

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: P837583

Luminaire Tested: HCSQ445D010-HM44560935-41SQC

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837583  
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-HM44560935-41SQC  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: -

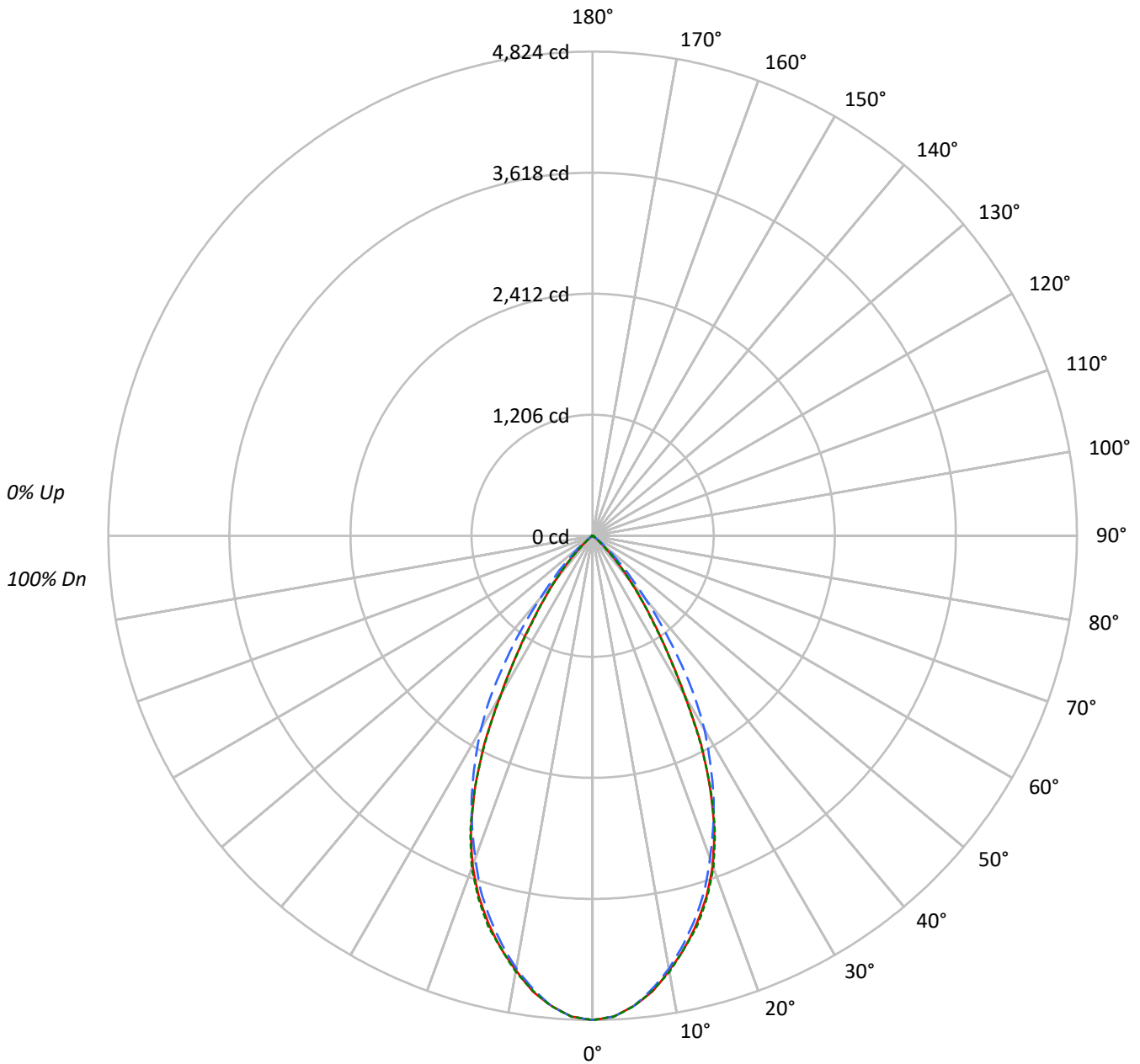
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3898.6 lumens  
Efficiency: N/A  
Efficacy: 84.9 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					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	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°	467366	467366	467366
5°	457345	457540	457540
10°	432591	430663	433742
15°	401382	395876	403538
20°	360309	352226	362525
25°	295936	304509	296973
30°	204562	248804	203030
35°	125962	175751	122958
40°	71059	102763	70566
45°	32456	51499	31113
50°	8259	20663	8560
55°	3969	6283	3631
60°	2654	2267	3042
65°	2246	1788	2246
70°	1671	1671	2209
75°	1460	1460	2208
80°	2176	2176	2176
85°	2223	4335	4335

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 51499 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	438.9	11.3
10°-20°	1108.4	28.4
20°-30°	1267.0	32.5
30°-40°	786.5	20.2
40°-50°	247.8	6.4
50°-60°	32.1	0.8
60°-70°	9.5	0.2
70°-80°	5.1	0.1
80°-90°	3.4	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°	2814.2	72.2
0°-40°	3600.8	92.4
0°-60°	3880.7	99.5
0°-90°	3898.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3898.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4824	4824	4824	4824	4824	
5°	4703	4699	4705	4701	4705	440
15°	4002	3973	3947	3973	4024	1116
25°	2769	2808	2849	2808	2778	1242
35°	1065	1230	1486	1200	1040	685
45°	237	284	376	286	227	200
55°	24	24	37	24	22	23
65°	10	10	8	10	10	10
75°	4	4	4	4	6	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°	4824.4	4824.4	4824.4	4824.4	4824.4
2.5°	4795.0	4799.0	4795.0	4802.9	4795.0
5°	4703.0	4699.1	4705.0	4701.1	4705.0
7.5°	4577.7	4554.2	4552.3	4567.9	4569.9
10°	4397.6	4391.7	4378.0	4391.7	4409.3
12.5°	4213.5	4190.0	4170.4	4197.9	4213.5
15°	4002.1	3972.7	3947.2	3972.7	4023.6
17.5°	3769.1	3728.0	3706.4	3735.8	3784.7
20°	3495.0	3451.9	3416.6	3442.1	3516.5
22.5°	3166.0	3162.1	3138.6	3152.3	3179.7
25°	2768.6	2807.7	2848.8	2807.7	2778.3
27.5°	2331.9	2437.7	2531.6	2408.3	2314.3
30°	1828.7	1989.3	2224.2	1977.5	1815.0
32.5°	1413.6	1582.0	1881.6	1560.5	1401.9
35°	1065.1	1229.6	1486.1	1200.2	1039.7
37.5°	783.2	906.5	1129.7	898.7	783.2
40°	561.9	642.2	812.6	640.3	558.0
42.5°	389.6	442.5	567.8	438.6	377.9
45°	236.9	283.9	375.9	285.9	227.1
47.5°	125.3	180.1	236.9	172.3	125.3
50°	54.8	95.9	137.1	94.0	56.8
52.5°	29.4	41.1	74.4	41.1	29.4
55°	23.5	23.5	37.2	23.5	21.5
57.5°	17.6	17.6	19.6	17.6	17.6
60°	13.7	13.7	11.7	13.7	15.7
62.5°	11.7	11.7	9.8	11.7	11.7
65°	9.8	9.8	7.8	9.8	9.8
67.5°	7.8	7.8	7.8	7.8	7.8
70°	5.9	5.9	5.9	7.8	7.8
72.5°	5.9	5.9	5.9	5.9	5.9
75°	3.9	3.9	3.9	3.9	5.9
77.5°	3.9	3.9	3.9	3.9	3.9
80°	3.9	3.9	3.9	3.9	3.9
82.5°	2.0	3.9	3.9	3.9	3.9
85°	2.0	3.9	3.9	3.9	3.9
87.5°	2.0	2.0	3.9	3.9	3.9
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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