

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: P837573

Luminaire Tested: HCSQ445D010-HM44560927-41SQC

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837573  
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: HCSQ445D010-HM44560927-41SQC  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

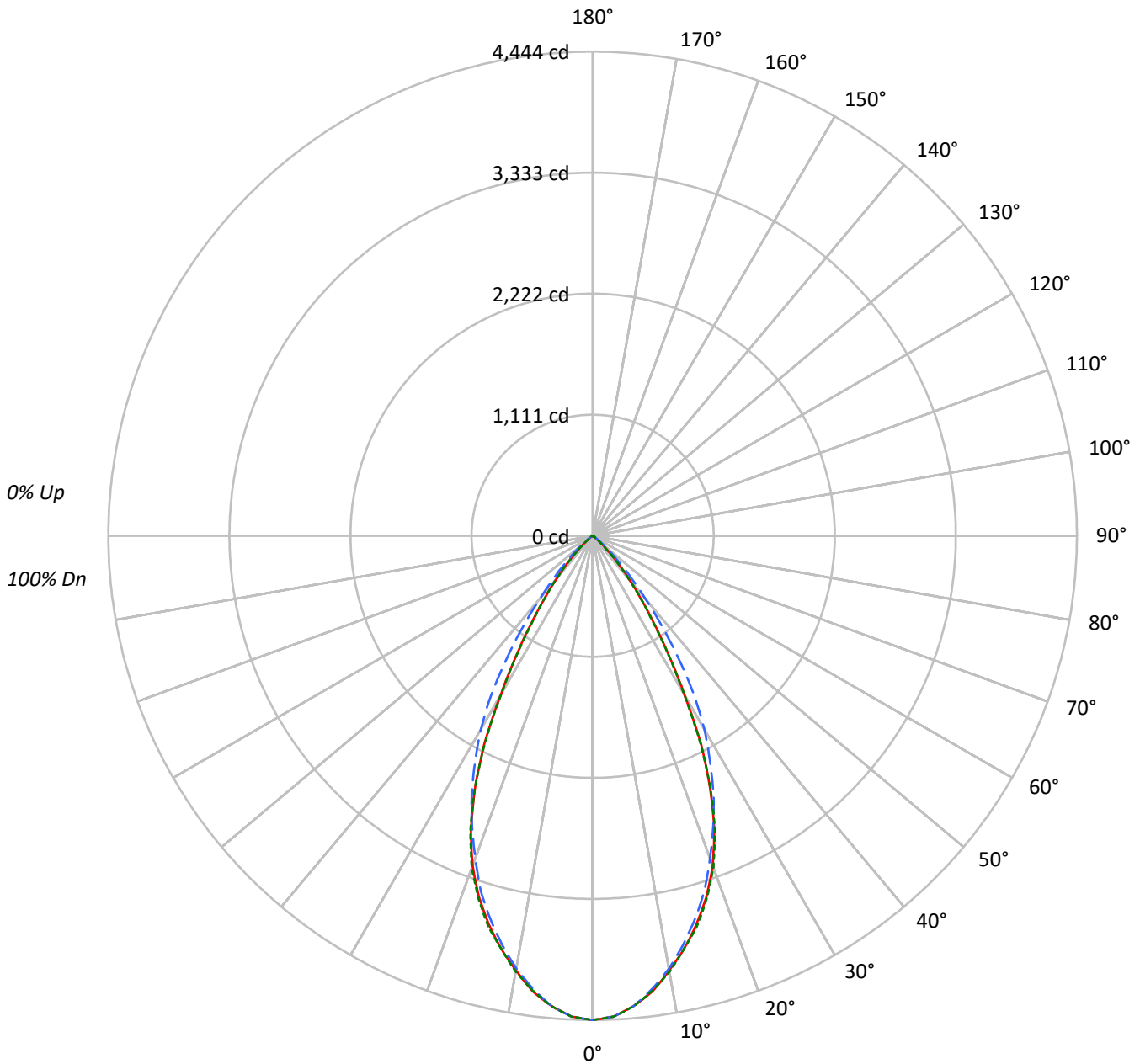
Lumens per Lamp: N/A  
Luminaire Lumens: 3591.5 lumens  
Efficiency: N/A  
Efficacy: 78.2 lumens/watt  
Spacing Criteria (0/90/45): 0.85 / 0.85 / 0.87  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 45.9  
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°	430553	430553	430553
5°	421326	421501	421501
10°	398516	396745	399578
15°	369760	364695	371755
20°	331927	324484	333969
25°	272623	280523	273585
30°	188454	229205	187045
35°	116040	161902	113272
40°	65469	94657	65014
45°	29908	47444	28661
50°	7611	19035	7882
55°	3648	5793	3344
60°	2441	2093	2790
65°	2063	1650	2063
70°	1530	1530	2039
75°	1347	1347	2021
80°	2008	2008	2008
85°	2001	4001	4001

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 47444 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	404.3	11.3
10°-20°	1021.1	28.4
20°-30°	1167.2	32.5
30°-40°	724.6	20.2
40°-50°	228.3	6.4
50°-60°	29.6	0.8
60°-70°	8.7	0.2
70°-80°	4.7	0.1
80°-90°	3.1	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°	2592.6	72.2
0°-40°	3317.1	92.4
0°-60°	3575.0	99.5
0°-90°	3591.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3591.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4444	4444	4444	4444	4444	
5°	4333	4329	4334	4331	4334	405
15°	3687	3660	3636	3660	3707	1028
25°	2550	2587	2624	2587	2560	1144
35°	981	1133	1369	1106	958	631
45°	218	262	346	263	209	184
55°	22	22	34	22	20	21
65°	9	9	7	9	9	9
75°	4	4	4	4	5	5
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°	4444.4	4444.4	4444.4	4444.4	4444.4
2.5°	4417.3	4421.0	4417.3	4424.6	4417.3
5°	4332.6	4329.0	4334.4	4330.8	4334.4
7.5°	4217.1	4195.5	4193.7	4208.1	4209.9
10°	4051.2	4045.8	4033.2	4045.8	4062.0
12.5°	3881.6	3860.0	3842.0	3867.2	3881.6
15°	3686.8	3659.8	3636.3	3659.8	3706.7
17.5°	3472.2	3434.3	3414.5	3441.5	3486.6
20°	3219.7	3180.0	3147.5	3171.0	3239.5
22.5°	2916.6	2913.0	2891.4	2904.0	2929.3
25°	2550.5	2586.6	2624.4	2586.6	2559.5
27.5°	2148.2	2245.6	2332.2	2218.6	2132.0
30°	1684.7	1832.6	2049.0	1821.8	1672.1
32.5°	1302.3	1457.4	1733.4	1437.6	1291.5
35°	981.2	1132.7	1369.0	1105.7	957.8
37.5°	721.5	835.1	1040.8	827.9	721.5
40°	517.7	591.6	748.5	589.8	514.1
42.5°	358.9	407.6	523.1	404.0	348.1
45°	218.3	261.5	346.3	263.3	209.2
47.5°	115.4	165.9	218.3	158.7	115.4
50°	50.5	88.4	126.3	86.6	52.3
52.5°	27.1	37.9	68.5	37.9	27.1
55°	21.6	21.6	34.3	21.6	19.8
57.5°	16.2	16.2	18.0	16.2	16.2
60°	12.6	12.6	10.8	12.6	14.4
62.5°	10.8	10.8	9.0	10.8	10.8
65°	9.0	9.0	7.2	9.0	9.0
67.5°	7.2	7.2	7.2	7.2	7.2
70°	5.4	5.4	5.4	7.2	7.2
72.5°	5.4	5.4	5.4	5.4	5.4
75°	3.6	3.6	3.6	3.6	5.4
77.5°	3.6	3.6	3.6	3.6	3.6
80°	3.6	3.6	3.6	3.6	3.6
82.5°	1.8	3.6	3.6	3.6	3.6
85°	1.8	3.6	3.6	3.6	3.6
87.5°	1.8	1.8	3.6	3.6	3.6
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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