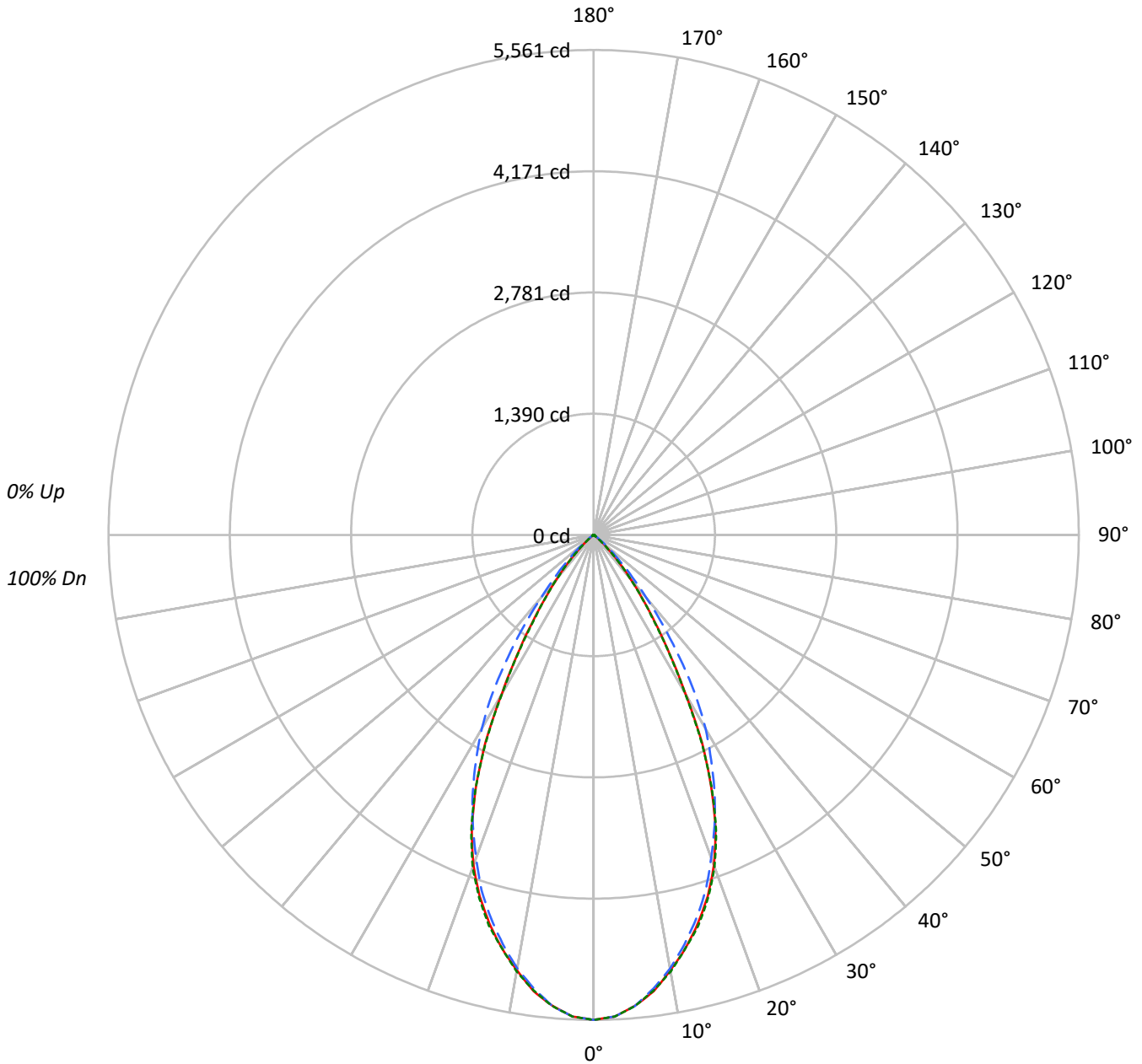
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4493.9 lumens
Efficiency: N/A
Efficacy: 90.4 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): 49.7
Input Voltage (V): NR
Input Current (Ain): 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°	538724	538724	538724
5°	527177	527401	527401
10°	498637	496414	499975
15°	462661	456322	465148
20°	415319	406010	417876
25°	341119	351006	342327
30°	235805	286792	234038
35°	145203	202585	141726
40°	81909	118444	81340
45°	37415	59363	35867
50°	9525	23812	9872
55°	4577	7246	4189
60°	3061	2616	3507
65°	2590	2063	2590
70°	1926	1926	2549
75°	1684	1684	2545
80°	2510	2510	2510
85°	2556	5002	5002

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 59363 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	505.9	11.3
10°-20°	1277.6	28.4
20°-30°	1460.5	32.5
30°-40°	906.6	20.2
40°-50°	285.7	6.4
50°-60°	37.0	0.8
60°-70°	10.9	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°	3243.9	72.2
0°-40°	4150.5	92.4
0°-60°	4473.2	99.5
0°-90°	4493.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4493.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5561	5561	5561	5561	5561	
5°	5421	5417	5423	5419	5423	507
15°	4613	4579	4550	4579	4638	1286
25°	3191	3236	3284	3236	3203	1432
35°	1228	1417	1713	1384	1198	789
45°	273	327	433	330	262	230
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°	5561.0	5561.0	5561.0	5561.0	5561.0
2.5°	5527.2	5531.7	5527.2	5536.2	5527.2
5°	5421.1	5416.6	5423.4	5418.8	5423.4
7.5°	5276.7	5249.6	5247.3	5265.4	5267.6
10°	5069.0	5062.2	5046.4	5062.2	5082.6
12.5°	4856.9	4829.8	4807.2	4838.8	4856.9
15°	4613.1	4579.3	4549.9	4579.3	4637.9
17.5°	4344.6	4297.2	4272.3	4306.2	4362.6
20°	4028.6	3978.9	3938.3	3967.6	4053.4
22.5°	3649.4	3644.9	3617.8	3633.6	3665.2
25°	3191.3	3236.4	3283.8	3236.4	3202.6
27.5°	2688.0	2809.9	2918.2	2776.0	2667.7
30°	2108.0	2293.0	2563.8	2279.5	2092.2
32.5°	1629.5	1823.6	2168.9	1798.8	1615.9
35°	1227.8	1417.3	1713.0	1383.5	1198.4
37.5°	902.8	1044.9	1302.2	1035.9	902.8
40°	647.7	740.3	936.6	738.0	643.2
42.5°	449.1	510.1	654.5	505.5	435.6
45°	273.1	327.3	433.3	329.5	261.8
47.5°	144.4	207.6	273.1	198.6	144.4
50°	63.2	110.6	158.0	108.3	65.5
52.5°	33.9	47.4	85.8	47.4	33.9
55°	27.1	27.1	42.9	27.1	24.8
57.5°	20.3	20.3	22.6	20.3	20.3
60°	15.8	15.8	13.5	15.8	18.1
62.5°	13.5	13.5	11.3	13.5	13.5
65°	11.3	11.3	9.0	11.3	11.3
67.5°	9.0	9.0	9.0	9.0	9.0
70°	6.8	6.8	6.8	9.0	9.0
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





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

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