

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: P885861

Luminaire Tested: ML104LSFL9FS1E-TIR1D25NFL-TL1SDSL-400LM-4000K

Issue Date: 6/19/2024

Test Information

Test Method: LM-79-2019
Report Number: P885861
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-137)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 6/19/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML104LSFL9FS1E-TIR1D25NFL-TL1SDSL-400LM-4000K
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, METALLIC SILVER TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 360.5 lumens
Efficiency: N/A
Efficacy: 60.1 lumens/watt
Spacing Criteria (0/90/45): 0.46 / 0.47 / 0.55
Luminous Opening: Rectangular (W 0.08' x L: 0.08' x H: 0')
CIE Type: Direct

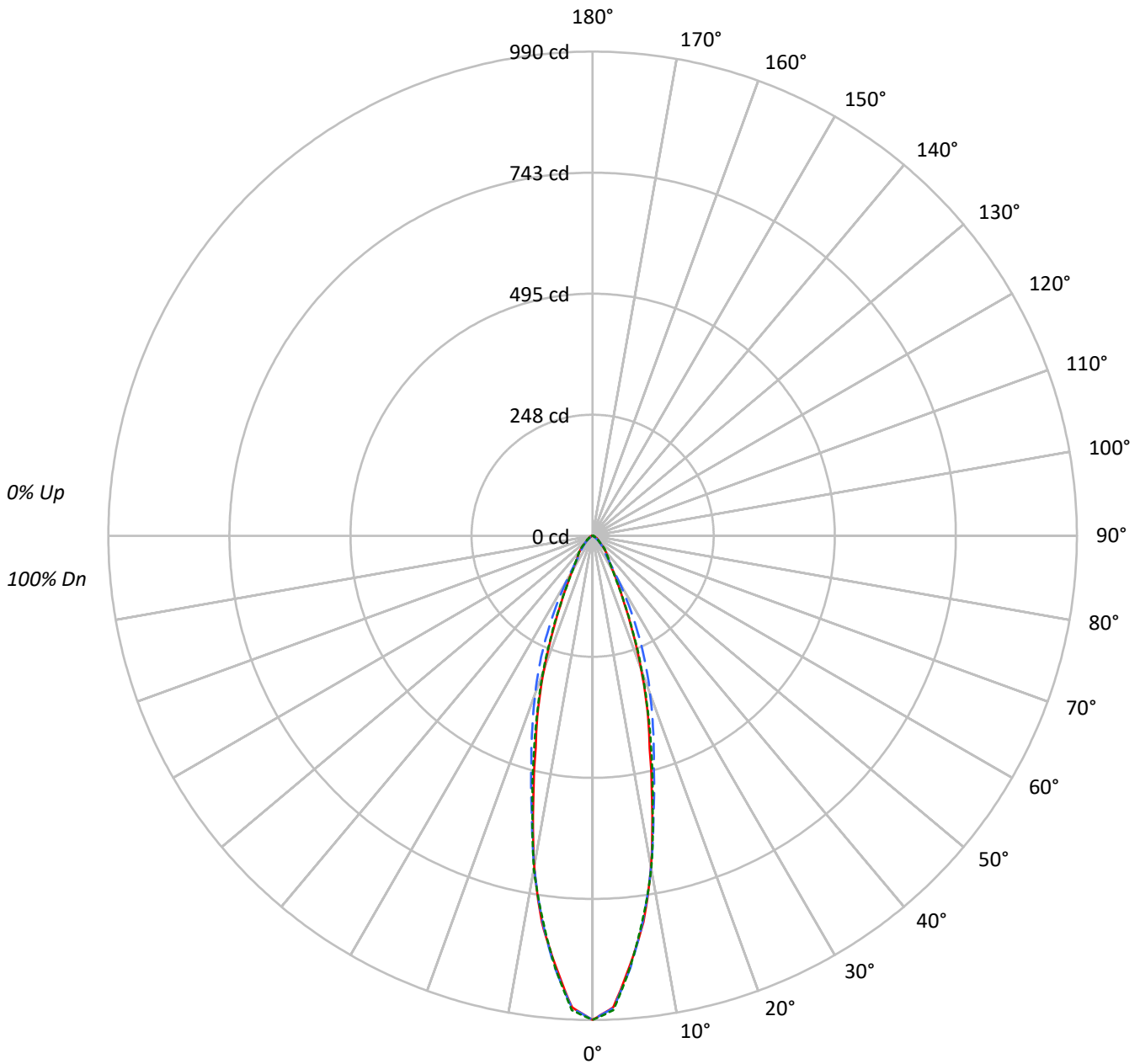
Input Watts (W): 6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	100	100	100	100	100		
	1	114	111	109	107	112	109	107	105	105	104	102	102	100	99	98	97	96	95	95	95	95	95	95		
	2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	92	91	89	89	89	89	89	89		
	3	104	99	94	91	102	97	93	90	95	91	88	92	89	87	90	88	86	84	84	84	84	84	84		
	4	100	93	88	85	98	92	88	84	90	86	83	88	85	82	86	83	81	80	80	80	80	80	80		
	5	96	88	83	79	94	87	83	79	86	82	78	84	81	78	83	80	77	76	76	76	76	76	76		
	6	92	84	79	75	91	83	78	75	82	78	74	81	77	74	79	76	73	72	72	72	72	72	72		
	7	88	80	75	71	87	80	75	71	78	74	71	77	73	70	76	73	70	69	69	69	69	69	69		
	8	85	77	71	68	84	76	71	68	75	71	67	74	70	67	73	70	67	66	66	66	66	66	66		
	9	82	73	68	65	81	73	68	65	72	68	65	71	67	64	71	67	64	63	63	63	63	63	63		
	10	79	71	65	62	78	70	65	62	69	65	62	69	65	62	68	64	62	60	60	60	60	60	60		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1534051	1534051	1534051
5°	1368758	1379649	1376071
10°	1082705	1082705	1088214
15°	722755	775228	745220
20°	476538	565446	486270
25°	262011	374203	268168
30°	148733	186319	144437
35°	101801	90827	104072
40°	82757	68593	85185
45°	56336	51294	56336
50°	39547	33760	39547
55°	31618	12701	31618
60°	25420	10850	25420
65°	17238	8436	17238
70°	10423	5438	10423
75°	7187	7187	7187
80°	10711	0	10711
85°	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 56336 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.3	21.7
10°-20°	131.4	36.4
20°-30°	84.5	23.4
30°-40°	35.4	9.8
40°-50°	18.6	5.2
50°-60°	7.3	2.0
60°-70°	3.3	0.9
70°-80°	1.4	0.4
80°-90°	0.1	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°	294.2	81.6
0°-40°	329.6	91.4
0°-60°	355.6	98.6
0°-90°	360.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	360.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	990	990	990	990	990	
5°	880	881	887	882	884	78
15°	450	469	483	474	464	127
25°	153	170	219	174	157	74
35°	54	56	48	55	55	35
45°	26	23	23	25	26	20
55°	12	7	5	7	12	11
65°	5	4	2	4	5	5
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°	989.7	989.7	989.7	989.7	989.7
2.5°	965.1	967.5	966.3	967.5	971.0
5°	879.7	880.9	886.7	882.1	884.4
7.5°	796.7	792.0	792.0	793.1	788.5
10°	687.9	683.2	687.9	685.5	691.4
12.5°	560.3	567.4	575.6	573.2	567.4
15°	450.4	469.1	483.1	473.8	464.4
17.5°	370.8	382.5	409.4	388.4	374.3
20°	288.9	306.5	342.8	312.3	294.8
22.5°	215.2	237.5	281.9	241.0	219.9
25°	153.2	169.6	218.8	174.3	156.8
27.5°	112.3	122.8	160.3	125.2	108.8
30°	83.1	93.6	104.1	91.2	80.7
32.5°	64.3	72.5	65.5	70.2	65.5
35°	53.8	56.2	48.0	55.0	55.0
37.5°	46.8	43.3	39.8	43.3	48.0
40°	40.9	35.1	33.9	36.3	42.1
42.5°	33.9	30.4	28.1	30.4	35.1
45°	25.7	23.4	23.4	24.6	25.7
47.5°	18.7	15.2	19.9	16.4	19.9
50°	16.4	10.5	14.0	10.5	16.4
52.5°	14.0	9.4	8.2	9.4	14.0
55°	11.7	7.0	4.7	7.0	11.7
57.5°	9.4	5.8	3.5	5.8	9.4
60°	8.2	4.7	3.5	4.7	8.2
62.5°	5.8	3.5	2.3	4.7	5.8
65°	4.7	3.5	2.3	3.5	4.7
67.5°	3.5	2.3	1.2	2.3	3.5
70°	2.3	2.3	1.2	2.3	2.3
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	1.2	1.2	1.2
80°	1.2	1.2	0.0	1.2	1.2
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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