

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: P885911

Luminaire Tested: ML104LSFL9FS1E-TIR1D40FL-TL1SDMW-400LM-4000K

Issue Date: 6/19/2024

Test Information

Test Method: LM-79-2019
Report Number: P885911
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-142)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 6/19/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML104LSFL9FS1E-TIR1D40FL-TL1SDMW-400LM-4000K
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, MATTE WHITE TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 486.8 lumens
Efficiency: N/A
Efficacy: 81.1 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

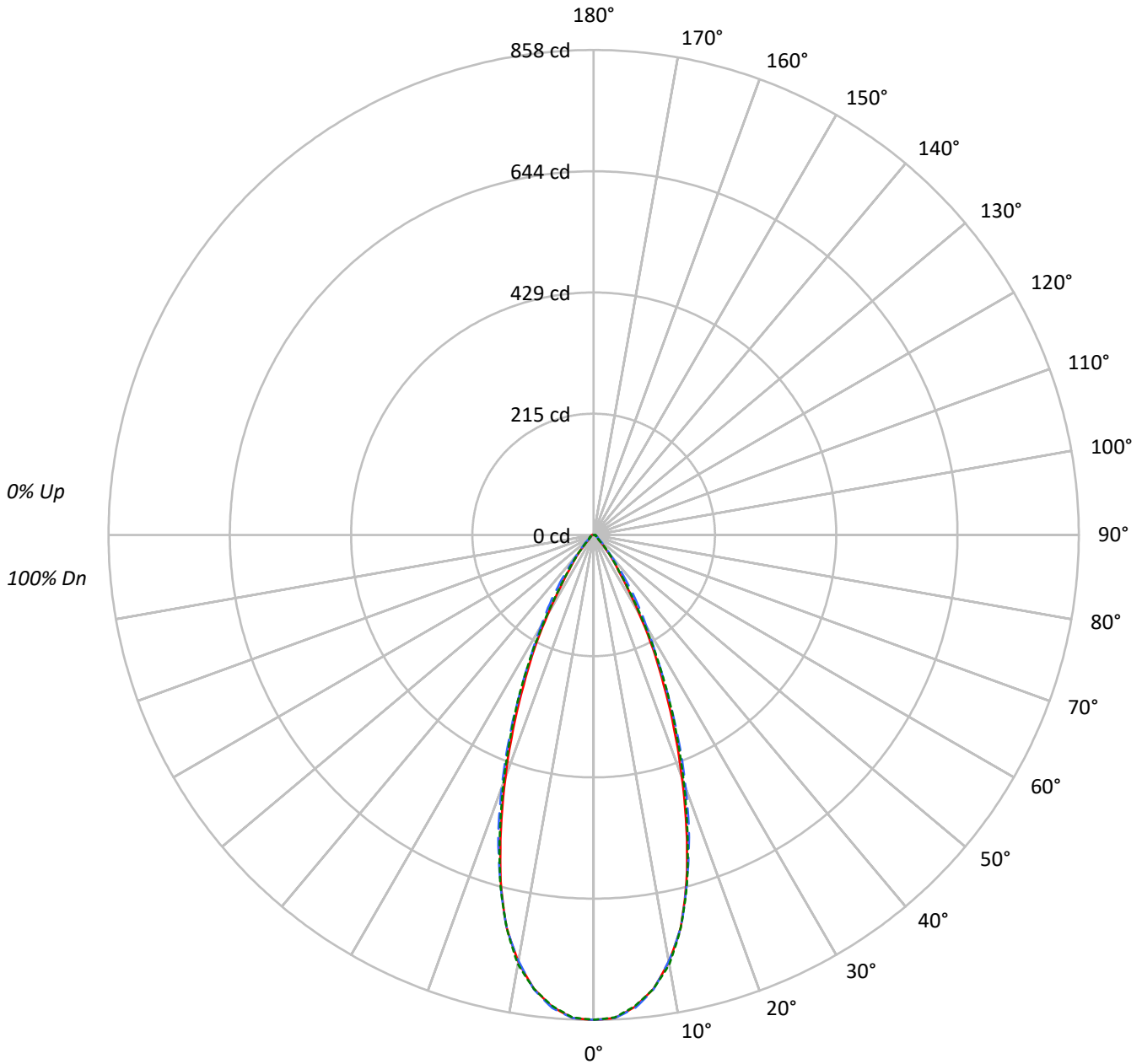
Input Watts (W): 6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P885911

CATALOG NUMBER: ML104LSFL9FS1E-TIR1D40FL-TL1SDMW-400LM-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P885911

CATALOG NUMBER: ML104LSFL9FS1E-TIR1D40FL-TL1SDMW-400LM-4000K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					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			
1	114	111	109	106	111	109	107	105	105	103	101	101	100	98	98	97	96	94					94			
2	108	104	100	97	106	102	99	96	99	96	93	96	94	92	93	91	90	88					88			
3	103	97	93	89	102	96	92	88	93	90	87	91	88	86	89	86	84	83					83			
4	99	92	87	83	97	91	86	82	89	84	81	87	83	80	85	82	79	78					78			
5	94	87	81	77	93	86	81	77	84	80	76	82	79	76	81	78	75	74					74			
6	90	82	77	73	89	81	76	72	80	75	72	79	75	72	77	74	71	70					70			
7	87	78	73	69	85	77	72	68	76	72	68	75	71	68	74	70	67	66					66			
8	83	74	69	65	82	74	69	65	73	68	65	72	67	64	71	67	64	63					63			
9	80	71	65	62	79	70	65	62	69	65	61	69	64	61	68	64	61	60					60			
10	77	68	62	59	76	67	62	59	66	62	59	66	61	58	65	61	58	57					57			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1329604	1329604	1329604
5°	1303875	1307454	1302008
10°	1206730	1204842	1213970
15°	1018339	1022030	1023956
20°	751839	784664	767179
25°	501617	525732	527613
30°	288695	332546	305341
35°	141538	196791	148161
40°	78103	92267	82757
45°	33319	51294	33319
50°	25320	28213	25320
55°	22159	22159	22159
60°	21700	21700	21700
65°	21272	21272	21272
70°	21300	21300	21300
75°	20961	20961	20961
80°	20530	20530	20530
85°	21341	21341	21341

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 51294 cd/sqm



TEST NUMBER: P885911

CATALOG NUMBER: ML104LSFL9FS1E-TIR1D40FL-TL1SDMW-400LM-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.8	16.0
10°-20°	174.1	35.8
20°-30°	140.6	28.9
30°-40°	58.9	12.1
40°-50°	17.0	3.5
50°-60°	7.5	1.5
60°-70°	5.7	1.2
70°-80°	4.0	0.8
80°-90°	1.2	0.2
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°	392.5	80.6
0°-40°	451.4	92.7
0°-60°	475.9	97.8
0°-90°	486.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	486.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	858	858	858	858	858	
5°	838	838	840	839	837	78
15°	635	632	637	635	638	173
25°	293	303	307	308	308	135
35°	75	83	104	85	78	52
45°	15	19	23	20	15	15
55°	8	8	8	8	8	7
65°	6	6	6	6	6	5
75°	4	4	4	4	4	4
85°	1	1	1	1	1	1
90°	0	0	0	0	0	



TEST NUMBER: P885911

CATALOG NUMBER: ML104LSFL9FS1E-TIR1D40FL-TL1SDMW-400LM-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	857.8	857.8	857.8	857.8	857.8
2.5°	855.5	855.5	855.5	856.7	854.3
5°	838.0	838.0	840.3	839.1	836.8
7.5°	809.9	809.9	811.1	811.1	809.9
10°	766.7	767.8	765.5	769.0	771.3
12.5°	711.7	710.6	711.7	712.9	711.7
15°	634.6	632.3	636.9	634.6	638.1
17.5°	545.8	554.0	561.0	556.3	551.6
20°	455.8	462.8	475.7	469.8	465.1
22.5°	371.7	381.0	391.5	389.2	383.3
25°	293.3	302.7	307.4	308.5	308.5
27.5°	226.7	234.9	238.4	243.1	236.1
30°	161.3	173.0	185.8	184.7	170.6
32.5°	109.9	121.5	143.8	129.7	114.5
35°	74.8	83.0	104.0	85.3	78.3
37.5°	54.9	59.6	69.0	60.8	57.3
40°	38.6	42.1	45.6	44.4	40.9
42.5°	25.7	29.2	32.7	30.4	25.7
45°	15.2	18.7	23.4	19.9	15.2
47.5°	11.7	12.9	17.5	12.9	11.7
50°	10.5	10.5	11.7	10.5	10.5
52.5°	9.3	9.3	9.3	9.3	9.3
55°	8.2	8.2	8.2	8.2	8.2
57.5°	7.0	7.0	7.0	7.0	7.0
60°	7.0	7.0	7.0	7.0	7.0
62.5°	5.8	5.8	5.8	5.8	5.8
65°	5.8	5.8	5.8	5.8	5.8
67.5°	4.7	5.8	5.8	5.8	5.8
70°	4.7	4.7	4.7	4.7	4.7
72.5°	4.7	4.7	4.7	4.7	4.7
75°	3.5	3.5	3.5	3.5	3.5
77.5°	3.5	3.5	3.5	3.5	3.5
80°	2.3	2.3	2.3	2.3	2.3
82.5°	2.3	2.3	1.2	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



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)