

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: P885906

Luminaire Tested: ML104LSFL9FS1E-TIR1D40FL-TL1SDMBB-400LM-4000K

Issue Date: 6/19/2024

Test Information

Test Method: LM-79-2019
Report Number: P885906
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-147)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 6/19/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML104LSFL9FS1E-TIR1D40FL-TL1SDMBB-400LM-4000K
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, MATTE BLACK BAFFLED TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 461.9 lumens
Efficiency: N/A
Efficacy: 77.0 lumens/watt
Spacing Criteria (0/90/45): 0.68 / 0.68 / 0.68
Luminous Opening: Rectangular (W 0.08' x L: 0.08' x H: 0')
CIE Type: Direct

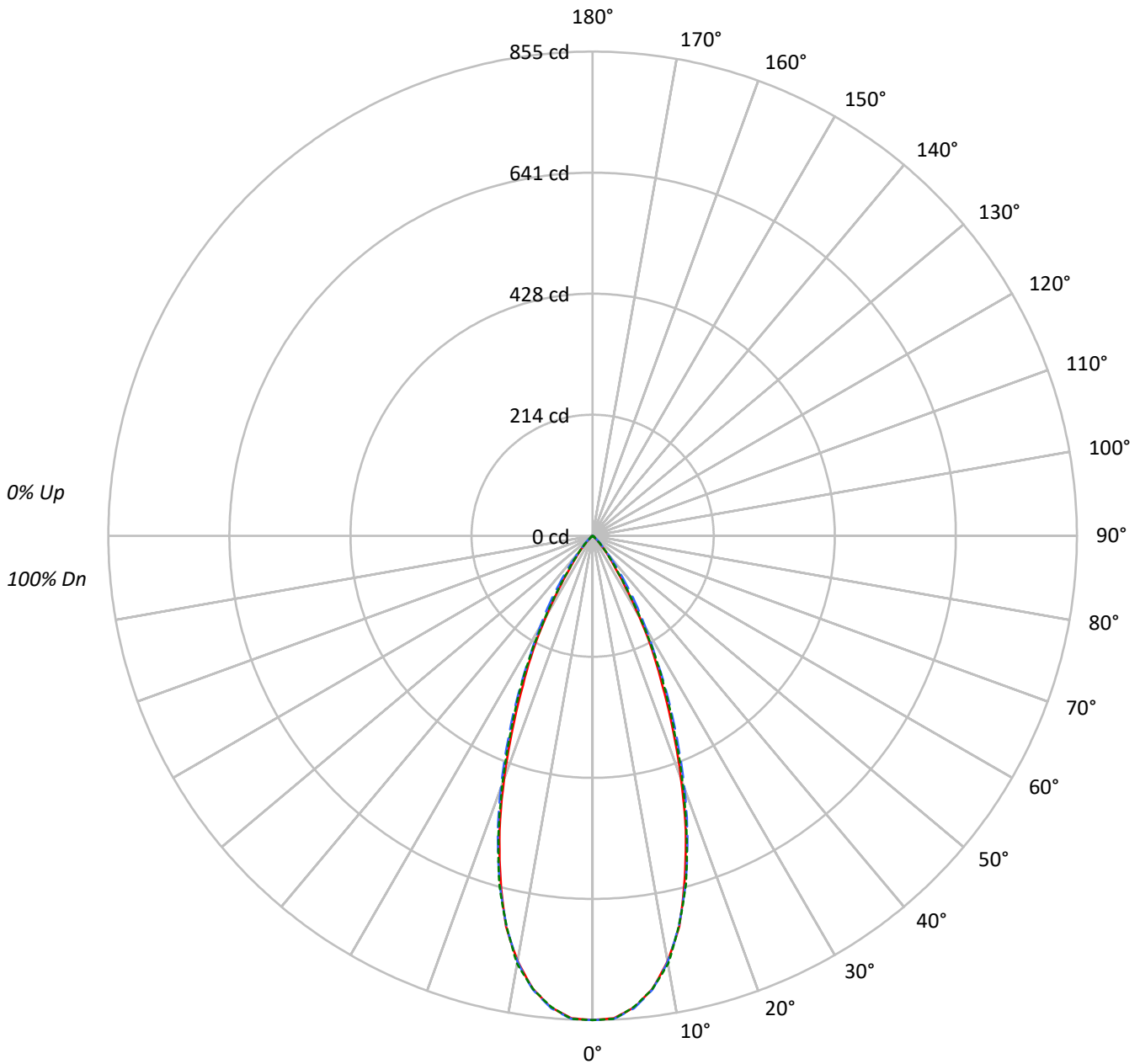
Input Watts (W): 6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P885906

CATALOG NUMBER: ML104LSFL9FS1E-TIR1D40FL-TL1SDMBB-400LM-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P885906

CATALOG NUMBER: ML104LSFL9FS1E-TIR1D40FL-TL1SDMBB-400LM-4000K

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	112	109	107	112	110	108	106	106	104	103	102	101	99	98	97	97	95	95	95	95	95	95		
	2	109	105	101	98	107	103	100	97	100	98	95	97	95	93	95	93	91	90	90	90	90	90	90		
	3	105	99	95	91	103	98	94	91	95	92	89	93	90	88	91	88	86	85	85	85	85	85	85		
	4	100	94	89	85	99	93	88	85	91	87	84	89	85	83	87	84	82	80	80	80	80	80	80		
	5	96	89	84	80	95	88	83	80	86	82	79	85	81	78	83	80	78	76	76	76	76	76	76		
	6	92	84	79	75	91	84	79	75	82	78	75	81	77	74	80	76	74	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	70	67	74	70	67	73	69	67	66	66	66	66	66	66		
	9	81	73	68	64	80	73	68	64	72	67	64	71	67	64	70	66	64	63	63	63	63	63	63		
	10	78	70	65	61	77	69	65	61	69	64	61	68	64	61	67	64	61	60	60	60	60	60	60		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1325574	1325574	1325574
5°	1301386	1303253	1299674
10°	1200435	1202323	1207832
15°	1008069	1017537	1021228
20°	752499	781530	766024
25°	498197	536165	522140
30°	293170	330756	303551
35°	132834	188087	143809
40°	66368	80531	71021
45°	23017	38361	23017
50°	8440	13986	8440
55°	3243	3243	3243
60°	0	0	0
65°	0	0	0
70°	0	0	0
75°	0	0	0
80°	0	0	0
85°	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 38361 cd/sqm



TEST NUMBER: P885906

CATALOG NUMBER: ML104LSFL9FS1E-TIR1D40FL-TL1SDMBB-400LM-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.6	16.8
10°-20°	173.4	37.5
20°-30°	140.3	30.4
30°-40°	57.0	12.3
40°-50°	12.3	2.7
50°-60°	1.3	0.3
60°-70°	0.0	0.0
70°-80°	0.0	0.0
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°	391.3	84.7
0°-40°	448.3	97.1
0°-60°	461.9	100.0
0°-90°	461.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	461.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	855	855	855	855	855	
5°	836	836	838	835	835	78
15°	628	633	634	632	636	172
25°	291	301	314	305	305	135
35°	70	82	99	85	76	50
45°	10	13	18	14	10	10
55°	1	1	1	1	1	1
65°	0	0	0	0	0	0
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



TEST NUMBER: P885906

CATALOG NUMBER: ML104LSFL9FS1E-TIR1D40FL-TL1SDMBB-400LM-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	855.2	855.2	855.2	855.2	855.2
2.5°	852.8	852.8	854.0	852.8	854.0
5°	836.4	836.4	837.6	835.3	835.3
7.5°	807.2	807.2	808.4	808.4	807.2
10°	762.7	765.1	763.9	766.2	767.4
12.5°	706.6	705.4	704.2	706.6	704.2
15°	628.2	632.9	634.1	631.7	636.4
17.5°	546.3	549.8	556.8	556.8	552.2
20°	456.2	467.9	473.8	469.1	464.4
22.5°	369.7	379.0	389.6	386.0	379.0
25°	291.3	300.6	313.5	305.3	305.3
27.5°	226.9	235.1	239.8	242.2	237.5
30°	163.8	175.5	184.8	181.3	169.6
32.5°	108.8	121.7	139.2	128.7	114.6
35°	70.2	81.9	99.4	85.4	76.0
37.5°	48.0	53.8	66.7	56.2	51.5
40°	32.8	37.4	39.8	37.4	35.1
42.5°	19.9	23.4	25.7	24.6	21.1
45°	10.5	12.9	17.5	14.0	10.5
47.5°	4.7	7.0	10.5	7.0	4.7
50°	3.5	3.5	5.8	3.5	3.5
52.5°	2.3	2.3	2.3	2.3	2.3
55°	1.2	1.2	1.2	1.2	1.2
57.5°	0.0	0.0	1.2	1.2	0.0
60°	0.0	0.0	0.0	0.0	0.0
62.5°	0.0	0.0	0.0	0.0	0.0
65°	0.0	0.0	0.0	0.0	0.0
67.5°	0.0	0.0	0.0	0.0	0.0
70°	0.0	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0
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



Report Generated By 670245859 / DESKTOP-T8S5UU9

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270°

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)