

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: P837534

Luminaire Tested: HCSQ440D010-HM43040927-41SQH

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837534  
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-HM43040927-41SQH  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

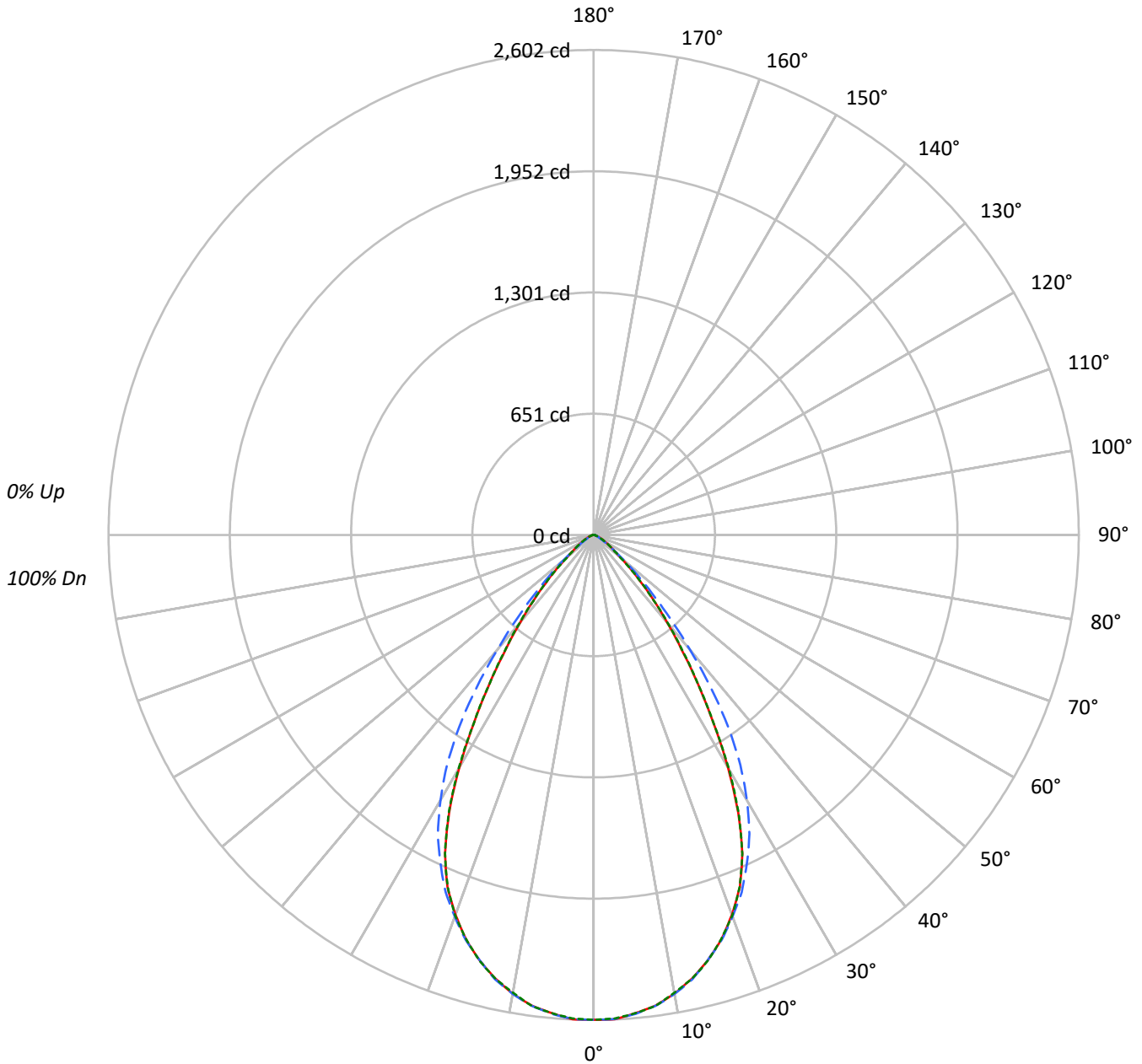
Lumens per Lamp: N/A  
Luminaire Lumens: 2924.5 lumens  
Efficiency: N/A  
Efficacy: 71.3 lumens/watt  
Spacing Criteria (0/90/45): 0.98 / 0.98 / 1.01  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 41  
Input Voltage (V): NR  
Input Current (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

TEST NUMBER: P837534

CATALOG NUMBER: HCSQ440D010-HM43040927-41SQH

### Luminous Intensity Polar Plot





TEST NUMBER: P837534

CATALOG NUMBER: HCSQ440D010-HM43040927-41SQH

**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°	252041	252041	252041
5°	250504	250816	250504
10°	245807	245964	245335
15°	237072	236912	237233
20°	223484	224639	223979
25°	201659	207837	201659
30°	161059	183890	162323
35°	114975	148799	115165
40°	77635	101207	78849
45°	49321	59884	49540
50°	28093	31966	27128
55°	18460	15471	18190
60°	12768	9029	12458
65°	8848	6625	8848
70°	6373	5013	6373
75°	4192	4192	4192
80°	2678	3570	3570
85°	3557	3557	3557

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 59884 cd/sqm



TEST NUMBER: P837534

CATALOG NUMBER: HCSQ440D010-HM43040927-41SQH

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	243.7	8.3
10°-20°	662.7	22.7
20°-30°	867.7	29.7
30°-40°	682.0	23.3
40°-50°	318.6	10.9
50°-60°	98.7	3.4
60°-70°	35.2	1.2
70°-80°	12.4	0.4
80°-90°	3.4	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°	1774.2	60.7
0°-40°	2456.2	84.0
0°-60°	2873.5	98.3
0°-90°	2924.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2924.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2602	2602	2602	2602	2602	
5°	2576	2578	2579	2582	2576	244
15°	2364	2364	2362	2364	2365	662
25°	1887	1912	1944	1914	1887	848
35°	972	1061	1258	1073	974	613
45°	360	403	437	395	362	287
55°	109	103	92	101	108	102
65°	39	35	29	34	39	40
75°	11	11	11	11	11	13
85°	3	3	3	3	3	3
90°	0	0	0	0	0	



TEST NUMBER: P837534

CATALOG NUMBER: HCSQ440D010-HM43040927-41SQH

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2601.7	2601.7	2601.7	2601.7	2601.7
2.5°	2601.7	2598.5	2600.1	2596.8	2596.8
5°	2576.0	2577.6	2579.2	2582.4	2576.0
7.5°	2547.0	2550.2	2548.6	2548.6	2548.6
10°	2498.8	2500.4	2500.4	2500.4	2494.0
12.5°	2437.8	2441.0	2442.6	2437.8	2437.8
15°	2363.8	2363.8	2362.2	2363.8	2365.4
17.5°	2275.5	2280.3	2280.3	2275.5	2273.8
20°	2167.8	2175.8	2179.0	2172.6	2172.6
22.5°	2047.3	2055.3	2074.6	2058.5	2045.7
25°	1886.6	1912.3	1944.4	1913.9	1886.6
27.5°	1679.3	1735.5	1809.4	1745.2	1684.1
30°	1439.8	1531.4	1643.9	1536.3	1451.1
32.5°	1195.6	1298.4	1463.9	1306.5	1195.6
35°	972.2	1060.6	1258.2	1073.4	973.8
37.5°	772.9	858.1	1031.7	867.8	784.2
40°	613.9	683.0	800.3	681.4	623.5
42.5°	478.9	528.7	605.8	527.1	477.3
45°	360.0	403.3	437.1	395.3	361.6
47.5°	265.1	294.1	313.4	289.3	258.7
50°	186.4	207.3	212.1	202.5	180.0
52.5°	139.8	139.8	141.4	138.2	136.6
55°	109.3	102.8	91.6	101.2	107.7
57.5°	85.2	78.7	64.3	75.5	83.6
60°	65.9	59.5	46.6	57.9	64.3
62.5°	51.4	45.0	37.0	45.0	49.8
65°	38.6	35.4	28.9	33.7	38.6
67.5°	28.9	25.7	22.5	25.7	28.9
70°	22.5	20.9	17.7	19.3	22.5
72.5°	16.1	14.5	14.5	14.5	16.1
75°	11.2	11.2	11.2	11.2	11.2
77.5°	8.0	8.0	8.0	8.0	8.0
80°	4.8	4.8	6.4	6.4	6.4
82.5°	3.2	3.2	4.8	4.8	4.8
85°	3.2	3.2	3.2	3.2	3.2
87.5°	1.6	1.6	1.6	3.2	3.2
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)