

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: P837238

Luminaire Tested: HCSQ407D010-HM40525830-41SQC

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837238  
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: HCSQ407D010-HM40525830-41SQC  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: -

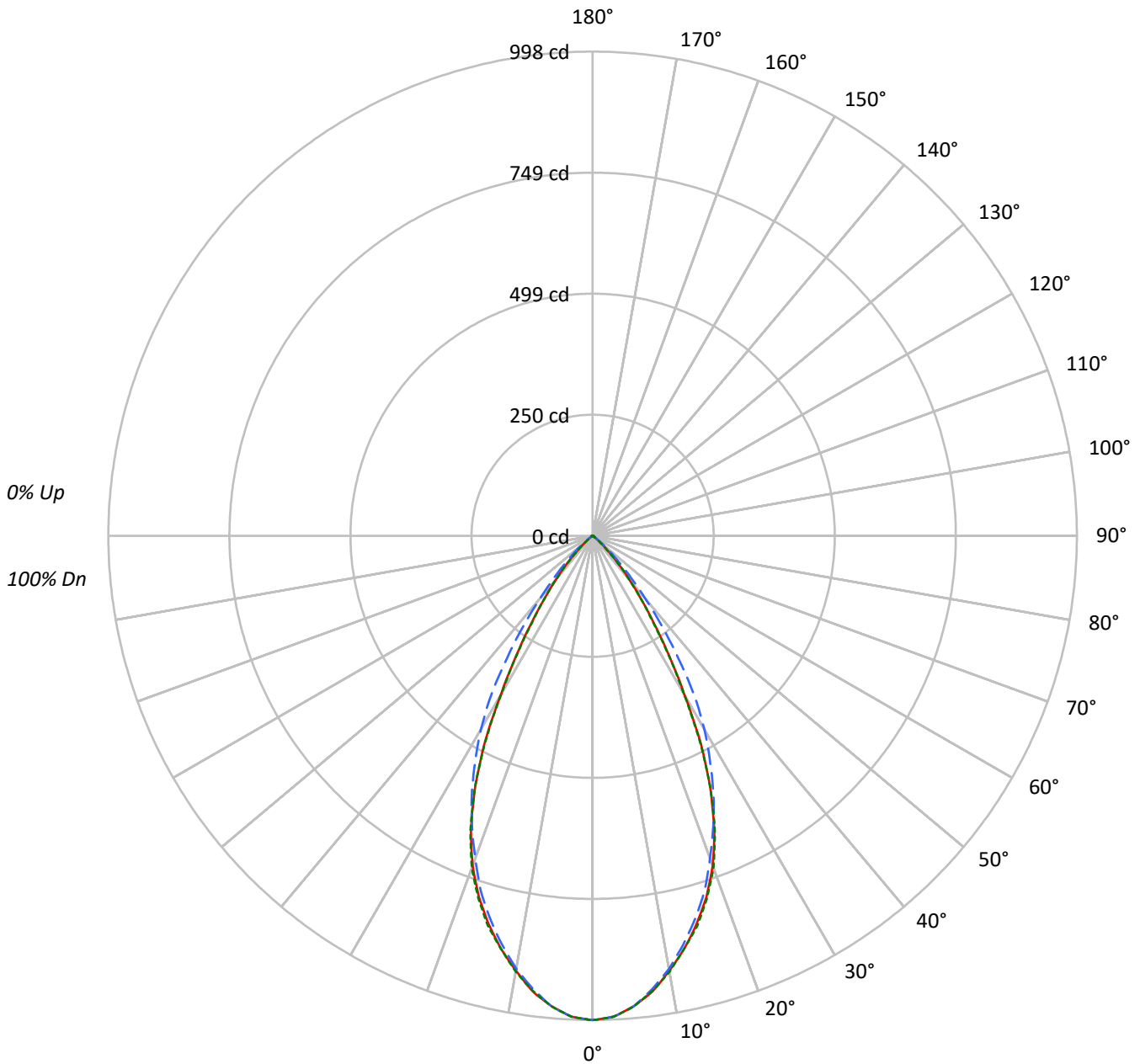
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 806.8 lumens  
Efficiency: N/A  
Efficacy: 100.9 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): 8  
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	72	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°	96720	96720	96720
5°	94649	94688	94688
10°	89526	89133	89763
15°	83073	81929	83514
20°	74567	72897	75031
25°	61248	63022	61462
30°	42340	51490	42015
35°	26065	36378	25450
40°	14708	21271	14606
45°	6713	10659	6439
50°	1703	4280	1778
55°	828	1301	760
60°	543	465	620
65°	458	367	458
70°	340	340	453
75°	299	299	449
80°	446	446	446
85°	445	889	889

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 10659 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	90.8	11.3
10°-20°	229.4	28.4
20°-30°	262.2	32.5
30°-40°	162.8	20.2
40°-50°	51.3	6.4
50°-60°	6.6	0.8
60°-70°	1.9	0.2
70°-80°	1.0	0.1
80°-90°	0.7	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°	582.4	72.2
0°-40°	745.2	92.4
0°-60°	803.2	99.5
0°-90°	806.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	806.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	998	998	998	998	998	
5°	973	972	974	973	974	91
15°	828	822	817	822	833	231
25°	573	581	590	581	575	257
35°	220	254	308	248	215	142
45°	49	59	78	59	47	41
55°	5	5	8	5	4	5
65°	2	2	2	2	2	2
75°	1	1	1	1	1	1
85°	0	1	1	1	1	0
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	998.4	998.4	998.4	998.4	998.4
2.5°	992.4	993.2	992.4	994.0	992.4
5°	973.3	972.5	973.7	972.9	973.7
7.5°	947.4	942.5	942.1	945.4	945.8
10°	910.1	908.9	906.1	908.9	912.5
12.5°	872.0	867.2	863.1	868.8	872.0
15°	828.3	822.2	816.9	822.2	832.7
17.5°	780.0	771.5	767.1	773.1	783.3
20°	723.3	714.4	707.1	712.4	727.8
22.5°	655.2	654.4	649.6	652.4	658.1
25°	573.0	581.1	589.6	581.1	575.0
27.5°	482.6	504.5	523.9	498.4	479.0
30°	378.5	411.7	460.3	409.3	375.6
32.5°	292.6	327.4	389.4	323.0	290.1
35°	220.4	254.5	307.6	248.4	215.2
37.5°	162.1	187.6	233.8	186.0	162.1
40°	116.3	132.9	168.2	132.5	115.5
42.5°	80.6	91.6	117.5	90.8	78.2
45°	49.0	58.8	77.8	59.2	47.0
47.5°	25.9	37.3	49.0	35.7	25.9
50°	11.3	19.9	28.4	19.5	11.8
52.5°	6.1	8.5	15.4	8.5	6.1
55°	4.9	4.9	7.7	4.9	4.5
57.5°	3.6	3.6	4.1	3.6	3.6
60°	2.8	2.8	2.4	2.8	3.2
62.5°	2.4	2.4	2.0	2.4	2.4
65°	2.0	2.0	1.6	2.0	2.0
67.5°	1.6	1.6	1.6	1.6	1.6
70°	1.2	1.2	1.2	1.6	1.6
72.5°	1.2	1.2	1.2	1.2	1.2
75°	0.8	0.8	0.8	0.8	1.2
77.5°	0.8	0.8	0.8	0.8	0.8
80°	0.8	0.8	0.8	0.8	0.8
82.5°	0.4	0.8	0.8	0.8	0.8
85°	0.4	0.8	0.8	0.8	0.8
87.5°	0.4	0.4	0.8	0.8	0.8
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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