

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

Report Number: P886780

Luminaire Tested: ML310LSFLD2W1E-TIR4D25AWW-TL3SWMW-600LM-2700K

Issue Date: 7/8/2024

Test Information

Test Method: LM-79-2019
Report Number: P886780
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-22)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/8/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML310LSFLD2W1E-TIR4D25AWW-TL3SWMW-600LM-2700K
Description: 3IN SQUARE ML FLEX, SELECTABLE CCT, WITH WW TIR, MATTE WHITE TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 521.6 lumens
Efficiency: N/A
Efficacy: 54.9 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 0.81 / 1.01
Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')
CIE Type: Direct

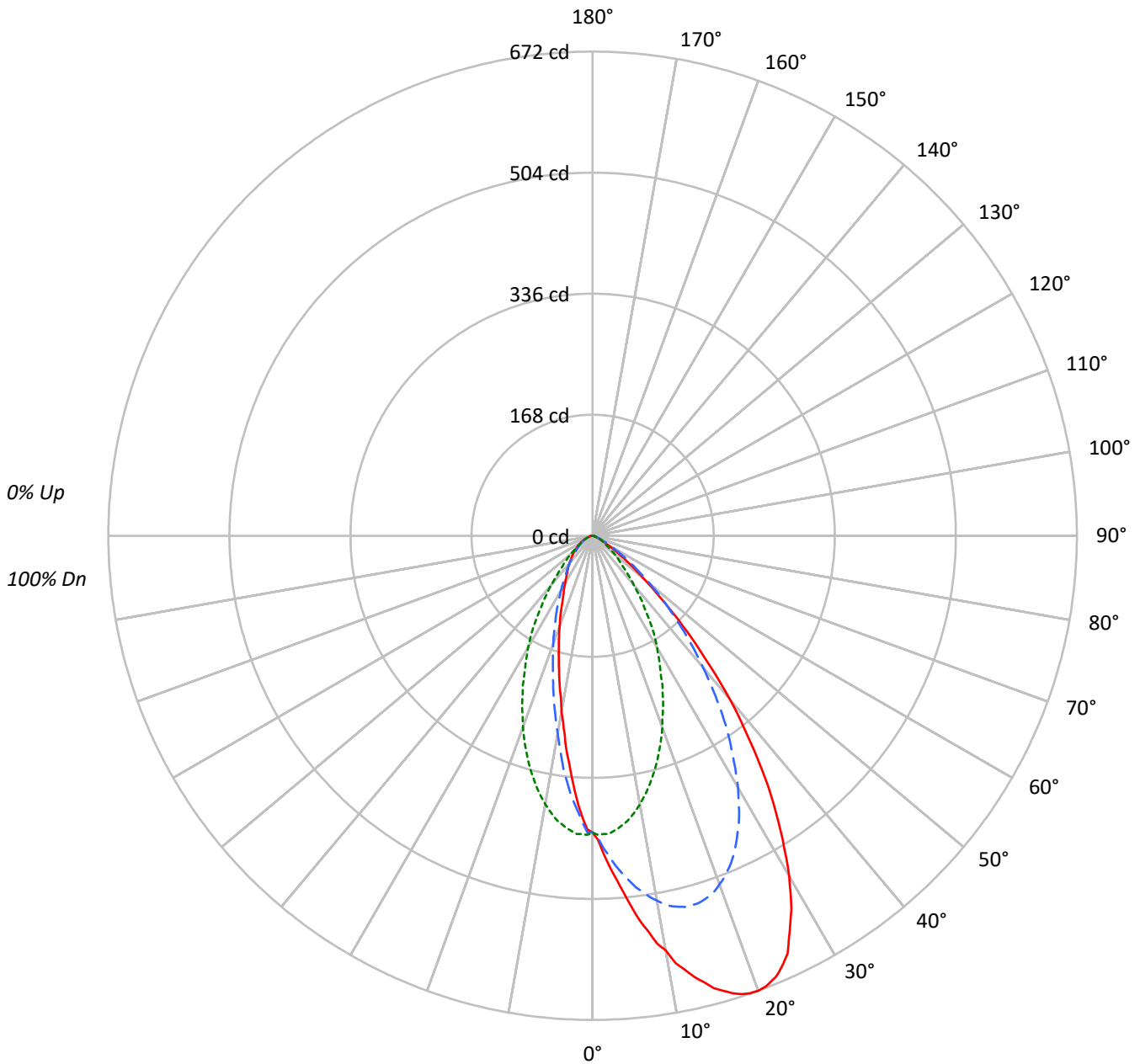
Input Watts (W): 9.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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								
1	112	109	106	104	110	107	104	102	103	101	99	99	97	96	96	94	93	91								
2	105	100	95	91	103	98	94	90	95	91	88	92	89	86	89	86	84	82								
3	99	91	85	81	97	90	84	80	87	83	79	85	81	77	82	79	76	74								
4	93	84	77	72	91	83	77	72	80	75	71	78	74	70	76	73	69	68								
5	87	77	70	65	85	76	70	65	74	69	64	73	68	64	71	67	63	62								
6	82	72	65	60	80	71	64	59	69	63	59	68	62	58	66	62	58	56								
7	77	66	59	55	76	66	59	54	64	58	54	63	58	54	62	57	53	52								
8	73	62	55	50	71	61	55	50	60	54	50	59	54	50	58	53	49	48								
9	69	58	51	46	67	57	51	46	56	50	46	55	50	46	54	49	46	44								
10	65	54	47	43	64	54	47	43	53	47	43	52	47	43	51	46	43	41								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	70939	70939	70939	70939	70939
5°	86129	81288	70449	61839	57811
10°	102217	89941	66192	48896	43405
15°	115894	94667	59623	37728	32343
20°	123161	94369	51830	29324	24467
25°	121598	89455	43573	22746	18794
30°	108461	80222	35577	17401	15273
35°	89249	67867	27269	13645	12846
40°	66682	53586	19964	11196	11196
45°	43110	39883	14273	9060	9815
50°	24650	28012	10637	7422	8788
55°	13422	17775	7386	6606	7567
60°	7164	10092	5856	5856	6510
65°	4116	5909	4890	4890	5135
70°	2518	3651	4129	4431	4129
75°	1264	2296	3327	3793	2928
80°	595	1289	1884	3075	3075
85°	0	1186	2569	3754	3754

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 30°
 Vertical Angle: 45°
 Luminance: 44791 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.0	7.5
10°-20°	104.8	20.1
20°-30°	135.6	26.0
30°-40°	118.5	22.7
40°-50°	72.0	13.8
50°-60°	32.5	6.2
60°-70°	13.1	2.5
70°-80°	4.8	0.9
80°-90°	1.2	0.2
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°	279.4	53.6
0°-40°	397.9	76.3
0°-60°	502.5	96.3
0°-90°	521.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	521.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	412	412	412	412	412	
5°	498	470	408	358	334	50
15°	650	531	334	212	181	184
25°	640	471	229	120	99	289
35°	424	323	130	65	61	262
45°	177	164	59	37	40	139
55°	45	59	25	22	25	44
65°	10	14	12	12	13	11
75°	2	3	5	6	4	2
85°	0	1	1	2	2	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
0°	411.9	411.9	411.9	411.9	411.9	411.9	411.9	411.9	411.9	411.9	411.9
1°	422.0	421.4	420.1	418.8	419.5	418.8	416.9	416.3	416.3	415.1	414.4
2°	442.1	439.6	437.1	438.4	435.8	432.1	427.0	422.6	418.2	414.4	405.0
3°	461.0	458.5	458.5	455.4	449.1	442.8	435.8	427.7	420.7	414.4	398.7
4°	478.7	477.4	474.9	468.0	464.2	454.1	443.4	432.7	422.0	411.3	389.2
5°	498.2	498.2	492.5	486.2	476.2	464.2	450.3	435.2	421.4	407.5	379.8
6°	518.3	518.3	510.8	501.3	489.4	472.4	456.0	439.6	420.1	403.1	369.1
7°	538.5	535.4	528.4	516.5	501.3	481.8	460.4	440.2	417.6	398.7	358.4
8°	554.2	551.1	542.3	529.7	510.2	488.1	464.8	440.2	415.1	392.4	347.0
9°	573.1	568.7	559.9	542.3	520.2	495.0	467.3	439.0	411.3	385.5	335.1
10°	584.5	584.5	573.8	554.9	529.1	499.5	469.2	438.4	407.5	378.5	323.1
11°	604.6	599.6	583.9	565.6	537.2	504.5	469.9	435.2	401.8	370.3	311.1
12°	616.0	610.9	597.1	574.4	543.5	507.6	469.2	431.4	394.9	362.2	299.8
13°	628.6	624.2	607.8	581.3	548.6	508.3	468.0	427.7	388.6	353.3	287.2
14°	638.6	634.9	617.2	588.3	552.4	509.5	465.4	422.6	380.4	343.9	273.3
15°	650.0	643.1	623.5	592.7	553.0	508.9	461.7	416.3	373.5	334.4	263.9
16°	656.9	650.6	629.2	595.8	553.6	507.6	457.9	409.4	364.7	325.0	250.0
17°	663.8	657.5	633.6	598.3	553.0	503.9	452.8	402.5	357.7	314.3	238.1
18°	668.9	661.9	637.4	598.3	551.1	499.5	445.3	394.3	347.0	304.2	227.4
19°	671.4	663.2	637.4	597.7	548.6	493.8	439.0	386.1	337.0	293.5	215.4
20°	672.0	663.2	638.0	595.2	542.9	486.9	430.2	377.3	326.3	282.8	204.1
21°	670.1	661.3	634.2	591.4	538.5	479.3	422.0	365.9	315.5	270.2	193.4
22.5°	663.2	653.8	625.4	581.3	525.9	467.3	407.5	350.2	300.4	255.7	178.2
23°	659.4	651.2	622.3	577.6	522.8	461.7	401.2	345.8	292.9	250.0	173.8
24°	650.0	642.4	613.5	568.7	512.7	452.8	389.9	335.1	283.4	238.7	163.8
25°	639.9	627.9	602.1	557.4	501.3	440.2	379.8	323.1	272.7	229.3	154.3
26°	621.6	612.8	587.6	543.5	490.0	427.7	367.8	310.5	261.4	216.7	146.7
27°	604.0	597.7	573.8	529.7	478.0	415.7	355.9	299.8	247.5	206.6	136.7
28°	587.6	580.7	554.2	513.3	462.9	403.1	340.7	287.8	238.1	197.1	129.1
29°	566.2	561.2	536.6	500.1	447.2	388.6	328.8	275.2	227.4	187.1	121.6
30°	545.4	539.8	515.8	480.6	432.7	374.1	316.2	263.3	216.7	178.9	115.3
32.5°	485.6	483.7	462.3	432.1	388.6	335.7	282.8	232.4	189.6	155.6	99.5
35°	424.5	422.6	403.1	380.4	346.4	299.2	248.2	202.2	161.9	129.7	83.8
37.5°	357.7	355.9	346.4	326.3	301.1	258.2	214.1	173.2	134.8	109.0	70.5
40°	296.6	294.8	290.4	275.9	256.3	220.4	182.0	142.3	111.5	88.8	57.9
42.5°	231.8	234.3	233.0	228.0	215.4	183.9	152.4	118.4	92.0	71.8	47.9
45°	177.0	178.2	181.4	183.9	175.1	152.4	124.7	93.8	71.8	58.6	39.7
47.5°	128.5	131.6	138.6	143.6	141.1	124.1	98.9	74.9	58.6	48.5	34.0
50°	92.0	93.8	100.8	111.5	111.5	97.6	76.8	57.3	47.2	39.7	30.2
52.5°	66.1	67.4	73.7	81.9	84.4	74.3	59.2	45.3	37.2	30.9	25.2
55°	44.7	46.6	52.9	61.7	61.7	56.7	43.5	34.0	28.3	24.6	20.8
57.5°	30.2	32.1	36.5	44.1	44.1	40.3	32.8	25.2	22.0	19.5	17.6
60°	20.8	21.4	26.5	30.2	30.9	27.7	23.3	19.5	17.6	17.0	15.7



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	6.9	7.6	8.2	9.4	10.1	10.1	10.1	10.7	10.7	10.1	10.7
70°	5.0	5.0	5.7	6.3	6.9	7.6	7.6	8.8	8.2	8.2	8.8
72.5°	3.1	3.8	3.8	4.4	5.0	5.0	6.3	6.3	6.3	6.3	6.9
75°	1.9	2.5	2.5	2.5	3.1	3.8	4.4	4.4	4.4	5.0	5.7
77.5°	1.3	1.3	1.9	1.9	1.9	2.5	3.1	3.1	3.1	3.1	3.8
80°	0.6	0.6	0.6	1.3	1.3	1.3	1.9	1.9	1.9	1.9	2.5
82.5°	0.6	0.6	0.6	0.6	0.6	1.3	1.3	1.3	1.9	1.9	1.9
85°	0.0	0.0	0.0	0.6	0.6	0.6	0.6	1.3	1.3	1.3	1.3
87.5°	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	411.9	411.9	411.9
1°	411.9	411.3	407.5
2°	398.1	392.4	392.4
3°	384.2	376.6	374.7
4°	371.0	357.1	355.2
5°	357.7	340.1	334.4
6°	342.6	322.5	314.9
7°	328.1	304.8	299.2
8°	311.1	288.5	279.0
9°	294.1	271.5	262.0
10°	279.6	255.1	248.2
11°	265.2	240.0	230.5
12°	250.0	225.5	217.9
13°	238.1	211.6	204.7
14°	224.2	200.9	192.7
15°	211.6	187.7	181.4
16°	200.9	177.6	170.7
17°	188.3	167.5	160.6
18°	178.9	158.1	151.2
19°	168.8	148.6	143.0
20°	160.0	141.1	133.5
21°	151.2	131.6	126.6
22.5°	137.9	120.9	115.3
23°	133.5	115.9	111.5
24°	126.6	110.2	104.6
25°	119.7	103.3	98.9
26°	112.7	97.0	93.2
27°	106.4	92.0	88.8
28°	98.9	86.3	84.4
29°	93.2	81.9	80.6
30°	87.5	78.1	76.8
32.5°	75.6	68.7	68.0
35°	64.9	60.5	61.1
37.5°	56.7	54.2	55.4
40°	49.8	47.9	49.8
42.5°	42.8	42.8	45.3
45°	37.2	39.0	40.3
47.5°	32.1	35.3	36.5
50°	27.7	32.1	32.8
52.5°	24.6	29.0	28.3
55°	22.0	25.2	25.2
57.5°	19.5	22.0	21.4
60°	17.0	18.9	18.9



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CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
67.5°	10.1	11.3	10.1
70°	8.8	8.8	8.2
72.5°	6.9	6.9	6.3
75°	5.7	5.0	4.4
77.5°	4.4	3.8	3.8
80°	3.1	3.1	3.1
82.5°	2.5	2.5	2.5
85°	1.9	1.9	1.9
87.5°	1.3	1.3	1.3
90°	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



Report Generated By 670245859 / DESKTOP-T8S5UU9

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Scaled Data Report





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

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Scaled Data Report





62.5°	13.9	15.1	18.3	21.4	22.0	19.5	17.0	15.7	14.5	14.5	13.9
65°	10.1	10.7	12.6	14.5	15.1	13.9	12.6	12.6	12.6	12.0	12.0

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62.5°	14.5	15.7	15.7
65°	12.0	13.2	12.6

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(END OF REPORT)