

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: P838685

Luminaire Tested: HCSQ650D010-HM64560935-61SQH

Issue Date: 5/21/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P838685  
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: HCSQ650D010-HM64560935-61SQH  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: -

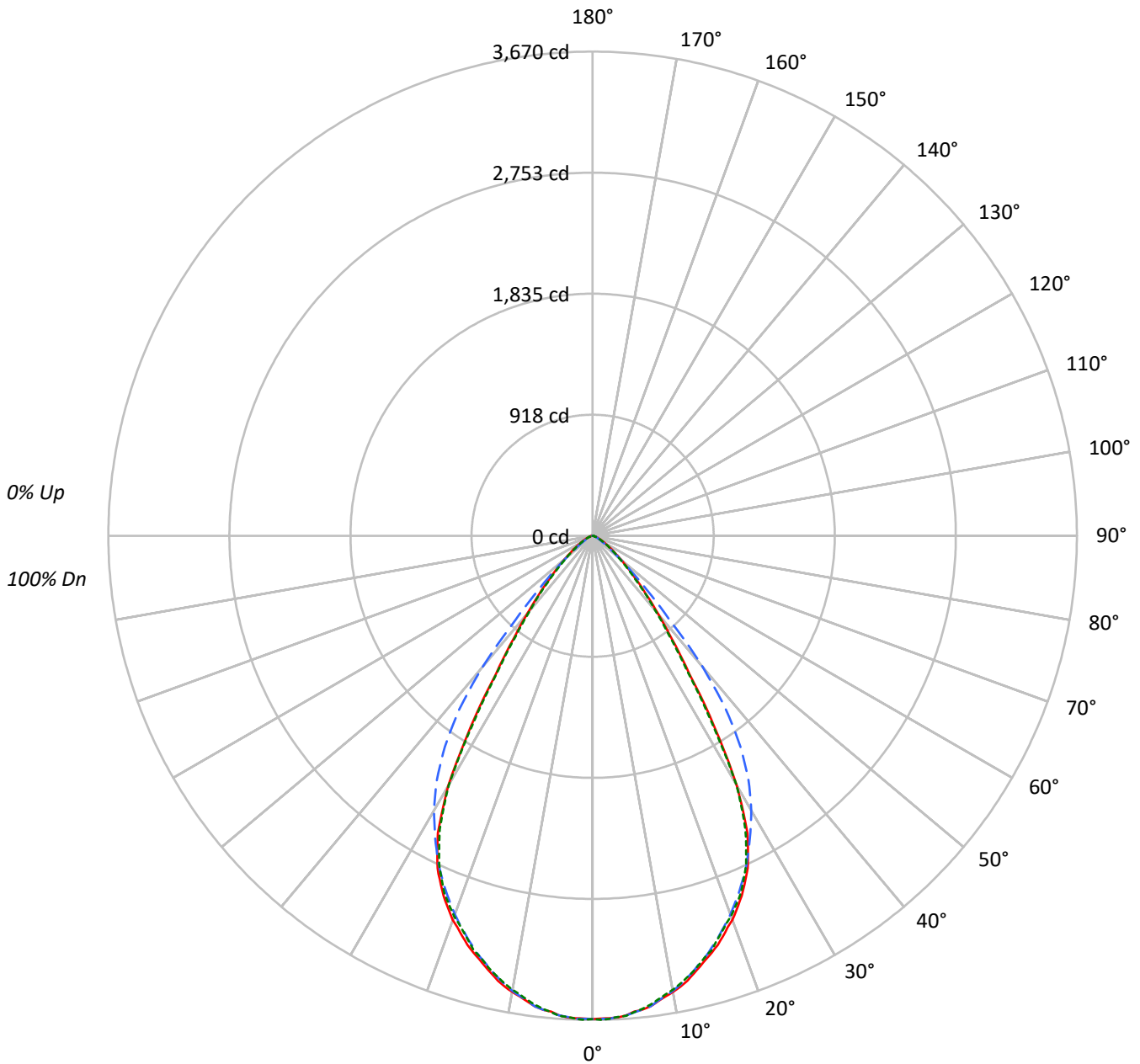
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4120.5 lumens  
Efficiency: N/A  
Efficacy: 82.9 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): 49.7  
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

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### Luminous Intensity Polar Plot





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**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	110	107	105	110	108	105	103	104	102	100	100	98	97	97	95	94	92								
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	91	88	86	85								
3	101	94	88	84	99	92	87	83	90	85	82	87	84	81	85	82	79	78								
4	95	87	81	76	93	86	80	76	83	78	75	81	77	74	79	76	73	71								
5	90	80	74	69	88	79	74	69	78	72	68	76	71	68	74	70	67	66								
6	85	75	68	64	83	74	68	63	72	67	63	71	66	63	70	65	62	61								
7	80	70	63	59	79	69	63	59	68	62	58	67	62	58	65	61	58	56								
8	76	65	59	54	74	65	59	54	64	58	54	63	57	54	62	57	54	52								
9	72	61	55	51	70	61	55	50	60	54	50	59	54	50	58	53	50	48								
10	68	58	51	47	67	57	51	47	56	51	47	55	50	47	55	50	47	45								

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

	0°	45°	90°
0°	157743	157743	157743
5°	156500	156764	156677
10°	153514	153159	152801
15°	148090	147274	147185
20°	141984	139935	140586
25°	132154	130995	130705
30°	108600	119513	108297
35°	67073	102642	65470
40°	43059	72752	41569
45°	28089	35261	26725
50°	18648	17556	17422
55°	12664	9150	11748
60°	8577	5597	7871
65°	6001	4136	5379
70°	3840	3072	3575
75°	2712	2362	2362
80°	2008	1512	1512
85°	988	2025	988

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 35261 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	342.2	8.3
10°-20°	928.6	22.5
20°-30°	1253.6	30.4
30°-40°	978.4	23.7
40°-50°	409.8	9.9
50°-60°	138.9	3.4
60°-70°	49.5	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°	2524.4	61.3
0°-40°	3502.8	85.0
0°-60°	4051.6	98.3
0°-90°	4120.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4120.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3664	3664	3664	3664	3664	
5°	3621	3625	3627	3621	3625	342
15°	3322	3314	3304	3300	3302	934
25°	2782	2770	2757	2757	2751	1251
35°	1276	1498	1953	1496	1246	839
45°	461	494	579	471	439	370
55°	169	154	122	146	156	156
65°	59	49	41	47	53	61
75°	16	14	14	14	14	18
85°	2	2	4	2	2	3
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3663.7	3663.7	3663.7	3663.7	3663.7
1°	3659.6	3665.7	3661.7	3663.7	3669.8
2°	3659.6	3659.6	3663.7	3661.7	3663.7
3°	3655.6	3655.6	3651.5	3651.5	3651.5
4°	3643.4	3643.4	3643.4	3639.3	3647.4
5°	3621.0	3625.1	3627.1	3621.0	3625.1
6°	3612.9	3614.9	3610.9	3608.8	3604.8
7°	3594.6	3588.5	3594.6	3580.4	3582.4
8°	3564.1	3564.1	3560.1	3556.0	3551.9
9°	3535.7	3535.7	3531.6	3525.5	3521.5
10°	3511.3	3505.2	3503.2	3497.1	3495.0
11°	3482.8	3470.7	3468.6	3462.5	3462.5
12°	3448.3	3442.2	3428.0	3426.0	3426.0
13°	3405.6	3399.5	3389.4	3381.2	3389.4
14°	3365.0	3360.9	3342.6	3348.7	3346.7
15°	3322.3	3314.2	3304.0	3300.0	3302.0
16°	3283.7	3269.5	3255.3	3257.3	3269.5
17°	3243.1	3222.8	3208.5	3206.5	3212.6
18°	3192.3	3176.0	3153.7	3161.8	3161.8
19°	3141.5	3119.1	3104.9	3102.9	3111.0
20°	3098.8	3064.3	3054.1	3052.1	3068.3
22.5°	2952.5	2918.0	2909.8	2918.0	2934.2
25°	2781.8	2769.6	2757.4	2757.4	2751.3
27.5°	2540.0	2568.4	2582.7	2554.2	2507.5
30°	2184.4	2304.3	2403.9	2290.1	2178.3
32.5°	1721.1	1969.0	2198.6	1962.9	1680.5
35°	1276.1	1497.6	1952.8	1495.6	1245.6
37.5°	983.5	1125.7	1660.1	1107.4	955.0
40°	766.1	849.4	1294.4	839.2	739.6
42.5°	595.4	648.2	861.6	636.0	575.1
45°	461.3	493.8	579.1	471.4	438.9
47.5°	359.7	373.9	396.2	357.6	339.3
50°	278.4	278.4	262.1	268.2	260.1
52.5°	215.4	207.3	176.8	195.1	199.1
55°	168.7	154.4	121.9	146.3	156.5
57.5°	128.0	113.8	87.4	107.7	117.9
60°	99.6	85.3	65.0	81.3	91.4
62.5°	77.2	65.0	50.8	61.0	69.1
65°	58.9	48.8	40.6	46.7	52.8
67.5°	44.7	36.6	30.5	34.5	40.6
70°	30.5	28.4	24.4	26.4	28.4
72.5°	22.4	20.3	18.3	18.3	20.3
75°	16.3	14.2	14.2	14.2	14.2



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**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



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Scaled Data Report





— 0°-180°    - - 45°-225°    - - - 90°-270°

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Scaled Data Report





77.5°	10.2	10.2	10.2	10.2	10.2
80°	8.1	8.1	6.1	6.1	6.1

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Scaled Data Report



(END OF REPORT)