

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: P885866

Luminaire Tested: ML104LSFL9FS1E-TIR1D25NFL-TL1SDSLB-400LM-4000K

Issue Date: 6/19/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P885866  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-140)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 6/19/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML104LSFL9FS1E-TIR1D25NFL-TL1SDSLB-400LM-4000K  
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, METALLIC SILVER BAFFLED TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

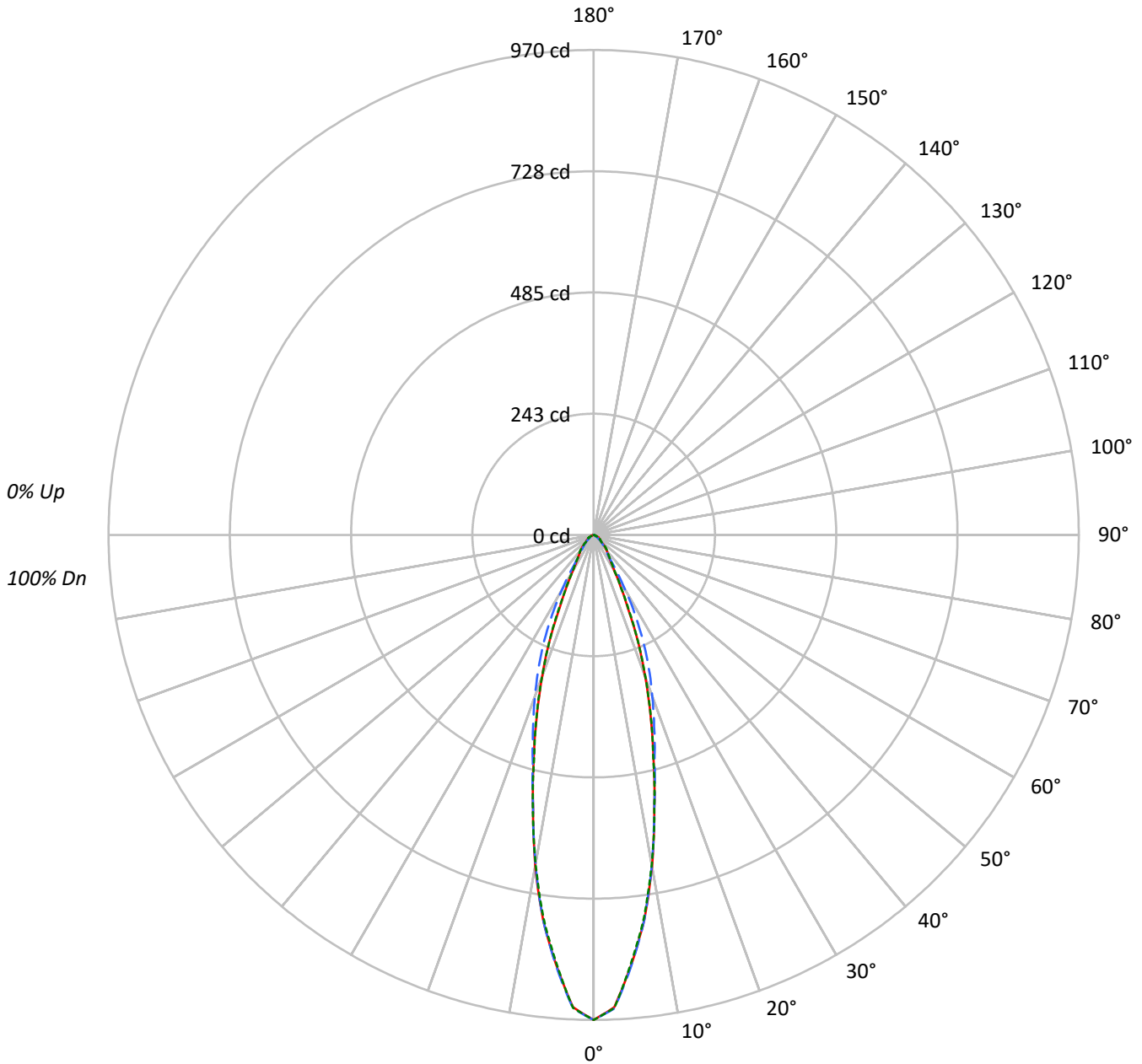
Lumens per Lamp: N/A  
Luminaire Lumens: 368.2 lumens  
Efficiency: N/A  
Efficacy: 61.4 lumens/watt  
Spacing Criteria (0/90/45): 0.47 / 0.47 / 0.56  
Luminous Opening: Rectangular (W 0.08' x L: 0.08' x H: 0')  
CIE Type: Direct

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					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								
1	114	111	109	107	112	109	107	105	105	104	102	101	100	99	98	97	96	94								
2	109	104	101	98	107	103	99	96	99	97	94	97	94	92	94	92	90	89								
3	104	98	94	90	102	97	93	89	94	91	88	92	89	87	90	87	85	84								
4	100	93	88	84	98	92	87	83	89	86	82	88	84	81	86	83	81	79								
5	95	88	83	79	94	87	82	78	85	81	78	84	80	77	82	79	76	75								
6	91	83	78	74	90	83	78	74	81	77	73	80	76	73	79	75	72	71								
7	88	79	74	70	86	79	74	70	78	73	70	76	72	69	75	72	69	68								
8	84	76	71	67	83	75	70	67	74	70	66	73	69	66	72	69	66	65								
9	81	73	67	64	80	72	67	64	71	67	64	70	66	63	70	66	63	62								
10	78	70	64	61	77	69	64	61	68	64	61	68	64	61	67	63	61	59								

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

	0°	45°	90°
0°	1503826	1503826	1503826
5°	1342307	1345885	1336861
10°	1057994	1054217	1052485
15°	742813	754046	737197
20°	495508	564951	497487
25°	275864	399857	285954
30°	148554	223905	152670
35°	99531	97260	103883
40°	80329	68593	85185
45°	61597	53705	66638
50°	45093	39547	45093
55°	41076	12701	41076
60°	36270	10850	36270
65°	25674	8436	25674
70°	15862	5438	15862
75°	7187	7187	7187
80°	0	0	0
85°	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 66638 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	76.5	20.8
10°-20°	130.3	35.4
20°-30°	89.6	24.3
30°-40°	37.2	10.1
40°-50°	20.1	5.5
50°-60°	9.2	2.5
60°-70°	4.1	1.1
70°-80°	1.2	0.3
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°	296.4	80.5
0°-40°	333.6	90.6
0°-60°	362.9	98.6
0°-90°	368.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	368.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	970	970	970	970	970	
5°	863	860	865	862	859	77
15°	463	465	470	468	459	128
25°	161	187	234	189	167	78
35°	53	57	51	57	55	35
45°	28	26	24	27	30	22
55°	15	9	5	9	15	13
65°	7	4	2	4	7	7
75°	1	1	1	1	1	2
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°	970.2	970.2	970.2	970.2	970.2
2.5°	945.7	946.9	948.0	950.4	946.9
5°	862.7	860.4	865.0	861.5	859.2
7.5°	776.2	776.2	776.2	773.9	771.5
10°	672.2	672.2	669.8	671.0	668.7
12.5°	559.9	556.4	559.9	557.6	561.1
15°	462.9	465.3	469.9	467.6	459.4
17.5°	377.6	386.9	402.1	388.1	379.9
20°	300.4	318.0	342.5	318.0	301.6
22.5°	231.5	251.3	287.6	252.5	231.5
25°	161.3	187.0	233.8	189.4	167.2
27.5°	116.9	132.1	178.9	134.4	118.1
30°	83.0	95.9	125.1	98.2	85.3
32.5°	64.3	74.8	79.5	73.6	65.5
35°	52.6	57.3	51.4	57.3	54.9
37.5°	45.6	44.4	40.9	45.6	47.9
40°	39.7	36.2	33.9	37.4	42.1
42.5°	35.1	31.6	29.2	31.6	36.2
45°	28.1	25.7	24.5	26.9	30.4
47.5°	21.0	18.7	21.0	19.9	21.0
50°	18.7	12.9	16.4	12.9	18.7
52.5°	16.4	10.5	10.5	10.5	16.4
55°	15.2	9.4	4.7	9.4	15.2
57.5°	12.9	8.2	4.7	8.2	12.9
60°	11.7	7.0	3.5	7.0	11.7
62.5°	9.4	4.7	2.3	4.7	9.4
65°	7.0	3.5	2.3	3.5	7.0
67.5°	4.7	2.3	1.2	2.3	4.7
70°	3.5	2.3	1.2	2.3	3.5
72.5°	2.3	1.2	1.2	1.2	2.3
75°	1.2	1.2	1.2	1.2	1.2
77.5°	1.2	1.2	0.0	0.0	1.2
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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