

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: P885979

Luminaire Tested: ML104LSFL9FS1E-TIR1D55WFL-TL1SDSL-400LM-3000K

Issue Date: 6/19/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P885979  
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-3000K  
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 55D TIR, METALLIC SILVER TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 412.3 lumens  
Efficiency: N/A  
Efficacy: 68.7 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

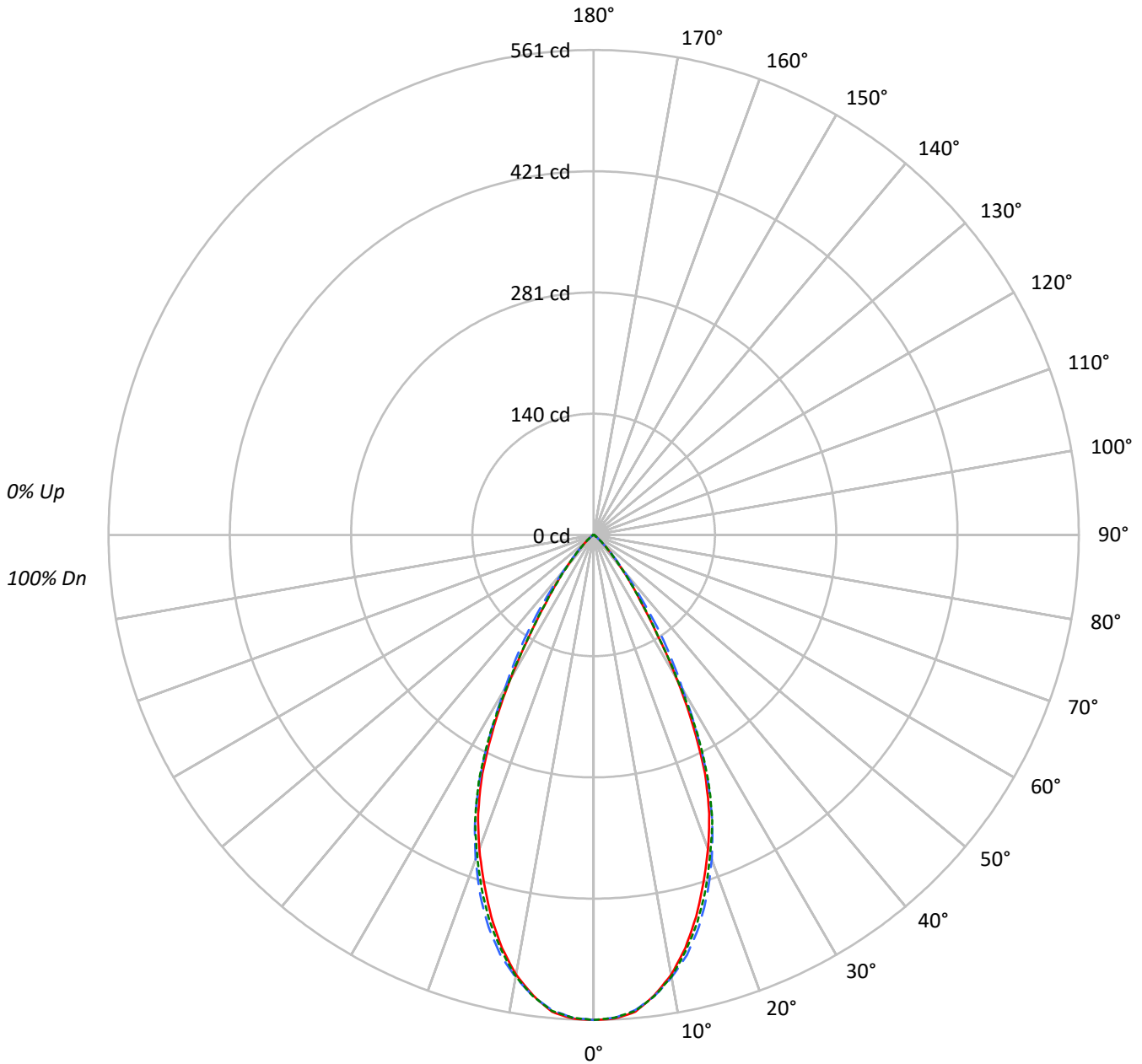
Input Watts (W): 6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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					70					50					30				
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	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94		
2	108	104	100	97	106	102	99	96	99	96	94	96	94	92	93	91	90	88		
3	103	97	92	89	101	96	91	88	93	90	87	91	88	85	89	86	84	82		
4	98	91	86	82	97	90	85	81	88	84	81	86	82	80	84	81	79	77		
5	94	86	80	76	92	85	80	76	83	79	75	82	78	75	80	77	74	72		
6	89	81	75	71	88	80	75	71	79	74	70	77	73	70	76	72	70	68		
7	85	76	71	67	84	76	70	67	75	70	66	73	69	66	72	68	66	64		
8	81	72	67	63	80	72	66	63	71	66	62	70	65	62	69	65	62	61		
9	78	69	63	59	77	68	63	59	67	62	59	66	62	59	66	61	58	57		
10	74	65	60	56	73	65	59	56	64	59	56	63	59	56	62	58	55	54		

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

	0°	45°	90°
0°	869714	869714	869714
5°	861678	858410	859966
10°	812776	817655	816081
15°	733666	753565	743616
20°	637529	658148	649570
25°	520601	533086	536678
30°	344000	366373	349549
35°	182788	228013	186762
40°	98742	107240	96719
45°	47787	47787	45595
50°	22667	17603	22667
55°	11350	8377	11350
60°	6510	3100	6510
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: 47787 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	51.6	12.5
10°-20°	129.0	31.3
20°-30°	138.9	33.7
30°-40°	69.4	16.8
40°-50°	18.2	4.4
50°-60°	3.7	0.9
60°-70°	1.2	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°	319.5	77.5
0°-40°	388.9	94.3
0°-60°	410.7	99.6
0°-90°	412.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	412.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	561	561	561	561	561	
5°	554	551	552	553	553	52
15°	457	461	470	466	463	127
25°	304	309	312	315	314	135
35°	97	104	120	104	99	65
45°	22	21	22	21	21	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°	561.1	561.1	561.1	561.1	561.1
2.5°	560.0	559.0	559.0	560.0	559.0
5°	553.8	550.7	551.7	552.7	552.7
7.5°	537.2	537.2	538.2	539.2	538.2
10°	516.4	517.4	519.5	520.5	518.5
12.5°	489.4	491.4	497.7	495.6	492.5
15°	457.2	461.3	469.6	466.5	463.4
17.5°	421.8	428.1	436.4	434.3	430.1
20°	386.5	390.7	399.0	399.0	393.8
22.5°	349.1	353.3	358.4	360.5	358.4
25°	304.4	308.6	311.7	314.8	313.8
27.5°	249.4	256.6	258.7	261.8	259.7
30°	192.2	198.4	204.7	203.6	195.3
32.5°	137.1	144.4	163.1	149.6	138.2
35°	96.6	103.9	120.5	103.9	98.7
37.5°	70.7	69.6	82.1	70.7	69.6
40°	48.8	49.9	53.0	48.8	47.8
42.5°	33.2	32.2	34.3	33.2	32.2
45°	21.8	20.8	21.8	20.8	20.8
47.5°	13.5	12.5	12.5	12.5	13.5
50°	9.4	8.3	7.3	8.3	9.4
52.5°	6.2	5.2	5.2	5.2	6.2
55°	4.2	3.1	3.1	4.2	4.2
57.5°	3.1	2.1	2.1	2.1	3.1
60°	2.1	2.1	1.0	2.1	2.1
62.5°	2.1	1.0	1.0	1.0	2.1
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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