

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: P837707

Luminaire Tested: HCSQ460D010-HM44560935-41SQMW

Issue Date: 5/17/2024



**Test Information**

Test Method: LM-79-2019  
Report Number: P837707  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-3)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ460D010-HM44560935-41SQMW  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: -

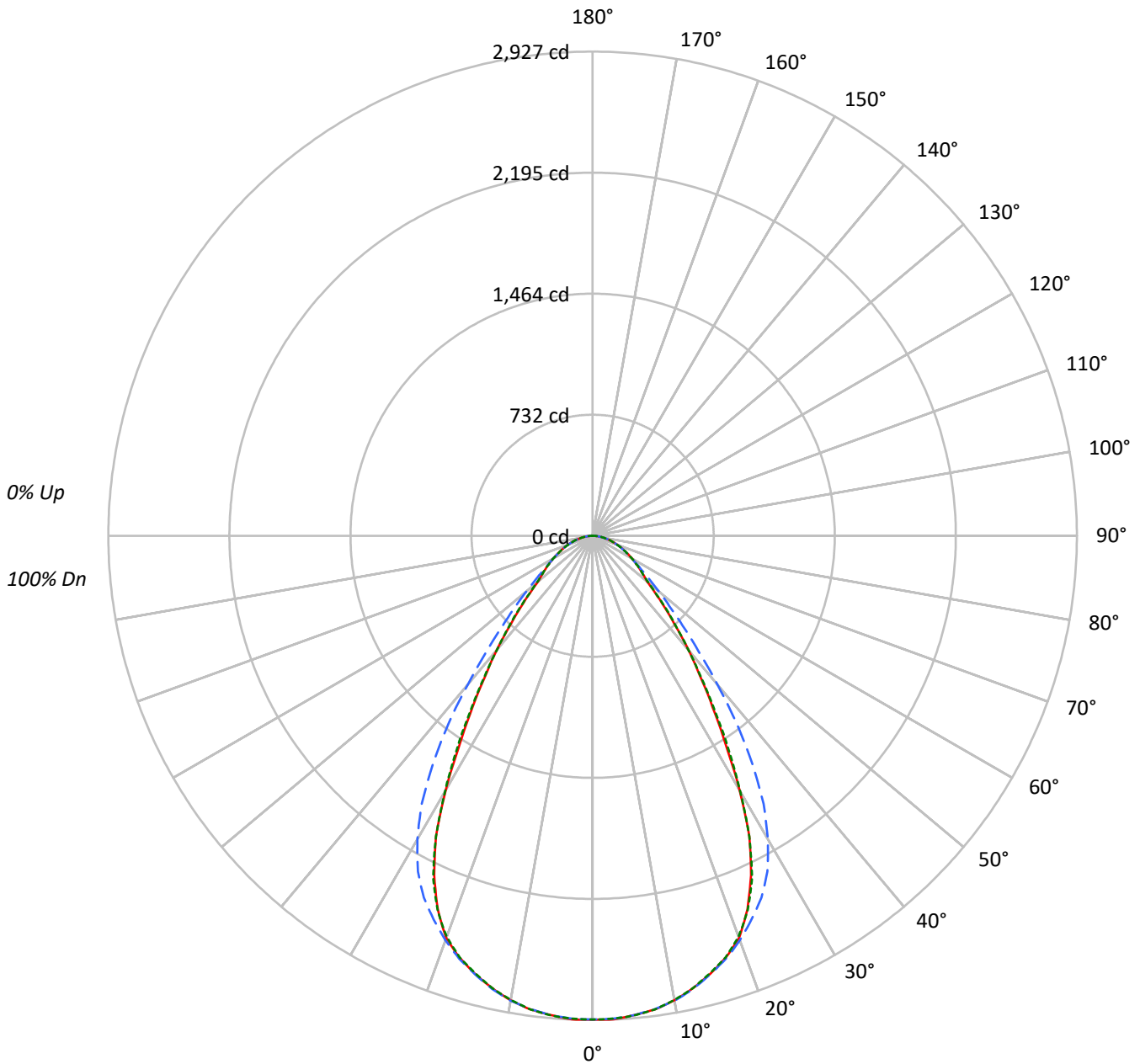
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4243.9 lumens  
Efficiency: N/A  
Efficacy: 75.8 lumens/watt  
Spacing Criteria (0/90/45): 1.03 / 1.03 / 1.07  
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 (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					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	111	108	105	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89								
2	104	98	92	88	102	96	91	87	92	88	85	89	86	83	86	84	81	79								
3	97	89	82	77	95	87	81	76	84	79	75	82	78	74	79	76	73	71								
4	91	81	74	69	89	80	73	68	77	72	67	75	70	66	73	69	66	64								
5	85	74	67	62	83	73	66	61	71	65	61	70	64	60	68	63	60	58								
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53								
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48								
8	70	59	52	47	69	58	51	47	57	51	46	56	50	46	55	50	46	44								
9	66	55	48	43	65	54	48	43	53	47	43	52	47	43	51	46	43	41								
10	63	51	45	40	62	51	44	40	50	44	40	49	44	40	48	43	40	38								

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

	0°	45°	90°
0°	283303	283303	283303
5°	282838	282838	283052
10°	280521	280738	280295
15°	275063	275294	274602
20°	266814	268216	265876
25°	242149	257937	243849
30°	198768	236890	199528
35°	149414	198859	151554
40°	113790	148277	113500
45°	84983	105218	86545
50°	64731	78415	66087
55°	58337	61411	58337
60°	53262	52836	52836
65°	48436	48436	48436
70°	45064	44413	44413
75°	41659	40836	41659
80°	38048	36765	38048
85°	32790	32790	32790

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 105218 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	275.8	6.5
10°-20°	772.1	18.2
20°-30°	1061.9	25.0
30°-40°	904.0	21.3
40°-50°	546.0	12.9
50°-60°	321.8	7.6
60°-70°	211.1	5.0
70°-80°	117.0	2.8
80°-90°	34.2	0.8
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°	2109.8	49.7
0°-40°	3013.7	71.0
0°-60°	3881.6	91.5
0°-90°	4243.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4243.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2924	2924	2924	2924	2924	
5°	2908	2911	2908	2906	2911	276
15°	2743	2749	2745	2743	2738	771
25°	2265	2336	2413	2340	2281	1024
35°	1263	1391	1682	1429	1282	800
45°	620	686	768	693	632	488
55°	345	352	364	352	345	311
65°	211	214	211	211	211	212
75°	111	111	109	109	111	118
85°	30	30	30	30	30	34
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2924.4	2924.4	2924.4	2924.4	2924.4
2.5°	2926.6	2919.8	2922.1	2919.8	2922.1
5°	2908.5	2910.7	2908.5	2906.2	2910.7
7.5°	2888.0	2885.7	2885.7	2883.5	2888.0
10°	2851.7	2847.1	2853.9	2849.4	2849.4
12.5°	2801.7	2808.5	2806.2	2806.2	2801.7
15°	2742.6	2749.4	2744.9	2742.6	2738.0
17.5°	2674.4	2679.0	2681.2	2672.1	2672.1
20°	2588.1	2597.2	2601.7	2585.8	2579.0
22.5°	2444.9	2485.8	2510.8	2483.6	2449.5
25°	2265.4	2335.9	2413.1	2340.4	2281.3
27.5°	2049.6	2149.5	2288.1	2165.4	2049.6
30°	1776.9	1924.6	2117.7	1940.5	1783.7
32.5°	1495.1	1651.9	1922.3	1679.2	1526.9
35°	1263.4	1390.6	1681.5	1429.2	1281.5
37.5°	1063.4	1172.5	1429.2	1197.5	1074.8
40°	899.8	986.1	1172.5	997.5	897.5
42.5°	743.0	824.8	949.8	836.2	752.1
45°	620.3	686.2	768.0	693.0	631.7
47.5°	515.8	570.3	629.4	570.3	522.6
50°	429.5	472.6	520.3	472.6	438.5
52.5°	384.0	397.6	429.5	399.9	384.0
55°	345.4	352.2	363.6	352.2	345.4
57.5°	309.0	313.6	311.3	311.3	309.0
60°	274.9	277.2	272.7	274.9	272.7
62.5°	243.1	243.1	238.6	243.1	240.9
65°	211.3	213.6	211.3	211.3	211.3
67.5°	184.1	184.1	181.8	184.1	184.1
70°	159.1	159.1	156.8	159.1	156.8
72.5°	134.1	134.1	131.8	131.8	131.8
75°	111.3	111.3	109.1	109.1	111.3
77.5°	88.6	88.6	86.3	88.6	88.6
80°	68.2	68.2	65.9	68.2	68.2
82.5°	47.7	47.7	47.7	50.0	50.0
85°	29.5	29.5	29.5	29.5	29.5
87.5°	13.6	13.6	13.6	13.6	15.9
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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