

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: P838755

Luminaire Tested: HCSQ660D010-HM64560927-61SQH

Issue Date: 5/21/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P838755  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-2)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ660D010-HM64560927-61SQH  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

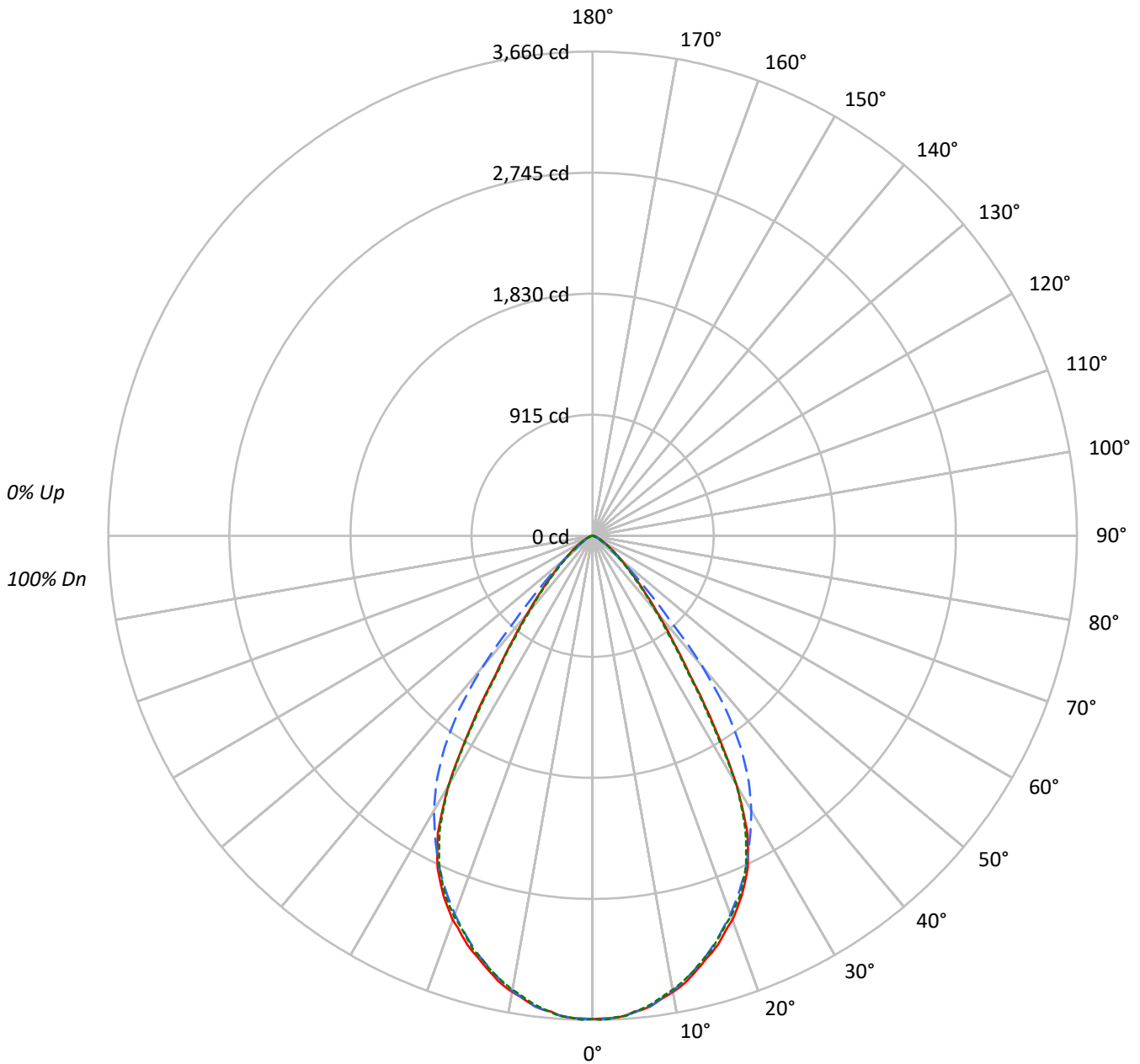
Lumens per Lamp: N/A  
Luminaire Lumens: 4109.0 lumens  
Efficiency: N/A  
Efficacy: 73.4 lumens/watt  
Spacing Criteria (0/90/45): 1.02 / 1.01 / 1.04  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
CIE Type: Direct

Input Watts (W): 56  
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: P838755

CATALOG NUMBER: HCSQ660D010-HM64560927-61SQH

### Luminous Intensity Polar Plot





TEST NUMBER: P838755

CATALOG NUMBER: HCSQ660D010-HM64560927-61SQH

**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	97	95	94	92				92															
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	91	88	86	85				85															
3	101	94	88	84	99	92	87	83	90	85	82	87	84	81	85	82	79	78				78															
4	95	87	81	76	93	86	80	76	83	78	75	81	77	74	79	76	73	71				71															
5	90	80	74	69	88	79	74	69	78	72	68	76	71	68	74	70	67	66				66															
6	85	75	68	64	83	74	68	63	72	67	63	71	66	63	70	65	62	61				61															
7	80	70	63	59	79	69	63	59	68	62	58	67	62	58	65	61	58	56				56															
8	76	65	59	54	74	65	59	54	64	58	54	63	57	54	62	57	54	52				52															
9	72	61	55	51	70	61	55	50	60	54	50	59	54	50	58	53	50	48				48															
10	68	58	51	47	67	57	51	47	56	51	47	55	50	47	55	50	47	45				45															

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	157304	157304	157304
5°	156064	156327	156241
10°	153085	152731	152377
15°	147680	146864	146775
20°	141589	139546	140197
25°	131788	130629	130344
30°	108297	119180	107994
35°	66884	102353	65286
40°	42935	72550	41457
45°	28009	35164	26652
50°	18594	17509	17375
55°	12626	9128	11710
60°	8551	5580	7853
65°	5990	4126	5369
70°	3827	3059	3575
75°	2695	2362	2362
80°	2008	1512	1512
85°	988	2025	988

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 35164 cd/sqm



TEST NUMBER: P838755

CATALOG NUMBER: HCSQ660D010-HM64560927-61SQH

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	341.2	8.3
10°-20°	926.1	22.5
20°-30°	1250.1	30.4
30°-40°	975.6	23.7
40°-50°	408.7	9.9
50°-60°	138.6	3.4
60°-70°	49.4	1.2
70°-80°	16.1	0.4
80°-90°	3.3	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°	2517.4	61.3
0°-40°	3493.0	85.0
0°-60°	4040.3	98.3
0°-90°	4109.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4109.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3654	3654	3654	3654	3654	
5°	3611	3615	3617	3611	3615	342
15°	3313	3305	3295	3291	3293	932
25°	2774	2762	2750	2750	2744	1248
35°	1272	1493	1947	1491	1242	837
45°	460	492	578	470	438	369
55°	168	154	122	146	156	155
65°	59	49	40	47	53	60
75°	16	14	14	14	14	18
85°	2	2	4	2	2	3
90°	0	0	0	0	0	



TEST NUMBER: P838755

CATALOG NUMBER: HCSQ660D010-HM64560927-61SQH

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3653.5	3653.5	3653.5	3653.5	3653.5
1°	3649.4	3655.5	3651.5	3653.5	3659.6
2°	3649.4	3649.4	3653.5	3651.5	3653.5
3°	3645.4	3645.4	3641.3	3641.3	3641.3
4°	3633.2	3633.2	3633.2	3629.2	3637.3
5°	3610.9	3615.0	3617.0	3610.9	3615.0
6°	3602.8	3604.9	3600.8	3598.8	3594.7
7°	3584.6	3578.5	3584.6	3570.4	3572.4
8°	3554.2	3554.2	3550.2	3546.1	3542.0
9°	3525.8	3525.8	3521.8	3515.7	3511.6
10°	3501.5	3495.4	3493.4	3487.3	3485.3
11°	3473.1	3461.0	3459.0	3452.9	3452.9
12°	3438.7	3432.6	3418.4	3416.4	3416.4
13°	3396.1	3390.1	3379.9	3371.8	3379.9
14°	3355.6	3351.6	3333.3	3339.4	3337.4
15°	3313.1	3305.0	3294.8	3290.8	3292.8
16°	3274.6	3260.4	3246.2	3248.2	3260.4
17°	3234.0	3213.8	3199.6	3197.6	3203.6
18°	3183.4	3167.2	3144.9	3153.0	3153.0
19°	3132.7	3110.4	3096.2	3094.2	3102.3
20°	3090.2	3055.7	3045.6	3043.6	3059.8
22.5°	2944.3	2909.8	2901.7	2909.8	2926.0
25°	2774.1	2761.9	2749.7	2749.7	2743.7
27.5°	2532.9	2561.3	2575.5	2547.1	2500.5
30°	2178.3	2297.9	2397.2	2283.7	2172.2
32.5°	1716.3	1963.5	2192.5	1957.4	1675.8
35°	1272.5	1493.4	1947.3	1491.4	1242.1
37.5°	980.7	1122.6	1655.5	1104.4	952.4
40°	763.9	847.0	1290.8	836.9	737.6
42.5°	593.7	646.4	859.2	634.2	573.5
45°	460.0	492.4	577.5	470.1	437.7
47.5°	358.7	372.8	395.1	356.6	338.4
50°	277.6	277.6	261.4	267.5	259.4
52.5°	214.8	206.7	176.3	194.5	198.6
55°	168.2	154.0	121.6	145.9	156.0
57.5°	127.7	113.5	87.1	107.4	117.5
60°	99.3	85.1	64.8	81.1	91.2
62.5°	77.0	64.8	50.7	60.8	68.9
65°	58.8	48.6	40.5	46.6	52.7
67.5°	44.6	36.5	30.4	34.4	40.5
70°	30.4	28.4	24.3	26.3	28.4
72.5°	22.3	20.3	18.2	18.2	20.3
75°	16.2	14.2	14.2	14.2	14.2



TEST NUMBER: P838755

CATALOG NUMBER: HCSQ660D010-HM64560927-61SQH

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
82.5°	4.1	4.1	4.1	4.1	4.1
85°	2.0	2.0	4.1	2.0	2.0
87.5°	2.0	2.0	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





77.5°	10.1	10.1	10.1	10.1	10.1
80°	8.1	8.1	6.1	6.1	6.1

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)