

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: P886520

Luminaire Tested: ML310LSFL95FS1E-TIR4D25AWW-TL3RWMW-850LM-4000K

Issue Date: 7/5/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P886520  
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-4000K  
Description: 3IN ROUND ML FLEX, SELECTABLE CCT, WITH WW TIR, MATTE WHITE TRIM  
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 807.8 lumens  
Efficiency: N/A  
Efficacy: 59.4 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

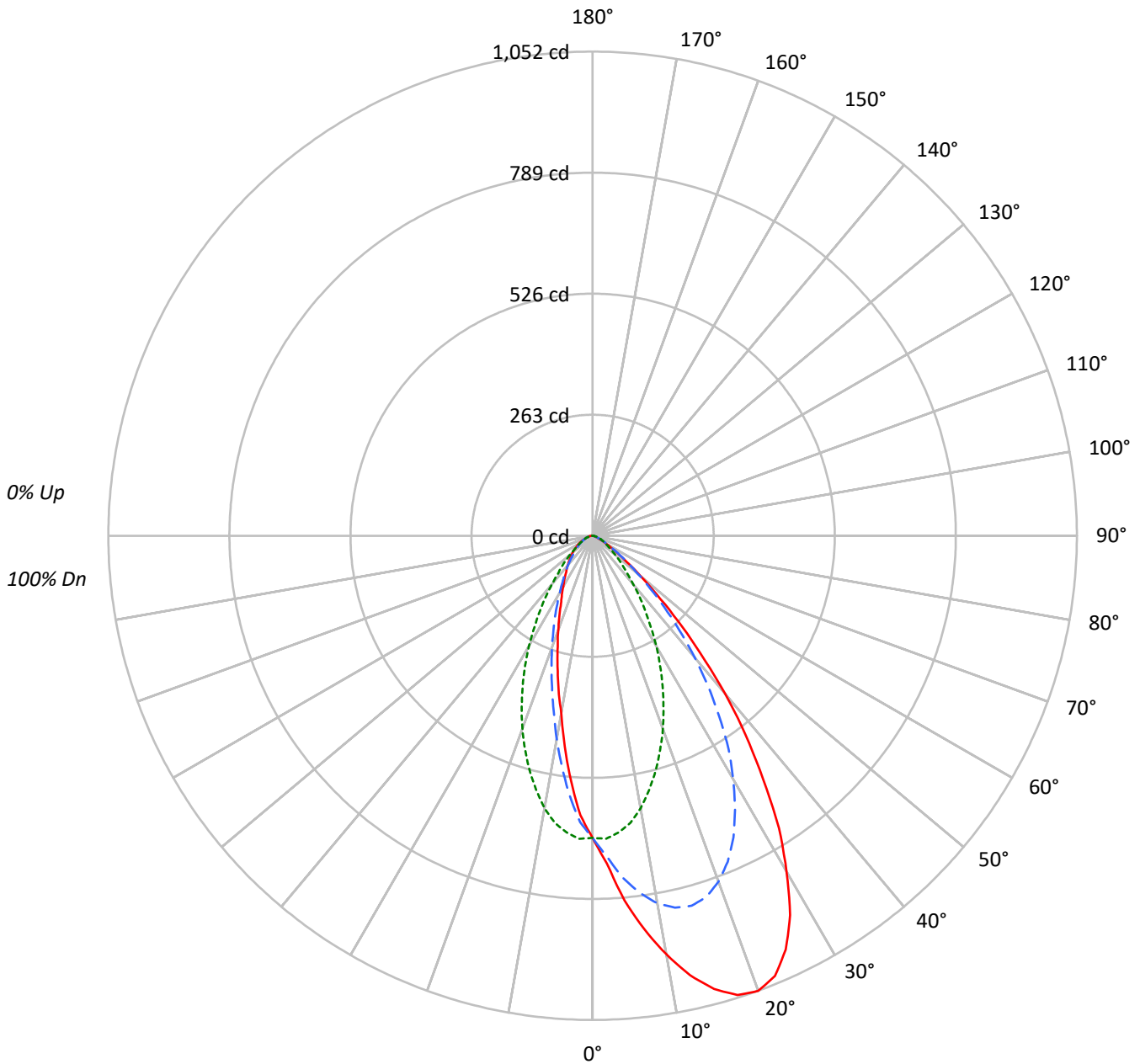
Input Watts (W): 13.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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°	143870	143870	143870	143870	143870
5°	175104	164065	142439	124983	117917
10°	205741	180602	133798	99842	87106
15°	231397	188911	120023	77435	66720
20°	245581	186578	104169	60159	50801
25°	240062	175014	86884	46599	39317
30°	213375	154568	70112	36082	32258
35°	172688	128225	53431	28723	27385
40°	127782	98356	39331	23558	24131
45°	81187	68596	29243	19289	21460
50°	45849	43291	21560	16443	19513
55°	24926	26647	16095	14566	16860
60°	13639	15832	13639	12762	14955
65°	7783	10170	11467	11467	12505
70°	5129	6732	10322	10322	10322
75°	3389	5083	8472	9320	9320
80°	2526	3157	6314	8840	10102
85°	2516	2516	7548	10064	10064

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 81187 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.8	7.7
10°-20°	165.3	20.5
20°-30°	211.5	26.2
30°-40°	181.3	22.4
40°-50°	106.5	13.2
50°-60°	47.9	5.9
60°-70°	21.5	2.7
70°-80°	9.3	1.2
80°-90°	2.8	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°	438.6	54.3
0°-40°	619.9	76.7
0°-60°	774.2	95.8
0°-90°	807.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	807.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	656	656	656	656	656	
5°	796	745	647	568	536	80
15°	1019	832	529	341	294	288
25°	992	723	359	193	162	449
35°	645	479	200	107	102	402
45°	262	221	94	62	69	207
55°	65	70	42	38	44	63
65°	15	20	22	22	24	16
75°	4	6	10	11	11	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°	656.1	656.1	656.1	656.1	656.1	656.1	656.1	656.1	656.1	656.1	656.1
2.5°	712.3	712.3	712.3	710.3	700.2	693.2	686.2	677.2	668.1	659.1	638.0
5°	795.5	793.5	780.5	770.5	755.4	735.3	714.3	691.2	669.1	647.1	602.9
7.5°	862.8	857.7	848.7	825.6	798.6	766.4	731.3	696.2	662.1	629.0	561.8
10°	924.0	921.9	901.9	873.8	833.7	788.5	740.4	691.2	643.1	600.9	513.6
12.5°	978.1	973.1	948.0	906.9	856.7	798.6	737.4	677.2	619.0	565.8	468.5
15°	1019.3	1009.2	977.1	928.0	866.8	797.5	726.3	654.1	587.9	528.7	417.3
17.5°	1046.3	1032.3	993.2	935.0	862.8	782.5	702.2	623.0	550.8	487.6	371.2
20°	1052.4	1037.3	993.2	925.0	843.7	755.4	670.1	585.9	508.6	446.4	327.0
22.5°	1035.3	1017.2	974.1	901.9	814.6	718.3	629.0	542.7	467.5	402.3	284.9
25°	992.2	978.1	931.0	861.8	772.5	674.2	582.9	499.6	422.3	359.1	245.8
27.5°	929.0	914.9	866.8	804.6	715.3	625.0	532.7	451.4	377.2	317.0	213.7
30°	842.7	832.7	794.5	731.3	654.1	566.8	480.5	399.3	331.1	276.9	183.6
32.5°	753.4	738.4	706.3	656.1	591.9	507.6	426.4	352.1	286.9	234.7	156.5
35°	645.1	642.1	612.0	573.8	513.6	444.4	367.2	300.0	244.8	199.6	134.4
37.5°	545.7	540.7	520.7	487.6	442.4	381.2	315.0	254.8	207.7	167.5	112.4
40°	446.4	443.4	428.4	401.3	369.2	318.0	266.9	210.7	168.5	137.4	93.3
42.5°	345.1	341.1	338.1	326.0	299.0	260.8	217.7	172.6	139.4	111.4	78.2
45°	261.8	259.8	257.8	247.8	234.7	207.7	172.6	137.4	113.4	94.3	66.2
47.5°	187.6	190.6	189.6	190.6	182.6	158.5	132.4	108.3	92.3	78.2	58.2
50°	134.4	133.4	140.4	143.5	135.4	118.4	99.3	84.3	72.2	63.2	49.2
52.5°	94.3	96.3	104.3	106.3	100.3	89.3	75.2	64.2	57.2	51.2	42.1
55°	65.2	66.2	74.2	78.2	73.2	66.2	56.2	49.2	46.1	42.1	35.1
57.5°	44.1	47.2	52.2	55.2	53.2	46.1	41.1	39.1	37.1	36.1	31.1
60°	31.1	32.1	37.1	40.1	38.1	34.1	32.1	31.1	31.1	31.1	28.1
62.5°	21.1	22.1	26.1	28.1	27.1	25.1	24.1	26.1	26.1	26.1	24.1
65°	15.0	15.0	18.1	20.1	20.1	19.1	20.1	21.1	22.1	22.1	21.1
67.5°	10.0	11.0	12.0	14.0	14.0	15.0	16.1	18.1	19.1	19.1	19.1
70°	8.0	8.0	9.0	10.0	10.0	11.0	13.0	14.0	15.0	16.1	16.1
72.5°	6.0	6.0	6.0	7.0	8.0	8.0	10.0	11.0	12.0	13.0	13.0
75°	4.0	4.0	4.0	5.0	6.0	6.0	7.0	8.0	9.0	10.0	11.0
77.5°	3.0	3.0	3.0	3.0	4.0	4.0	5.0	6.0	7.0	7.0	8.0
80°	2.0	2.0	2.0	2.0	2.0	3.0	3.0	4.0	5.0	5.0	6.0
82.5°	1.0	1.0	1.0	2.0	2.0	2.0	3.0	3.0	4.0	4.0	5.0
85°	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	3.0	4.0
87.5°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0
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°	656.1	656.1	656.1
2.5°	623.0	614.0	607.9
5°	567.8	542.7	535.7
7.5°	507.6	472.5	461.5
10°	448.4	407.3	391.2
12.5°	390.2	350.1	342.1
15°	341.1	304.0	293.9
17.5°	295.9	263.8	252.8
20°	257.8	226.7	217.7
22.5°	221.7	195.6	188.6
25°	192.6	169.5	162.5
27.5°	165.5	145.5	144.5
30°	142.5	129.4	127.4
32.5°	123.4	114.4	114.4
35°	107.3	101.3	102.3
37.5°	94.3	90.3	92.3
40°	82.3	82.3	84.3
42.5°	72.2	74.2	76.2
45°	62.2	68.2	69.2
47.5°	54.2	61.2	63.2
50°	48.2	55.2	57.2
52.5°	43.1	49.2	51.2
55°	38.1	44.1	44.1
57.5°	33.1	38.1	39.1
60°	29.1	33.1	34.1
62.5°	25.1	28.1	29.1
65°	22.1	24.1	24.1
67.5°	19.1	20.1	20.1
70°	16.1	17.1	16.1
72.5°	14.0	14.0	13.0
75°	11.0	11.0	11.0
77.5°	9.0	9.0	9.0
80°	7.0	8.0	8.0
82.5°	6.0	6.0	6.0
85°	4.0	4.0	4.0
87.5°	2.0	2.0	2.0
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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Scaled Data Report





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

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