

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: P886521

Luminaire Tested: ML310LSFL95FS1E-TIR4D25AWW-TL3RWMW-850LM-5000K

Issue Date: 7/5/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P886521  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-10)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 7/5/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML310LSFL95FS1E-TIR4D25AWW-TL3RWMW-850LM-5000K  
Description: 3IN ROUND ML FLEX, SELECTABLE CCT, WITH WW TIR, MATTE WHITE TRIM  
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 5000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 847.9 lumens  
Efficiency: N/A  
Efficacy: 62.3 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 0.81 / 0.99  
Luminous Opening: Circular (Dia: 0.25' x H: 0')  
CIE Type: Direct

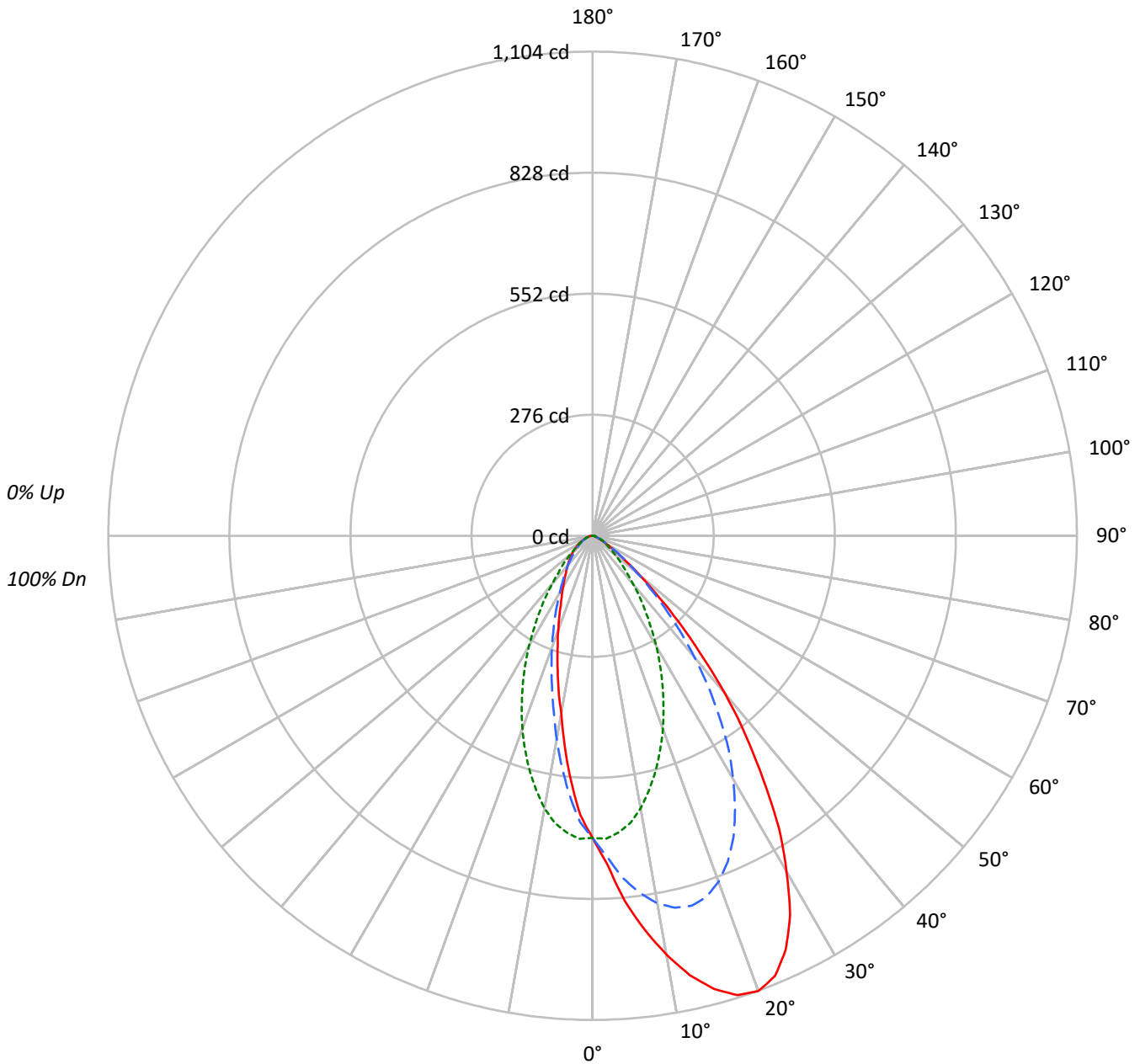
Input Watts (W): 13.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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								
1	112	109	106	103	110	107	104	102	103	101	99	99	97	96	95	94	93	91								
2	105	100	95	91	103	98	93	90	95	91	88	91	88	86	89	86	84	82								
3	99	91	85	81	97	90	84	80	87	82	79	85	81	77	82	79	76	74								
4	93	84	77	72	91	83	77	72	80	75	71	78	74	70	76	73	69	68								
5	87	77	71	66	85	76	70	65	75	69	65	73	68	64	71	67	63	62								
6	82	72	65	60	80	71	64	60	69	63	59	68	63	59	66	62	58	57								
7	77	67	60	55	76	66	59	55	64	59	54	63	58	54	62	57	54	52								
8	73	62	55	50	72	61	55	50	60	54	50	59	54	50	58	53	50	48								
9	69	58	51	47	68	57	51	47	56	51	46	55	50	46	55	50	46	45								
10	65	54	48	43	64	54	48	43	53	47	43	52	47	43	51	46	43	41								

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

	0°	45°	90°	135°	180°
0°	150997	150997	150997	150997	150997
5°	183777	172199	149482	131168	123751
10°	215917	189542	140434	104785	91426
15°	242839	198264	125971	81272	70034
20°	257739	195819	109326	63145	53321
25°	251942	183664	91191	48922	41277
30°	223933	162227	73581	37854	33853
35°	181228	134582	56082	30169	28750
40°	134108	103236	41277	24703	25305
45°	85218	71992	30701	20250	22514
50°	48135	45423	22618	17228	20468
55°	26150	27985	16898	15292	17701
60°	14297	16621	14297	13376	15700
65°	8198	10663	12038	12038	13127
70°	5386	7085	10771	10771	10771
75°	3558	5338	8896	9828	9828
80°	2652	3346	6693	9345	10607
85°	2768	2768	8051	10567	10567

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 85218 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	64.9	7.7
10°-20°	173.5	20.5
20°-30°	222.0	26.2
30°-40°	190.2	22.4
40°-50°	111.7	13.2
50°-60°	50.3	5.9
60°-70°	22.5	2.7
70°-80°	9.8	1.2
80°-90°	2.9	0.3
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°	460.3	54.3
0°-40°	650.6	76.7
0°-60°	812.6	95.8
0°-90°	847.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	847.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	689	689	689	689	689	
5°	835	782	679	596	562	84
15°	1070	873	555	358	308	302
25°	1041	759	377	202	171	471
35°	677	503	210	113	107	422
45°	275	232	99	65	73	217
55°	68	73	44	40	46	66
65°	16	21	23	23	25	17
75°	4	6	10	12	12	5
85°	1	1	3	4	4	1
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°	688.6	688.6	688.6	688.6	688.6	688.6	688.6	688.6	688.6	688.6	688.6
2.5°	747.5	747.5	747.5	745.4	734.9	727.5	720.2	710.7	701.2	691.7	669.6
5°	834.9	832.8	819.1	808.6	792.8	771.8	749.7	725.4	702.3	679.1	632.8
7.5°	905.5	900.2	890.7	866.5	838.1	804.4	767.6	730.7	694.9	660.2	589.6
10°	969.7	967.6	946.5	917.1	874.9	827.6	777.0	725.4	674.9	630.7	539.1
12.5°	1026.6	1021.3	995.0	951.8	899.2	838.1	773.9	710.7	649.6	593.8	491.7
15°	1069.7	1059.2	1025.5	973.9	909.7	837.0	762.3	686.5	617.0	554.9	438.0
17.5°	1098.2	1083.4	1042.4	981.3	905.5	821.3	737.0	653.8	578.0	511.7	389.6
20°	1104.5	1088.7	1042.4	970.8	885.5	792.8	703.3	614.9	533.8	468.5	343.2
22.5°	1086.6	1067.6	1022.4	946.5	854.9	753.9	660.2	569.6	490.6	422.2	299.0
25°	1041.3	1026.6	977.1	904.4	810.7	707.5	611.7	524.3	443.3	376.9	258.0
27.5°	975.0	960.2	909.7	844.4	750.7	655.9	559.1	473.8	395.9	332.7	224.3
30°	884.4	873.9	833.9	767.6	686.5	594.9	504.3	419.0	347.5	290.6	192.7
32.5°	790.7	774.9	741.2	688.6	621.2	532.8	447.5	369.6	301.1	246.4	164.3
35°	677.0	673.8	642.3	602.3	539.1	466.4	385.4	314.8	256.9	209.5	141.1
37.5°	572.8	567.5	546.4	511.7	464.3	400.1	330.6	267.4	217.9	175.8	117.9
40°	468.5	465.4	449.6	421.2	387.5	333.8	280.1	221.1	176.9	144.2	97.9
42.5°	362.2	358.0	354.8	342.2	313.8	273.8	228.5	181.1	146.4	116.9	82.1
45°	274.8	272.7	270.6	260.1	246.4	217.9	181.1	144.2	119.0	99.0	69.5
47.5°	196.9	200.0	199.0	200.0	191.6	166.4	139.0	113.7	96.9	82.1	61.1
50°	141.1	140.0	147.4	150.6	142.1	124.2	104.2	88.4	75.8	66.3	51.6
52.5°	99.0	101.1	109.5	111.6	105.3	93.7	79.0	67.4	60.0	53.7	44.2
55°	68.4	69.5	77.9	82.1	76.9	69.5	59.0	51.6	48.4	44.2	36.9
57.5°	46.3	49.5	54.8	57.9	55.8	48.4	43.2	41.1	39.0	37.9	32.6
60°	32.6	33.7	39.0	42.1	40.0	35.8	33.7	32.6	32.6	32.6	29.5
62.5°	22.1	23.2	27.4	29.5	28.4	26.3	25.3	27.4	27.4	27.4	25.3
65°	15.8	15.8	19.0	21.1	21.1	20.0	21.1	22.1	23.2	23.2	22.1
67.5°	10.5	11.6	12.6	14.7	14.7	15.8	16.8	19.0	20.0	20.0	20.0
70°	8.4	8.4	9.5	10.5	10.5	11.6	13.7	14.7	15.8	16.8	16.8
72.5°	6.3	6.3	6.3	7.4	8.4	8.4	10.5	11.6	12.6	13.7	13.7
75°	4.2	4.2	4.2	5.3	6.3	6.3	7.4	8.4	9.5	10.5	11.6
77.5°	3.2	3.2	3.2	3.2	4.2	4.2	5.3	6.3	7.4	7.4	8.4
80°	2.1	2.1	2.1	2.1	2.1	3.2	3.2	4.2	5.3	5.3	6.3
82.5°	1.1	1.1	1.1	2.1	2.1	2.1	3.2	3.2	4.2	4.2	5.3
85°	1.1	1.1	1.1	1.1	1.1	1.1	2.1	2.1	2.1	3.2	4.2
87.5°	0.0	0.0	0.0	0.0	1.1	1.1	1.1	1.1	1.1	1.1	2.1
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°	688.6	688.6	688.6
2.5°	653.8	644.4	638.0
5°	595.9	569.6	562.2
7.5°	532.8	495.9	484.3
10°	470.6	427.5	410.6
12.5°	409.6	367.5	359.0
15°	358.0	319.0	308.5
17.5°	310.6	276.9	265.3
20°	270.6	238.0	228.5
22.5°	232.7	205.3	197.9
25°	202.2	177.9	170.6
27.5°	173.7	152.7	151.6
30°	149.5	135.8	133.7
32.5°	129.5	120.0	120.0
35°	112.7	106.3	107.4
37.5°	99.0	94.8	96.9
40°	86.3	86.3	88.4
42.5°	75.8	77.9	80.0
45°	65.3	71.6	72.6
47.5°	56.9	64.2	66.3
50°	50.5	57.9	60.0
52.5°	45.3	51.6	53.7
55°	40.0	46.3	46.3
57.5°	34.7	40.0	41.1
60°	30.5	34.7	35.8
62.5°	26.3	29.5	30.5
65°	23.2	25.3	25.3
67.5°	20.0	21.1	21.1
70°	16.8	17.9	16.8
72.5°	14.7	14.7	13.7
75°	11.6	11.6	11.6
77.5°	9.5	9.5	9.5
80°	7.4	8.4	8.4
82.5°	6.3	6.3	6.3
85°	4.2	4.2	4.2
87.5°	2.1	2.1	2.1
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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Scaled Data Report



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