

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: P838633

Luminaire Tested: HCSQ645D010-HM64560840-61SQMW

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838633
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: HCSQ645D010-HM64560840-61SQMW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: -

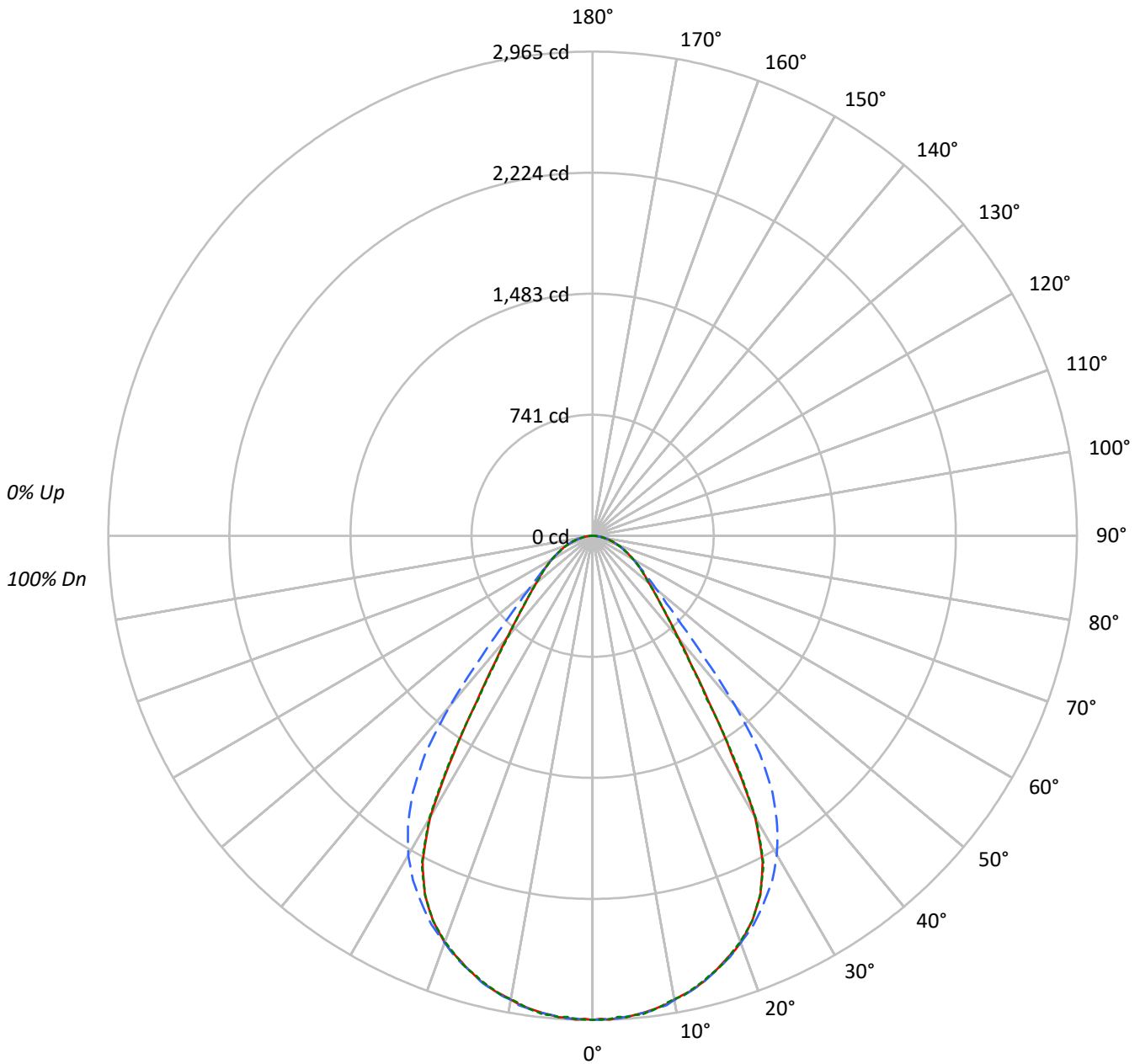
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4373.5 lumens
Efficiency: N/A
Efficacy: 95.3 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): 45.9
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°	127664	127664	127664
5°	127344	127257	127344
10°	126101	126189	125918
15°	124225	124318	124037
20°	121425	121521	121141
25°	115365	117826	115265
30°	98791	112180	99408
35°	64908	100849	63930
40°	45886	76046	45071
45°	35578	46806	35834
50°	30256	34141	29981
55°	27219	27999	27219
60°	24619	24619	24619
65°	22586	22372	22372
70°	20608	20608	20872
75°	19297	18615	18964
80°	16960	16960	16960
85°	14326	14326	14326

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 46806 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	279.5	6.4
10°-20°	785.0	17.9
20°-30°	1118.7	25.6
30°-40°	953.8	21.8
40°-50°	527.7	12.1
50°-60°	332.4	7.6
60°-70°	220.7	5.0
70°-80°	121.3	2.8
80°-90°	34.5	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°	2183.2	49.9
0°-40°	3137.0	71.7
0°-60°	3997.1	91.4
0°-90°	4373.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4373.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2965	2965	2965	2965	2965	
5°	2946	2951	2944	2940	2946	279
15°	2787	2787	2789	2787	2783	785
25°	2428	2457	2480	2455	2426	1097
35°	1235	1457	1919	1459	1216	803
45°	584	640	769	636	588	463
55°	363	369	373	367	363	326
65°	222	224	220	222	220	221
75°	116	114	112	114	114	122
85°	29	29	29	31	29	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2965.1	2965.1	2965.1	2965.1	2965.1
1°	2958.9	2963.0	2963.0	2960.9	2963.0
2°	2965.1	2958.9	2958.9	2958.9	2960.9
3°	2956.8	2960.9	2960.9	2954.7	2950.6
4°	2954.7	2952.6	2952.6	2958.9	2954.7
5°	2946.4	2950.6	2944.4	2940.2	2946.4
6°	2938.1	2940.2	2938.1	2940.2	2946.4
7°	2927.8	2934.0	2931.9	2929.9	2929.9
8°	2915.3	2923.6	2919.5	2919.5	2917.4
9°	2902.9	2905.0	2909.1	2909.1	2896.7
10°	2884.3	2890.5	2886.3	2888.4	2880.1
11°	2867.7	2876.0	2873.9	2869.8	2871.8
12°	2853.2	2857.3	2855.3	2849.0	2851.1
13°	2834.5	2838.7	2836.6	2836.6	2830.4
14°	2813.8	2809.7	2815.9	2811.7	2809.7
15°	2786.9	2786.9	2789.0	2786.9	2782.7
16°	2762.0	2764.1	2764.1	2762.0	2764.1
17°	2733.0	2741.3	2739.2	2735.1	2737.2
18°	2706.1	2712.3	2714.4	2712.3	2706.1
19°	2681.2	2685.4	2683.3	2675.0	2675.0
20°	2650.1	2652.2	2652.2	2648.1	2643.9
22.5°	2552.7	2567.2	2577.6	2569.3	2552.7
25°	2428.4	2457.4	2480.2	2455.4	2426.3
27.5°	2254.4	2312.4	2380.8	2318.6	2264.7
30°	1987.1	2119.7	2256.4	2132.1	1999.5
32.5°	1581.0	1842.0	2103.1	1866.9	1605.8
35°	1234.9	1456.6	1918.7	1458.7	1216.3
37.5°	986.3	1143.8	1682.5	1133.4	975.9
40°	816.4	922.1	1353.0	917.9	801.9
42.5°	681.7	762.5	1013.2	754.2	681.7
45°	584.3	640.3	768.7	636.1	588.5
47.5°	511.8	547.0	615.4	544.9	511.8
50°	451.7	472.4	509.7	470.4	447.6
52.5°	404.0	416.5	431.0	412.3	399.9
55°	362.6	368.8	373.0	366.7	362.6
57.5°	323.2	327.4	325.3	323.2	321.2
60°	285.9	288.0	285.9	288.0	285.9
62.5°	252.8	254.9	250.7	252.8	250.7
65°	221.7	223.8	219.6	221.7	219.6
67.5°	192.7	192.7	192.7	192.7	190.6
70°	163.7	165.8	163.7	165.8	165.8
72.5°	138.8	138.8	136.8	138.8	138.8
75°	116.0	114.0	111.9	114.0	114.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
82.5°	49.7	49.7	47.7	49.7	49.7
85°	29.0	29.0	29.0	31.1	29.0
87.5°	14.5	12.4	12.4	14.5	14.5
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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Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270°

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77.5°	91.2	91.2	89.1	91.2	91.2
80°	68.4	70.4	68.4	70.4	68.4

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