

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: P886671

Luminaire Tested: ML310LSFL9FS1E-TIR4D25AWW-TL3SWSL-1000LM-5000K

Issue Date: 7/8/2024

Test Information

Test Method: LM-79-2019
Report Number: P886671
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-23)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/8/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML310LSFL9FS1E-TIR4D25AWW-TL3SWSL-1000LM-5000K
Description: 3IN SQUARE ML FLEX, SELECTABLE CCT, WITH WW TIR, METALLIC SILVER TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: -

Summary

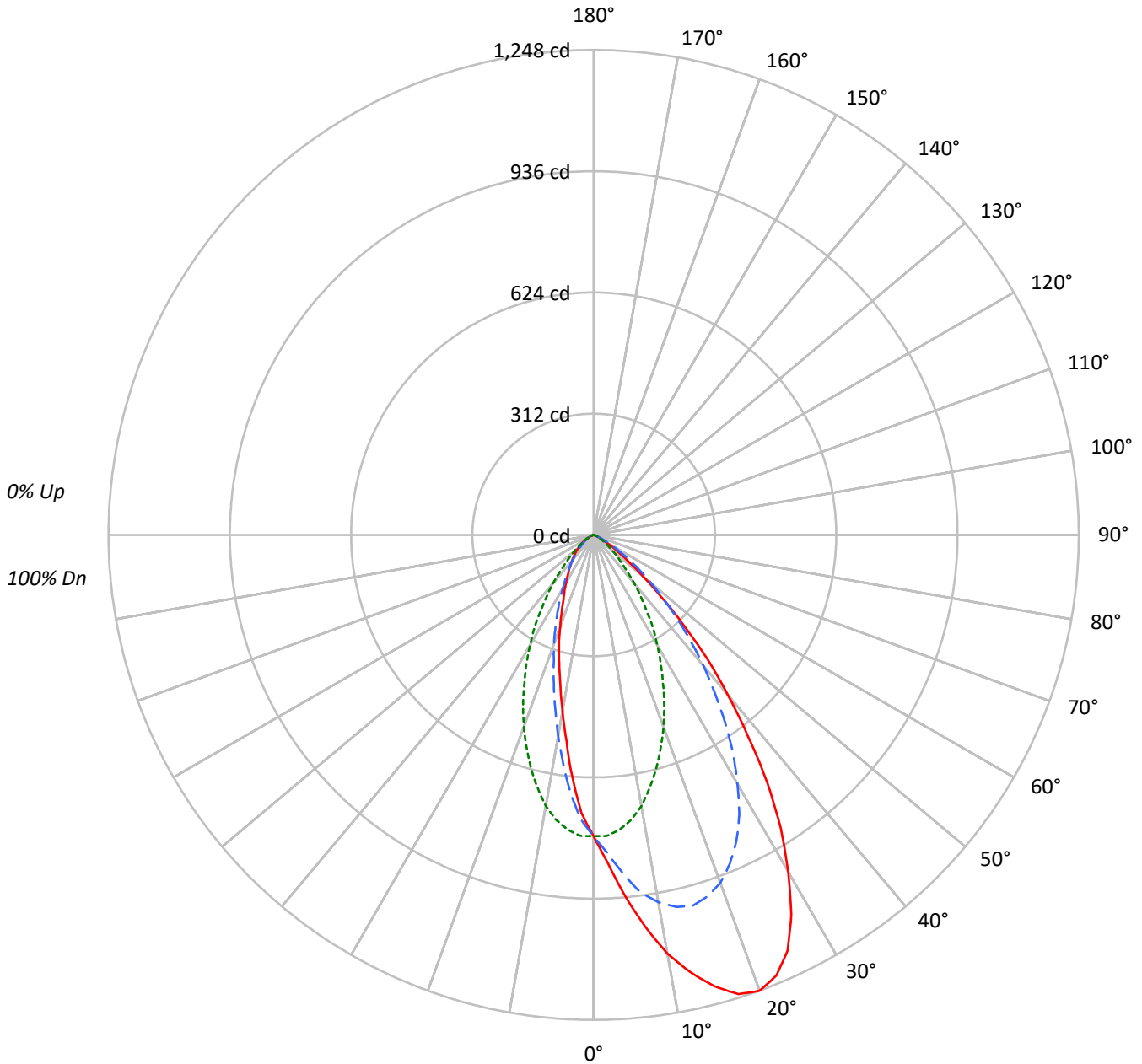
Lumens per Lamp: N/A
Luminaire Lumens: 931.0 lumens
Efficiency: N/A
Efficacy: 67.5 lumens/watt
Spacing Criteria (0/90/45): 1.13 / 0.81 / 0.99
Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')
CIE Type: Direct

Input Watts (W): 13.8
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	107	105	103	103	101	99	100	98	96	96	95	94	92					92			
2	106	101	96	92	104	99	95	91	95	92	89	92	90	87	90	87	85	83					83			
3	100	92	87	82	98	91	86	81	88	84	80	86	82	79	83	80	78	76					76			
4	94	85	79	74	92	84	78	73	82	77	73	80	75	72	78	74	71	69					69			
5	88	79	72	67	86	78	71	67	76	70	66	74	69	65	72	68	65	63					63			
6	83	73	66	61	81	72	65	61	70	65	60	69	64	60	67	63	60	58					58			
7	78	68	61	56	77	67	60	56	66	60	56	64	59	55	63	58	55	53					53			
8	74	63	56	52	72	62	56	51	61	55	51	60	55	51	59	54	51	49					49			
9	70	59	52	48	68	58	52	48	57	52	48	56	51	47	55	51	47	46					46			
10	66	55	49	44	65	55	49	44	54	48	44	53	48	44	52	47	44	42					42			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	133541	133541	133541	133541	133541
5°	161505	151288	131649	115830	108413
10°	191353	167832	123850	91829	80480
15°	214510	176069	110973	70463	60960
20°	228783	174625	96238	54598	46094
25°	224231	165190	80172	41844	34794
30°	198925	147061	65009	31341	28120
35°	163760	123792	49471	24115	23148
40°	120661	98764	36488	18773	19537
45°	78475	73677	24551	14126	16367
50°	44396	51550	16772	10556	13343
55°	23661	32728	11140	8347	10779
60°	11194	17567	7578	6372	7991
65°	5664	8965	5664	4238	4727
70°	3525	4079	3525	2316	2316
75°	1530	1530	1530	1530	799
80°	0	1190	1190	0	0
85°	0	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 82713 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.7	7.8
10°-20°	194.6	20.9
20°-30°	249.8	26.8
30°-40°	215.5	23.1
40°-50°	127.7	13.7
50°-60°	52.2	5.6
60°-70°	15.6	1.7
70°-80°	2.8	0.3
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°	517.1	55.5
0°-40°	732.6	78.7
0°-60°	912.5	98.0
0°-90°	931.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	931.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	775	775	775	775	775	
5°	934	875	762	670	627	94
15°	1203	988	622	395	342	340
25°	1180	869	422	220	183	533
35°	779	589	235	115	110	480
45°	322	302	101	58	67	256
55°	79	109	37	28	36	76
65°	14	22	14	10	12	16
75°	2	2	2	2	1	3
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	775.4	775.4	775.4	775.4	775.4	775.4	775.4	775.4	775.4
2.5°	845.0	838.0	819.5	796.3	775.4	749.9	733.7	724.4	716.3
5°	934.2	920.3	875.1	820.6	761.5	708.2	670.0	641.0	627.1
7.5°	1016.5	989.9	928.4	831.1	739.5	663.0	595.8	554.0	535.5
10°	1094.2	1055.9	959.7	829.9	708.2	606.2	525.1	471.7	460.2
12.5°	1153.3	1111.6	980.6	817.2	666.5	552.9	456.7	412.6	395.2
15°	1203.1	1144.0	987.5	796.3	622.4	490.3	395.2	352.4	341.9
17.5°	1239.1	1161.4	974.8	765.0	573.7	434.7	340.8	306.0	296.7
20°	1248.3	1163.7	952.8	723.3	525.1	381.3	297.9	260.8	251.5
22.5°	1227.5	1140.5	915.7	674.6	474.1	331.5	256.2	223.7	214.4
25°	1180.0	1089.5	869.3	621.3	421.9	286.3	220.2	190.1	183.1
27.5°	1101.1	1024.6	811.4	564.5	374.4	243.4	187.8	163.4	162.3
30°	1000.3	931.9	739.5	508.8	326.9	208.6	157.6	142.6	141.4
32.5°	896.0	841.5	667.6	450.9	284.0	178.5	134.5	125.2	125.2
35°	778.9	741.8	588.8	389.5	235.3	148.4	114.7	109.0	110.1
37.5°	651.4	629.4	510.0	331.5	197.0	121.7	97.4	93.9	97.4
40°	536.7	528.5	439.3	275.9	162.3	100.8	83.5	82.3	86.9
42.5°	433.5	425.4	366.3	229.5	127.5	81.1	68.4	73.0	76.5
45°	322.2	339.6	302.5	180.8	100.8	63.7	58.0	64.9	67.2
47.5°	235.3	256.2	241.1	139.1	82.3	53.3	47.5	56.8	58.0
50°	165.7	188.9	192.4	109.0	62.6	42.9	39.4	48.7	49.8
52.5°	114.7	134.5	149.5	82.3	47.5	33.6	33.6	41.7	41.7
55°	78.8	97.4	109.0	58.0	37.1	25.5	27.8	34.8	35.9
57.5°	51.0	66.1	76.5	42.9	26.7	19.7	23.2	27.8	29.0
60°	32.5	44.0	51.0	30.1	22.0	17.4	18.5	22.0	23.2
62.5°	22.0	30.1	32.5	22.0	16.2	13.9	13.9	17.4	17.4
65°	13.9	19.7	22.0	17.4	13.9	10.4	10.4	12.7	11.6
67.5°	9.3	11.6	13.9	12.7	10.4	8.1	7.0	8.1	7.0
70°	7.0	7.0	8.1	9.3	7.0	5.8	4.6	5.8	4.6
72.5°	4.6	3.5	4.6	5.8	4.6	4.6	3.5	2.3	2.3
75°	2.3	2.3	2.3	3.5	2.3	2.3	2.3	1.2	1.2
77.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.0	0.0
80°	0.0	0.0	1.2	0.0	1.2	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
85°	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
90°	0.0	0.0	0.0	0.0	0.0	0.0	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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— 0°-180° - - 45°-225° - - - - 90°-270°

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