

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: P837667

Luminaire Tested: HCSQ455D010-HM44560935-41SQMW

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837667
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-HM44560935-41SQMW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: -

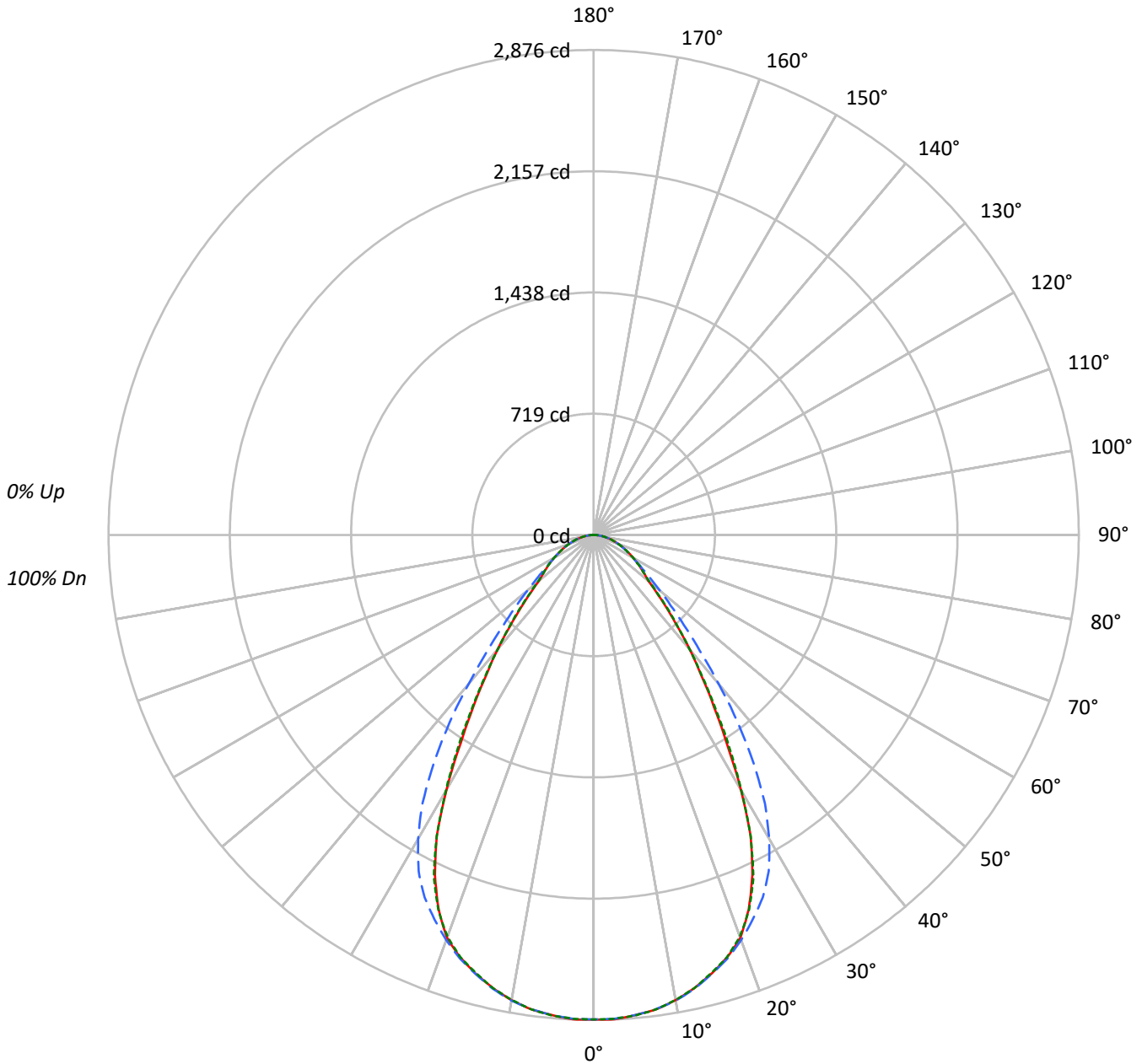
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4170.4 lumens
Efficiency: N/A
Efficacy: 77.2 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 (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°	278391	278391	278391
5°	277937	277937	278151
10°	275662	275878	275436
15°	270299	270520	269848
20°	262196	263577	261268
25°	237959	253469	239626
30°	195322	232785	196072
35°	146824	195406	148929
40°	111818	145709	111539
45°	83517	103396	85037
50°	63600	77059	64942
55°	57324	60347	57324
60°	52351	51906	51906
65°	47610	47610	47610
70°	44271	43648	43648
75°	40948	40125	40948
80°	37378	36151	37378
85°	32234	32234	32234

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 103396 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	271.0	6.5
10°-20°	758.7	18.2
20°-30°	1043.5	25.0
30°-40°	888.3	21.3
40°-50°	536.6	12.9
50°-60°	316.2	7.6
60°-70°	207.4	5.0
70°-80°	115.0	2.8
80°-90°	33.6	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°	2073.2	49.7
0°-40°	2961.6	71.0
0°-60°	3814.3	91.5
0°-90°	4170.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4170.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2874	2874	2874	2874	2874	
5°	2858	2860	2858	2856	2860	271
15°	2695	2702	2697	2695	2691	758
25°	2226	2295	2371	2300	2242	1006
35°	1242	1366	1652	1404	1259	786
45°	610	674	755	681	621	479
55°	339	346	357	346	339	305
65°	208	210	208	208	208	208
75°	109	109	107	107	109	116
85°	29	29	29	29	29	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2873.7	2873.7	2873.7	2873.7	2873.7
2.5°	2876.0	2869.3	2871.5	2869.3	2871.5
5°	2858.1	2860.3	2858.1	2855.9	2860.3
7.5°	2838.0	2835.8	2835.8	2833.5	2838.0
10°	2802.3	2797.8	2804.5	2800.0	2800.0
12.5°	2753.1	2759.8	2757.6	2757.6	2753.1
15°	2695.1	2701.8	2697.3	2695.1	2690.6
17.5°	2628.1	2632.6	2634.8	2625.9	2625.9
20°	2543.3	2552.2	2556.7	2541.0	2534.3
22.5°	2402.6	2442.8	2467.3	2440.5	2407.0
25°	2226.2	2295.4	2371.3	2299.9	2241.8
27.5°	2014.1	2112.3	2248.5	2127.9	2014.1
30°	1746.1	1891.3	2081.0	1906.9	1752.8
32.5°	1469.2	1623.3	1889.0	1650.1	1500.5
35°	1241.5	1366.5	1652.3	1404.5	1259.3
37.5°	1045.0	1152.2	1404.5	1176.7	1056.2
40°	884.2	969.1	1152.2	980.2	882.0
42.5°	730.2	810.5	933.3	821.7	739.1
45°	609.6	674.3	754.7	681.0	620.7
47.5°	506.9	560.5	618.5	560.5	513.6
50°	422.0	464.4	511.3	464.4	430.9
52.5°	377.4	390.8	422.0	393.0	377.4
55°	339.4	346.1	357.3	346.1	339.4
57.5°	303.7	308.1	305.9	305.9	303.7
60°	270.2	272.4	267.9	270.2	267.9
62.5°	238.9	238.9	234.5	238.9	236.7
65°	207.7	209.9	207.7	207.7	207.7
67.5°	180.9	180.9	178.6	180.9	180.9
70°	156.3	156.3	154.1	156.3	154.1
72.5°	131.7	131.7	129.5	129.5	129.5
75°	109.4	109.4	107.2	107.2	109.4
77.5°	87.1	87.1	84.8	87.1	87.1
80°	67.0	67.0	64.8	67.0	67.0
82.5°	46.9	46.9	46.9	49.1	49.1
85°	29.0	29.0	29.0	29.0	29.0
87.5°	13.4	13.4	13.4	13.4	15.6
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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