

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: P886776

Luminaire Tested: ML310LSFLD2W1E-TIR4D25AWW-TL3RWSL-600LM-2700K

Issue Date: 7/5/2024

Test Information

Test Method: LM-79-2019
Report Number: P886776
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: ML310LSFLD2W1E-TIR4D25AWW-TL3RWSL-600LM-2700K
Description: 3IN ROUND ML FLEX, SELECTABLE CCT, WITH WW TIR, METALLIC SILVER TRIM
Light Source: (1) D2W LED 90CRI / 2700K CCT
Ballast/Driver: -

Summary

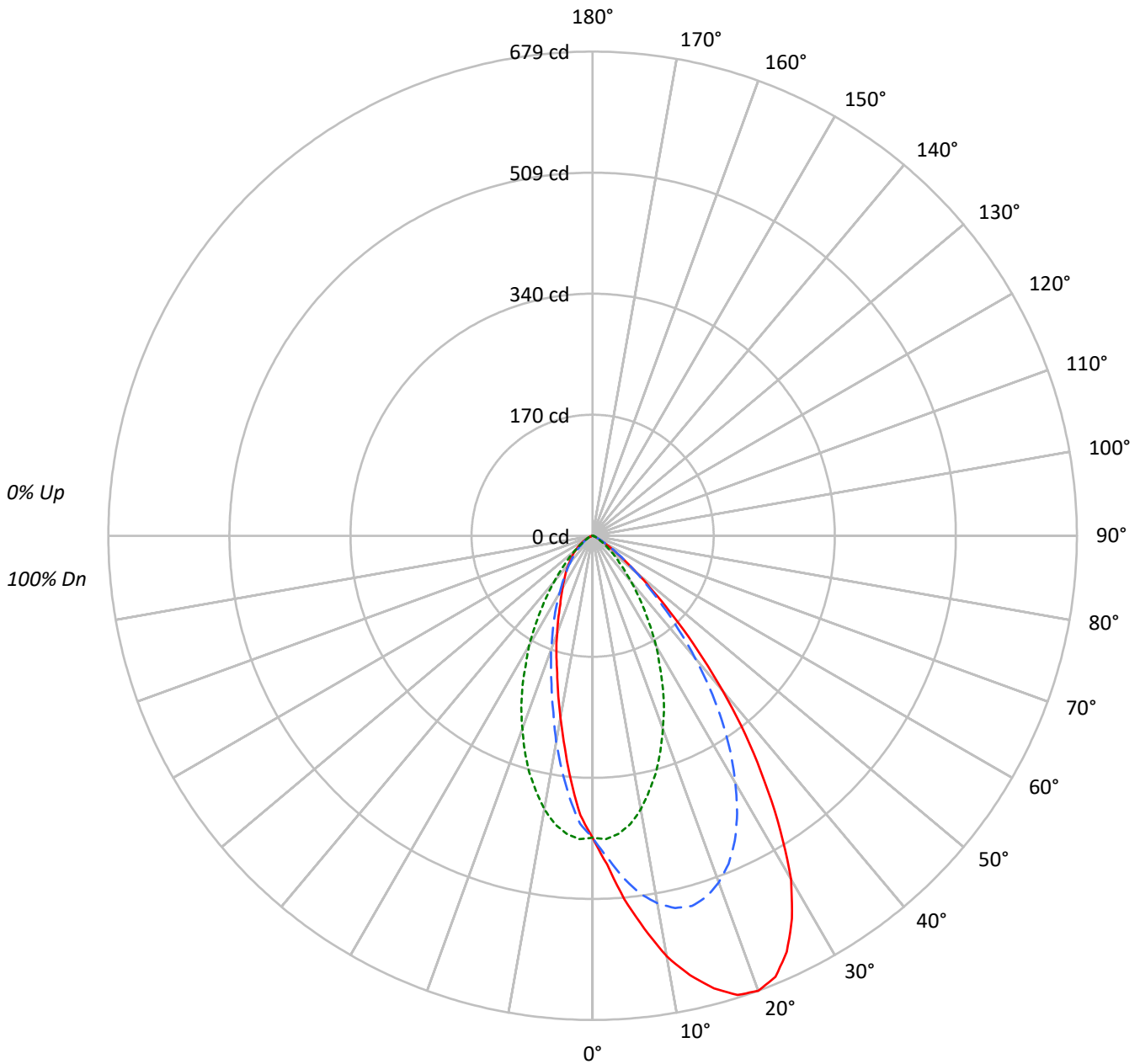
Lumens per Lamp: N/A
Luminaire Lumens: 499.3 lumens
Efficiency: N/A
Efficacy: 52.6 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 0.81 / 0.99
Luminous Opening: Circular (Dia: 0.25' x H: 0')
CIE Type: Direct

Input Watts (W): 9.5
Input Voltage (V): NR
Input Current (A_{in}): 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					100			
1	113	110	107	104	110	108	105	103	103	101	100	100	98	97	96	95	94	92					92			
2	106	101	96	92	104	99	95	91	96	92	89	93	90	87	90	88	86	84					84			
3	100	93	87	83	98	91	86	82	89	84	81	86	82	79	84	81	78	76					76			
4	94	86	79	75	92	84	79	74	82	77	73	80	76	72	78	74	71	70					70			
5	89	79	73	68	87	78	72	67	76	71	67	75	70	66	73	69	66	64					64			
6	83	73	67	62	82	73	66	62	71	65	61	70	65	61	68	64	60	59					59			
7	79	68	62	57	77	68	61	57	66	61	56	65	60	56	64	59	56	54					54			
8	74	64	57	52	73	63	57	52	62	56	52	61	56	52	60	55	52	50					50			
9	70	60	53	49	69	59	53	49	58	52	48	57	52	48	56	51	48	47					47			
10	67	56	50	45	66	55	49	45	55	49	45	54	49	45	53	48	45	43					43			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	92822	92822	92822	92822	92822
5°	112591	105657	92340	81246	76117
10°	133375	116553	86683	65352	57648
15°	149150	122044	77935	50329	43746
20°	158447	120679	67183	39530	33953
25°	155767	114152	56229	30776	26058
30°	140832	101357	45146	23447	21370
35°	112458	84564	33542	17882	17882
40°	80952	63920	23988	13883	14971
45°	49804	43074	16219	10730	12683
50°	27496	26643	10951	7949	10302
55°	13725	15292	6996	6002	8181
60°	6359	7587	4956	4429	6096
65°	2958	3606	3580	2958	3580
70°	1218	1795	2436	1603	1988
75°	508	1101	1101	1101	1101
80°	0	0	758	758	758
85°	0	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 20°
 Vertical Angle: 45°
 Luminance: 50021 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.0	8.0
10°-20°	107.2	21.5
20°-30°	137.7	27.6
30°-40°	117.0	23.4
40°-50°	64.5	12.9
50°-60°	24.2	4.9
60°-70°	7.1	1.4
70°-80°	1.4	0.3
80°-90°	0.1	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°	284.9	57.1
0°-40°	401.9	80.5
0°-60°	490.7	98.3
0°-90°	499.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	499.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	423	423	423	423	423	
5°	512	480	420	369	346	51
15°	657	538	343	222	193	186
25°	644	472	232	127	108	292
35°	420	316	125	67	67	261
45°	161	139	52	35	41	128
55°	36	40	18	16	21	36
65°	6	7	7	6	7	6
75°	1	1	1	1	1	1
85°	0	0	0	0	0	0
90°	0	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°	423.3	423.3	423.3	423.3	423.3	423.3	423.3	423.3	423.3	423.3	423.3
2.5°	461.1	461.1	459.8	456.7	452.3	448.5	442.2	437.1	431.5	425.8	413.2
5°	511.5	509.6	503.9	496.4	486.9	473.1	459.8	447.2	432.7	419.5	390.5
7.5°	555.6	553.0	545.5	531.0	515.9	495.7	473.1	450.4	428.3	407.5	364.1
10°	599.0	593.4	582.0	562.5	537.9	509.0	478.1	447.9	417.0	389.3	336.4
12.5°	631.2	626.1	610.4	586.4	553.0	516.5	476.8	437.8	400.6	366.6	304.9
15°	657.0	650.7	630.5	599.7	559.3	515.9	468.0	423.9	381.1	343.3	272.7
17.5°	675.2	665.8	641.2	602.8	556.2	505.8	456.0	403.8	358.4	316.2	241.9
20°	679.0	670.8	642.5	599.7	544.9	489.4	433.4	379.8	331.3	287.9	212.9
22.5°	669.6	660.8	630.5	585.2	528.5	467.4	409.4	354.6	303.0	261.4	186.4
25°	643.8	634.9	604.7	560.0	503.3	440.3	377.9	323.8	275.3	232.4	160.6
27.5°	605.3	592.1	568.2	524.1	469.3	408.2	345.8	292.3	243.1	202.8	136.7
30°	556.2	539.2	519.0	480.6	429.0	371.6	311.8	258.9	213.5	178.3	117.2
32.5°	490.1	483.8	462.3	430.2	386.8	332.0	276.5	227.4	184.6	149.9	100.2
35°	420.1	413.8	402.5	376.0	339.5	292.3	240.6	193.4	156.2	125.3	82.5
37.5°	352.1	345.8	335.7	319.4	287.9	251.3	205.3	164.4	131.0	103.3	68.7
40°	282.8	280.3	272.1	260.1	238.1	208.5	171.3	136.1	106.5	83.8	55.4
42.5°	217.9	216.7	211.0	204.1	190.2	166.3	141.1	109.6	84.4	66.8	44.1
45°	160.6	157.5	161.3	155.6	147.4	130.4	108.3	85.0	64.9	52.3	34.6
47.5°	114.6	115.3	117.2	118.4	112.1	98.3	81.3	62.4	50.4	42.8	28.3
50°	80.6	80.0	84.4	88.2	82.5	73.7	58.6	47.9	38.4	32.1	22.7
52.5°	55.4	56.1	61.1	63.6	62.4	52.3	41.6	33.4	28.3	23.9	17.6
55°	35.9	37.8	41.6	44.7	44.1	35.9	29.0	23.9	21.4	18.3	13.9
57.5°	23.3	23.9	27.7	30.2	29.6	23.9	19.5	17.6	15.7	13.9	10.1
60°	14.5	15.1	17.6	20.2	18.9	15.7	13.2	12.6	12.0	11.3	8.8
62.5°	8.8	9.4	11.3	13.2	12.0	10.1	8.8	9.4	9.4	8.8	6.9
65°	5.7	5.7	6.9	8.2	7.6	6.3	6.3	6.9	7.6	6.9	5.7
67.5°	3.1	3.8	4.4	5.0	4.4	4.4	5.0	5.7	5.7	5.7	4.4
70°	1.9	2.5	2.5	2.5	2.5	3.1	3.1	3.8	4.4	3.8	3.1
72.5°	1.3	1.3	1.3	1.9	1.9	1.9	1.9	2.5	2.5	2.5	2.5
75°	0.6	0.6	0.6	0.6	1.3	1.3	1.3	1.3	1.3	1.3	1.3
77.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6
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°	423.3	423.3	423.3
2.5°	404.4	398.1	392.4
5°	369.1	354.0	345.8
7.5°	330.7	307.4	299.2
10°	293.5	265.2	258.9
12.5°	254.5	231.2	223.6
15°	221.7	199.7	192.7
17.5°	193.4	173.2	168.8
20°	169.4	151.2	145.5
22.5°	146.1	129.8	125.3
25°	127.2	112.8	107.7
27.5°	109.0	97.0	95.1
30°	92.6	85.0	84.4
32.5°	78.7	73.7	75.0
35°	66.8	64.9	66.8
37.5°	58.0	57.3	59.2
40°	48.5	49.8	52.3
42.5°	40.9	44.1	46.6
45°	34.6	39.1	40.9
47.5°	28.3	34.0	35.9
50°	23.3	29.6	30.2
52.5°	18.9	24.6	25.8
55°	15.7	20.2	21.4
57.5°	13.2	16.4	17.0
60°	10.1	12.6	13.9
62.5°	7.6	10.1	10.1
65°	5.7	6.9	6.9
67.5°	3.8	5.0	5.0
70°	2.5	3.1	3.1
72.5°	1.9	1.9	1.9
75°	1.3	1.3	1.3
77.5°	0.6	0.6	0.6
80°	0.6	0.6	0.6
82.5°	0.6	0.6	0.6
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
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





— 0°-180° - - 45°-225° - - - 90°-270°

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