

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: P837669

Luminaire Tested: HCSQ455D010-HM44560940-41SQH

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837669
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: HCSQ455D010-HM44560940-41SQH
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

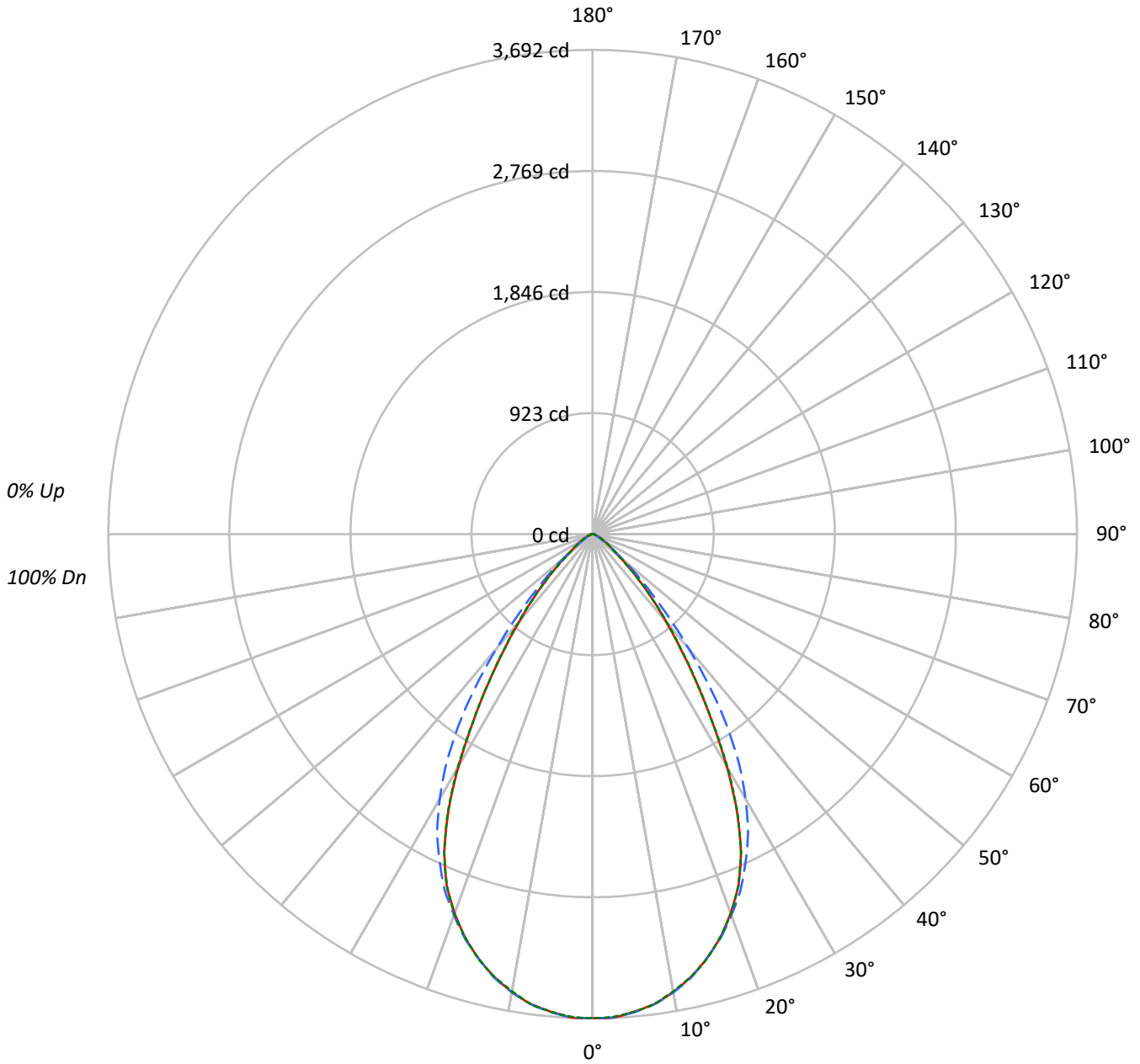
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4150.2 lumens
Efficiency: N/A
Efficacy: 76.9 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): 54
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: P837669
CATALOG NUMBER: HCSQ455D010-HM44560940-41SQH

Luminous Intensity Polar Plot





TEST NUMBER: P837669

CATALOG NUMBER: HCSQ455D010-HM44560940-41SQH

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°	357664	357664	357664
5°	355481	355928	355481
10°	348829	349056	348151
15°	336432	336202	336663
20°	317144	318793	317855
25°	286166	294942	286166
30°	228568	260963	230346
35°	163168	211171	163428
40°	110161	143623	111893
45°	69981	84983	70296
50°	39863	45364	38492
55°	26196	21957	25807
60°	18116	12807	17670
65°	12539	9398	12539
70°	9036	7109	9036
75°	5989	5989	5989
80°	3794	5077	5077
85°	5113	5113	5113

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 84983 cd/sqm



TEST NUMBER: P837669

CATALOG NUMBER: HCSQ455D010-HM44560940-41SQH

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	345.9	8.3
10°-20°	940.5	22.7
20°-30°	1231.4	29.7
30°-40°	967.8	23.3
40°-50°	452.1	10.9
50°-60°	140.1	3.4
60°-70°	50.0	1.2
70°-80°	17.6	0.4
80°-90°	4.9	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°	2517.8	60.7
0°-40°	3485.6	84.0
0°-60°	4077.8	98.3
0°-90°	4150.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4150.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3692	3692	3692	3692	3692	
5°	3656	3658	3660	3665	3656	346
15°	3354	3354	3352	3354	3357	940
25°	2677	2714	2759	2716	2677	1204
35°	1380	1505	1786	1523	1382	870
45°	511	572	620	561	513	407
55°	155	146	130	144	153	145
65°	55	50	41	48	55	57
75°	16	16	16	16	16	18
85°	5	5	5	5	5	4
90°	0	0	0	0	0	



TEST NUMBER: P837669

CATALOG NUMBER: HCSQ455D010-HM44560940-41SQH

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3692.0	3692.0	3692.0	3692.0	3692.0
2.5°	3692.0	3687.5	3689.8	3685.2	3685.2
5°	3655.5	3657.8	3660.1	3664.7	3655.5
7.5°	3614.5	3619.1	3616.8	3616.8	3616.8
10°	3546.1	3548.4	3548.4	3548.4	3539.2
12.5°	3459.4	3464.0	3466.3	3459.4	3459.4
15°	3354.5	3354.5	3352.2	3354.5	3356.8
17.5°	3229.1	3235.9	3235.9	3229.1	3226.8
20°	3076.3	3087.7	3092.3	3083.2	3083.2
22.5°	2905.3	2916.7	2944.1	2921.2	2903.0
25°	2677.2	2713.7	2759.3	2716.0	2677.2
27.5°	2383.1	2462.9	2567.8	2476.6	2389.9
30°	2043.3	2173.3	2332.9	2180.1	2059.2
32.5°	1696.6	1842.6	2077.5	1854.0	1696.6
35°	1379.7	1505.1	1785.6	1523.3	1381.9
37.5°	1096.9	1217.8	1464.0	1231.4	1112.9
40°	871.1	969.2	1135.7	966.9	884.8
42.5°	679.6	750.3	859.7	748.0	677.3
45°	510.8	572.4	620.3	561.0	513.1
47.5°	376.3	417.3	444.7	410.5	367.2
50°	264.5	294.2	301.0	287.3	255.4
52.5°	198.4	198.4	200.7	196.1	193.8
55°	155.1	145.9	130.0	143.7	152.8
57.5°	120.9	111.7	91.2	107.2	118.6
60°	93.5	84.4	66.1	82.1	91.2
62.5°	73.0	63.9	52.5	63.9	70.7
65°	54.7	50.2	41.0	47.9	54.7
67.5°	41.0	36.5	31.9	36.5	41.0
70°	31.9	29.6	25.1	27.4	31.9
72.5°	22.8	20.5	20.5	20.5	22.8
75°	16.0	16.0	16.0	16.0	16.0
77.5°	11.4	11.4	11.4	11.4	11.4
80°	6.8	6.8	9.1	9.1	9.1
82.5°	4.6	4.6	6.8	6.8	6.8
85°	4.6	4.6	4.6	4.6	4.6
87.5°	2.3	2.3	2.3	4.6	4.6
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)