

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: P837567

Luminaire Tested: HCSQ445D010-HM44560835-41SQMW

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837567  
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: HCSQ445D010-HM44560835-41SQMW  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: -

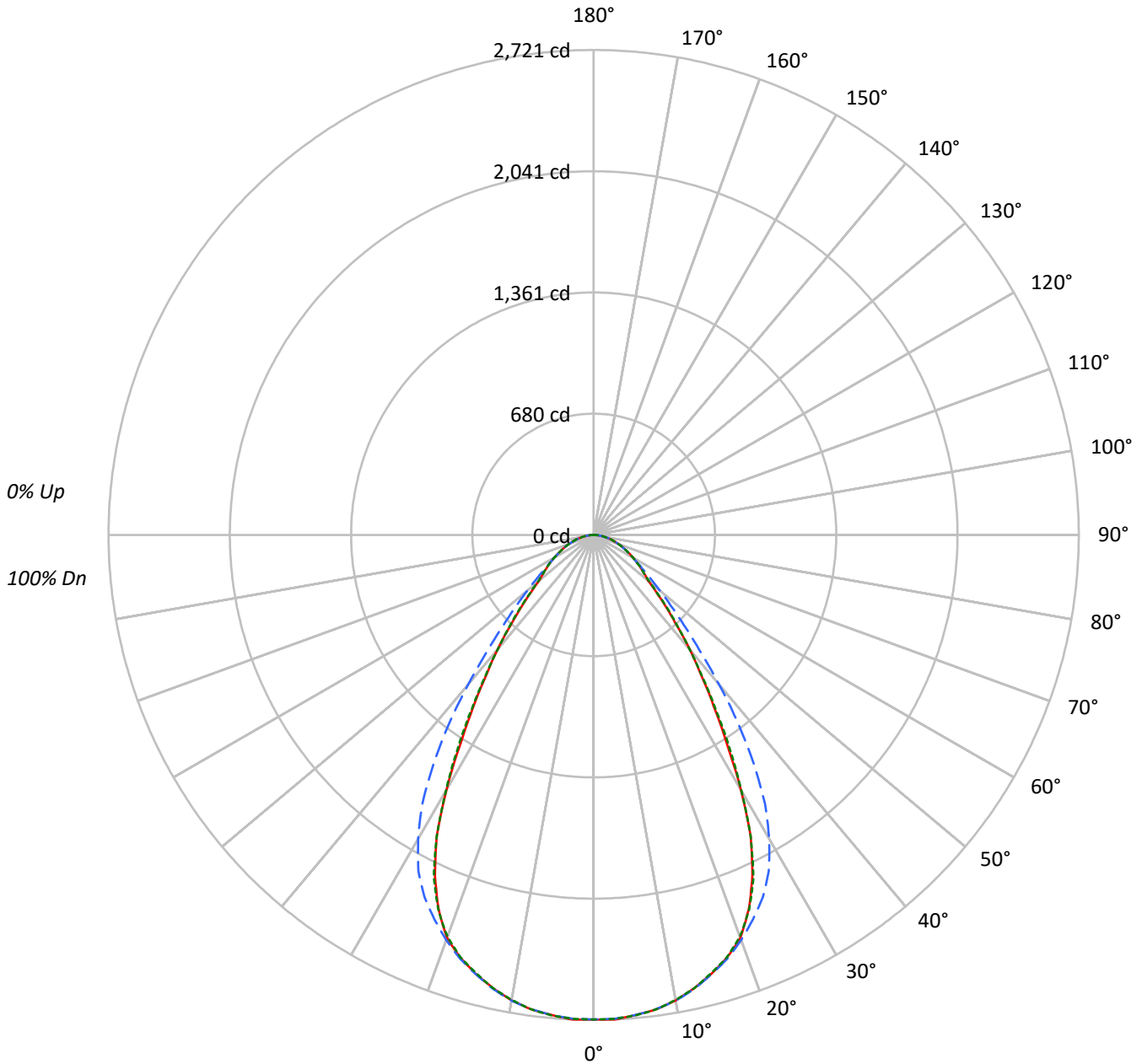
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3945.9 lumens  
Efficiency: N/A  
Efficacy: 86.0 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): 45.9  
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°	263404	263404	263404
5°	262981	262981	263185
10°	260818	261034	260611
15°	255747	255957	255325
20°	248082	249381	247206
25°	225154	239830	226736
30°	184807	220256	185523
35°	138924	184892	140922
40°	105798	137869	105532
45°	79023	97834	80462
50°	60179	72914	61460
55°	54233	57087	54233
60°	49523	49116	49116
65°	45043	45043	45043
70°	41892	41297	41297
75°	38740	37954	38740
80°	35370	34198	35370
85°	30567	30567	30567

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 97834 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	256.4	6.5
10°-20°	717.9	18.2
20°-30°	987.3	25.0
30°-40°	840.5	21.3
40°-50°	507.7	12.9
50°-60°	299.2	7.6
60°-70°	196.2	5.0
70°-80°	108.8	2.8
80°-90°	31.9	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°	1961.7	49.7
0°-40°	2802.2	71.0
0°-60°	3609.0	91.5
0°-90°	3945.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3945.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2719	2719	2719	2719	2719	
5°	2704	2706	2704	2702	2706	257
15°	2550	2556	2552	2550	2546	717
25°	2106	2172	2244	2176	2121	952
35°	1175	1293	1563	1329	1192	744
45°	577	638	714	644	587	453
55°	321	328	338	328	321	289
65°	196	199	196	196	196	197
75°	104	104	101	101	104	110
85°	28	28	28	28	28	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2719.0	2719.0	2719.0	2719.0	2719.0
2.5°	2721.2	2714.8	2716.9	2714.8	2716.9
5°	2704.3	2706.4	2704.3	2702.1	2706.4
7.5°	2685.2	2683.1	2683.1	2681.0	2685.2
10°	2651.4	2647.2	2653.6	2649.3	2649.3
12.5°	2605.0	2611.3	2609.2	2609.2	2605.0
15°	2550.0	2556.4	2552.1	2550.0	2545.8
17.5°	2486.6	2490.9	2493.0	2484.5	2484.5
20°	2406.4	2414.8	2419.0	2404.3	2397.9
22.5°	2273.3	2311.3	2334.5	2309.2	2277.5
25°	2106.4	2171.9	2243.7	2176.1	2121.2
27.5°	1905.7	1998.6	2127.5	2013.4	1905.7
30°	1652.1	1789.5	1969.0	1804.2	1658.5
32.5°	1390.2	1535.9	1787.3	1561.3	1419.7
35°	1174.7	1293.0	1563.4	1328.9	1191.6
37.5°	988.7	1090.2	1328.9	1113.4	999.3
40°	836.6	916.9	1090.2	927.5	834.5
42.5°	690.9	766.9	883.1	777.5	699.3
45°	576.8	638.0	714.1	644.4	587.3
47.5°	479.6	530.3	585.2	530.3	485.9
50°	399.3	439.4	483.8	439.4	407.8
52.5°	357.0	369.7	399.3	371.8	357.0
55°	321.1	327.5	338.0	327.5	321.1
57.5°	287.3	291.6	289.4	289.4	287.3
60°	255.6	257.7	253.5	255.6	253.5
62.5°	226.1	226.1	221.8	226.1	223.9
65°	196.5	198.6	196.5	196.5	196.5
67.5°	171.1	171.1	169.0	171.1	171.1
70°	147.9	147.9	145.8	147.9	145.8
72.5°	124.6	124.6	122.5	122.5	122.5
75°	103.5	103.5	101.4	101.4	103.5
77.5°	82.4	82.4	80.3	82.4	82.4
80°	63.4	63.4	61.3	63.4	63.4
82.5°	44.4	44.4	44.4	46.5	46.5
85°	27.5	27.5	27.5	27.5	27.5
87.5°	12.7	12.7	12.7	12.7	14.8
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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