

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: P886736

Luminaire Tested: ML310LSFL9FS1E-TIR4D40FL-TL3SDMW-1000LM-5000K

Issue Date: 7/5/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P886736  
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-5000K  
Description: 3IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, MATTE WHITE TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 5000K CCT  
Ballast/Driver: -

**Summary**

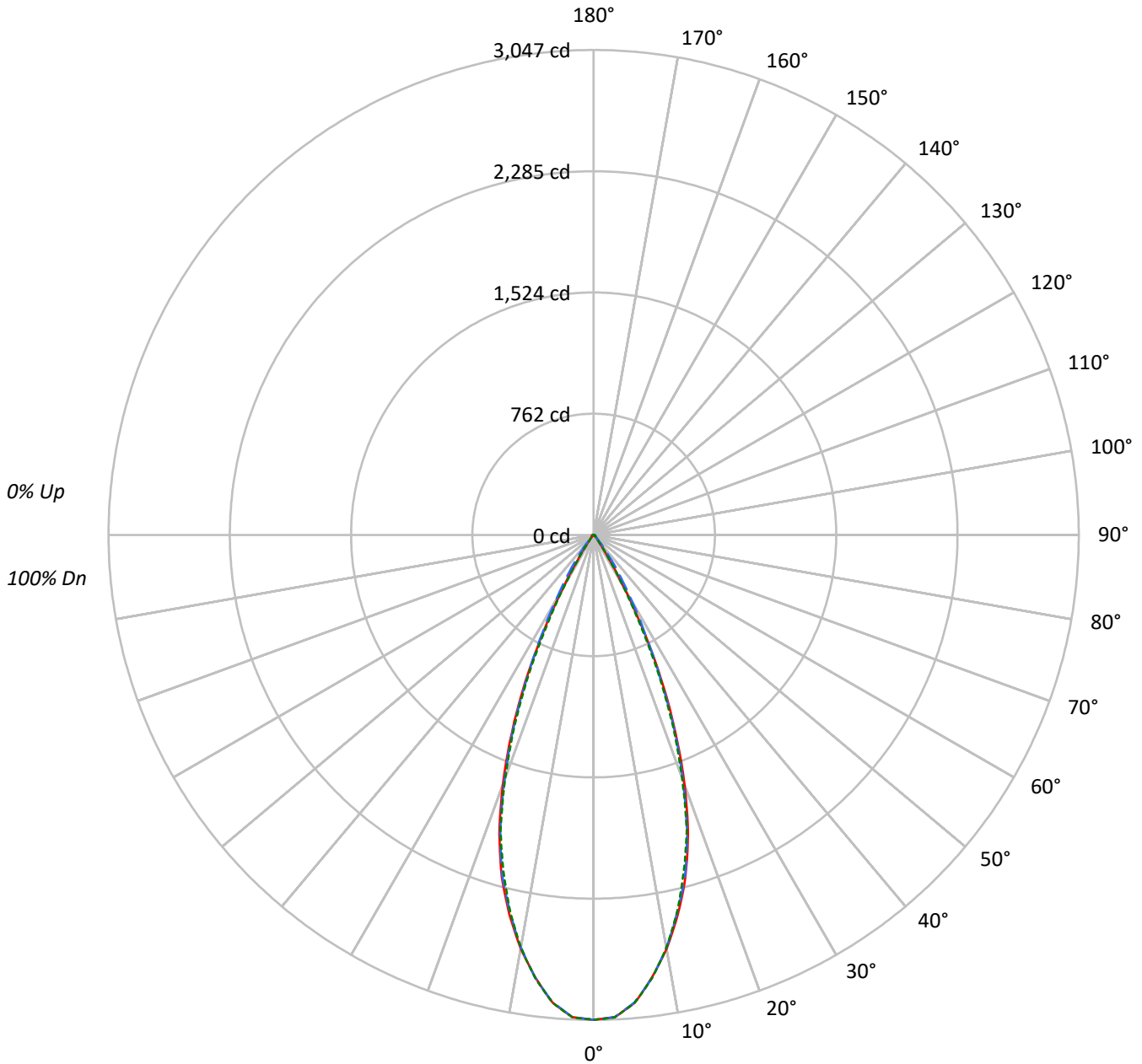
Lumens per Lamp: N/A  
Luminaire Lumens: 1471.5 lumens  
Efficiency: N/A  
Efficacy: 106.6 lumens/watt  
Spacing Criteria (0/90/45): 0.69 / 0.68 / 0.65  
Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')  
CIE Type: Direct

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: P886736  
CATALOG NUMBER: ML310LSFL9FS1E-TIR4D40FL-TL3SDMW-1000LM-5000K

### Luminous Intensity Polar Plot





TEST NUMBER: P886736

CATALOG NUMBER: ML310LSFL9FS1E-TIR4D40FL-TL3SDMW-1000LM-5000K

**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	85	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°	524711	524711	524711
5°	510291	509496	510291
10°	461489	460283	460475
15°	397194	395536	389956
20°	305942	300205	297236
25°	192174	187556	182274
30°	74634	95376	68887
35°	17534	41902	17051
40°	6767	15108	6767
45°	3946	6479	3946
50°	3403	4046	3724
55°	3813	3813	3813
60°	3996	3996	3996
65°	3790	4238	3790
70°	3525	4079	4079
75°	3859	3859	3859
80°	3471	3471	4562
85°	2371	4545	4545

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 6479 cd/sqm



TEST NUMBER: P886736

CATALOG NUMBER: ML310LSFL9FS1E-TIR4D40FL-TL3SDMW-1000LM-5000K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	271.1	18.4
10°-20°	604.6	41.1
20°-30°	448.1	30.5
30°-40°	100.7	6.8
40°-50°	17.5	1.2
50°-60°	11.3	0.8
60°-70°	9.8	0.7
70°-80°	6.2	0.4
80°-90°	2.2	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°	1323.8	90.0
0°-40°	1424.5	96.8
0°-60°	1453.3	98.8
0°-90°	1471.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1471.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3047	3047	3047	3047	3047	
5°	2952	2950	2947	2945	2952	271
15°	2228	2213	2218	2188	2187	609
25°	1011	997	987	974	959	451
35°	83	118	199	112	81	77
45°	16	18	27	18	16	14
55°	13	13	13	13	13	11
65°	9	10	10	10	9	9
75°	6	6	6	6	6	6
85°	1	2	2	2	2	2
90°	0	0	0	0	0	



TEST NUMBER: P886736

CATALOG NUMBER: ML310LSFL9FS1E-TIR4D40FL-TL3SDMW-1000LM-5000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3046.7	3046.7	3046.7	3046.7	3046.7
2.5°	3032.8	3035.1	3032.8	3032.8	3033.9
5°	2951.7	2950.5	2947.1	2944.7	2951.7
7.5°	2804.6	2808.0	2806.9	2810.4	2808.0
10°	2638.9	2628.5	2632.0	2627.3	2633.1
12.5°	2443.1	2440.8	2428.1	2424.6	2422.3
15°	2227.7	2212.6	2218.4	2188.3	2187.1
17.5°	1970.5	1960.1	1949.6	1945.0	1945.0
20°	1669.3	1664.7	1638.0	1635.7	1621.8
22.5°	1341.5	1321.8	1322.9	1319.5	1298.6
25°	1011.3	997.4	987.0	974.2	959.2
27.5°	673.1	699.7	700.9	670.7	617.4
30°	375.3	432.1	479.6	404.3	346.4
32.5°	185.3	241.0	316.3	222.4	176.1
35°	83.4	118.2	199.3	112.4	81.1
37.5°	45.2	60.2	119.3	57.9	44.0
40°	30.1	35.9	67.2	35.9	30.1
42.5°	20.9	24.3	40.5	24.3	22.0
45°	16.2	18.5	26.6	18.5	16.2
47.5°	13.9	15.1	19.7	15.1	15.1
50°	12.7	13.9	15.1	13.9	13.9
52.5°	12.7	12.7	13.9	12.7	12.7
55°	12.7	12.7	12.7	12.7	12.7
57.5°	11.6	11.6	12.7	11.6	11.6
60°	11.6	11.6	11.6	11.6	11.6
62.5°	10.4	10.4	10.4	10.4	10.4
65°	9.3	10.4	10.4	10.4	9.3
67.5°	8.1	9.3	9.3	9.3	9.3
70°	7.0	8.1	8.1	8.1	8.1
72.5°	7.0	7.0	7.0	7.0	7.0
75°	5.8	5.8	5.8	5.8	5.8
77.5°	4.6	4.6	4.6	5.8	4.6
80°	3.5	3.5	3.5	4.6	4.6
82.5°	2.3	2.3	2.3	3.5	3.5
85°	1.2	2.3	2.3	2.3	2.3
87.5°	1.2	1.2	1.2	1.2	1.2
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)