

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: P886515

Luminaire Tested: ML310LSFL95FS1E-TIR4D25AWW-TL3RWMB-850LM-4000K

Issue Date: 7/5/2024

Test Information

Test Method: LM-79-2019
Report Number: P886515
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-12)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/5/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML310LSFL95FS1E-TIR4D25AWW-TL3RWMB-850LM-4000K
Description: 3IN ROUND ML FLEX, SELECTABLE CCT, WITH WW TIR, MATTE BLACK TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 4000K CCT
Ballast/Driver: -

Summary

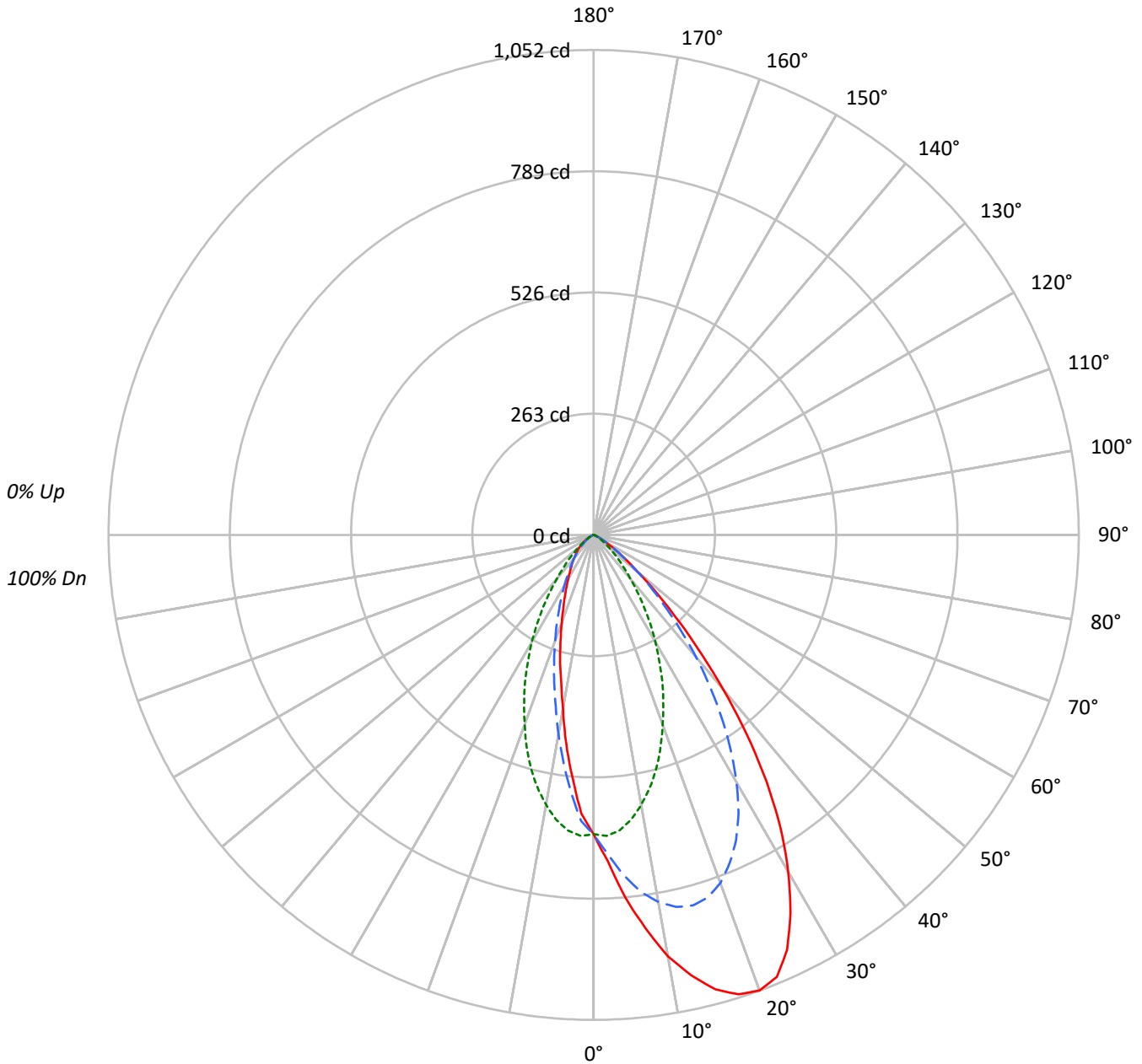
Lumens per Lamp: N/A
Luminaire Lumens: 752.0 lumens
Efficiency: N/A
Efficacy: 55.3 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 0.8 / 0.98
Luminous Opening: Circular (Dia: 0.25' x H: 0')
CIE Type: Direct

Input Watts (W): 13.6
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	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92					92			
2	106	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84					84			
3	100	93	87	83	98	92	86	82	89	85	81	86	83	80	84	81	78	77					77			
4	94	86	80	75	92	85	79	75	82	78	74	80	76	73	78	75	72	70					70			
5	89	79	73	68	87	78	72	68	77	71	67	75	70	67	73	69	66	64					64			
6	84	74	67	62	82	73	67	62	71	66	62	70	65	61	69	64	61	59					59			
7	79	69	62	57	78	68	62	57	67	61	57	65	60	56	64	60	56	55					55			
8	75	64	57	53	73	63	57	53	62	57	53	61	56	52	60	56	52	51					51			
9	71	60	53	49	69	59	53	49	58	53	49	58	52	49	57	52	48	47					47			
10	67	56	50	46	66	56	50	46	55	49	45	54	49	45	53	49	45	44					44			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	142379	142379	142379	142379	142379
5°	173849	162810	141602	123486	116200
10°	206698	180001	132284	97660	85146
15°	231715	188877	119161	74961	63792
20°	245441	187476	102116	56682	47067
25°	240159	176780	85239	42728	35688
30°	213704	156796	67859	32030	27954
35°	174910	129362	50781	24173	22566
40°	124691	98685	35610	18664	18950
45°	77496	66906	24282	13707	15878
50°	42813	41431	15761	9927	12656
55°	23397	23588	9214	7302	9596
60°	11008	11666	6184	5263	6622
65°	5189	5189	4151	3113	3632
70°	1923	2244	2565	1282	1282
75°	847	847	847	0	0
80°	0	0	0	0	0
85°	0	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 10°
 Vertical Angle: 45°
 Luminance: 78117 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.3	8.2
10°-20°	163.7	21.8
20°-30°	208.8	27.8
30°-40°	176.3	23.4
40°-50°	96.6	12.8
50°-60°	35.1	4.7
60°-70°	9.1	1.2
70°-80°	1.1	0.1
80°-90°	0.0	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°	433.8	57.7
0°-40°	610.2	81.1
0°-60°	741.8	98.6
0°-90°	752.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	752.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	649	649	649	649	649	
5°	790	740	643	561	528	79
15°	1021	832	525	330	281	288
25°	993	731	352	177	148	449
35°	653	483	190	90	84	402
45°	250	216	78	44	51	199
55°	61	62	24	19	25	59
65°	10	10	8	6	7	11
75°	1	1	1	0	0	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°	649.3	649.3	649.3	649.3	649.3	649.3	649.3	649.3	649.3	649.3	649.3
2.5°	708.6	706.5	705.5	704.5	696.5	688.5	678.4	670.4	662.4	653.4	634.3
5°	789.8	788.8	777.8	767.8	749.7	729.6	709.6	686.5	663.4	643.3	599.2
7.5°	860.1	858.1	843.0	824.0	796.9	763.8	729.6	691.5	655.4	623.2	554.0
10°	928.3	921.3	900.2	869.1	831.0	785.8	737.7	687.5	637.3	594.1	509.8
12.5°	978.5	971.5	948.4	906.3	855.1	797.9	735.7	674.4	615.2	562.0	459.7
15°	1020.7	1007.6	978.5	928.3	867.1	796.9	723.6	652.4	584.1	524.9	409.5
17.5°	1044.8	1032.7	994.6	936.4	864.1	783.8	702.5	622.2	548.0	482.7	360.3
20°	1051.8	1036.7	995.6	929.4	847.1	759.7	672.4	585.1	507.8	437.6	317.1
22.5°	1037.7	1020.7	974.5	907.3	818.0	723.6	633.3	545.0	462.7	394.4	273.0
25°	992.6	980.5	932.4	864.1	779.8	681.5	587.1	498.8	419.5	352.3	233.8
27.5°	924.3	913.3	871.1	806.9	725.6	635.3	537.9	449.6	372.3	307.1	200.7
30°	844.0	832.0	797.9	741.7	665.4	573.1	484.7	400.4	327.2	268.0	170.6
32.5°	754.7	742.7	707.6	661.4	594.1	511.8	431.6	350.3	282.0	227.8	144.5
35°	653.4	644.3	619.2	573.1	517.9	448.6	372.3	300.1	236.9	189.7	120.4
37.5°	546.0	535.9	520.9	490.8	444.6	383.4	317.1	250.9	196.7	154.6	96.3
40°	435.6	431.6	423.5	400.4	370.3	319.2	266.0	207.7	159.6	124.4	78.3
42.5°	333.2	332.2	331.2	317.1	296.1	259.9	212.8	164.6	128.5	97.4	62.2
45°	249.9	251.9	249.9	244.9	227.8	203.7	167.6	130.5	99.4	78.3	47.2
47.5°	181.7	183.7	184.7	186.7	177.6	154.6	124.4	99.4	75.3	60.2	38.1
50°	125.5	130.5	133.5	135.5	128.5	114.4	92.3	71.3	55.2	46.2	31.1
52.5°	90.3	91.3	96.3	98.4	94.3	80.3	64.2	48.2	41.1	34.1	24.1
55°	61.2	61.2	68.2	71.3	67.2	56.2	43.2	34.1	29.1	24.1	18.1
57.5°	38.1	40.1	45.2	48.2	45.2	37.1	29.1	24.1	21.1	19.1	13.0
60°	25.1	27.1	29.1	32.1	30.1	23.1	19.1	17.1	16.1	14.1	10.0
62.5°	16.1	17.1	19.1	21.1	18.1	14.1	13.0	12.0	11.0	11.0	8.0
65°	10.0	10.0	12.0	13.0	11.0	9.0	9.0	9.0	9.0	8.0	6.0
67.5°	6.0	6.0	7.0	7.0	6.0	6.0	6.0	6.0	6.0	6.0	4.0
70°	3.0	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.0
72.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0	2.0	2.0
75°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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°	649.3	649.3	649.3
2.5°	621.2	611.2	605.2
5°	561.0	536.9	527.9
7.5°	498.8	467.7	456.6
10°	438.6	397.4	382.4
12.5°	380.4	341.2	325.2
15°	330.2	292.1	281.0
17.5°	285.0	249.9	237.9
20°	242.9	212.8	201.7
22.5°	208.8	181.7	171.6
25°	176.6	152.6	147.5
27.5°	149.5	130.5	127.5
30°	126.5	111.4	110.4
32.5°	106.4	97.4	96.3
35°	90.3	83.3	84.3
37.5°	77.3	73.3	75.3
40°	65.2	63.2	66.2
42.5°	54.2	55.2	58.2
45°	44.2	48.2	51.2
47.5°	36.1	42.2	44.2
50°	29.1	36.1	37.1
52.5°	23.1	30.1	30.1
55°	19.1	24.1	25.1
57.5°	15.1	19.1	19.1
60°	12.0	15.1	15.1
62.5°	9.0	10.0	11.0
65°	6.0	7.0	7.0
67.5°	4.0	5.0	5.0
70°	2.0	3.0	2.0
72.5°	1.0	1.0	1.0
75°	0.0	0.0	0.0
77.5°	0.0	0.0	0.0
80°	0.0	0.0	0.0
82.5°	0.0	0.0	0.0
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
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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