

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: P838668

Luminaire Tested: HCSQ650D010-HM64560835-61SQMW

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838668
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-HM64560835-61SQMW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: -

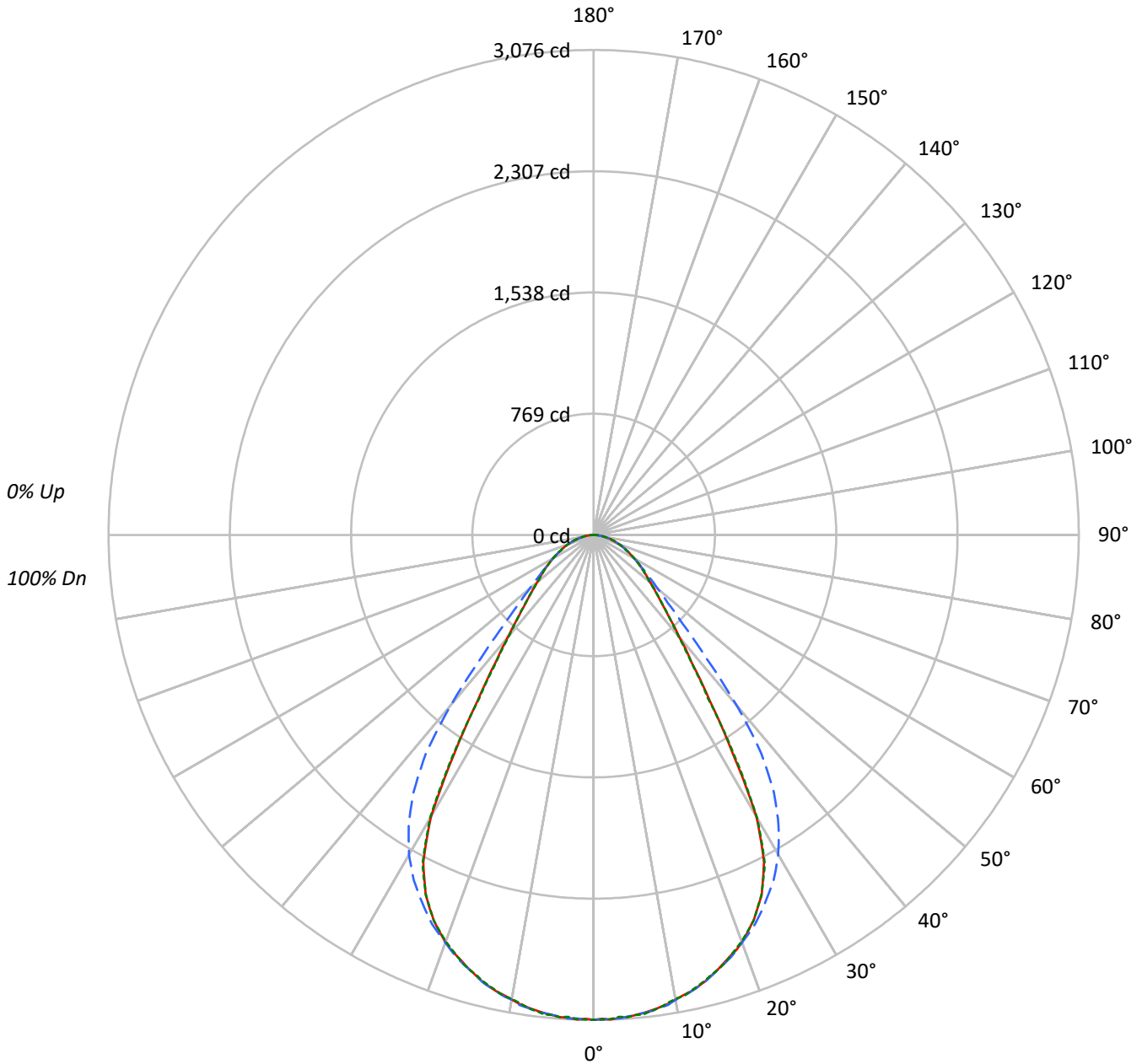
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4537.3 lumens
Efficiency: N/A
Efficacy: 91.3 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									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°	132444	132444	132444
5°	132111	132020	132111
10°	130819	130915	130631
15°	128874	128967	128682
20°	125970	126071	125677
25°	119684	122239	119584
30°	102490	116381	103132
35°	67341	104623	66322
40°	47600	78895	46757
45°	36911	48560	37173
50°	31388	35420	31100
55°	28240	29043	28240
60°	25541	25541	25541
65°	23432	23218	23218
70°	21375	21375	21652
75°	20029	19314	19663
80°	17579	17579	17579
85°	14870	14870	14870

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 48560 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	290.0	6.4
10°-20°	814.4	17.9
20°-30°	1160.5	25.6
30°-40°	989.5	21.8
40°-50°	547.4	12.1
50°-60°	344.8	7.6
60°-70°	228.9	5.0
70°-80°	125.8	2.8
80°-90°	35.8	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°	2264.9	49.9
0°-40°	3254.5	71.7
0°-60°	4146.7	91.4
0°-90°	4537.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4537.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3076	3076	3076	3076	3076	
5°	3057	3061	3055	3050	3057	290
15°	2891	2891	2893	2891	2887	814
25°	2519	2549	2573	2547	2517	1138
35°	1281	1511	1990	1513	1262	833
45°	606	664	798	660	610	481
55°	376	383	387	380	376	338
65°	230	232	228	230	228	229
75°	120	118	116	118	118	126
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°	3076.1	3076.1	3076.1	3076.1	3076.1
1°	3069.6	3073.9	3073.9	3071.8	3073.9
2°	3076.1	3069.6	3069.6	3069.6	3071.8
3°	3067.5	3071.8	3071.8	3065.3	3061.0
4°	3065.3	3063.2	3063.2	3069.6	3065.3
5°	3056.7	3061.0	3054.6	3050.3	3056.7
6°	3048.1	3050.3	3048.1	3050.3	3056.7
7°	3037.4	3043.8	3041.7	3039.5	3039.5
8°	3024.5	3033.1	3028.8	3028.8	3026.6
9°	3011.6	3013.7	3018.0	3018.0	3005.1
10°	2992.2	2998.7	2994.4	2996.5	2987.9
11°	2975.0	2983.6	2981.5	2977.2	2979.3
12°	2960.0	2964.3	2962.1	2955.7	2957.8
13°	2940.6	2944.9	2942.8	2942.8	2936.3
14°	2919.1	2914.8	2921.3	2917.0	2914.8
15°	2891.2	2891.2	2893.3	2891.2	2886.9
16°	2865.4	2867.6	2867.6	2865.4	2867.6
17°	2835.3	2843.9	2841.8	2837.5	2839.6
18°	2807.4	2813.8	2816.0	2813.8	2807.4
19°	2781.6	2785.9	2783.7	2775.1	2775.1
20°	2749.3	2751.5	2751.5	2747.2	2742.9
22.5°	2648.3	2663.3	2674.1	2665.5	2648.3
25°	2519.3	2549.4	2573.1	2547.3	2517.2
27.5°	2338.8	2398.9	2469.9	2405.4	2349.5
30°	2061.5	2199.0	2340.9	2211.9	2074.4
32.5°	1640.1	1911.0	2181.8	1936.8	1665.9
35°	1281.2	1511.2	1990.5	1513.3	1261.8
37.5°	1023.2	1186.6	1745.5	1175.8	1012.5
40°	846.9	956.6	1403.7	952.3	831.9
42.5°	707.2	791.0	1051.1	782.5	707.2
45°	606.2	664.2	797.5	659.9	610.5
47.5°	530.9	567.5	638.4	565.3	530.9
50°	468.6	490.1	528.8	488.0	464.3
52.5°	419.2	432.1	447.1	427.8	414.9
55°	376.2	382.6	386.9	380.5	376.2
57.5°	335.3	339.6	337.5	335.3	333.2
60°	296.6	298.8	296.6	298.8	296.6
62.5°	262.2	264.4	260.1	262.2	260.1
65°	230.0	232.2	227.9	230.0	227.9
67.5°	199.9	199.9	199.9	199.9	197.8
70°	169.8	172.0	169.8	172.0	172.0
72.5°	144.0	144.0	141.9	144.0	144.0
75°	120.4	118.2	116.1	118.2	118.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
82.5°	<i>51.6</i>	51.6	49.4	51.6	51.6
85°	<i>30.1</i>	30.1	30.1	32.2	30.1
87.5°	<i>15.0</i>	12.9	12.9	15.0	15.0
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°	94.6	94.6	92.4	94.6	94.6
80°	70.9	73.1	70.9	73.1	70.9

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Scaled Data Report



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