

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: P894145

Luminaire Tested: 4MB-SC3-ASMF-UNV-CC93-HI-4000K

Issue Date: 11/11/2024

**Test Information**

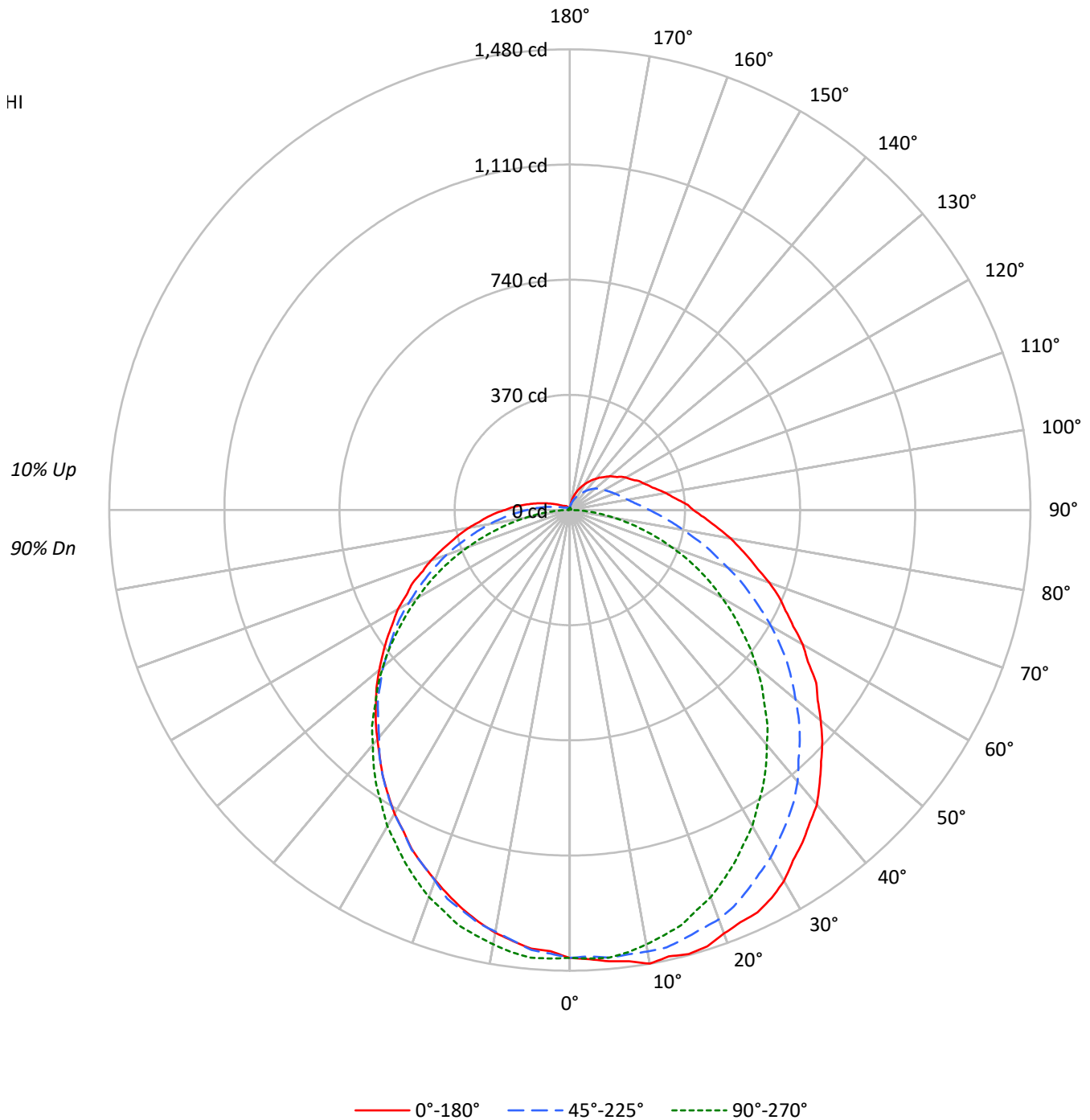
Test Method: LM-79-2019  
Report Number: P894145  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2407-185-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-SC3-ASMF-UNV-CC93-HI-4000K  
Description: Selectable 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 90CRI, 4000K CCT, 1 lumen setting  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4946.0 lumens  
Efficiency: N/A  
Efficacy: 97.6 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): 50.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.996  
Total Harmonic Distortion (THDi): 5.39961257980444  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

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### Luminous Intensity Polar Plot





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**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°	14651	14651	14651	14651	14651
5°	14835	14314	14175	14064	14424
10°	15217	14014	13531	13385	14181
15°	15440	13719	12930	12825	13883
20°	15515	13434	12246	12158	13557
25°	15797	13003	11526	11602	13311
30°	15893	12587	10842	11000	13010
35°	15856	12133	10123	10422	12732
40°	15997	11663	9385	9770	12457
45°	15950	11109	8658	9274	12304
50°	16071	10539	7958	8706	12204
55°	16427	10043	7157	8136	12162
60°	16702	9426	6336	7530	12324
65°	17278	8759	5504	6929	12602
70°	18691	8121	4511	6354	13034
75°	21001	7657	3451	5685	13933
80°	26104	7210	2312	5096	16363
85°	39025	7114	1160	4487	22948

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 90°  
 Luminance: 128474 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.5	2.8
10°-20°	391.2	7.9
20°-30°	589.9	11.9
30°-40°	708.0	14.3
40°-50°	737.3	14.9
50°-60°	683.4	13.8
60°-70°	562.8	11.4
70°-80°	406.0	8.2
80°-90°	257.7	5.2
90°-100°	158.9	3.2
100°-110°	106.0	2.1
110°-120°	75.4	1.5
120°-130°	55.3	1.1
130°-140°	38.0	0.8
140°-150°	23.1	0.5
150°-160°	11.5	0.2
160°-170°	4.2	0.1
170°-180°	0.7	0.0
0°-30°	1117.6	22.6
0°-40°	1825.6	36.9
0°-60°	3246.3	65.6
0°-90°	4472.9	90.4
90°-120°	340.3	6.9
90°-150°	456.7	9.2
90°-180°	473.0	9.6
0°-180°	4946.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1439	1439	1439	1439	1439	
5°	1455	1444	1444	1418	1415	139
15°	1477	1425	1381	1332	1328	416
25°	1426	1349	1251	1203	1202	656
35°	1303	1218	1082	1047	1047	817
45°	1142	1045	884	872	881	884
55°	967	852	674	690	716	859
65°	765	640	459	506	558	762
75°	596	452	242	336	396	632
85°	454	308	63	194	267	385
90°	396	256	6	138	208	219
95°	353	216	4	93	160	281
105°	277	170	4	38	84	296
115°	227	140	4	18	40	228
125°	185	117	5	14	23	168
135°	148	94	5	11	17	116
145°	114	66	5	8	12	72
155°	78	44	6	5	8	37
165°	45	25	6	4	4	13
175°	6	11	6	3	1	1
180°	4	4	4	4	4	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1438.6	1438.6	1438.6	1438.6	1438.6	1438.6	1438.6	1438.6	1438.6
2.5°	1444.3	1448.7	1435.0	1443.6	1442.2	1443.6	1426.4	1440.7	1418.4
5°	1455.1	1457.3	1443.6	1448.7	1443.6	1431.4	1418.4	1413.4	1414.8
7.5°	1462.3	1473.8	1440.0	1441.5	1432.8	1419.9	1395.4	1399.7	1396.9
10°	1479.6	1466.6	1440.0	1433.5	1417.0	1403.3	1375.3	1377.4	1378.9
12.5°	1468.8	1465.9	1439.3	1415.6	1399.0	1387.5	1358.7	1351.5	1355.1
15°	1476.7	1464.5	1424.9	1406.2	1381.0	1360.9	1332.1	1327.1	1327.8
17.5°	1469.5	1459.4	1410.5	1384.6	1349.4	1337.2	1309.8	1301.2	1296.9
20°	1447.9	1442.9	1399.7	1355.1	1323.5	1299.8	1266.7	1261.6	1265.2
22.5°	1433.5	1421.3	1378.2	1333.6	1287.5	1266.7	1233.6	1232.9	1233.6
25°	1426.4	1410.5	1348.7	1301.9	1250.8	1232.1	1203.4	1192.6	1201.9
27.5°	1404.8	1390.4	1317.7	1266.7	1209.8	1184.7	1160.9	1158.8	1160.2
30°	1376.0	1348.0	1289.7	1227.1	1172.4	1146.5	1127.1	1112.7	1126.4
32.5°	1335.0	1319.2	1253.0	1184.7	1124.3	1106.3	1086.8	1085.4	1085.4
35°	1303.4	1291.8	1218.5	1147.3	1082.5	1058.1	1046.6	1041.5	1046.6
37.5°	1266.7	1249.4	1181.8	1102.0	1035.8	1014.9	1003.4	999.1	1002.7
40°	1235.0	1203.4	1138.6	1055.2	984.7	966.0	953.8	958.1	961.7
42.5°	1188.3	1170.3	1087.6	1007.7	940.8	920.7	910.6	914.2	922.8
45°	1142.2	1125.7	1045.1	958.1	884.0	873.2	872.5	870.3	881.1
47.5°	1100.5	1076.8	998.4	909.2	836.5	824.3	825.7	832.9	842.3
50°	1052.3	1024.3	946.6	856.7	784.0	776.1	781.9	786.9	799.1
52.5°	1004.1	981.8	899.1	807.0	730.8	725.0	733.0	749.5	756.7
55°	966.7	926.4	852.4	748.8	674.0	674.7	690.5	699.9	715.7
57.5°	907.0	876.8	799.1	697.0	620.7	625.8	647.4	663.2	673.3
60°	864.6	826.5	747.3	641.6	564.6	572.6	597.0	620.7	638.0
62.5°	809.9	776.8	693.4	586.9	512.9	524.4	551.7	579.7	592.0
65°	765.3	727.9	640.2	532.3	458.9	472.6	506.4	538.0	558.2
67.5°	727.2	688.4	592.7	481.9	404.2	424.4	463.9	494.9	510.7
70°	681.9	636.6	538.7	425.8	347.4	371.2	421.5	457.5	475.5
72.5°	633.7	597.0	492.0	374.0	294.9	323.7	379.1	416.5	433.7
75°	596.3	555.3	452.4	322.2	241.7	276.2	335.9	378.3	395.6
77.5°	558.2	520.8	407.8	274.8	194.2	233.1	297.8	344.5	362.5
80°	524.4	481.2	370.4	235.9	144.6	190.6	261.8	307.9	328.7
82.5°	487.0	449.6	338.1	194.9	102.9	151.8	226.6	276.9	294.2
85°	453.9	415.0	307.9	162.6	63.3	117.2	194.2	246.0	266.9
87.5°	423.7	391.3	279.8	138.1	31.6	89.2	163.3	215.8	239.5
90°	396.3	359.6	256.1	115.8	5.8	64.7	138.1	189.9	207.9
92.5°	379.1	335.2	236.6	101.4	3.6	46.0	115.1	166.2	187.0
95°	353.2	314.3	216.5	90.6	3.6	30.9	92.8	142.4	160.4
97.5°	330.9	294.9	202.1	84.2	2.9	20.9	76.2	119.4	138.1
100°	313.6	279.8	189.2	78.4	3.6	15.1	60.4	101.4	118.0
102.5°	294.2	263.3	179.1	74.8	3.6	10.8	47.5	85.6	100.7
105°	276.9	249.6	169.8	71.2	3.6	9.4	38.1	70.5	84.2
107.5°	264.0	235.2	161.8	69.1	3.6	9.4	30.2	57.5	69.1
110°	251.0	223.7	153.9	66.9	3.6	8.6	23.7	47.5	57.5



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	242.4	212.9	146.7	64.7	4.3	8.6	19.4	39.6	47.5
115°	227.3	203.6	140.3	64.0	4.3	7.9	18.0	32.4	40.3
117.5°	216.5	194.9	133.8	61.9	4.3	7.9	17.3	26.6	32.4
120°	208.6	184.9	128.0	59.7	4.3	7.2	15.8	23.7	27.3
122.5°	198.5	175.5	123.0	58.3	4.3	7.2	15.1	22.3	24.5
125°	184.9	166.9	117.2	55.4	5.0	7.2	14.4	20.9	23.0
127.5°	176.2	159.0	112.9	51.8	5.0	6.5	13.7	19.4	21.6
130°	169.0	150.3	107.9	48.2	5.0	6.5	12.9	18.0	20.1
132.5°	158.2	141.7	100.7	45.3	5.0	5.8	11.5	16.5	18.7
135°	148.2	134.5	93.5	42.4	5.0	5.8	10.8	15.8	17.3
137.5°	141.7	127.3	87.0	39.6	5.0	5.0	10.1	14.4	15.8
140°	130.9	119.4	79.8	36.7	5.0	5.0	9.4	13.7	14.4
142.5°	123.0	111.5	73.4	33.8	5.0	5.0	8.6	12.2	13.7
145°	113.6	103.6	66.2	30.9	5.0	4.3	7.9	11.5	12.2
147.5°	105.0	94.2	60.4	28.8	5.0	4.3	7.2	10.1	10.8
150°	96.4	84.9	54.7	26.6	5.0	4.3	6.5	8.6	10.1
152.5°	87.0	73.4	48.9	24.5	5.0	4.3	5.8	7.9	8.6
155°	77.7	64.0	43.9	22.3	5.8	4.3	5.0	6.5	7.9
157.5°	69.8	55.4	38.8	20.1	5.8	3.6	5.0	5.8	6.5
160°	60.4	47.5	34.5	18.0	5.8	3.6	4.3	5.0	5.8
162.5°	53.2	39.6	30.2	16.5	5.8	3.6	4.3	4.3	5.0
165°	45.3	33.1	25.2	15.1	5.8	3.6	3.6	3.6	4.3
167.5°	36.7	25.9	20.9	13.7	5.8	3.6	3.6	2.9	3.6
170°	27.3	19.4	17.3	12.2	5.8	3.6	2.9	2.2	2.9
172.5°	12.2	15.1	13.7	10.8	6.5	3.6	2.9	2.2	1.4
175°	6.5	10.8	10.8	9.4	6.5	3.6	2.9	2.2	0.7
177.5°	5.0	6.5	7.9	7.9	6.5	4.3	2.9	1.4	0.7
180°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3



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**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	19.69	21.17	20.20	21.67	22.21	18.66	20.14	19.17	20.64	21.18
	3H	21.78	23.12	22.30	23.64	24.22	20.53	21.88	21.05	22.39	22.97
	4H	22.72	24.00	23.26	24.53	25.12	21.28	22.56	21.82	23.08	23.68
	6H	23.64	24.83	24.19	25.37	25.98	21.91	23.10	22.47	23.64	24.25
	8H	24.07	25.21	24.63	25.77	26.39	22.17	23.31	22.73	23.87	24.49
	12H	24.49	25.58	25.06	26.14	26.79	22.40	23.49	22.97	24.05	24.70
4H	2H	20.18	21.46	20.72	21.99	22.58	19.23	20.50	19.77	21.03	21.63
	3H	22.50	23.59	23.05	24.15	24.77	21.28	22.37	21.84	22.94	23.56
	4H	23.61	24.61	24.18	25.18	25.83	22.14	23.13	22.71	23.71	24.36
	6H	24.72	25.59	25.31	26.20	26.86	22.89	23.77	23.49	24.38	25.04
	8H	25.24	26.07	25.84	26.67	27.35	23.21	24.03	23.81	24.64	25.31
	12H	25.77	26.52	26.39	27.15	27.83	23.50	24.25	24.12	24.88	25.56
8H	4H	23.87	24.69	24.46	25.30	25.97	22.48	23.30	23.07	23.91	24.58
	6H	25.15	25.85	25.78	26.50	27.18	23.36	24.06	23.99	24.71	25.39
	8H	25.82	26.45	26.46	27.10	27.80	23.76	24.39	24.40	25.04	25.74
	12H	26.52	27.09	27.16	27.73	28.49	24.15	24.71	24.79	25.35	26.11
12H	4H	23.89	24.64	24.50	25.27	25.95	22.54	23.29	23.16	23.92	24.60
	6H	25.21	25.84	25.85	26.49	27.18	23.47	24.10	24.11	24.76	25.45
	8H	25.95	26.51	26.59	27.15	27.91	23.93	24.50	24.58	25.14	25.90