

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: P894147

Luminaire Tested: 4MB-SC3-ASMF-UNV-CC93-LOW-3500K

Issue Date: 11/11/2024

**Test Information**

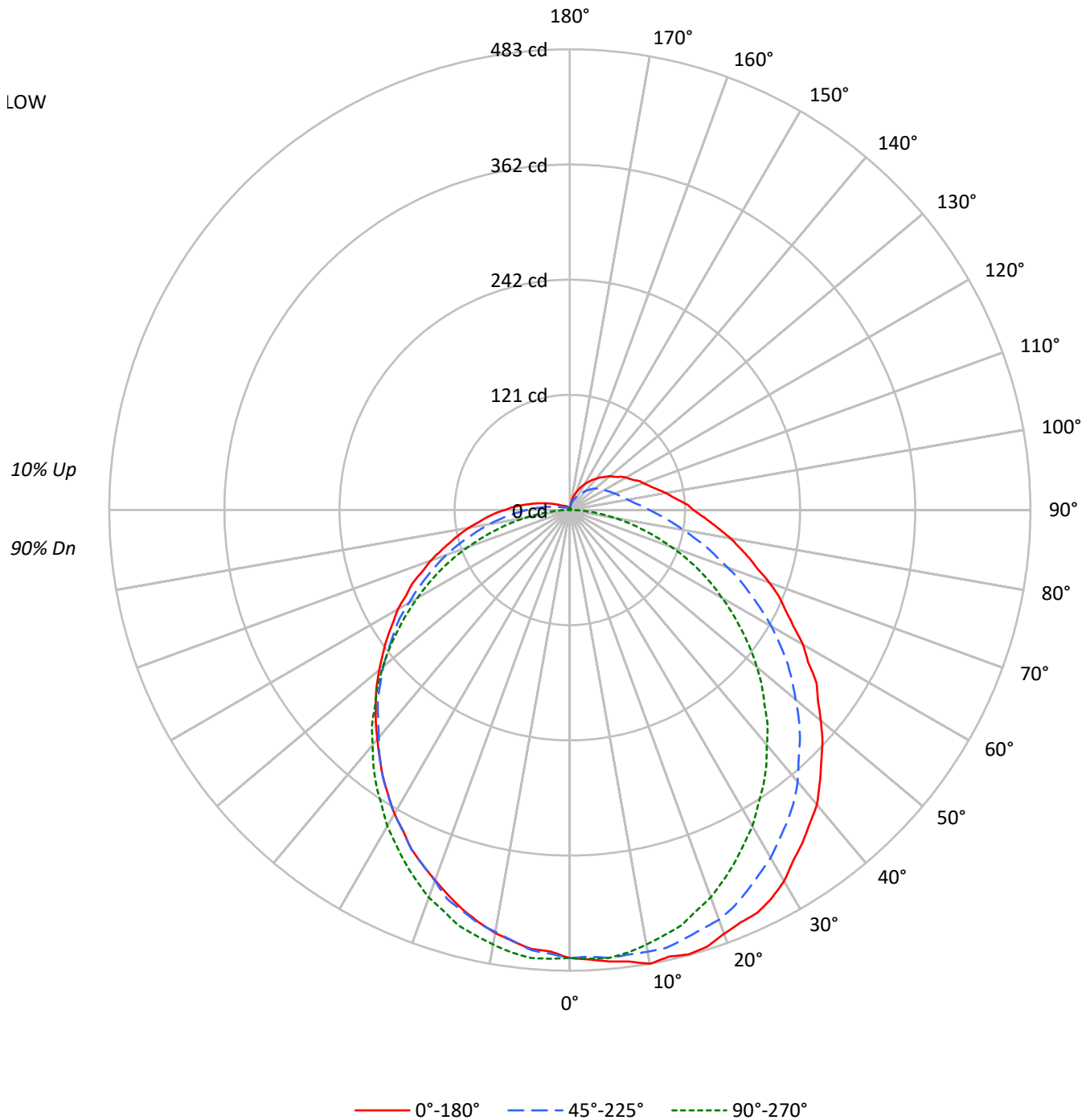
Test Method: LM-79-2019  
Report Number: P894147  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2407-185-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-SC3-ASMF-UNV-CC93-LOW-3500K  
Description: Selectable 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 90CRI, 3500K CCT, 1 lumen setting  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1615.0 lumens  
Efficiency: N/A  
Efficacy: 96.7 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): 16.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.9915  
Total Harmonic Distortion (THDi): 6.67573310469889  
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	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	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	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	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	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	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	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	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	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	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	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	22	22	22	22	20				

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

	0°	45°	90°	135°	180°
0°	4784	4784	4784	4784	4784
5°	4844	4674	4629	4593	4710
10°	4968	4576	4418	4371	4630
15°	5042	4480	4222	4188	4533
20°	5066	4387	3999	3970	4426
25°	5158	4246	3763	3788	4347
30°	5190	4110	3540	3592	4248
35°	5177	3962	3306	3403	4157
40°	5224	3809	3064	3190	4067
45°	5209	3628	2827	3028	4017
50°	5247	3441	2599	2842	3984
55°	5365	3279	2337	2657	3971
60°	5453	3078	2069	2458	4024
65°	5642	2860	1797	2262	4116
70°	6104	2652	1473	2074	4254
75°	6857	2500	1126	1857	4550
80°	8522	2355	755	1664	5341
85°	12742	2322	379	1465	7489

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 90°  
 Luminance: 41949 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.6	2.8
10°-20°	127.7	7.9
20°-30°	192.6	11.9
30°-40°	231.2	14.3
40°-50°	240.7	14.9
50°-60°	223.2	13.8
60°-70°	183.8	11.4
70°-80°	132.6	8.2
80°-90°	84.2	5.2
90°-100°	51.9	3.2
100°-110°	34.6	2.1
110°-120°	24.6	1.5
120°-130°	18.0	1.1
130°-140°	12.4	0.8
140°-150°	7.6	0.5
150°-160°	3.7	0.2
160°-170°	1.4	0.1
170°-180°	0.2	0.0
0°-30°	364.9	22.6
0°-40°	596.1	36.9
0°-60°	1060.0	65.6
0°-90°	1460.5	90.4
90°-120°	111.1	6.9
90°-150°	149.1	9.2
90°-180°	154.0	9.5
0°-180°	1615.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	470	470	470	470	470	
5°	475	471	471	463	462	46
15°	482	465	451	435	434	136
25°	466	440	408	393	392	214
35°	426	398	354	342	342	267
45°	373	341	289	285	288	289
55°	316	278	220	226	234	280
65°	250	209	150	165	182	249
75°	195	148	79	110	129	206
85°	148	100	21	63	87	126
90°	129	84	2	45	68	71
95°	115	71	1	30	52	92
105°	90	55	1	12	28	97
115°	74	46	1	6	13	74
125°	60	38	2	5	8	55
135°	48	30	2	4	6	38
145°	37	22	2	3	4	23
155°	25	14	2	2	3	12
165°	15	8	2	1	1	4
175°	2	4	2	1	0	0
180°	1	1	1	1	1	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	469.7	469.7	469.7	469.7	469.7	469.7	469.7	469.7	469.7
2.5°	471.6	473.0	468.6	471.4	470.9	471.4	465.7	470.4	463.2
5°	475.1	475.8	471.4	473.0	471.4	467.4	463.2	461.5	462.0
7.5°	477.5	481.2	470.2	470.7	467.9	463.6	455.6	457.1	456.1
10°	483.1	478.9	470.2	468.1	462.7	458.2	449.1	449.8	450.2
12.5°	479.6	478.7	470.0	462.2	456.8	453.1	443.7	441.3	442.5
15°	482.2	478.2	465.3	459.2	450.9	444.4	435.0	433.3	433.6
17.5°	479.8	476.5	460.6	452.1	440.6	436.6	427.7	424.9	423.5
20°	472.8	471.1	457.1	442.5	432.2	424.4	413.6	412.0	413.1
22.5°	468.1	464.1	450.0	435.4	420.4	413.6	402.8	402.6	402.8
25°	465.7	460.6	440.4	425.1	408.4	402.3	392.9	389.4	392.5
27.5°	458.7	454.0	430.3	413.6	395.0	386.8	379.1	378.4	378.8
30°	449.3	440.1	421.1	400.7	382.8	374.4	368.0	363.3	367.8
32.5°	435.9	430.7	409.1	386.8	367.1	361.2	354.9	354.4	354.4
35°	425.6	421.8	397.9	374.6	353.5	345.5	341.7	340.1	341.7
37.5°	413.6	408.0	385.9	359.8	338.2	331.4	327.6	326.2	327.4
40°	403.3	392.9	371.8	344.6	321.5	315.4	311.4	312.8	314.0
42.5°	388.0	382.1	355.1	329.0	307.2	300.6	297.3	298.5	301.3
45°	373.0	367.6	341.3	312.8	288.7	285.1	284.9	284.2	287.7
47.5°	359.3	351.6	326.0	296.9	273.2	269.2	269.6	272.0	275.0
50°	343.6	334.5	309.1	279.7	256.0	253.4	255.3	256.9	260.9
52.5°	327.9	320.6	293.6	263.5	238.6	236.7	239.3	244.7	247.1
55°	315.7	302.5	278.3	244.5	220.1	220.3	225.5	228.5	233.7
57.5°	296.2	286.3	260.9	227.6	202.7	204.3	211.4	216.5	219.8
60°	282.3	269.9	244.0	209.5	184.4	187.0	194.9	202.7	208.3
62.5°	264.5	253.7	226.4	191.7	167.5	171.2	180.1	189.3	193.3
65°	249.9	237.7	209.0	173.8	149.8	154.3	165.3	175.7	182.3
67.5°	237.5	224.8	193.5	157.4	132.0	138.6	151.5	161.6	166.8
70°	222.7	207.9	175.9	139.0	113.4	121.2	137.6	149.4	155.2
72.5°	206.9	194.9	160.6	122.1	96.3	105.7	123.8	136.0	141.6
75°	194.7	181.3	147.7	105.2	78.9	90.2	109.7	123.5	129.2
77.5°	182.3	170.0	133.2	89.7	63.4	76.1	97.2	112.5	118.4
80°	171.2	157.1	121.0	77.0	47.2	62.2	85.5	100.5	107.3
82.5°	159.0	146.8	110.4	63.6	33.6	49.6	74.0	90.4	96.1
85°	148.2	135.5	100.5	53.1	20.7	38.3	63.4	80.3	87.1
87.5°	138.3	127.8	91.4	45.1	10.3	29.1	53.3	70.5	78.2
90°	129.4	117.4	83.6	37.8	1.9	21.1	45.1	62.0	67.9
92.5°	123.8	109.4	77.3	33.1	1.2	15.0	37.6	54.3	61.1
95°	115.3	102.6	70.7	29.6	1.2	10.1	30.3	46.5	52.4
97.5°	108.0	96.3	66.0	27.5	0.9	6.8	24.9	39.0	45.1
100°	102.4	91.4	61.8	25.6	1.2	4.9	19.7	33.1	38.5
102.5°	96.1	86.0	58.5	24.4	1.2	3.5	15.5	27.9	32.9
105°	90.4	81.5	55.4	23.3	1.2	3.1	12.4	23.0	27.5
107.5°	86.2	76.8	52.8	22.5	1.2	3.1	9.9	18.8	22.5
110°	82.0	73.0	50.3	21.8	1.2	2.8	7.8	15.5	18.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	79.2	69.5	47.9	21.1	1.4	2.8	6.3	12.9	15.5
115°	74.2	66.5	45.8	20.9	1.4	2.6	5.9	10.6	13.2
117.5°	70.7	63.6	43.7	20.2	1.4	2.6	5.6	8.7	10.6
120°	68.1	60.4	41.8	19.5	1.4	2.3	5.2	7.8	8.9
122.5°	64.8	57.3	40.2	19.0	1.4	2.3	4.9	7.3	8.0
125°	60.4	54.5	38.3	18.1	1.6	2.3	4.7	6.8	7.5
127.5°	57.5	51.9	36.9	16.9	1.6	2.1	4.5	6.3	7.0
130°	55.2	49.1	35.2	15.7	1.6	2.1	4.2	5.9	6.6
132.5°	51.7	46.3	32.9	14.8	1.6	1.9	3.8	5.4	6.1
135°	48.4	43.9	30.5	13.9	1.6	1.9	3.5	5.2	5.6
137.5°	46.3	41.6	28.4	12.9	1.6	1.6	3.3	4.7	5.2
140°	42.7	39.0	26.1	12.0	1.6	1.6	3.1	4.5	4.7
142.5°	40.2	36.4	24.0	11.0	1.6	1.6	2.8	4.0	4.5
145°	37.1	33.8	21.6	10.1	1.6	1.4	2.6	3.8	4.0
147.5°	34.3	30.8	19.7	9.4	1.6	1.4	2.3	3.3	3.5
150°	31.5	27.7	17.8	8.7	1.6	1.4	2.1	2.8	3.3
152.5°	28.4	24.0	16.0	8.0	1.6	1.4	1.9	2.6	2.8
155°	25.4	20.9	14.3	7.3	1.9	1.4	1.6	2.1	2.6
157.5°	22.8	18.1	12.7	6.6	1.9	1.2	1.6	1.9	2.1
160°	19.7	15.5	11.3	5.9	1.9	1.2	1.4	1.6	1.9
162.5°	17.4	12.9	9.9	5.4	1.9	1.2	1.4	1.4	1.6
165°	14.8	10.8	8.2	4.9	1.9	1.2	1.2	1.2	1.4
167.5°	12.0	8.5	6.8	4.5	1.9	1.2	1.2	0.9	1.2
170°	8.9	6.3	5.6	4.0	1.9	1.2	0.9	0.7	0.9
172.5°	4.0	4.9	4.5	3.5	2.1	1.2	0.9	0.7	0.5
175°	2.1	3.5	3.5	3.1	2.1	1.2	0.9	0.7	0.2
177.5°	1.6	2.1	2.6	2.6	2.1	1.4	0.9	0.5	0.2
180°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4



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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	15.80	17.28	16.31	17.78	18.33	14.77	16.25	15.28	16.75	17.30
	3H	17.89	19.24	18.41	19.75	20.33	16.64	17.99	17.16	18.50	19.09
	4H	18.83	20.11	19.37	20.64	21.23	17.39	18.67	17.93	19.20	19.79
	6H	19.75	20.94	20.30	21.48	22.09	18.02	19.21	18.58	19.75	20.37
	8H	20.18	21.32	20.74	21.88	22.50	18.28	19.42	18.84	19.98	20.60
	12H	20.60	21.69	21.17	22.25	22.90	18.51	19.60	19.08	20.16	20.81
4H	2H	16.29	17.57	16.84	18.10	18.70	15.34	16.61	15.88	17.14	17.74
	3H	18.61	19.70	19.16	20.27	20.88	17.40	18.48	17.95	19.05	19.67
	4H	19.72	20.72	20.29	21.30	21.95	18.25	19.24	18.82	19.82	20.47
	6H	20.83	21.71	21.42	22.31	22.97	19.01	19.88	19.60	20.49	21.15
	8H	21.35	22.18	21.95	22.78	23.46	19.32	20.15	19.92	20.75	21.42
	12H	21.88	22.63	22.50	23.26	23.94	19.61	20.36	20.23	20.99	21.67
8H	4H	19.98	20.80	20.58	21.41	22.08	18.59	19.41	19.18	20.02	20.69
	6H	21.26	21.96	21.89	22.61	23.29	19.47	20.17	20.10	20.82	21.50
	8H	21.93	22.56	22.57	23.22	23.91	19.87	20.50	20.51	21.16	21.85
	12H	22.63	23.20	23.28	23.84	24.60	20.26	20.82	20.90	21.47	22.22
12H	4H	20.00	20.75	20.62	21.38	22.06	18.65	19.40	19.27	20.03	20.71
	6H	21.32	21.95	21.96	22.60	23.30	19.58	20.21	20.22	20.87	21.56
	8H	22.06	22.62	22.70	23.27	24.02	20.04	20.61	20.69	21.25	22.01