

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: P838693

Luminaire Tested: HCSQ650D010-HM64560940-61SQMW

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838693
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-3)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ650D010-HM64560940-61SQMW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

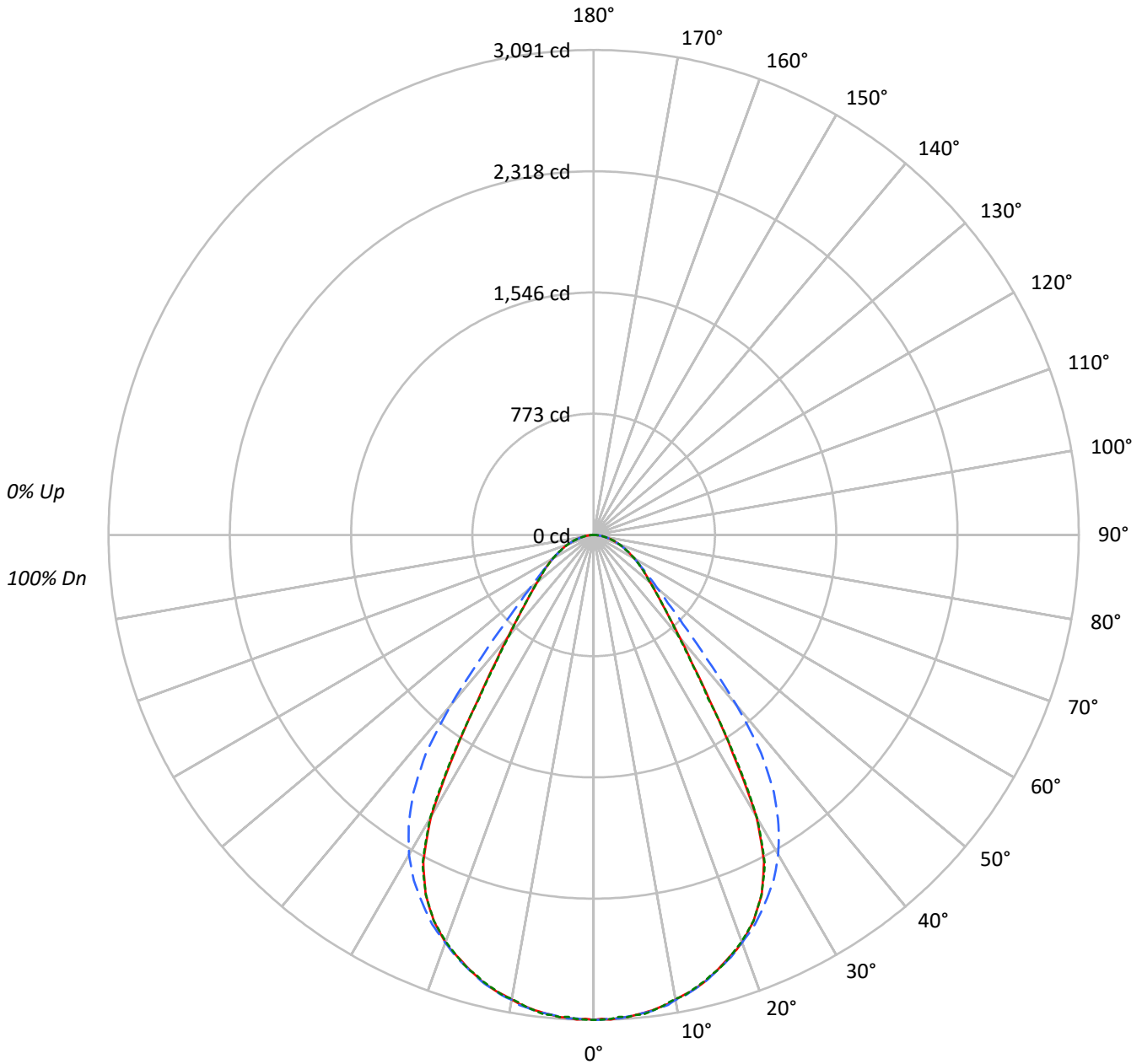
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4559.8 lumens
Efficiency: N/A
Efficacy: 91.7 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11
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	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	111	108	105	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89								
2	104	98	92	88	102	96	91	87	92	88	85	89	86	83	86	84	81	79								
3	97	89	82	77	95	87	81	77	84	79	75	82	78	74	79	76	73	71								
4	91	81	74	69	89	80	73	68	77	72	67	75	70	67	73	69	66	64								
5	85	74	67	62	83	73	66	61	71	65	61	70	64	60	68	63	60	58								
6	80	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53								
7	75	63	56	51	73	63	56	51	61	55	51	60	54	50	59	54	50	48								
8	70	59	52	47	69	58	51	47	57	51	46	56	50	46	55	50	46	44								
9	66	55	48	43	65	54	48	43	53	47	43	52	47	43	51	46	43	41								
10	63	51	45	40	62	51	44	40	50	44	40	49	44	40	48	43	40	38								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	133102	133102	133102
5°	132768	132677	132768
10°	131470	131566	131282
15°	129516	129609	129324
20°	126598	126698	126300
25°	120277	122843	120178
30°	102997	116958	103644
35°	67673	105144	66653
40°	47836	79289	46988
45°	37094	48803	37356
50°	31542	35595	31254
55°	28375	29185	28375
60°	25670	25670	25670
65°	23544	23330	23330
70°	21489	21489	21753
75°	20129	19414	19763
80°	17679	17679	17679
85°	14919	14919	14919

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 48803 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	291.4	6.4
10°-20°	818.5	17.9
20°-30°	1166.3	25.6
30°-40°	994.4	21.8
40°-50°	550.2	12.1
50°-60°	346.5	7.6
60°-70°	230.1	5.0
70°-80°	126.4	2.8
80°-90°	36.0	0.8
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°	2276.2	49.9
0°-40°	3270.6	71.7
0°-60°	4167.3	91.4
0°-90°	4559.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4559.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3091	3091	3091	3091	3091	
5°	3072	3076	3070	3065	3072	291
15°	2906	2906	2908	2906	2901	818
25°	2532	2562	2586	2560	2530	1144
35°	1288	1519	2000	1521	1268	837
45°	609	668	802	663	614	483
55°	378	384	389	382	378	340
65°	231	233	229	231	229	230
75°	121	119	117	119	119	127
85°	30	30	30	32	30	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3091.4	3091.4	3091.4	3091.4	3091.4
1°	3084.9	3089.2	3089.2	3087.0	3089.2
2°	3091.4	3084.9	3084.9	3084.9	3087.0
3°	3082.7	3087.0	3087.0	3080.6	3076.2
4°	3080.6	3078.4	3078.4	3084.9	3080.6
5°	3071.9	3076.2	3069.8	3065.4	3071.9
6°	3063.3	3065.4	3063.3	3065.4	3071.9
7°	3052.5	3059.0	3056.8	3054.6	3054.6
8°	3039.5	3048.1	3043.8	3043.8	3041.7
9°	3026.5	3028.7	3033.0	3033.0	3020.1
10°	3007.1	3013.6	3009.3	3011.4	3002.8
11°	2989.8	2998.5	2996.3	2992.0	2994.1
12°	2974.7	2979.0	2976.9	2970.4	2972.5
13°	2955.3	2959.6	2957.4	2957.4	2950.9
14°	2933.7	2929.3	2935.8	2931.5	2929.3
15°	2905.6	2905.6	2907.7	2905.6	2901.3
16°	2879.6	2881.8	2881.8	2879.6	2881.8
17°	2849.4	2858.0	2855.9	2851.6	2853.7
18°	2821.3	2827.8	2830.0	2827.8	2821.3
19°	2795.4	2799.7	2797.6	2788.9	2788.9
20°	2763.0	2765.2	2765.2	2760.8	2756.5
22.5°	2661.5	2676.6	2687.4	2678.7	2661.5
25°	2531.8	2562.1	2585.8	2559.9	2529.7
27.5°	2350.4	2410.9	2482.2	2417.3	2361.2
30°	2071.7	2210.0	2352.5	2222.9	2084.7
32.5°	1648.3	1920.5	2192.7	1946.4	1674.2
35°	1287.5	1518.7	2000.4	1520.8	1268.1
37.5°	1028.3	1192.5	1754.1	1181.7	1017.5
40°	851.1	961.3	1410.7	957.0	836.0
42.5°	710.7	795.0	1056.4	786.3	710.7
45°	609.2	667.5	801.5	663.2	613.5
47.5°	533.6	570.3	641.6	568.2	533.6
50°	470.9	492.5	531.4	490.4	466.6
52.5°	421.3	434.2	449.3	429.9	416.9
55°	378.0	384.5	388.8	382.4	378.0
57.5°	337.0	341.3	339.2	337.0	334.8
60°	298.1	300.3	298.1	300.3	298.1
62.5°	263.6	265.7	261.4	263.6	261.4
65°	231.1	233.3	229.0	231.1	229.0
67.5°	200.9	200.9	200.9	200.9	198.7
70°	170.7	172.8	170.7	172.8	172.8
72.5°	144.7	144.7	142.6	144.7	144.7
75°	121.0	118.8	116.7	118.8	118.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
82.5°	<i>51.8</i>	51.8	49.7	51.8	51.8
85°	<i>30.2</i>	30.2	30.2	32.4	30.2
87.5°	<i>15.1</i>	13.0	13.0	15.1	15.1
90°	<i>0.0</i>	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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77.5°	95.1	95.1	92.9	95.1	95.1
80°	71.3	73.4	71.3	73.4	71.3

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Scaled Data Report



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