

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: P893596

Luminaire Tested: 4MB-5SL-ASMF-UNV-L850

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893596  
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-L850  
Description: 5000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 80CRI, 5000K CCT  
Light Source: -  
Ballast/Driver: -

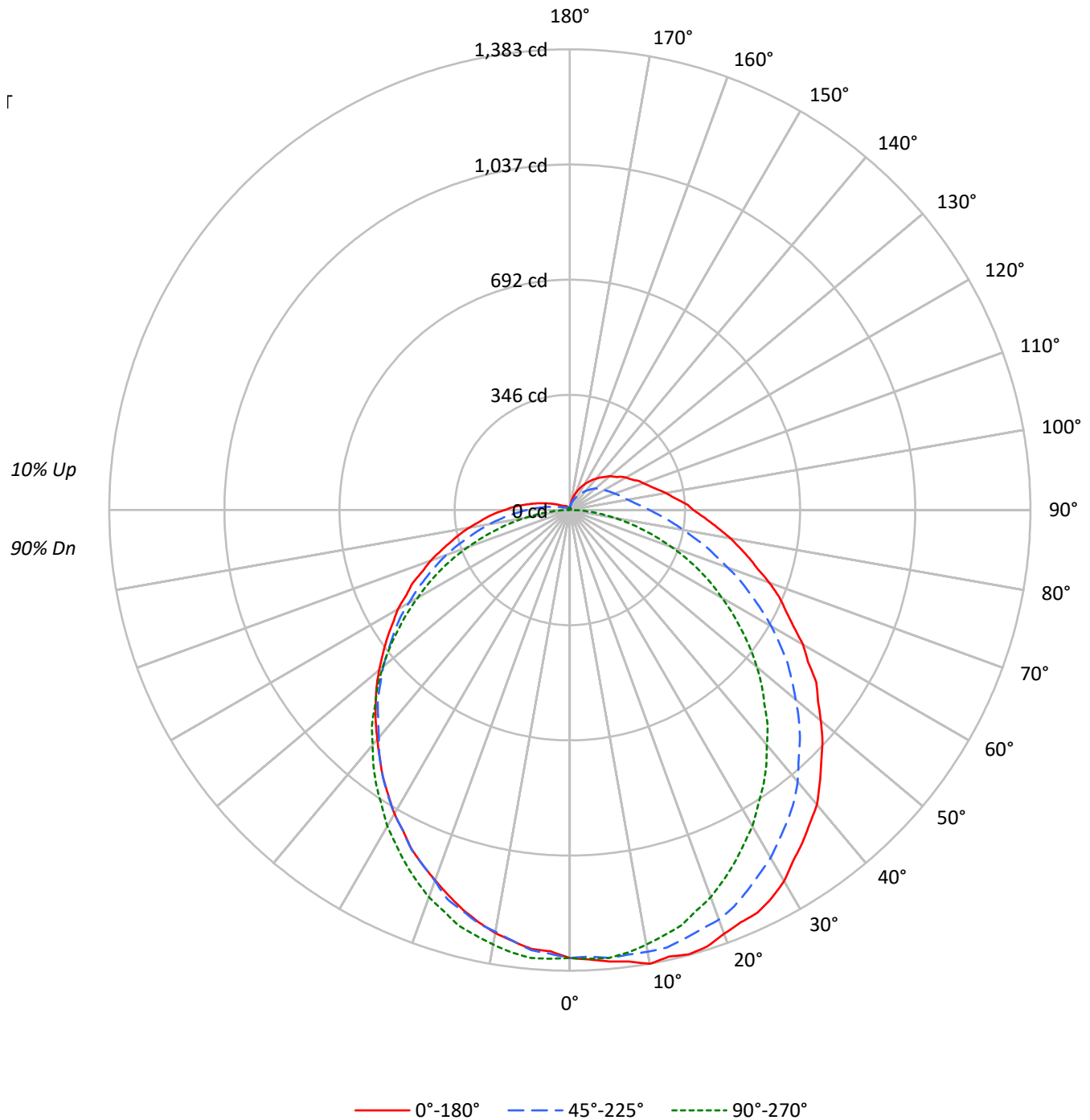
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4624.0 lumens  
Efficiency: N/A  
Efficacy: 132.1 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: P893596  
CATALOG NUMBER: 4MB-5SL-ASMF-UNV-L850

### Luminous Intensity Polar Plot





TEST NUMBER: P893596  
 CATALOG NUMBER: 4MB-5SL-ASMF-UNV-L850

**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	117	117	117	117	113	113	113	113	106	106	106	99	99	99	93	93	93	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	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	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	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	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	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	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	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	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	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	22	22	22	20		

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

	0°	45°	90°	135°	180°
0°	13697	13697	13697	13697	13697
5°	13869	13382	13252	13149	13485
10°	14226	13102	12650	12513	13258
15°	14435	12825	12088	11990	12979
20°	14505	12560	11449	11366	12675
25°	14768	12157	10776	10846	12445
30°	14858	11767	10136	10284	12164
35°	14823	11344	9464	9743	11902
40°	14956	10904	8774	9134	11646
45°	14912	10386	8095	8670	11504
50°	15025	9853	7441	8139	11410
55°	15358	9389	6691	7607	11370
60°	15614	8813	5924	7040	11523
65°	16154	8189	5145	6477	11781
70°	17474	7593	4218	5941	12184
75°	19635	7160	3225	5315	13028
80°	24402	6740	2161	4765	15297
85°	36481	6650	1084	4196	21452

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 90°  
 Luminance: 120110 cd/sqm



TEST NUMBER: P893596  
 CATALOG NUMBER: 4MB-5SL-ASMF-UNV-L850

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	127.6	2.8
10°-20°	365.7	7.9
20°-30°	551.5	11.9
30°-40°	661.9	14.3
40°-50°	689.3	14.9
50°-60°	638.9	13.8
60°-70°	526.2	11.4
70°-80°	379.6	8.2
80°-90°	241.0	5.2
90°-100°	148.6	3.2
100°-110°	99.0	2.1
110°-120°	70.5	1.5
120°-130°	51.7	1.1
130°-140°	35.5	0.8
140°-150°	21.6	0.5
150°-160°	10.7	0.2
160°-170°	3.9	0.1
170°-180°	0.7	0.0
0°-30°	1044.8	22.6
0°-40°	1706.8	36.9
0°-60°	3035.0	65.6
0°-90°	4181.7	90.4
90°-120°	318.1	6.9
90°-150°	427.0	9.2
90°-180°	442.0	9.6
0°-180°	4624.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1345	1345	1345	1345	1345	
5°	1360	1350	1350	1326	1323	130
15°	1381	1332	1291	1245	1241	389
25°	1334	1261	1169	1125	1124	613
35°	1218	1139	1012	978	978	763
45°	1068	977	826	816	824	826
55°	904	797	630	646	669	803
65°	716	598	429	473	522	713
75°	558	423	226	314	370	591
85°	424	288	59	182	250	360
90°	370	239	5	129	194	204
95°	330	202	3	87	150	262
105°	259	159	3	36	79	277
115°	212	131	4	17	38	213
125°	173	110	5	13	22	157
135°	138	87	5	10	16	109
145°	106	62	5	7	11	67
155°	73	41	5	5	7	34
165°	42	24	5	3	4	12
175°	6	10	6	3	1	1
180°	4	4	4	4	4	



TEST NUMBER: P893596

CATALOG NUMBER: 4MB-5SL-ASMF-UNV-L850

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1344.9	1344.9	1344.9	1344.9	1344.9	1344.9	1344.9	1344.9	1344.9
2.5°	1350.3	1354.3	1341.6	1349.6	1348.3	1349.6	1333.5	1346.9	1326.1
5°	1360.4	1362.4	1349.6	1354.3	1349.6	1338.2	1326.1	1321.4	1322.7
7.5°	1367.1	1377.9	1346.3	1347.6	1339.5	1327.4	1304.6	1308.6	1305.9
10°	1383.3	1371.2	1346.3	1340.2	1324.8	1312.0	1285.7	1287.8	1289.1
12.5°	1373.2	1370.5	1345.6	1323.4	1307.9	1297.2	1270.3	1263.6	1266.9
15°	1380.6	1369.1	1332.1	1314.7	1291.1	1272.3	1245.4	1240.7	1241.4
17.5°	1373.8	1364.4	1318.7	1294.5	1261.5	1250.1	1224.6	1216.5	1212.4
20°	1353.7	1349.0	1308.6	1266.9	1237.3	1215.1	1184.2	1179.5	1182.9
22.5°	1340.2	1328.8	1288.4	1246.7	1203.7	1184.2	1153.3	1152.6	1153.3
25°	1333.5	1318.7	1260.9	1217.2	1169.4	1151.9	1125.0	1114.9	1123.7
27.5°	1313.3	1299.9	1232.0	1184.2	1131.1	1107.5	1085.4	1083.3	1084.7
30°	1286.4	1260.2	1205.7	1147.2	1096.1	1071.9	1053.7	1040.3	1053.1
32.5°	1248.1	1233.3	1171.4	1107.5	1051.1	1034.2	1016.1	1014.7	1014.7
35°	1218.5	1207.7	1139.2	1072.6	1012.1	989.2	978.4	973.7	978.4
37.5°	1184.2	1168.1	1104.9	1030.2	968.3	948.8	938.1	934.1	937.4
40°	1154.6	1125.0	1064.5	986.5	920.6	903.1	891.7	895.7	899.1
42.5°	1110.9	1094.1	1016.8	942.1	879.6	860.8	851.3	854.7	862.8
45°	1067.9	1052.4	977.1	895.7	826.5	816.4	815.7	813.7	823.8
47.5°	1028.9	1006.7	933.4	850.0	782.1	770.6	772.0	778.7	787.5
50°	983.8	957.6	885.0	800.9	733.0	725.6	731.0	735.7	747.1
52.5°	938.8	917.9	840.6	754.5	683.2	677.8	685.2	700.7	707.4
55°	903.8	866.1	796.9	700.0	630.1	630.8	645.6	654.3	669.1
57.5°	848.0	819.7	747.1	651.6	580.3	585.0	605.2	620.0	629.4
60°	808.3	772.7	698.7	599.8	527.9	535.3	558.1	580.3	596.5
62.5°	757.2	726.3	648.3	548.7	479.5	490.2	515.8	542.0	553.4
65°	715.5	680.5	598.5	497.6	429.0	441.8	473.4	503.0	521.8
67.5°	679.9	643.5	554.1	450.5	377.9	396.8	433.7	462.7	477.4
70°	637.5	595.1	503.7	398.1	324.8	347.0	394.1	427.7	444.5
72.5°	592.4	558.1	460.0	349.7	275.7	302.6	354.4	389.4	405.5
75°	557.5	519.1	423.0	301.3	225.9	258.2	314.0	353.7	369.9
77.5°	521.8	486.9	381.3	256.9	181.6	217.9	278.4	322.1	338.9
80°	490.2	449.9	346.3	220.6	135.2	178.2	244.8	287.8	307.3
82.5°	455.3	420.3	316.1	182.2	96.2	141.9	211.8	258.9	275.0
85°	424.3	388.0	287.8	152.0	59.2	109.6	181.6	230.0	249.5
87.5°	396.1	365.8	261.6	129.1	29.6	83.4	152.6	201.7	223.9
90°	370.5	336.2	239.4	108.3	5.4	60.5	129.1	177.5	194.3
92.5°	354.4	313.4	221.2	94.8	3.4	43.0	107.6	155.3	174.8
95°	330.2	293.9	202.4	84.7	3.4	28.9	86.7	133.1	150.0
97.5°	309.3	275.7	189.0	78.7	2.7	19.5	71.3	111.6	129.1
100°	293.2	261.6	176.9	73.3	3.4	14.1	56.5	94.8	110.3
102.5°	275.0	246.1	167.4	69.9	3.4	10.1	44.4	80.0	94.1
105°	258.9	233.3	158.7	66.6	3.4	8.7	35.6	65.9	78.7
107.5°	246.8	219.9	151.3	64.6	3.4	8.7	28.2	53.8	64.6
110°	234.7	209.1	143.9	62.5	3.4	8.1	22.2	44.4	53.8



TEST NUMBER: P893596

CATALOG NUMBER: 4MB-5SL-ASMF-UNV-L850

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	226.6	199.0	137.2	60.5	4.0	8.1	18.2	37.0	44.4
115°	212.5	190.3	131.1	59.8	4.0	7.4	16.8	30.3	37.7
117.5°	202.4	182.2	125.1	57.8	4.0	7.4	16.1	24.9	30.3
120°	195.0	172.8	119.7	55.8	4.0	6.7	14.8	22.2	25.6
122.5°	185.6	164.1	115.0	54.5	4.0	6.7	14.1	20.8	22.9
125°	172.8	156.0	109.6	51.8	4.7	6.7	13.4	19.5	21.5
127.5°	164.8	148.6	105.6	48.4	4.7	6.1	12.8	18.2	20.2
130°	158.0	140.5	100.9	45.1	4.7	6.1	12.1	16.8	18.8
132.5°	147.9	132.5	94.1	42.4	4.7	5.4	10.8	15.5	17.5
135°	138.5	125.8	87.4	39.7	4.7	5.4	10.1	14.8	16.1
137.5°	132.5	119.0	81.4	37.0	4.7	4.7	9.4	13.4	14.8
140°	122.4	111.6	74.6	34.3	4.7	4.7	8.7	12.8	13.4
142.5°	115.0	104.2	68.6	31.6	4.7	4.7	8.1	11.4	12.8
145°	106.2	96.8	61.9	28.9	4.7	4.0	7.4	10.8	11.4
147.5°	98.2	88.1	56.5	26.9	4.7	4.0	6.7	9.4	10.1
150°	90.1	79.4	51.1	24.9	4.7	4.0	6.1	8.1	9.4
152.5°	81.4	68.6	45.7	22.9	4.7	4.0	5.4	7.4	8.1
155°	72.6	59.8	41.0	20.8	5.4	4.0	4.7	6.1	7.4
157.5°	65.2	51.8	36.3	18.8	5.4	3.4	4.7	5.4	6.1
160°	56.5	44.4	32.3	16.8	5.4	3.4	4.0	4.7	5.4
162.5°	49.8	37.0	28.2	15.5	5.4	3.4	4.0	4.0	4.7
165°	42.4	30.9	23.5	14.1	5.4	3.4	3.4	3.4	4.0
167.5°	34.3	24.2	19.5	12.8	5.4	3.4	3.4	2.7	3.4
170°	25.6	18.2	16.1	11.4	5.4	3.4	2.7	2.0	2.7
172.5°	11.4	14.1	12.8	10.1	6.1	3.4	2.7	2.0	1.3
175°	6.1	10.1	10.1	8.7	6.1	3.4	2.7	2.0	0.7
177.5°	4.7	6.1	7.4	7.4	6.1	4.0	2.7	1.3	0.7
180°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0



TEST NUMBER: P893596  
 CATALOG NUMBER: 4MB-5SL-ASMF-UNV-L850

**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	19.46	20.93	19.96	21.44	21.98	18.43	19.91	18.93	20.41	20.95
	3H	21.54	22.89	22.06	23.40	23.99	20.30	21.65	20.82	22.16	22.74
	4H	22.49	23.76	23.03	24.29	24.89	21.05	22.32	21.58	22.85	23.45
	6H	23.41	24.59	23.96	25.13	25.75	21.68	22.87	22.23	23.41	24.02
	8H	23.83	24.97	24.40	25.54	26.15	21.93	23.07	22.50	23.64	24.25
	12H	24.26	25.35	24.83	25.90	26.55	22.16	23.26	22.74	23.81	24.46
4H	2H	19.95	21.23	20.49	21.75	22.35	18.99	20.27	19.53	20.80	21.39
	3H	22.26	23.35	22.82	23.92	24.54	21.05	22.14	21.60	22.71	23.33
	4H	23.38	24.37	23.95	24.95	25.60	21.90	22.90	22.48	23.48	24.13
	6H	24.48	25.36	25.07	25.96	26.63	22.66	23.54	23.25	24.14	24.80
	8H	25.01	25.84	25.61	26.44	27.11	22.97	23.80	23.57	24.40	25.08
	12H	25.54	26.29	26.16	26.92	27.60	23.27	24.02	23.89	24.65	25.33
8H	4H	23.63	24.46	24.23	25.06	25.74	22.24	23.07	22.84	23.67	24.35
	6H	24.92	25.62	25.54	26.26	26.94	23.13	23.83	23.76	24.47	25.15
	8H	25.58	26.22	26.23	26.87	27.56	23.53	24.16	24.17	24.81	25.50
	12H	26.29	26.85	26.93	27.49	28.25	23.91	24.48	24.56	25.12	25.88
12H	4H	23.65	24.40	24.27	25.03	25.71	22.31	23.06	22.92	23.69	24.37
	6H	24.97	25.60	25.61	26.26	26.95	23.24	23.87	23.88	24.52	25.21
	8H	25.71	26.28	26.36	26.92	27.68	23.70	24.26	24.34	24.90	25.66