

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: P886516

Luminaire Tested: ML310LSFL95FS1E-TIR4D25AWW-TL3RWMB-850LM-5000K

Issue Date: 7/5/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P886516  
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-5000K  
Description: 3IN ROUND ML FLEX, SELECTABLE CCT, WITH WW TIR, MATTE BLACK TRIM  
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 5000K CCT  
Ballast/Driver: -

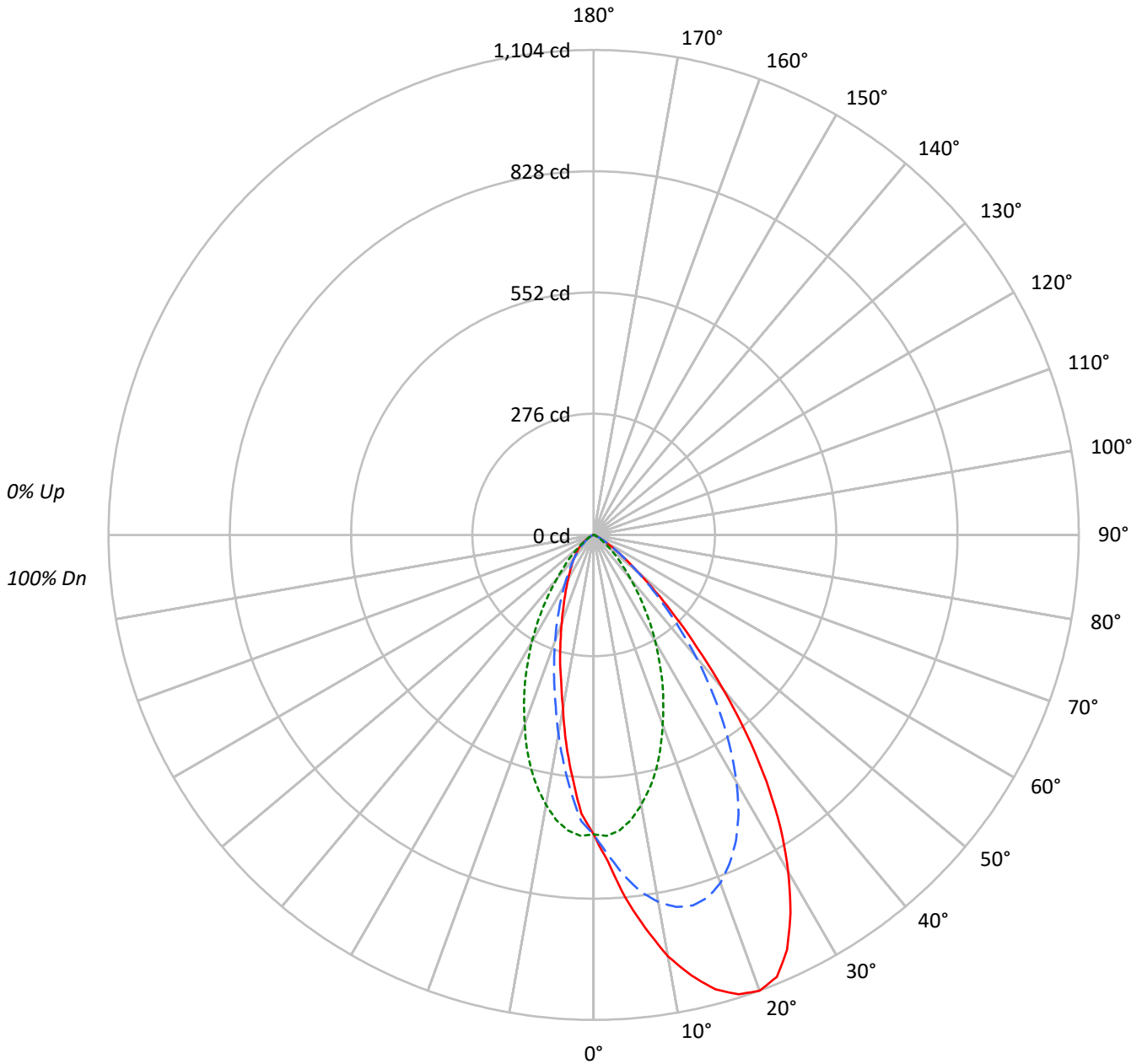
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 789.2 lumens  
Efficiency: N/A  
Efficacy: 58.0 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<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	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92								
2	106	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84								
3	100	93	87	83	98	92	86	82	89	85	81	86	83	80	84	81	78	77								
4	94	86	80	75	92	85	79	75	82	78	74	80	76	73	78	75	72	70								
5	89	79	73	68	87	78	72	68	77	71	67	75	70	67	73	69	66	64								
6	84	74	67	62	82	73	67	62	71	66	62	70	65	61	69	64	61	59								
7	79	69	62	57	78	68	62	57	67	61	57	65	60	56	64	60	56	55								
8	75	64	57	53	73	63	57	53	62	57	53	61	56	52	60	56	52	51								
9	71	60	53	49	69	59	53	49	58	53	49	58	52	49	57	52	48	47								
10	67	56	50	46	66	56	50	46	55	49	45	54	49	45	53	49	45	44								

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

	0°	45°	90°	135°	180°
0°	149440	149440	149440	149440	149440
5°	182478	170878	148624	129606	121946
10°	216941	188930	138853	102492	89355
15°	243180	198230	125063	78661	66947
20°	257599	196764	107156	59482	49401
25°	252039	185527	89449	44857	37454
30°	224288	164557	71201	33600	29346
35°	183557	135760	53298	25377	23691
40°	130845	103580	37384	19608	19894
45°	81342	70224	25491	14358	16653
50°	44928	43478	16545	10405	13304
55°	24582	24773	9672	7646	10055
60°	11534	12236	6447	5526	6929
65°	5448	5474	4358	3269	3840
70°	2052	2372	2693	1346	1346
75°	932	932	932	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: 81993 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	64.4	8.2
10°-20°	171.9	21.8
20°-30°	219.1	27.8
30°-40°	185.1	23.4
40°-50°	101.4	12.8
50°-60°	36.8	4.7
60°-70°	9.6	1.2
70°-80°	1.1	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°	455.3	57.7
0°-40°	640.4	81.1
0°-60°	778.5	98.6
0°-90°	789.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	789.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	682	682	682	682	682	
5°	829	776	675	589	554	83
15°	1071	873	551	346	295	302
25°	1042	767	370	185	155	471
35°	686	507	199	95	88	422
45°	262	226	82	46	54	209
55°	64	65	25	20	26	61
65°	10	11	8	6	7	12
75°	1	1	1	0	0	1
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°	681.5	681.5	681.5	681.5	681.5	681.5	681.5	681.5	681.5	681.5	681.5
2.5°	743.6	741.5	740.5	739.4	731.0	722.6	712.0	703.6	695.2	685.7	665.7
5°	829.0	827.9	816.3	805.8	786.8	765.8	744.7	720.5	696.2	675.2	628.8
7.5°	902.7	900.6	884.8	864.8	836.3	801.6	765.8	725.7	687.8	654.1	581.4
10°	974.3	967.0	944.8	912.2	872.2	824.8	774.2	721.5	668.9	623.6	535.1
12.5°	1027.0	1019.6	995.4	951.2	897.4	837.4	772.1	707.8	645.7	589.9	482.4
15°	1071.2	1057.5	1027.0	974.3	910.1	836.3	759.4	684.7	613.0	550.9	429.8
17.5°	1096.5	1083.9	1043.8	982.8	906.9	822.6	737.3	653.1	575.1	506.6	378.1
20°	1103.9	1088.1	1044.9	975.4	889.0	797.4	705.7	614.1	533.0	459.2	332.9
22.5°	1089.1	1071.2	1022.8	952.2	858.5	759.4	664.6	572.0	485.6	414.0	286.5
25°	1041.7	1029.1	978.5	906.9	818.4	715.2	616.2	523.5	440.3	369.7	245.4
27.5°	970.1	958.5	914.3	846.9	761.6	666.8	564.6	471.9	390.8	322.3	210.7
30°	885.8	873.2	837.4	778.4	698.4	601.4	508.8	420.3	343.4	281.2	179.1
32.5°	792.1	779.5	742.6	694.1	623.6	537.2	452.9	367.6	296.0	239.1	151.7
35°	685.7	676.2	649.9	601.4	543.5	470.8	390.8	314.9	248.6	199.1	126.4
37.5°	573.0	562.5	546.7	515.1	466.6	402.4	332.9	263.3	206.5	162.2	101.1
40°	457.1	452.9	444.5	420.3	388.7	335.0	279.1	218.0	167.5	130.6	82.2
42.5°	349.7	348.7	347.6	332.9	310.7	272.8	223.3	172.7	134.8	102.2	65.3
45°	262.3	264.4	262.3	257.0	239.1	213.8	175.9	136.9	104.3	82.2	49.5
47.5°	190.7	192.8	193.8	195.9	186.4	162.2	130.6	104.3	79.0	63.2	40.0
50°	131.7	136.9	140.1	142.2	134.8	120.1	96.9	74.8	57.9	48.5	32.7
52.5°	94.8	95.9	101.1	103.2	99.0	84.3	67.4	50.6	43.2	35.8	25.3
55°	64.3	64.3	71.6	74.8	70.6	59.0	45.3	35.8	30.5	25.3	19.0
57.5°	40.0	42.1	47.4	50.6	47.4	39.0	30.5	25.3	22.1	20.0	13.7
60°	26.3	28.4	30.5	33.7	31.6	24.2	20.0	17.9	16.9	14.7	10.5
62.5°	16.9	17.9	20.0	22.1	19.0	14.7	13.7	12.6	11.6	11.6	8.4
65°	10.5	10.5	12.6	13.7	11.6	9.5	9.5	9.5	9.5	8.4	6.3
67.5°	6.3	6.3	7.4	7.4	6.3	6.3	6.3	6.3	6.3	6.3	4.2
70°	3.2	3.2	4.2	4.2	3.2	4.2	4.2	4.2	4.2	4.2	3.2
72.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	3.2	2.1	2.1
75°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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



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**CANDELA DISTRIBUTION (continued):**

	135°	157.5°	180°
0°	681.5	681.5	681.5
2.5°	652.0	641.5	635.2
5°	588.8	563.5	554.0
7.5°	523.5	490.8	479.3
10°	460.3	417.1	401.3
12.5°	399.2	358.1	341.3
15°	346.5	306.5	294.9
17.5°	299.1	262.3	249.6
20°	254.9	223.3	211.7
22.5°	219.1	190.7	180.1
25°	185.4	160.1	154.8
27.5°	156.9	136.9	133.8
30°	132.7	116.9	115.9
32.5°	111.7	102.2	101.1
35°	94.8	87.4	88.5
37.5°	81.1	76.9	79.0
40°	68.5	66.4	69.5
42.5°	56.9	57.9	61.1
45°	46.3	50.6	53.7
47.5°	37.9	44.2	46.3
50°	30.5	37.9	39.0
52.5°	24.2	31.6	31.6
55°	20.0	25.3	26.3
57.5°	15.8	20.0	20.0
60°	12.6	15.8	15.8
62.5°	9.5	10.5	11.6
65°	6.3	7.4	7.4
67.5°	4.2	5.3	5.3
70°	2.1	3.2	2.1
72.5°	1.1	1.1	1.1
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



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Signify Classified - Internal  
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Scaled Data Report





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

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