

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: P886525

Luminaire Tested: ML310LSFL95FS1E-TIR4D25AWW-TL3RWSL-850LM-4000K

Issue Date: 7/5/2024

Test Information

Test Method: LM-79-2019
Report Number: P886525
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-11)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/5/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML310LSFL95FS1E-TIR4D25AWW-TL3RWSL-850LM-4000K
Description: 3IN ROUND ML FLEX, SELECTABLE CCT, WITH WW TIR, METALLIC SILVER TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 4000K CCT
Ballast/Driver: -

Summary

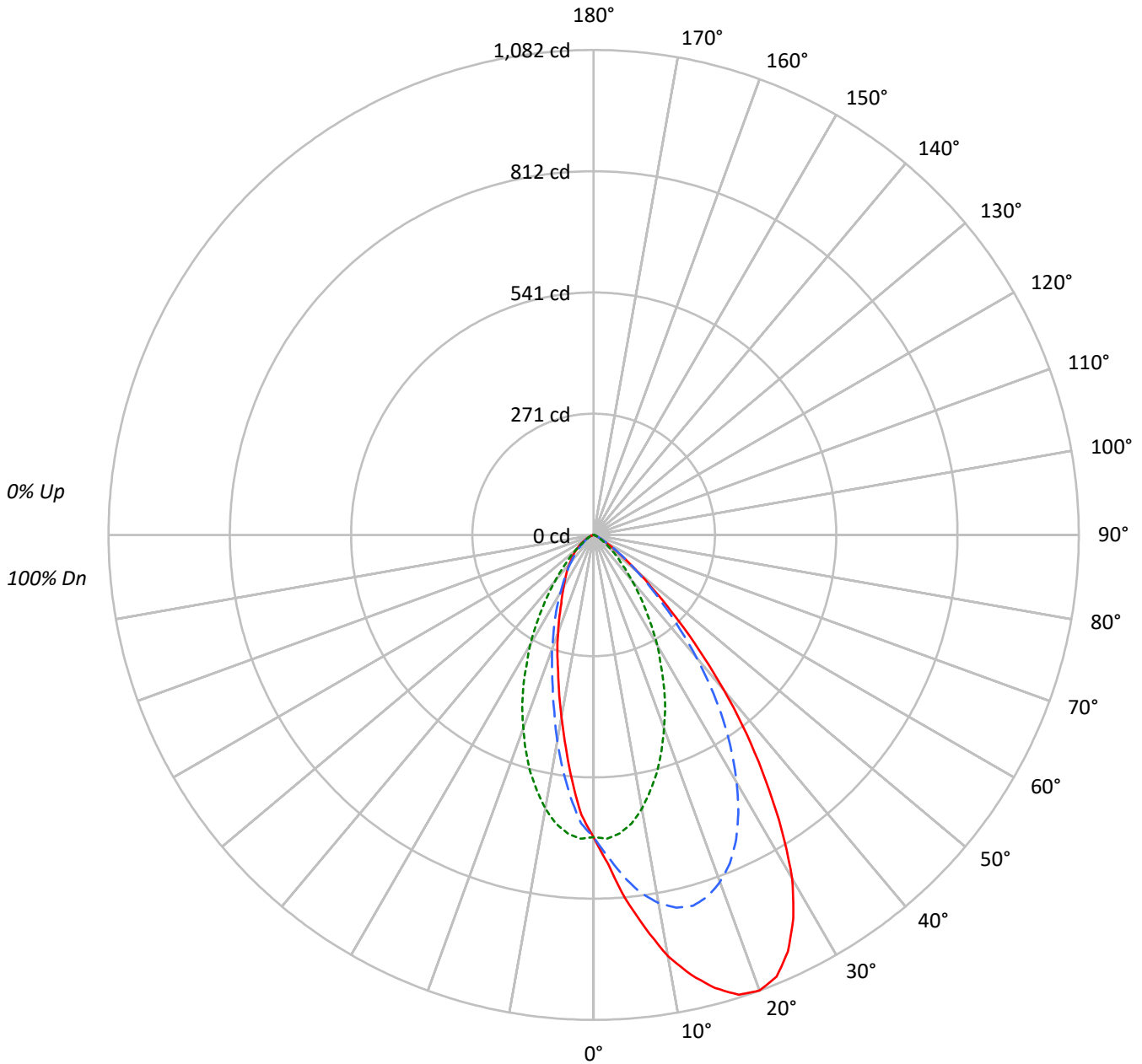
Lumens per Lamp: N/A
Luminaire Lumens: 795.5 lumens
Efficiency: N/A
Efficacy: 58.5 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 0.81 / 0.99
Luminous Opening: Circular (Dia: 0.25' x H: 0')
CIE Type: Direct

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: P886525
CATALOG NUMBER: ML310LSFL95FS1E-TIR4D25AWW-TL3RWSL-850LM-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P886525
 CATALOG NUMBER: ML310LSFL95FS1E-TIR4D25AWW-TL3RWSL-850LM-4000K

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	104	110	108	105	103	103	101	100	100	98	97	96	95	94	92					92			
2	106	101	96	92	104	99	95	91	96	92	89	93	90	87	90	88	86	84					84			
3	100	93	87	83	98	91	86	82	89	84	81	86	82	79	84	81	78	76					76			
4	94	86	79	75	92	84	79	74	82	77	73	80	76	72	78	74	71	70					70			
5	89	79	73	68	87	78	72	67	76	71	67	75	70	66	73	69	66	64					64			
6	83	73	67	62	82	73	66	62	71	65	61	70	65	61	68	64	60	59					59			
7	79	68	62	57	77	68	61	57	66	61	56	65	60	56	64	59	56	54					54			
8	74	64	57	52	73	63	57	52	62	56	52	61	56	52	60	55	52	50					50			
9	70	60	53	49	69	59	53	49	58	52	48	57	52	48	56	51	48	47					47			
10	67	56	50	45	66	55	49	45	55	49	45	54	49	45	53	48	45	43					43			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	147861	147861	147861	147861	147861
5°	179352	168313	147105	129430	121263
10°	212488	185679	138074	104117	91826
15°	237595	194428	124155	80182	69717
20°	252419	192248	107016	62982	54091
25°	248119	181849	89594	49043	41519
30°	224364	161468	71910	37348	34056
35°	179166	134716	53458	28482	28482
40°	128985	101819	38214	22127	23845
45°	79357	68612	25832	17118	20219
50°	43802	42455	17466	12656	16443
55°	21868	24353	11125	9596	13037
60°	10131	12104	7938	7061	9692
65°	4670	5707	5707	4670	5707
70°	1923	2885	3847	2565	3206
75°	847	1694	1694	1694	1694
80°	0	0	1263	1263	1263
85°	0	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 20°
 Vertical Angle: 45°
 Luminance: 79667 cd/sqm



TEST NUMBER: P886525

CATALOG NUMBER: ML310LSFL95FS1E-TIR4D25AWW-TL3RWSL-850LM-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.7	8.0
10°-20°	170.8	21.5
20°-30°	219.3	27.6
30°-40°	186.4	23.4
40°-50°	102.7	12.9
50°-60°	38.6	4.9
60°-70°	11.3	1.4
70°-80°	2.3	0.3
80°-90°	0.2	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°	453.9	57.1
0°-40°	640.3	80.5
0°-60°	781.7	98.3
0°-90°	795.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	795.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	674	674	674	674	674	
5°	815	765	668	588	551	82
15°	1047	856	547	353	307	296
25°	1026	752	370	203	172	465
35°	669	503	200	106	106	415
45°	256	221	83	55	65	205
55°	57	64	29	25	34	57
65°	9	11	11	9	11	10
75°	1	2	2	2	2	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



TEST NUMBER: P886525

CATALOG NUMBER: ML310LSFL95FS1E-TIR4D25AWW-TL3RWSL-850LM-4000K

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
0°	674.3	674.3	674.3	674.3	674.3	674.3	674.3	674.3	674.3	674.3	674.3
2.5°	734.5	734.5	732.5	727.5	720.5	714.5	704.4	696.4	687.4	678.3	658.3
5°	814.8	811.8	802.8	790.7	775.7	753.6	732.5	712.5	689.4	668.3	622.1
7.5°	885.1	881.0	869.0	845.9	821.8	789.7	753.6	717.5	682.4	649.2	580.0
10°	954.3	945.3	927.2	896.1	857.0	810.8	761.6	713.5	664.3	620.1	535.8
12.5°	1005.5	997.4	972.4	934.2	881.0	822.8	759.6	697.4	638.2	584.0	485.7
15°	1046.6	1036.6	1004.5	955.3	891.1	821.8	745.6	675.3	607.1	546.9	434.5
17.5°	1075.7	1060.7	1021.5	960.3	886.1	805.8	726.5	643.2	571.0	503.7	385.3
20°	1081.7	1068.7	1023.5	955.3	868.0	779.7	690.4	605.1	527.8	458.6	339.2
22.5°	1066.7	1052.6	1004.5	932.2	841.9	744.6	652.2	564.9	482.7	416.4	297.0
25°	1025.5	1011.5	963.3	892.1	801.8	701.4	602.1	515.8	438.5	370.3	255.9
27.5°	964.3	943.3	905.1	834.9	747.6	650.2	550.9	465.6	387.3	323.1	217.8
30°	886.1	859.0	826.8	765.6	683.4	592.0	496.7	412.4	340.2	284.0	186.6
32.5°	780.7	770.7	736.5	685.4	616.1	528.8	440.5	362.2	294.0	238.8	159.5
35°	669.3	659.3	641.2	599.1	540.9	465.6	383.3	308.1	248.9	199.7	131.5
37.5°	560.9	550.9	534.8	508.8	458.6	400.4	327.1	261.9	208.7	164.6	109.4
40°	450.6	446.5	433.5	414.4	379.3	332.1	272.9	216.7	169.6	133.5	88.3
42.5°	347.2	345.2	336.2	325.1	303.0	264.9	224.8	174.6	134.5	106.4	70.2
45°	255.9	250.9	256.9	247.9	234.8	207.7	172.6	135.5	103.4	83.3	55.2
47.5°	182.6	183.6	186.6	188.7	178.6	156.5	129.4	99.3	80.3	68.2	45.2
50°	128.4	127.4	134.5	140.5	131.5	117.4	93.3	76.3	61.2	51.2	36.1
52.5°	88.3	89.3	97.3	101.3	99.3	83.3	66.2	53.2	45.2	38.1	28.1
55°	57.2	60.2	66.2	71.2	70.2	57.2	46.2	38.1	34.1	29.1	22.1
57.5°	37.1	38.1	44.2	48.2	47.2	38.1	31.1	28.1	25.1	22.1	16.1
60°	23.1	24.1	28.1	32.1	30.1	25.1	21.1	20.1	19.1	18.1	14.0
62.5°	14.0	15.1	18.1	21.1	19.1	16.1	14.0	15.1	15.1	14.0	11.0
65°	9.0	9.0	11.0	13.0	12.0	10.0	10.0	11.0	12.0	11.0	9.0
67.5°	5.0	6.0	7.0	8.0	7.0	7.0	8.0	9.0	9.0	9.0	7.0
70°	3.0	4.0	4.0	4.0	4.0	5.0	5.0	6.0	7.0	6.0	5.0
72.5°	2.0	2.0	2.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0
75°	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
77.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0
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: P886525
 CATALOG NUMBER: ML310LSFL95FS1E-TIR4D25AWW-TL3RWSL-850LM-4000K

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	674.3	674.3	674.3
2.5°	644.2	634.2	625.2
5°	588.0	563.9	550.9
7.5°	526.8	489.7	476.6
10°	467.6	422.5	412.4
12.5°	405.4	368.3	356.2
15°	353.2	318.1	307.1
17.5°	308.1	276.0	268.9
20°	269.9	240.8	231.8
22.5°	232.8	206.7	199.7
25°	202.7	179.6	171.6
27.5°	173.6	154.5	151.5
30°	147.5	135.5	134.5
32.5°	125.4	117.4	119.4
35°	106.4	103.4	106.4
37.5°	92.3	91.3	94.3
40°	77.3	79.3	83.3
42.5°	65.2	70.2	74.3
45°	55.2	62.2	65.2
47.5°	45.2	54.2	57.2
50°	37.1	47.2	48.2
52.5°	30.1	39.1	41.1
55°	25.1	32.1	34.1
57.5°	21.1	26.1	27.1
60°	16.1	20.1	22.1
62.5°	12.0	16.1	16.1
65°	9.0	11.0	11.0
67.5°	6.0	8.0	8.0
70°	4.0	5.0	5.0
72.5°	3.0	3.0	3.0
75°	2.0	2.0	2.0
77.5°	1.0	1.0	1.0
80°	1.0	1.0	1.0
82.5°	1.0	1.0	1.0
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)