

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: P886711

Luminaire Tested: ML310LSFL9FS1E-TIR4D25NFL-TL3SDSL-1000LM-5000K

Issue Date: 7/5/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P886711  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-14)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 7/5/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML310LSFL9FS1E-TIR4D25NFL-TL3SDSL-1000LM-5000K  
Description: 3IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, METALLIC SILVER TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 5000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1261.8 lumens  
Efficiency: N/A  
Efficacy: 91.4 lumens/watt  
Spacing Criteria (0/90/45): 0.5 / 0.49 / 0.52  
Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')CIE Type: Direct

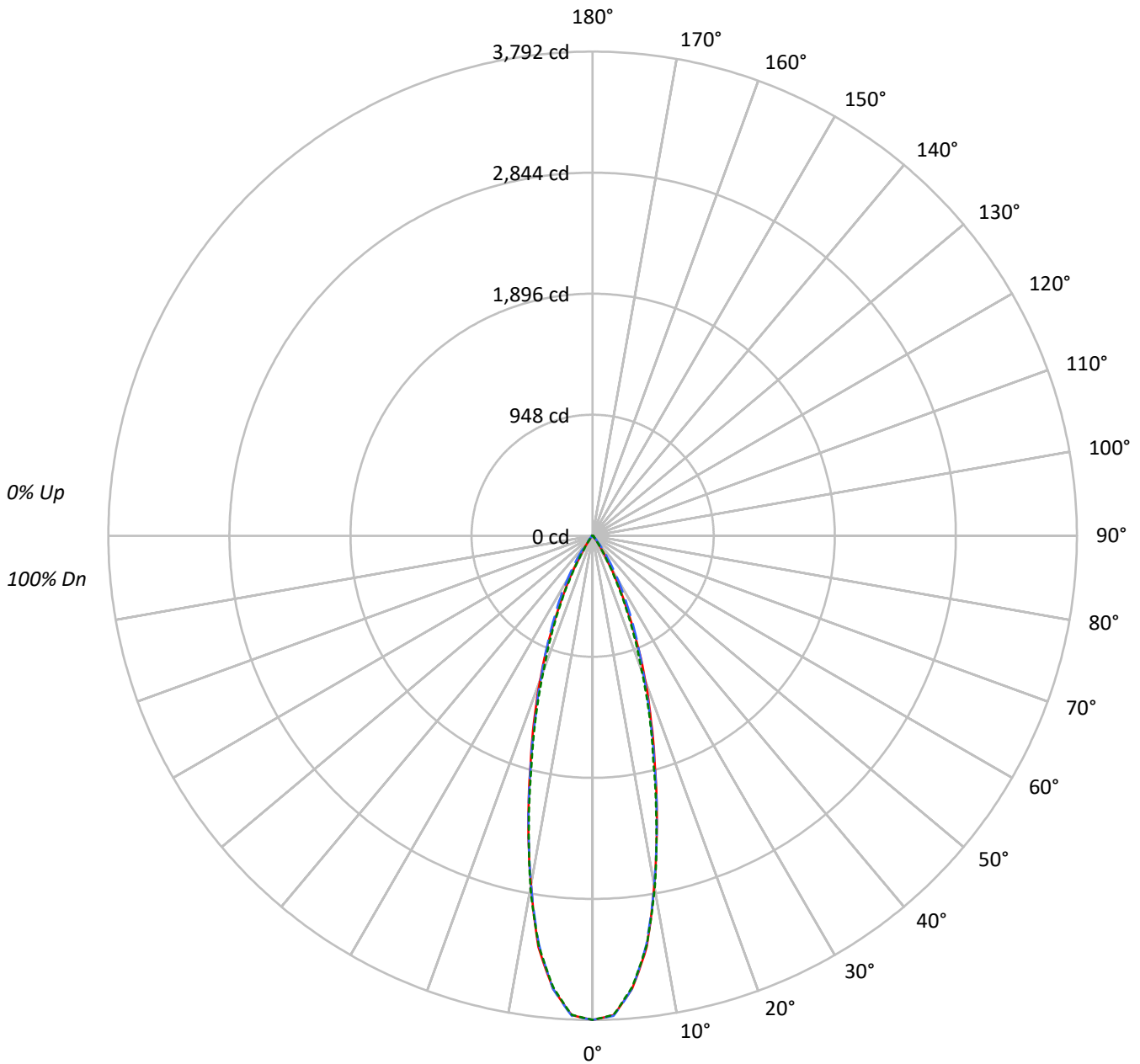
Input Watts (W): 13.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	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	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91
3	106	101	97	93	104	99	96	93	97	94	91	94	92	90	92	90	88	87
4	102	96	91	88	100	95	91	88	93	89	87	91	88	86	89	87	85	83
5	98	92	87	84	97	91	86	83	89	85	82	88	84	82	86	83	81	80
6	95	88	83	80	94	87	83	79	86	82	79	84	81	78	83	80	78	77
7	92	84	79	76	90	84	79	76	82	78	76	81	78	75	80	77	75	74
8	88	81	76	73	87	80	76	73	79	75	73	79	75	72	78	74	72	71
9	86	78	73	70	85	78	73	70	77	73	70	76	72	70	75	72	69	68
10	83	75	71	68	82	75	70	67	74	70	67	73	70	67	73	69	67	66

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

	0°	45°	90°
0°	652982	652982	652982
5°	615437	615437	613242
10°	486060	485448	490100
15°	336573	334701	328514
20°	220315	215422	205030
25°	121693	135128	114434
30°	52282	77836	47907
35°	17282	36520	15831
40°	5463	13534	5980
45°	3385	5358	3678
50°	2786	3108	2786
55°	2432	2792	2432
60°	2377	2377	2377
65°	1875	2364	2364
70°	1762	2316	2316
75°	1530	2329	2329
80°	1190	2281	2281
85°	2371	2371	2371

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 5358 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	314.7	24.9
10°-20°	518.8	41.1
20°-30°	311.1	24.7
30°-40°	84.3	6.7
40°-50°	15.0	1.2
50°-60°	7.6	0.6
60°-70°	5.6	0.4
70°-80°	3.5	0.3
80°-90°	1.3	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°	1144.6	90.7
0°-40°	1228.8	97.4
0°-60°	1251.4	99.2
0°-90°	1261.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1261.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3792	3792	3792	3792	3792	
5°	3560	3563	3560	3555	3547	315
15°	1888	1883	1877	1854	1842	525
25°	640	683	711	648	602	301
35°	82	115	174	104	75	63
45°	14	15	22	16	15	12
55°	8	8	9	8	8	7
65°	5	6	6	6	6	5
75°	2	4	4	4	4	3
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°	3791.5	3791.5	3791.5	3791.5	3791.5
2.5°	3757.9	3760.3	3762.6	3757.9	3755.6
5°	3559.9	3563.4	3559.9	3555.3	3547.2
7.5°	3247.2	3226.4	3226.4	3204.4	3234.5
10°	2779.4	2793.3	2775.9	2779.4	2802.5
12.5°	2324.2	2308.0	2320.8	2298.8	2306.9
15°	1887.7	1883.0	1877.2	1854.1	1842.5
17.5°	1522.9	1498.5	1492.8	1474.2	1474.2
20°	1202.1	1204.4	1175.4	1155.8	1118.7
22.5°	909.1	936.9	924.1	890.6	847.7
25°	640.4	683.3	711.1	648.5	602.2
27.5°	429.6	473.7	543.1	463.2	394.9
30°	262.9	308.0	391.4	296.5	240.9
32.5°	154.0	198.0	268.7	181.8	135.5
35°	82.2	114.6	173.7	104.2	75.3
37.5°	41.7	62.5	101.9	59.1	44.0
40°	24.3	32.4	60.2	34.7	26.6
42.5°	17.4	19.7	37.1	22.0	19.7
45°	13.9	15.1	22.0	16.2	15.1
47.5°	11.6	12.7	15.1	12.7	12.7
50°	10.4	10.4	11.6	10.4	10.4
52.5°	8.1	9.3	10.4	9.3	9.3
55°	8.1	8.1	9.3	8.1	8.1
57.5°	6.9	6.9	8.1	6.9	6.9
60°	6.9	6.9	6.9	6.9	6.9
62.5°	5.8	5.8	6.9	5.8	5.8
65°	4.6	5.8	5.8	5.8	5.8
67.5°	4.6	4.6	5.8	5.8	4.6
70°	3.5	4.6	4.6	4.6	4.6
72.5°	3.5	3.5	4.6	4.6	3.5
75°	2.3	3.5	3.5	3.5	3.5
77.5°	2.3	2.3	2.3	3.5	2.3
80°	1.2	2.3	2.3	2.3	2.3
82.5°	1.2	1.2	1.2	2.3	2.3
85°	1.2	1.2	1.2	1.2	1.2
87.5°	0.0	0.0	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



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Scaled Data Report







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

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