

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: P837572

Luminaire Tested: HCSQ445D010-HM44560840-41SQMW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837572
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-3)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ445D010-HM44560840-41SQMW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: -

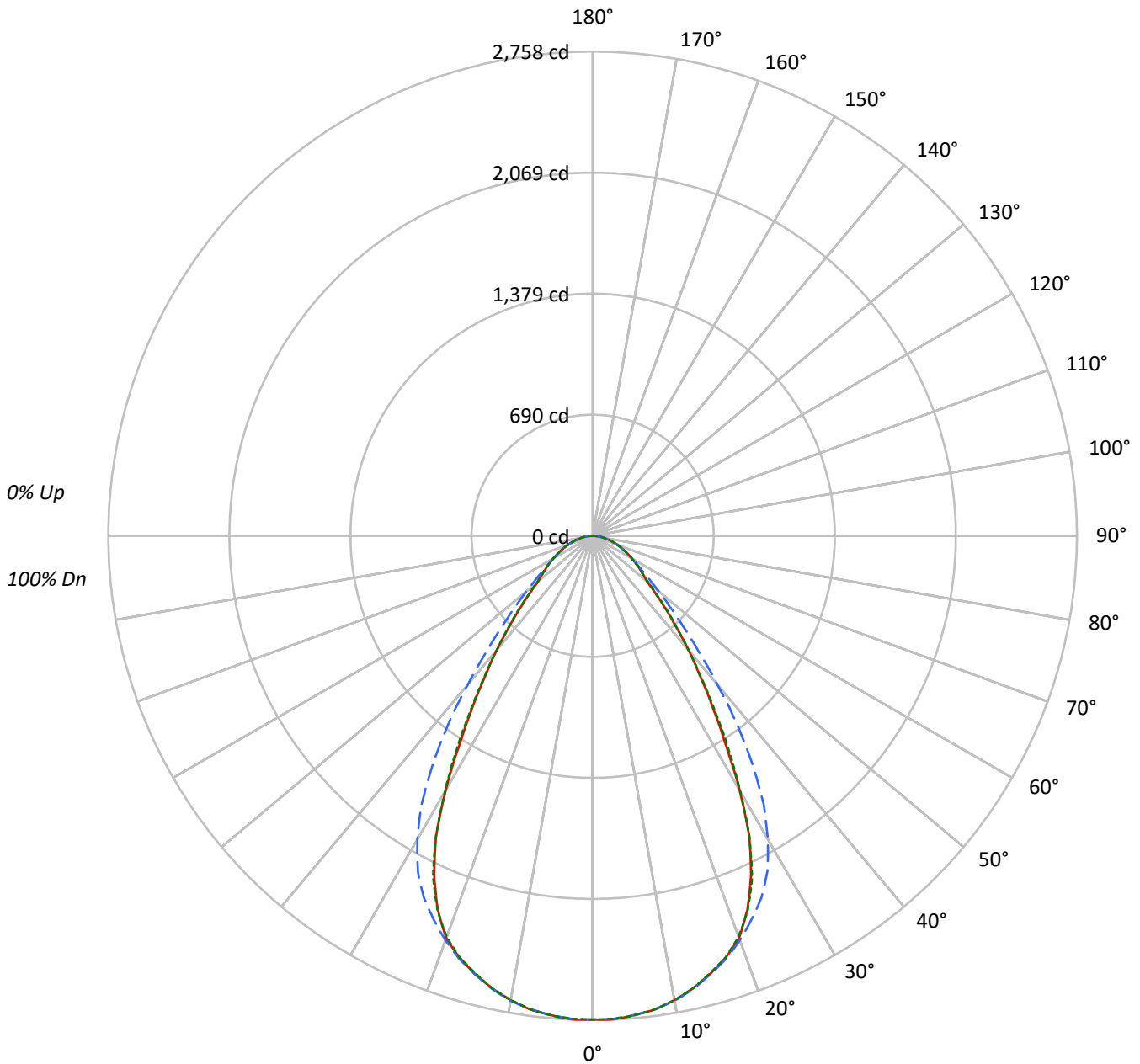
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3999.1 lumens
Efficiency: N/A
Efficacy: 87.1 lumens/watt
Spacing Criteria (0/90/45): 1.03 / 1.03 / 1.07
Luminous Opening: Rectangular (W 0.33' x L: 0.33' 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					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	111	108	105	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89					89			
2	104	98	92	88	102	96	91	87	92	88	85	89	86	83	86	84	81	79					79			
3	97	89	82	77	95	87	81	76	84	79	75	82	78	74	79	76	73	71					71			
4	91	81	74	69	89	80	73	68	77	72	67	75	70	66	73	69	66	64					64			
5	85	74	67	62	83	73	66	61	71	65	61	70	64	60	68	63	60	58					58			
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53					53			
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48					48			
8	70	59	52	47	69	58	51	47	57	51	46	56	50	46	55	50	46	44					44			
9	66	55	48	43	65	54	48	43	53	47	43	52	47	43	51	46	43	41					41			
10	63	51	45	40	62	51	44	40	50	44	40	49	44	40	48	43	40	38					38			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	266960	266960	266960
5°	266521	266521	266735
10°	264340	264556	264133
15°	259197	259417	258776
20°	251422	252752	250546
25°	228189	243068	229793
30°	187302	223232	188018
35°	140792	187388	142814
40°	107227	139728	106961
45°	80078	99149	81558
50°	60993	73894	62289
55°	54976	57864	54976
60°	50201	49775	49775
65°	45639	45639	45639
70°	42458	41835	41835
75°	39264	38478	39264
80°	35816	34645	35816
85°	30900	30900	30900

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 99149 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	259.9	6.5
10°-20°	727.6	18.2
20°-30°	1000.7	25.0
30°-40°	851.8	21.3
40°-50°	514.5	12.9
50°-60°	303.2	7.6
60°-70°	198.9	5.0
70°-80°	110.3	2.8
80°-90°	32.2	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°	1988.1	49.7
0°-40°	2840.0	71.0
0°-60°	3657.7	91.5
0°-90°	3999.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3999.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2756	2756	2756	2756	2756	
5°	2741	2743	2741	2739	2743	260
15°	2584	2591	2587	2584	2580	727
25°	2135	2201	2274	2205	2150	965
35°	1190	1310	1584	1347	1208	754
45°	584	647	724	653	595	459
55°	326	332	343	332	326	293
65°	199	201	199	199	199	199
75°	105	105	103	103	105	111
85°	28	28	28	28	28	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2755.7	2755.7	2755.7	2755.7	2755.7
2.5°	2757.9	2751.4	2753.6	2751.4	2753.6
5°	2740.7	2742.9	2740.7	2738.6	2742.9
7.5°	2721.5	2719.3	2719.3	2717.2	2721.5
10°	2687.2	2682.9	2689.4	2685.1	2685.1
12.5°	2640.1	2646.5	2644.4	2644.4	2640.1
15°	2584.4	2590.9	2586.6	2584.4	2580.2
17.5°	2520.2	2524.5	2526.6	2518.1	2518.1
20°	2438.8	2447.4	2451.7	2436.7	2430.3
22.5°	2303.9	2342.5	2366.0	2340.3	2308.2
25°	2134.8	2201.2	2274.0	2205.4	2149.8
27.5°	1931.4	2025.6	2156.2	2040.6	1931.4
30°	1674.4	1813.6	1995.6	1828.6	1680.8
32.5°	1408.9	1556.7	1811.5	1582.4	1438.9
35°	1190.5	1310.4	1584.5	1346.8	1207.6
37.5°	1002.1	1104.9	1346.8	1128.4	1012.8
40°	847.9	929.3	1104.9	940.0	845.8
42.5°	700.2	777.3	895.0	788.0	708.7
45°	584.5	646.6	723.7	653.1	595.3
47.5°	486.1	537.4	593.1	537.4	492.5
50°	404.7	445.4	490.3	445.4	413.3
52.5°	361.9	374.7	404.7	376.9	361.9
55°	325.5	331.9	342.6	331.9	325.5
57.5°	291.2	295.5	293.3	293.3	291.2
60°	259.1	261.2	256.9	259.1	256.9
62.5°	229.1	229.1	224.8	229.1	227.0
65°	199.1	201.3	199.1	199.1	199.1
67.5°	173.4	173.4	171.3	173.4	173.4
70°	149.9	149.9	147.7	149.9	147.7
72.5°	126.3	126.3	124.2	124.2	124.2
75°	104.9	104.9	102.8	102.8	104.9
77.5°	83.5	83.5	81.4	83.5	83.5
80°	64.2	64.2	62.1	64.2	64.2
82.5°	45.0	45.0	45.0	47.1	47.1
85°	27.8	27.8	27.8	27.8	27.8
87.5°	12.8	12.8	12.8	12.8	15.0
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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