

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: P837304

Luminaire Tested: HCSQ410D010-HM40525935-41SQH

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837304
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: HCSQ410D010-HM40525935-41SQH
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: -

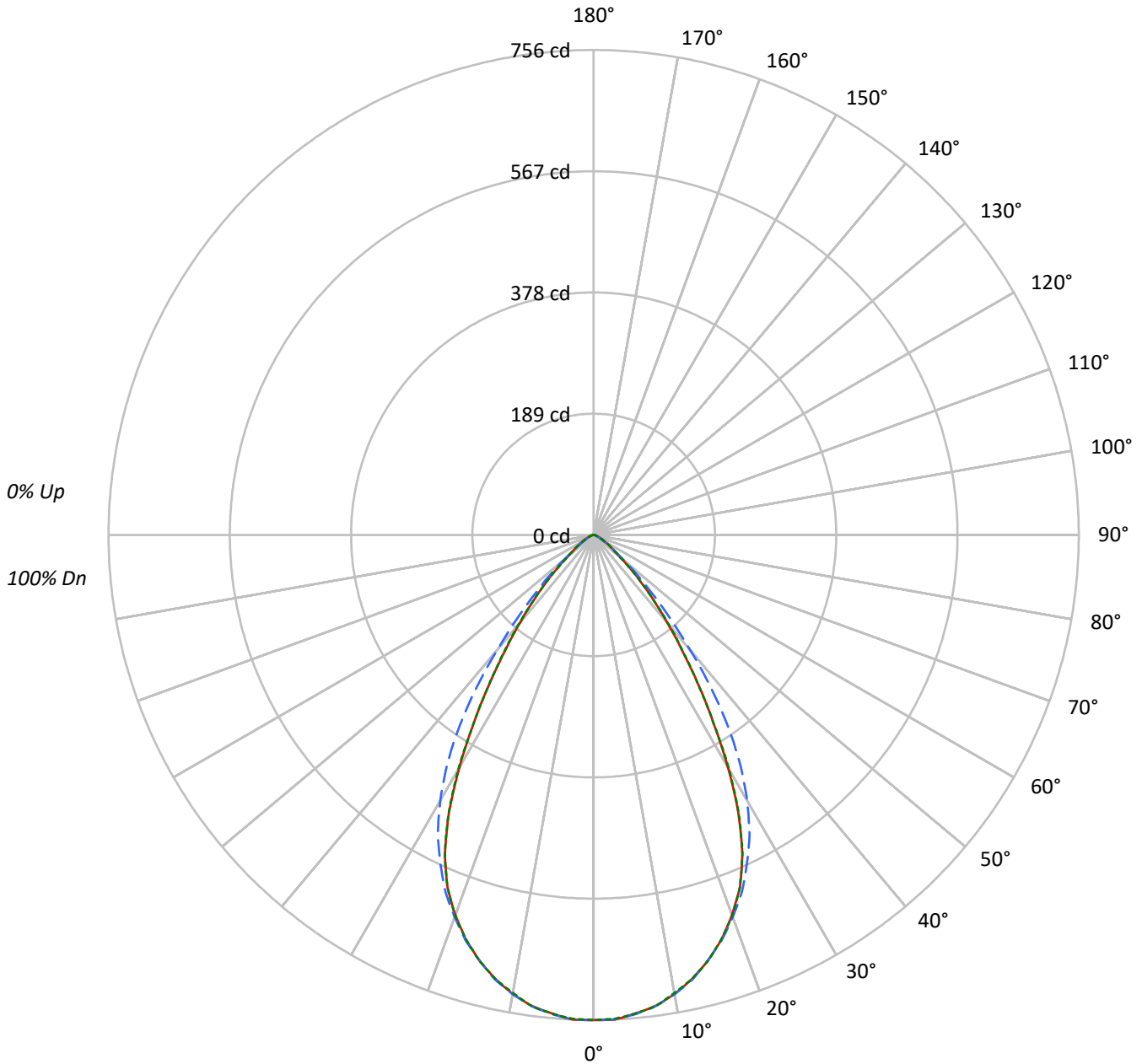
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 850.3 lumens
Efficiency: N/A
Efficacy: 85.9 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): 9.9
Input Voltage (V): NR
Input Current (A_{in}): 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					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			
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92					92			
2	107	101	97	93	104	100	95	92	96	93	90	93	90	88	90	88	86	85					85			
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77					77			
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71					71			
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65					65			
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62	60					60			
7	80	70	63	59	78	69	63	58	68	62	58	66	61	58	65	61	57	56					56			
8	75	65	59	54	74	65	58	54	63	58	54	62	57	54	61	57	53	52					52			
9	72	61	55	50	70	61	54	50	60	54	50	59	54	50	58	53	50	48					48			
10	68	57	51	47	67	57	51	47	56	51	47	55	50	47	55	50	46	45					45			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	73277	73277	73277
5°	72827	72924	72827
10°	71466	71515	71328
15°	68931	68881	68971
20°	64979	65309	65124
25°	58629	60425	58629
30°	46825	53470	47195
35°	33433	43261	33480
40°	22573	29428	22928
45°	14344	17413	14399
50°	8169	9299	7882
55°	5371	4493	5286
60°	3720	2616	3623
65°	2567	1926	2567
70°	1841	1445	1841
75°	1235	1235	1235
80°	781	1060	1060
85°	1000	1000	1000

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 17413 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.9	8.3
10°-20°	192.7	22.7
20°-30°	252.3	29.7
30°-40°	198.3	23.3
40°-50°	92.6	10.9
50°-60°	28.7	3.4
60°-70°	10.2	1.2
70°-80°	3.6	0.4
80°-90°	1.0	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°	515.8	60.7
0°-40°	714.1	84.0
0°-60°	835.5	98.3
0°-90°	850.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	850.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	756	756	756	756	756	
5°	749	749	750	751	749	71
15°	687	687	687	687	688	193
25°	548	556	565	556	548	247
35°	283	308	366	312	283	178
45°	105	117	127	115	105	83
55°	32	30	27	29	31	30
65°	11	10	8	10	11	12
75°	3	3	3	3	3	4
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°	756.4	756.4	756.4	756.4	756.4
2.5°	756.4	755.5	756.0	755.0	755.0
5°	748.9	749.4	749.9	750.8	748.9
7.5°	740.5	741.5	741.0	741.0	741.0
10°	726.5	727.0	727.0	727.0	725.1
12.5°	708.8	709.7	710.2	708.8	708.8
15°	687.3	687.3	686.8	687.3	687.7
17.5°	661.6	663.0	663.0	661.6	661.1
20°	630.3	632.6	633.5	631.7	631.7
22.5°	595.2	597.6	603.2	598.5	594.8
25°	548.5	556.0	565.3	556.5	548.5
27.5°	488.2	504.6	526.1	507.4	489.6
30°	418.6	445.3	478.0	446.7	421.9
32.5°	347.6	377.5	425.6	379.8	347.6
35°	282.7	308.4	365.8	312.1	283.1
37.5°	224.7	249.5	300.0	252.3	228.0
40°	178.5	198.6	232.7	198.1	181.3
42.5°	139.2	153.7	176.1	153.2	138.8
45°	104.7	117.3	127.1	114.9	105.1
47.5°	77.1	85.5	91.1	84.1	75.2
50°	54.2	60.3	61.7	58.9	52.3
52.5°	40.6	40.6	41.1	40.2	39.7
55°	31.8	29.9	26.6	29.4	31.3
57.5°	24.8	22.9	18.7	22.0	24.3
60°	19.2	17.3	13.5	16.8	18.7
62.5°	15.0	13.1	10.7	13.1	14.5
65°	11.2	10.3	8.4	9.8	11.2
67.5°	8.4	7.5	6.5	7.5	8.4
70°	6.5	6.1	5.1	5.6	6.5
72.5°	4.7	4.2	4.2	4.2	4.7
75°	3.3	3.3	3.3	3.3	3.3
77.5°	2.3	2.3	2.3	2.3	2.3
80°	1.4	1.4	1.9	1.9	1.9
82.5°	0.9	0.9	1.4	1.4	1.4
85°	0.9	0.9	0.9	0.9	0.9
87.5°	0.5	0.5	0.5	0.9	0.9
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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