

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: P838684

Luminaire Tested: HCSQ650D010-HM64560935-61SQC

Issue Date: 5/21/2024



**Test Information**

Test Method: LM-79-2019  
Report Number: P838684  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-1)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ650D010-HM64560935-61SQC  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: -

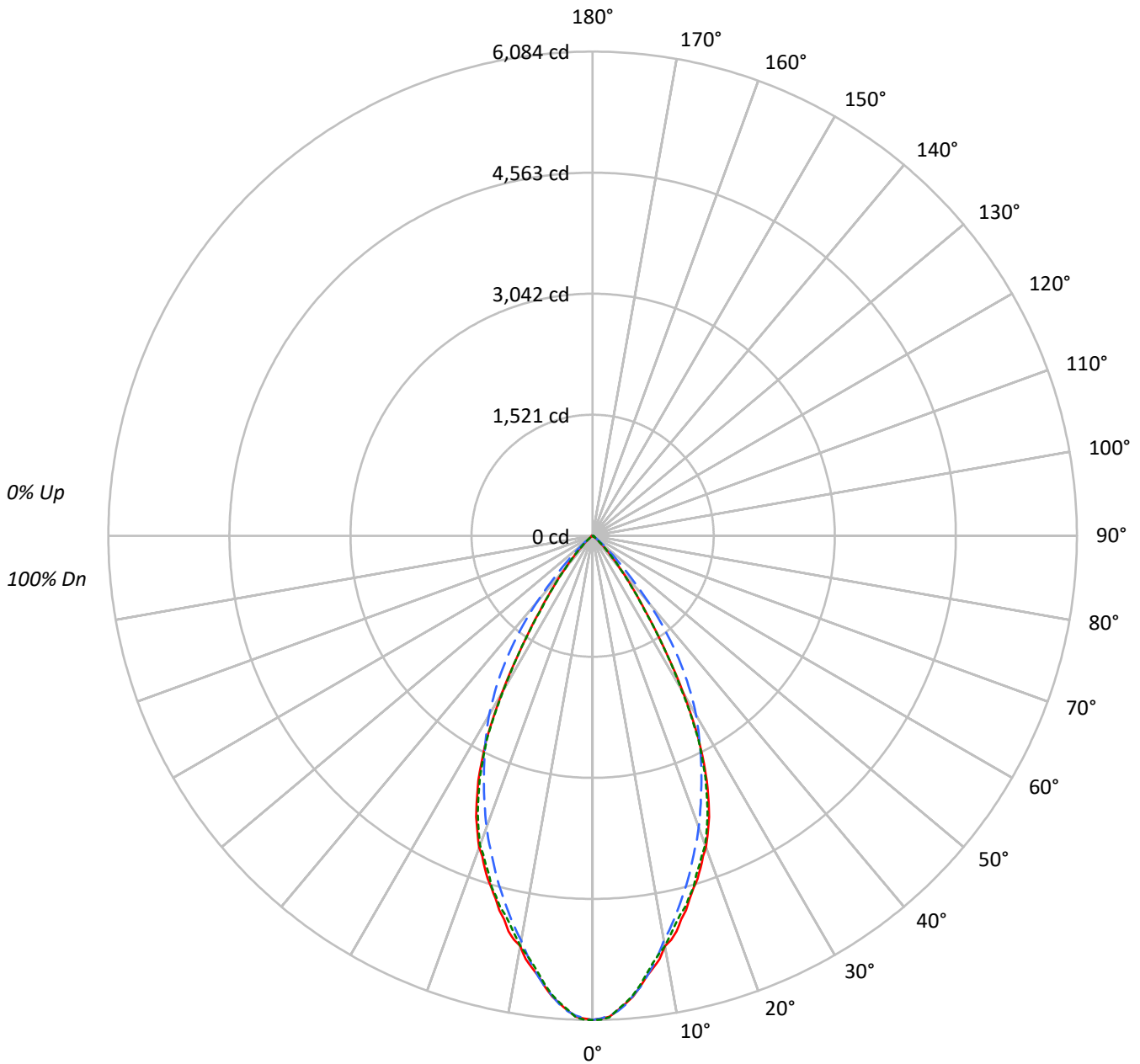
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4557.3 lumens  
Efficiency: N/A  
Efficacy: 91.7 lumens/watt  
Spacing Criteria (0/90/45): 0.82 / 0.81 / 0.85  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 49.7  
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	107	105	105	103	101	101	100	98	98	96	95	94																			
2	108	103	99	96	106	102	98	95	98	95	93	95	93	91	93	91	89	87																			
3	103	97	92	88	101	95	91	87	93	89	86	90	87	84	88	85	83	81																			
4	98	90	85	81	96	89	84	80	87	83	79	85	81	78	83	80	78	76																			
5	93	85	79	75	91	84	78	74	82	77	74	80	76	73	79	75	72	71																			
6	88	80	74	70	87	79	73	69	77	72	69	76	72	68	75	71	68	66																			
7	84	75	69	65	83	74	69	65	73	68	64	72	67	64	71	67	64	62																			
8	80	71	65	61	79	70	65	61	69	64	60	68	64	60	67	63	60	59																			
9	76	67	61	57	75	66	61	57	65	60	57	65	60	57	64	60	56	55																			
10	73	63	58	54	72	63	57	54	62	57	54	61	57	53	61	56	53	52																			

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

	0°	45°	90°
0°	261964	261964	261964
5°	251282	250845	250495
10°	228869	225756	228690
15°	210334	202636	209068
20°	190881	178588	189576
25°	161323	153504	159100
30°	112956	129218	111037
35°	60671	99125	59494
40°	30042	61337	29811
45°	13116	25860	12866
50°	4220	9391	4220
55°	2139	3048	1982
60°	1404	1404	1404
65°	1039	1039	1039
70°	768	768	768
75°	682	682	682
80°	496	496	496
85°	988	988	988

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 25860 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	534.3	11.7
10°-20°	1290.1	28.3
20°-30°	1490.3	32.7
30°-40°	930.7	20.4
40°-50°	258.6	5.7
50°-60°	36.2	0.8
60°-70°	10.7	0.2
70°-80°	4.6	0.1
80°-90°	1.9	0.0
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°	3314.8	72.7
0°-40°	4245.5	93.2
0°-60°	4540.2	99.6
0°-90°	4557.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4557.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6084	6084	6084	6084	6084	
5°	5814	5798	5804	5796	5796	536
15°	4719	4629	4546	4617	4690	1322
25°	3396	3296	3231	3294	3349	1517
35°	1154	1425	1886	1408	1132	767
45°	215	274	425	272	211	187
55°	28	28	41	28	26	28
65°	10	10	10	10	10	11
75°	4	4	4	4	4	4
85°	2	2	2	2	2	2
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6084.3	6084.3	6084.3	6084.3	6084.3
1°	6066.0	6066.0	6066.0	6082.3	6082.3
2°	6047.7	6043.7	6033.5	6045.7	6051.8
3°	5972.6	5980.7	5984.7	5978.6	5964.4
4°	5895.3	5887.2	5909.6	5895.3	5883.1
5°	5814.0	5797.8	5803.9	5795.8	5795.8
6°	5700.2	5720.6	5704.3	5690.1	5682.0
7°	5576.3	5592.5	5582.4	5562.1	5547.8
8°	5478.7	5468.6	5452.3	5448.3	5423.9
9°	5385.3	5348.7	5312.1	5318.2	5324.3
10°	5234.9	5238.9	5163.7	5220.6	5230.8
11°	5171.9	5149.5	5049.9	5096.7	5112.9
12°	5080.4	5009.3	4924.0	4962.6	4993.0
13°	4948.3	4875.2	4798.0	4856.9	4887.4
14°	4848.8	4765.4	4667.9	4743.1	4806.1
15°	4718.7	4629.3	4546.0	4617.1	4690.3
16°	4604.9	4501.3	4417.9	4487.0	4596.8
17°	4505.3	4377.3	4275.7	4348.8	4454.5
18°	4389.5	4241.1	4147.7	4224.9	4344.8
19°	4261.5	4111.1	4027.8	4090.8	4228.9
20°	4166.0	3997.3	3897.7	3958.7	4137.5
22.5°	3824.5	3647.7	3556.3	3629.5	3771.7
25°	3395.8	3296.2	3231.2	3294.1	3349.0
27.5°	2887.7	2887.7	2910.1	2883.7	2867.4
30°	2272.0	2436.6	2599.1	2428.4	2233.4
32.5°	1658.3	1922.4	2249.6	1957.0	1656.2
35°	1154.3	1424.6	1885.9	1408.3	1131.9
37.5°	802.7	981.5	1487.5	991.7	792.5
40°	534.5	658.4	1091.3	670.6	530.4
42.5°	349.5	434.9	705.2	436.9	341.4
45°	215.4	274.3	424.7	272.3	211.3
47.5°	126.0	162.6	247.9	164.6	124.0
50°	63.0	95.5	140.2	93.5	63.0
52.5°	36.6	50.8	77.2	48.8	36.6
55°	28.5	28.5	40.6	28.5	26.4
57.5°	22.4	22.4	22.4	22.4	20.3
60°	16.3	18.3	16.3	16.3	16.3
62.5°	14.2	14.2	12.2	14.2	12.2
65°	10.2	10.2	10.2	10.2	10.2
67.5°	8.1	8.1	8.1	8.1	8.1
70°	6.1	6.1	6.1	6.1	6.1
72.5°	4.1	6.1	4.1	6.1	6.1
75°	4.1	4.1	4.1	4.1	4.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
82.5°	2.0	2.0	2.0	2.0	2.0
85°	2.0	2.0	2.0	2.0	2.0
87.5°	2.0	2.0	2.0	2.0	2.0
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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77.5°	4.1	4.1	4.1	4.1	2.0
80°	2.0	2.0	2.0	2.0	2.0

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