

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: P885901

Luminaire Tested: ML104LSFL9FS1E-TIR1D40FL-TL1SDMB-400LM-4000K

Issue Date: 6/19/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P885901  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-144)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 6/19/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML104LSFL9FS1E-TIR1D40FL-TL1SDMB-400LM-4000K  
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, MATTE BLACK TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

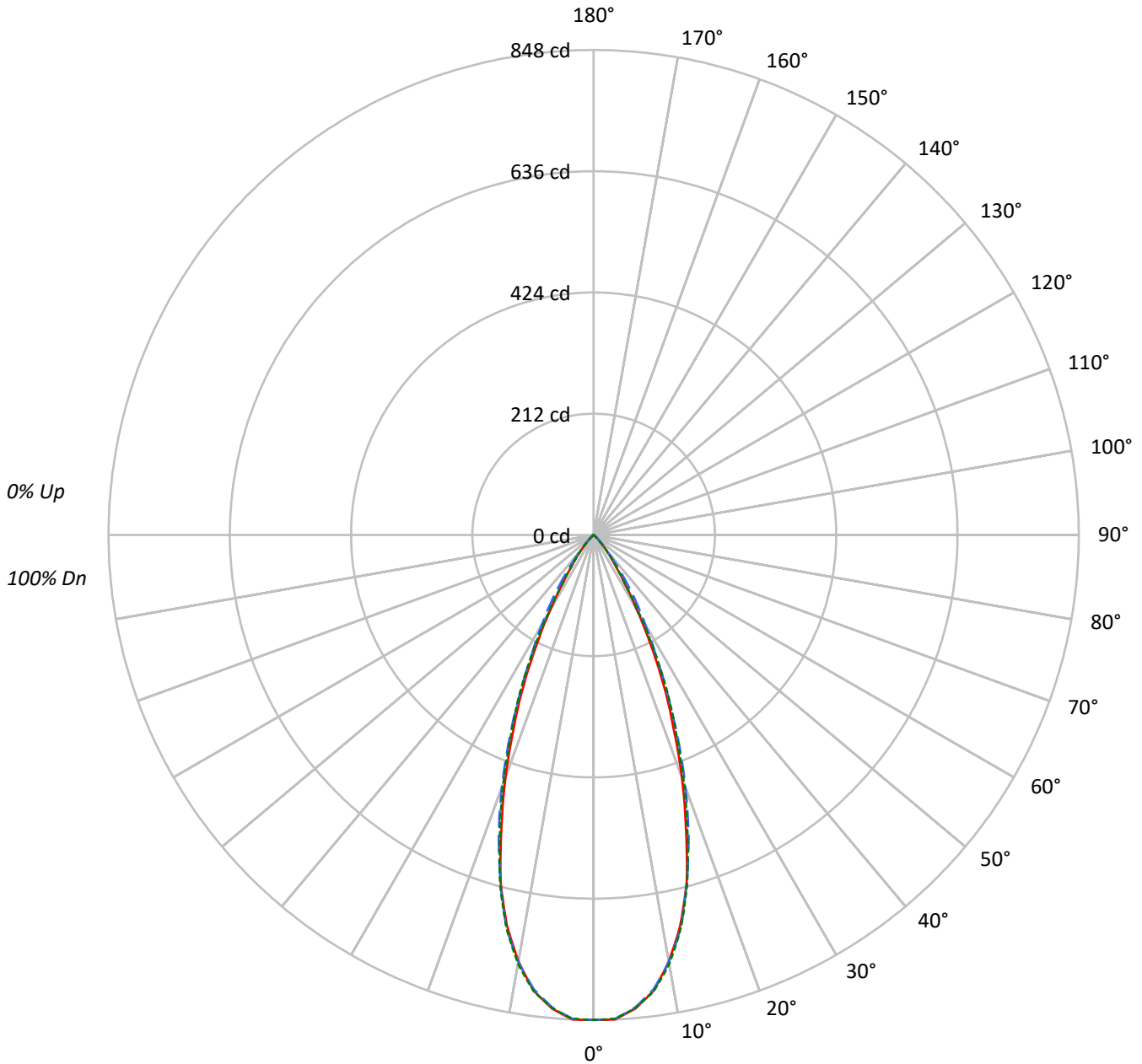
Lumens per Lamp: N/A  
Luminaire Lumens: 453.0 lumens  
Efficiency: N/A  
Efficacy: 75.5 lumens/watt  
Spacing Criteria (0/90/45): 0.67 / 0.68 / 0.68  
Luminous Opening: Rectangular (W 0.08' x L: 0.08' x H: 0')  
CIE Type: Direct

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: P885901  
CATALOG NUMBER: ML104LSFL9FS1E-TIR1D40FL-TL1SDMB-400LM-4000K

### Luminous Intensity Polar Plot





TEST NUMBER: P885901

CATALOG NUMBER: ML104LSFL9FS1E-TIR1D40FL-TL1SDMB-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	98	98	97	95	
	1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	98	98	97	95	95	93	91	91	90	90	
	2	109	105	102	99	107	103	100	97	100	98	95	97	95	93	95	93	91	90	90	88	87	87	85	85	
	3	105	99	95	91	103	98	94	91	95	92	89	93	90	88	91	88	87	85	85	83	82	82	81	81	
	4	100	94	89	85	99	93	88	85	91	87	84	89	86	83	87	84	82	81	81	78	78	78	77	77	
	5	96	89	84	80	95	88	83	80	86	82	79	85	81	78	83	80	78	77	77	74	74	74	73	73	
	6	92	85	79	76	91	84	79	75	82	78	75	81	77	74	80	77	74	73	73	70	70	70	69	69	
	7	89	81	75	72	87	80	75	71	79	74	71	78	74	71	77	73	70	69	69	67	67	67	66	66	
	8	85	77	72	68	84	76	71	68	75	71	68	74	70	67	73	70	67	66	66	64	64	64	63	63	
	9	82	73	68	65	81	73	68	65	72	68	64	71	67	64	70	67	64	63	63	61	61	61	60	60	
	10	79	70	65	62	78	70	65	62	69	65	62	68	64	61	68	64	61	60	60	58	58	58	57	57	

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

	0°	45°	90°
0°	1314569	1314569	1314569
5°	1294228	1290494	1292361
10°	1191306	1193195	1198703
15°	1008069	1009995	1013686
20°	742932	773777	760251
25°	494263	518207	524193
30°	270081	322523	286906
35°	128482	179382	135105
40°	61511	75675	66368
45°	20605	33319	17975
50°	5546	11334	5546
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: 33319 cd/sqm



TEST NUMBER: P885901

CATALOG NUMBER: ML104LSFL9FS1E-TIR1D40FL-TL1SDMB-400LM-4000K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	77.0	17.0
10°-20°	171.9	38.0
20°-30°	137.6	30.4
30°-40°	54.1	11.9
40°-50°	11.2	2.5
50°-60°	1.2	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°	386.6	85.3
0°-40°	440.7	97.3
0°-60°	453.0	100.0
0°-90°	453.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	453.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	848	848	848	848	848	
5°	832	829	829	831	831	77
15°	628	626	629	631	632	170
25°	289	291	303	308	306	131
35°	68	77	95	80	71	47
45°	9	12	15	12	8	9
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: P885901

CATALOG NUMBER: ML104LSFL9FS1E-TIR1D40FL-TL1SDMB-400LM-4000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	848.1	848.1	848.1	848.1	848.1
2.5°	848.1	845.8	847.0	848.1	847.0
5°	831.8	829.4	829.4	830.6	830.6
7.5°	803.7	802.5	801.4	802.5	804.9
10°	756.9	759.2	758.1	761.6	761.6
12.5°	699.6	698.4	704.3	704.3	704.3
15°	628.2	625.9	629.4	630.6	631.7
17.5°	535.8	544.0	552.2	548.7	545.2
20°	450.4	457.4	469.1	464.4	460.9
22.5°	363.8	373.2	383.7	381.4	376.7
25°	289.0	291.3	303.0	307.7	306.5
27.5°	214.1	228.1	232.8	239.8	230.5
30°	150.9	167.3	180.2	176.6	160.3
32.5°	101.8	114.6	135.7	121.7	104.1
35°	67.9	77.2	94.8	79.6	71.4
37.5°	46.8	51.5	60.8	53.8	48.0
40°	30.4	35.1	37.4	36.3	32.8
42.5°	17.5	22.2	24.6	22.2	18.7
45°	9.4	11.7	15.2	11.7	8.2
47.5°	4.7	5.8	9.4	5.8	4.7
50°	2.3	3.5	4.7	3.5	2.3
52.5°	1.2	2.3	2.3	2.3	1.2
55°	1.2	1.2	1.2	1.2	1.2
57.5°	0.0	0.0	1.2	0.0	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)