

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: P837596

Luminaire Tested: HCSQ450D010-HM44560827-41SQMB

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837596
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-HM44560827-41SQMB
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: -

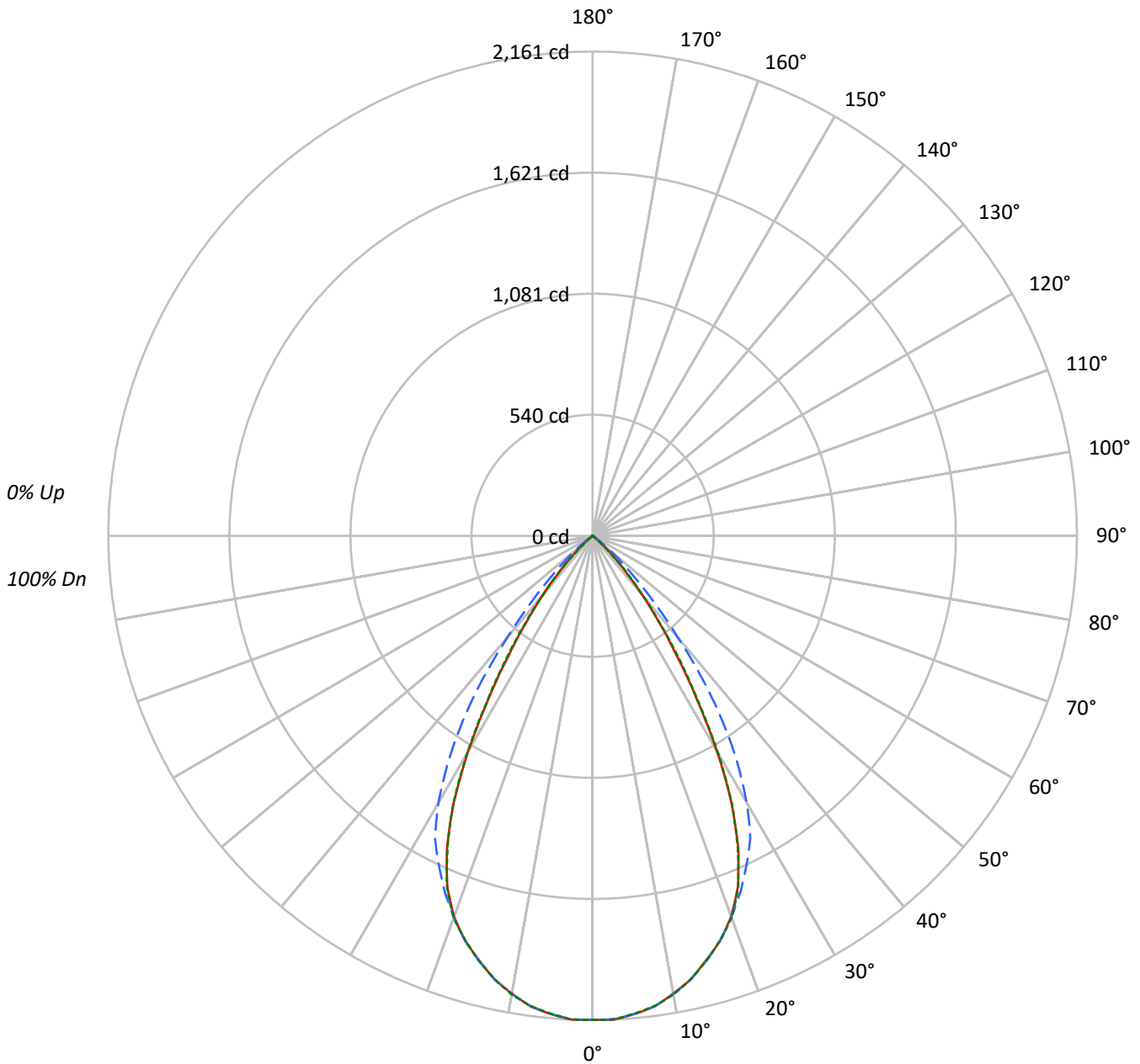
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2158.8 lumens
Efficiency: N/A
Efficacy: 43.4 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	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°	209367	209367	209367
5°	208407	208407	208212
10°	204118	204314	204511
15°	196644	196845	196845
20°	186422	186629	187041
25°	164365	173579	163724
30°	124022	153844	125140
35°	77770	119730	80372
40°	43857	74537	43857
45°	18399	37635	18125
50°	1507	14498	1809
55°	676	3040	676
60°	775	388	775
65°	458	458	458
70°	566	566	566
75°	749	749	749
80°	0	1116	1116
85°	0	2223	2223

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 37635 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	202.6	9.4
10°-20°	551.0	25.5
20°-30°	714.8	33.1
30°-40°	508.2	23.5
40°-50°	164.8	7.6
50°-60°	11.9	0.6
60°-70°	2.0	0.1
70°-80°	2.1	0.1
80°-90°	1.4	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°	1468.4	68.0
0°-40°	1976.6	91.6
0°-60°	2153.3	99.7
0°-90°	2158.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2158.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2161	2161	2161	2161	2161	
5°	2143	2145	2143	2143	2141	203
15°	1961	1967	1963	1967	1963	551
25°	1538	1578	1624	1586	1532	688
35°	658	778	1012	786	680	421
45°	134	190	275	194	132	112
55°	4	4	18	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°	2161.2	2161.2	2161.2	2161.2	2161.2
2.5°	2161.2	2161.2	2159.2	2159.2	2161.2
5°	2143.1	2145.1	2143.1	2143.1	2141.1
7.5°	2119.1	2119.1	2117.1	2117.1	2117.1
10°	2075.0	2077.0	2077.0	2077.0	2079.0
12.5°	2026.8	2026.8	2026.8	2026.8	2026.8
15°	1960.7	1966.7	1962.7	1966.7	1962.7
17.5°	1894.5	1894.5	1892.5	1896.5	1892.5
20°	1808.3	1808.3	1810.3	1814.3	1814.3
22.5°	1694.1	1714.1	1722.1	1718.1	1698.1
25°	1537.7	1577.8	1623.9	1585.8	1531.7
27.5°	1341.2	1417.4	1523.6	1429.4	1345.2
30°	1108.7	1222.9	1375.3	1226.9	1118.7
32.5°	868.1	1000.4	1202.9	1010.4	876.1
35°	657.6	777.9	1012.4	785.9	679.6
37.5°	485.2	595.4	803.9	599.4	499.2
40°	346.8	427.0	589.4	435.0	346.8
42.5°	222.5	302.7	415.0	304.7	232.6
45°	134.3	190.5	274.7	194.5	132.3
47.5°	60.1	108.3	170.4	112.3	60.1
50°	10.0	44.1	96.2	46.1	12.0
52.5°	6.0	8.0	46.1	8.0	6.0
55°	4.0	4.0	18.0	4.0	4.0
57.5°	4.0	4.0	4.0	4.0	4.0
60°	4.0	2.0	2.0	2.0	4.0
62.5°	2.0	2.0	2.0	2.0	2.0
65°	2.0	2.0	2.0	2.0	2.0
67.5°	2.0	2.0	2.0	2.0	2.0
70°	2.0	2.0	2.0	2.0	2.0
72.5°	2.0	2.0	2.0	2.0	2.0
75°	2.0	2.0	2.0	2.0	2.0
77.5°	2.0	2.0	2.0	2.0	2.0
80°	0.0	2.0	2.0	2.0	2.0
82.5°	0.0	2.0	2.0	2.0	2.0
85°	0.0	0.0	2.0	2.0	2.0
87.5°	0.0	0.0	2.0	2.0	2.0
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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