

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: P886739

Luminaire Tested: ML310LSFL9FS1E-TIR4D40FL-TL3SDSL-1000LM-3500K

Issue Date: 7/8/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P886739  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-17)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 7/8/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML310LSFL9FS1E-TIR4D40FL-TL3SDSL-1000LM-3500K  
Description: 3IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, METALLIC SILVER TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

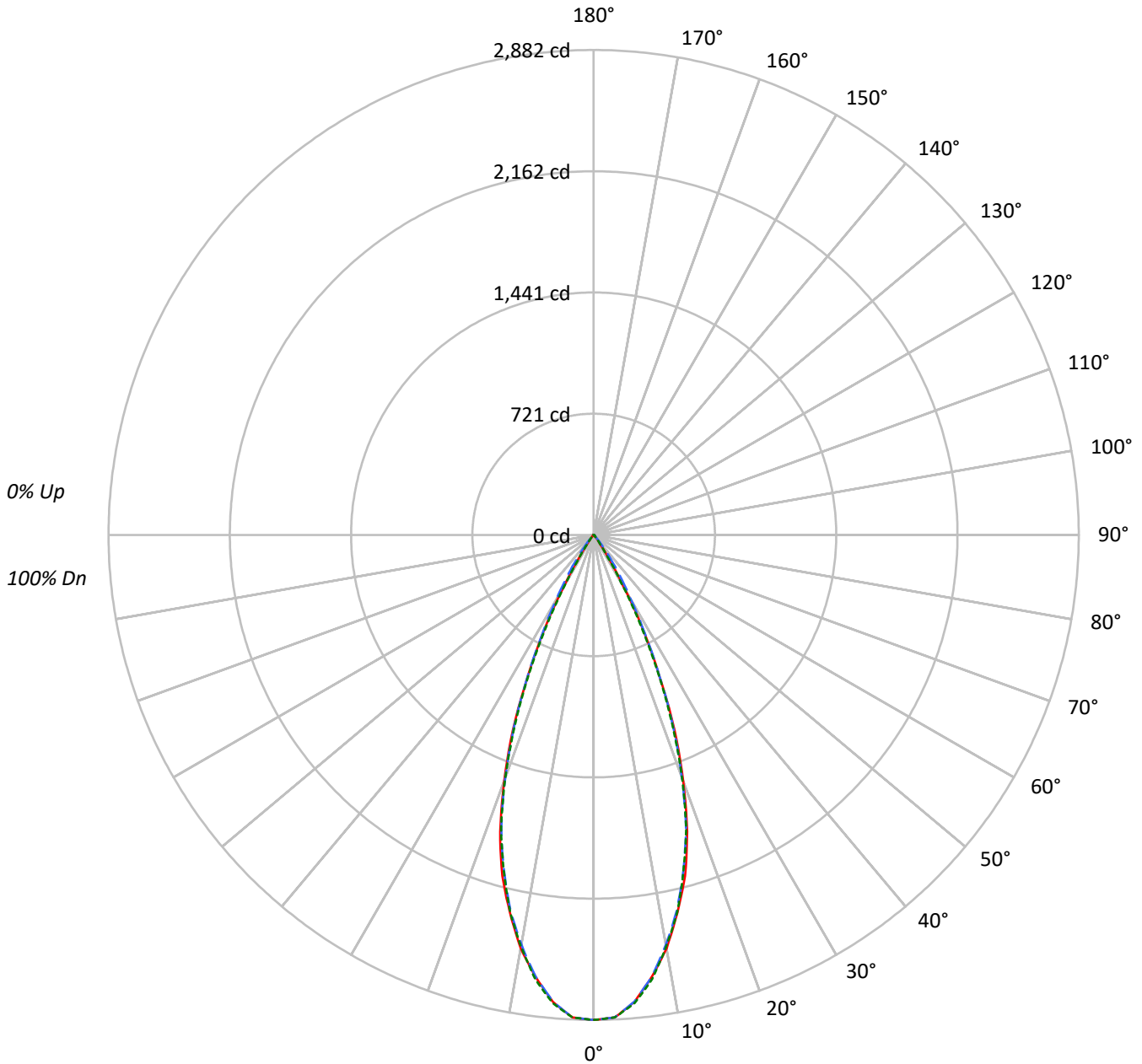
Lumens per Lamp: N/A  
Luminaire Lumens: 1358.0 lumens  
Efficiency: N/A  
Efficacy: 98.4 lumens/watt  
Spacing Criteria (0/90/45): 0.68 / 0.67 / 0.65  
Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')  
CIE Type: Direct

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



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

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

	0°	45°	90°
0°	496363	496363	496363
5°	481420	481057	482907
10°	436289	432354	434226
15°	374051	367561	367757
20°	284883	280961	281548
25°	175243	175851	171993
30°	71273	87441	65109
35°	15285	38685	14612
40°	5058	12500	5283
45°	2338	4433	2338
50°	1715	2304	1715
55°	1591	1922	1591
60°	1481	1826	1481
65°	1304	1752	1752
70°	1611	1611	1611
75°	1397	1397	1397
80°	1091	1091	2083
85°	2174	2174	2174

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 4433 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	256.0	18.9
10°-20°	568.2	41.8
20°-30°	419.7	30.9
30°-40°	90.2	6.6
40°-50°	11.6	0.9
50°-60°	5.1	0.4
60°-70°	3.9	0.3
70°-80°	2.4	0.2
80°-90°	0.8	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°	1243.8	91.6
0°-40°	1334.1	98.2
0°-60°	1350.8	99.5
0°-90°	1358.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1358.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2882	2882	2882	2882	2882	
5°	2785	2783	2783	2782	2793	256
15°	2098	2079	2062	2068	2063	573
25°	922	934	925	921	905	421
35°	73	105	184	93	70	71
45°	10	11	18	11	10	8
55°	5	5	6	5	5	5
65°	3	4	4	4	4	4
75°	2	2	2	2	2	2
85°	1	1	1	1	1	1
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2882.1	2882.1	2882.1	2882.1	2882.1
2.5°	2870.3	2869.2	2870.3	2871.4	2870.3
5°	2784.7	2782.6	2782.6	2781.5	2793.3
7.5°	2647.8	2648.9	2646.7	2654.2	2661.7
10°	2494.8	2475.5	2472.3	2486.2	2483.0
12.5°	2298.0	2299.0	2283.0	2287.3	2294.7
15°	2097.9	2078.6	2061.5	2067.9	2062.6
17.5°	1847.6	1837.9	1824.0	1825.1	1828.3
20°	1554.4	1556.6	1533.0	1541.6	1536.2
22.5°	1256.0	1241.0	1235.6	1226.0	1220.7
25°	922.2	933.9	925.4	921.1	905.1
27.5°	641.9	644.0	654.7	632.3	598.0
30°	358.4	399.0	439.7	378.7	327.4
32.5°	172.2	214.0	293.1	197.9	151.9
35°	72.7	104.8	184.0	93.1	69.5
37.5°	38.5	50.3	102.7	47.1	36.4
40°	22.5	27.8	55.6	27.8	23.5
42.5°	12.8	17.1	31.0	17.1	13.9
45°	9.6	10.7	18.2	10.7	9.6
47.5°	7.5	8.6	10.7	8.6	7.5
50°	6.4	6.4	8.6	6.4	6.4
52.5°	5.3	6.4	6.4	6.4	6.4
55°	5.3	5.3	6.4	5.3	5.3
57.5°	5.3	5.3	5.3	5.3	5.3
60°	4.3	4.3	5.3	5.3	4.3
62.5°	4.3	4.3	4.3	4.3	4.3
65°	3.2	4.3	4.3	4.3	4.3
67.5°	3.2	3.2	4.3	3.2	3.2
70°	3.2	3.2	3.2	3.2	3.2
72.5°	2.1	2.1	3.2	3.2	3.2
75°	2.1	2.1	2.1	2.1	2.1
77.5°	1.1	2.1	2.1	2.1	2.1
80°	1.1	1.1	1.1	2.1	2.1
82.5°	1.1	1.1	1.1	1.1	1.1
85°	1.1	1.1	1.1	1.1	1.1
87.5°	0.0	0.0	0.0	0.0	0.0
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



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Scaled Data Report







— 0°-180°    - - 45°-225°    - - - 90°-270°

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