

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: P838690

Luminaire Tested: HCSQ650D010-HM64560940-61SQH

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838690
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-HM64560940-61SQH
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

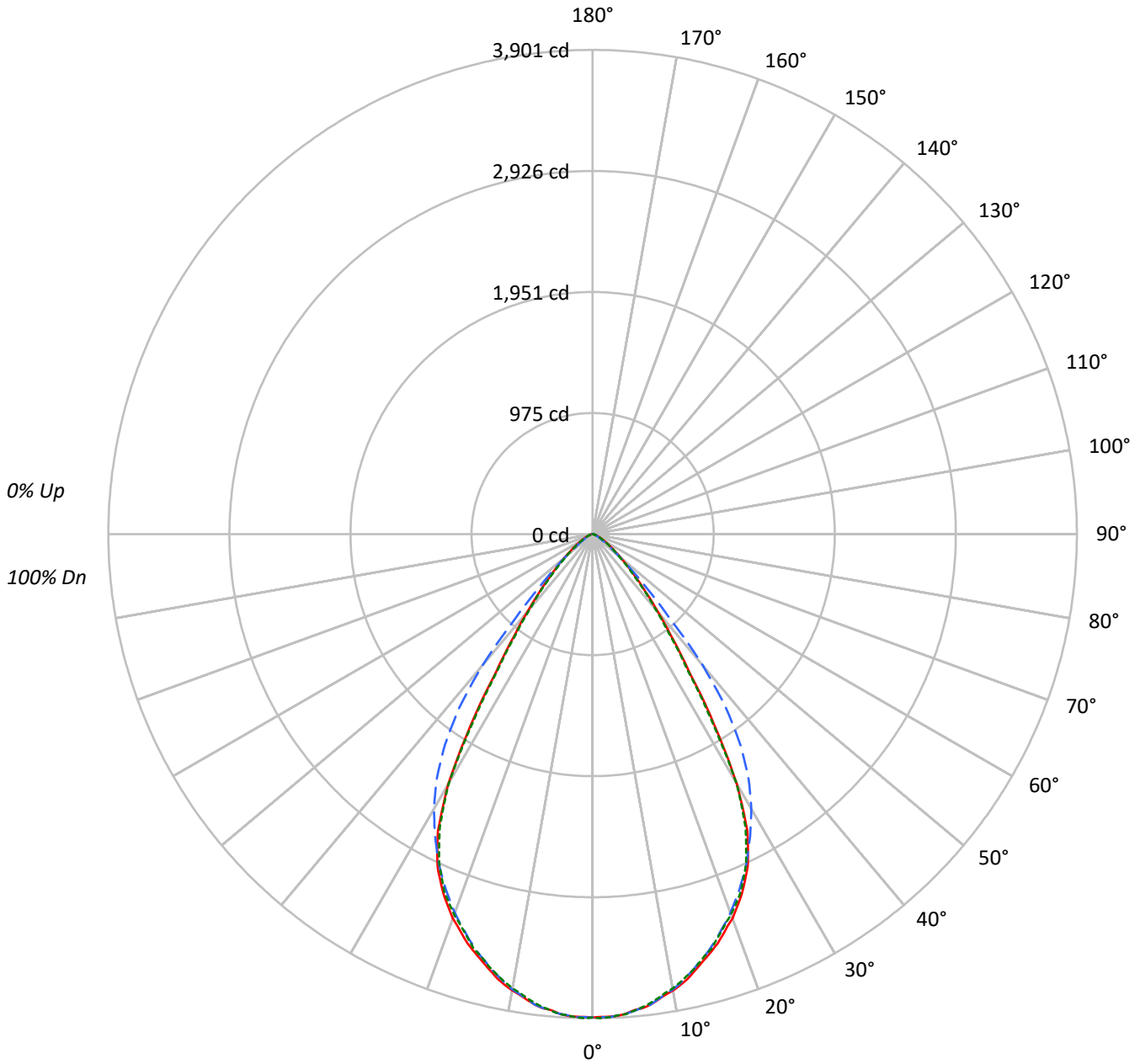
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4380.5 lumens
Efficiency: N/A
Efficacy: 88.1 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_{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

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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	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°	167697	167697	167697
5°	166376	166657	166566
10°	163202	162826	162446
15°	157437	156572	156474
20°	150946	148765	149461
25°	140496	139261	138957
30°	115456	127055	115133
35°	71305	109117	69602
40°	45773	77344	44194
45°	29860	37490	28411
50°	19827	18668	18521
55°	13459	9728	12483
60°	9119	5950	8370
65°	6378	4401	5726
70°	4079	3260	3802
75°	2878	2512	2512
80°	2132	1612	1612
85°	1087	2124	1087

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 37490 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	363.8	8.3
10°-20°	987.3	22.5
20°-30°	1332.7	30.4
30°-40°	1040.1	23.7
40°-50°	435.7	9.9
50°-60°	147.7	3.4
60°-70°	52.7	1.2
70°-80°	17.1	0.4
80°-90°	3.5	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°	2683.7	61.3
0°-40°	3723.8	85.0
0°-60°	4307.2	98.3
0°-90°	4380.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4380.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3895	3895	3895	3895	3895	
5°	3850	3854	3856	3850	3854	364
15°	3532	3523	3513	3508	3510	993
25°	2957	2944	2931	2931	2925	1330
35°	1357	1592	2076	1590	1324	892
45°	490	525	616	501	467	394
55°	179	164	130	156	166	166
65°	63	52	43	50	56	64
75°	17	15	15	15	15	19
85°	2	2	4	2	2	4
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3894.9	3894.9	3894.9	3894.9	<i>3894.9</i>
1°	<i>3890.6</i>	<i>3897.1</i>	<i>3892.8</i>	<i>3894.9</i>	<i>3901.4</i>
2°	3890.6	3890.6	3894.9	3892.8	<i>3894.9</i>
3°	3886.3	3886.3	3882.0	3882.0	<i>3882.0</i>
4°	3873.3	3873.3	3873.3	3869.0	<i>3877.6</i>
5°	3849.5	3853.9	3856.0	3849.5	<i>3853.9</i>
6°	3840.9	3843.1	3838.7	3836.6	<i>3832.3</i>
7°	3821.5	3815.0	3821.5	3806.3	<i>3808.5</i>
8°	3789.1	3789.1	3784.7	3780.4	<i>3776.1</i>
9°	3758.8	3758.8	3754.5	3748.0	<i>3743.7</i>
10°	3732.9	3726.4	3724.3	3717.8	<i>3715.6</i>
11°	3702.7	3689.7	3687.5	3681.1	<i>3681.1</i>
12°	3665.9	3659.4	3644.3	3642.2	<i>3642.2</i>
13°	3620.6	3614.1	3603.3	3594.6	<i>3603.3</i>
14°	3577.4	3573.0	3553.6	3560.1	<i>3557.9</i>
15°	3532.0	3523.4	3512.6	3508.2	<i>3510.4</i>
16°	3490.9	3475.8	3460.7	3462.9	<i>3475.8</i>
17°	3447.7	3426.1	3411.0	3408.9	<i>3415.3</i>
18°	3393.7	3376.5	3352.7	3361.3	<i>3361.3</i>
19°	3339.7	3316.0	3300.8	3298.7	<i>3307.3</i>
20°	3294.4	3257.6	3246.8	3244.7	<i>3262.0</i>
22.5°	3138.8	3102.1	3093.5	3102.1	<i>3119.4</i>
25°	2957.4	2944.4	2931.4	2931.4	<i>2925.0</i>
27.5°	2700.3	2730.5	2745.7	2715.4	<i>2665.7</i>
30°	2322.3	2449.7	2555.6	2434.6	<i>2315.8</i>
32.5°	1829.7	2093.3	2337.4	2086.8	<i>1786.5</i>
35°	1356.6	1592.1	2076.0	1589.9	<i>1324.2</i>
37.5°	1045.6	1196.8	1764.9	1177.3	<i>1015.3</i>
40°	814.4	903.0	1376.1	892.2	<i>786.3</i>
42.5°	633.0	689.1	915.9	676.2	<i>611.3</i>
45°	490.4	524.9	615.7	501.2	<i>466.6</i>
47.5°	382.4	397.5	421.2	380.2	<i>360.8</i>
50°	296.0	296.0	278.7	285.2	<i>276.5</i>
52.5°	229.0	220.3	187.9	207.4	<i>211.7</i>
55°	179.3	164.2	129.6	155.5	<i>166.3</i>
57.5°	136.1	121.0	92.9	114.5	<i>125.3</i>
60°	105.9	90.7	69.1	86.4	<i>97.2</i>
62.5°	82.1	69.1	54.0	64.8	<i>73.4</i>
65°	62.6	51.8	43.2	49.7	<i>56.2</i>
67.5°	47.5	38.9	32.4	36.7	<i>43.2</i>
70°	32.4	30.2	25.9	28.1	<i>30.2</i>
72.5°	23.8	21.6	19.4	19.4	<i>21.6</i>
75°	17.3	15.1	15.1	15.1	<i>15.1</i>



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
82.5°	4.3	4.3	4.3	4.3	4.3
85°	2.2	2.2	4.3	2.2	2.2
87.5°	2.2	2.2	2.2	2.2	2.2
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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— 0°-180° - - 45°-225° - - - - 90°-270°

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77.5°	10.8	10.8	10.8	10.8	10.8
80°	8.6	8.6	6.5	6.5	6.5

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Scaled Data Report



(END OF REPORT)