

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: P886524

Luminaire Tested: ML310LSFL95FS1E-TIR4D25AWW-TL3RWSL-850LM-3500K

Issue Date: 7/5/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P886524  
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-3500K  
Description: 3IN ROUND ML FLEX, SELECTABLE CCT, WITH WW TIR, METALLIC SILVER TRIM  
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 770.5 lumens  
Efficiency: N/A  
Efficacy: 56.7 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

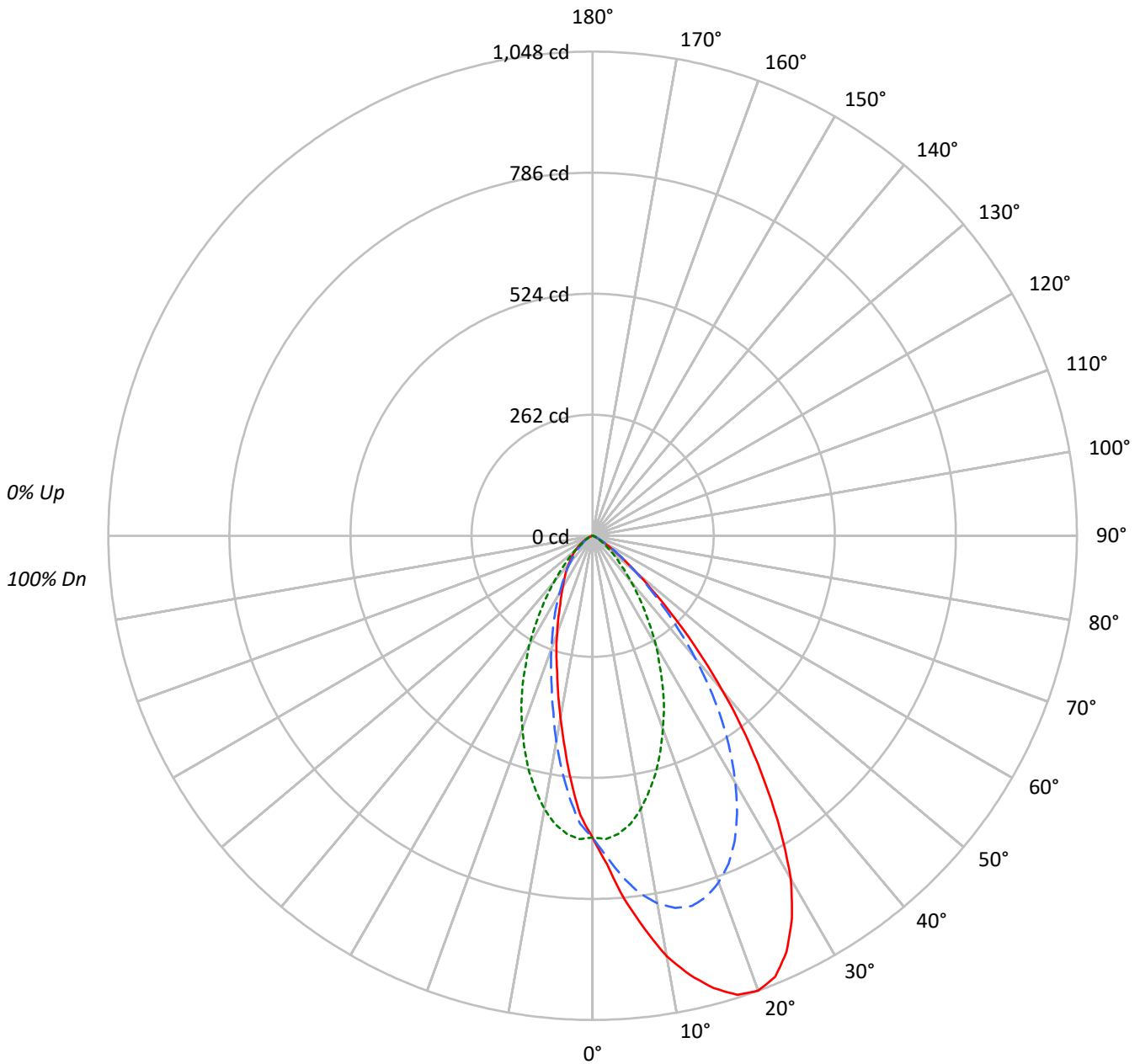
Input Watts (W): 13.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20					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°	143212	143212	143212	143212	143212
5°	173717	163020	142483	125357	117455
10°	205808	179834	133732	100844	88954
15°	230126	188321	120250	77662	67515
20°	244485	186205	103656	60999	52388
25°	240328	176139	86763	47495	40212
30°	217299	156391	69656	36183	32967
35°	173545	130487	51772	27572	27572
40°	124920	98628	37012	21412	23100
45°	76845	66457	25026	16591	19599
50°	42438	41107	16921	12281	15931
55°	21180	23588	10781	9290	12616
60°	9824	11732	7675	6842	9385
65°	4514	5552	5552	4514	5552
70°	1859	2821	3719	2500	3142
75°	847	1610	1610	1610	1610
80°	0	0	1263	1263	1263
85°	0	0	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 20°  
 Vertical Angle: 45°  
 Luminance: 77155 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.7	8.0
10°-20°	165.4	21.5
20°-30°	212.5	27.6
30°-40°	180.6	23.4
40°-50°	99.5	12.9
50°-60°	37.4	4.9
60°-70°	10.9	1.4
70°-80°	2.2	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°	439.6	57.1
0°-40°	620.2	80.5
0°-60°	757.1	98.3
0°-90°	770.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	770.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	653	653	653	653	653	
5°	789	741	647	570	534	79
15°	1014	830	530	342	297	286
25°	993	728	359	196	166	450
35°	648	487	193	103	103	402
45°	248	214	81	54	63	198
55°	55	62	28	24	33	55
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	



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**CANDELA DISTRIBUTION (FULL):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
0°	653.1	653.1	653.1	653.1	653.1	653.1	653.1	653.1	653.1	653.1	653.1
2.5°	711.4	711.4	709.5	704.6	697.8	692.0	682.3	674.5	665.8	657.0	637.6
5°	789.2	786.3	777.5	765.9	751.3	729.9	709.5	690.1	667.7	647.3	602.6
7.5°	857.2	853.3	841.7	819.3	796.0	764.9	729.9	694.9	660.9	628.8	561.8
10°	924.3	915.5	898.1	867.9	830.0	785.3	737.7	691.0	643.4	600.6	519.0
12.5°	973.9	966.1	941.8	904.9	853.3	797.0	735.7	675.5	618.1	565.7	470.4
15°	1013.7	1004.0	972.9	925.3	863.1	796.0	722.1	654.1	588.0	529.7	420.8
17.5°	1041.9	1027.3	989.4	930.1	858.2	780.5	703.7	623.0	553.0	487.9	373.2
20°	1047.7	1035.1	991.4	925.3	840.7	755.2	668.7	586.1	511.2	444.2	328.5
22.5°	1033.2	1019.5	972.9	902.9	815.4	721.2	631.7	547.2	467.5	403.3	287.7
25°	993.3	979.7	933.0	864.0	776.6	679.4	583.2	499.6	424.7	358.6	247.8
27.5°	934.0	913.6	876.7	808.6	724.1	629.8	533.6	451.0	375.2	313.0	210.9
30°	858.2	832.0	800.9	741.6	661.9	573.4	481.1	399.5	329.5	275.1	180.8
32.5°	756.2	746.4	713.4	663.8	596.8	512.2	426.7	350.9	284.8	231.3	154.5
35°	648.3	638.6	621.1	580.2	523.9	451.0	371.3	298.4	241.0	193.4	127.3
37.5°	543.3	533.6	518.0	492.8	444.2	387.8	316.8	253.7	202.2	159.4	105.9
40°	436.4	432.5	419.9	401.4	367.4	321.7	264.4	209.9	164.3	129.3	85.5
42.5°	336.3	334.3	325.6	314.9	293.5	256.6	217.7	169.1	130.2	103.0	68.0
45°	247.8	243.0	248.8	240.1	227.4	201.2	167.2	131.2	100.1	80.7	53.5
47.5°	176.9	177.9	180.8	182.7	173.0	151.6	125.4	96.2	77.8	66.1	43.7
50°	124.4	123.4	130.2	136.1	127.3	113.7	90.4	73.9	59.3	49.6	35.0
52.5°	85.5	86.5	94.3	98.2	96.2	80.7	64.1	51.5	43.7	36.9	27.2
55°	55.4	58.3	64.1	69.0	68.0	55.4	44.7	36.9	33.0	28.2	21.4
57.5°	36.0	36.9	42.8	46.7	45.7	36.9	30.1	27.2	24.3	21.4	15.6
60°	22.4	23.3	27.2	31.1	29.2	24.3	20.4	19.4	18.5	17.5	13.6
62.5°	13.6	14.6	17.5	20.4	18.5	15.6	13.6	14.6	14.6	13.6	10.7
65°	8.7	8.7	10.7	12.6	11.7	9.7	9.7	10.7	11.7	10.7	8.7
67.5°	4.9	5.8	6.8	7.8	6.8	6.8	7.8	8.7	8.7	8.7	6.8
70°	2.9	3.9	3.9	3.9	3.9	4.9	4.9	5.8	6.8	5.8	4.9
72.5°	1.9	1.9	1.9	2.9	2.9	2.9	2.9	3.9	3.9	3.9	3.9
75°	1.0	1.0	1.0	1.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9
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



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**CANDELA DISTRIBUTION (continued):**

	135°	157.5°	180°
0°	653.1	653.1	653.1
2.5°	624.0	614.3	605.5
5°	569.5	546.2	533.6
7.5°	510.3	474.3	461.7
10°	452.9	409.2	399.5
12.5°	392.7	356.7	345.0
15°	342.1	308.1	297.4
17.5°	298.4	267.3	260.5
20°	261.4	233.3	224.5
22.5°	225.5	200.2	193.4
25°	196.3	174.0	166.2
27.5°	168.1	149.7	146.8
30°	142.9	131.2	130.2
32.5°	121.5	113.7	115.7
35°	103.0	100.1	103.0
37.5°	89.4	88.4	91.4
40°	74.8	76.8	80.7
42.5°	63.2	68.0	71.9
45°	53.5	60.3	63.2
47.5°	43.7	52.5	55.4
50°	36.0	45.7	46.7
52.5°	29.2	37.9	39.8
55°	24.3	31.1	33.0
57.5°	20.4	25.3	26.2
60°	15.6	19.4	21.4
62.5°	11.7	15.6	15.6
65°	8.7	10.7	10.7
67.5°	5.8	7.8	7.8
70°	3.9	4.9	4.9
72.5°	2.9	2.9	2.9
75°	1.9	1.9	1.9
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



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Signify Classified - Internal  
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Scaled Data Report





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

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