

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: P885856

Luminaire Tested: ML104LSFL9FS1E-TIR1D25NFL-TL1SDMWB-400LM-4000K

Issue Date: 6/19/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P885856  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-139)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 6/19/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML104LSFL9FS1E-TIR1D25NFL-TL1SDMWB-400LM-4000K  
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, MATTE WHITE BAFFLED TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

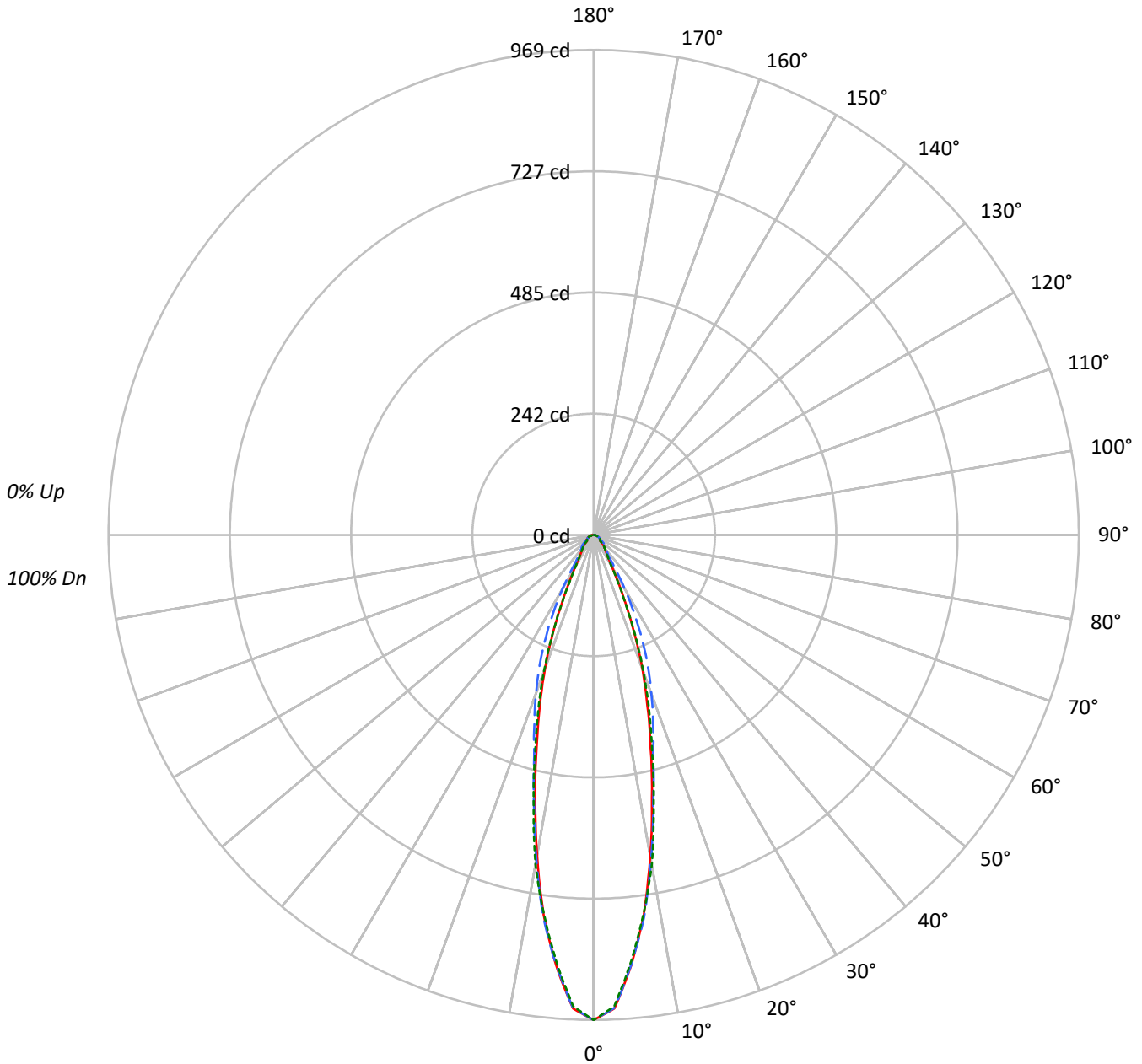
Lumens per Lamp: N/A  
Luminaire Lumens: 377.4 lumens  
Efficiency: N/A  
Efficacy: 62.9 lumens/watt  
Spacing Criteria (0/90/45): 0.46 / 0.47 / 0.56  
Luminous Opening: Rectangular (W 0.08' x L: 0.08' x H: 0')  
CIE Type: Direct

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	113	110	108	105	111	108	106	104	104	102	101	100	99	98	97	96	95	93								
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	86								
3	102	96	91	87	100	95	90	86	92	88	85	90	86	84	87	85	82	81								
4	98	90	85	81	96	89	84	80	87	83	79	85	81	78	83	80	77	76								
5	93	85	80	75	92	84	79	75	83	78	74	81	77	74	79	76	73	72								
6	89	81	75	71	88	80	75	71	79	74	70	77	73	70	76	72	69	68								
7	86	77	71	67	84	76	71	67	75	70	67	74	69	66	73	69	66	65								
8	82	73	68	64	81	73	67	64	72	67	63	71	66	63	70	66	63	62								
9	79	70	65	61	78	70	64	61	69	64	61	68	63	60	67	63	60	59								
10	76	67	62	58	75	67	62	58	66	61	58	65	61	58	64	61	58	56								

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

	0°	45°	90°
0°	1502431	1502431	1502431
5°	1342618	1340751	1331726
10°	1023210	1038005	1052643
15°	705424	735432	724199
20°	468621	555384	478353
25°	256025	387886	251920
30°	127613	219788	125644
35°	84015	99531	84015
40°	68593	80531	68593
45°	53925	71680	56336
50°	42199	61973	42199
55°	44319	41076	44319
60°	43400	43400	43400
65°	42912	42912	42912
70°	37162	37162	37162
75°	34735	34735	34735
80°	31242	31242	31242
85°	21341	21341	21341

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 71680 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.9	20.1
10°-20°	127.1	33.7
20°-30°	84.7	22.4
30°-40°	34.5	9.1
40°-50°	21.7	5.8
50°-60°	14.6	3.9
60°-70°	11.3	3.0
70°-80°	6.2	1.6
80°-90°	1.4	0.4
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°	287.6	76.2
0°-40°	322.1	85.4
0°-60°	358.5	95.0
0°-90°	377.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	377.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	969	969	969	969	969	
5°	863	861	862	859	856	76
15°	440	450	458	460	451	122
25°	150	175	227	179	147	71
35°	44	53	53	51	44	29
45°	25	28	33	29	26	19
55°	16	16	15	16	16	14
65°	12	12	12	12	12	11
75°	6	6	6	6	6	6
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°	969.3	969.3	969.3	969.3	969.3
2.5°	947.1	948.3	945.9	944.7	942.4
5°	862.9	860.6	861.7	859.4	855.9
7.5°	765.9	763.5	770.5	765.9	763.5
10°	650.1	652.4	659.5	658.3	668.8
12.5°	537.9	544.9	550.7	551.9	554.2
15°	439.6	450.2	458.3	459.5	451.3
17.5°	356.6	375.3	394.0	381.2	368.3
20°	284.1	305.2	336.7	309.8	290.0
22.5°	212.8	237.4	281.8	244.4	216.3
25°	149.7	175.4	226.8	178.9	147.3
27.5°	102.9	120.4	173.0	123.9	99.4
30°	71.3	88.9	122.8	88.9	70.2
32.5°	52.6	69.0	79.5	66.6	53.8
35°	44.4	52.6	52.6	51.4	44.4
37.5°	38.6	42.1	44.4	42.1	38.6
40°	33.9	36.2	39.8	36.2	33.9
42.5°	30.4	32.7	36.2	32.7	30.4
45°	24.6	28.1	32.7	29.2	25.7
47.5°	17.5	22.2	30.4	23.4	17.5
50°	17.5	17.5	25.7	17.5	17.5
52.5°	16.4	16.4	19.9	16.4	16.4
55°	16.4	16.4	15.2	16.4	16.4
57.5°	15.2	15.2	15.2	15.2	15.2
60°	14.0	14.0	14.0	14.0	14.0
62.5°	12.9	12.9	12.9	12.9	12.9
65°	11.7	11.7	11.7	11.7	11.7
67.5°	9.4	10.5	9.4	10.5	10.5
70°	8.2	8.2	8.2	8.2	8.2
72.5°	7.0	7.0	7.0	7.0	7.0
75°	5.8	5.8	5.8	5.8	5.8
77.5°	4.7	4.7	4.7	4.7	4.7
80°	3.5	3.5	3.5	3.5	3.5
82.5°	2.3	2.3	2.3	2.3	2.3
85°	1.2	1.2	1.2	1.2	1.2
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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