

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: P886733

Luminaire Tested: ML310LSFL9FS1E-TIR4D40FL-TL3SDMW-1000LM-3000K

Issue Date: 7/5/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P886733  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-16)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 7/5/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML310LSFL9FS1E-TIR4D40FL-TL3SDMW-1000LM-3000K  
Description: 3IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, MATTE WHITE TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1315.1 lumens  
Efficiency: N/A  
Efficacy: 95.3 lumens/watt  
Spacing Criteria (0/90/45): 0.69 / 0.68 / 0.65  
Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')  
CIE Type: Direct

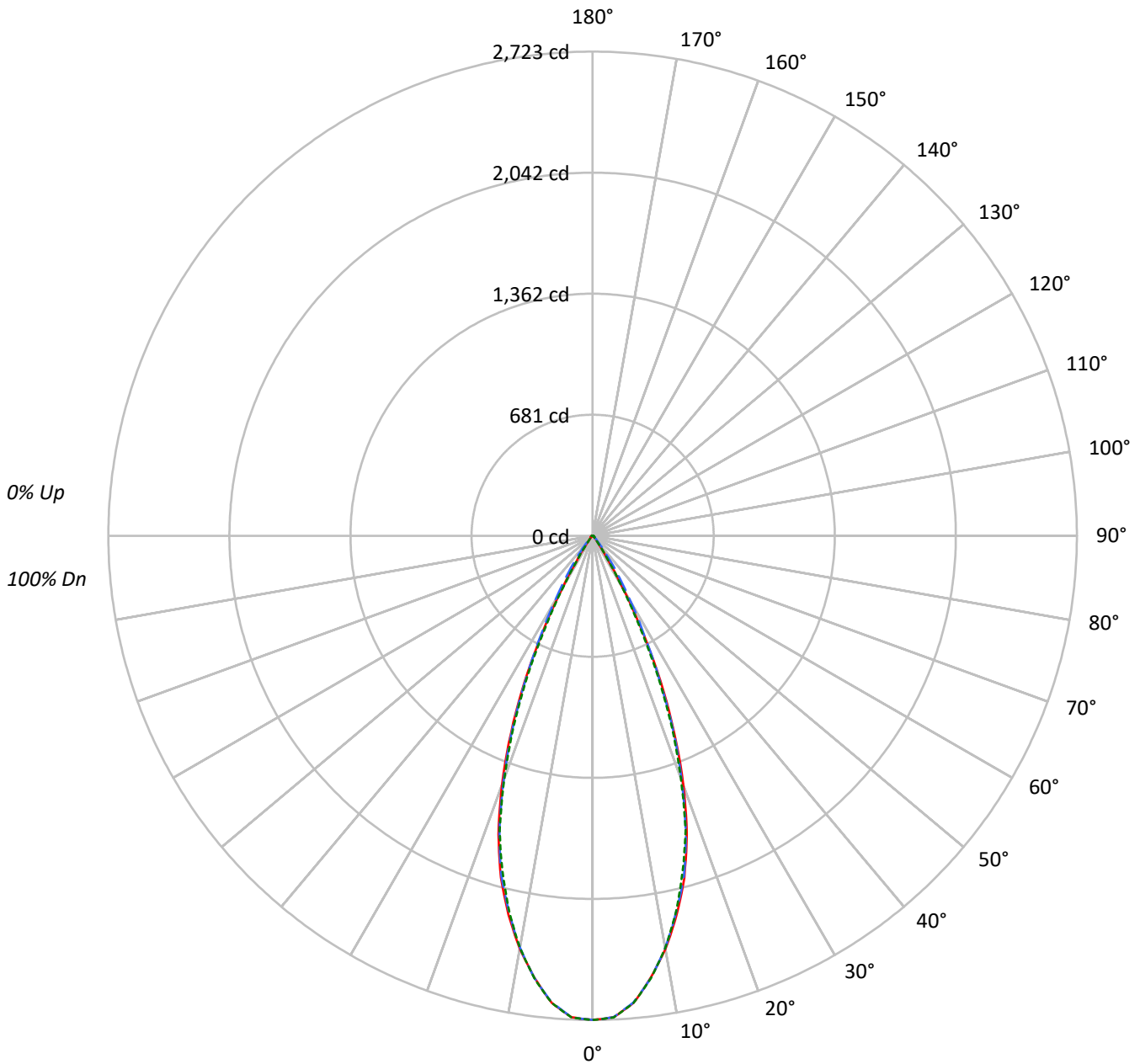
Input Watts (W): 13.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



TEST NUMBER: P886733

CATALOG NUMBER: ML310LSFL9FS1E-TIR4D40FL-TL3SDMW-1000LM-3000K

### Luminous Intensity Polar Plot





TEST NUMBER: P886733

CATALOG NUMBER: ML310LSFL9FS1E-TIR4D40FL-TL3SDMW-1000LM-3000K

**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																			
1	114	112	109	107	112	110	108	106	106	104	102	102	101	99	98	97	97	95																			
2	109	105	102	99	107	103	100	98	100	98	95	97	95	93	95	93	92	90																			
3	105	99	95	92	103	98	94	91	96	92	90	93	90	88	91	89	87	85																			
4	101	94	90	86	99	93	89	86	91	87	85	89	86	84	87	85	83	81																			
5	97	90	85	81	95	89	84	81	87	83	80	86	82	79	84	81	79	77																			
6	93	86	80	77	92	85	80	77	83	79	76	82	78	76	81	78	75	74																			
7	90	82	77	73	88	81	76	73	80	76	73	79	75	72	78	74	72	71																			
8	86	78	73	70	85	78	73	70	77	72	69	76	72	69	75	71	69	68																			
9	83	75	70	67	82	74	70	66	74	69	66	73	69	66	72	68	66	65																			
10	80	72	67	64	79	72	67	64	71	66	64	70	66	63	69	66	63	62																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	468945	468945	468945
5°	456059	455350	456059
10°	412453	411369	411544
15°	354991	353511	348519
20°	273429	268315	265658
25°	171765	167623	162910
30°	66700	85234	61569
35°	15663	37445	15243
40°	6048	13489	6048
45°	3532	5797	3532
50°	3054	3617	3322
55°	3423	3423	3423
60°	3582	3582	3582
65°	3382	3790	3382
70°	3122	3626	3626
75°	3460	3460	3460
80°	3075	3075	4066
85°	1976	4150	4150

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 5797 cd/sqm



TEST NUMBER: P886733

CATALOG NUMBER: ML310LSFL9FS1E-TIR4D40FL-TL3SDMW-1000LM-3000K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	242.3	18.4
10°-20°	540.4	41.1
20°-30°	400.5	30.5
30°-40°	90.0	6.8
40°-50°	15.6	1.2
50°-60°	10.1	0.8
60°-70°	8.7	0.7
70°-80°	5.6	0.4
80°-90°	2.0	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°	1183.2	90.0
0°-40°	1273.1	96.8
0°-60°	1298.9	98.8
0°-90°	1315.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1315.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2723	2723	2723	2723	2723	
5°	2638	2637	2634	2632	2638	242
15°	1991	1978	1983	1956	1955	545
25°	904	891	882	871	857	403
35°	74	106	178	100	72	69
45°	14	17	24	17	14	12
55°	11	11	11	11	11	10
65°	8	9	9	9	8	8
75°	5	5	5	5	5	5
85°	1	2	2	2	2	2
90°	0	0	0	0	0	



TEST NUMBER: P886733

CATALOG NUMBER: ML310LSFL9FS1E-TIR4D40FL-TL3SDMW-1000LM-3000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2722.9	2722.9	2722.9	2722.9	2722.9
2.5°	2710.5	2712.6	2710.5	2710.5	2711.6
5°	2638.0	2637.0	2633.9	2631.8	2638.0
7.5°	2506.6	2509.7	2508.6	2511.7	2509.7
10°	2358.5	2349.2	2352.3	2348.1	2353.3
12.5°	2183.5	2181.5	2170.1	2167.0	2164.9
15°	1991.0	1977.5	1982.7	1955.8	1954.7
17.5°	1761.1	1751.8	1742.5	1738.3	1738.3
20°	1491.9	1487.8	1464.0	1461.9	1449.5
22.5°	1198.9	1181.3	1182.4	1179.3	1160.6
25°	903.9	891.4	882.1	870.7	857.3
27.5°	601.5	625.3	626.4	599.5	551.8
30°	335.4	386.2	428.6	361.3	309.6
32.5°	165.7	215.4	282.6	198.8	157.4
35°	74.5	105.6	178.1	100.4	72.5
37.5°	40.4	53.8	106.6	51.8	39.3
40°	26.9	32.1	60.0	32.1	26.9
42.5°	18.6	21.7	36.2	21.7	19.7
45°	14.5	16.6	23.8	16.6	14.5
47.5°	12.4	13.5	17.6	13.5	13.5
50°	11.4	12.4	13.5	12.4	12.4
52.5°	11.4	11.4	12.4	11.4	11.4
55°	11.4	11.4	11.4	11.4	11.4
57.5°	10.4	10.4	11.4	10.4	10.4
60°	10.4	10.4	10.4	10.4	10.4
62.5°	9.3	9.3	9.3	9.3	9.3
65°	8.3	9.3	9.3	9.3	8.3
67.5°	7.2	8.3	8.3	8.3	8.3
70°	6.2	7.2	7.2	7.2	7.2
72.5°	6.2	6.2	6.2	6.2	6.2
75°	5.2	5.2	5.2	5.2	5.2
77.5°	4.1	4.1	4.1	5.2	4.1
80°	3.1	3.1	3.1	4.1	4.1
82.5°	2.1	2.1	2.1	3.1	3.1
85°	1.0	2.1	2.1	2.1	2.1
87.5°	1.0	1.0	1.0	1.0	1.0
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)