

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: P886670

Luminaire Tested: ML310LSFL9FS1E-TIR4D25AWW-TL3SWSL-1000LM-4000K

Issue Date: 7/8/2024

Test Information

Test Method: LM-79-2019
Report Number: P886670
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-4000K
Description: 3IN SQUARE ML FLEX, SELECTABLE CCT, WITH WW TIR, METALLIC SILVER TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

Summary

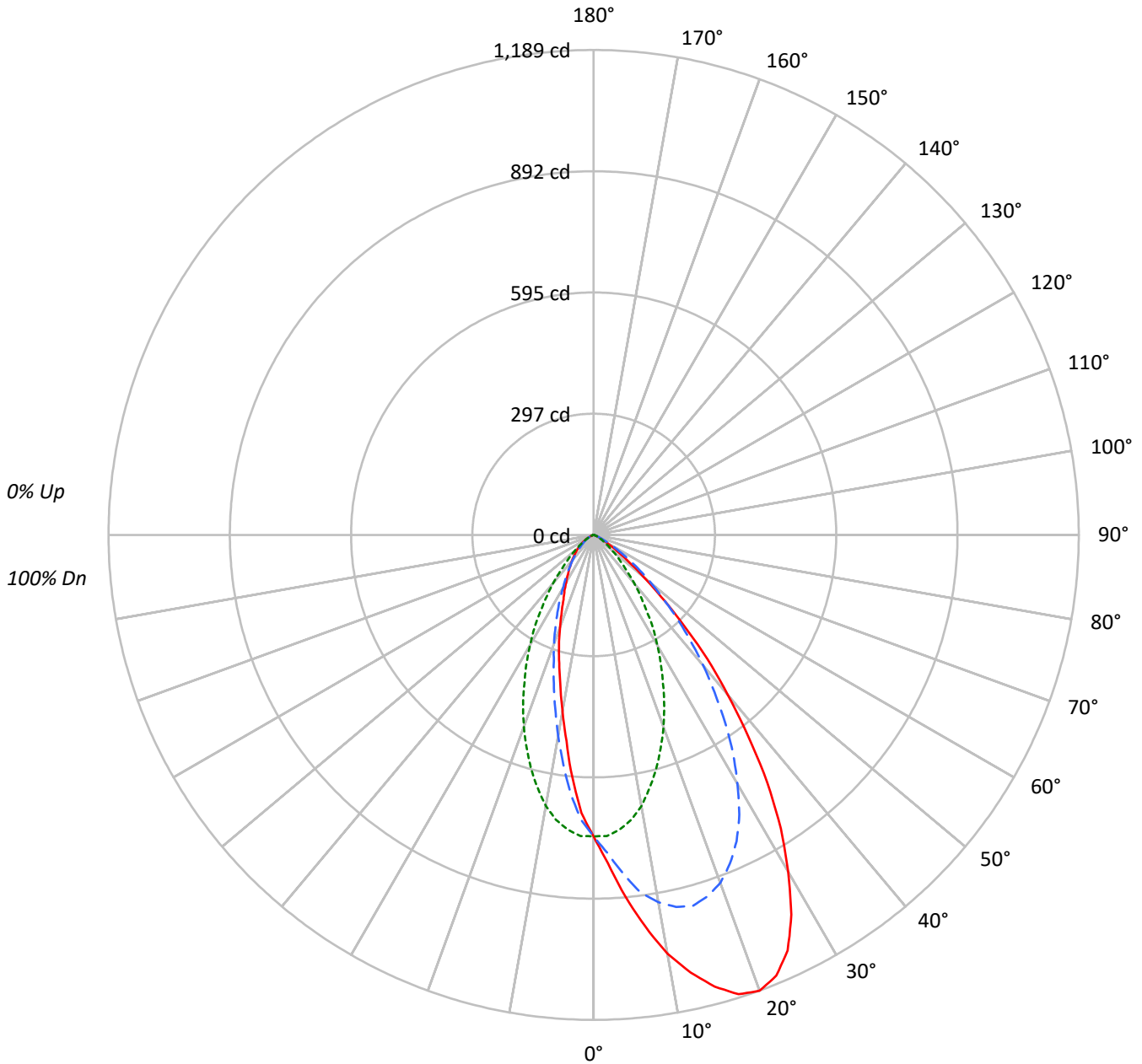
Lumens per Lamp: N/A
Luminaire Lumens: 887.0 lumens
Efficiency: N/A
Efficacy: 64.3 lumens/watt
Spacing Criteria (0/90/45): 1.13 / 0.81 / 0.99
Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')
CIE Type: Direct

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					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°	127238	127238	127238	127238	127238
5°	153881	144148	125442	110350	103296
10°	182312	159910	118009	87492	76667
15°	204401	167761	105749	67147	58089
20°	217988	166378	91693	52014	43931
25°	213647	157399	76391	39868	33160
30°	189539	140121	61927	29870	26787
35°	156044	117947	47137	22980	22055
40°	114951	94110	34757	17873	18615
45°	74773	70194	23406	13444	15612
50°	42306	49112	15969	10047	12727
55°	22550	31167	10599	7957	10269
60°	10643	16740	7233	6097	7612
65°	5420	8558	5420	4034	4483
70°	3323	3877	3323	2216	2216
75°	1464	1464	1464	1464	732
80°	0	1091	1091	0	0
85°	0	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 78816 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.3	7.8
10°-20°	185.4	20.9
20°-30°	238.0	26.8
30°-40°	205.3	23.2
40°-50°	121.7	13.7
50°-60°	49.7	5.6
60°-70°	14.9	1.7
70°-80°	2.7	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°	492.7	55.5
0°-40°	698.0	78.7
0°-60°	869.4	98.0
0°-90°	887.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	887.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	739	739	739	739	739	
5°	890	834	726	638	598	89
15°	1146	941	593	377	326	324
25°	1124	828	402	210	174	508
35°	742	561	224	109	105	458
45°	307	288	96	55	64	244
55°	75	104	35	26	34	72
65°	13	21	13	10	11	15
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°	738.8	738.8	738.8	738.8	738.8	738.8	738.8	738.8	738.8
2.5°	805.1	798.5	780.8	758.7	738.8	714.5	699.1	690.2	682.5
5°	890.1	876.9	833.8	781.9	725.6	674.8	638.3	610.7	597.5
7.5°	968.6	943.2	884.6	791.8	704.6	631.7	567.7	527.9	510.2
10°	1042.5	1006.1	914.4	790.7	674.8	577.6	500.3	449.5	438.4
12.5°	1098.9	1059.1	934.3	778.6	635.0	526.8	435.1	393.2	376.6
15°	1146.4	1090.0	940.9	758.7	593.1	467.2	376.6	335.7	325.8
17.5°	1180.6	1106.6	928.8	728.9	546.7	414.1	324.7	291.6	282.7
20°	1189.4	1108.8	907.8	689.1	500.3	363.3	283.8	248.5	239.7
22.5°	1169.6	1086.7	872.5	642.8	451.7	315.9	244.1	213.1	204.3
25°	1124.3	1038.1	828.3	592.0	402.0	272.8	209.8	181.1	174.5
27.5°	1049.2	976.3	773.1	537.8	356.7	231.9	178.9	155.7	154.6
30°	953.1	887.9	704.6	484.8	311.4	198.8	150.2	135.8	134.7
32.5°	853.7	801.8	636.1	429.6	270.6	170.1	128.1	119.3	119.3
35°	742.2	706.8	561.0	371.1	224.2	141.4	109.3	103.8	104.9
37.5°	620.7	599.7	485.9	315.9	187.7	116.0	92.8	89.5	92.8
40°	511.3	503.6	418.6	262.8	154.6	96.1	79.5	78.4	82.8
42.5°	413.0	405.3	349.0	218.7	121.5	77.3	65.2	69.6	72.9
45°	307.0	323.6	288.2	172.3	96.1	60.7	55.2	61.8	64.1
47.5°	224.2	244.1	229.7	132.5	78.4	50.8	45.3	54.1	55.2
50°	157.9	180.0	183.3	103.8	59.6	40.9	37.5	46.4	47.5
52.5°	109.3	128.1	142.5	78.4	45.3	32.0	32.0	39.8	39.8
55°	75.1	92.8	103.8	55.2	35.3	24.3	26.5	33.1	34.2
57.5°	48.6	63.0	72.9	40.9	25.4	18.8	22.1	26.5	27.6
60°	30.9	42.0	48.6	28.7	21.0	16.6	17.7	21.0	22.1
62.5°	21.0	28.7	30.9	21.0	15.5	13.3	13.3	16.6	16.6
65°	13.3	18.8	21.0	16.6	13.3	9.9	9.9	12.1	11.0
67.5°	8.8	11.0	13.3	12.1	9.9	7.7	6.6	7.7	6.6
70°	6.6	6.6	7.7	8.8	6.6	5.5	4.4	5.5	4.4
72.5°	4.4	3.3	4.4	5.5	4.4	4.4	3.3	2.2	2.2
75°	2.2	2.2	2.2	3.3	2.2	2.2	2.2	1.1	1.1
77.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0
80°	0.0	0.0	1.1	0.0	1.1	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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Scaled Data Report





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

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