

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: P885978

Luminaire Tested: ML104LSFL9FS1E-TIR1D55WFL-TL1SDSL-400LM-2700K

Issue Date: 6/19/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P885978  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-149)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 6/19/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML104LSFL9FS1E-TIR1D55WFL-TL1SDSL-400LM-2700K  
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 55D TIR, METALLIC SILVER TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 397.1 lumens  
Efficiency: N/A  
Efficacy: 66.2 lumens/watt  
Spacing Criteria (0/90/45): 0.82 / 0.83 / 0.8  
Luminous Opening: Rectangular (W 0.08' x L: 0.08' x H: 0')  
CIE Type: Direct

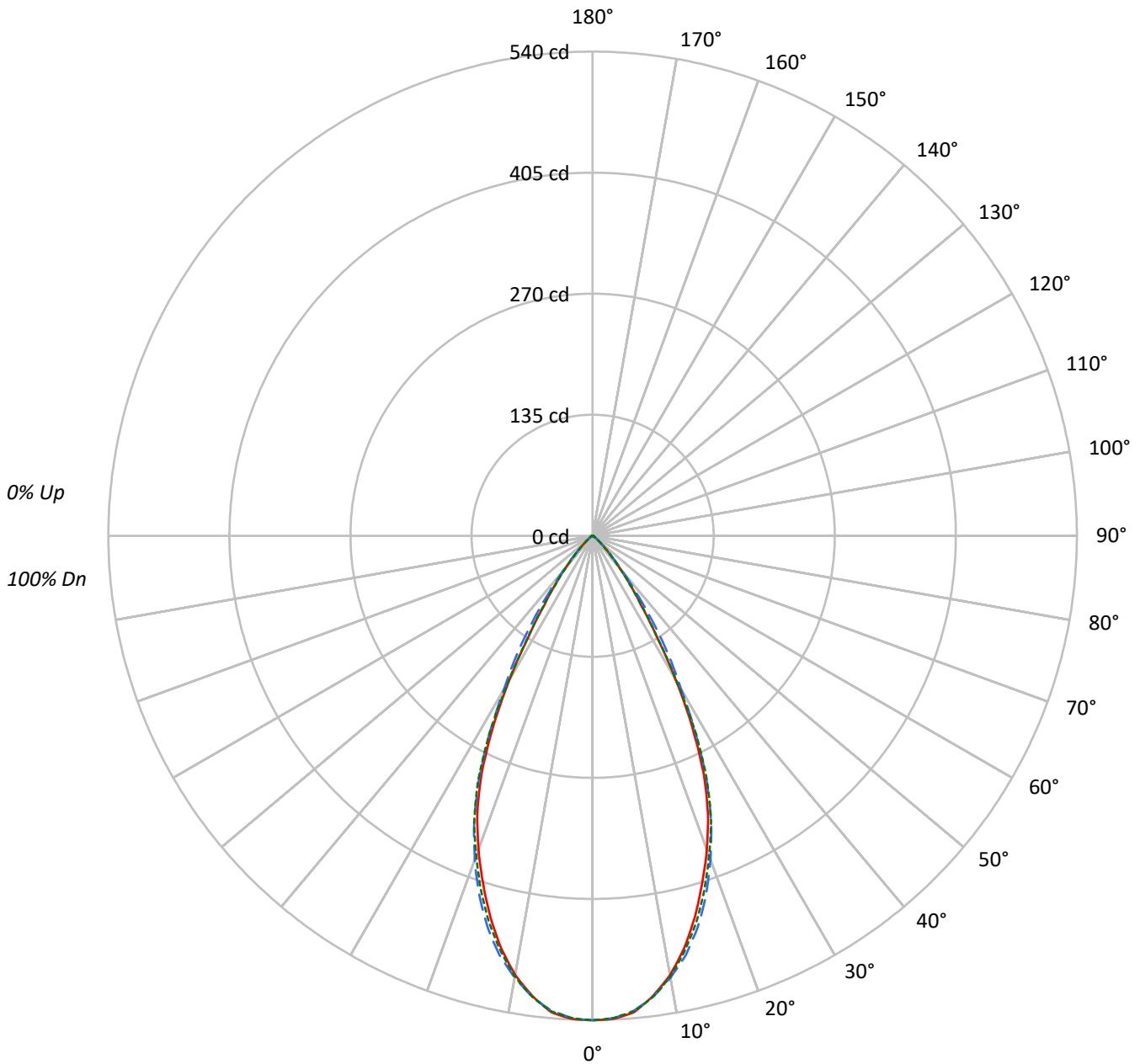
Input Watts (W): 6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94						94													
2	108	104	100	97	106	102	99	96	99	96	94	96	94	92	93	91	90	88						88													
3	103	97	92	89	101	96	91	88	93	90	87	91	88	85	89	86	84	82						82													
4	98	91	86	82	97	90	85	81	88	84	81	86	82	80	84	81	79	77						77													
5	94	86	80	76	92	85	80	76	83	79	75	82	78	75	80	77	74	72						72													
6	89	81	75	71	88	80	75	71	79	74	70	77	73	70	76	72	70	68						68													
7	85	76	71	67	84	76	70	67	75	70	66	73	69	66	72	68	65	64						64													
8	81	72	67	63	80	72	66	63	71	66	62	70	65	62	69	65	62	61						61													
9	78	69	63	59	77	68	63	59	67	62	59	66	62	59	66	61	58	57						57													
10	74	65	60	56	73	65	59	56	64	59	56	63	59	56	62	58	55	54						54													

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

	0°	45°	90°
0°	837629	837629	837629
5°	829937	826825	828381
10°	782714	787436	785862
15°	706547	725803	716175
20°	614106	633900	625653
25°	501446	513418	516839
30°	331293	352770	336662
35°	176166	219687	179950
40°	95100	103194	93077
45°	46033	46033	43841
50°	21703	16880	21703
55°	10809	8107	10809
60°	6200	3100	6200
65°	3668	3668	3668
70°	4532	4532	4532
75°	5989	0	5989
80°	0	0	0
85°	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 46033 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	49.7	12.5
10°-20°	124.3	31.3
20°-30°	133.7	33.7
30°-40°	66.8	16.8
40°-50°	17.5	4.4
50°-60°	3.5	0.9
60°-70°	1.1	0.3
70°-80°	0.4	0.1
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°	307.7	77.5
0°-40°	374.5	94.3
0°-60°	395.5	99.6
0°-90°	397.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	397.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	540	540	540	540	540	
5°	533	530	531	532	532	50
15°	440	444	452	449	446	122
25°	293	297	300	303	302	130
35°	93	100	116	100	95	63
45°	21	20	21	20	20	18
55°	4	3	3	4	4	4
65°	1	1	1	1	1	1
75°	1	0	0	0	1	1
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°	540.4	540.4	540.4	540.4	540.4
2.5°	539.4	538.4	538.4	539.4	538.4
5°	533.4	530.4	531.4	532.4	532.4
7.5°	517.4	517.4	518.4	519.4	518.4
10°	497.3	498.3	500.3	501.3	499.3
12.5°	471.3	473.3	479.3	477.3	474.3
15°	440.3	444.3	452.3	449.3	446.3
17.5°	406.3	412.3	420.3	418.3	414.3
20°	372.3	376.3	384.3	384.3	379.3
22.5°	336.2	340.2	345.2	347.2	345.2
25°	293.2	297.2	300.2	303.2	302.2
27.5°	240.2	247.2	249.2	252.2	250.2
30°	185.1	191.1	197.1	196.1	188.1
32.5°	132.1	139.1	157.1	144.1	133.1
35°	93.1	100.1	116.1	100.1	95.1
37.5°	68.0	67.0	79.1	68.0	67.0
40°	47.0	48.0	51.0	47.0	46.0
42.5°	32.0	31.0	33.0	32.0	31.0
45°	21.0	20.0	21.0	20.0	20.0
47.5°	13.0	12.0	12.0	12.0	13.0
50°	9.0	8.0	7.0	8.0	9.0
52.5°	6.0	5.0	5.0	5.0	6.0
55°	4.0	3.0	3.0	4.0	4.0
57.5°	3.0	2.0	2.0	2.0	3.0
60°	2.0	2.0	1.0	2.0	2.0
62.5°	2.0	1.0	1.0	1.0	2.0
65°	1.0	1.0	1.0	1.0	1.0
67.5°	1.0	1.0	1.0	1.0	1.0
70°	1.0	1.0	1.0	1.0	1.0
72.5°	1.0	1.0	0.0	1.0	1.0
75°	1.0	0.0	0.0	0.0	1.0
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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