

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: P886697

Luminaire Tested: ML310LSFL9FS1E-TIR4D25NFL-TL3SDMB-1000LM-2700K

Issue Date: 7/5/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P886697  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-15)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 7/5/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML310LSFL9FS1E-TIR4D25NFL-TL3SDMB-1000LM-2700K  
Description: 3IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, MATTE BLACK TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1031.0 lumens  
Efficiency: N/A  
Efficacy: 74.7 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')

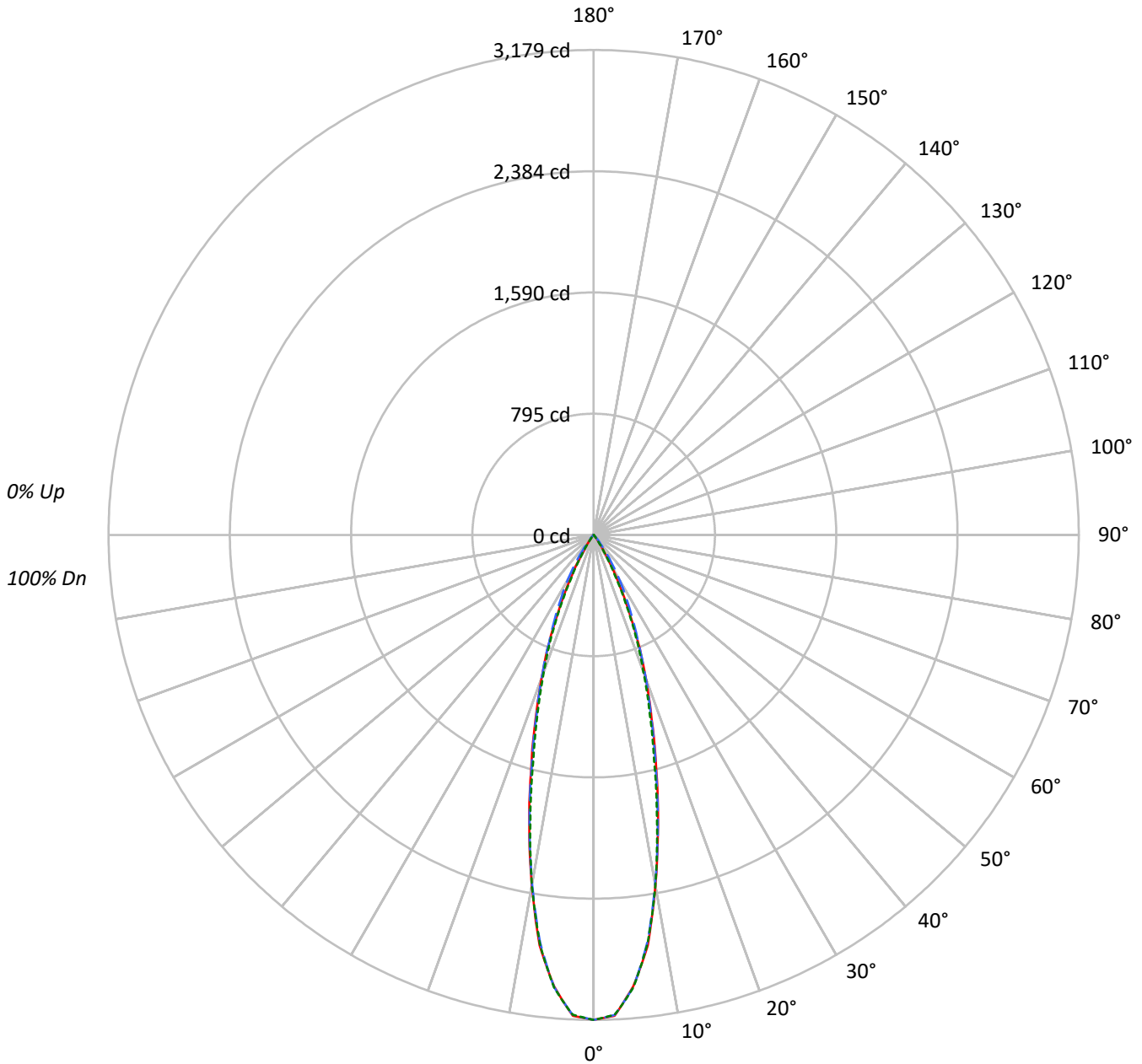
CIE Type: Direct  
  
Input Watts (W): 13.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 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										
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	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	115	112	110	109	112	110	108	107	106	105	104	103	102	100	99	98	98	96					96			
2	110	107	103	101	108	105	102	100	102	99	97	99	97	95	96	95	93	92					92			
3	106	101	98	94	105	100	97	94	98	95	92	95	93	91	93	91	89	88					88			
4	103	97	93	89	101	96	92	89	94	90	88	92	89	87	90	88	86	84					84			
5	99	93	88	85	98	92	88	84	90	86	84	89	85	83	87	84	82	81					81			
6	96	89	84	81	94	88	84	81	87	83	80	85	82	80	84	81	79	78					78			
7	92	85	81	77	91	85	80	77	84	80	77	83	79	77	82	78	76	75					75			
8	89	82	78	74	88	82	77	74	81	77	74	80	76	74	79	76	73	72					72			
9	87	79	75	72	86	79	74	71	78	74	71	77	74	71	76	73	71	70					70			
10	84	76	72	69	83	76	72	69	75	71	69	75	71	69	74	71	68	67					67			

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

	0°	45°	90°
0°	547496	547496	547496
5°	513611	514648	515167
10°	407906	405983	407731
15°	282424	279750	272083
20°	182103	182103	174405
25°	100391	113142	95450
30°	42378	66063	36810
35°	13245	28404	10933
40°	2698	10117	2698
45°	974	2436	974
50°	268	804	268
55°	0	300	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: 2436 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	263.4	25.6
10°-20°	434.4	42.1
20°-30°	260.3	25.2
30°-40°	65.8	6.4
40°-50°	6.5	0.6
50°-60°	0.5	0.1
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°	958.1	92.9
0°-40°	1023.9	99.3
0°-60°	1031.0	100.0
0°-90°	1031.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1031.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3179	3179	3179	3179	3179	
5°	2971	2982	2977	2977	2980	264
15°	1584	1575	1569	1558	1526	438
25°	528	573	595	557	502	249
35°	63	90	135	79	52	48
45°	4	6	10	6	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	0



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3179.0	3179.0	3179.0	3179.0	3179.0
2.5°	3155.0	3148.0	3150.0	3148.0	3149.0
5°	2970.9	2981.9	2976.9	2976.9	2979.9
7.5°	2714.7	2697.7	2694.7	2693.7	2703.7
10°	2332.5	2343.5	2321.5	2327.5	2331.5
12.5°	1948.3	1945.3	1943.3	1933.2	1919.2
15°	1584.0	1575.0	1569.0	1558.0	1526.0
17.5°	1264.8	1263.8	1250.8	1229.8	1217.8
20°	993.6	998.6	993.6	972.6	951.6
22.5°	761.5	785.5	766.5	758.5	725.5
25°	528.3	573.4	595.4	557.4	502.3
27.5°	350.2	398.3	454.3	376.2	321.2
30°	213.1	255.2	332.2	239.2	185.1
32.5°	121.1	158.1	226.1	144.1	102.1
35°	63.0	90.1	135.1	79.1	52.0
37.5°	26.0	45.0	78.1	39.0	23.0
40°	12.0	19.0	45.0	18.0	12.0
42.5°	7.0	9.0	23.0	9.0	7.0
45°	4.0	6.0	10.0	6.0	4.0
47.5°	3.0	3.0	5.0	3.0	3.0
50°	1.0	2.0	3.0	2.0	1.0
52.5°	1.0	1.0	2.0	1.0	1.0
55°	0.0	0.0	1.0	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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