

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: P886522

Luminaire Tested: ML310LSFL95FS1E-TIR4D25AWW-TL3RWSL-850LM-2700K

Issue Date: 7/5/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P886522  
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-2700K  
Description: 3IN ROUND ML FLEX, SELECTABLE CCT, WITH WW TIR, METALLIC SILVER TRIM  
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

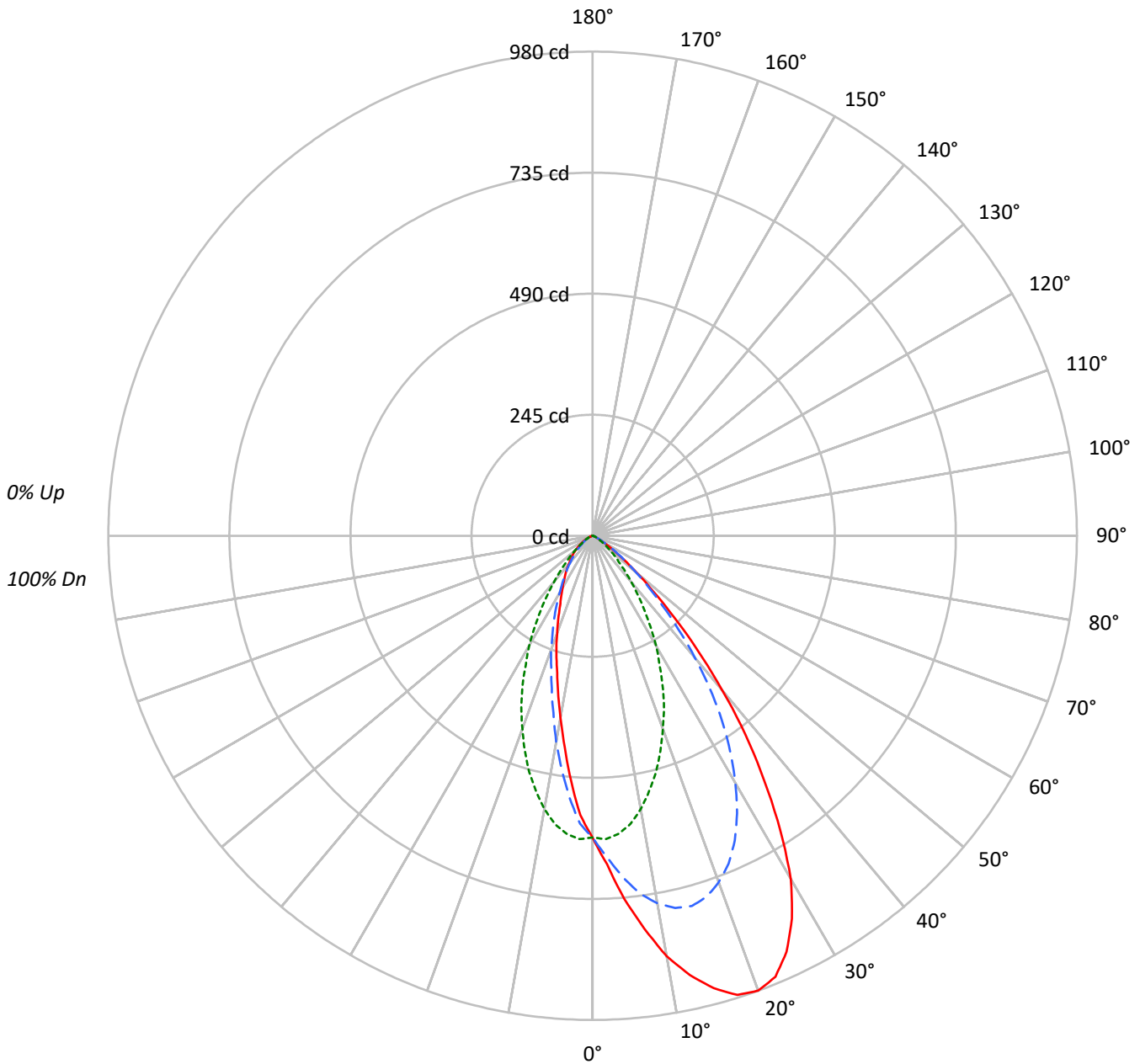
Lumens per Lamp: N/A  
Luminaire Lumens: 720.6 lumens  
Efficiency: N/A  
Efficacy: 53.0 lumens/watt  
Spacing Criteria (0/90/45): 1.14 / 0.81 / 0.99  
Luminous Opening: Circular (Dia: 0.25' x H: 0')  
CIE Type: Direct

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	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	113	110	107	104	110	108	105	103	103	101	100	100	98	97	96	95	94	92								
2	106	101	96	92	104	99	95	91	96	92	89	93	90	87	90	88	86	84								
3	100	93	87	83	98	91	86	82	89	84	81	86	82	79	84	81	78	76								
4	94	86	79	75	92	84	79	74	82	77	73	80	76	72	78	74	71	70								
5	89	79	73	68	87	78	72	67	76	71	67	75	70	66	73	69	66	64								
6	83	73	67	62	82	73	66	62	71	65	61	70	65	61	68	64	60	59								
7	79	68	62	57	77	68	61	57	66	61	56	65	60	56	64	59	56	54								
8	74	64	57	52	73	63	57	52	62	56	52	61	56	52	60	55	52	50								
9	70	60	53	49	69	59	53	49	58	52	48	57	52	48	56	51	48	47								
10	67	56	50	45	66	55	49	45	55	49	45	54	49	45	53	48	45	43								

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

	0°	45°	90°	135°	180°
0°	133937	133937	133937	133937	133937
5°	162469	152454	133260	117235	109839
10°	192470	168178	125070	94320	83187
15°	215211	176108	112464	72622	63133
20°	228640	174128	96935	57055	49004
25°	224747	164719	81150	44422	37599
30°	203221	146263	65124	33828	30840
35°	162302	122014	48426	25779	25779
40°	116819	92244	34608	20038	21583
45°	71883	62161	23382	15505	18327
50°	39675	38446	15829	11462	14874
55°	19803	22059	10093	8678	11813
60°	9166	10964	7192	6359	8771
65°	4255	5189	5189	4255	5189
70°	1731	2597	3526	2308	2885
75°	763	1525	1525	1525	1525
80°	0	0	1137	1137	1137
85°	0	0	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 20°  
 Vertical Angle: 45°  
 Luminance: 72163 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.7	8.0
10°-20°	154.7	21.5
20°-30°	198.7	27.6
30°-40°	168.9	23.4
40°-50°	93.1	12.9
50°-60°	35.0	4.9
60°-70°	10.2	1.4
70°-80°	2.1	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°	411.1	57.1
0°-40°	580.0	80.5
0°-60°	708.0	98.3
0°-90°	720.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	720.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	611	611	611	611	611	
5°	738	693	605	533	499	74
15°	948	776	495	320	278	268
25°	929	681	335	184	155	421
35°	606	456	181	96	96	376
45°	232	200	75	50	59	185
55°	52	58	26	23	31	52
65°	8	10	10	8	10	9
75°	1	2	2	2	2	1
85°	0	0	0	0	0	0
90°	0	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°	610.8	610.8	610.8	610.8	610.8	610.8	610.8	610.8	610.8	610.8	610.8
2.5°	665.3	665.3	663.5	659.0	652.6	647.2	638.1	630.8	622.6	614.4	596.3
5°	738.1	735.3	727.2	716.2	702.6	682.6	663.5	645.3	624.4	605.4	563.5
7.5°	801.7	798.1	787.1	766.2	744.4	715.3	682.6	649.9	618.1	588.1	525.4
10°	864.4	856.2	839.9	811.7	776.2	734.4	689.9	646.3	601.7	561.7	485.4
12.5°	910.8	903.5	880.8	846.2	798.1	745.3	688.1	631.7	578.1	529.0	439.9
15°	948.0	938.9	909.9	865.3	807.1	744.4	675.3	611.7	549.9	495.4	393.6
17.5°	974.4	960.8	925.3	869.9	802.6	729.9	658.1	582.6	517.2	456.3	349.0
20°	979.8	968.0	927.1	865.3	786.2	706.2	625.4	548.1	478.1	415.4	307.2
22.5°	966.2	953.5	909.9	844.4	762.6	674.4	590.8	511.7	437.2	377.2	269.0
25°	928.9	916.2	872.6	808.0	726.2	635.4	545.4	467.2	397.2	335.4	231.8
27.5°	873.5	854.4	819.9	756.2	677.2	589.0	499.0	421.7	350.9	292.7	197.2
30°	802.6	778.1	749.0	693.5	619.0	536.3	449.9	373.6	308.1	257.2	169.1
32.5°	707.2	698.1	667.2	620.8	558.1	479.0	399.0	328.1	266.3	216.3	144.5
35°	606.3	597.2	580.8	542.6	489.9	421.7	347.2	279.0	225.4	180.9	119.1
37.5°	508.1	499.0	484.5	460.8	415.4	362.7	296.3	237.2	189.1	149.1	99.1
40°	408.1	404.5	392.7	375.4	343.6	300.9	247.2	196.3	153.6	120.9	80.0
42.5°	314.5	312.7	304.5	294.5	274.5	240.0	203.6	158.2	121.8	96.3	63.6
45°	231.8	227.2	232.7	224.5	212.7	188.2	156.3	122.7	93.6	75.4	50.0
47.5°	165.4	166.3	169.1	170.9	161.8	141.8	117.3	90.0	72.7	61.8	40.9
50°	116.3	115.4	121.8	127.3	119.1	106.3	84.5	69.1	55.4	46.4	32.7
52.5°	80.0	80.9	88.2	91.8	90.0	75.4	60.0	48.2	40.9	34.5	25.5
55°	51.8	54.5	60.0	64.5	63.6	51.8	41.8	34.5	30.9	26.4	20.0
57.5°	33.6	34.5	40.0	43.6	42.7	34.5	28.2	25.5	22.7	20.0	14.5
60°	20.9	21.8	25.5	29.1	27.3	22.7	19.1	18.2	17.3	16.4	12.7
62.5°	12.7	13.6	16.4	19.1	17.3	14.5	12.7	13.6	13.6	12.7	10.0
65°	8.2	8.2	10.0	11.8	10.9	9.1	9.1	10.0	10.9	10.0	8.2
67.5°	4.5	5.5	6.4	7.3	6.4	6.4	7.3	8.2	8.2	8.2	6.4
70°	2.7	3.6	3.6	3.6	3.6	4.5	4.5	5.5	6.4	5.5	4.5
72.5°	1.8	1.8	1.8	2.7	2.7	2.7	2.7	3.6	3.6	3.6	3.6
75°	0.9	0.9	0.9	0.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8
77.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9
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°	610.8	610.8	610.8
2.5°	583.5	574.5	566.3
5°	532.6	510.8	499.0
7.5°	477.2	443.6	431.7
10°	423.6	382.7	373.6
12.5°	367.2	333.6	322.7
15°	319.9	288.1	278.1
17.5°	279.0	250.0	243.6
20°	244.5	218.1	210.0
22.5°	210.9	187.2	180.9
25°	183.6	162.7	155.4
27.5°	157.2	140.0	137.3
30°	133.6	122.7	121.8
32.5°	113.6	106.3	108.2
35°	96.3	93.6	96.3
37.5°	83.6	82.7	85.4
40°	70.0	71.8	75.4
42.5°	59.1	63.6	67.3
45°	50.0	56.4	59.1
47.5°	40.9	49.1	51.8
50°	33.6	42.7	43.6
52.5°	27.3	35.4	37.3
55°	22.7	29.1	30.9
57.5°	19.1	23.6	24.5
60°	14.5	18.2	20.0
62.5°	10.9	14.5	14.5
65°	8.2	10.0	10.0
67.5°	5.5	7.3	7.3
70°	3.6	4.5	4.5
72.5°	2.7	2.7	2.7
75°	1.8	1.8	1.8
77.5°	0.9	0.9	0.9
80°	0.9	0.9	0.9
82.5°	0.9	0.9	0.9
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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