

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: P886735

Luminaire Tested: ML310LSFL9FS1E-TIR4D40FL-TL3SDMW-1000LM-4000K

Issue Date: 7/5/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P886735  
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-4000K  
Description: 3IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, MATTE WHITE TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1402.0 lumens  
Efficiency: N/A  
Efficacy: 101.6 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

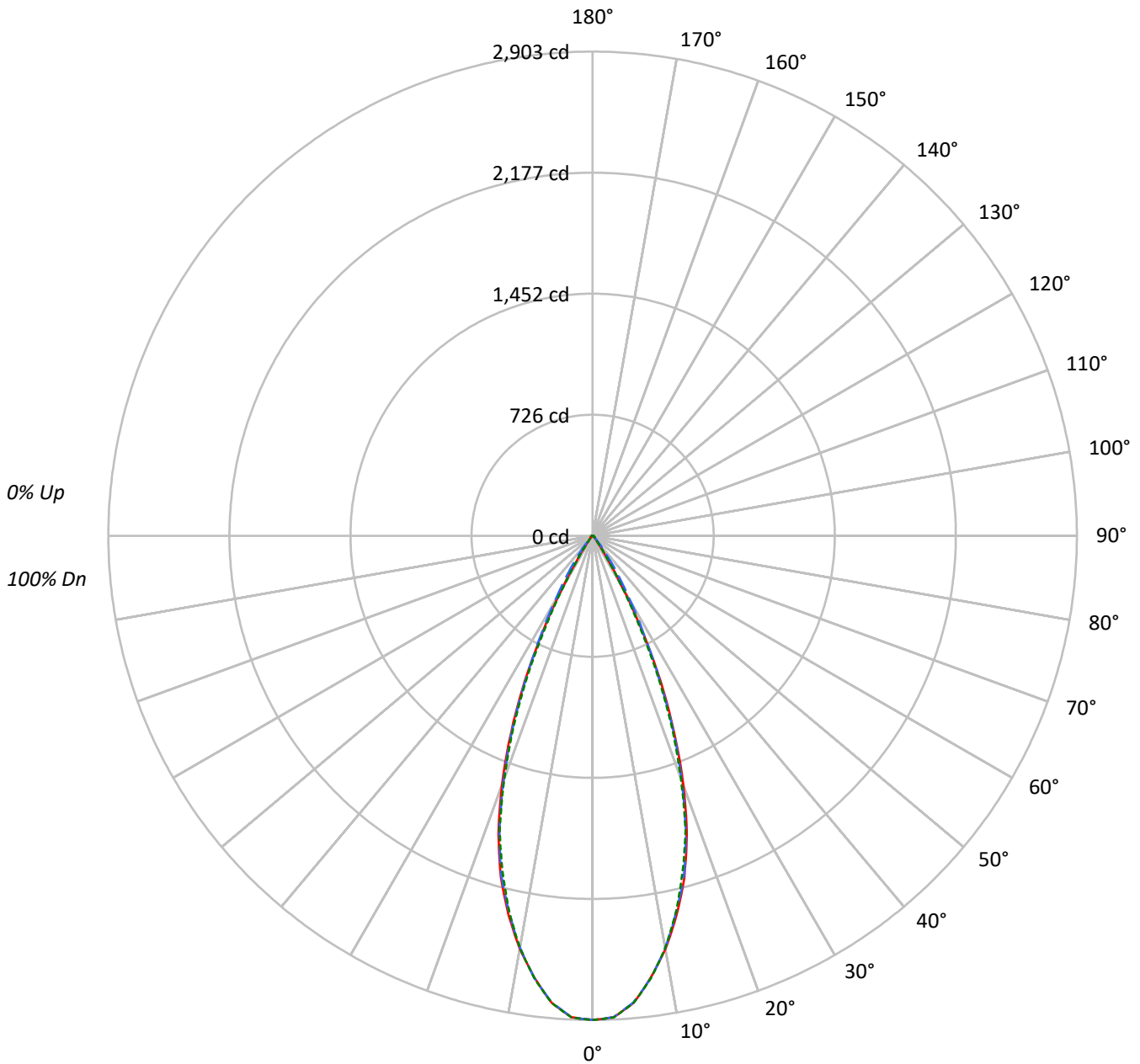
Input Watts (W): 13.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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	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°	499945	499945	499945
5°	486209	485448	486209
10°	439717	438563	438755
15°	378455	376868	371555
20°	291500	286038	283216
25°	183110	178701	173665
30°	71114	90882	65626
35°	16714	39905	16252
40°	6452	14389	6452
45°	3775	6186	3775
50°	3242	3831	3537
55°	3633	3633	3633
60°	3789	3789	3789
65°	3586	4034	3586
70°	3323	3877	3877
75°	3660	3660	3660
80°	3273	3273	4364
85°	2174	4347	4347

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 6186 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	258.3	18.4
10°-20°	576.1	41.1
20°-30°	427.0	30.5
30°-40°	95.9	6.8
40°-50°	16.7	1.2
50°-60°	10.7	0.8
60°-70°	9.3	0.7
70°-80°	5.9	0.4
80°-90°	2.1	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°	1261.4	90.0
0°-40°	1357.3	96.8
0°-60°	1384.7	98.8
0°-90°	1402.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1402.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2903	2903	2903	2903	2903	
5°	2812	2811	2808	2806	2812	258
15°	2123	2108	2114	2085	2084	581
25°	964	950	940	928	914	429
35°	80	113	190	107	77	74
45°	16	18	25	18	16	13
55°	12	12	12	12	12	10
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	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2902.9	2902.9	2902.9	2902.9	2902.9
2.5°	2889.7	2891.9	2889.7	2889.7	2890.8
5°	2812.4	2811.3	2808.0	2805.8	2812.4
7.5°	2672.2	2675.5	2674.4	2677.8	2675.5
10°	2514.4	2504.5	2507.8	2503.4	2508.9
12.5°	2327.9	2325.6	2313.5	2310.2	2308.0
15°	2122.6	2108.2	2113.7	2085.0	2083.9
17.5°	1877.5	1867.6	1857.6	1853.2	1853.2
20°	1590.5	1586.1	1560.7	1558.5	1545.3
22.5°	1278.2	1259.4	1260.5	1257.2	1237.3
25°	963.6	950.3	940.4	928.3	913.9
27.5°	641.3	666.7	667.8	639.1	588.3
30°	357.6	411.7	457.0	385.2	330.0
32.5°	176.6	229.6	301.3	211.9	167.8
35°	79.5	112.6	189.8	107.1	77.3
37.5°	43.0	57.4	113.7	55.2	41.9
40°	28.7	34.2	64.0	34.2	28.7
42.5°	19.9	23.2	38.6	23.2	21.0
45°	15.5	17.7	25.4	17.7	15.5
47.5°	13.2	14.3	18.8	14.3	14.3
50°	12.1	13.2	14.3	13.2	13.2
52.5°	12.1	12.1	13.2	12.1	12.1
55°	12.1	12.1	12.1	12.1	12.1
57.5°	11.0	11.0	12.1	11.0	11.0
60°	11.0	11.0	11.0	11.0	11.0
62.5°	9.9	9.9	9.9	9.9	9.9
65°	8.8	9.9	9.9	9.9	8.8
67.5°	7.7	8.8	8.8	8.8	8.8
70°	6.6	7.7	7.7	7.7	7.7
72.5°	6.6	6.6	6.6	6.6	6.6
75°	5.5	5.5	5.5	5.5	5.5
77.5°	4.4	4.4	4.4	5.5	4.4
80°	3.3	3.3	3.3	4.4	4.4
82.5°	2.2	2.2	2.2	3.3	3.3
85°	1.1	2.2	2.2	2.2	2.2
87.5°	1.1	1.1	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



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Scaled Data Report







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

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