

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: P894053

Luminaire Tested: 4MB-9HL-LVRF-UNV-L930

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894053
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2407-175-5)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-9HL-LVRF-UNV-L930
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with LOUVER WITH FROSTED INLAY, 90CRI, 3000K C
Light Source: -
Ballast/Driver: -

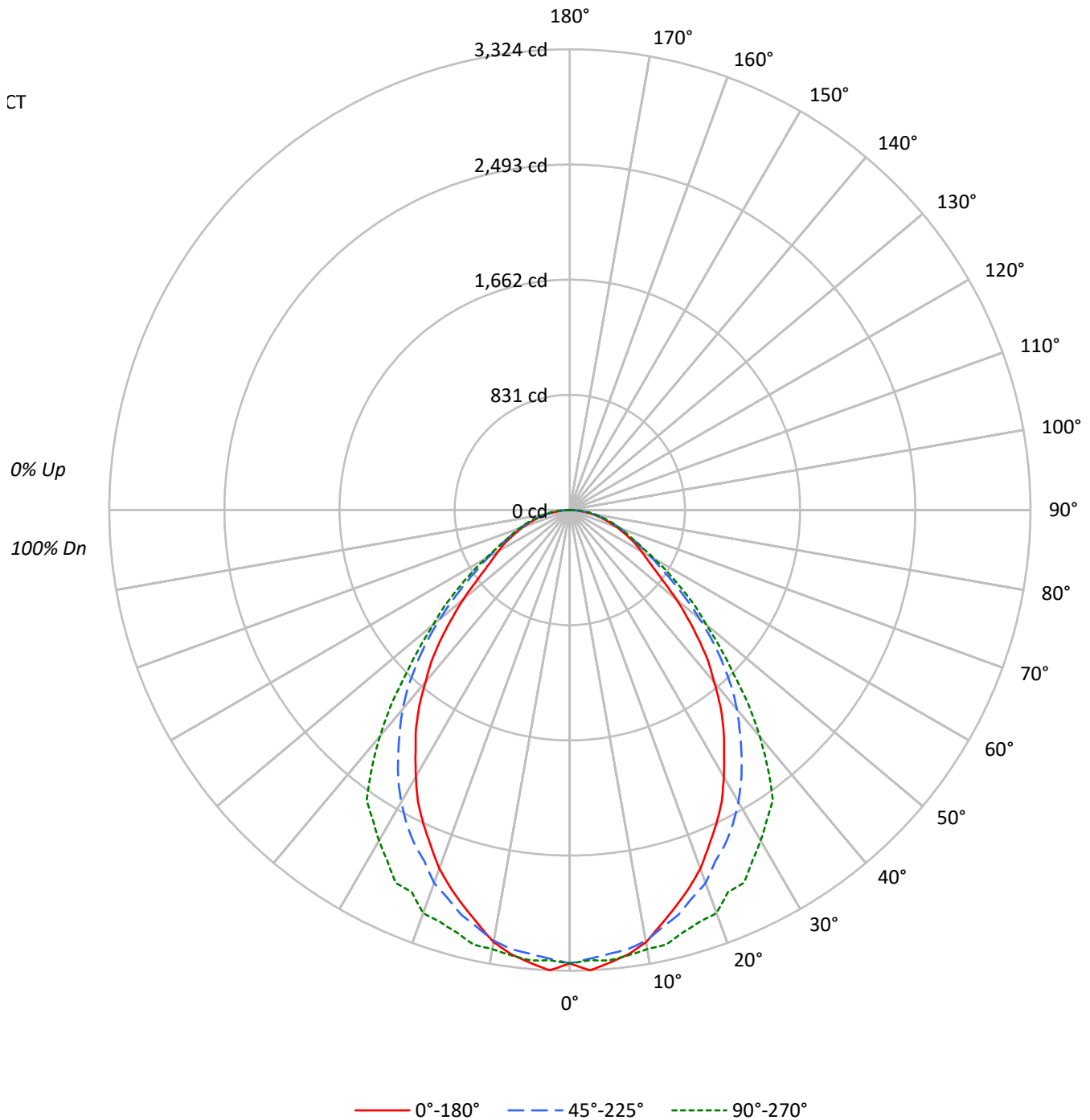
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6631.0 lumens
Efficiency: N/A
Efficacy: 103.0 lumens/watt
Spacing Criteria (0/90/45): 1.05 / 1.25 / 1.21
Luminous Opening: Rectangular (W 0.38' x L: 3.98' x H: 0')
CIE Type: Direct

Input Watts (W): 64.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.996
Total Harmonic Distortion (THDi): 8.94
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
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	100	
1	110	106	102	99	108	104	100	97	100	97	94	96	93	91	92	90	89	87	87	
2	102	94	88	83	99	92	87	82	89	84	80	86	82	78	83	80	77	75	75	
3	94	84	77	71	91	83	76	70	80	74	69	77	72	68	75	70	67	65	65	
4	87	76	68	62	84	74	67	61	72	66	61	70	64	60	68	63	59	57	57	
5	80	68	60	54	78	67	60	54	65	59	53	63	58	53	62	57	52	50	50	
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45	45	
7	70	57	49	43	68	56	49	43	55	48	43	53	47	42	52	46	42	40	40	
8	65	52	44	39	64	52	44	39	50	44	39	49	43	39	48	43	38	37	37	
9	61	48	41	36	60	48	40	35	47	40	35	46	40	35	45	39	35	33	33	
10	57	45	37	33	56	44	37	32	43	37	32	43	36	32	42	36	32	30	30	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	23269	23269	23269
5°	23421	22966	23295
10°	22872	22801	23239
15°	21792	22275	23240
20°	20846	21683	23430
25°	19626	20854	23311
30°	18258	19985	22628
35°	16814	18759	22190
40°	15038	17435	19814
45°	13182	15681	16803
50°	11125	13550	14220
55°	9229	11339	12128
60°	8487	9641	10004
65°	7950	8477	8542
70°	7404	8034	7974
75°	6908	7499	7769
80°	6449	6970	7453
85°	5429	5902	8221

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 16803 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	308.7	4.7
10°-20°	861.1	13.0
20°-30°	1240.1	18.7
30°-40°	1369.0	20.6
40°-50°	1174.7	17.7
50°-60°	800.3	12.1
60°-70°	503.4	7.6
70°-80°	286.6	4.3
80°-90°	87.1	1.3
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°	2409.8	36.3
0°-40°	3778.8	57.0
0°-60°	5753.8	86.8
0°-90°	6631.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6631.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3270	3270	3270	3270	3270	
5°	3279	3266	3216	3283	3262	310
15°	2958	2990	3024	3161	3155	833
25°	2500	2550	2656	2870	2969	1148
35°	1936	2011	2160	2395	2555	1204
45°	1310	1397	1558	1652	1670	1009
55°	744	790	914	958	978	684
65°	472	480	504	528	507	469
75°	251	253	273	284	283	268
85°	66	68	72	86	101	76
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3270.4	3270.4	3270.4	3270.4	3270.4
2.5°	3324.2	3289.9	3241.1	3288.0	3251.8
5°	3279.2	3266.5	3215.6	3283.1	3261.6
7.5°	3233.2	3205.9	3197.1	3269.4	3241.1
10°	3165.8	3150.1	3156.0	3248.9	3216.6
12.5°	3059.2	3070.0	3083.6	3202.0	3211.7
15°	2958.5	2989.8	3024.0	3160.9	3155.0
17.5°	2859.8	2902.8	2935.0	3111.0	3115.9
20°	2753.2	2777.6	2863.7	3033.8	3094.4
22.5°	2621.2	2669.1	2743.4	2955.6	2982.9
25°	2500.0	2549.8	2656.4	2870.5	2969.3
27.5°	2372.9	2418.8	2550.8	2769.8	2853.9
30°	2222.3	2283.9	2432.5	2655.4	2754.2
32.5°	2071.7	2161.7	2304.4	2533.2	2647.6
35°	1935.8	2011.1	2159.7	2395.4	2554.7
37.5°	1785.3	1864.5	2015.0	2244.8	2346.5
40°	1619.1	1704.1	1877.2	2062.9	2133.3
42.5°	1476.3	1549.6	1723.7	1854.7	1910.4
45°	1310.1	1397.1	1558.4	1652.3	1669.9
47.5°	1149.8	1249.5	1394.2	1438.2	1472.4
50°	1005.1	1083.3	1224.1	1251.4	1284.7
52.5°	857.4	940.5	1063.7	1091.1	1140.0
55°	744.0	790.0	914.1	958.1	977.7
57.5°	660.9	690.3	778.2	834.0	839.8
60°	596.4	611.1	677.5	719.6	703.0
62.5°	536.8	548.5	581.7	614.0	592.5
65°	472.2	480.0	503.5	528.0	507.4
67.5°	411.6	420.4	441.9	459.5	441.9
70°	355.9	362.7	386.2	394.0	383.3
72.5°	304.1	307.0	326.6	340.2	333.4
75°	251.3	253.2	272.8	284.5	282.6
77.5°	203.4	206.3	222.9	233.7	227.8
80°	157.4	159.4	170.1	185.8	181.9
82.5°	110.5	114.4	121.2	134.9	145.7
85°	66.5	68.4	72.3	86.0	100.7
87.5°	25.4	27.4	29.3	36.2	47.9
90°	0.0	0.0	0.0	0.0	0.0



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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	18.39	19.87	18.75	20.18	20.50	19.75	21.23	20.11	21.54	21.86
	3H	19.97	21.29	20.35	21.62	21.98	21.04	22.36	21.41	22.69	23.05
	4H	20.57	21.82	20.97	22.16	22.54	21.59	22.83	21.99	23.18	23.56
	6H	21.04	22.19	21.46	22.56	22.95	22.04	23.19	22.45	23.55	23.95
	8H	21.20	22.29	21.63	22.68	23.08	22.23	23.32	22.65	23.71	24.11
	12H	21.30	22.34	21.73	22.72	23.15	22.38	23.43	22.81	23.81	24.24
4H	2H	19.00	20.24	19.40	20.59	20.97	20.12	21.36	20.52	21.71	22.09
	3H	20.81	21.84	21.22	22.24	22.64	21.67	22.70	22.08	23.10	23.50
	4H	21.53	22.46	21.96	22.87	23.31	22.38	23.30	22.81	23.72	24.16
	6H	22.13	22.93	22.59	23.38	23.84	22.99	23.79	23.44	24.23	24.69
	8H	22.33	23.08	22.79	23.53	23.99	23.23	23.98	23.70	24.43	24.90
	12H	22.47	23.14	22.95	23.62	24.09	23.45	24.12	23.93	24.60	25.07
8H	4H	21.86	22.61	22.32	23.05	23.52	22.61	23.36	23.07	23.81	24.27
	6H	22.58	23.20	23.08	23.69	24.17	23.35	23.98	23.85	24.47	24.95
	8H	22.86	23.42	23.37	23.93	24.42	23.69	24.25	24.20	24.76	25.24
	12H	23.07	23.56	23.58	24.06	24.62	23.99	24.49	24.50	24.98	25.55
12H	4H	21.89	22.57	22.38	23.05	23.52	22.62	23.30	23.11	23.77	24.25
	6H	22.65	23.21	23.16	23.72	24.21	23.39	23.95	23.91	24.46	24.95
	8H	22.98	23.48	23.49	23.97	24.54	23.78	24.28	24.29	24.77	25.33