

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: P837696

Luminaire Tested: HCSQ460D010-HM44560927-41SQMB

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837696
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-HM44560927-41SQMB
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

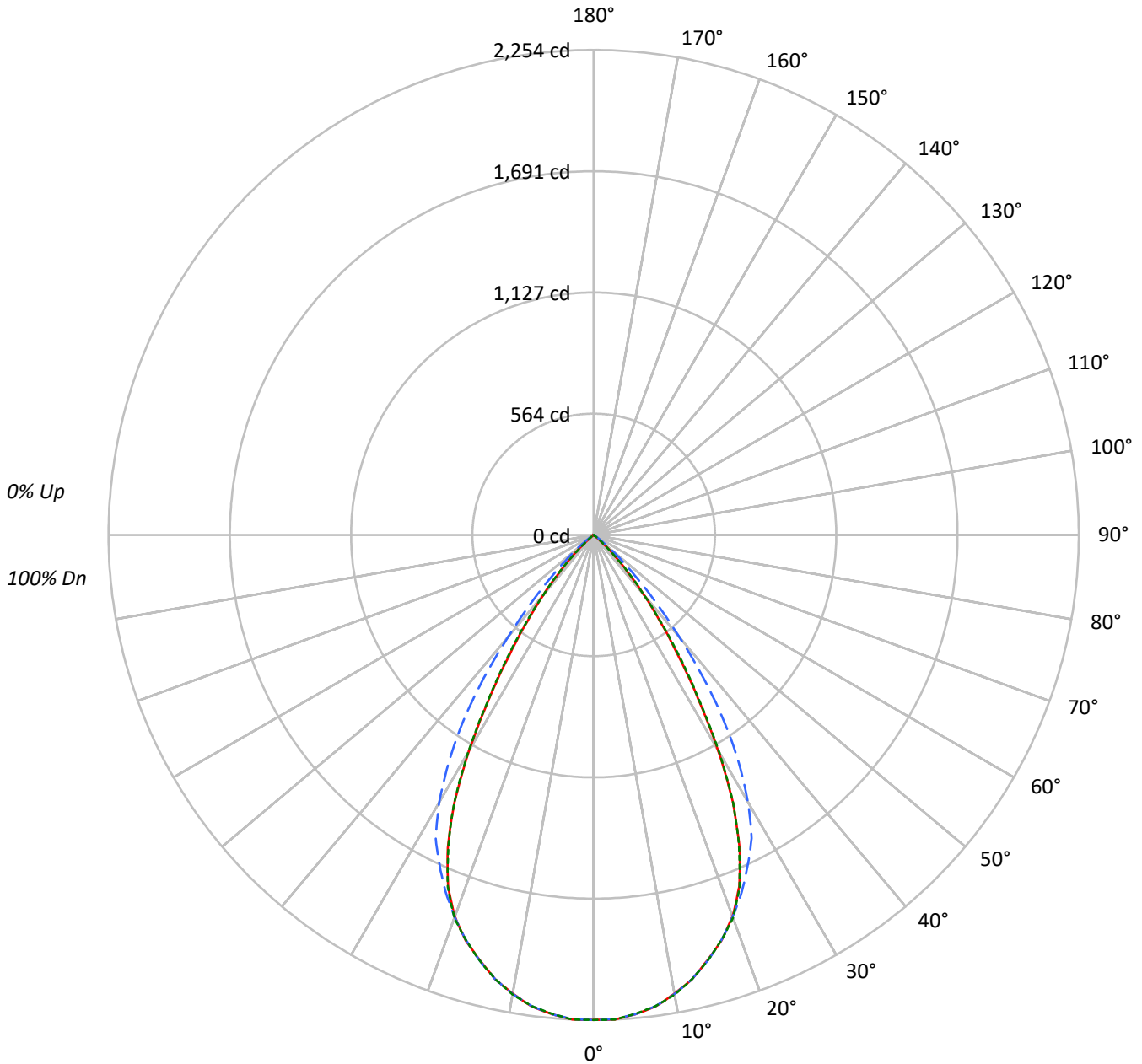
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2252.0 lumens
Efficiency: N/A
Efficacy: 40.2 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 (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: P837696
CATALOG NUMBER: HCSQ460D010-HM44560927-41SQMB

Luminous Intensity Polar Plot





TEST NUMBER: P837696

CATALOG NUMBER: HCSQ460D010-HM44560927-41SQMB

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	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°	218406	218406	218406
5°	217402	217402	217198
10°	212922	213128	213335
15°	205129	205340	205340
20°	194474	194691	195124
25°	171463	181072	170789
30°	129369	160489	130543
35°	81128	124898	83849
40°	45754	77761	45754
45°	19194	39251	18906
50°	1582	15131	1884
55°	709	3175	709
60°	814	407	814
65°	481	481	481
70°	595	595	595
75°	786	786	786
80°	0	1172	1172
85°	0	2334	2334

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 39251 cd/sqm



TEST NUMBER: P837696
 CATALOG NUMBER: HCSQ460D010-HM44560927-41SQMB

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	211.3	9.4
10°-20°	574.8	25.5
20°-30°	745.7	33.1
30°-40°	530.1	23.5
40°-50°	171.9	7.6
50°-60°	12.4	0.6
60°-70°	2.1	0.1
70°-80°	2.2	0.1
80°-90°	1.5	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°	1531.8	68.0
0°-40°	2061.9	91.6
0°-60°	2246.2	99.7
0°-90°	2252.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2252.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2254	2254	2254	2254	2254	
5°	2236	2238	2236	2236	2234	211
15°	2045	2052	2047	2052	2047	574
25°	1604	1646	1694	1654	1598	718
35°	686	811	1056	820	709	439
45°	140	199	286	203	138	117
55°	4	4	19	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: P837696

CATALOG NUMBER: HCSQ460D010-HM44560927-41SQMB

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2254.5	2254.5	2254.5	2254.5	2254.5
2.5°	2254.5	2254.5	2252.4	2252.4	2254.5
5°	2235.6	2237.7	2235.6	2235.6	2233.5
7.5°	2210.5	2210.5	2208.4	2208.4	2208.4
10°	2164.5	2166.6	2166.6	2166.6	2168.7
12.5°	2114.3	2114.3	2114.3	2114.3	2114.3
15°	2045.3	2051.6	2047.4	2051.6	2047.4
17.5°	1976.3	1976.3	1974.2	1978.4	1974.2
20°	1886.4	1886.4	1888.5	1892.7	1892.7
22.5°	1767.2	1788.1	1796.5	1792.3	1771.4
25°	1604.1	1645.9	1694.0	1654.2	1597.8
27.5°	1399.1	1478.6	1589.4	1491.1	1403.3
30°	1156.5	1275.7	1434.7	1279.9	1167.0
32.5°	905.5	1043.6	1254.8	1054.0	913.9
35°	686.0	811.4	1056.1	819.8	709.0
37.5°	506.1	621.1	838.6	625.3	520.7
40°	361.8	445.5	614.9	453.8	361.8
42.5°	232.1	315.8	432.9	317.9	242.6
45°	140.1	198.7	286.5	202.9	138.0
47.5°	62.7	112.9	177.8	117.1	62.7
50°	10.5	46.0	100.4	48.1	12.5
52.5°	6.3	8.4	48.1	8.4	6.3
55°	4.2	4.2	18.8	4.2	4.2
57.5°	4.2	4.2	4.2	4.2	4.2
60°	4.2	2.1	2.1	2.1	4.2
62.5°	2.1	2.1	2.1	2.1	2.1
65°	2.1	2.1	2.1	2.1	2.1
67.5°	2.1	2.1	2.1	2.1	2.1
70°	2.1	2.1	2.1	2.1	2.1
72.5°	2.1	2.1	2.1	2.1	2.1
75°	2.1	2.1	2.1	2.1	2.1
77.5°	2.1	2.1	2.1	2.1	2.1
80°	0.0	2.1	2.1	2.1	2.1
82.5°	0.0	2.1	2.1	2.1	2.1
85°	0.0	0.0	2.1	2.1	2.1
87.5°	0.0	0.0	2.1	2.1	2.1
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)