

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: P837711

Luminaire Tested: HCSQ460D010-HM44560940-41SQMB

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837711
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: HCSQ460D010-HM44560940-41SQMB
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

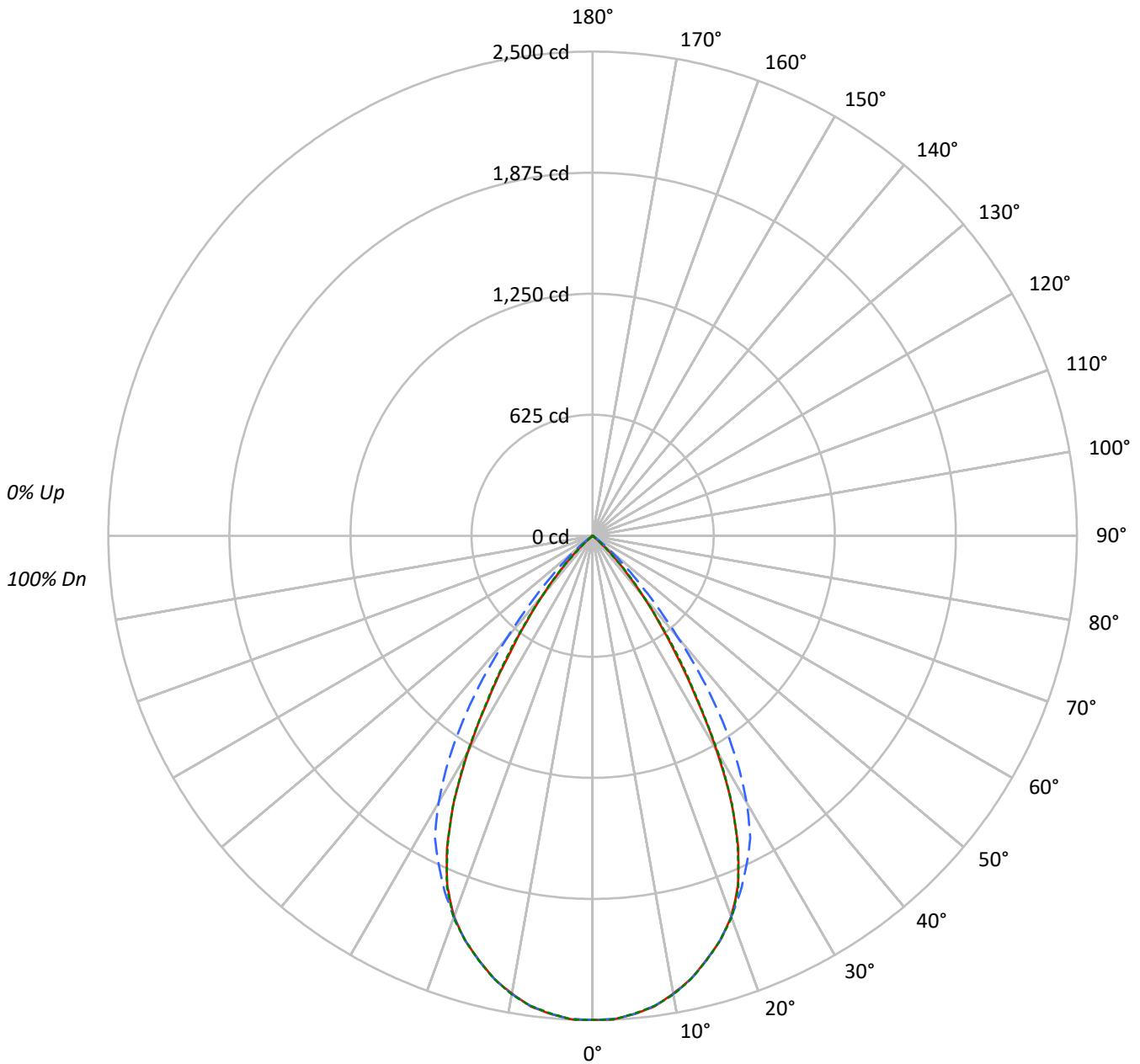
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2496.8 lumens
Efficiency: N/A
Efficacy: 44.6 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): 56
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: P837711
CATALOG NUMBER: HCSQ460D010-HM44560940-41SQMB

Luminous Intensity Polar Plot





TEST NUMBER: P837711

CATALOG NUMBER: HCSQ460D010-HM44560940-41SQMB

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					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°	242150	242150	242150
5°	241042	241042	240819
10°	236078	236304	236530
15°	227434	227665	227665
20°	215618	215855	216340
25°	190104	200761	189356
30°	143441	177939	144738
35°	89939	138486	92967
40°	50724	86209	50724
45°	21290	43526	20961
50°	1748	16774	2095
55°	777	3530	777
60°	891	446	891
65°	527	527	527
70°	651	651	651
75°	861	861	861
80°	0	1283	1283
85°	0	2556	2556

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 43526 cd/sqm



TEST NUMBER: P837711

CATALOG NUMBER: HCSQ460D010-HM44560940-41SQMB

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	234.3	9.4
10°-20°	637.3	25.5
20°-30°	826.8	33.1
30°-40°	587.8	23.5
40°-50°	190.6	7.6
50°-60°	13.7	0.6
60°-70°	2.4	0.1
70°-80°	2.4	0.1
80°-90°	1.6	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°	1698.3	68.0
0°-40°	2286.1	91.6
0°-60°	2490.5	99.7
0°-90°	2496.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2496.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2500	2500	2500	2500	2500	
5°	2479	2481	2479	2479	2476	234
15°	2268	2275	2270	2275	2270	637
25°	1778	1825	1878	1834	1772	796
35°	760	900	1171	909	786	487
45°	155	220	318	225	153	129
55°	5	5	21	5	5	5
65°	2	2	2	2	2	3
75°	2	2	2	2	2	2
85°	0	0	2	2	2	0
90°	0	0	0	0	0	



TEST NUMBER: P837711

CATALOG NUMBER: HCSQ460D010-HM44560940-41SQMB

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2499.6	2499.6	2499.6	2499.6	2499.6
2.5°	2499.6	2499.6	2497.3	2497.3	2499.6
5°	2478.7	2481.0	2478.7	2478.7	2476.4
7.5°	2450.9	2450.9	2448.6	2448.6	2448.6
10°	2399.9	2402.2	2402.2	2402.2	2404.5
12.5°	2344.2	2344.2	2344.2	2344.2	2344.2
15°	2267.7	2274.7	2270.0	2274.7	2270.0
17.5°	2191.2	2191.2	2188.9	2193.5	2188.9
20°	2091.5	2091.5	2093.8	2098.5	2098.5
22.5°	1959.3	1982.5	1991.8	1987.2	1964.0
25°	1778.5	1824.8	1878.2	1834.1	1771.5
27.5°	1551.2	1639.3	1762.2	1653.3	1555.9
30°	1282.3	1414.4	1590.7	1419.1	1293.9
32.5°	1004.0	1157.1	1391.2	1168.6	1013.3
35°	760.5	899.7	1171.0	908.9	786.1
37.5°	561.1	688.7	929.8	693.3	577.4
40°	401.1	493.9	681.7	503.2	401.1
42.5°	257.4	350.1	480.0	352.4	269.0
45°	155.4	220.3	317.7	224.9	153.0
47.5°	69.6	125.2	197.1	129.8	69.6
50°	11.6	51.0	111.3	53.3	13.9
52.5°	7.0	9.3	53.3	9.3	7.0
55°	4.6	4.6	20.9	4.6	4.6
57.5°	4.6	4.6	4.6	4.6	4.6
60°	4.6	2.3	2.3	2.3	4.6
62.5°	2.3	2.3	2.3	2.3	2.3
65°	2.3	2.3	2.3	2.3	2.3
67.5°	2.3	2.3	2.3	2.3	2.3
70°	2.3	2.3	2.3	2.3	2.3
72.5°	2.3	2.3	2.3	2.3	2.3
75°	2.3	2.3	2.3	2.3	2.3
77.5°	2.3	2.3	2.3	2.3	2.3
80°	0.0	2.3	2.3	2.3	2.3
82.5°	0.0	2.3	2.3	2.3	2.3
85°	0.0	0.0	2.3	2.3	2.3
87.5°	0.0	0.0	2.3	2.3	2.3
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)