

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: P886513

Luminaire Tested: ML310LSFL95FS1E-TIR4D25AWW-TL3RWMB-850LM-3000K

Issue Date: 7/5/2024

Test Information

Test Method: LM-79-2019
Report Number: P886513
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-12)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/5/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML310LSFL95FS1E-TIR4D25AWW-TL3RWMB-850LM-3000K
Description: 3IN ROUND ML FLEX, SELECTABLE CCT, WITH WW TIR, MATTE BLACK TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 705.3 lumens
Efficiency: N/A
Efficacy: 51.9 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 0.8 / 0.98
Luminous Opening: Circular (Dia: 0.25' x H: 0')
CIE Type: Direct

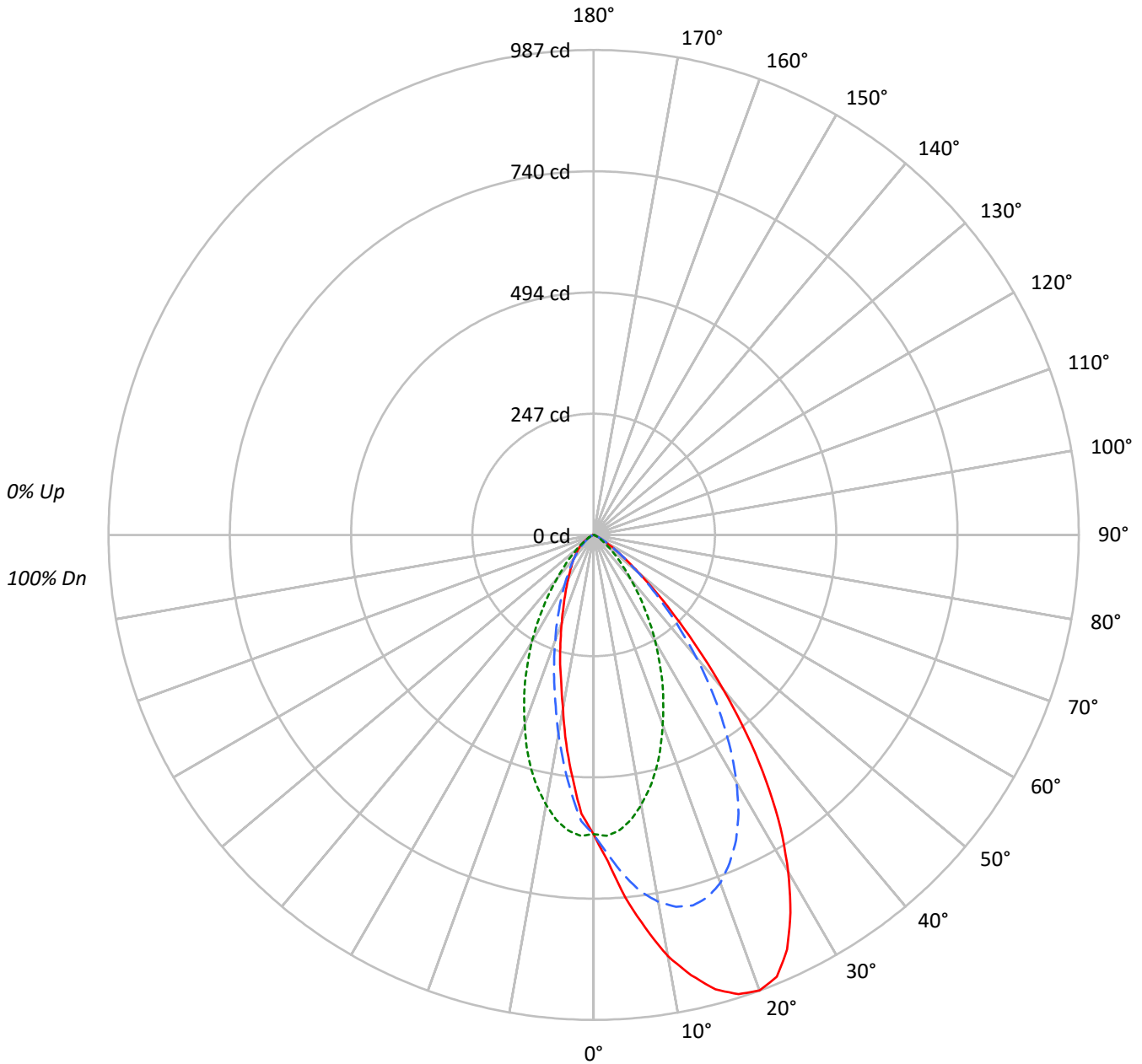
Input Watts (W): 13.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P886513

CATALOG NUMBER: ML310LSFL95FS1E-TIR4D25AWW-TL3RWMB-850LM-3000K

Luminous Intensity Polar Plot





TEST NUMBER: P886513

CATALOG NUMBER: ML310LSFL95FS1E-TIR4D25AWW-TL3RWMB-850LM-3000K

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			
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92					92			
2	106	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84					84			
3	100	93	87	83	98	92	86	82	89	85	81	86	83	80	84	81	78	77					77			
4	94	86	80	75	92	85	79	75	82	78	74	80	76	73	78	75	72	70					70			
5	89	79	73	68	87	78	72	68	77	71	67	75	70	67	73	69	66	64					64			
6	84	74	67	62	82	73	67	62	71	66	62	70	65	61	69	64	61	59					59			
7	79	69	62	57	78	68	62	57	67	61	57	65	60	56	64	60	56	55					55			
8	75	64	57	53	73	63	57	53	62	57	53	61	56	52	60	56	52	51					51			
9	71	60	53	49	69	59	53	49	58	53	49	58	52	49	57	52	48	47					47			
10	67	56	50	46	66	56	50	46	55	49	45	54	49	45	53	49	45	44					44			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	133564	133564	133564	133564	133564
5°	163086	152718	132819	115826	109003
10°	193895	168846	124090	91604	79869
15°	217345	177175	111783	70307	59841
20°	230227	175844	95768	53158	44151
25°	225255	165820	79940	40091	33486
30°	200461	147061	63655	30030	26232
35°	164042	121345	47622	22674	21174
40°	116962	92573	33405	17519	17776
45°	72690	62766	22762	12839	14885
50°	40152	38856	14771	9313	11872
55°	21944	22135	8640	6843	8984
60°	10306	10942	5789	4956	6184
65°	4877	4903	3891	2906	3424
70°	1795	2116	2436	1218	1218
75°	763	763	763	0	0
80°	0	0	0	0	0
85°	0	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 10°
 Vertical Angle: 45°
 Luminance: 73279 cd/sqm



TEST NUMBER: P886513

CATALOG NUMBER: ML310LSFL95FS1E-TIR4D25AWW-TL3RWMB-850LM-3000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.5	8.2
10°-20°	153.6	21.8
20°-30°	195.8	27.8
30°-40°	165.4	23.4
40°-50°	90.6	12.8
50°-60°	32.9	4.7
60°-70°	8.5	1.2
70°-80°	1.0	0.1
80°-90°	0.0	0.0
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°	406.9	57.7
0°-40°	572.3	81.1
0°-60°	695.8	98.6
0°-90°	705.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	705.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	609	609	609	609	609	
5°	741	694	603	526	495	74
15°	957	780	492	310	264	270
25°	931	685	330	166	138	421
35°	613	453	178	85	79	377
45°	234	202	73	41	48	187
55°	57	58	23	18	24	55
65°	9	9	8	6	7	11
75°	1	1	1	0	0	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



TEST NUMBER: P886513

CATALOG NUMBER: ML310LSFL95FS1E-TIR4D25AWW-TL3RWMB-850LM-3000K

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
0°	609.1	609.1	609.1	609.1	609.1	609.1	609.1	609.1	609.1	609.1	609.1
2.5°	664.6	662.7	661.8	660.9	653.3	645.8	636.4	628.9	621.3	612.8	595.0
5°	740.9	739.9	729.6	720.2	703.2	684.4	665.6	643.9	622.3	603.4	562.0
7.5°	806.8	804.9	790.8	772.9	747.5	716.4	684.4	648.6	614.7	584.6	519.7
10°	870.8	864.2	844.4	815.2	779.5	737.1	691.9	644.9	597.8	557.3	478.2
12.5°	917.9	911.3	889.6	850.1	802.1	748.4	690.0	632.6	577.1	527.2	431.2
15°	957.4	945.2	917.9	870.8	813.4	747.5	678.7	611.9	547.9	492.4	384.1
17.5°	980.0	968.7	932.9	878.3	810.5	735.2	659.0	583.7	514.0	452.8	338.0
20°	986.6	972.5	933.9	871.7	794.5	712.6	630.7	548.8	476.3	410.4	297.5
22.5°	973.4	957.4	914.1	851.0	767.2	678.7	594.0	511.2	434.0	370.0	256.1
25°	931.0	919.7	874.6	810.5	731.5	639.2	550.7	467.9	393.5	330.4	219.3
27.5°	867.0	856.7	817.1	756.9	680.6	595.9	504.6	421.7	349.3	288.1	188.3
30°	791.7	780.4	748.4	695.7	624.1	537.5	454.7	375.6	306.9	251.4	160.0
32.5°	707.9	696.6	663.7	620.4	557.3	480.1	404.8	328.5	264.5	213.7	135.6
35°	612.8	604.4	580.8	537.5	485.8	420.8	349.3	281.5	222.2	177.9	113.0
37.5°	512.1	502.7	488.6	460.3	417.0	359.6	297.5	235.3	184.5	145.0	90.4
40°	408.6	404.8	397.3	375.6	347.4	299.4	249.5	194.9	149.7	116.7	73.4
42.5°	312.5	311.6	310.7	297.5	277.7	243.8	199.6	154.4	120.5	91.3	58.4
45°	234.4	236.3	234.4	229.7	213.7	191.1	157.2	122.4	93.2	73.4	44.2
47.5°	170.4	172.3	173.2	175.1	166.6	145.0	116.7	93.2	70.6	56.5	35.8
50°	117.7	122.4	125.2	127.1	120.5	107.3	86.6	66.8	51.8	43.3	29.2
52.5°	84.7	85.7	90.4	92.3	88.5	75.3	60.2	45.2	38.6	32.0	22.6
55°	57.4	57.4	64.0	66.8	63.1	52.7	40.5	32.0	27.3	22.6	16.9
57.5°	35.8	37.7	42.4	45.2	42.4	34.8	27.3	22.6	19.8	17.9	12.2
60°	23.5	25.4	27.3	30.1	28.2	21.7	17.9	16.0	15.1	13.2	9.4
62.5°	15.1	16.0	17.9	19.8	16.9	13.2	12.2	11.3	10.4	10.4	7.5
65°	9.4	9.4	11.3	12.2	10.4	8.5	8.5	8.5	8.5	7.5	5.6
67.5°	5.6	5.6	6.6	6.6	5.6	5.6	5.6	5.6	5.6	5.6	3.8
70°	2.8	2.8	3.8	3.8	2.8	3.8	3.8	3.8	3.8	3.8	2.8
72.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.8	1.9	1.9
75°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0



TEST NUMBER: P886513

CATALOG NUMBER: ML310LSFL95FS1E-TIR4D25AWW-TL3RWMB-850LM-3000K

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	609.1	609.1	609.1
2.5°	582.7	573.3	567.7
5°	526.2	503.6	495.2
7.5°	467.9	438.7	428.3
10°	411.4	372.8	358.7
12.5°	356.8	320.1	305.0
15°	309.7	273.9	263.6
17.5°	267.4	234.4	223.1
20°	227.8	199.6	189.2
22.5°	195.8	170.4	161.0
25°	165.7	143.1	138.4
27.5°	140.3	122.4	119.6
30°	118.6	104.5	103.6
32.5°	99.8	91.3	90.4
35°	84.7	78.1	79.1
37.5°	72.5	68.7	70.6
40°	61.2	59.3	62.1
42.5°	50.8	51.8	54.6
45°	41.4	45.2	48.0
47.5°	33.9	39.5	41.4
50°	27.3	33.9	34.8
52.5°	21.7	28.2	28.2
55°	17.9	22.6	23.5
57.5°	14.1	17.9	17.9
60°	11.3	14.1	14.1
62.5°	8.5	9.4	10.4
65°	5.6	6.6	6.6
67.5°	3.8	4.7	4.7
70°	1.9	2.8	1.9
72.5°	0.9	0.9	0.9
75°	0.0	0.0	0.0
77.5°	0.0	0.0	0.0
80°	0.0	0.0	0.0
82.5°	0.0	0.0	0.0
85°	0.0	0.0	0.0
87.5°	0.0	0.0	0.0
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

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

Scaled Data Report





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

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

Scaled Data Report



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

Scaled Data Report



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

Scaled Data Report



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

Scaled Data Report



(END OF REPORT)