

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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: P837605

Luminaire Tested: HCSQ450D010-HM44560835-41SQLWW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837605
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-5)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ450D010-HM44560835-41SQLWW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: -

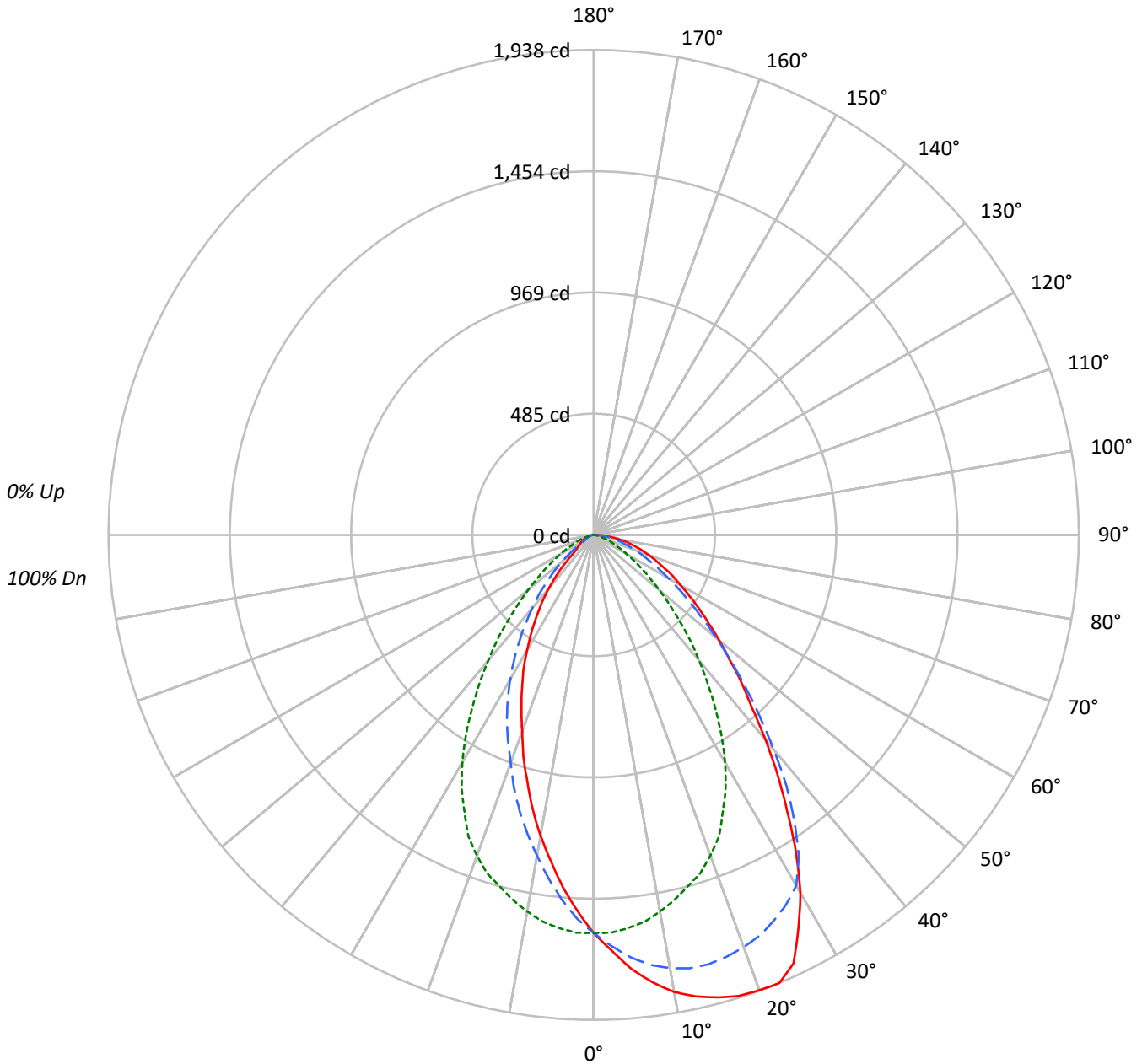
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2573.1 lumens
Efficiency: N/A
Efficacy: 51.8 lumens/watt
Spacing Criteria (0/90/45): 1.07 / 1.04 / 1.12
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										
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	100	100	100	100		
	1	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89	89	89	89	89	89		
	2	103	97	91	87	101	95	90	86	92	87	84	88	85	82	86	83	80	78	78	78	78	78	78		
	3	96	87	81	76	94	86	80	75	83	78	74	81	76	72	78	74	71	69	69	69	69	69	69		
	4	89	79	72	67	87	78	71	66	76	70	65	74	69	64	72	67	64	62	62	62	62	62	62		
	5	83	72	65	59	81	71	64	59	69	63	58	68	62	58	66	61	57	55	55	55	55	55	55		
	6	78	66	59	53	76	66	58	53	64	57	53	62	57	52	61	56	52	50	50	50	50	50	50		
	7	73	61	54	48	71	60	53	48	59	53	48	58	52	48	56	51	47	45	45	45	45	45	45		
	8	68	57	49	44	67	56	49	44	55	48	44	54	48	43	52	47	43	42	42	42	42	42	42		
	9	64	53	45	40	63	52	45	40	51	45	40	50	44	40	49	44	40	38	38	38	38	38	38		
	10	61	49	42	37	60	48	42	37	48	41	37	47	41	37	46	41	37	35	35	35	35	35	35		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	154109	154109	154109	154109	154109
5°	169392	164792	153376	142192	137359
10°	182456	172905	150270	128068	120080
15°	191900	178100	145736	114504	102519
20°	199587	180742	140505	99794	86072
25°	201873	181852	130481	87554	72354
30°	184763	180971	117366	74455	59320
35°	159312	165178	100074	61107	46962
40°	134973	141245	82757	48220	35093
45°	114383	117165	66159	35854	22564
50°	98626	96244	51347	24144	13609
55°	86898	79263	39252	13343	12194
60°	77384	66457	29295	7440	10928
65°	70854	56894	21731	6716	9834
70°	65826	49200	15975	6401	9574
75°	61647	43082	10967	5914	8459
80°	59191	37769	7531	6304	7531
85°	57688	32568	5002	5002	5002

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 119014 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.2	5.8
10°-20°	410.7	16.0
20°-30°	574.2	22.3
30°-40°	561.3	21.8
40°-50°	407.3	15.8
50°-60°	245.5	9.5
60°-70°	138.0	5.4
70°-80°	68.3	2.7
80°-90°	18.7	0.7
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°	1134.0	44.1
0°-40°	1695.3	65.9
0°-60°	2348.1	91.3
0°-90°	2573.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2573.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1591	1591	1591	1591	1591	
5°	1742	1695	1577	1462	1412	169
15°	1913	1776	1453	1142	1022	542
25°	1889	1701	1221	819	677	851
35°	1347	1397	846	517	397	843
45°	835	855	483	262	165	647
55°	514	469	232	79	72	463
65°	309	248	95	29	43	310
75°	165	115	29	16	23	177
85°	52	29	4	4	4	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1590.8	1590.8	1590.8	1590.8	1590.8	1590.8	1590.8	1590.8	1590.8
2.5°	1663.0	1658.5	1644.9	1617.8	1590.8	1559.2	1534.4	1516.3	1502.8
5°	1741.9	1732.9	1694.6	1638.2	1577.2	1516.3	1462.2	1430.6	1412.5
7.5°	1802.9	1787.1	1732.9	1653.9	1559.2	1466.7	1383.2	1333.5	1313.2
10°	1854.8	1827.7	1757.7	1651.7	1527.6	1405.7	1301.9	1243.3	1220.7
12.5°	1888.6	1859.3	1773.5	1649.4	1493.7	1344.8	1223.0	1146.3	1123.7
15°	1913.4	1877.3	1775.8	1631.4	1453.1	1281.6	1141.7	1051.5	1022.2
17.5°	1931.5	1881.8	1766.8	1611.1	1417.0	1216.2	1058.3	961.2	931.9
20°	1936.0	1881.8	1753.2	1581.7	1362.9	1150.8	968.0	871.0	834.9
22.5°	1938.3	1875.1	1732.9	1545.6	1306.5	1076.3	893.5	792.0	753.6
25°	1888.6	1852.5	1701.3	1484.7	1220.7	995.1	819.1	708.5	676.9
27.5°	1771.3	1769.0	1665.2	1403.5	1141.7	907.1	742.4	636.3	607.0
30°	1651.7	1653.9	1617.8	1313.2	1049.2	823.6	665.6	561.8	530.3
32.5°	1505.0	1527.6	1525.3	1211.7	949.9	744.6	591.2	494.2	462.6
35°	1347.1	1387.7	1396.7	1096.6	846.2	654.4	516.7	428.7	397.1
37.5°	1204.9	1245.5	1265.8	995.1	749.1	575.4	446.8	370.1	338.5
40°	1067.3	1101.1	1116.9	877.7	654.4	494.2	381.3	309.1	277.5
42.5°	934.2	983.8	979.3	778.5	570.9	428.7	322.7	250.5	218.9
45°	834.9	868.7	855.2	674.7	482.9	361.0	261.7	194.1	164.7
47.5°	735.6	760.4	740.1	586.7	408.4	297.8	212.1	142.2	110.6
50°	654.4	665.6	638.6	498.7	340.7	243.7	160.2	94.8	90.3
52.5°	577.6	584.4	546.1	424.2	282.1	196.3	117.3	74.5	79.0
55°	514.5	512.2	469.3	358.8	232.4	151.2	79.0	67.7	72.2
57.5°	453.5	446.8	403.9	297.8	189.5	117.3	47.4	58.7	63.2
60°	399.4	392.6	343.0	245.9	151.2	88.0	38.4	51.9	56.4
62.5°	356.5	340.7	291.1	203.1	121.8	63.2	33.8	45.1	49.6
65°	309.1	295.6	248.2	164.7	94.8	45.1	29.3	38.4	42.9
67.5°	270.8	255.0	209.8	135.4	76.7	31.6	27.1	33.8	38.4
70°	232.4	218.9	173.7	108.3	56.4	20.3	22.6	29.3	33.8
72.5°	200.8	185.0	144.4	85.7	42.9	15.8	20.3	24.8	27.1
75°	164.7	151.2	115.1	65.4	29.3	13.5	15.8	20.3	22.6
77.5°	137.6	124.1	90.3	49.6	20.3	11.3	13.5	18.1	18.1
80°	106.1	94.8	67.7	33.8	13.5	6.8	11.3	13.5	13.5
82.5°	76.7	67.7	47.4	22.6	6.8	6.8	6.8	9.0	9.0
85°	51.9	45.1	29.3	13.5	4.5	4.5	4.5	4.5	4.5
87.5°	29.3	22.6	13.5	4.5	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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Scaled Data Report



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Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270°

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