

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: P837509

Luminaire Tested: HCSQ435D010-HM43040940-41SQH

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837509
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-2)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ435D010-HM43040940-41SQH
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

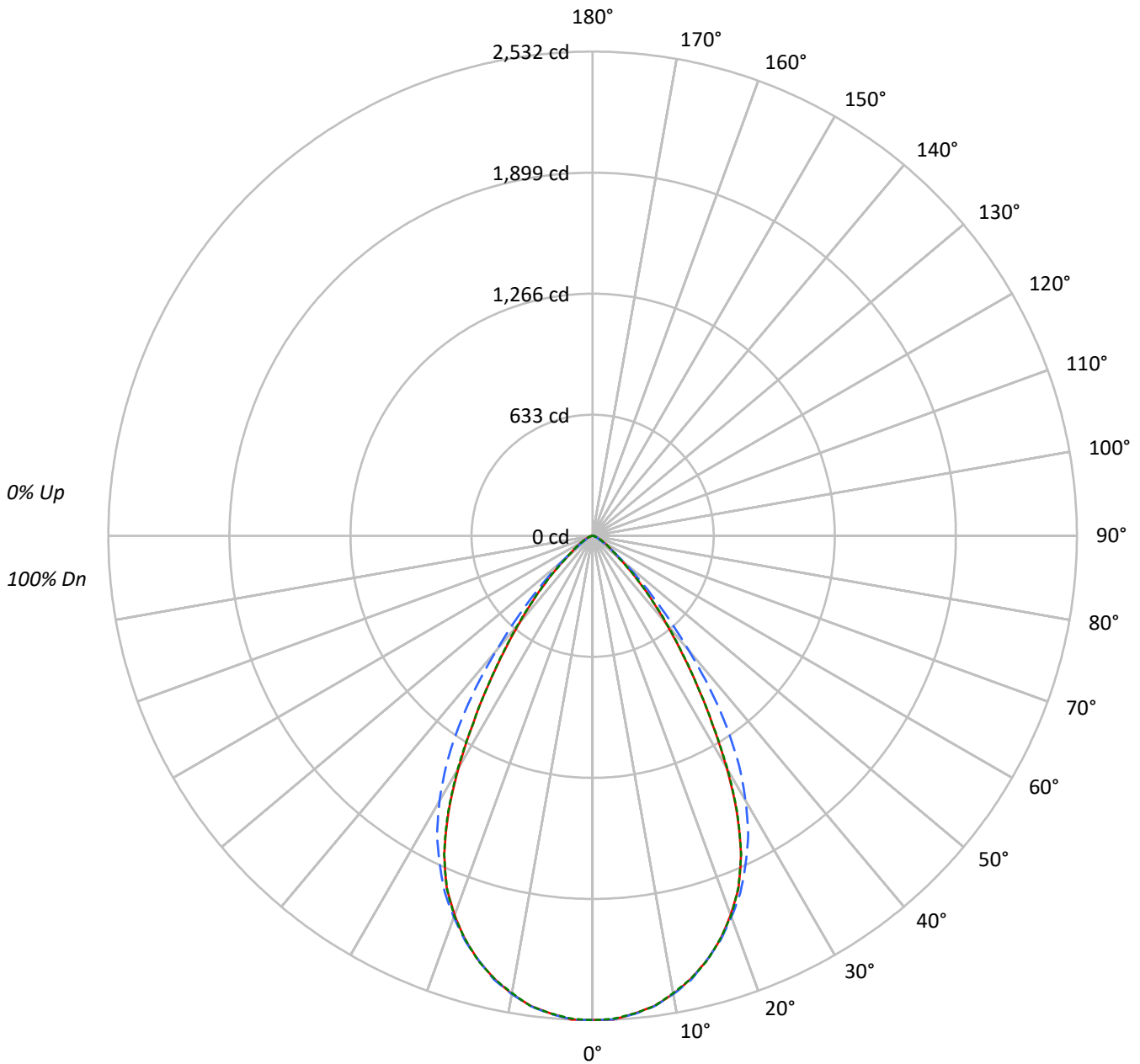
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2846.8 lumens
Efficiency: N/A
Efficacy: 83.7 lumens/watt
Spacing Criteria (0/90/45): 0.98 / 0.98 / 1.01
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 34
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										
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	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92								
2	107	101	97	93	104	100	95	92	96	93	90	93	90	88	90	88	86	85								
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77								
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71								
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65								
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62	60								
7	80	70	63	59	78	69	63	58	68	62	58	66	61	58	65	61	57	56								
8	75	65	59	54	74	65	58	54	63	58	54	62	57	54	61	57	53	52								
9	72	61	55	50	70	61	54	50	60	54	50	59	54	50	58	53	50	48								
10	68	57	51	47	67	57	51	47	56	51	47	55	50	47	55	50	46	45								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	245337	245337	245337
5°	243843	244144	243843
10°	239275	239432	238813
15°	230774	230623	230934
20°	217546	218670	218031
25°	196293	202322	196293
30°	156786	179002	158005
35°	111924	144849	112102
40°	75561	98514	76750
45°	48006	58295	48225
50°	27354	31122	26405
55°	17971	15066	17700
60°	12419	8796	12129
65°	8596	6464	8596
70°	6203	4872	6203
75°	4080	4080	4080
80°	2622	3515	3515
85°	3446	3446	3446

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 58295 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	237.3	8.3
10°-20°	645.1	22.7
20°-30°	844.7	29.7
30°-40°	663.9	23.3
40°-50°	310.1	10.9
50°-60°	96.1	3.4
60°-70°	34.3	1.2
70°-80°	12.1	0.4
80°-90°	3.3	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°	1727.1	60.7
0°-40°	2390.9	84.0
0°-60°	2797.1	98.3
0°-90°	2846.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2846.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2532	2532	2532	2532	2532	
5°	2508	2509	2511	2514	2508	237
15°	2301	2301	2300	2301	2303	645
25°	1836	1862	1893	1863	1836	826
35°	946	1032	1225	1045	948	597
45°	350	393	426	385	352	279
55°	106	100	89	98	105	100
65°	38	34	28	33	38	39
75°	11	11	11	11	11	13
85°	3	3	3	3	3	3
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2532.5	2532.5	2532.5	2532.5	2532.5
2.5°	2532.5	2529.4	2531.0	2527.8	2527.8
5°	2507.5	2509.1	2510.6	2513.8	2507.5
7.5°	2479.4	2482.5	2480.9	2480.9	2480.9
10°	2432.4	2434.0	2434.0	2434.0	2427.7
12.5°	2373.0	2376.1	2377.7	2373.0	2373.0
15°	2301.0	2301.0	2299.5	2301.0	2302.6
17.5°	2215.0	2219.7	2219.7	2215.0	2213.4
20°	2110.2	2118.0	2121.1	2114.9	2114.9
22.5°	1992.9	2000.7	2019.5	2003.8	1991.3
25°	1836.4	1861.5	1892.8	1863.0	1836.4
27.5°	1634.7	1689.4	1761.4	1698.8	1639.3
30°	1401.6	1490.7	1600.2	1495.4	1412.5
32.5°	1163.8	1263.9	1425.0	1271.7	1163.8
35°	946.4	1032.4	1224.8	1044.9	947.9
37.5°	752.4	835.3	1004.3	844.7	763.4
40°	597.5	664.8	779.0	663.2	606.9
42.5°	466.1	514.6	589.7	513.1	464.6
45°	350.4	392.6	425.5	384.8	352.0
47.5°	258.1	286.3	305.0	281.6	251.8
50°	181.5	201.8	206.5	197.1	175.2
52.5°	136.1	136.1	137.7	134.5	133.0
55°	106.4	100.1	89.2	98.5	104.8
57.5°	82.9	76.6	62.6	73.5	81.3
60°	64.1	57.9	45.4	56.3	62.6
62.5°	50.1	43.8	36.0	43.8	48.5
65°	37.5	34.4	28.2	32.8	37.5
67.5°	28.2	25.0	21.9	25.0	28.2
70°	21.9	20.3	17.2	18.8	21.9
72.5°	15.6	14.1	14.1	14.1	15.6
75°	10.9	10.9	10.9	10.9	10.9
77.5°	7.8	7.8	7.8	7.8	7.8
80°	4.7	4.7	6.3	6.3	6.3
82.5°	3.1	3.1	4.7	4.7	4.7
85°	3.1	3.1	3.1	3.1	3.1
87.5°	1.6	1.6	1.6	3.1	3.1
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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