

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: P886526

Luminaire Tested: ML310LSFL95FS1E-TIR4D25AWW-TL3RWSL-850LM-5000K

Issue Date: 7/5/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P886526  
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-5000K  
Description: 3IN ROUND ML FLEX, SELECTABLE CCT, WITH WW TIR, METALLIC SILVER TRIM  
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 5000K CCT  
Ballast/Driver: -

**Summary**

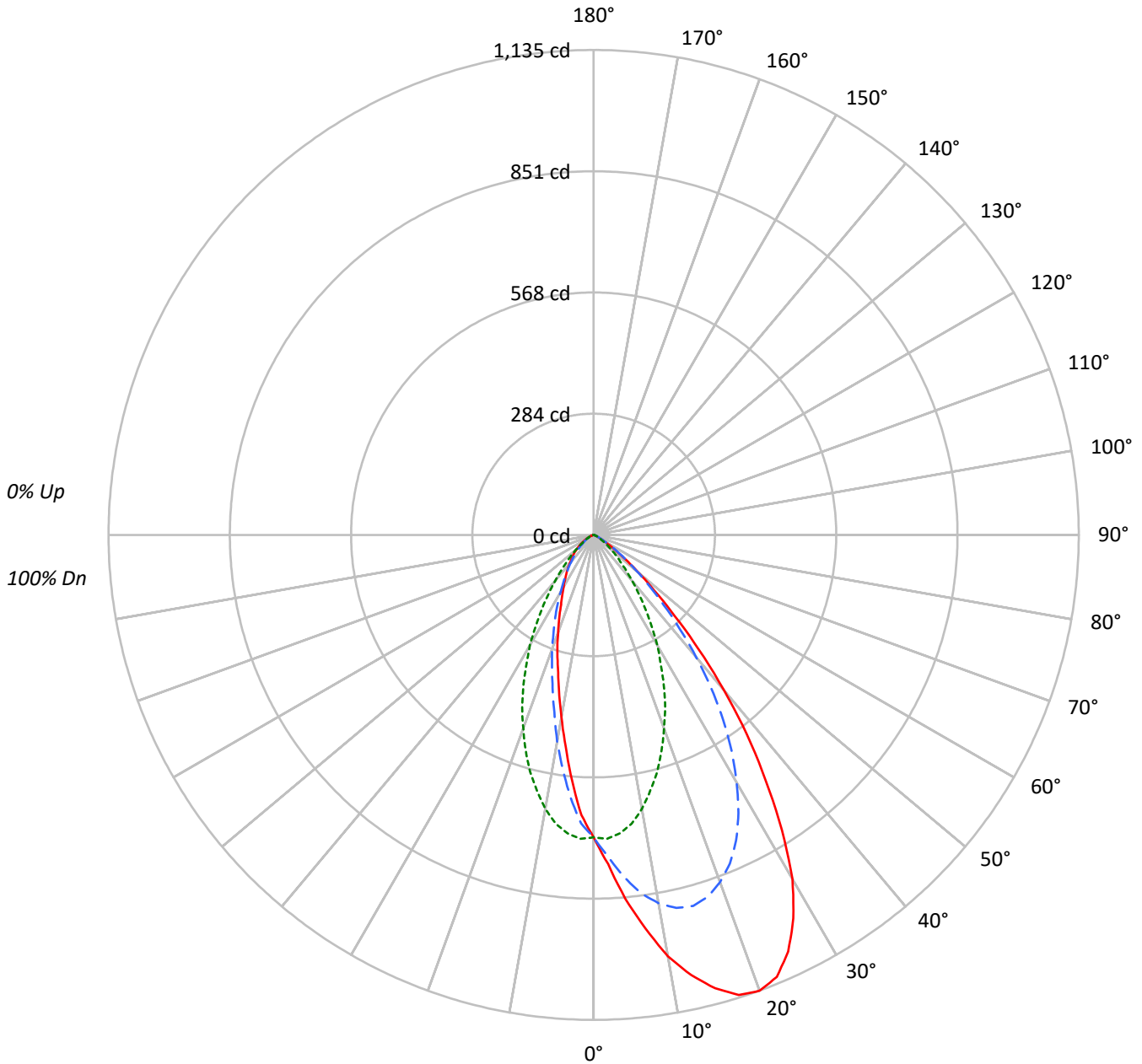
Lumens per Lamp: N/A  
Luminaire Lumens: 835.0 lumens  
Efficiency: N/A  
Efficacy: 61.4 lumens/watt  
Spacing Criteria (0/90/45): 1.14 / 0.81 / 0.99  
Luminous Opening: Circular (Dia: 0.25' x H: 0')  
CIE Type: Direct

Input Watts (W): 13.6  
Input Voltage (V): NR  
Input Current (A<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	100	100	98	97	96	95	94	92
	1	113	110	107	104	110	108	105	103	103	101	100	100	98	97	96	95	94	92	92	92	90	89	90	88	86	84
	2	106	101	96	92	104	99	95	91	96	92	89	93	90	87	90	88	86	84	84	84	82	81	86	82	79	76
	3	100	93	87	83	98	91	86	82	89	84	81	86	82	79	84	81	78	76	76	76	74	73	80	76	72	70
	4	94	86	79	75	92	84	79	74	82	77	73	80	76	72	78	74	71	70	70	70	67	67	75	70	66	64
	5	89	79	73	68	87	78	72	67	76	71	67	75	70	66	73	69	66	64	64	64	62	62	70	65	61	59
	6	83	73	67	62	82	73	66	62	71	65	61	70	65	61	68	64	60	59	59	59	57	57	65	60	56	54
	7	79	68	62	57	77	68	61	57	66	61	56	65	60	56	64	59	56	54	54	54	52	52	60	55	52	50
	8	74	64	57	52	73	63	57	52	62	56	52	61	56	52	60	55	52	50	50	50	49	49	56	51	48	47
	9	70	60	53	49	69	59	53	49	58	52	48	57	52	48	56	51	48	47	47	47	45	45	53	48	45	43
	10	67	56	50	45	66	55	49	45	55	49	45	54	49	45	53	48	45	43	43	43	41	41	48	43	40	38

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°	135°	180°
0°	155185	155185	155185	155185	155185
5°	188245	176645	154391	135835	127272
10°	222997	194864	144909	109283	96369
15°	249354	204053	130307	84155	73167
20°	264926	201769	112313	66109	56775
25°	260410	190862	94022	51463	43575
30°	235454	169469	75455	39196	35727
35°	188054	141382	56108	29874	29874
40°	135368	106872	40104	23215	25018
45°	83295	72007	27104	17955	21243
50°	45986	44553	18319	13304	17262
55°	22938	25557	11660	10055	13686
60°	10613	12696	8333	7412	10175
65°	4929	5993	6019	4929	6019
70°	2052	3045	4039	2693	3398
75°	932	1779	1779	1779	1779
80°	0	0	1389	1389	1389
85°	0	0	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 20°  
 Vertical Angle: 45°  
 Luminance: 83606 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.9	8.0
10°-20°	179.3	21.5
20°-30°	230.2	27.6
30°-40°	195.7	23.4
40°-50°	107.8	12.9
50°-60°	40.5	4.9
60°-70°	11.9	1.4
70°-80°	2.4	0.3
80°-90°	0.3	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°	476.4	57.1
0°-40°	672.0	80.5
0°-60°	820.4	98.3
0°-90°	835.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	835.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	708	708	708	708	708	
5°	855	802	701	617	578	86
15°	1098	899	574	371	322	310
25°	1076	789	389	213	180	488
35°	702	528	210	112	112	436
45°	269	232	87	58	68	215
55°	60	67	30	26	36	60
65°	10	12	12	10	12	11
75°	1	2	2	2	2	2
85°	0	0	0	0	0	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°	707.7	707.7	707.7	707.7	707.7	707.7	707.7	707.7	707.7	707.7	707.7
2.5°	770.9	770.9	768.8	763.5	756.2	749.8	739.3	730.9	721.4	711.9	690.9
5°	855.2	852.0	842.5	829.9	814.1	790.9	768.8	747.7	723.5	701.4	653.0
7.5°	928.9	924.7	912.0	887.8	862.5	828.8	790.9	753.0	716.1	681.4	608.7
10°	1001.5	992.1	973.1	940.5	899.4	850.9	799.3	748.8	697.2	650.8	562.4
12.5°	1055.3	1046.8	1020.5	980.5	924.7	863.6	797.2	731.9	669.8	612.9	509.7
15°	1098.4	1087.9	1054.2	1002.6	935.2	862.5	782.5	708.8	637.2	574.0	456.0
17.5°	1129.0	1113.2	1072.1	1007.9	929.9	845.7	762.5	675.1	599.2	528.7	404.4
20°	1135.3	1121.6	1074.2	1002.6	911.0	818.3	724.6	635.1	554.0	481.3	356.0
22.5°	1119.5	1104.8	1054.2	978.4	883.6	781.4	684.5	592.9	506.6	437.1	311.7
25°	1076.3	1061.6	1011.0	936.3	841.5	736.2	631.9	541.3	460.2	388.6	268.6
27.5°	1012.1	990.0	949.9	876.2	784.6	682.4	578.2	488.7	406.5	339.1	228.5
30°	929.9	901.5	867.8	803.6	717.2	621.4	521.3	432.8	357.0	298.0	195.9
32.5°	819.4	808.8	773.0	719.3	646.6	555.0	462.3	380.2	308.6	250.7	167.5
35°	702.5	691.9	673.0	628.7	567.6	488.7	402.3	323.3	261.2	209.6	138.0
37.5°	588.7	578.2	561.3	533.9	481.3	420.2	343.3	274.9	219.1	172.7	114.8
40°	472.9	468.7	455.0	435.0	398.1	348.6	286.5	227.5	178.0	140.1	92.7
42.5°	364.4	362.3	352.8	341.2	318.1	278.0	235.9	183.2	141.1	111.6	73.7
45°	268.6	263.3	269.6	260.1	246.4	218.0	181.1	142.2	108.5	87.4	57.9
47.5°	191.7	192.7	195.9	198.0	187.5	164.3	135.9	104.3	84.3	71.6	47.4
50°	134.8	133.8	141.1	147.4	138.0	123.2	97.9	80.0	64.2	53.7	37.9
52.5°	92.7	93.7	102.2	106.4	104.3	87.4	69.5	55.8	47.4	40.0	29.5
55°	60.0	63.2	69.5	74.8	73.7	60.0	48.4	40.0	35.8	30.5	23.2
57.5°	39.0	40.0	46.3	50.6	49.5	40.0	32.6	29.5	26.3	23.2	16.9
60°	24.2	25.3	29.5	33.7	31.6	26.3	22.1	21.1	20.0	19.0	14.7
62.5°	14.7	15.8	19.0	22.1	20.0	16.9	14.7	15.8	15.8	14.7	11.6
65°	9.5	9.5	11.6	13.7	12.6	10.5	10.5	11.6	12.6	11.6	9.5
67.5°	5.3	6.3	7.4	8.4	7.4	7.4	8.4	9.5	9.5	9.5	7.4
70°	3.2	4.2	4.2	4.2	4.2	5.3	5.3	6.3	7.4	6.3	5.3
72.5°	2.1	2.1	2.1	3.2	3.2	3.2	3.2	4.2	4.2	4.2	4.2
75°	1.1	1.1	1.1	1.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
77.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.1	1.1
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.1
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



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**CANDELA DISTRIBUTION (continued):**

	135°	157.5°	180°
0°	707.7	707.7	707.7
2.5°	676.1	665.6	656.1
5°	617.1	591.9	578.2
7.5°	552.9	513.9	500.2
10°	490.8	443.4	432.8
12.5°	425.5	386.5	373.9
15°	370.7	333.8	322.3
17.5°	323.3	289.6	282.2
20°	283.3	252.8	243.3
22.5°	244.3	216.9	209.6
25°	212.7	188.5	180.1
27.5°	182.2	162.2	159.0
30°	154.8	142.2	141.1
32.5°	131.6	123.2	125.3
35°	111.6	108.5	111.6
37.5°	96.9	95.8	99.0
40°	81.1	83.2	87.4
42.5°	68.5	73.7	77.9
45°	57.9	65.3	68.5
47.5°	47.4	56.9	60.0
50°	39.0	49.5	50.6
52.5°	31.6	41.1	43.2
55°	26.3	33.7	35.8
57.5°	22.1	27.4	28.4
60°	16.9	21.1	23.2
62.5°	12.6	16.9	16.9
65°	9.5	11.6	11.6
67.5°	6.3	8.4	8.4
70°	4.2	5.3	5.3
72.5°	3.2	3.2	3.2
75°	2.1	2.1	2.1
77.5°	1.1	1.1	1.1
80°	1.1	1.1	1.1
82.5°	1.1	1.1	1.1
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



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Signify Classified - Internal  
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Scaled Data Report





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

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