

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: P838670

Luminaire Tested: HCSQ650D010-HM64560840-61SQH

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838670
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-HM64560840-61SQH
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: -

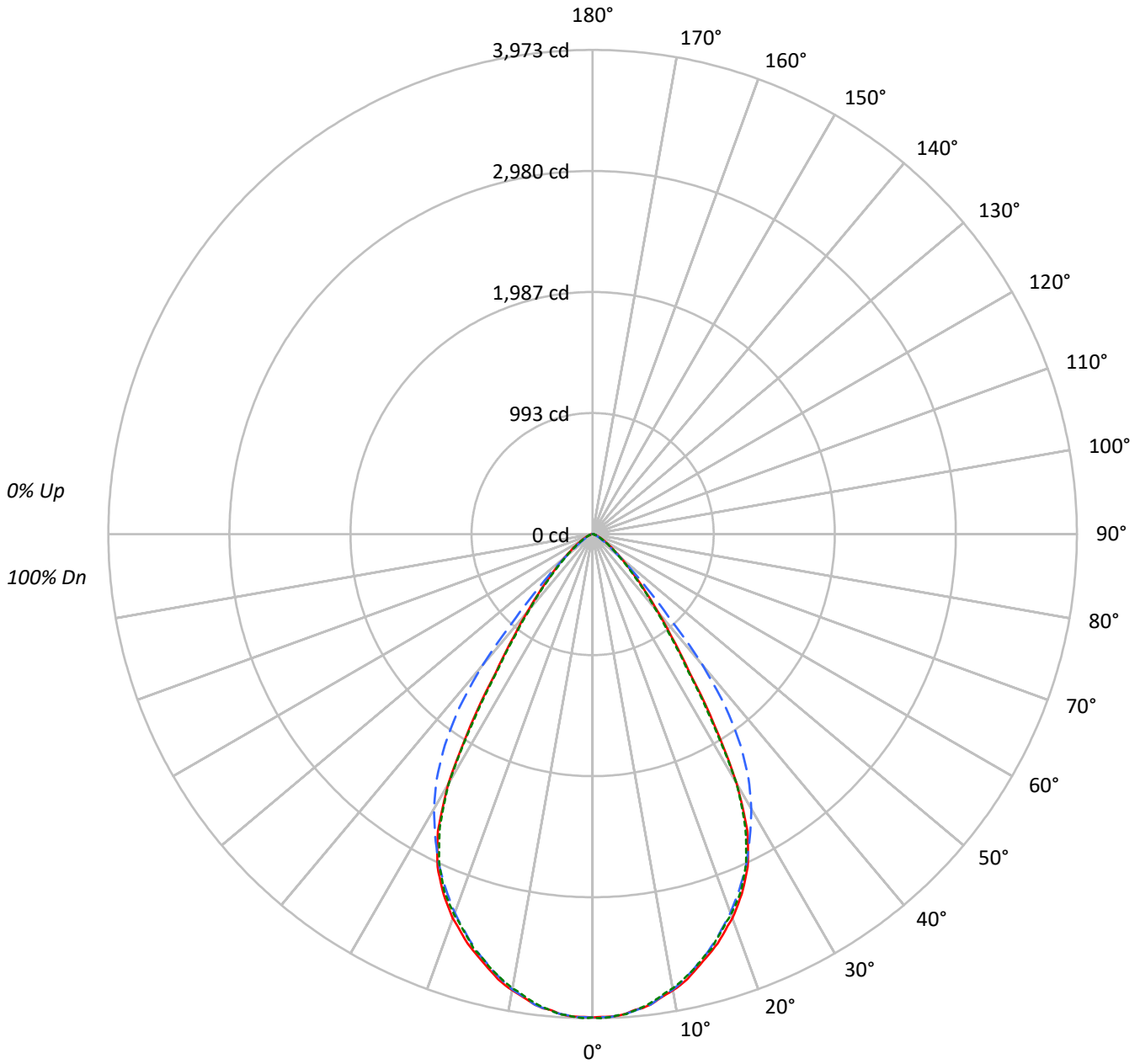
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4461.1 lumens
Efficiency: N/A
Efficacy: 89.8 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	78	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°	170780	170780	170780
5°	169436	169721	169626
10°	166201	165816	165432
15°	160330	159447	159349
20°	153718	151500	152206
25°	143076	141822	141508
30°	117574	129387	117246
35°	72619	111120	70884
40°	46617	78766	45009
45°	30408	38178	28935
50°	20189	19010	18862
55°	13707	9909	12716
60°	9283	6062	8525
65°	6500	4483	5827
70°	4154	3323	3877
75°	2928	2562	2562
80°	2182	1636	1636
85°	1087	2174	1087

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 38178 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	370.4	8.3
10°-20°	1005.4	22.5
20°-30°	1357.2	30.4
30°-40°	1059.2	23.7
40°-50°	443.7	9.9
50°-60°	150.4	3.4
60°-70°	53.6	1.2
70°-80°	17.4	0.4
80°-90°	3.6	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°	2733.0	61.3
0°-40°	3792.3	85.0
0°-60°	4386.4	98.3
0°-90°	4461.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4461.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3966	3966	3966	3966	3966	
5°	3920	3925	3927	3920	3925	371
15°	3597	3588	3577	3573	3575	1012
25°	3012	2998	2985	2985	2979	1355
35°	1382	1621	2114	1619	1349	909
45°	499	535	627	510	475	401
55°	183	167	132	158	169	169
65°	64	53	44	51	57	66
75°	18	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°	3966.5	3966.5	3966.5	3966.5	<i>3966.5</i>
1°	<i>3962.1</i>	<i>3968.7</i>	<i>3964.3</i>	<i>3966.5</i>	<i>3973.1</i>
2°	3962.1	3962.1	3966.5	3964.3	<i>3966.5</i>
3°	3957.7	3957.7	3953.3	3953.3	<i>3953.3</i>
4°	3944.5	3944.5	3944.5	3940.1	<i>3948.9</i>
5°	3920.3	3924.7	3926.9	3920.3	<i>3924.7</i>
6°	3911.5	3913.7	3909.3	3907.1	<i>3902.7</i>
7°	3891.7	3885.1	3891.7	3876.3	<i>3878.5</i>
8°	3858.7	3858.7	3854.3	3849.9	<i>3845.5</i>
9°	3827.9	3827.9	3823.5	3816.9	<i>3812.5</i>
10°	3801.5	3794.9	3792.7	3786.1	<i>3783.9</i>
11°	3770.7	3757.5	3755.3	3748.7	<i>3748.7</i>
12°	3733.3	3726.7	3711.3	3709.1	<i>3709.1</i>
13°	3687.1	3680.5	3669.5	3660.7	<i>3669.5</i>
14°	3643.1	3638.7	3618.9	3625.5	<i>3623.3</i>
15°	3596.9	3588.1	3577.1	3572.7	<i>3574.9</i>
16°	3555.1	3539.7	3524.3	3526.5	<i>3539.7</i>
17°	3511.1	3489.1	3473.7	3471.5	<i>3478.1</i>
18°	3456.1	3438.5	3414.3	3423.1	<i>3423.1</i>
19°	3401.1	3376.9	3361.5	3359.3	<i>3368.1</i>
20°	3354.9	3317.5	3306.5	3304.3	<i>3321.9</i>
22.5°	3196.5	3159.1	3150.3	3159.1	<i>3176.7</i>
25°	3011.7	2998.5	2985.3	2985.3	<i>2978.7</i>
27.5°	2749.9	2780.7	2796.1	2765.3	<i>2714.7</i>
30°	2364.9	2494.7	2602.5	2479.3	<i>2358.3</i>
32.5°	1863.3	2131.7	2380.3	2125.1	<i>1819.3</i>
35°	1381.6	1621.4	2114.1	1619.2	<i>1348.6</i>
37.5°	1064.8	1218.8	1797.3	1199.0	<i>1034.0</i>
40°	829.4	919.6	1401.4	908.6	<i>800.8</i>
42.5°	644.6	701.8	932.8	688.6	<i>622.6</i>
45°	499.4	534.6	627.0	510.4	<i>475.2</i>
47.5°	389.4	404.8	429.0	387.2	<i>367.4</i>
50°	301.4	301.4	283.8	290.4	<i>281.6</i>
52.5°	233.2	224.4	191.4	211.2	<i>215.6</i>
55°	182.6	167.2	132.0	158.4	<i>169.4</i>
57.5°	138.6	123.2	94.6	116.6	<i>127.6</i>
60°	107.8	92.4	70.4	88.0	<i>99.0</i>
62.5°	83.6	70.4	55.0	66.0	<i>74.8</i>
65°	63.8	52.8	44.0	50.6	<i>57.2</i>
67.5°	48.4	39.6	33.0	37.4	<i>44.0</i>
70°	33.0	30.8	26.4	28.6	<i>30.8</i>
72.5°	24.2	22.0	19.8	19.8	<i>22.0</i>
75°	17.6	15.4	15.4	15.4	<i>15.4</i>



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
82.5°	4.4	4.4	4.4	4.4	4.4
85°	2.2	2.2	4.4	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°	11.0	11.0	11.0	11.0	11.0
80°	8.8	8.8	6.6	6.6	6.6

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Scaled Data Report



(END OF REPORT)