

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: P837621

Luminaire Tested: HCSQ450D010-HM44560930-41SQMB

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837621
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-4)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ450D010-HM44560930-41SQMB
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

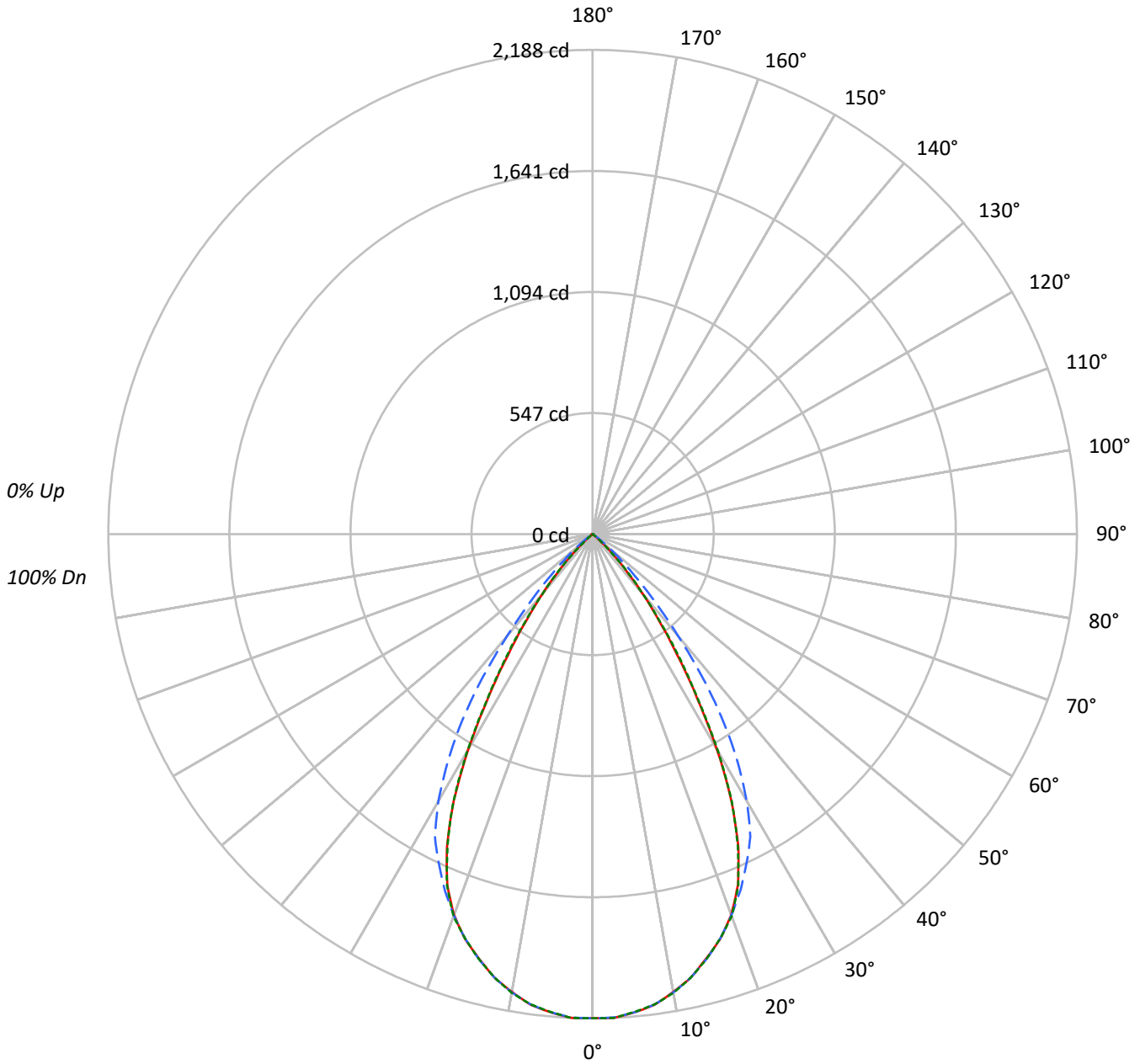
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2185.7 lumens
Efficiency: N/A
Efficacy: 44.0 lumens/watt
Spacing Criteria (0/90/45): 0.96 / 0.96 / 0.99
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 49.7
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

TEST NUMBER: P837621
CATALOG NUMBER: HCSQ450D010-HM44560930-41SQMB

Luminous Intensity Polar Plot





TEST NUMBER: P837621

CATALOG NUMBER: HCSQ450D010-HM44560930-41SQMB

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	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93								
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87								
3	102	96	91	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80								
4	97	89	83	79	95	88	83	79	86	81	78	84	80	77	82	79	76	74								
5	92	83	77	73	90	82	77	73	80	76	72	79	75	71	77	74	71	69								
6	87	78	72	67	85	77	71	67	76	70	67	74	70	66	73	69	66	64								
7	82	73	67	63	81	72	66	62	71	66	62	70	65	62	69	65	61	60								
8	78	69	62	58	77	68	62	58	67	62	58	66	61	58	65	61	57	56								
9	74	65	58	54	73	64	58	54	63	58	54	62	57	54	61	57	54	52								
10	71	61	55	51	70	60	55	51	60	54	51	59	54	51	58	54	50	49								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	211983	211983	211983
5°	211013	211013	210818
10°	206665	206862	207069
15°	199101	199302	199302
20°	188752	188969	189381
25°	166417	175749	165765
30°	125565	155768	126706
35°	78740	121231	81377
40°	44413	75472	44413
45°	18632	38100	18358
50°	1522	14679	1839
55°	692	3091	692
60°	794	388	794
65°	458	458	458
70°	566	566	566
75°	749	749	749
80°	0	1116	1116
85°	0	2223	2223

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 38100 cd/sqm



TEST NUMBER: P837621

CATALOG NUMBER: HCSQ450D010-HM44560930-41SQMB

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	205.1	9.4
10°-20°	557.9	25.5
20°-30°	723.8	33.1
30°-40°	514.6	23.5
40°-50°	166.8	7.6
50°-60°	12.1	0.6
60°-70°	2.0	0.1
70°-80°	2.1	0.1
80°-90°	1.4	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°	1486.8	68.0
0°-40°	2001.3	91.6
0°-60°	2180.2	99.7
0°-90°	2185.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2185.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2188	2188	2188	2188	2188	
5°	2170	2172	2170	2170	2168	205
15°	1985	1991	1987	1991	1987	557
25°	1557	1598	1644	1606	1551	697
35°	666	788	1025	796	688	426
45°	136	193	278	197	134	113
55°	4	4	18	4	4	5
65°	2	2	2	2	2	2
75°	2	2	2	2	2	2
85°	0	0	2	2	2	0
90°	0	0	0	0	0	



TEST NUMBER: P837621

CATALOG NUMBER: HCSQ450D010-HM44560930-41SQMB

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2188.2	2188.2	2188.2	2188.2	2188.2
2.5°	2188.2	2188.2	2186.2	2186.2	2188.2
5°	2169.9	2171.9	2169.9	2169.9	2167.9
7.5°	2145.6	2145.6	2143.5	2143.5	2143.5
10°	2100.9	2102.9	2102.9	2102.9	2105.0
12.5°	2052.2	2052.2	2052.2	2052.2	2052.2
15°	1985.2	1991.3	1987.2	1991.3	1987.2
17.5°	1918.2	1918.2	1916.2	1920.2	1916.2
20°	1830.9	1830.9	1833.0	1837.0	1837.0
22.5°	1715.2	1735.5	1743.6	1739.6	1719.3
25°	1556.9	1597.5	1644.2	1605.6	1550.8
27.5°	1358.0	1435.1	1542.7	1447.3	1362.0
30°	1122.5	1238.2	1392.5	1242.3	1132.7
32.5°	878.9	1012.9	1217.9	1023.0	887.0
35°	665.8	787.6	1025.1	795.7	688.1
37.5°	491.2	602.9	814.0	606.9	505.4
40°	351.2	432.4	596.8	440.5	351.2
42.5°	225.3	306.5	420.2	308.5	235.5
45°	136.0	192.8	278.1	196.9	134.0
47.5°	60.9	109.6	172.5	113.7	60.9
50°	10.1	44.7	97.4	46.7	12.2
52.5°	6.1	8.1	46.7	8.1	6.1
55°	4.1	4.1	18.3	4.1	4.1
57.5°	4.1	4.1	4.1	4.1	4.1
60°	4.1	2.0	2.0	2.0	4.1
62.5°	2.0	2.0	2.0	2.0	2.0
65°	2.0	2.0	2.0	2.0	2.0
67.5°	2.0	2.0	2.0	2.0	2.0
70°	2.0	2.0	2.0	2.0	2.0
72.5°	2.0	2.0	2.0	2.0	2.0
75°	2.0	2.0	2.0	2.0	2.0
77.5°	2.0	2.0	2.0	2.0	2.0
80°	0.0	2.0	2.0	2.0	2.0
82.5°	0.0	2.0	2.0	2.0	2.0
85°	0.0	0.0	2.0	2.0	2.0
87.5°	0.0	0.0	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



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)