

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: P894049

Luminaire Tested: 4MB-9HL-LVRF-UNV-L830

Issue Date: 11/11/2024

**Test Information**

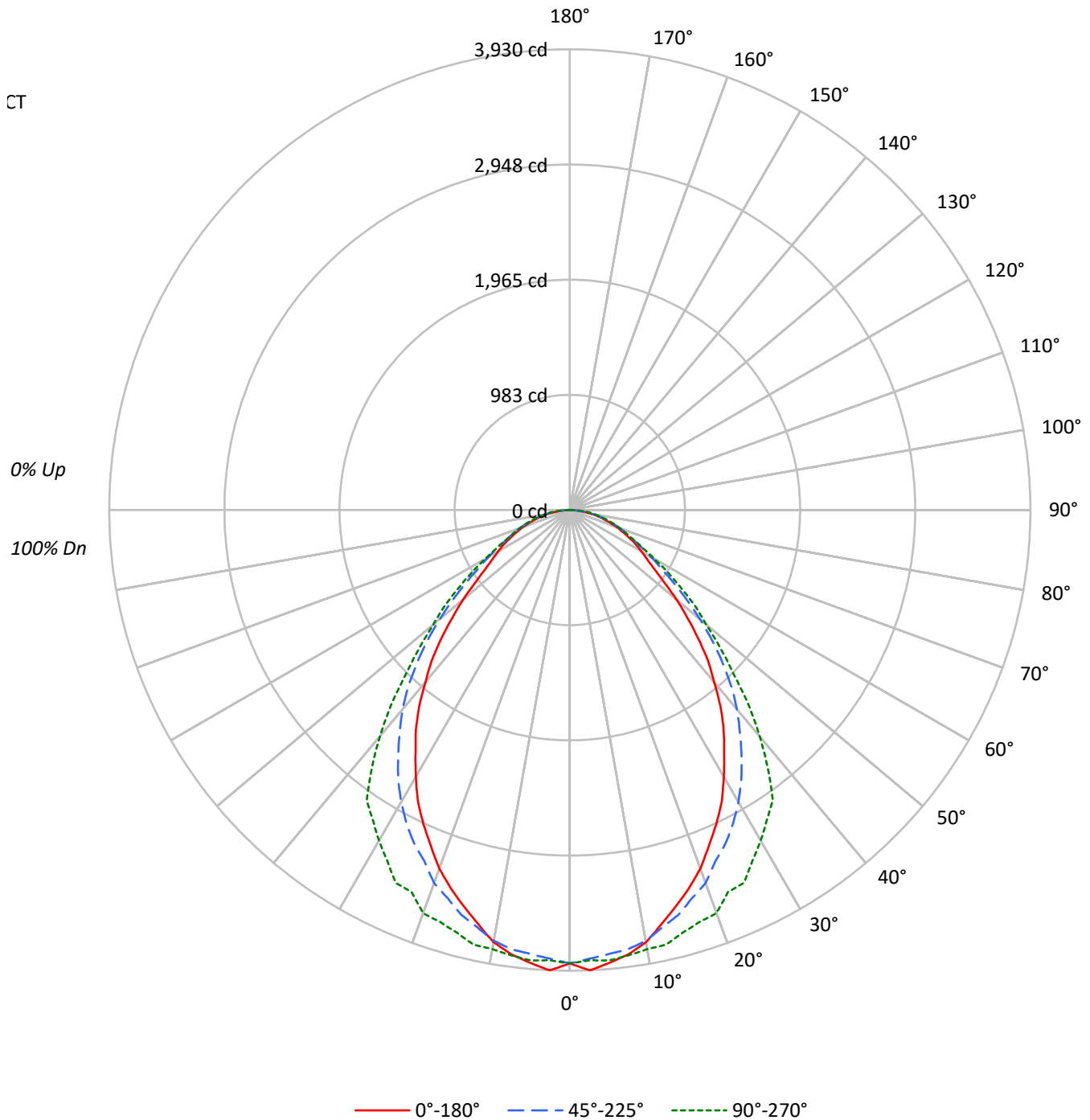
Test Method: LM-79-2019  
Report Number: P894049  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2407-175-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-9HL-LVRF-UNV-L830  
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with LOUVER WITH FROSTED INLAY, 80CRI, 3000K C  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7840.0 lumens  
Efficiency: N/A  
Efficacy: 121.7 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<sub>in</sub>): 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	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	110	106	102	99	108	104	100	97	100	97	94	96	93	91	92	90	89	89	89	89	87
2	102	94	88	83	99	92	87	82	89	84	80	86	82	78	83	80	77	77	77	77	75
3	94	84	77	71	91	83	76	70	80	74	69	77	72	68	75	70	67	67	67	67	65
4	87	76	68	62	84	74	67	61	72	66	61	70	64	60	68	63	59	59	59	59	57
5	80	68	60	54	78	67	60	54	65	59	53	63	58	53	62	57	52	52	52	52	50
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	47	47	47	45
7	70	57	49	43	68	56	49	43	55	48	43	53	47	42	52	46	42	42	42	42	40
8	65	52	44	39	64	52	44	39	50	44	39	49	43	39	48	43	38	38	38	38	37
9	61	48	41	36	60	48	40	35	47	40	35	46	40	35	45	39	35	35	35	35	33
10	57	45	37	33	56	44	37	32	43	37	32	43	36	32	42	36	32	32	32	32	30

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

	0°	45°	90°
0°	27512	27512	27512
5°	27691	27154	27542
10°	27042	26958	27476
15°	25765	26336	27477
20°	24647	25636	27702
25°	23205	24656	27560
30°	21587	23628	26753
35°	19880	22179	26235
40°	17780	20614	23427
45°	15586	18540	19867
50°	13153	16020	16813
55°	10912	13407	14340
60°	10034	11400	11827
65°	9399	10022	10100
70°	8754	9499	9426
75°	8167	8866	9184
80°	7625	8240	8809
85°	6417	6980	9723

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 19867 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	365.0	4.7
10°-20°	1018.0	13.0
20°-30°	1466.1	18.7
30°-40°	1618.6	20.6
40°-50°	1388.9	17.7
50°-60°	946.2	12.1
60°-70°	595.2	7.6
70°-80°	338.9	4.3
80°-90°	103.0	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°	2849.2	36.3
0°-40°	4467.8	57.0
0°-60°	6802.9	86.8
0°-90°	7840.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7840.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3867	3867	3867	3867	3867	
5°	3877	3862	3802	3882	3856	366
15°	3498	3535	3575	3737	3730	985
25°	2956	3015	3141	3394	3511	1357
35°	2289	2378	2554	2832	3020	1424
45°	1549	1652	1843	1954	1974	1194
55°	880	934	1081	1133	1156	808
65°	558	568	595	624	600	555
75°	297	299	322	336	334	317
85°	79	81	86	102	119	90
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3866.7	3866.7	3866.7	3866.7	3866.7
2.5°	3930.2	3889.8	3832.0	3887.5	3844.7
5°	3877.1	3862.0	3801.9	3881.7	3856.3
7.5°	3822.7	3790.4	3780.0	3865.5	3832.0
10°	3743.0	3724.5	3731.4	3841.2	3803.1
12.5°	3617.0	3629.7	3645.9	3785.7	3797.3
15°	3497.9	3534.9	3575.4	3737.2	3730.3
17.5°	3381.2	3432.0	3470.2	3678.2	3684.0
20°	3255.2	3284.1	3385.8	3586.9	3658.6
22.5°	3099.1	3155.8	3243.6	3494.4	3526.8
25°	2955.8	3014.7	3140.7	3393.9	3510.6
27.5°	2805.5	2859.8	3015.9	3274.8	3374.2
30°	2627.5	2700.3	2876.0	3139.6	3256.3
32.5°	2449.5	2555.8	2724.6	2995.1	3130.3
35°	2288.8	2377.8	2553.5	2832.1	3020.5
37.5°	2110.8	2204.4	2382.4	2654.1	2774.3
40°	1914.3	2014.8	2219.4	2439.1	2522.3
42.5°	1745.5	1832.2	2037.9	2192.8	2258.7
45°	1549.0	1651.9	1842.6	1953.6	1974.4
47.5°	1359.4	1477.3	1648.4	1700.4	1740.9
50°	1188.3	1280.8	1447.3	1479.6	1518.9
52.5°	1013.8	1112.0	1257.7	1290.0	1347.8
55°	879.7	934.0	1080.8	1132.8	1156.0
57.5°	781.4	816.1	920.1	986.0	993.0
60°	705.1	722.5	801.1	850.8	831.1
62.5°	634.6	648.5	687.8	725.9	700.5
65°	558.3	567.6	595.3	624.2	599.9
67.5°	486.7	497.1	522.5	543.3	522.5
70°	420.8	428.9	456.6	465.8	453.1
72.5°	359.5	363.0	386.1	402.3	394.2
75°	297.1	299.4	322.5	336.4	334.1
77.5°	240.4	243.9	263.6	276.3	269.3
80°	186.1	188.4	201.1	219.6	215.0
82.5°	130.6	135.2	143.3	159.5	172.2
85°	78.6	80.9	85.5	101.7	119.1
87.5°	30.1	32.4	34.7	42.8	56.6
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	18.97	20.45	19.34	20.76	21.08	20.33	21.81	20.70	22.12	22.44
	3H	20.55	21.87	20.93	22.20	22.57	21.62	22.94	22.00	23.27	23.63
	4H	21.16	22.40	21.56	22.75	23.13	22.17	23.41	22.57	23.76	24.14
	6H	21.63	22.77	22.04	23.14	23.53	22.62	23.77	23.04	24.14	24.53
	8H	21.78	22.87	22.21	23.26	23.66	22.81	23.90	23.24	24.29	24.69
	12H	21.88	22.92	22.31	23.31	23.74	22.96	24.01	23.40	24.39	24.82
4H	2H	19.58	20.82	19.98	21.17	21.55	20.70	21.94	21.10	22.29	22.67
	3H	21.39	22.42	21.80	22.82	23.22	22.25	23.28	22.66	23.68	24.08
	4H	22.11	23.04	22.55	23.45	23.89	22.96	23.88	23.39	24.30	24.74
	6H	22.71	23.51	23.17	23.96	24.42	23.57	24.37	24.03	24.82	25.28
	8H	22.91	23.66	23.37	24.11	24.58	23.81	24.57	24.28	25.01	25.48
	12H	23.05	23.72	23.53	24.20	24.67	24.03	24.70	24.51	25.18	25.65
8H	4H	22.44	23.19	22.90	23.64	24.10	23.19	23.94	23.66	24.39	24.86
	6H	23.16	23.78	23.66	24.28	24.75	23.94	24.56	24.43	25.05	25.53
	8H	23.44	24.00	23.95	24.51	25.00	24.27	24.83	24.78	25.34	25.83
	12H	23.65	24.15	24.16	24.64	25.20	24.57	25.07	25.08	25.56	26.13
12H	4H	22.48	23.15	22.96	23.63	24.10	23.21	23.88	23.69	24.36	24.83
	6H	23.23	23.79	23.74	24.30	24.79	23.97	24.53	24.49	25.04	25.53
	8H	23.57	24.06	24.08	24.55	25.12	24.36	24.86	24.87	25.35	25.92