

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: P837333

Luminaire Tested: HCSQ415D010-HM40525927-41SQC

Issue Date: 5/17/2024



**Test Information**

Test Method: LM-79-2019  
Report Number: P837333  
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: HCSQ415D010-HM40525927-41SQC  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: -

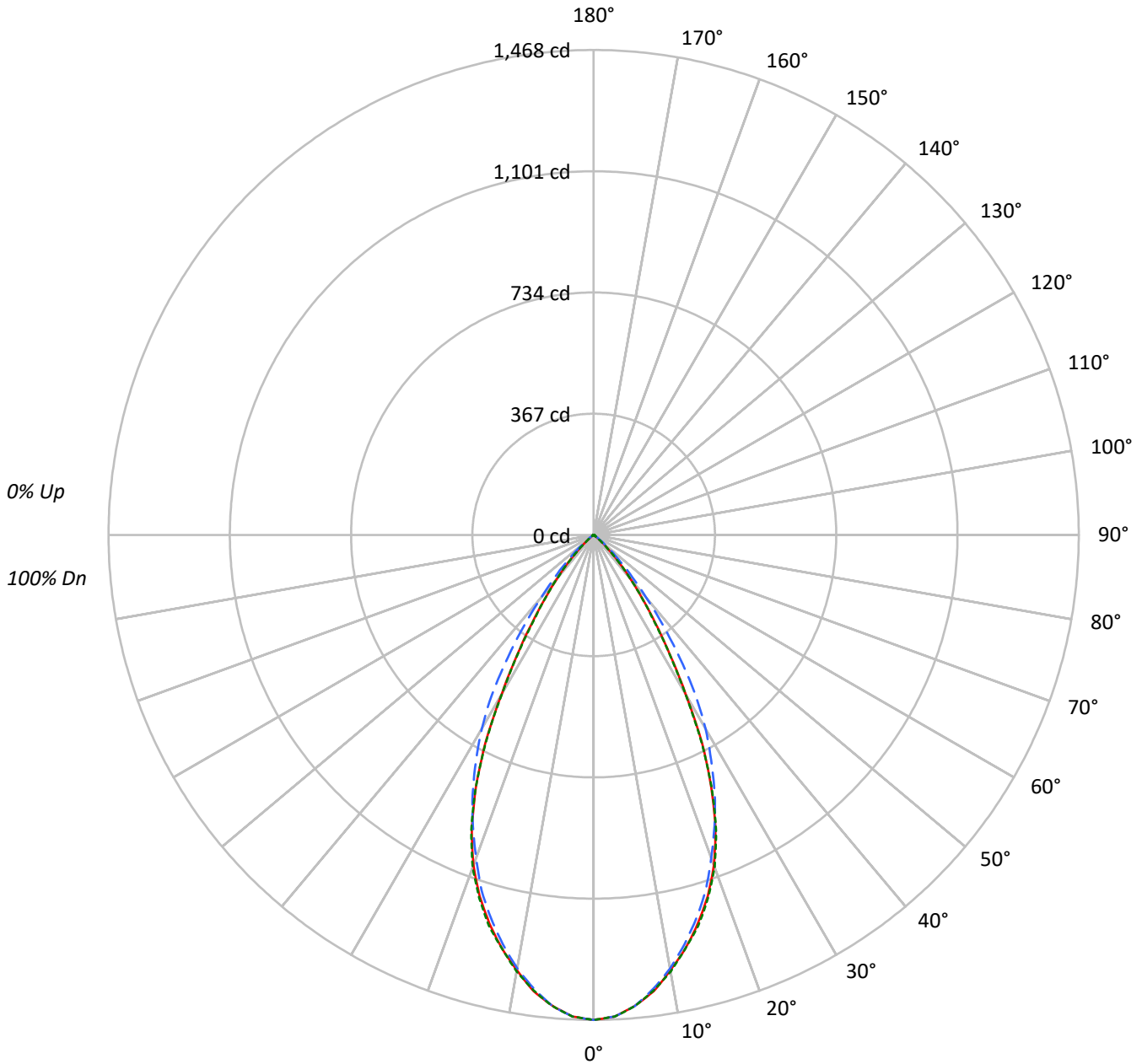
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1186.5 lumens  
Efficiency: N/A  
Efficacy: 84.8 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): 14  
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°	142233	142233	142233
5°	139178	139236	139236
10°	131648	131058	132003
15°	122147	120472	122809
20°	109649	107196	110330
25°	90055	92674	90376
30°	62251	75719	61793
35°	38329	53490	37418
40°	21625	31274	21473
45°	9878	15673	9467
50°	2517	6285	2607
55°	1216	1909	1115
60°	814	698	930
65°	688	550	688
70°	510	510	680
75°	449	449	674
80°	669	669	669
85°	667	1334	1334

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 15673 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	133.6	11.3
10°-20°	337.3	28.4
20°-30°	385.6	32.5
30°-40°	239.4	20.2
40°-50°	75.4	6.4
50°-60°	9.8	0.8
60°-70°	2.9	0.2
70°-80°	1.6	0.1
80°-90°	1.0	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°	856.4	72.2
0°-40°	1095.8	92.4
0°-60°	1181.0	99.5
0°-90°	1186.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1186.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1468	1468	1468	1468	1468	
5°	1431	1430	1432	1431	1432	134
15°	1218	1209	1201	1209	1224	340
25°	842	854	867	854	846	378
35°	324	374	452	365	316	208
45°	72	86	114	87	69	61
55°	7	7	11	7	7	7
65°	3	3	2	3	3	3
75°	1	1	1	1	2	2
85°	1	1	1	1	1	1
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1468.2	1468.2	1468.2	1468.2	1468.2
2.5°	1459.2	1460.4	1459.2	1461.6	1459.2
5°	1431.2	1430.1	1431.8	1430.6	1431.8
7.5°	1393.1	1386.0	1385.4	1390.1	1390.7
10°	1338.3	1336.5	1332.3	1336.5	1341.9
12.5°	1282.3	1275.1	1269.2	1277.5	1282.3
15°	1217.9	1209.0	1201.2	1209.0	1224.5
17.5°	1147.0	1134.5	1128.0	1136.9	1151.8
20°	1063.6	1050.5	1039.8	1047.5	1070.2
22.5°	963.5	962.3	955.2	959.3	967.7
25°	842.5	854.5	867.0	854.5	845.5
27.5°	709.7	741.8	770.4	732.9	704.3
30°	556.5	605.4	676.9	601.8	552.4
32.5°	430.2	481.5	572.6	474.9	426.6
35°	324.1	374.2	452.3	365.3	316.4
37.5°	238.3	275.9	343.8	273.5	238.3
40°	171.0	195.4	247.3	194.8	169.8
42.5°	118.6	134.7	172.8	133.5	115.0
45°	72.1	86.4	114.4	87.0	69.1
47.5°	38.1	54.8	72.1	52.4	38.1
50°	16.7	29.2	41.7	28.6	17.3
52.5°	8.9	12.5	22.6	12.5	8.9
55°	7.2	7.2	11.3	7.2	6.6
57.5°	5.4	5.4	6.0	5.4	5.4
60°	4.2	4.2	3.6	4.2	4.8
62.5°	3.6	3.6	3.0	3.6	3.6
65°	3.0	3.0	2.4	3.0	3.0
67.5°	2.4	2.4	2.4	2.4	2.4
70°	1.8	1.8	1.8	2.4	2.4
72.5°	1.8	1.8	1.8	1.8	1.8
75°	1.2	1.2	1.2	1.2	1.8
77.5°	1.2	1.2	1.2	1.2	1.2
80°	1.2	1.2	1.2	1.2	1.2
82.5°	0.6	1.2	1.2	1.2	1.2
85°	0.6	1.2	1.2	1.2	1.2
87.5°	0.6	0.6	1.2	1.2	1.2
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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