

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: P886729

Luminaire Tested: ML310LSFL9FS1E-TIR4D40FL-TL3SDMB-1000LM-3500K

Issue Date: 7/8/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P886729  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-18)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 7/8/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML310LSFL9FS1E-TIR4D40FL-TL3SDMB-1000LM-3500K  
Description: 3IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, MATTE BLACK TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1307.8 lumens  
Efficiency: N/A  
Efficacy: 94.8 lumens/watt  
Spacing Criteria (0/90/45): 0.68 / 0.68 / 0.65  
Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')  
CIE Type: Direct

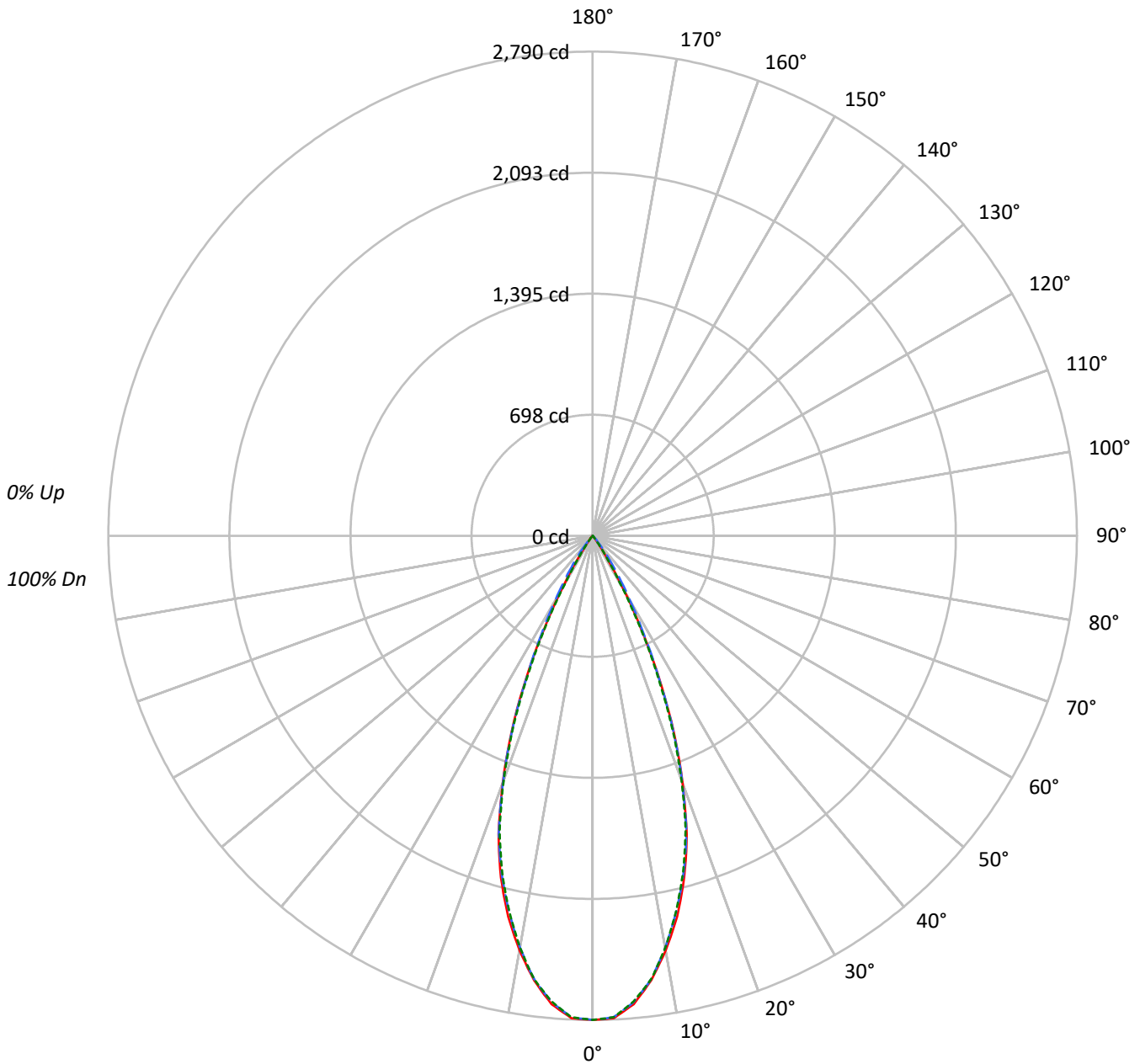
Input Watts (W): 13.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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

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

	0°	45°	90°
0°	480484	480484	480484
5°	468437	466414	465861
10°	424083	421459	421459
15°	363674	360251	358522
20°	277332	276746	274198
25°	171841	170815	166349
30°	70021	85552	62145
35°	14633	36898	13266
40°	3620	11308	3620
45°	779	3118	1047
50°	295	857	295
55°	0	330	0
60°	0	0	0
65°	0	0	0
70°	0	0	0
75°	0	0	0
80°	0	0	0
85°	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 3118 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	248.6	19.0
10°-20°	554.8	42.4
20°-30°	409.8	31.3
30°-40°	87.0	6.7
40°-50°	7.2	0.6
50°-60°	0.4	0.0
60°-70°	0.0	0.0
70°-80°	0.0	0.0
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°	1213.1	92.8
0°-40°	1300.1	99.4
0°-60°	1307.8	100.0
0°-90°	1307.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1307.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2790	2790	2790	2790	2790	
5°	2710	2702	2698	2697	2695	249
15°	2040	2039	2020	2014	2011	558
25°	904	910	899	898	875	407
35°	70	101	176	92	63	67
45°	3	5	13	5	4	4
55°	0	0	1	0	0	0
65°	0	0	0	0	0	0
75°	0	0	0	0	0	0
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°
0°	2789.9	2789.9	2789.9	2789.9	2789.9
2.5°	2782.4	2780.3	2777.1	2777.1	2777.1
5°	2709.6	2702.2	2697.9	2696.8	2694.7
7.5°	2584.4	2575.9	2578.0	2578.0	2578.0
10°	2425.0	2414.3	2410.0	2410.0	2410.0
12.5°	2248.4	2249.5	2221.7	2221.7	2217.4
15°	2039.7	2038.7	2020.5	2014.0	2010.8
17.5°	1803.2	1802.1	1797.9	1781.8	1780.7
20°	1513.2	1518.6	1510.0	1499.3	1496.1
22.5°	1220.0	1214.6	1211.4	1211.4	1196.4
25°	904.3	909.6	898.9	897.9	875.4
27.5°	603.6	642.1	636.7	610.0	583.2
30°	352.1	396.0	430.2	367.1	312.5
32.5°	164.8	209.8	283.6	196.9	150.9
35°	69.6	100.6	175.5	92.0	63.1
37.5°	33.2	46.0	98.5	43.9	30.0
40°	16.1	22.5	50.3	22.5	16.1
42.5°	8.6	11.8	25.7	10.7	8.6
45°	3.2	5.4	12.8	5.4	4.3
47.5°	2.1	2.1	5.4	2.1	2.1
50°	1.1	1.1	3.2	1.1	1.1
52.5°	0.0	1.1	1.1	1.1	0.0
55°	0.0	0.0	1.1	0.0	0.0
57.5°	0.0	0.0	0.0	0.0	0.0
60°	0.0	0.0	0.0	0.0	0.0
62.5°	0.0	0.0	0.0	0.0	0.0
65°	0.0	0.0	0.0	0.0	0.0
67.5°	0.0	0.0	0.0	0.0	0.0
70°	0.0	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0
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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