

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: P886536

Luminaire Tested: ML310LSFL95FS1E-TIR4D25AWW-TL3SWMW-1000LM-5000K

Issue Date: 7/8/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P886536  
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: ML310LSFL95FS1E-TIR4D25AWW-TL3SWMW-1000LM-5000K  
Description: 3IN SQUARE ML FLEX, SELECTABLE CCT, WITH WW TIR, MATTE WHITE TRIM  
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 5000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 872.1 lumens  
Efficiency: N/A  
Efficacy: 64.1 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

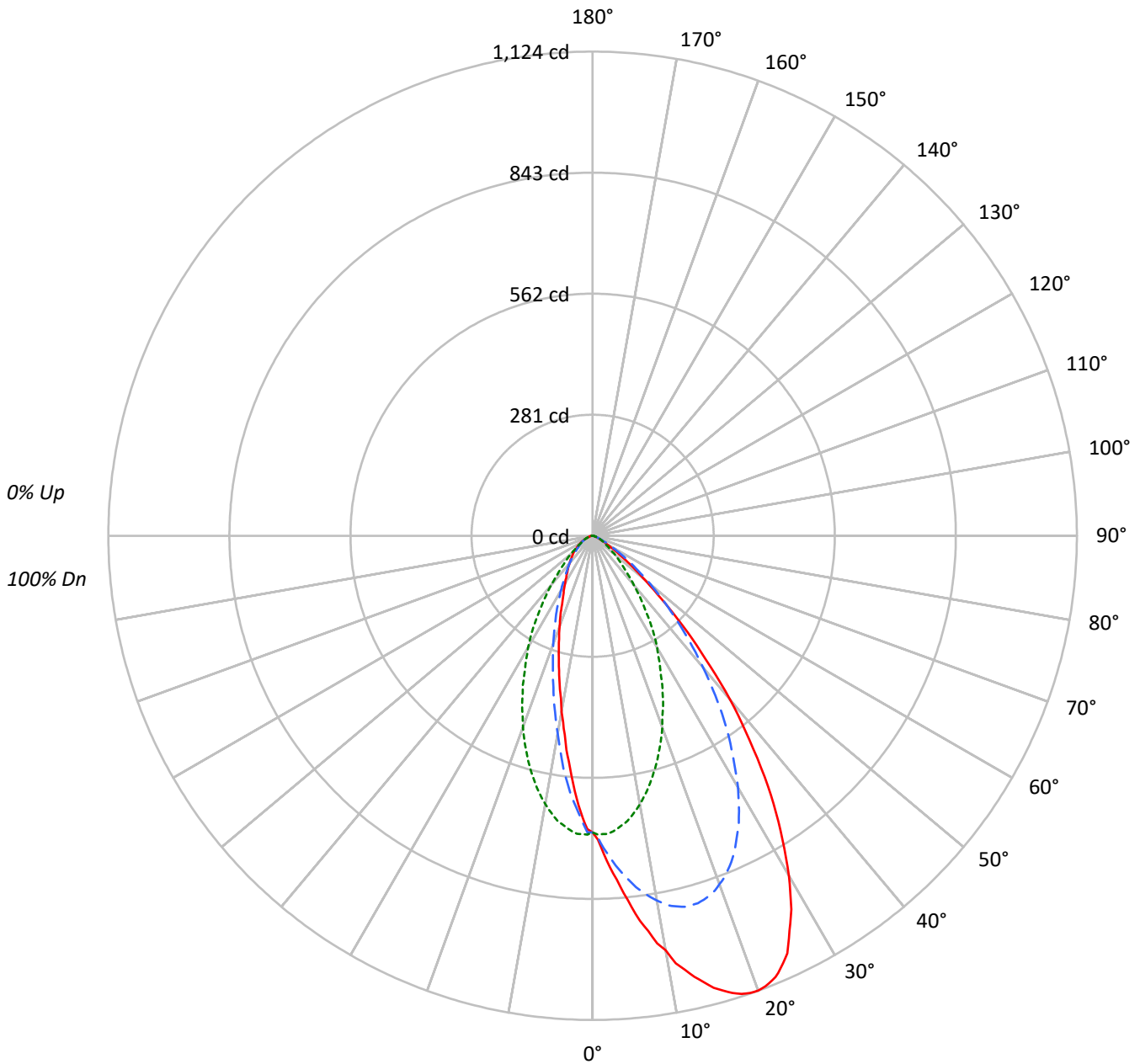
Input Watts (W): 13.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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°	118610	118610	118610	118610	118610
5°	144009	135901	117783	103400	96675
10°	170892	150370	110681	81774	72557
15°	193756	158284	99704	63082	54078
20°	205928	157773	86653	49026	40907
25°	203310	149579	72837	38024	31411
30°	181346	134125	59481	29114	25554
35°	149211	113469	45602	22812	21466
40°	111511	89614	33386	18705	18705
45°	72069	66674	23844	15125	16416
50°	41181	46834	17764	12405	14683
55°	22460	29726	12341	11080	12641
60°	11987	16861	9782	9782	10884
65°	6846	9882	8150	8150	8599
70°	4230	6093	6899	7402	6899
75°	2129	3859	5590	6321	4924
80°	1091	2083	3174	5256	5256
85°	0	2174	4150	6323	6323

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 30°  
 Vertical Angle: 45°  
 Luminance: 74895 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	65.1	7.5
10°-20°	175.2	20.1
20°-30°	226.7	26.0
30°-40°	198.2	22.7
40°-50°	120.4	13.8
50°-60°	54.4	6.2
60°-70°	21.9	2.5
70°-80°	8.1	0.9
80°-90°	2.1	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°	467.1	53.6
0°-40°	665.3	76.3
0°-60°	840.1	96.3
0°-90°	872.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	872.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	689	689	689	689	689	
5°	833	786	681	598	559	84
15°	1087	888	559	354	303	307
25°	1070	787	383	200	165	482
35°	710	540	217	108	102	438
45°	296	274	98	62	67	233
55°	75	99	41	37	42	73
65°	17	24	20	20	21	18
75°	3	6	8	10	7	4
85°	0	1	2	3	3	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°	688.7	688.7	688.7	688.7	688.7	688.7	688.7	688.7	688.7	688.7	688.7
1°	705.5	704.5	702.4	700.3	701.3	700.3	697.1	696.1	696.1	694.0	692.9
2°	739.2	735.0	730.8	732.9	728.7	722.4	714.0	706.6	699.2	692.9	677.1
3°	770.8	766.6	766.6	761.3	750.8	740.3	728.7	715.0	703.4	692.9	666.6
4°	800.3	798.2	794.0	782.4	776.1	759.2	741.3	723.4	705.5	687.6	650.8
5°	833.0	833.0	823.5	812.9	796.1	776.1	752.9	727.7	704.5	681.3	635.0
6°	866.7	866.7	854.0	838.2	818.2	789.8	762.4	735.0	702.4	673.9	617.1
7°	900.4	895.1	883.5	863.5	838.2	805.6	769.8	736.1	698.2	666.6	599.2
8°	926.7	921.4	906.7	885.6	853.0	816.1	777.1	736.1	694.0	656.0	580.2
9°	958.3	950.9	936.2	906.7	869.8	827.7	781.4	734.0	687.6	644.5	560.2
10°	977.2	977.2	959.3	927.7	884.6	835.1	784.5	732.9	681.3	632.9	540.2
11°	1010.9	1002.5	976.2	945.6	898.2	843.5	785.6	727.7	671.8	619.2	520.2
12°	1029.9	1021.4	998.3	960.4	908.8	848.8	784.5	721.3	660.3	605.5	501.2
13°	1050.9	1043.6	1016.2	972.0	917.2	849.8	782.4	715.0	649.7	590.8	480.2
14°	1067.8	1061.5	1032.0	983.5	923.5	851.9	778.2	706.6	636.0	575.0	457.0
15°	1086.7	1075.2	1042.5	990.9	924.6	850.9	771.9	696.1	624.5	559.2	441.2
16°	1098.3	1087.8	1052.0	996.2	925.6	848.8	765.6	684.5	609.7	543.4	418.1
17°	1109.9	1099.4	1059.4	1000.4	924.6	842.4	757.1	672.9	598.1	525.5	398.0
18°	1118.3	1106.7	1065.7	1000.4	921.4	835.1	744.5	659.2	580.2	508.6	380.1
19°	1122.5	1108.9	1065.7	999.3	917.2	825.6	734.0	645.5	563.4	490.7	360.1
20°	1123.6	1108.9	1066.7	995.1	907.7	814.0	719.2	630.8	545.5	472.8	341.2
21°	1120.4	1105.7	1060.4	988.8	900.4	801.4	705.5	611.8	527.6	451.8	323.3
22.5°	1108.9	1093.1	1045.7	972.0	879.3	781.4	681.3	585.5	502.3	427.5	298.0
23°	1102.5	1088.8	1040.4	965.6	874.0	771.9	670.8	578.1	489.7	418.1	290.6
24°	1086.7	1074.1	1025.7	950.9	857.2	757.1	651.8	560.2	473.9	399.1	273.8
25°	1069.9	1049.9	1006.7	931.9	838.2	736.1	635.0	540.2	456.0	383.3	258.0
26°	1039.4	1024.6	982.5	908.8	819.3	715.0	615.0	519.1	437.0	362.2	245.4
27°	1009.9	999.3	959.3	885.6	799.3	695.0	595.0	501.2	413.8	345.4	228.5
28°	982.5	970.9	926.7	858.2	774.0	673.9	569.7	481.2	398.0	329.6	215.9
29°	946.7	938.3	897.2	836.1	747.7	649.7	549.7	460.2	380.1	312.8	203.2
30°	911.9	902.5	862.4	803.5	723.4	625.5	528.6	440.2	362.2	299.1	192.7
32.5°	811.9	808.7	772.9	722.4	649.7	561.3	472.8	388.6	317.0	260.1	166.4
35°	709.7	706.6	673.9	636.0	579.2	500.2	414.9	338.0	270.6	216.9	140.1
37.5°	598.1	595.0	579.2	545.5	503.4	431.7	358.0	289.6	225.4	182.2	117.9
40°	496.0	492.8	485.5	461.2	428.6	368.6	304.3	238.0	186.4	148.5	96.9
42.5°	387.5	391.7	389.6	381.2	360.1	307.5	254.8	198.0	153.7	120.0	80.0
45°	295.9	298.0	303.3	307.5	292.7	254.8	208.5	156.9	120.0	97.9	66.3
47.5°	214.8	220.1	231.7	240.1	235.9	207.4	165.3	125.3	97.9	81.1	56.9
50°	153.7	156.9	168.5	186.4	186.4	163.2	128.5	95.8	79.0	66.3	50.5
52.5°	110.6	112.7	123.2	136.9	141.1	124.3	99.0	75.8	62.1	51.6	42.1
55°	74.8	77.9	88.5	103.2	103.2	94.8	72.7	56.9	47.4	41.1	34.8
57.5°	50.5	53.7	61.1	73.7	73.7	67.4	54.8	42.1	36.9	32.6	29.5
60°	34.8	35.8	44.2	50.5	51.6	46.3	39.0	32.6	29.5	28.4	26.3



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**CANDELA DISTRIBUTION (continued):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	11.6	12.6	13.7	15.8	16.8	16.8	16.8	17.9	17.9	16.8	17.9
70°	8.4	8.4	9.5	10.5	11.6	12.6	12.6	14.7	13.7	13.7	14.7
72.5°	5.3	6.3	6.3	7.4	8.4	8.4	10.5	10.5	10.5	10.5	11.6
75°	3.2	4.2	4.2	4.2	5.3	6.3	7.4	7.4	7.4	8.4	9.5
77.5°	2.1	2.1	3.2	3.2	3.2	4.2	5.3	5.3	5.3	5.3	6.3
80°	1.1	1.1	1.1	2.1	2.1	2.1	3.2	3.2	3.2	3.2	4.2
82.5°	1.1	1.1	1.1	1.1	1.1	2.1	2.1	2.1	3.2	3.2	3.2
85°	0.0	0.0	0.0	1.1	1.1	1.1	1.1	2.1	2.1	2.1	2.1
87.5°	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.1	1.1	1.1	1.1
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°	688.7	688.7	688.7
1°	688.7	687.6	681.3
2°	665.5	656.0	656.0
3°	642.4	629.7	626.6
4°	620.2	597.1	593.9
5°	598.1	568.6	559.2
6°	572.9	539.2	526.5
7°	548.6	509.7	500.2
8°	520.2	482.3	466.5
9°	491.8	453.9	438.1
10°	467.6	426.5	414.9
11°	443.3	401.2	385.4
12°	418.1	377.0	364.4
13°	398.0	353.8	342.2
14°	374.9	335.9	322.2
15°	353.8	313.8	303.3
16°	335.9	297.0	285.4
17°	314.9	280.1	268.5
18°	299.1	264.3	252.7
19°	282.2	248.5	239.0
20°	267.5	235.9	223.2
21°	252.7	220.1	211.7
22.5°	230.6	202.2	192.7
23°	223.2	193.8	186.4
24°	211.7	184.3	174.8
25°	200.1	172.7	165.3
26°	188.5	162.2	155.9
27°	178.0	153.7	148.5
28°	165.3	144.3	141.1
29°	155.9	136.9	134.8
30°	146.4	130.6	128.5
32.5°	126.4	114.8	113.7
35°	108.5	101.1	102.1
37.5°	94.8	90.6	92.7
40°	83.2	80.0	83.2
42.5°	71.6	71.6	75.8
45°	62.1	65.3	67.4
47.5°	53.7	59.0	61.1
50°	46.3	53.7	54.8
52.5°	41.1	48.4	47.4
55°	36.9	42.1	42.1
57.5°	32.6	36.9	35.8
60°	28.4	31.6	31.6





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**CANDELA DISTRIBUTION (continued):**

	135°	157.5°	180°
67.5°	16.8	19.0	16.8
70°	14.7	14.7	13.7
72.5°	11.6	11.6	10.5
75°	9.5	8.4	7.4
77.5°	7.4	6.3	6.3
80°	5.3	5.3	5.3
82.5°	4.2	4.2	4.2
85°	3.2	3.2	3.2
87.5°	2.1	2.1	2.1
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°	23.2	25.3	30.5	35.8	36.9	32.6	28.4	26.3	24.2	24.2	23.2
65°	16.8	17.9	21.1	24.2	25.3	23.2	21.1	21.1	21.1	20.0	20.0

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62.5°	24.2	26.3	26.3
65°	20.0	22.1	21.1

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Scaled Data Report



(END OF REPORT)