

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: P886667

Luminaire Tested: ML310LSFL9FS1E-TIR4D25AWW-TL3SWSL-1000LM-2700K

Issue Date: 7/8/2024

Test Information

Test Method: LM-79-2019
Report Number: P886667
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-2700K
Description: 3IN SQUARE ML FLEX, SELECTABLE CCT, WITH WW TIR, METALLIC SILVER TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

Summary

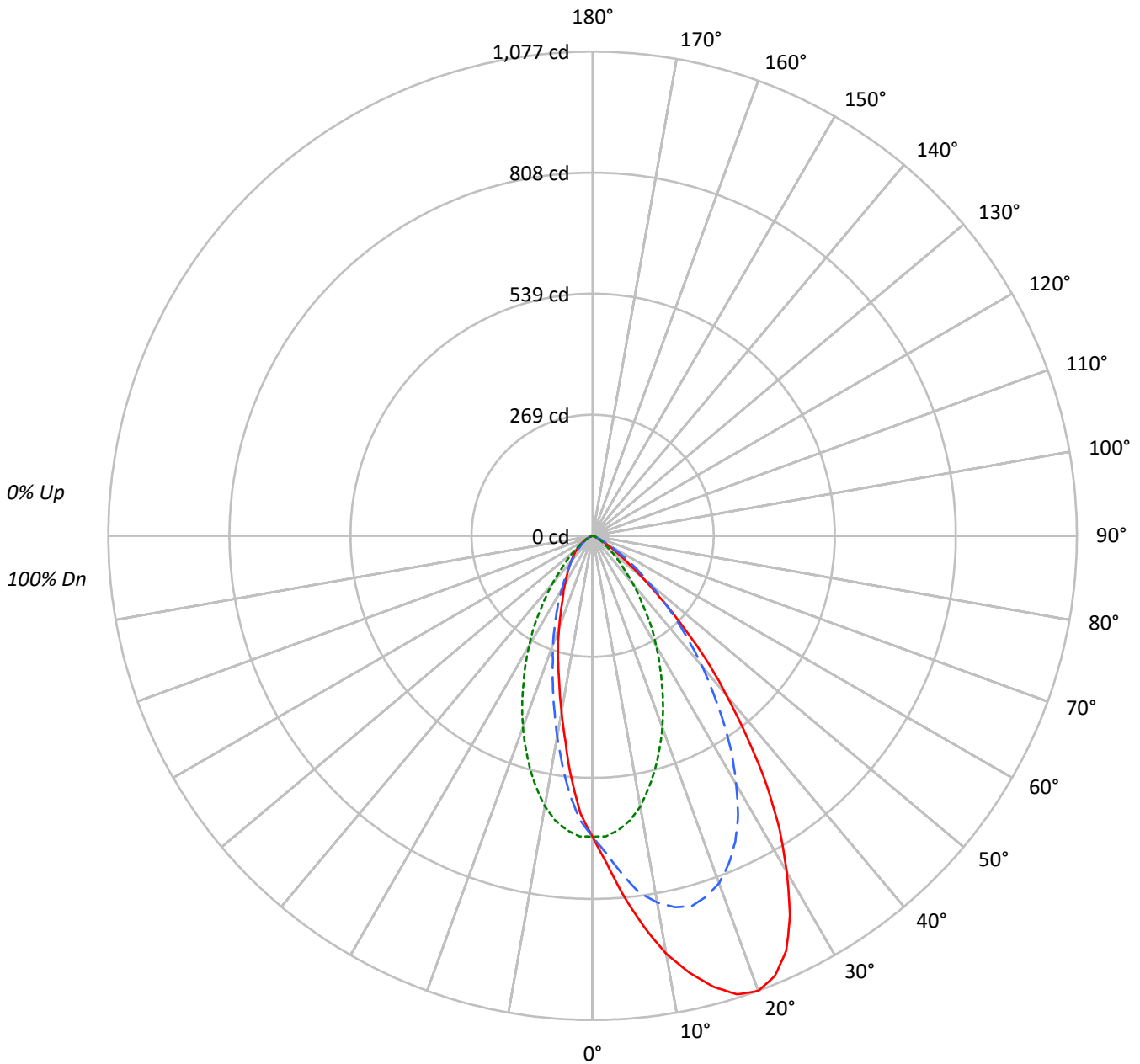
Lumens per Lamp: N/A
Luminaire Lumens: 803.5 lumens
Efficiency: N/A
Efficacy: 58.2 lumens/watt
Spacing Criteria (0/90/45): 1.13 / 0.81 / 0.99
Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')
CIE Type: Direct

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								
1	113	110	107	104	110	107	105	103	103	101	99	100	98	96	96	95	94	92								
2	106	101	96	92	104	99	95	91	95	92	89	92	90	87	90	87	85	83								
3	100	92	87	82	98	91	86	81	88	84	80	86	82	79	83	80	78	76								
4	94	85	79	74	92	84	78	73	82	77	73	80	75	72	78	74	71	69								
5	88	79	72	67	86	78	71	67	76	70	66	74	69	65	72	68	65	63								
6	83	73	66	61	81	72	65	61	70	65	60	69	64	60	67	63	60	58								
7	78	68	61	56	77	67	60	56	66	60	56	64	59	55	63	58	55	53								
8	74	63	56	52	72	62	56	51	61	55	51	60	55	51	59	54	51	49								
9	70	59	52	48	68	58	52	48	57	52	48	56	51	47	55	51	47	46								
10	66	55	49	44	65	55	49	44	54	48	44	53	48	44	52	47	44	42								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	115251	115251	115251	115251	115251
5°	139394	130577	113617	99960	93563
10°	165139	144853	106886	79255	69445
15°	185145	151963	95782	60817	52616
20°	197461	150707	83060	47120	39789
25°	193523	142577	69189	36124	30043
30°	171681	126916	56100	27066	24262
35°	141327	106847	42701	20814	19973
40°	104137	85230	31497	16187	16862
45°	67734	63593	21190	12178	14126
50°	38341	44503	14468	9110	11521
55°	20418	28225	9608	7206	9308
60°	9644	15156	6544	5511	6889
65°	4890	7743	4890	3668	4075
70°	3021	3525	3021	2014	2014
75°	1331	1331	1331	1331	665
80°	0	992	992	0	0
85°	0	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 71387 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.7	7.8
10°-20°	168.0	20.9
20°-30°	215.6	26.8
30°-40°	186.0	23.1
40°-50°	110.2	13.7
50°-60°	45.0	5.6
60°-70°	13.5	1.7
70°-80°	2.4	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°	446.3	55.5
0°-40°	632.3	78.7
0°-60°	787.5	98.0
0°-90°	803.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	803.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	669	669	669	669	669	
5°	806	755	657	578	541	81
15°	1038	852	537	341	295	294
25°	1018	750	364	190	158	460
35°	672	508	203	99	95	414
45°	278	261	87	50	58	221
55°	68	94	32	24	31	66
65°	12	19	12	9	10	14
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°	669.2	669.2	669.2	669.2	669.2	669.2	669.2	669.2	669.2
2.5°	729.3	723.3	707.3	687.3	669.2	647.2	633.2	625.2	618.2
5°	806.3	794.3	755.3	708.3	657.2	611.2	578.2	553.2	541.2
7.5°	877.3	854.3	801.3	717.3	638.2	572.2	514.2	478.2	462.2
10°	944.3	911.3	828.3	716.3	611.2	523.2	453.2	407.2	397.1
12.5°	995.4	959.4	846.3	705.3	575.2	477.2	394.1	356.1	341.1
15°	1038.4	987.4	852.3	687.3	537.2	423.2	341.1	304.1	295.1
17.5°	1069.4	1002.4	841.3	660.2	495.2	375.1	294.1	264.1	256.1
20°	1077.4	1004.4	822.3	624.2	453.2	329.1	257.1	225.1	217.1
22.5°	1059.4	984.4	790.3	582.2	409.2	286.1	221.1	193.1	185.1
25°	1018.4	940.3	750.3	536.2	364.1	247.1	190.1	164.1	158.1
27.5°	950.4	884.3	700.3	487.2	323.1	210.1	162.1	141.1	140.1
30°	863.3	804.3	638.2	439.2	282.1	180.1	136.1	123.0	122.0
32.5°	773.3	726.3	576.2	389.1	245.1	154.1	116.0	108.0	108.0
35°	672.2	640.2	508.2	336.1	203.1	128.0	99.0	94.0	95.0
37.5°	562.2	543.2	440.2	286.1	170.1	105.0	84.0	81.0	84.0
40°	463.2	456.2	379.1	238.1	140.1	87.0	72.0	71.0	75.0
42.5°	374.1	367.1	316.1	198.1	110.0	70.0	59.0	63.0	66.0
45°	278.1	293.1	261.1	156.1	87.0	55.0	50.0	56.0	58.0
47.5°	203.1	221.1	208.1	120.0	71.0	46.0	41.0	49.0	50.0
50°	143.1	163.1	166.1	94.0	54.0	37.0	34.0	42.0	43.0
52.5°	99.0	116.0	129.0	71.0	41.0	29.0	29.0	36.0	36.0
55°	68.0	84.0	94.0	50.0	32.0	22.0	24.0	30.0	31.0
57.5°	44.0	57.0	66.0	37.0	23.0	17.0	20.0	24.0	25.0
60°	28.0	38.0	44.0	26.0	19.0	15.0	16.0	19.0	20.0
62.5°	19.0	26.0	28.0	19.0	14.0	12.0	12.0	15.0	15.0
65°	12.0	17.0	19.0	15.0	12.0	9.0	9.0	11.0	10.0
67.5°	8.0	10.0	12.0	11.0	9.0	7.0	6.0	7.0	6.0
70°	6.0	6.0	7.0	8.0	6.0	5.0	4.0	5.0	4.0
72.5°	4.0	3.0	4.0	5.0	4.0	4.0	3.0	2.0	2.0
75°	2.0	2.0	2.0	3.0	2.0	2.0	2.0	1.0	1.0
77.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0
80°	0.0	0.0	1.0	0.0	1.0	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
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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