

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: P886781

Luminaire Tested: ML310LSFLD2W1E-TIR4D25AWW-TL3SWMW-600LM-3000K

Issue Date: 7/8/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P886781  
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-3000K  
Description: 3IN SQUARE ML FLEX, SELECTABLE CCT, WITH WW TIR, MATTE WHITE TRIM  
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 559.6 lumens  
Efficiency: N/A  
Efficacy: 58.9 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

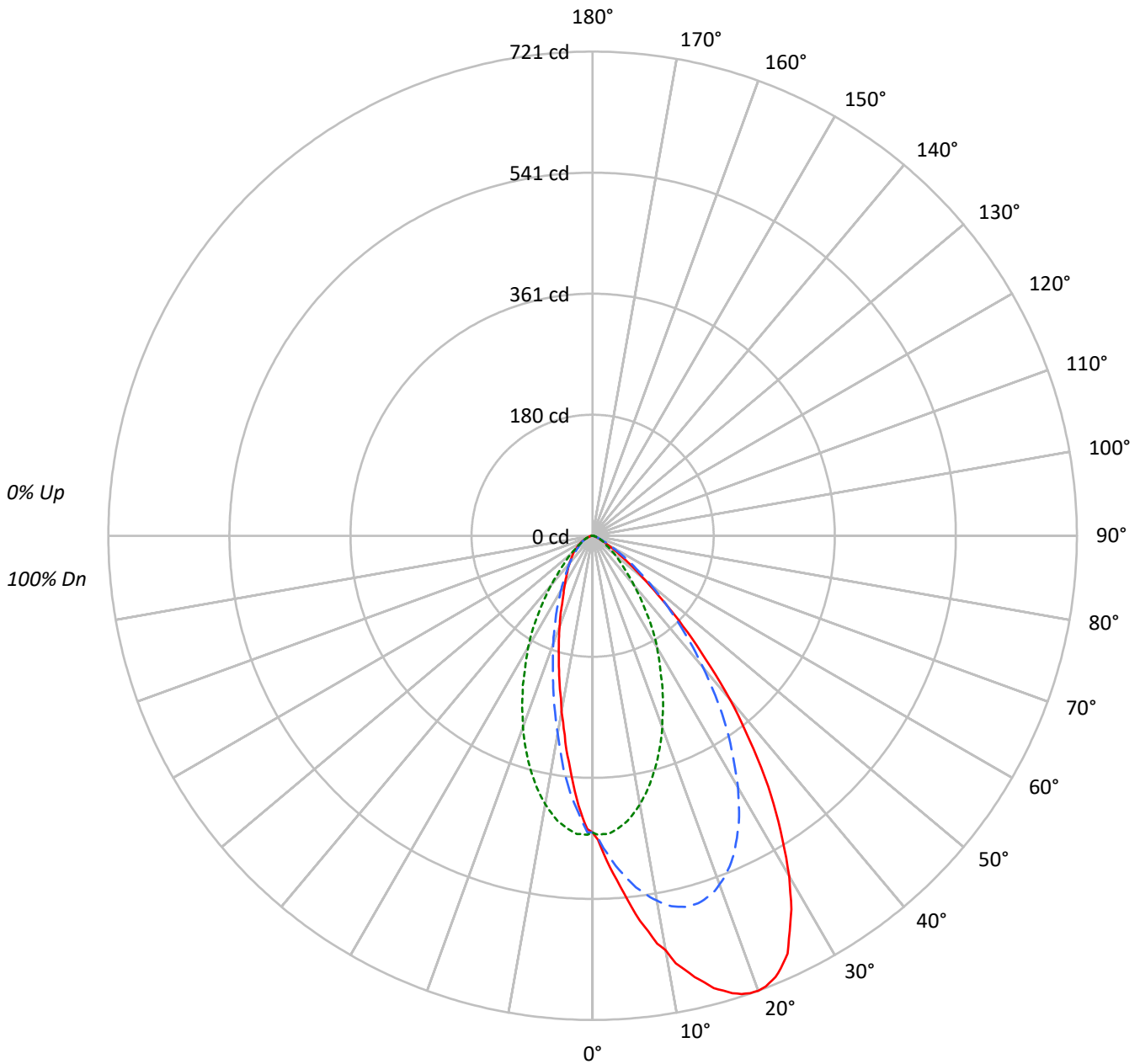
Input Watts (W): 9.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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°	76105	76105	76105	76105	76105
5°	92405	87201	75583	66352	62030
10°	109649	96481	71019	52464	46553
15°	124327	101550	63973	40474	34697
20°	132123	101232	55606	31450	26245
25°	130453	95973	46728	24399	20162
30°	116356	86059	38162	18673	16387
35°	95746	72797	29266	14633	13771
40°	71538	57498	21425	12005	12005
45°	46252	42781	15296	9718	10522
50°	26418	30048	11414	7958	9404
55°	14413	19067	7927	7086	8107
60°	7681	10816	6269	6269	6992
65°	4401	6337	5216	5216	5501
70°	2719	3902	4431	4784	4431
75°	1331	2495	3593	4059	3127
80°	694	1389	1984	3372	3372
85°	0	1383	2766	3952	3952

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 30°  
 Vertical Angle: 45°  
 Luminance: 48054 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	41.8	7.5
10°-20°	112.4	20.1
20°-30°	145.5	26.0
30°-40°	127.1	22.7
40°-50°	77.3	13.8
50°-60°	34.9	6.2
60°-70°	14.0	2.5
70°-80°	5.2	0.9
80°-90°	1.3	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°	299.7	53.6
0°-40°	426.9	76.3
0°-60°	539.0	96.3
0°-90°	559.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	559.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	442	442	442	442	442	
5°	534	504	437	384	359	54
15°	697	570	359	227	195	197
25°	686	505	246	128	106	310
35°	455	346	139	70	66	281
45°	190	176	63	40	43	150
55°	48	64	26	24	27	47
65°	11	16	13	13	14	12
75°	2	4	5	6	5	3
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°	441.9	441.9	441.9	441.9	441.9	441.9	441.9	441.9	441.9	441.9	441.9
1°	452.7	452.0	450.7	449.3	450.0	449.3	447.3	446.6	446.6	445.3	444.6
2°	474.3	471.6	468.9	470.3	467.6	463.5	458.1	453.4	448.6	444.6	434.5
3°	494.6	491.9	491.9	488.5	481.8	475.0	467.6	458.8	451.3	444.6	427.7
4°	513.5	512.2	509.5	502.0	498.0	487.2	475.7	464.2	452.7	441.2	417.6
5°	534.5	534.5	528.4	521.6	510.8	498.0	483.1	466.9	452.0	437.2	407.4
6°	556.1	556.1	548.0	537.8	525.0	506.8	489.2	471.6	450.7	432.4	395.9
7°	577.7	574.3	566.9	554.1	537.8	516.9	493.9	472.3	448.0	427.7	384.5
8°	594.6	591.2	581.8	568.2	547.3	523.6	498.6	472.3	445.3	420.9	372.3
9°	614.9	610.1	600.7	581.8	558.1	531.1	501.3	470.9	441.2	413.5	359.5
10°	627.0	627.0	615.5	595.3	567.6	535.8	503.4	470.3	437.2	406.1	346.6
11°	648.6	643.2	626.3	606.8	576.3	541.2	504.1	466.9	431.1	397.3	333.8
12°	660.8	655.4	640.5	616.2	583.1	544.6	503.4	462.8	423.6	388.5	321.6
13°	674.3	669.6	652.0	623.6	588.5	545.3	502.0	458.8	416.9	379.1	308.1
14°	685.1	681.1	662.2	631.1	592.6	546.6	499.3	453.4	408.1	368.9	293.2
15°	697.3	689.9	668.9	635.8	593.2	545.9	495.3	446.6	400.7	358.8	283.1
16°	704.7	698.0	675.0	639.2	593.9	544.6	491.2	439.2	391.2	348.6	268.2
17°	712.2	705.4	679.7	641.9	593.2	540.5	485.8	431.8	383.8	337.2	255.4
18°	717.6	710.1	683.8	641.9	591.2	535.8	477.7	423.0	372.3	326.3	243.9
19°	720.3	711.5	683.8	641.2	588.5	529.7	470.9	414.2	361.5	314.9	231.1
20°	720.9	711.5	684.5	638.5	582.4	522.3	461.5	404.7	350.0	303.4	218.9
21°	718.9	709.5	680.4	634.5	577.7	514.2	452.7	392.6	338.5	289.9	207.4
22.5°	711.5	701.3	670.9	623.6	564.2	501.3	437.2	375.7	322.3	274.3	191.2
23°	707.4	698.6	667.6	619.6	560.8	495.3	430.4	370.9	314.2	268.2	186.5
24°	697.3	689.2	658.1	610.1	550.0	485.8	418.2	359.5	304.1	256.1	175.7
25°	686.5	673.6	645.9	598.0	537.8	472.3	407.4	346.6	292.6	245.9	165.5
26°	666.9	657.4	630.4	583.1	525.7	458.8	394.6	333.1	280.4	232.4	157.4
27°	648.0	641.2	615.5	568.2	512.8	445.9	381.8	321.6	265.5	221.6	146.6
28°	630.4	623.0	594.6	550.7	496.6	432.4	365.5	308.8	255.4	211.5	138.5
29°	607.4	602.0	575.7	536.5	479.7	416.9	352.7	295.3	243.9	200.7	130.4
30°	585.1	579.1	553.4	515.5	464.2	401.3	339.2	282.4	232.4	191.9	123.6
32.5°	520.9	518.9	495.9	463.5	416.9	360.1	303.4	249.3	203.4	166.9	106.8
35°	455.4	453.4	432.4	408.1	371.6	320.9	266.2	216.9	173.6	139.2	89.9
37.5°	383.8	381.8	371.6	350.0	323.0	277.0	229.7	185.8	144.6	116.9	75.7
40°	318.2	316.2	311.5	295.9	275.0	236.5	195.3	152.7	119.6	95.3	62.2
42.5°	248.6	251.4	250.0	244.6	231.1	197.3	163.5	127.0	98.6	77.0	51.4
45°	189.9	191.2	194.6	197.3	187.8	163.5	133.8	100.7	77.0	62.8	42.6
47.5°	137.8	141.2	148.6	154.1	151.4	133.1	106.1	80.4	62.8	52.0	36.5
50°	98.6	100.7	108.1	119.6	119.6	104.7	82.4	61.5	50.7	42.6	32.4
52.5°	70.9	72.3	79.1	87.8	90.5	79.7	63.5	48.6	39.9	33.1	27.0
55°	48.0	50.0	56.8	66.2	66.2	60.8	46.6	36.5	30.4	26.4	22.3
57.5°	32.4	34.5	39.2	47.3	47.3	43.2	35.1	27.0	23.6	20.9	18.9
60°	22.3	23.0	28.4	32.4	33.1	29.7	25.0	20.9	18.9	18.2	16.9



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**CANDELA DISTRIBUTION (continued):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	7.4	8.1	8.8	10.1	10.8	10.8	10.8	11.5	11.5	10.8	11.5
70°	5.4	5.4	6.1	6.8	7.4	8.1	8.1	9.5	8.8	8.8	9.5
72.5°	3.4	4.1	4.1	4.7	5.4	5.4	6.8	6.8	6.8	6.8	7.4
75°	2.0	2.7	2.7	2.7	3.4	4.1	4.7	4.7	4.7	5.4	6.1
77.5°	1.4	1.4	2.0	2.0	2.0	2.7	3.4	3.4	3.4	3.4	4.1
80°	0.7	0.7	0.7	1.4	1.4	1.4	2.0	2.0	2.0	2.0	2.7
82.5°	0.7	0.7	0.7	0.7	0.7	1.4	1.4	1.4	2.0	2.0	2.0
85°	0.0	0.0	0.0	0.7	0.7	0.7	0.7	1.4	1.4	1.4	1.4
87.5°	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.7	0.7	0.7
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°	441.9	441.9	441.9
1°	441.9	441.2	437.2
2°	427.0	420.9	420.9
3°	412.2	404.1	402.0
4°	398.0	383.1	381.1
5°	383.8	364.9	358.8
6°	367.6	345.9	337.8
7°	352.0	327.0	320.9
8°	333.8	309.5	299.3
9°	315.5	291.2	281.1
10°	300.0	273.6	266.2
11°	284.5	257.4	247.3
12°	268.2	241.9	233.8
13°	255.4	227.0	219.6
14°	240.5	215.5	206.8
15°	227.0	201.4	194.6
16°	215.5	190.5	183.1
17°	202.0	179.7	172.3
18°	191.9	169.6	162.2
19°	181.1	159.5	153.4
20°	171.6	151.4	143.2
21°	162.2	141.2	135.8
22.5°	148.0	129.7	123.6
23°	143.2	124.3	119.6
24°	135.8	118.2	112.2
25°	128.4	110.8	106.1
26°	120.9	104.1	100.0
27°	114.2	98.6	95.3
28°	106.1	92.6	90.5
29°	100.0	87.8	86.5
30°	93.9	83.8	82.4
32.5°	81.1	73.6	73.0
35°	69.6	64.9	65.5
37.5°	60.8	58.1	59.5
40°	53.4	51.4	53.4
42.5°	45.9	45.9	48.6
45°	39.9	41.9	43.2
47.5°	34.5	37.8	39.2
50°	29.7	34.5	35.1
52.5°	26.4	31.1	30.4
55°	23.6	27.0	27.0
57.5°	20.9	23.6	23.0
60°	18.2	20.3	20.3





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**CANDELA DISTRIBUTION (continued):**

	135°	157.5°	180°
67.5°	10.8	12.2	10.8
70°	9.5	9.5	8.8
72.5°	7.4	7.4	6.8
75°	6.1	5.4	4.7
77.5°	4.7	4.1	4.1
80°	3.4	3.4	3.4
82.5°	2.7	2.7	2.7
85°	2.0	2.0	2.0
87.5°	1.4	1.4	1.4
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°	14.9	16.2	19.6	23.0	23.6	20.9	18.2	16.9	15.5	15.5	14.9
65°	10.8	11.5	13.5	15.5	16.2	14.9	13.5	13.5	13.5	12.8	12.8

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Scaled Data Report



62.5°	15.5	16.9	16.9
65°	12.8	14.2	13.5

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Scaled Data Report



(END OF REPORT)