

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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: P837344

Luminaire Tested: HCSQ415D010-HM40525935-41SQH

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837344  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-2)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ415D010-HM40525935-41SQH  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: -

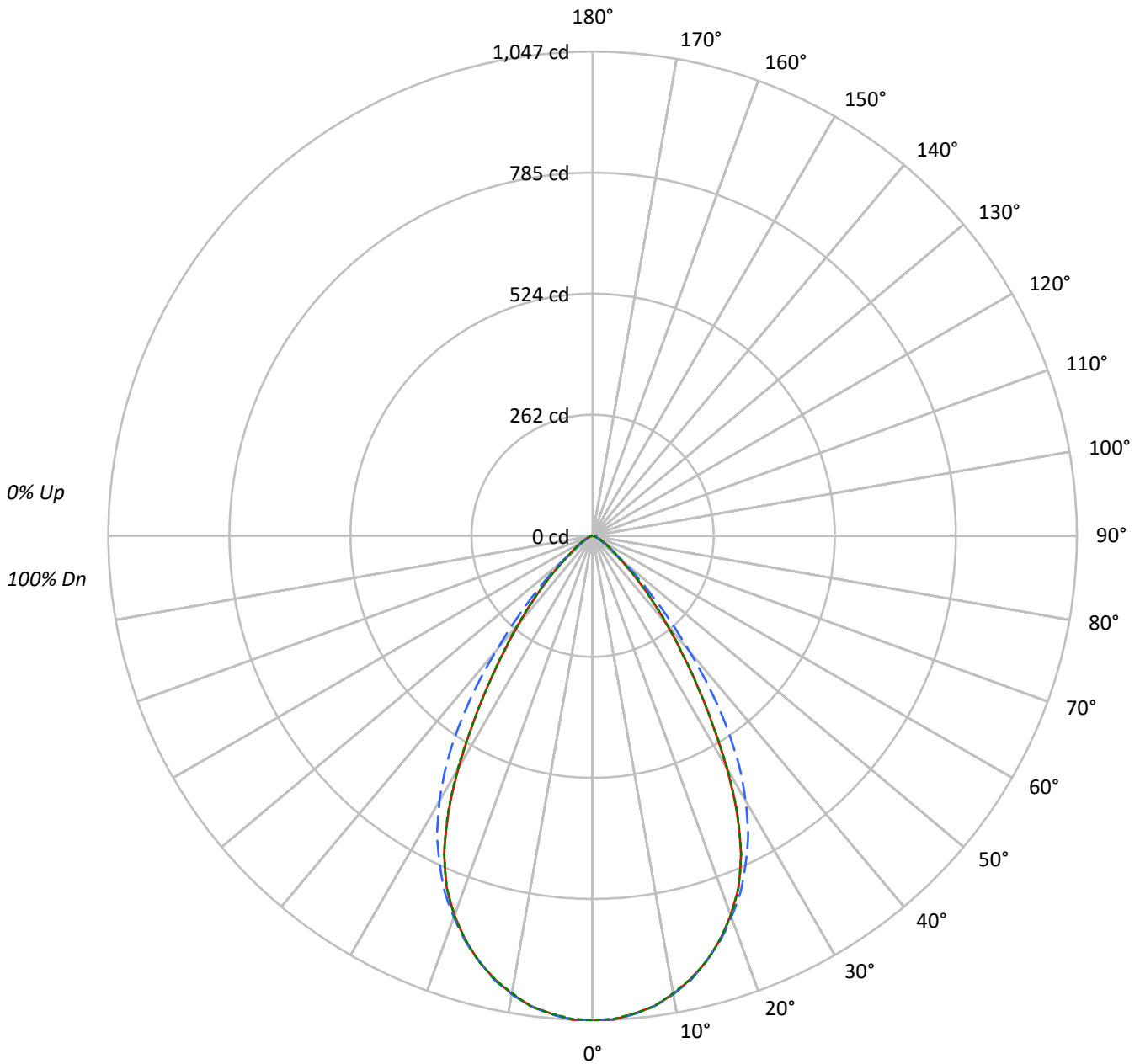
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1177.3 lumens  
Efficiency: N/A  
Efficacy: 84.1 lumens/watt  
Spacing Criteria (0/90/45): 0.98 / 0.98 / 1.01  
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					70					50					30				
RW	70	50	30	10	70	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	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92		
2	107	101	97	93	104	100	95	92	96	93	90	93	90	88	90	88	86	85		
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77		
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71		
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65		
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62	60		
7	80	70	63	59	78	69	63	58	68	62	58	66	61	58	65	61	57	56		
8	75	65	59	54	74	65	58	54	63	58	54	62	57	54	61	57	53	52		
9	72	61	55	50	70	61	54	50	60	54	50	59	54	50	58	53	50	48		
10	68	57	51	47	67	57	51	47	56	51	47	55	50	47	55	50	46	45		

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

	0°	45°	90°
0°	101458	101458	101458
5°	100844	100970	100844
10°	98950	99019	98763
15°	95439	95368	95499
20°	89969	90433	90165
25°	81183	83663	81183
30°	64835	74030	65339
35°	46288	59900	46359
40°	31249	40746	31742
45°	19852	24112	19948
50°	11303	12871	10927
55°	7431	6232	7313
60°	5134	3643	5018
65°	3553	2659	3553
70°	2578	2011	2578
75°	1684	1684	1684
80°	1060	1450	1450
85°	1445	1445	1445

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 24112 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.1	8.3
10°-20°	266.8	22.7
20°-30°	349.3	29.7
30°-40°	274.5	23.3
40°-50°	128.2	10.9
50°-60°	39.7	3.4
60°-70°	14.2	1.2
70°-80°	5.0	0.4
80°-90°	1.4	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°	714.2	60.7
0°-40°	988.8	84.0
0°-60°	1156.7	98.3
0°-90°	1177.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1177.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1047	1047	1047	1047	1047	
5°	1037	1038	1038	1040	1037	98
15°	952	952	951	952	952	267
25°	760	770	783	770	760	342
35°	391	427	506	432	392	247
45°	145	162	176	159	146	115
55°	44	41	37	41	43	41
65°	16	14	12	14	16	16
75°	4	4	4	4	4	5
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°	1047.3	1047.3	1047.3	1047.3	1047.3
2.5°	1047.3	1046.0	1046.7	1045.4	1045.4
5°	1037.0	1037.6	1038.3	1039.6	1037.0
7.5°	1025.3	1026.6	1026.0	1026.0	1026.0
10°	1005.9	1006.6	1006.6	1006.6	1004.0
12.5°	981.3	982.6	983.3	981.3	981.3
15°	951.6	951.6	950.9	951.6	952.2
17.5°	916.0	917.9	917.9	916.0	915.4
20°	872.7	875.9	877.2	874.6	874.6
22.5°	824.1	827.4	835.1	828.7	823.5
25°	759.5	769.8	782.7	770.5	759.5
27.5°	676.0	698.6	728.4	702.5	677.9
30°	579.6	616.5	661.8	618.4	584.1
32.5°	481.3	522.7	589.3	525.9	481.3
35°	391.4	427.0	506.5	432.1	392.0
37.5°	311.2	345.4	415.3	349.3	315.7
40°	247.1	274.9	322.2	274.3	251.0
42.5°	192.8	212.8	243.9	212.2	192.1
45°	144.9	162.4	176.0	159.1	145.6
47.5°	106.7	118.4	126.1	116.4	104.2
50°	75.0	83.4	85.4	81.5	72.5
52.5°	56.3	56.3	56.9	55.6	55.0
55°	44.0	41.4	36.9	40.8	43.3
57.5°	34.3	31.7	25.9	30.4	33.6
60°	26.5	23.9	18.8	23.3	25.9
62.5°	20.7	18.1	14.9	18.1	20.1
65°	15.5	14.2	11.6	13.6	15.5
67.5°	11.6	10.4	9.1	10.4	11.6
70°	9.1	8.4	7.1	7.8	9.1
72.5°	6.5	5.8	5.8	5.8	6.5
75°	4.5	4.5	4.5	4.5	4.5
77.5°	3.2	3.2	3.2	3.2	3.2
80°	1.9	1.9	2.6	2.6	2.6
82.5°	1.3	1.3	1.9	1.9	1.9
85°	1.3	1.3	1.3	1.3	1.3
87.5°	0.6	0.6	0.6	1.3	1.3
90°	0.0	0.0	0.0	0.0	0.0

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Scaled Data Report



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Scaled Data Report







— 0°-180°    - - 45°-225°    - - - - 90°-270°

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