

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: P838619

Luminaire Tested: HCSQ645D010-HM64560830-61SQC

Issue Date: 5/21/2024



**Test Information**

Test Method: LM-79-2019  
Report Number: P838619  
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: HCSQ645D010-HM64560830-61SQC  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: -

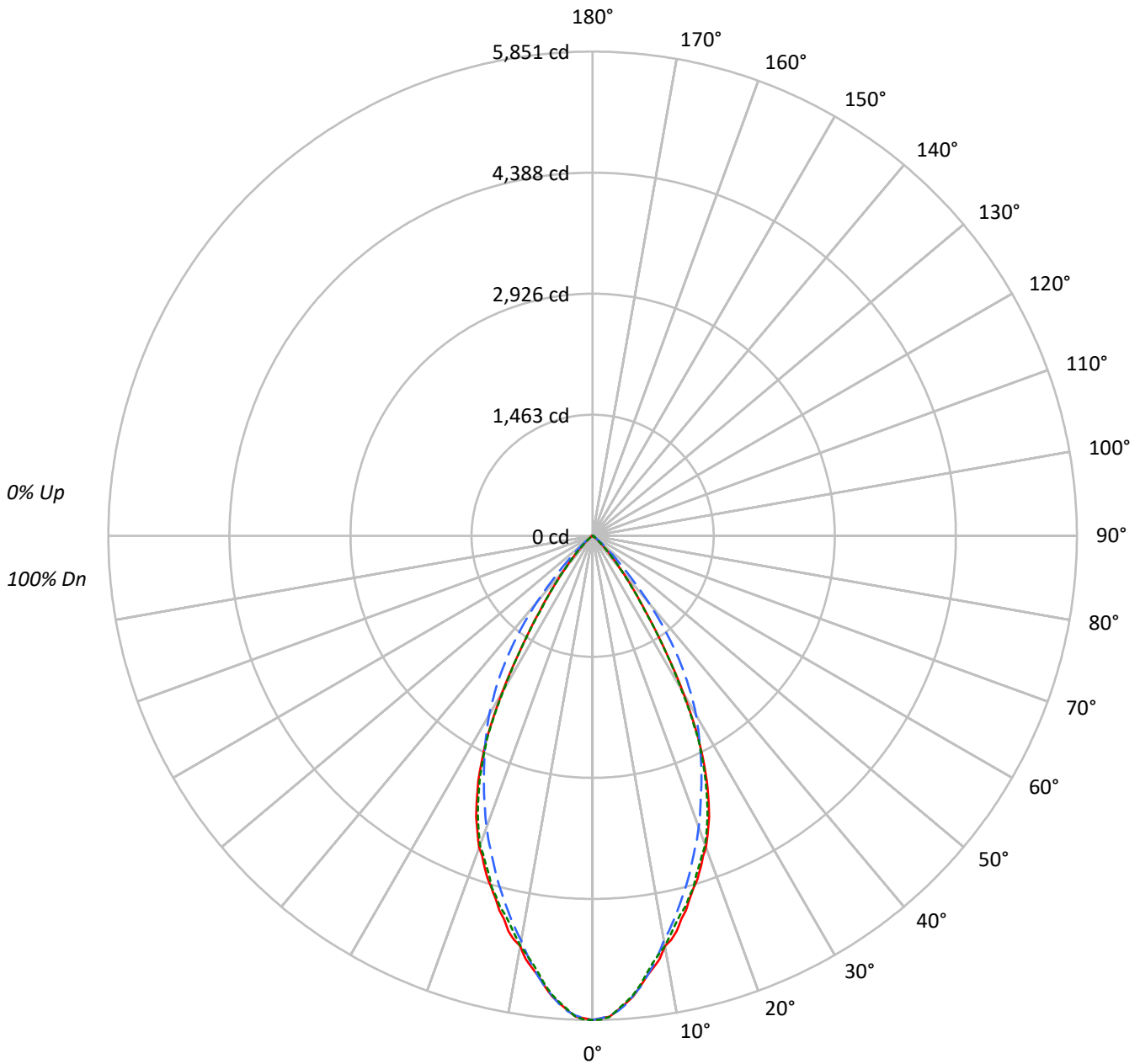
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4382.7 lumens  
Efficiency: N/A  
Efficacy: 95.5 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): 45.9  
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	96	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	77	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°	251919	251919	251919
5°	241648	241229	240887
10°	220095	217104	219924
15°	202270	194866	201049
20°	183560	171743	182309
25°	155138	147617	153000
30°	108625	124266	106776
35°	58343	95320	57213
40°	28889	58982	28670
45°	12616	24867	12373
50°	4059	9029	4059
55°	2057	2935	1907
60°	1343	1343	1343
65°	998	998	998
70°	743	743	743
75°	649	649	649
80°	496	496	496
85°	988	988	988

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 24867 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	513.8	11.7
10°-20°	1240.7	28.3
20°-30°	1433.2	32.7
30°-40°	895.0	20.4
40°-50°	248.7	5.7
50°-60°	34.8	0.8
60°-70°	10.2	0.2
70°-80°	4.4	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°	3187.7	72.7
0°-40°	4082.7	93.2
0°-60°	4366.1	99.6
0°-90°	4382.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4382.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5851	5851	5851	5851	5851	
5°	5591	5576	5581	5574	5574	515
15°	4538	4452	4372	4440	4510	1271
25°	3266	3170	3107	3168	3221	1458
35°	1110	1370	1814	1354	1088	738
45°	207	264	408	262	203	180
55°	27	27	39	27	25	27
65°	10	10	10	10	10	10
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°	5851.0	5851.0	5851.0	5851.0	5851.0
1°	5833.5	5833.5	5833.5	5849.1	5849.1
2°	5815.9	5812.0	5802.2	5813.9	5819.8
3°	5743.6	5751.4	5755.3	5749.4	5735.7
4°	5669.3	5661.5	5683.0	5669.3	5657.6
5°	5591.1	5575.5	5581.4	5573.5	5573.5
6°	5481.7	5501.2	5485.6	5471.9	5464.1
7°	5362.5	5378.1	5368.3	5348.8	5335.1
8°	5268.7	5258.9	5243.3	5239.4	5215.9
9°	5178.8	5143.6	5108.4	5114.3	5120.1
10°	5034.2	5038.1	4965.8	5020.5	5030.3
11°	4973.6	4952.1	4856.3	4901.3	4916.9
12°	4885.6	4817.2	4735.2	4772.3	4801.6
13°	4758.6	4688.3	4614.0	4670.7	4700.0
14°	4662.9	4582.7	4488.9	4561.2	4621.8
15°	4537.8	4451.8	4371.7	4440.1	4510.4
16°	4428.3	4328.7	4248.6	4315.0	4420.5
17°	4332.6	4209.5	4111.8	4182.1	4283.7
18°	4221.2	4078.5	3988.6	4062.9	4178.2
19°	4098.1	3953.5	3873.3	3933.9	4066.8
20°	4006.2	3844.0	3748.3	3806.9	3978.9
22.5°	3677.9	3507.9	3419.9	3490.3	3627.1
25°	3265.6	3169.8	3107.3	3167.8	3220.6
27.5°	2777.0	2777.0	2798.5	2773.1	2757.5
30°	2184.9	2343.2	2499.5	2335.3	2147.7
32.5°	1594.7	1848.7	2163.4	1881.9	1592.7
35°	1110.0	1369.9	1813.5	1354.3	1088.5
37.5°	771.9	943.9	1430.5	953.7	762.2
40°	514.0	633.2	1049.4	644.9	510.1
42.5°	336.1	418.2	678.1	420.2	328.3
45°	207.2	263.8	408.4	261.9	203.2
47.5°	121.2	156.3	238.4	158.3	119.2
50°	60.6	91.8	134.8	89.9	60.6
52.5°	35.2	48.9	74.3	46.9	35.2
55°	27.4	27.4	39.1	27.4	25.4
57.5°	21.5	21.5	21.5	21.5	19.5
60°	15.6	17.6	15.6	15.6	15.6
62.5°	13.7	13.7	11.7	13.7	11.7
65°	9.8	9.8	9.8	9.8	9.8
67.5°	7.8	7.8	7.8	7.8	7.8
70°	5.9	5.9	5.9	5.9	5.9
72.5°	3.9	5.9	3.9	5.9	5.9
75°	3.9	3.9	3.9	3.9	3.9



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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°	3.9	3.9	3.9	3.9	2.0
80°	2.0	2.0	2.0	2.0	2.0

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