

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: P886534

Luminaire Tested: ML310LSFL95FS1E-TIR4D25AWW-TL3SWMW-1000LM-3500K

Issue Date: 7/8/2024

Test Information

Test Method: LM-79-2019
Report Number: P886534
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-3500K
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: 804.8 lumens
Efficiency: N/A
Efficacy: 59.2 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

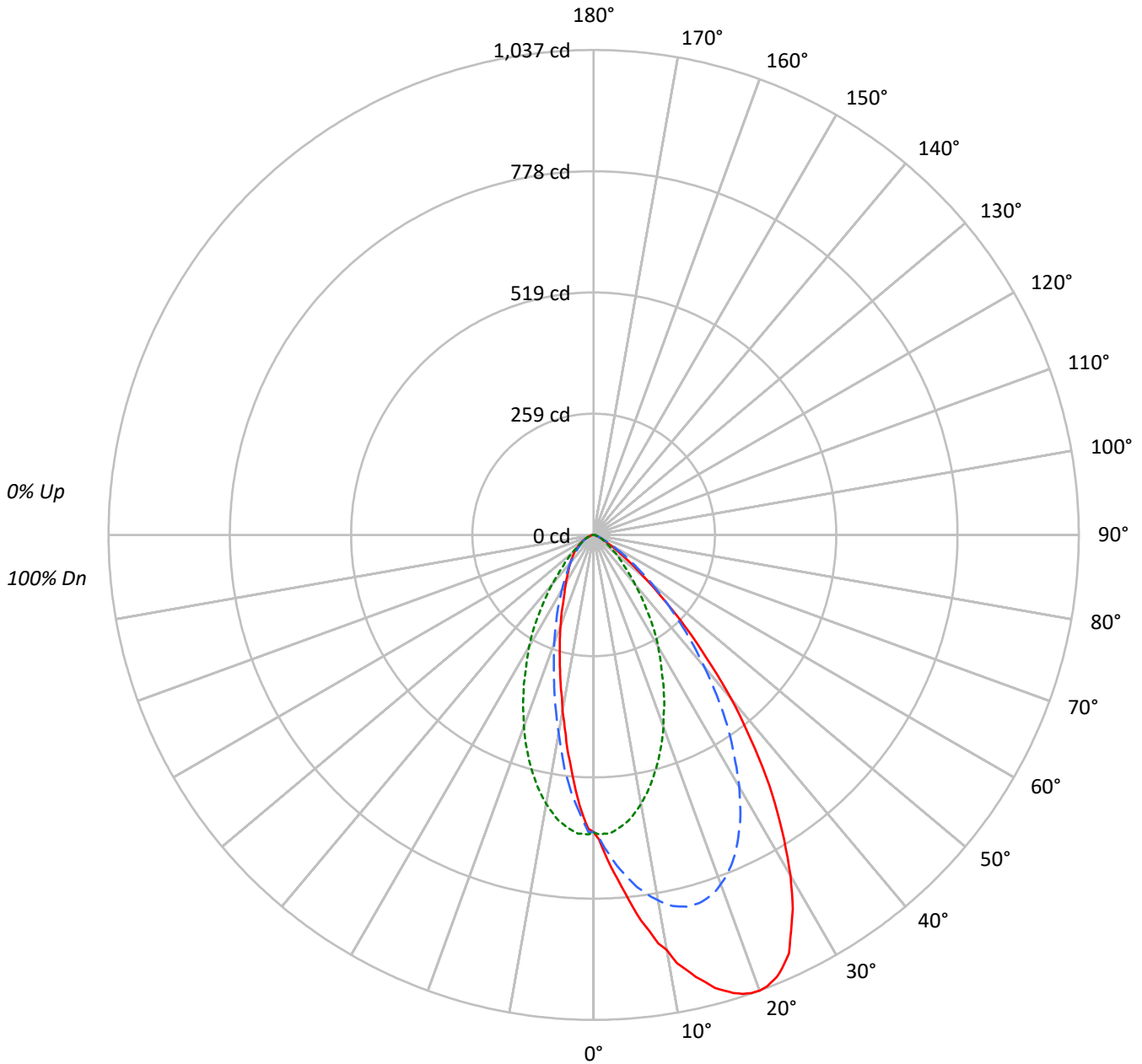
Input Watts (W): 13.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	109465	109465	109465	109465	109465
5°	132893	125416	108707	95430	89206
10°	157706	138767	102147	75460	66961
15°	178815	146071	92002	58214	49906
20°	190038	145603	79963	45232	37755
25°	187632	138045	67212	35079	28998
30°	167365	123784	54887	26867	23585
35°	137710	104713	42091	21046	19826
40°	102900	82689	30800	17266	17266
45°	66516	61548	22018	13956	15149
50°	38019	43217	16397	11467	13531
55°	20718	27429	11380	10209	11680
60°	11057	15569	9024	9024	10058
65°	6316	9108	7539	7539	7906
70°	3928	5640	6345	6848	6345
75°	1930	3560	5190	5789	4525
80°	992	1884	2876	4860	4860
85°	0	1976	3754	5730	5730

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 30°
 Vertical Angle: 45°
 Luminance: 69122 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	60.1	7.5
10°-20°	161.7	20.1
20°-30°	209.2	26.0
30°-40°	182.9	22.7
40°-50°	111.2	13.8
50°-60°	50.2	6.2
60°-70°	20.2	2.5
70°-80°	7.4	0.9
80°-90°	1.9	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°	431.1	53.6
0°-40°	614.0	76.3
0°-60°	775.3	96.3
0°-90°	804.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	804.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	636	636	636	636	636	
5°	769	725	629	552	516	78
15°	1003	819	516	326	280	283
25°	987	726	354	185	153	445
35°	655	498	200	100	94	405
45°	273	253	90	57	62	215
55°	69	91	38	34	39	67
65°	16	22	18	18	19	17
75°	3	5	8	9	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°	635.6	635.6	635.6	635.6	635.6	635.6	635.6	635.6	635.6	635.6	635.6
1°	651.1	650.1	648.2	646.3	647.2	646.3	643.3	642.4	642.4	640.4	639.5
2°	682.2	678.3	674.4	676.4	672.5	666.7	658.9	652.1	645.3	639.5	624.9
3°	711.4	707.5	707.5	702.6	692.9	683.2	672.5	659.9	649.2	639.5	615.2
4°	738.6	736.6	732.8	722.1	716.2	700.7	684.2	667.6	651.1	634.6	600.6
5°	768.7	768.7	760.0	750.2	734.7	716.2	694.8	671.5	650.1	628.8	586.0
6°	799.8	799.8	788.1	773.6	755.1	728.9	703.6	678.3	648.2	622.0	569.5
7°	830.9	826.0	815.4	796.9	773.6	743.4	710.4	679.3	644.3	615.2	553.0
8°	855.2	850.3	836.7	817.3	787.2	753.2	717.2	679.3	640.4	605.4	535.5
9°	884.4	877.6	863.9	836.7	802.7	763.8	721.1	677.4	634.6	594.8	517.0
10°	901.8	901.8	885.3	856.2	816.3	770.7	724.0	676.4	628.8	584.1	498.5
11°	932.9	925.2	900.9	872.7	829.0	778.4	725.0	671.5	620.0	571.4	480.1
12°	950.4	942.7	921.3	886.3	838.7	783.3	724.0	665.7	609.3	558.8	462.6
13°	969.9	963.1	937.8	897.0	846.5	784.3	722.1	659.9	599.6	545.2	443.1
14°	985.4	979.6	952.4	907.7	852.3	786.2	718.2	652.1	587.0	530.6	421.8
15°	1002.9	992.2	962.1	914.5	853.3	785.2	712.3	642.4	576.3	516.0	407.2
16°	1013.6	1003.9	970.8	919.3	854.2	783.3	706.5	631.7	562.7	501.5	385.8
17°	1024.3	1014.6	977.6	923.2	853.3	777.5	698.7	621.0	552.0	484.9	367.3
18°	1032.1	1021.4	983.5	923.2	850.3	770.7	687.1	608.4	535.5	469.4	350.8
19°	1036.0	1023.3	983.5	922.3	846.5	761.9	677.4	595.7	519.9	452.9	332.4
20°	1036.9	1023.3	984.5	918.4	837.7	751.2	663.8	582.1	503.4	436.3	314.9
21°	1034.0	1020.4	978.6	912.5	830.9	739.6	651.1	564.6	486.9	416.9	298.3
22.5°	1023.3	1008.7	965.0	897.0	811.5	721.1	628.8	540.3	463.6	394.6	275.0
23°	1017.5	1004.9	960.2	891.2	806.6	712.3	619.0	533.5	451.9	385.8	268.2
24°	1002.9	991.3	946.6	877.6	791.1	698.7	601.6	517.0	437.3	368.3	252.7
25°	987.4	968.9	929.1	860.1	773.6	679.3	586.0	498.5	420.8	353.7	238.1
26°	959.2	945.6	906.7	838.7	756.1	659.9	567.5	479.1	403.3	334.3	226.4
27°	932.0	922.3	885.3	817.3	737.6	641.4	549.1	462.6	381.9	318.8	210.9
28°	906.7	896.0	855.2	792.0	714.3	622.0	525.8	444.1	367.3	304.2	199.2
29°	873.7	865.9	828.0	771.6	690.0	599.6	507.3	424.7	350.8	288.6	187.6
30°	841.6	832.8	795.9	741.5	667.6	577.3	487.9	406.2	334.3	276.0	177.8
32.5°	749.3	746.4	713.3	666.7	599.6	518.0	436.3	358.6	292.5	240.0	153.5
35°	655.0	652.1	622.0	587.0	534.5	461.6	382.9	312.0	249.8	200.2	129.3
37.5°	552.0	549.1	534.5	503.4	464.5	398.4	330.4	267.2	208.0	168.1	108.8
40°	457.7	454.8	448.0	425.7	395.5	340.1	280.9	219.6	172.0	137.0	89.4
42.5°	357.6	361.5	359.6	351.8	332.4	283.8	235.2	182.7	141.9	110.8	73.9
45°	273.1	275.0	279.9	283.8	270.2	235.2	192.4	144.8	110.8	90.4	61.2
47.5°	198.3	203.1	213.8	221.6	217.7	191.4	152.6	115.6	90.4	74.8	52.5
50°	141.9	144.8	155.5	172.0	172.0	150.6	118.6	88.4	72.9	61.2	46.6
52.5°	102.0	104.0	113.7	126.3	130.2	114.7	91.4	70.0	57.3	47.6	38.9
55°	69.0	71.9	81.6	95.2	95.2	87.5	67.1	52.5	43.7	37.9	32.1
57.5°	46.6	49.6	56.4	68.0	68.0	62.2	50.5	38.9	34.0	30.1	27.2
60°	32.1	33.0	40.8	46.6	47.6	42.8	36.0	30.1	27.2	26.2	24.3



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	10.7	11.7	12.6	14.6	15.5	15.5	15.5	16.5	16.5	15.5	16.5
70°	7.8	7.8	8.7	9.7	10.7	11.7	11.7	13.6	12.6	12.6	13.6
72.5°	4.9	5.8	5.8	6.8	7.8	7.8	9.7	9.7	9.7	9.7	10.7
75°	2.9	3.9	3.9	3.9	4.9	5.8	6.8	6.8	6.8	7.8	8.7
77.5°	1.9	1.9	2.9	2.9	2.9	3.9	4.9	4.9	4.9	4.9	5.8
80°	1.0	1.0	1.0	1.9	1.9	1.9	2.9	2.9	2.9	2.9	3.9
82.5°	1.0	1.0	1.0	1.0	1.0	1.9	1.9	1.9	2.9	2.9	2.9
85°	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.9	1.9	1.9	1.9
87.5°	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0
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°	635.6	635.6	635.6
1°	635.6	634.6	628.8
2°	614.2	605.4	605.4
3°	592.8	581.1	578.2
4°	572.4	551.0	548.1
5°	552.0	524.8	516.0
6°	528.7	497.6	485.9
7°	506.3	470.4	461.6
8°	480.1	445.1	430.5
9°	453.8	418.9	404.3
10°	431.5	393.6	382.9
11°	409.1	370.3	355.7
12°	385.8	347.9	336.2
13°	367.3	326.5	315.8
14°	346.0	310.0	297.4
15°	326.5	289.6	279.9
16°	310.0	274.1	263.4
17°	290.6	258.5	247.8
18°	276.0	243.9	233.2
19°	260.4	229.3	220.6
20°	246.8	217.7	206.0
21°	233.2	203.1	195.3
22.5°	212.8	186.6	177.8
23°	206.0	178.8	172.0
24°	195.3	170.1	161.3
25°	184.6	159.4	152.6
26°	174.0	149.7	143.8
27°	164.2	141.9	137.0
28°	152.6	133.1	130.2
29°	143.8	126.3	124.4
30°	135.1	120.5	118.6
32.5°	116.6	105.9	105.0
35°	100.1	93.3	94.3
37.5°	87.5	83.6	85.5
40°	76.8	73.9	76.8
42.5°	66.1	66.1	70.0
45°	57.3	60.3	62.2
47.5°	49.6	54.4	56.4
50°	42.8	49.6	50.5
52.5°	37.9	44.7	43.7
55°	34.0	38.9	38.9
57.5°	30.1	34.0	33.0
60°	26.2	29.2	29.2



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CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
67.5°	15.5	17.5	15.5
70°	13.6	13.6	12.6
72.5°	10.7	10.7	9.7
75°	8.7	7.8	6.8
77.5°	6.8	5.8	5.8
80°	4.9	4.9	4.9
82.5°	3.9	3.9	3.9
85°	2.9	2.9	2.9
87.5°	1.9	1.9	1.9
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°	21.4	23.3	28.2	33.0	34.0	30.1	26.2	24.3	22.4	22.4	21.4
65°	15.5	16.5	19.4	22.4	23.3	21.4	19.4	19.4	19.4	18.5	18.5

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62.5°	22.4	24.3	24.3
65°	18.5	20.4	19.4

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Scaled Data Report



(END OF REPORT)