

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: P837656

Luminaire Tested: HCSQ455D010-HM44560927-41SQMB

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837656  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-4)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ455D010-HM44560927-41SQMB  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: -

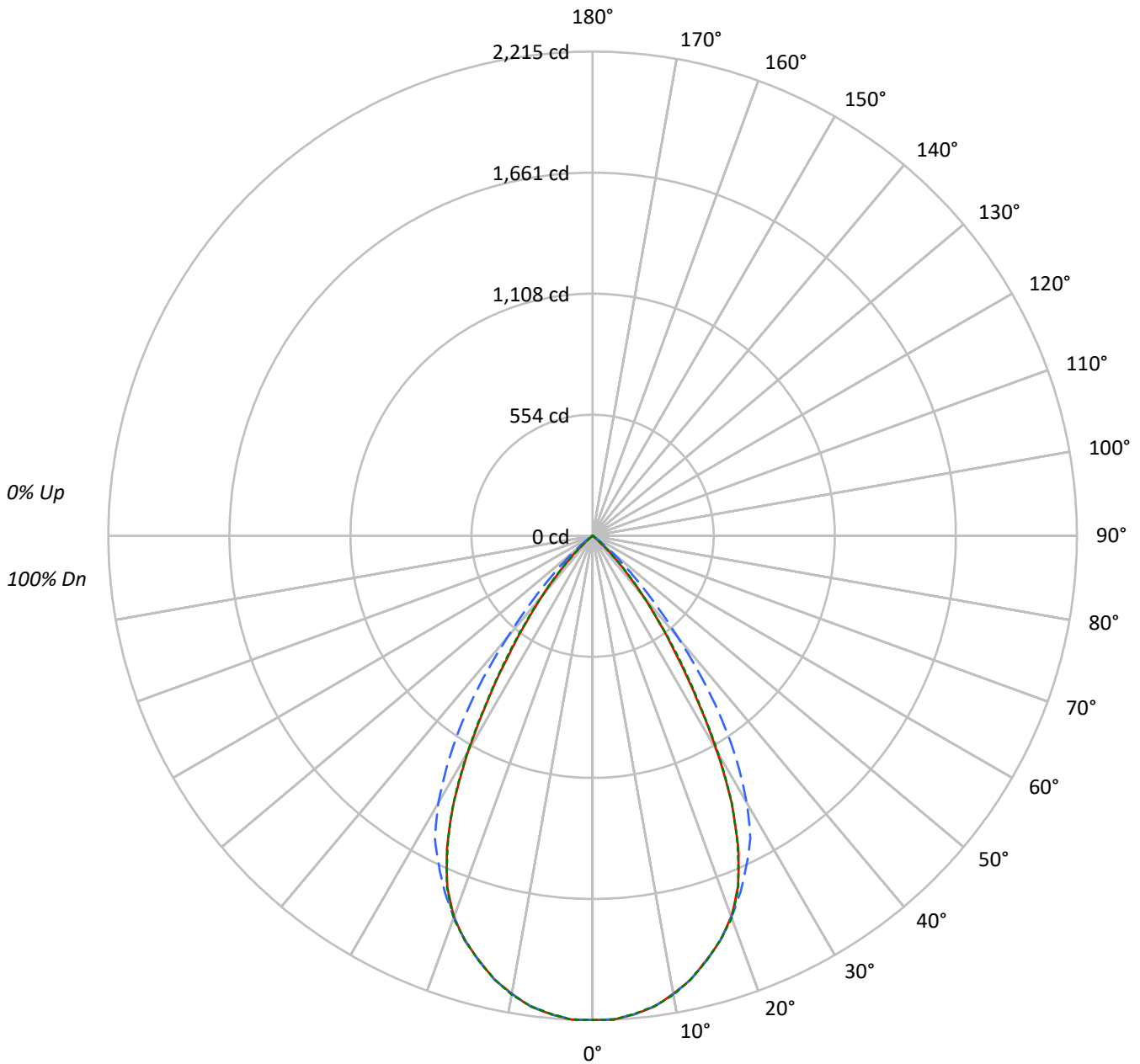
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2213.1 lumens  
Efficiency: N/A  
Efficacy: 41.0 lumens/watt  
Spacing Criteria (0/90/45): 0.96 / 0.96 / 0.99  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 54  
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					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	100	100	100	100	100		
	1	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93	93	93	93	93	93		
	2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87	87	87	87	87	87		
	3	102	96	91	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80	80	80	80	80	80		
	4	97	89	83	79	95	88	83	79	86	81	78	84	80	77	82	79	76	74	74	74	74	74	74		
	5	92	83	77	73	90	82	77	73	80	76	72	79	75	71	77	74	71	69	69	69	69	69	69		
	6	87	78	72	67	85	77	71	67	76	70	67	74	70	66	73	69	66	64	64	64	64	64	64		
	7	82	73	67	63	81	72	66	62	71	66	62	70	65	62	69	65	61	60	60	60	60	60	60		
	8	78	69	62	58	77	68	62	58	67	62	58	66	61	58	65	61	57	56	56	56	56	56	56		
	9	74	65	58	54	73	64	58	54	63	58	54	62	57	54	61	57	54	52	52	52	52	52	52		
	10	71	61	55	51	70	60	55	51	60	54	51	59	54	51	58	54	50	49	49	49	49	49	49		

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

	0°	45°	90°
0°	214618	214618	214618
5°	213639	213639	213444
10°	209233	209439	209646
15°	201579	201789	201789
20°	191103	191319	191742
25°	168491	177929	167828
30°	127131	157703	128283
35°	79721	122733	82394
40°	44957	76408	44957
45°	18865	38580	18578
50°	1552	14860	1854
55°	692	3125	692
60°	794	407	794
65°	481	481	481
70°	595	595	595
75°	786	786	786
80°	0	1172	1172
85°	0	2334	2334

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 38580 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	207.6	9.4
10°-20°	564.9	25.5
20°-30°	732.8	33.1
30°-40°	521.0	23.5
40°-50°	168.9	7.6
50°-60°	12.2	0.6
60°-70°	2.1	0.1
70°-80°	2.2	0.1
80°-90°	1.5	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°	1505.3	68.0
0°-40°	2026.2	91.6
0°-60°	2207.3	99.7
0°-90°	2213.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2213.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2215	2215	2215	2215	2215	
5°	2197	2199	2197	2197	2195	208
15°	2010	2016	2012	2016	2012	564
25°	1576	1617	1665	1626	1570	706
35°	674	797	1038	806	697	431
45°	138	195	282	199	136	115
55°	4	4	18	4	4	5
65°	2	2	2	2	2	2
75°	2	2	2	2	2	2
85°	0	0	2	2	2	0
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2215.4	2215.4	2215.4	2215.4	2215.4
2.5°	2215.4	2215.4	2213.4	2213.4	2215.4
5°	2196.9	2199.0	2196.9	2196.9	2194.9
7.5°	2172.3	2172.3	2170.2	2170.2	2170.2
10°	2127.0	2129.1	2129.1	2129.1	2131.2
12.5°	2077.7	2077.7	2077.7	2077.7	2077.7
15°	2009.9	2016.1	2012.0	2016.1	2012.0
17.5°	1942.1	1942.1	1940.0	1944.1	1940.0
20°	1853.7	1853.7	1855.8	1859.9	1859.9
22.5°	1736.6	1757.1	1765.3	1761.2	1740.7
25°	1576.3	1617.4	1664.6	1625.6	1570.1
27.5°	1374.9	1453.0	1561.9	1465.3	1379.0
30°	1136.5	1253.6	1409.8	1257.7	1146.8
32.5°	889.9	1025.5	1233.1	1035.8	898.1
35°	674.1	797.4	1037.8	805.6	696.7
37.5°	497.3	610.4	824.1	614.5	511.7
40°	355.5	437.7	604.2	446.0	355.5
42.5°	228.1	310.3	425.4	312.4	238.4
45°	137.7	195.2	281.6	199.3	135.6
47.5°	61.7	111.0	174.7	115.1	61.7
50°	10.3	45.2	98.6	47.3	12.3
52.5°	6.2	8.2	47.3	8.2	6.2
55°	4.1	4.1	18.5	4.1	4.1
57.5°	4.1	4.1	4.1	4.1	4.1
60°	4.1	2.1	2.1	2.1	4.1
62.5°	2.1	2.1	2.1	2.1	2.1
65°	2.1	2.1	2.1	2.1	2.1
67.5°	2.1	2.1	2.1	2.1	2.1
70°	2.1	2.1	2.1	2.1	2.1
72.5°	2.1	2.1	2.1	2.1	2.1
75°	2.1	2.1	2.1	2.1	2.1
77.5°	2.1	2.1	2.1	2.1	2.1
80°	0.0	2.1	2.1	2.1	2.1
82.5°	0.0	2.1	2.1	2.1	2.1
85°	0.0	0.0	2.1	2.1	2.1
87.5°	0.0	0.0	2.1	2.1	2.1
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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