

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: P886709

Luminaire Tested: ML310LSFL9FS1E-TIR4D25NFL-TL3SDSL-1000LM-3500K

Issue Date: 7/5/2024

Test Information

Test Method: LM-79-2019
Report Number: P886709
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-14)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/5/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML310LSFL9FS1E-TIR4D25NFL-TL3SDSL-1000LM-3500K
Description: 3IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, METALLIC SILVER TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1164.4 lumens
Efficiency: N/A
Efficacy: 84.4 lumens/watt
Spacing Criteria (0/90/45): 0.5 / 0.49 / 0.52
Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')

CIE Type: Direct

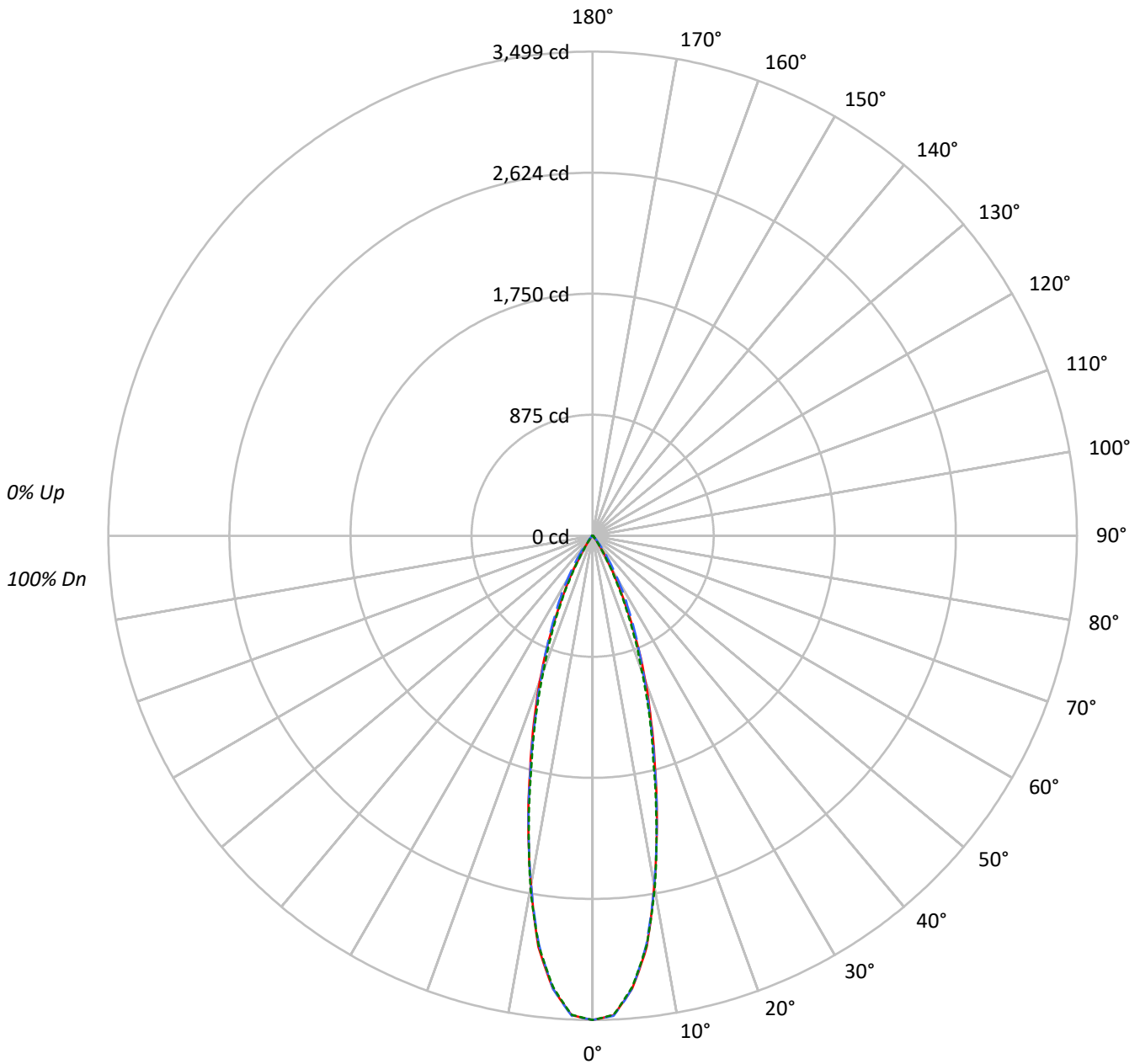
Input Watts (W): 13.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P886709

CATALOG NUMBER: ML310LSFL9FS1E-TIR4D25NFL-TL3SDSL-1000LM-3500K

Luminous Intensity Polar Plot





TEST NUMBER: P886709

CATALOG NUMBER: ML310LSFL9FS1E-TIR4D25NFL-TL3SDSL-1000LM-3500K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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				100															
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95				95															
2	110	106	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91				91															
3	106	101	97	93	104	99	96	93	97	94	91	94	92	90	92	90	88	87				87															
4	102	96	91	88	100	95	91	88	93	89	87	91	88	86	89	87	85	83				83															
5	98	92	87	84	97	91	86	83	89	85	82	88	84	82	86	83	81	80				80															
6	95	88	83	80	94	87	83	79	86	82	79	84	81	78	83	80	78	77				77															
7	92	84	79	76	90	84	79	76	82	78	76	81	78	75	80	77	75	74				74															
8	88	81	76	73	87	80	76	73	79	75	73	79	75	72	78	74	72	71				71															
9	86	78	73	70	85	78	73	70	77	73	70	76	72	70	75	72	69	68				68															
10	83	75	71	68	82	75	70	67	74	70	67	73	70	67	73	69	67	66				66															

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	602624	602624	602624
5°	567964	567964	565942
10°	448566	448006	452308
15°	310613	308883	303178
20°	203326	198817	189214
25°	112306	124695	105598
30°	48245	71830	44208
35°	15958	33702	14612
40°	5036	12500	5531
45°	3118	4944	3385
50°	2572	2867	2572
55°	2252	2552	2252
60°	2204	2204	2204
65°	1752	2160	2160
70°	1611	2165	2165
75°	1397	2129	2129
80°	1091	2083	2083
85°	2174	2174	2174

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 4944 cd/sqm



TEST NUMBER: P886709

CATALOG NUMBER: ML310LSFL9FS1E-TIR4D25NFL-TL3SDSL-1000LM-3500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	290.4	24.9
10°-20°	478.8	41.1
20°-30°	287.1	24.7
30°-40°	77.8	6.7
40°-50°	13.9	1.2
50°-60°	7.0	0.6
60°-70°	5.2	0.4
70°-80°	3.2	0.3
80°-90°	1.2	0.1
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°	1056.3	90.7
0°-40°	1134.1	97.4
0°-60°	1154.9	99.2
0°-90°	1164.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1164.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3499	3499	3499	3499	3499	
5°	3285	3288	3285	3281	3274	291
15°	1742	1738	1732	1711	1700	484
25°	591	631	656	598	556	278
35°	76	106	160	96	70	58
45°	13	14	20	15	14	11
55°	8	8	8	8	8	7
65°	4	5	5	5	5	5
75°	2	3	3	3	3	3
85°	1	1	1	1	1	1
90°	0	0	0	0	0	



TEST NUMBER: P886709

CATALOG NUMBER: ML310LSFL9FS1E-TIR4D25NFL-TL3SDSL-1000LM-3500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3499.1	3499.1	3499.1	3499.1	3499.1
2.5°	3468.1	3470.2	3472.4	3468.1	3465.9
5°	3285.3	3288.5	3285.3	3281.0	3273.6
7.5°	2996.8	2977.5	2977.5	2957.2	2985.0
10°	2565.0	2577.8	2561.8	2565.0	2586.4
12.5°	2145.0	2130.0	2141.8	2121.5	2128.9
15°	1742.1	1737.8	1732.4	1711.1	1700.4
17.5°	1405.4	1383.0	1377.6	1360.5	1360.5
20°	1109.4	1111.5	1084.8	1066.6	1032.4
22.5°	839.0	864.6	852.9	821.9	782.3
25°	591.0	630.6	656.2	598.5	555.7
27.5°	396.5	437.1	501.2	427.5	364.4
30°	242.6	284.3	361.2	273.6	222.3
32.5°	142.1	182.8	247.9	167.8	125.0
35°	75.9	105.8	160.3	96.2	69.5
37.5°	38.5	57.7	94.0	54.5	40.6
40°	22.4	29.9	55.6	32.1	24.6
42.5°	16.0	18.2	34.2	20.3	18.2
45°	12.8	13.9	20.3	15.0	13.9
47.5°	10.7	11.8	13.9	11.8	11.8
50°	9.6	9.6	10.7	9.6	9.6
52.5°	7.5	8.5	9.6	8.5	8.5
55°	7.5	7.5	8.5	7.5	7.5
57.5°	6.4	6.4	7.5	6.4	6.4
60°	6.4	6.4	6.4	6.4	6.4
62.5°	5.3	5.3	6.4	5.3	5.3
65°	4.3	5.3	5.3	5.3	5.3
67.5°	4.3	4.3	5.3	5.3	4.3
70°	3.2	4.3	4.3	4.3	4.3
72.5°	3.2	3.2	4.3	4.3	3.2
75°	2.1	3.2	3.2	3.2	3.2
77.5°	2.1	2.1	2.1	3.2	2.1
80°	1.1	2.1	2.1	2.1	2.1
82.5°	1.1	1.1	1.1	2.1	2.1
85°	1.1	1.1	1.1	1.1	1.1
87.5°	0.0	0.0	1.1	1.1	1.1
90°	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



Report Generated By 670245859 / DESKTOP-T8S5UU9

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°

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)