

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: P837626

Luminaire Tested: HCSQ450D010-HM44560935-41SQMB

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837626
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-4)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ450D010-HM44560935-41SQMB
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: -

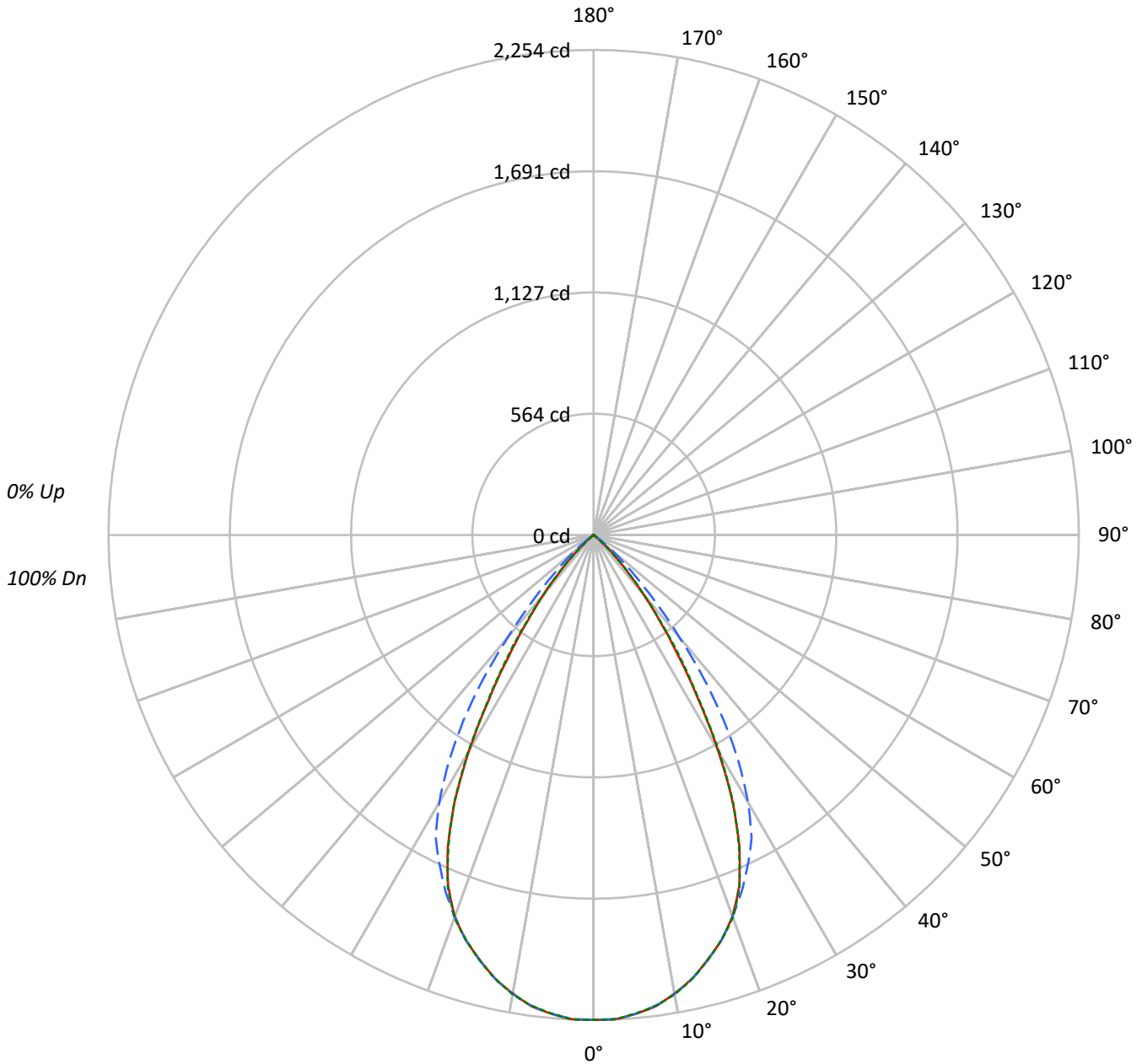
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2251.4 lumens
Efficiency: N/A
Efficacy: 45.3 lumens/watt
Spacing Criteria (0/90/45): 0.96 / 0.96 / 0.99
Luminous Opening: Rectangular (W 0.33' x L: 0.33' 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					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	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93					93			
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87					87			
3	102	96	91	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80					80			
4	97	89	83	79	95	88	83	79	86	81	78	84	80	77	82	79	76	74					74			
5	92	83	77	73	90	82	77	73	80	76	72	79	75	71	77	74	71	69					69			
6	87	78	72	67	85	77	71	67	76	70	67	74	70	66	73	69	66	64					64			
7	82	73	67	63	81	72	66	62	71	66	62	70	65	62	69	65	61	60					60			
8	78	69	62	58	77	68	62	58	67	62	58	66	61	58	65	61	57	56					56			
9	74	65	58	54	73	64	58	54	63	58	54	62	57	54	61	57	54	52					52			
10	71	61	55	51	70	60	55	51	60	54	51	59	54	51	58	54	50	49					49			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	218338	218338	218338
5°	217344	217344	217139
10°	212863	213069	213276
15°	205069	205279	205279
20°	194412	194629	195062
25°	171409	181019	170736
30°	129335	160433	130498
35°	81105	124862	83825
40°	45741	77736	45741
45°	19194	39238	18906
50°	1582	15131	1884
55°	709	3175	709
60°	814	407	814
65°	481	481	481
70°	595	595	595
75°	786	786	786
80°	0	1172	1172
85°	0	2334	2334

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 39238 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	211.2	9.4
10°-20°	574.6	25.5
20°-30°	745.5	33.1
30°-40°	530.0	23.5
40°-50°	171.8	7.6
50°-60°	12.4	0.6
60°-70°	2.1	0.1
70°-80°	2.2	0.1
80°-90°	1.5	0.1
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°	1531.3	68.0
0°-40°	2061.3	91.6
0°-60°	2245.6	99.7
0°-90°	2251.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2251.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2254	2254	2254	2254	2254	
5°	2235	2237	2235	2235	2233	211
15°	2045	2051	2047	2051	2047	574
25°	1604	1645	1694	1654	1597	718
35°	686	811	1056	820	709	439
45°	140	199	286	203	138	117
55°	4	4	19	4	4	5
65°	2	2	2	2	2	2
75°	2	2	2	2	2	2
85°	0	0	2	2	2	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2253.8	2253.8	2253.8	2253.8	2253.8
2.5°	2253.8	2253.8	2251.7	2251.7	2253.8
5°	2235.0	2237.1	2235.0	2235.0	2232.9
7.5°	2209.9	2209.9	2207.8	2207.8	2207.8
10°	2163.9	2166.0	2166.0	2166.0	2168.1
12.5°	2113.7	2113.7	2113.7	2113.7	2113.7
15°	2044.7	2051.0	2046.8	2051.0	2046.8
17.5°	1975.7	1975.7	1973.6	1977.8	1973.6
20°	1885.8	1885.8	1887.9	1892.1	1892.1
22.5°	1766.7	1787.6	1795.9	1791.7	1770.8
25°	1603.6	1645.4	1693.5	1653.8	1597.3
27.5°	1398.7	1478.1	1588.9	1490.7	1402.9
30°	1156.2	1275.3	1434.2	1279.5	1166.6
32.5°	905.3	1043.3	1254.4	1053.7	913.6
35°	685.8	811.2	1055.8	819.6	708.8
37.5°	506.0	620.9	838.4	625.1	520.6
40°	361.7	445.3	614.7	453.7	361.7
42.5°	232.1	315.7	432.8	317.8	242.5
45°	140.1	198.6	286.4	202.8	138.0
47.5°	62.7	112.9	177.7	117.1	62.7
50°	10.5	46.0	100.4	48.1	12.5
52.5°	6.3	8.4	48.1	8.4	6.3
55°	4.2	4.2	18.8	4.2	4.2
57.5°	4.2	4.2	4.2	4.2	4.2
60°	4.2	2.1	2.1	2.1	4.2
62.5°	2.1	2.1	2.1	2.1	2.1
65°	2.1	2.1	2.1	2.1	2.1
67.5°	2.1	2.1	2.1	2.1	2.1
70°	2.1	2.1	2.1	2.1	2.1
72.5°	2.1	2.1	2.1	2.1	2.1
75°	2.1	2.1	2.1	2.1	2.1
77.5°	2.1	2.1	2.1	2.1	2.1
80°	0.0	2.1	2.1	2.1	2.1
82.5°	0.0	2.1	2.1	2.1	2.1
85°	0.0	0.0	2.1	2.1	2.1
87.5°	0.0	0.0	2.1	2.1	2.1
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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