

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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: METALUX

Report Number: P893599

Luminaire Tested: 4MB-5SL-ASMF-UNV-L940

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893599  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2407-185-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-5SL-ASMF-UNV-L940  
Description: 5000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 90CRI, 4000K CCT  
Light Source: -  
Ballast/Driver: -

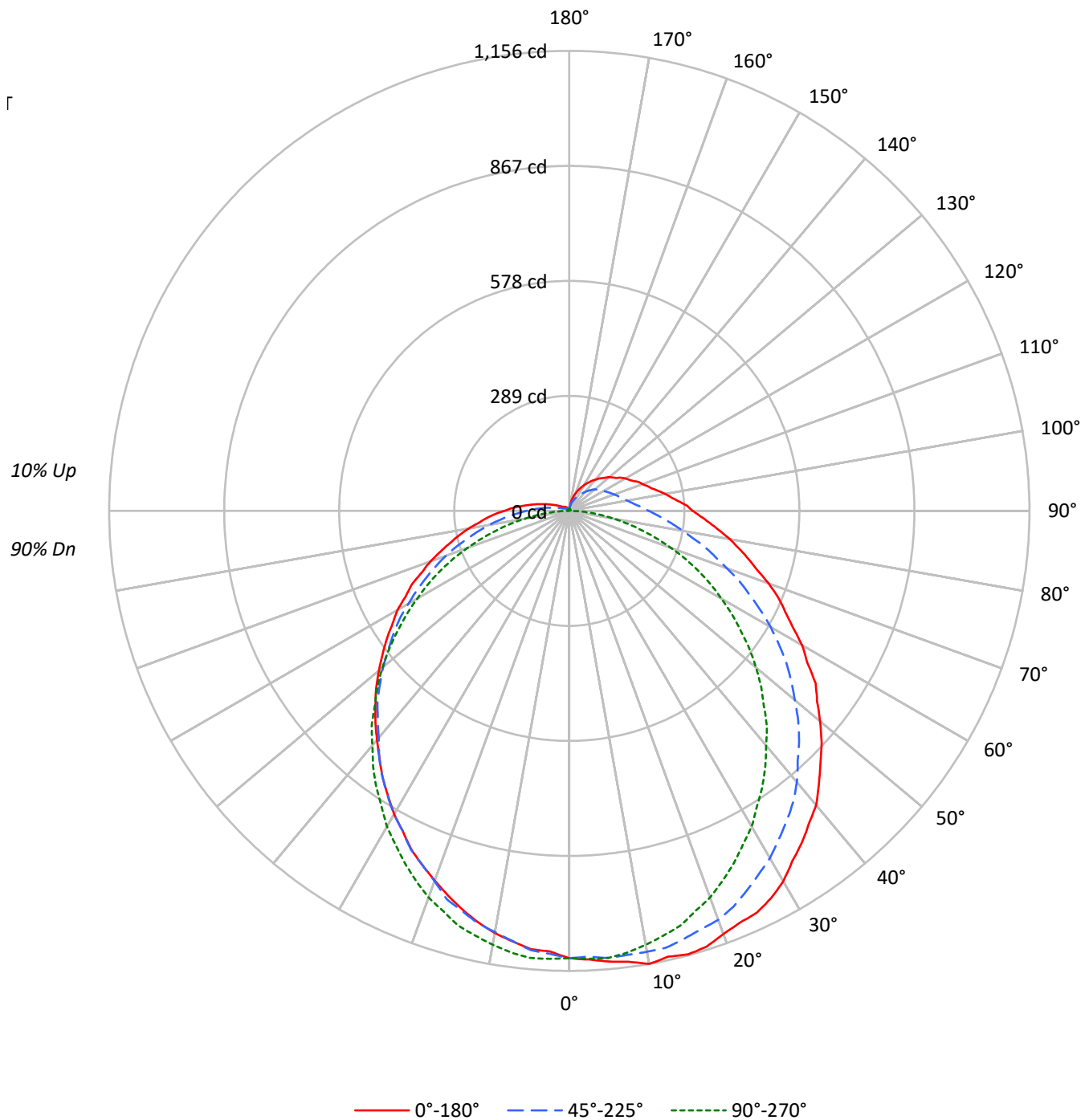
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3864.0 lumens  
Efficiency: N/A  
Efficacy: 110.4 lumens/watt  
Spacing Criteria (0/90/45): 1.28 / 1.21 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.27' x L: 3.98' x H: 0.12')  
CIE Type: Direct

Input Watts (W): 35  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.995  
Total Harmonic Distortion (THDi): 9.55  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

TEST NUMBER: P893599  
CATALOG NUMBER: 4MB-5SL-ASMF-UNV-L940

### Luminous Intensity Polar Plot





TEST NUMBER: P893599

CATALOG NUMBER: 4MB-5SL-ASMF-UNV-L940

**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	0
RCR																					
0	117	117	117	117	113	113	113	113	106	106	106	99	99	99	93	93	93	93	93	93	90
1	105	99	95	90	101	96	92	88	90	87	83	85	82	79	79	77	75	75	75	75	72
2	95	86	79	72	91	83	76	71	78	72	68	73	69	65	69	65	62	62	62	62	59
3	86	75	66	60	83	73	65	58	68	62	56	64	59	54	60	56	52	52	52	52	49
4	79	66	57	50	76	64	56	49	61	53	48	57	51	46	54	49	44	44	44	44	42
5	72	59	50	43	69	57	49	42	54	47	41	51	45	40	48	43	38	38	38	38	36
6	67	53	44	37	64	52	43	37	49	41	36	46	40	35	44	38	34	34	34	34	31
7	62	48	39	33	59	47	38	32	44	37	32	42	36	31	40	34	30	30	30	30	28
8	57	44	35	29	55	43	35	29	41	33	28	39	32	27	37	31	27	27	27	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	24	24	24	22
10	50	37	29	24	49	36	29	23	34	28	23	33	27	22	31	26	22	22	22	22	20

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

	0°	45°	90°	135°	180°
0°	11446	11446	11446	11446	11446
5°	11590	11182	11074	10987	11269
10°	11888	10949	10571	10456	11078
15°	12062	10718	10102	10020	10845
20°	12121	10495	9568	9498	10591
25°	12341	10158	9005	9064	10399
30°	12416	9834	8471	8594	10164
35°	12386	9479	7908	8141	9946
40°	12497	9112	7332	7632	9732
45°	12461	8679	6764	7245	9613
50°	12555	8233	6217	6801	9534
55°	12833	7846	5591	6357	9501
60°	13047	7365	4950	5883	9628
65°	13499	6843	4300	5413	9846
70°	14602	6345	3524	4964	10180
75°	16405	5983	2695	4441	10886
80°	20395	5633	1805	3980	12783
85°	30488	5557	907	3505	17926

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 90°  
 Luminance: 100367 cd/sqm



TEST NUMBER: P893599  
 CATALOG NUMBER: 4MB-5SL-ASMF-UNV-L940

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	106.6	2.8
10°-20°	305.6	7.9
20°-30°	460.9	11.9
30°-40°	553.1	14.3
40°-50°	576.0	14.9
50°-60°	533.9	13.8
60°-70°	439.7	11.4
70°-80°	317.2	8.2
80°-90°	201.4	5.2
90°-100°	124.1	3.2
100°-110°	82.8	2.1
110°-120°	58.9	1.5
120°-130°	43.2	1.1
130°-140°	29.7	0.8
140°-150°	18.1	0.5
150°-160°	9.0	0.2
160°-170°	3.3	0.1
170°-180°	0.5	0.0
0°-30°	873.1	22.6
0°-40°	1426.3	36.9
0°-60°	2536.2	65.6
0°-90°	3494.4	90.4
90°-120°	265.9	6.9
90°-150°	356.8	9.2
90°-180°	370.0	9.6
0°-180°	3864.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1124	1124	1124	1124	1124	
5°	1137	1128	1128	1108	1105	109
15°	1154	1113	1079	1041	1037	325
25°	1114	1054	977	940	939	512
35°	1018	952	846	818	818	638
45°	892	816	691	682	688	690
55°	755	666	526	540	559	671
65°	598	500	358	396	436	595
75°	466	354	189	262	309	494
85°	355	240	50	152	208	301
90°	310	200	4	108	162	171
95°	276	169	3	72	125	219
105°	216	133	3	30	66	231
115°	178	110	3	14	32	178
125°	144	92	4	11	18	131
135°	116	73	4	8	14	91
145°	89	52	4	6	10	56
155°	61	34	4	4	6	29
165°	35	20	4	3	3	10
175°	5	8	5	2	1	1
180°	3	3	3	3	3	



TEST NUMBER: P893599

CATALOG NUMBER: 4MB-5SL-ASMF-UNV-L940

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1123.9	1123.9	1123.9	1123.9	1123.9	1123.9	1123.9	1123.9	1123.9
2.5°	1128.4	1131.7	1121.1	1127.8	1126.7	1127.8	1114.3	1125.6	1108.1
5°	1136.8	1138.5	1127.8	1131.7	1127.8	1118.3	1108.1	1104.2	1105.3
7.5°	1142.4	1151.4	1125.0	1126.1	1119.4	1109.3	1090.2	1093.5	1091.3
10°	1155.9	1145.8	1125.0	1119.9	1107.0	1096.3	1074.4	1076.1	1077.2
12.5°	1147.5	1145.2	1124.4	1105.9	1093.0	1084.0	1061.5	1055.9	1058.7
15°	1153.7	1144.1	1113.2	1098.6	1078.9	1063.2	1040.7	1036.8	1037.3
17.5°	1148.0	1140.2	1102.0	1081.7	1054.2	1044.6	1023.3	1016.5	1013.2
20°	1131.2	1127.2	1093.5	1058.7	1034.0	1015.4	989.6	985.6	988.4
22.5°	1119.9	1110.4	1076.7	1041.8	1005.9	989.6	963.7	963.2	963.7
25°	1114.3	1102.0	1053.6	1017.1	977.2	962.6	940.1	931.7	939.0
27.5°	1097.5	1086.2	1029.5	989.6	945.2	925.5	907.0	905.3	906.4
30°	1075.0	1053.1	1007.6	958.7	916.0	895.7	880.6	869.3	880.0
32.5°	1043.0	1030.6	978.9	925.5	878.3	864.3	849.1	848.0	848.0
35°	1018.2	1009.2	951.9	896.3	845.7	826.6	817.6	813.7	817.6
37.5°	989.6	976.1	923.3	860.9	809.2	792.9	783.9	780.5	783.3
40°	964.8	940.1	889.5	824.4	769.3	754.7	745.1	748.5	751.3
42.5°	928.3	914.3	849.6	787.3	735.0	719.3	711.4	714.2	721.0
45°	892.4	879.4	816.5	748.5	690.6	682.2	681.6	679.9	688.4
47.5°	859.8	841.2	780.0	710.3	653.5	644.0	645.1	650.7	658.0
50°	822.1	800.2	739.5	669.3	612.5	606.3	610.8	614.8	624.3
52.5°	784.5	767.0	702.4	630.5	570.9	566.4	572.6	585.5	591.2
55°	755.2	723.8	665.9	585.0	526.5	527.1	539.5	546.8	559.1
57.5°	708.6	685.0	624.3	544.5	485.0	488.9	505.7	518.1	526.0
60°	675.4	645.7	583.9	501.2	441.1	447.3	466.4	485.0	498.4
62.5°	632.7	606.9	541.7	458.5	400.7	409.7	431.0	452.9	462.5
65°	597.9	568.7	500.1	415.8	358.5	369.2	395.6	420.3	436.1
67.5°	568.1	537.8	463.0	376.5	315.8	331.5	362.4	386.6	399.0
70°	532.7	497.3	420.9	332.7	271.4	290.0	329.3	357.4	371.4
72.5°	495.1	466.4	384.4	292.2	230.4	252.9	296.1	325.4	338.8
75°	465.8	433.8	353.5	251.7	188.8	215.8	262.4	295.6	309.1
77.5°	436.1	406.8	318.6	214.7	151.7	182.1	232.6	269.2	283.2
80°	409.7	375.9	289.4	184.3	112.9	148.9	204.5	240.5	256.8
82.5°	380.4	351.2	264.1	152.3	80.4	118.6	177.0	216.3	229.8
85°	354.6	324.2	240.5	127.0	49.5	91.6	151.7	192.2	208.5
87.5°	331.0	305.7	218.6	107.9	24.7	69.7	127.6	168.6	187.1
90°	309.6	281.0	200.0	90.5	4.5	50.6	107.9	148.4	162.4
92.5°	296.1	261.9	184.9	79.2	2.8	36.0	89.9	129.8	146.1
95°	275.9	245.6	169.1	70.8	2.8	24.2	72.5	111.3	125.3
97.5°	258.5	230.4	157.9	65.7	2.2	16.3	59.6	93.3	107.9
100°	245.0	218.6	147.8	61.3	2.8	11.8	47.2	79.2	92.2
102.5°	229.8	205.7	139.9	58.4	2.8	8.4	37.1	66.9	78.7
105°	216.3	195.0	132.6	55.6	2.8	7.3	29.8	55.1	65.7
107.5°	206.2	183.8	126.4	53.9	2.8	7.3	23.6	45.0	53.9
110°	196.1	174.8	120.3	52.3	2.8	6.7	18.5	37.1	45.0



TEST NUMBER: P893599

CATALOG NUMBER: 4MB-5SL-ASMF-UNV-L940

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	189.4	166.3	114.6	50.6	3.4	6.7	15.2	30.9	37.1
115°	177.6	159.0	109.6	50.0	3.4	6.2	14.0	25.3	31.5
117.5°	169.1	152.3	104.5	48.3	3.4	6.2	13.5	20.8	25.3
120°	163.0	144.4	100.0	46.6	3.4	5.6	12.4	18.5	21.4
122.5°	155.1	137.1	96.1	45.5	3.4	5.6	11.8	17.4	19.1
125°	144.4	130.4	91.6	43.3	3.9	5.6	11.2	16.3	18.0
127.5°	137.7	124.2	88.2	40.5	3.9	5.1	10.7	15.2	16.9
130°	132.1	117.4	84.3	37.6	3.9	5.1	10.1	14.0	15.7
132.5°	123.6	110.7	78.7	35.4	3.9	4.5	9.0	12.9	14.6
135°	115.8	105.1	73.1	33.2	3.9	4.5	8.4	12.4	13.5
137.5°	110.7	99.5	68.0	30.9	3.9	3.9	7.9	11.2	12.4
140°	102.3	93.3	62.4	28.7	3.9	3.9	7.3	10.7	11.2
142.5°	96.1	87.1	57.3	26.4	3.9	3.9	6.7	9.6	10.7
145°	88.8	80.9	51.7	24.2	3.9	3.4	6.2	9.0	9.6
147.5°	82.0	73.6	47.2	22.5	3.9	3.4	5.6	7.9	8.4
150°	75.3	66.3	42.7	20.8	3.9	3.4	5.1	6.7	7.9
152.5°	68.0	57.3	38.2	19.1	3.9	3.4	4.5	6.2	6.7
155°	60.7	50.0	34.3	17.4	4.5	3.4	3.9	5.1	6.2
157.5°	54.5	43.3	30.3	15.7	4.5	2.8	3.9	4.5	5.1
160°	47.2	37.1	27.0	14.0	4.5	2.8	3.4	3.9	4.5
162.5°	41.6	30.9	23.6	12.9	4.5	2.8	3.4	3.4	3.9
165°	35.4	25.8	19.7	11.8	4.5	2.8	2.8	2.8	3.4
167.5°	28.7	20.2	16.3	10.7	4.5	2.8	2.8	2.2	2.8
170°	21.4	15.2	13.5	9.6	4.5	2.8	2.2	1.7	2.2
172.5°	9.6	11.8	10.7	8.4	5.1	2.8	2.2	1.7	1.1
175°	5.1	8.4	8.4	7.3	5.1	2.8	2.2	1.7	0.6
177.5°	3.9	5.1	6.2	6.2	5.1	3.4	2.2	1.1	0.6
180°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4



TEST NUMBER: P893599  
 CATALOG NUMBER: 4MB-5SL-ASMF-UNV-L940

**CIE UGR TABLE:**

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	18.83	20.31	19.34	20.81	21.36	17.80	19.28	18.31	19.78	20.33
	3H	20.92	22.27	21.44	22.78	23.36	19.68	21.02	20.19	21.53	22.12
	4H	21.86	23.14	22.40	23.67	24.26	20.42	21.70	20.96	22.23	22.82
	6H	22.78	23.97	23.33	24.51	25.12	21.05	22.24	21.61	22.78	23.40
	8H	23.21	24.35	23.78	24.91	25.53	21.31	22.45	21.87	23.01	23.63
	12H	23.63	24.72	24.20	25.28	25.93	21.54	22.63	22.11	23.19	23.84
4H	2H	19.33	20.60	19.87	21.13	21.73	18.37	19.64	18.91	20.17	20.77
	3H	21.64	22.73	22.19	23.30	23.92	20.43	21.51	20.98	22.08	22.70
	4H	22.75	23.75	23.33	24.33	24.98	21.28	22.28	21.85	22.85	23.50
	6H	23.86	24.74	24.45	25.34	26.00	22.04	22.91	22.63	23.52	24.18
	8H	24.39	25.21	24.98	25.81	26.49	22.35	23.18	22.95	23.78	24.46
	12H	24.91	25.66	25.53	26.29	26.97	22.64	23.39	23.26	24.02	24.70
8H	4H	23.01	23.84	23.61	24.44	25.11	21.62	22.44	22.22	23.05	23.72
	6H	24.29	24.99	24.92	25.64	26.32	22.50	23.20	23.13	23.85	24.53
	8H	24.96	25.59	25.60	26.25	26.94	22.90	23.53	23.54	24.19	24.88
	12H	25.66	26.23	26.31	26.87	27.63	23.29	23.85	23.93	24.50	25.25
12H	4H	23.03	23.78	23.65	24.41	25.09	21.68	22.43	22.30	23.06	23.74
	6H	24.35	24.98	24.99	25.63	26.33	22.61	23.24	23.25	23.90	24.59
	8H	25.09	25.65	25.73	26.30	27.05	23.07	23.64	23.72	24.28	25.04