

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: P837662

Luminaire Tested: HCSQ455D010-HM44560930-41SQMW

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837662
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: HCSQ455D010-HM44560930-41SQMW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

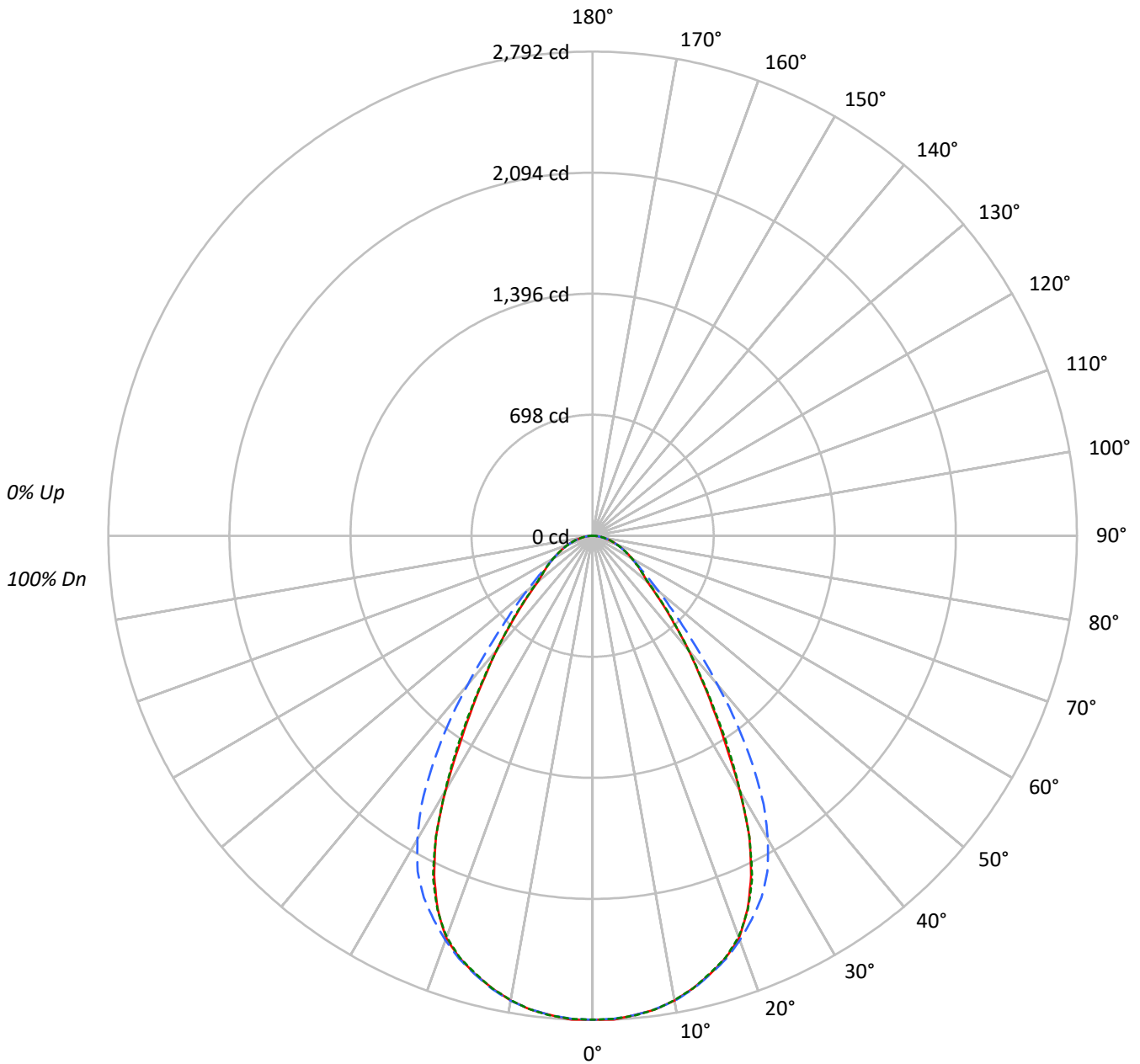
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4049.0 lumens
Efficiency: N/A
Efficacy: 75.0 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): 54
Input Voltage (V): NR
Input Current (Ain): 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	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	76	84	79	75	82	78	74	79	76	73	71								
4	91	81	74	69	89	80	73	68	77	72	67	75	70	66	73	69	66	64								
5	85	74	67	62	83	73	66	61	71	65	61	70	64	60	68	63	60	58								
6	79	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	50	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°	270292	270292	270292
5°	269846	269846	270060
10°	267635	267851	267419
15°	262426	262647	261995
20°	254556	255897	253670
25°	231032	246093	232657
30°	189640	226017	190367
35°	142542	189718	144600
40°	108568	141460	108289
45°	81078	100382	82571
50°	61746	74813	63058
55°	55652	58590	55652
60°	50821	50395	50395
65°	46212	46212	46212
70°	42997	42373	42373
75°	39750	38964	39750
80°	36262	35091	36262
85°	31345	31345	31345

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 100382 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	263.1	6.5
10°-20°	736.6	18.2
20°-30°	1013.1	25.0
30°-40°	862.5	21.3
40°-50°	520.9	12.9
50°-60°	307.0	7.6
60°-70°	201.4	5.0
70°-80°	111.6	2.8
80°-90°	32.7	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°	2012.9	49.7
0°-40°	2875.3	71.0
0°-60°	3703.3	91.5
0°-90°	4049.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4049.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2790	2790	2790	2790	2790	
5°	2775	2777	2775	2773	2777	263
15°	2617	2623	2619	2617	2612	736
25°	2161	2229	2302	2233	2177	977
35°	1205	1327	1604	1364	1223	763
45°	592	655	733	661	603	465
55°	330	336	347	336	330	296
65°	202	204	202	202	202	202
75°	106	106	104	104	106	113
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°	2790.1	2790.1	2790.1	2790.1	2790.1
2.5°	2792.2	2785.7	2787.9	2785.7	2787.9
5°	2774.9	2777.1	2774.9	2772.7	2777.1
7.5°	2755.4	2753.2	2753.2	2751.0	2755.4
10°	2720.7	2716.4	2722.9	2718.5	2718.5
12.5°	2673.0	2679.5	2677.3	2677.3	2673.0
15°	2616.6	2623.1	2618.8	2616.6	2612.3
17.5°	2551.6	2555.9	2558.1	2549.4	2549.4
20°	2469.2	2477.9	2482.2	2467.1	2460.6
22.5°	2332.6	2371.7	2395.5	2369.5	2337.0
25°	2161.4	2228.6	2302.3	2232.9	2176.6
27.5°	1955.4	2050.8	2183.1	2066.0	1955.4
30°	1695.3	1836.2	2020.5	1851.4	1701.8
32.5°	1426.5	1576.1	1834.0	1602.1	1456.8
35°	1205.3	1326.7	1604.2	1363.6	1222.7
37.5°	1014.6	1118.6	1363.6	1142.5	1025.4
40°	858.5	940.9	1118.6	951.7	856.3
42.5°	708.9	786.9	906.2	797.8	717.6
45°	591.8	654.7	732.7	661.2	602.7
47.5°	492.1	544.1	600.5	544.1	498.6
50°	409.7	450.9	496.4	450.9	418.4
52.5°	366.4	379.4	409.7	381.5	366.4
55°	329.5	336.0	346.9	336.0	329.5
57.5°	294.8	299.2	297.0	297.0	294.8
60°	262.3	264.5	260.1	262.3	260.1
62.5°	232.0	232.0	227.6	232.0	229.8
65°	201.6	203.8	201.6	201.6	201.6
67.5°	175.6	175.6	173.4	175.6	175.6
70°	151.8	151.8	149.6	151.8	149.6
72.5°	127.9	127.9	125.7	125.7	125.7
75°	106.2	106.2	104.1	104.1	106.2
77.5°	84.5	84.5	82.4	84.5	84.5
80°	65.0	65.0	62.9	65.0	65.0
82.5°	45.5	45.5	45.5	47.7	47.7
85°	28.2	28.2	28.2	28.2	28.2
87.5°	13.0	13.0	13.0	13.0	15.2
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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