

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: P838688

Luminaire Tested: HCSQ650D010-HM64560935-61SQMW

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838688
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-HM64560935-61SQMW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: -

Summary

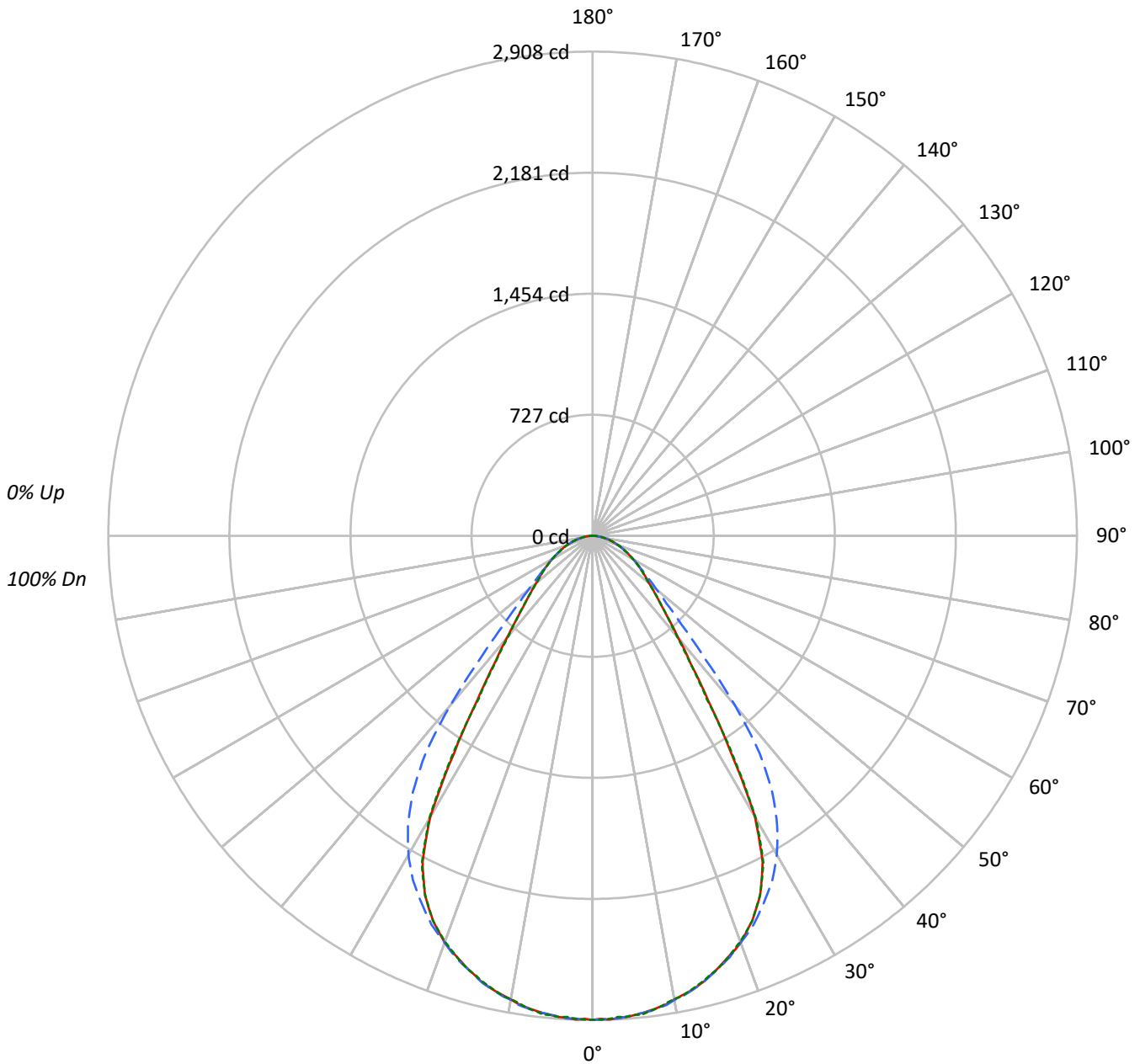
Lumens per Lamp: N/A
Luminaire Lumens: 4289.1 lumens
Efficiency: N/A
Efficacy: 86.3 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
CIE Type: Direct

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					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°	125197	125197	125197
5°	124889	124798	124889
10°	123666	123753	123487
15°	121827	121916	121644
20°	119083	119175	118804
25°	113137	115550	113042
30°	96882	110017	97489
35°	63657	98905	62695
40°	44998	74579	44200
45°	34890	45905	35140
50°	29673	33485	29399
55°	26693	27459	26693
60°	24146	24146	24146
65°	22148	21945	21945
70°	20205	20205	20469
75°	18931	18249	18598
80°	16637	16637	16637
85°	14030	14030	14030

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 45905 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	274.1	6.4
10°-20°	769.9	17.9
20°-30°	1097.1	25.6
30°-40°	935.4	21.8
40°-50°	517.5	12.1
50°-60°	326.0	7.6
60°-70°	216.4	5.0
70°-80°	118.9	2.8
80°-90°	33.9	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°	2141.1	49.9
0°-40°	3076.5	71.7
0°-60°	3919.9	91.4
0°-90°	4289.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4289.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2908	2908	2908	2908	2908	
5°	2890	2894	2888	2884	2890	274
15°	2733	2733	2735	2733	2729	769
25°	2382	2410	2432	2408	2380	1076
35°	1211	1428	1882	1431	1193	787
45°	573	628	754	624	577	454
55°	356	362	366	360	356	319
65°	217	220	215	217	215	216
75°	114	112	110	112	112	119
85°	28	28	28	30	28	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2907.8	2907.8	2907.8	2907.8	2907.8
1°	2901.7	2905.8	2905.8	2903.8	2905.8
2°	2907.8	2901.7	2901.7	2901.7	2903.8
3°	2899.7	2903.8	2903.8	2897.7	2893.6
4°	2897.7	2895.6	2895.6	2901.7	2897.7
5°	2889.6	2893.6	2887.5	2883.5	2889.6
6°	2881.4	2883.5	2881.4	2883.5	2889.6
7°	2871.3	2877.4	2875.3	2873.3	2873.3
8°	2859.1	2867.2	2863.1	2863.1	2861.1
9°	2846.9	2848.9	2853.0	2853.0	2840.8
10°	2828.6	2834.7	2830.6	2832.7	2824.5
11°	2812.3	2820.5	2818.4	2814.4	2816.4
12°	2798.1	2802.2	2800.1	2794.0	2796.1
13°	2779.8	2783.9	2781.9	2781.9	2775.8
14°	2759.5	2755.4	2761.5	2757.5	2755.4
15°	2733.1	2733.1	2735.1	2733.1	2729.0
16°	2708.7	2710.7	2710.7	2708.7	2710.7
17°	2680.3	2688.4	2686.3	2682.3	2684.3
18°	2653.8	2659.9	2662.0	2659.9	2653.8
19°	2629.5	2633.5	2631.5	2623.4	2623.4
20°	2599.0	2601.0	2601.0	2596.9	2592.9
22.5°	2503.5	2517.7	2527.8	2519.7	2503.5
25°	2381.5	2410.0	2432.3	2408.0	2379.5
27.5°	2210.9	2267.7	2334.8	2273.8	2221.0
30°	1948.7	2078.8	2212.9	2091.0	1960.9
32.5°	1550.4	1806.5	2062.5	1830.9	1574.8
35°	1211.1	1428.5	1881.7	1430.6	1192.8
37.5°	967.2	1121.7	1650.0	1111.5	957.1
40°	800.6	904.3	1326.9	900.2	786.4
42.5°	668.5	747.8	993.7	739.7	668.5
45°	573.0	627.9	753.9	623.8	577.1
47.5°	501.9	536.5	603.5	534.4	501.9
50°	443.0	463.3	499.9	461.3	438.9
52.5°	396.2	408.4	422.7	404.4	392.2
55°	355.6	361.7	365.8	359.7	355.6
57.5°	317.0	321.1	319.0	317.0	315.0
60°	280.4	282.5	280.4	282.5	280.4
62.5°	247.9	249.9	245.9	247.9	245.9
65°	217.4	219.5	215.4	217.4	215.4
67.5°	189.0	189.0	189.0	189.0	186.9
70°	160.5	162.6	160.5	162.6	162.6
72.5°	136.1	136.1	134.1	136.1	136.1
75°	113.8	111.8	109.7	111.8	111.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
82.5°	<i>48.8</i>	48.8	46.7	48.8	48.8
85°	<i>28.4</i>	28.4	28.4	30.5	28.4
87.5°	<i>14.2</i>	12.2	12.2	14.2	14.2
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°	89.4	89.4	87.4	89.4	89.4
80°	67.1	69.1	67.1	69.1	67.1

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Scaled Data Report



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