

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: P837641

Luminaire Tested: HCSQ455D010-HM44560830-41SQMB

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837641
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: HCSQ455D010-HM44560830-41SQMB
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: -

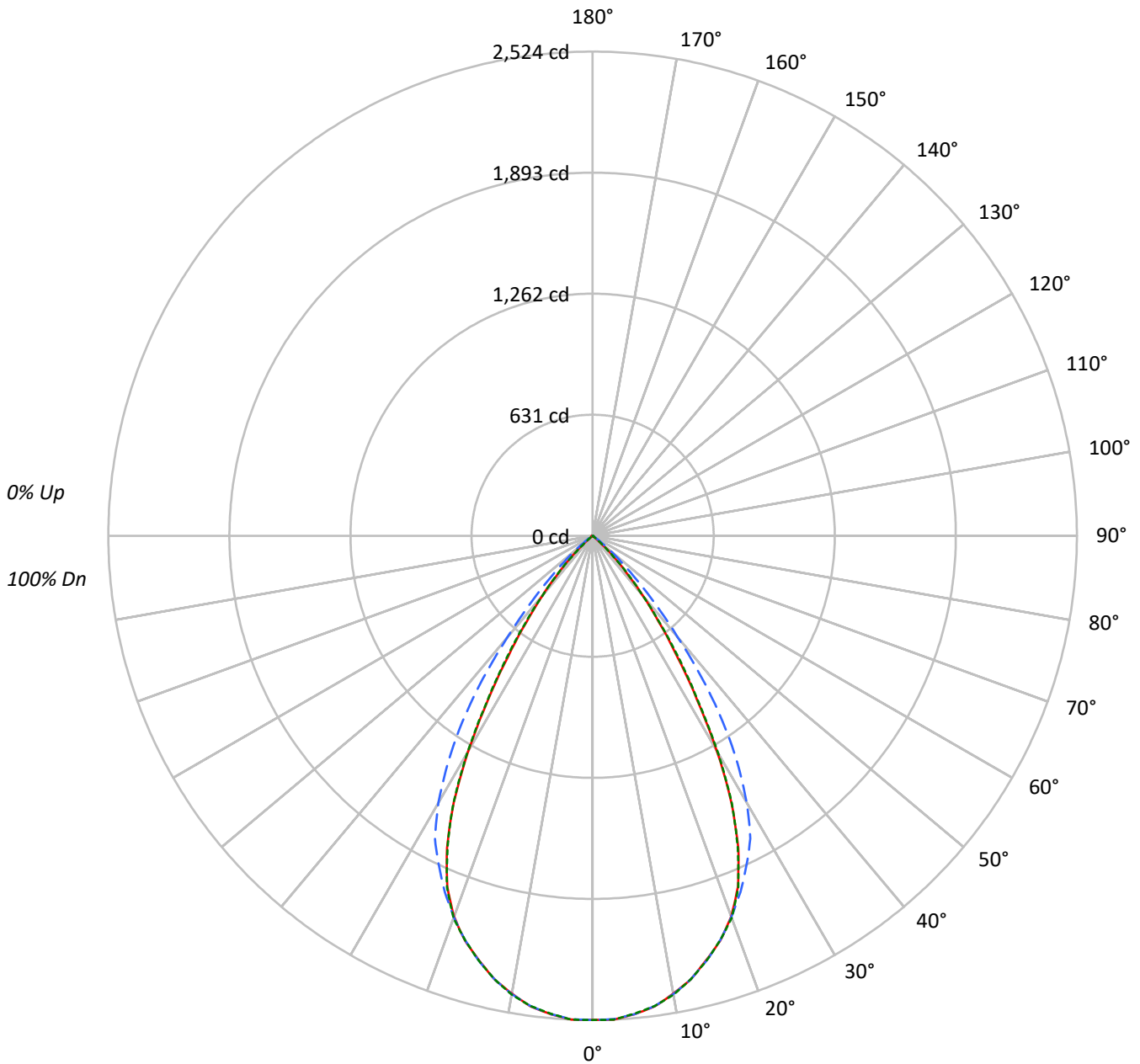
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2521.4 lumens
Efficiency: N/A
Efficacy: 46.7 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): 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										
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								
1	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93								
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87								
3	102	96	91	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80								
4	97	89	83	79	95	88	83	79	86	81	78	84	80	77	82	79	76	74								
5	92	83	77	73	90	82	77	73	80	76	72	79	75	71	77	74	71	69								
6	87	78	72	67	85	77	71	67	76	70	67	74	70	66	73	69	66	64								
7	82	73	67	63	81	72	66	62	71	66	62	70	65	62	69	65	61	60								
8	78	69	62	58	77	68	62	58	67	62	58	66	61	58	65	61	57	56								
9	74	65	58	54	73	64	58	54	63	58	54	62	57	54	61	57	54	52								
10	71	61	55	51	70	60	55	51	60	54	51	59	54	51	58	54	50	49								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	244543	244543	244543
5°	243425	243425	243191
10°	238409	238636	238872
15°	229681	229911	229911
20°	217742	217989	218474
25°	191975	202739	191227
30°	144850	179684	146159
35°	90826	139846	93877
40°	51230	87056	51230
45°	21496	43950	21167
50°	1763	16940	2110
55°	794	3564	794
60°	911	446	911
65°	527	527	527
70°	651	651	651
75°	861	861	861
80°	0	1283	1283
85°	0	2556	2556

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 43950 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	236.6	9.4
10°-20°	643.6	25.5
20°-30°	834.9	33.1
30°-40°	593.6	23.5
40°-50°	192.5	7.6
50°-60°	13.9	0.6
60°-70°	2.4	0.1
70°-80°	2.4	0.1
80°-90°	1.6	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°	1715.1	68.0
0°-40°	2308.7	91.6
0°-60°	2515.0	99.7
0°-90°	2521.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2521.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2524	2524	2524	2524	2524	
5°	2503	2506	2503	2503	2501	237
15°	2290	2297	2292	2297	2292	643
25°	1796	1843	1897	1852	1789	804
35°	768	908	1182	918	794	491
45°	157	222	321	227	154	131
55°	5	5	21	5	5	5
65°	2	2	2	2	2	3
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°	2524.3	2524.3	2524.3	2524.3	2524.3
2.5°	2524.3	2524.3	2521.9	2521.9	2524.3
5°	2503.2	2505.5	2503.2	2503.2	2500.8
7.5°	2475.1	2475.1	2472.7	2472.7	2472.7
10°	2423.6	2425.9	2425.9	2425.9	2428.3
12.5°	2367.4	2367.4	2367.4	2367.4	2367.4
15°	2290.1	2297.1	2292.4	2297.1	2292.4
17.5°	2212.8	2212.8	2210.5	2215.2	2210.5
20°	2112.1	2112.1	2114.5	2119.2	2119.2
22.5°	1978.7	2002.1	2011.4	2006.8	1983.3
25°	1796.0	1842.8	1896.7	1852.2	1789.0
27.5°	1566.5	1655.5	1779.6	1669.6	1571.2
30°	1294.9	1428.4	1606.3	1433.1	1306.6
32.5°	1013.9	1168.5	1405.0	1180.2	1023.3
35°	768.0	908.5	1182.5	917.9	793.8
37.5°	566.7	695.5	939.0	700.1	583.1
40°	405.1	498.8	688.4	508.1	405.1
42.5°	259.9	353.6	484.7	355.9	271.6
45°	156.9	222.5	320.8	227.1	154.5
47.5°	70.2	126.4	199.0	131.1	70.2
50°	11.7	51.5	112.4	53.9	14.0
52.5°	7.0	9.4	53.9	9.4	7.0
55°	4.7	4.7	21.1	4.7	4.7
57.5°	4.7	4.7	4.7	4.7	4.7
60°	4.7	2.3	2.3	2.3	4.7
62.5°	2.3	2.3	2.3	2.3	2.3
65°	2.3	2.3	2.3	2.3	2.3
67.5°	2.3	2.3	2.3	2.3	2.3
70°	2.3	2.3	2.3	2.3	2.3
72.5°	2.3	2.3	2.3	2.3	2.3
75°	2.3	2.3	2.3	2.3	2.3
77.5°	2.3	2.3	2.3	2.3	2.3
80°	0.0	2.3	2.3	2.3	2.3
82.5°	0.0	2.3	2.3	2.3	2.3
85°	0.0	0.0	2.3	2.3	2.3
87.5°	0.0	0.0	2.3	2.3	2.3
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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