

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: P886668

Luminaire Tested: ML310LSFL9FS1E-TIR4D25AWW-TL3SWSL-1000LM-3000K

Issue Date: 7/8/2024

Test Information

Test Method: LM-79-2019
Report Number: P886668
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-3000K
Description: 3IN SQUARE ML FLEX, SELECTABLE CCT, WITH WW TIR, METALLIC SILVER TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

Summary

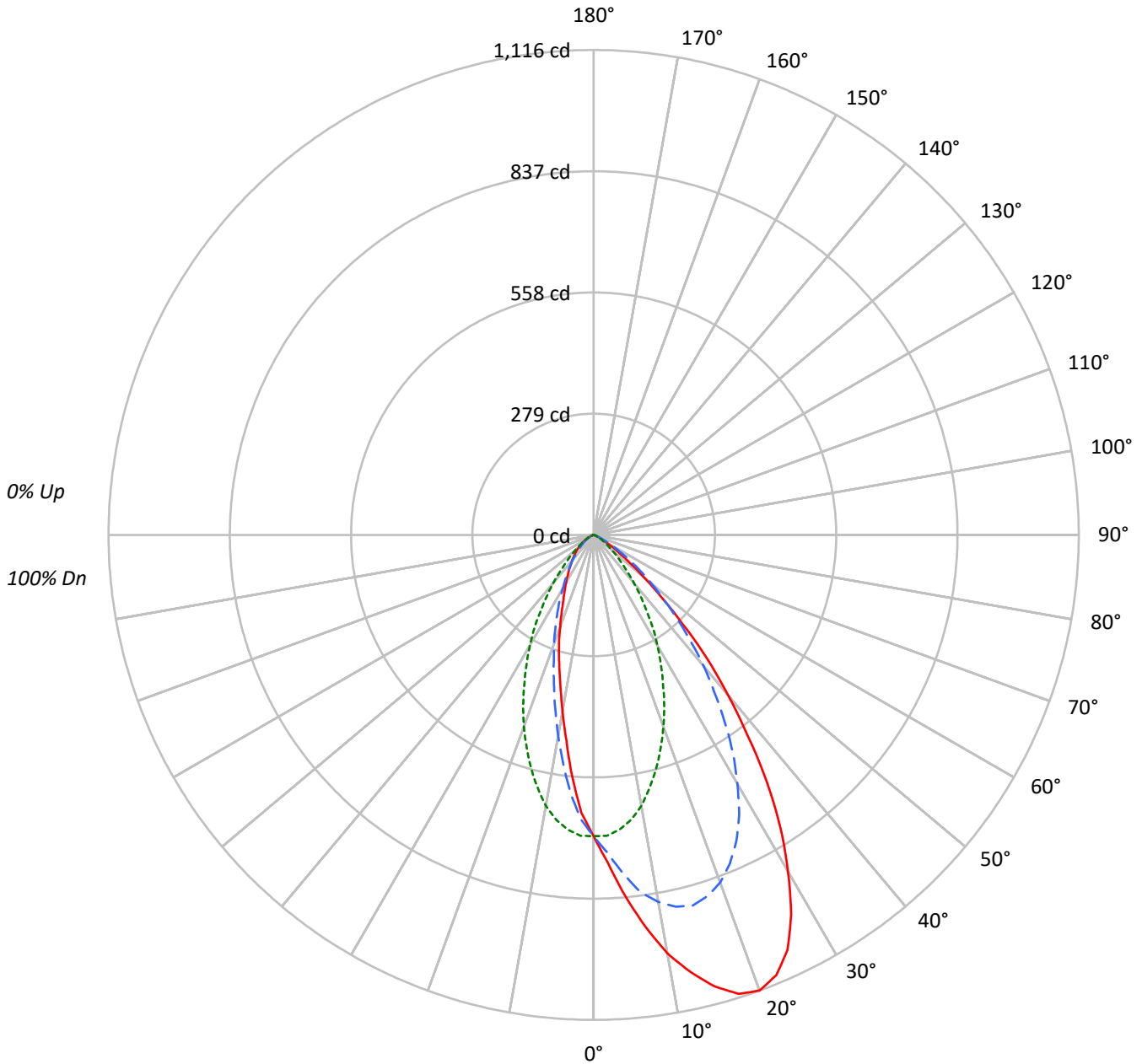
Lumens per Lamp: N/A
Luminaire Lumens: 832.0 lumens
Efficiency: N/A
Efficacy: 60.3 lumens/watt
Spacing Criteria (0/90/45): 1.13 / 0.81 / 0.99
Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')
CIE Type: Direct

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										
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	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°	119350	119350	119350	119350	119350
5°	144355	135210	117662	103521	96882
10°	171015	149994	110681	82071	71928
15°	191724	157366	99187	62975	54488
20°	204480	156059	86011	48788	41200
25°	200402	147632	71659	37397	31107
30°	177786	131430	58089	28020	25137
35°	146352	110631	44215	21571	20688
40°	107824	88265	32599	16772	17469
45°	70145	65859	21945	12616	14638
50°	39681	46084	14977	9431	11923
55°	21138	29245	9939	7476	9638
60°	9989	15707	6786	5718	7130
65°	5053	8028	5053	3790	4238
70°	3122	3676	3122	2065	2065
75°	1397	1397	1397	1397	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: 73920 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	65.0	7.8
10°-20°	173.9	20.9
20°-30°	223.2	26.8
30°-40°	192.6	23.2
40°-50°	114.1	13.7
50°-60°	46.6	5.6
60°-70°	14.0	1.7
70°-80°	2.5	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°	462.1	55.5
0°-40°	654.8	78.7
0°-60°	815.5	98.0
0°-90°	832.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	832.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	693	693	693	693	693	
5°	835	782	681	599	560	84
15°	1075	883	556	353	306	304
25°	1055	777	377	197	164	476
35°	696	526	210	103	98	429
45°	288	270	90	52	60	229
55°	70	97	33	25	32	68
65°	12	20	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°	693.0	693.0	693.0	693.0	693.0	693.0	693.0	693.0	693.0
2.5°	755.2	749.0	732.4	711.7	693.0	670.2	655.7	647.5	640.2
5°	835.0	822.5	782.1	733.4	680.6	632.9	598.8	572.9	560.4
7.5°	908.5	884.7	829.8	742.8	660.9	592.5	532.5	495.2	478.6
10°	977.9	943.7	857.7	741.7	632.9	541.8	469.3	421.6	411.3
12.5°	1030.7	993.4	876.4	730.3	595.7	494.1	408.2	368.8	353.2
15°	1075.3	1022.5	882.6	711.7	556.3	438.2	353.2	314.9	305.6
17.5°	1107.4	1038.0	871.2	683.7	512.8	388.5	304.6	273.5	265.2
20°	1115.7	1040.1	851.5	646.4	469.3	340.8	266.2	233.1	224.8
22.5°	1097.0	1019.3	818.4	602.9	423.7	296.3	228.9	199.9	191.6
25°	1054.6	973.8	776.9	555.3	377.1	255.9	196.8	169.9	163.7
27.5°	984.1	915.8	725.1	504.5	334.6	217.5	167.8	146.1	145.0
30°	894.0	832.9	660.9	454.8	292.1	186.5	140.9	127.4	126.4
32.5°	800.8	752.1	596.7	403.0	253.8	159.5	120.2	111.9	111.9
35°	696.1	663.0	526.2	348.1	210.3	132.6	102.6	97.4	98.4
37.5°	582.2	562.5	455.8	296.3	176.1	108.8	87.0	83.9	87.0
40°	479.6	472.4	392.6	246.5	145.0	90.1	74.6	73.6	77.7
42.5°	387.4	380.2	327.4	205.1	114.0	72.5	61.1	65.3	68.4
45°	288.0	303.5	270.4	161.6	90.1	57.0	51.8	58.0	60.1
47.5°	210.3	228.9	215.5	124.3	73.6	47.7	42.5	50.8	51.8
50°	148.1	168.9	172.0	97.4	55.9	38.3	35.2	43.5	44.5
52.5°	102.6	120.2	133.6	73.6	42.5	30.0	30.0	37.3	37.3
55°	70.4	87.0	97.4	51.8	33.1	22.8	24.9	31.1	32.1
57.5°	45.6	59.0	68.4	38.3	23.8	17.6	20.7	24.9	25.9
60°	29.0	39.4	45.6	26.9	19.7	15.5	16.6	19.7	20.7
62.5°	19.7	26.9	29.0	19.7	14.5	12.4	12.4	15.5	15.5
65°	12.4	17.6	19.7	15.5	12.4	9.3	9.3	11.4	10.4
67.5°	8.3	10.4	12.4	11.4	9.3	7.3	6.2	7.3	6.2
70°	6.2	6.2	7.3	8.3	6.2	5.2	4.1	5.2	4.1
72.5°	4.1	3.1	4.1	5.2	4.1	4.1	3.1	2.1	2.1
75°	2.1	2.1	2.1	3.1	2.1	2.1	2.1	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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