

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: P837544

Luminaire Tested: HCSQ440D010-HM43040935-41SQH

Issue Date: 5/17/2024



**Test Information**

Test Method: LM-79-2019  
Report Number: P837544  
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: HCSQ440D010-HM43040935-41SQH  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: -

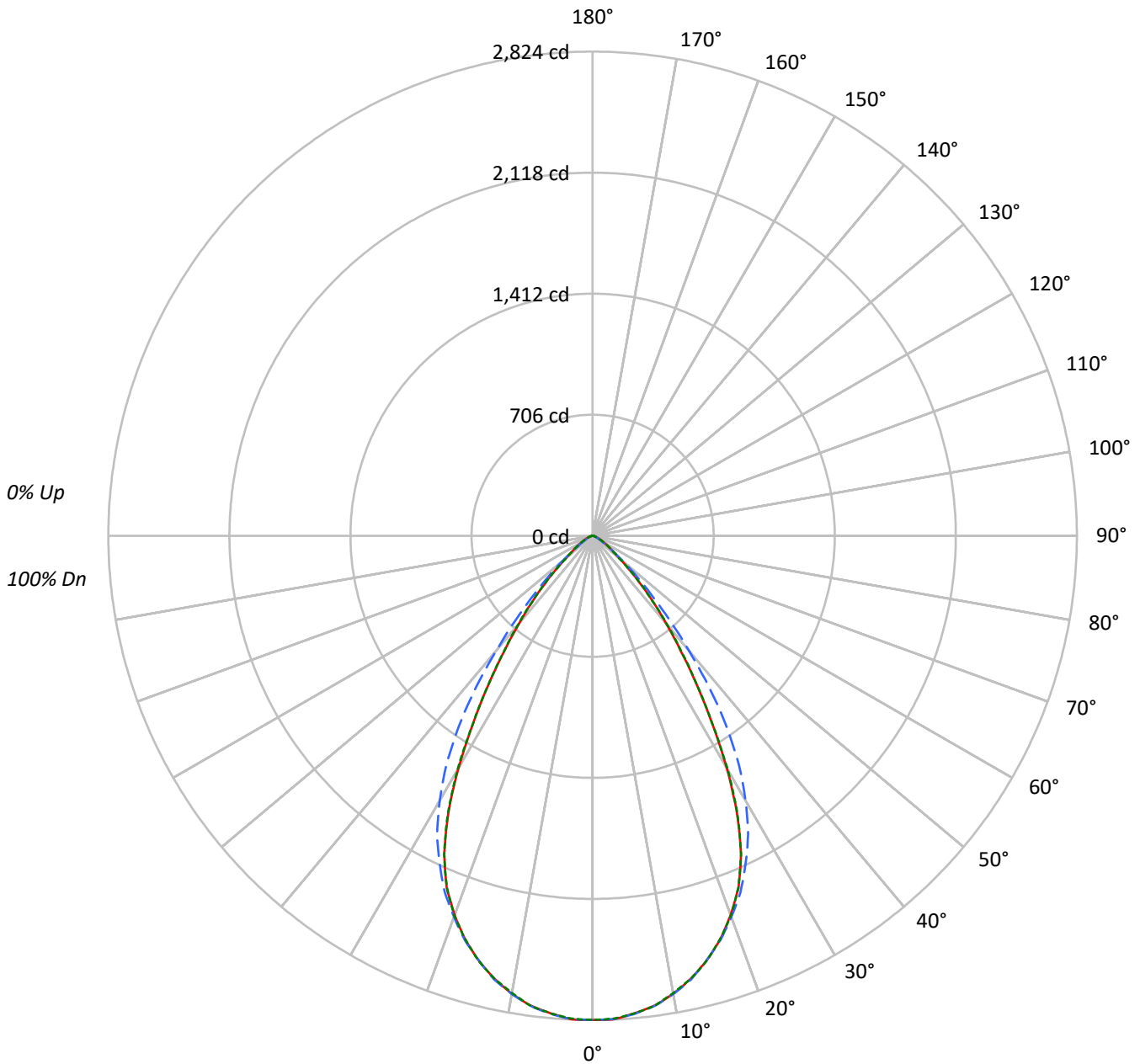
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3174.5 lumens  
Efficiency: N/A  
Efficacy: 77.4 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): 41  
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

TEST NUMBER: P837544  
CATALOG NUMBER: HCSQ440D010-HM43040935-41SQH

### Luminous Intensity Polar Plot





TEST NUMBER: P837544

CATALOG NUMBER: HCSQ440D010-HM43040935-41SQH

**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			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°	273586	273586	273586
5°	271918	272258	271918
10°	266828	266996	266307
15°	257341	257171	257522
20°	242587	243845	243134
25°	218900	225613	218900
30°	174829	199618	176205
35°	124803	161524	125016
40°	84262	109857	85589
45°	53527	65008	53773
50°	30489	34709	29449
55°	20031	16788	19744
60°	13853	9804	13524
65°	9605	7198	9605
70°	6911	5438	6911
75°	4566	4566	4566
80°	2901	3905	3905
85°	3890	3890	3890

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 65008 cd/sqm



TEST NUMBER: P837544

CATALOG NUMBER: HCSQ440D010-HM43040935-41SQH

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	264.6	8.3
10°-20°	719.4	22.7
20°-30°	941.9	29.7
30°-40°	740.3	23.3
40°-50°	345.8	10.9
50°-60°	107.2	3.4
60°-70°	38.2	1.2
70°-80°	13.5	0.4
80°-90°	3.7	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°	1925.9	60.7
0°-40°	2666.2	84.0
0°-60°	3119.2	98.3
0°-90°	3174.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3174.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2824	2824	2824	2824	2824	
5°	2796	2798	2800	2803	2796	264
15°	2566	2566	2564	2566	2568	719
25°	2048	2076	2111	2078	2048	921
35°	1055	1151	1366	1165	1057	665
45°	391	438	474	429	392	311
55°	119	112	99	110	117	111
65°	42	38	31	37	42	44
75°	12	12	12	12	12	14
85°	4	4	4	4	4	3
90°	0	0	0	0	0	



TEST NUMBER: P837544

CATALOG NUMBER: HCSQ440D010-HM43040935-41SQH

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2824.1	2824.1	2824.1	2824.1	2824.1
2.5°	2824.1	2820.6	2822.4	2818.9	2818.9
5°	2796.2	2797.9	2799.7	2803.2	2796.2
7.5°	2764.8	2768.3	2766.5	2766.5	2766.5
10°	2712.5	2714.2	2714.2	2714.2	2707.2
12.5°	2646.2	2649.7	2651.4	2646.2	2646.2
15°	2565.9	2565.9	2564.2	2565.9	2567.7
17.5°	2470.0	2475.2	2475.2	2470.0	2468.3
20°	2353.1	2361.9	2365.3	2358.4	2358.4
22.5°	2222.3	2231.0	2252.0	2234.5	2220.6
25°	2047.9	2075.8	2110.7	2077.5	2047.9
27.5°	1822.9	1883.9	1964.1	1894.4	1828.1
30°	1562.9	1662.4	1784.5	1667.6	1575.2
32.5°	1297.8	1409.4	1589.1	1418.2	1297.8
35°	1055.3	1151.3	1365.8	1165.2	1057.1
37.5°	839.0	931.5	1119.9	942.0	851.2
40°	666.3	741.4	868.7	739.6	676.8
42.5°	519.8	573.9	657.6	572.1	518.1
45°	390.7	437.8	474.5	429.1	392.5
47.5°	287.8	319.2	340.1	314.0	280.8
50°	202.3	225.0	230.3	219.8	195.4
52.5°	151.8	151.8	153.5	150.0	148.3
55°	118.6	111.6	99.4	109.9	116.9
57.5°	92.5	85.5	69.8	82.0	90.7
60°	71.5	64.5	50.6	62.8	69.8
62.5°	55.8	48.8	40.1	48.8	54.1
65°	41.9	38.4	31.4	36.6	41.9
67.5°	31.4	27.9	24.4	27.9	31.4
70°	24.4	22.7	19.2	20.9	24.4
72.5°	17.4	15.7	15.7	15.7	17.4
75°	12.2	12.2	12.2	12.2	12.2
77.5°	8.7	8.7	8.7	8.7	8.7
80°	5.2	5.2	7.0	7.0	7.0
82.5°	3.5	3.5	5.2	5.2	5.2
85°	3.5	3.5	3.5	3.5	3.5
87.5°	1.7	1.7	1.7	3.5	3.5
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



Report Generated By 670245859 / DESKTOP-T8S5UU9

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report







— 0°-180°    - - 45°-225°    - - - - 90°-270°

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)