

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: P886774

Luminaire Tested: ML310LSFLD2W1E-TIR4D25AWW-TL3RWMW-600LM-2700K

Issue Date: 7/5/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P886774  
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: ML310LSFLD2W1E-TIR4D25AWW-TL3RWMW-600LM-2700K  
Description: 3IN ROUND ML FLEX, SELECTABLE CCT, WITH WW TIR, MATTE WHITE TRIM  
Light Source: (1) D2W LED 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 507.1 lumens  
Efficiency: N/A  
Efficacy: 53.4 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

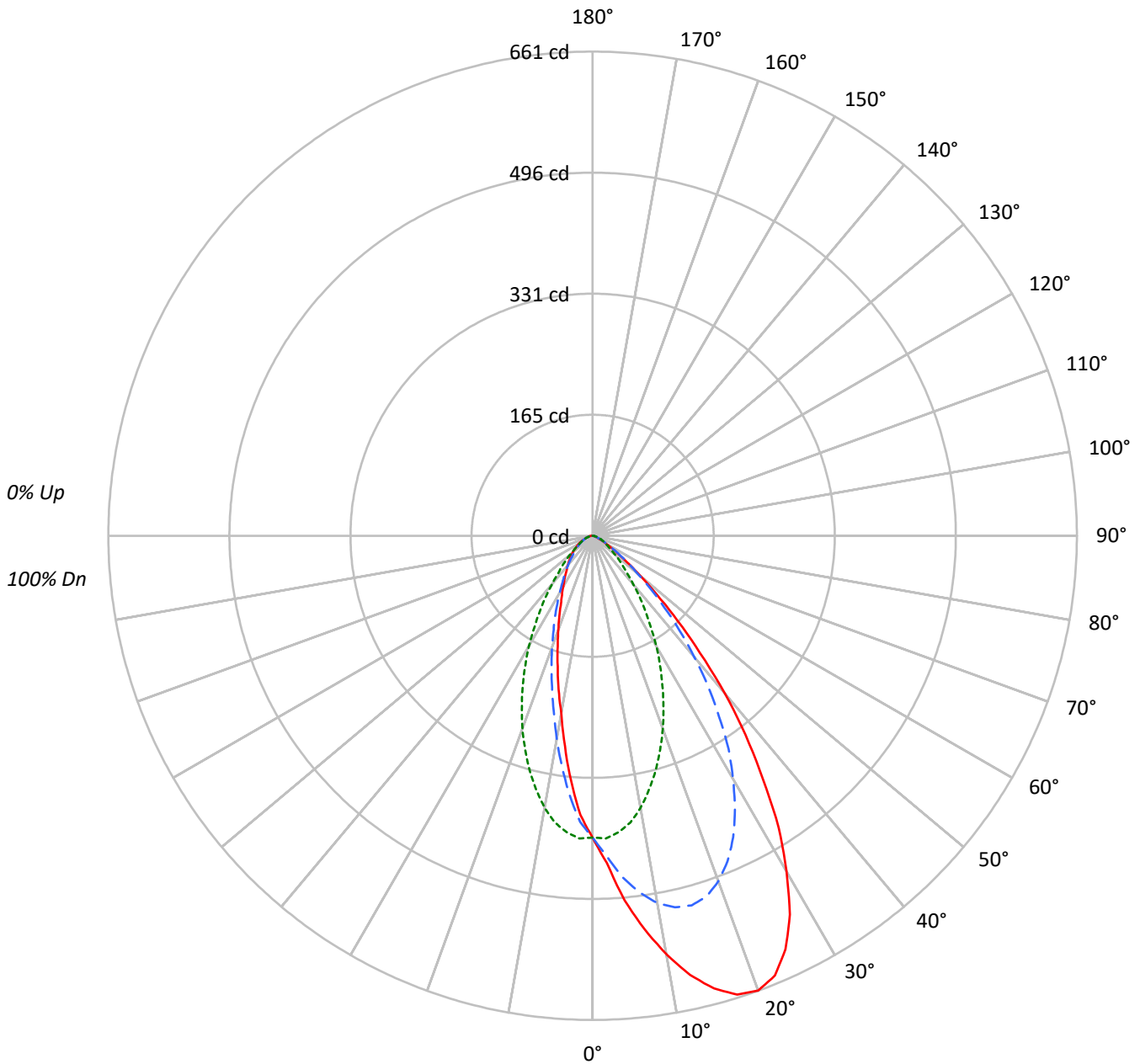
Input Watts (W): 9.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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	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°	90300	90300	90300	90300	90300
5°	109927	102993	89412	78450	74026
10°	129145	113369	83989	62680	54686
15°	145245	118582	75347	48604	41884
20°	154153	117120	65386	37757	31899
25°	150686	109857	54535	29252	24679
30°	133945	97028	44007	22636	20256
35°	108389	80495	33542	18042	17186
40°	80207	61730	24703	14771	15143
45°	50982	43074	18358	12094	13490
50°	28792	27172	13543	10302	12247
55°	15636	16745	10093	9137	10590
60°	8552	9933	8552	8026	9385
65°	4877	6382	7212	7212	7835
70°	3206	4231	6475	6475	6475
75°	2118	3219	5338	5846	5846
80°	1642	2020	3915	5556	6314
85°	1510	1510	4780	6290	6290

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 50982 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	38.8	7.7
10°-20°	103.8	20.5
20°-30°	132.8	26.2
30°-40°	113.8	22.4
40°-50°	66.8	13.2
50°-60°	30.1	5.9
60°-70°	13.5	2.7
70°-80°	5.9	1.2
80°-90°	1.8	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°	275.3	54.3
0°-40°	389.1	76.7
0°-60°	486.0	95.8
0°-90°	507.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	507.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	412	412	412	412	412	
5°	499	468	406	356	336	50
15°	640	522	332	214	184	181
25°	623	454	225	121	102	282
35°	405	301	125	67	64	252
45°	164	139	59	39	44	130
55°	41	44	26	24	28	40
65°	9	12	14	14	15	10
75°	2	4	6	7	7	3
85°	1	1	2	2	2	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°	411.8	411.8	411.8	411.8	411.8	411.8	411.8	411.8	411.8	411.8	411.8
2.5°	447.1	447.1	447.1	445.9	439.6	435.1	430.7	425.1	419.4	413.7	400.5
5°	499.4	498.1	489.9	483.6	474.2	461.6	448.4	433.9	420.0	406.2	378.5
7.5°	541.6	538.4	532.8	518.3	501.3	481.1	459.1	437.0	415.6	394.8	352.7
10°	580.0	578.7	566.1	548.5	523.3	495.0	464.7	433.9	403.7	377.2	322.4
12.5°	614.0	610.8	595.1	569.3	537.8	501.3	462.9	425.1	388.5	355.2	294.1
15°	639.8	633.5	613.4	582.5	544.1	500.6	455.9	410.6	369.0	331.9	262.0
17.5°	656.8	648.0	623.4	586.9	541.6	491.2	440.8	391.1	345.7	306.1	233.0
20°	660.6	651.1	623.4	580.6	529.6	474.2	420.7	367.8	319.3	280.2	205.3
22.5°	649.9	638.6	611.5	566.1	511.3	450.9	394.8	340.7	293.5	252.5	178.8
25°	622.8	614.0	584.4	540.9	484.9	423.2	365.9	313.6	265.1	225.4	154.3
27.5°	583.1	574.3	544.1	505.0	449.0	392.3	334.4	283.4	236.8	199.0	134.1
30°	529.0	522.7	498.8	459.1	410.6	355.8	301.6	250.6	207.8	173.8	115.2
32.5°	472.9	463.5	443.3	411.8	371.5	318.6	267.6	221.0	180.1	147.4	98.2
35°	404.9	403.0	384.1	360.2	322.4	279.0	230.5	188.3	153.7	125.3	84.4
37.5°	342.6	339.4	326.8	306.1	277.7	239.3	197.7	160.0	130.4	105.2	70.5
40°	280.2	278.3	268.9	251.9	231.7	199.6	167.5	132.2	105.8	86.3	58.6
42.5°	216.6	214.1	212.2	204.7	187.7	163.7	136.7	108.3	87.5	69.9	49.1
45°	164.4	163.1	161.8	155.5	147.4	130.4	108.3	86.3	71.2	59.2	41.6
47.5°	117.8	119.6	119.0	119.6	114.6	99.5	83.1	68.0	57.9	49.1	36.5
50°	84.4	83.8	88.2	90.1	85.0	74.3	62.3	52.9	45.3	39.7	30.9
52.5°	59.2	60.5	65.5	66.8	63.0	56.0	47.2	40.3	35.9	32.1	26.4
55°	40.9	41.6	46.6	49.1	46.0	41.6	35.3	30.9	29.0	26.4	22.0
57.5°	27.7	29.6	32.7	34.6	33.4	29.0	25.8	24.6	23.3	22.7	19.5
60°	19.5	20.2	23.3	25.2	23.9	21.4	20.2	19.5	19.5	19.5	17.6
62.5°	13.2	13.9	16.4	17.6	17.0	15.7	15.1	16.4	16.4	16.4	15.1
65°	9.4	9.4	11.3	12.6	12.6	12.0	12.6	13.2	13.9	13.9	13.2
67.5°	6.3	6.9	7.6	8.8	8.8	9.4	10.1	11.3	12.0	12.0	12.0
70°	5.0	5.0	5.7	6.3	6.3	6.9	8.2	8.8	9.4	10.1	10.1
72.5°	3.8	3.8	3.8	4.4	5.0	5.0	6.3	6.9	7.6	8.2	8.2
75°	2.5	2.5	2.5	3.1	3.8	3.8	4.4	5.0	5.7	6.3	6.9
77.5°	1.9	1.9	1.9	1.9	2.5	2.5	3.1	3.8	4.4	4.4	5.0
80°	1.3	1.3	1.3	1.3	1.3	1.9	1.9	2.5	3.1	3.1	3.8
82.5°	0.6	0.6	0.6	1.3	1.3	1.3	1.9	1.9	2.5	2.5	3.1
85°	0.6	0.6	0.6	0.6	0.6	0.6	1.3	1.3	1.3	1.9	2.5
87.5°	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6	1.3
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°	411.8	411.8	411.8
2.5°	391.1	385.4	381.6
5°	356.4	340.7	336.3
7.5°	318.6	296.6	289.7
10°	281.5	255.7	245.6
12.5°	245.0	219.8	214.7
15°	214.1	190.8	184.5
17.5°	185.8	165.6	158.7
20°	161.8	142.3	136.7
22.5°	139.2	122.8	118.4
25°	120.9	106.4	102.0
27.5°	103.9	91.3	90.7
30°	89.4	81.2	80.0
32.5°	77.5	71.8	71.8
35°	67.4	63.6	64.2
37.5°	59.2	56.7	57.9
40°	51.6	51.6	52.9
42.5°	45.3	46.6	47.9
45°	39.0	42.8	43.5
47.5°	34.0	38.4	39.7
50°	30.2	34.6	35.9
52.5°	27.1	30.9	32.1
55°	23.9	27.7	27.7
57.5°	20.8	23.9	24.6
60°	18.3	20.8	21.4
62.5°	15.7	17.6	18.3
65°	13.9	15.1	15.1
67.5°	12.0	12.6	12.6
70°	10.1	10.7	10.1
72.5°	8.8	8.8	8.2
75°	6.9	6.9	6.9
77.5°	5.7	5.7	5.7
80°	4.4	5.0	5.0
82.5°	3.8	3.8	3.8
85°	2.5	2.5	2.5
87.5°	1.3	1.3	1.3
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  
Cooper Lighting Solutions Photometric Lab  
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Peachtree City, GA 30269

Scaled Data Report





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

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Scaled Data Report



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