

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: P894063

Luminaire Tested: 4MB-9HL-RFLW-UNV-L940

Issue Date: 11/11/2024

**Test Information**

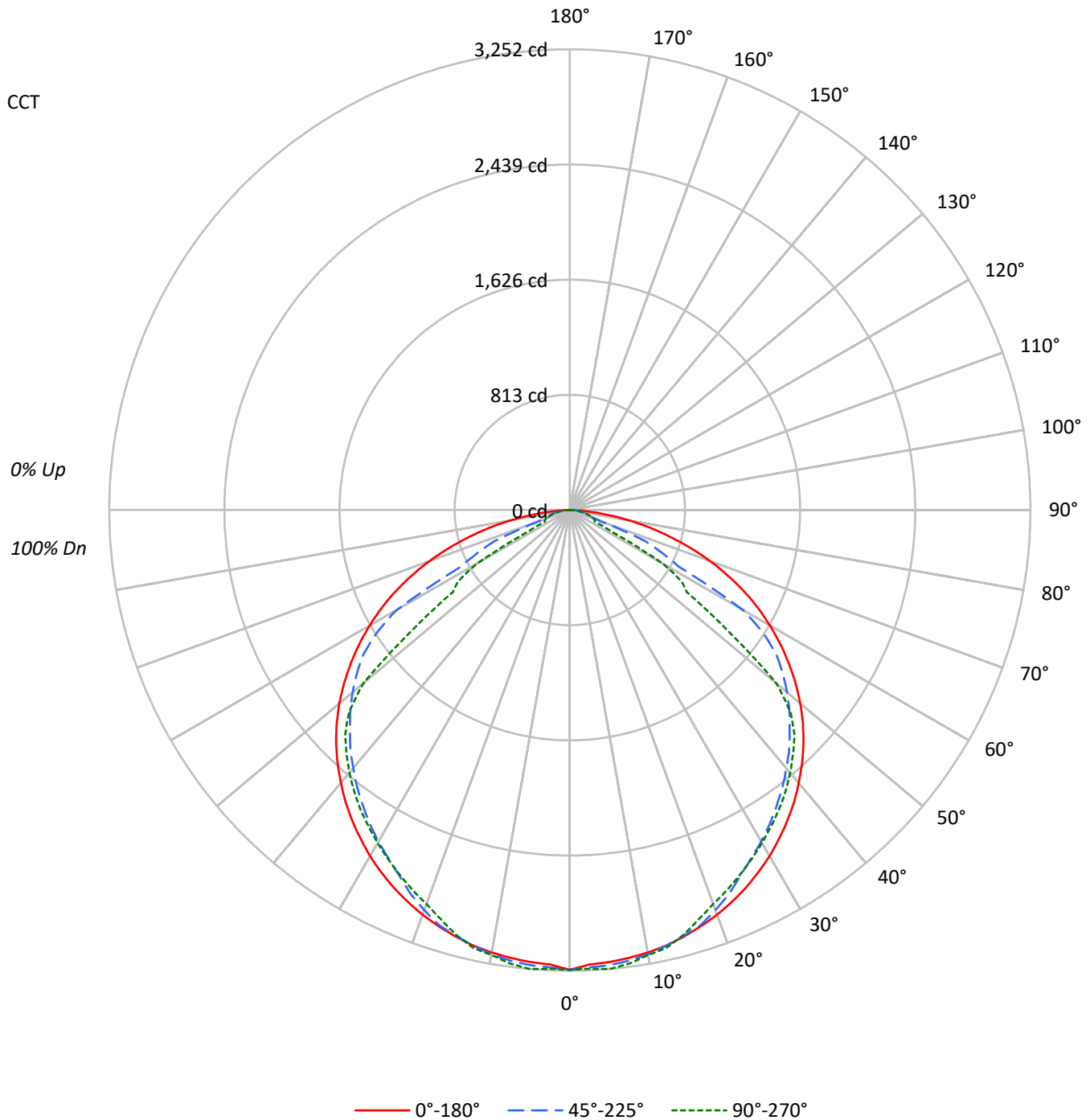
Test Method: LM-79-2019  
Report Number: P894063  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2408-210-7)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-9HL-RFLW-UNV-L940  
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with REFLECTOR WITH WHITE FINISH, 90CRI, 4000K  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8461.0 lumens  
Efficiency: N/A  
Efficacy: 131.4 lumens/watt  
Spacing Criteria (0/90/45): 1.29 / 1.25 / 1.38  
Luminous Opening: Rectangular (W 0.21' 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	98	107	103	100	97	99	96	94	95	93	91	92	90	88	88	88	88	86
2	101	93	87	82	98	91	85	81	88	83	79	85	81	77	82	78	75	75	75	75	73
3	92	82	75	69	90	81	74	68	78	72	67	75	70	66	73	68	65	65	65	65	62
4	85	73	65	59	82	72	64	58	70	63	57	67	61	57	65	60	56	56	56	56	54
5	78	66	57	51	76	65	56	50	62	55	50	61	54	49	59	53	49	49	49	49	47
6	72	59	51	44	70	58	50	44	56	49	44	55	48	43	53	48	43	43	43	43	41
7	67	54	45	39	65	53	45	39	51	44	39	50	43	39	49	43	38	38	38	38	36
8	62	49	41	35	61	48	40	35	47	40	35	46	39	35	45	39	34	34	34	34	32
9	58	45	37	32	57	44	37	31	43	36	31	42	36	31	41	35	31	31	31	31	29
10	54	42	34	29	53	41	34	29	40	33	28	39	33	28	38	32	28	28	28	28	26

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

	0°	45°	90°
0°	42143	42143	42143
5°	41757	42030	42382
10°	41817	41976	42055
15°	41909	41815	41721
20°	42015	41531	40896
25°	42130	40797	40711
30°	42289	40519	40684
35°	42442	40365	40857
40°	42621	40316	41028
45°	42850	40295	41197
50°	42913	40449	38489
55°	42726	40326	22824
60°	42365	36753	19792
65°	41670	22217	5991
70°	40024	8808	6872
75°	37081	7225	7024
80°	32087	7627	6580
85°	22795	7151	6257

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 50°  
 Luminance: 42913 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	307.4	3.6
10°-20°	880.4	10.4
20°-30°	1330.4	15.7
30°-40°	1623.3	19.2
40°-50°	1717.1	20.3
50°-60°	1422.2	16.8
60°-70°	790.6	9.3
70°-80°	320.5	3.8
80°-90°	69.1	0.8
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°	2518.2	29.8
0°-40°	4141.5	48.9
0°-60°	7280.8	86.1
0°-90°	8461.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8461.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3246	3246	3246	3246	3246	
5°	3204	3260	3224	3230	3252	305
15°	3118	3166	3110	3108	3104	881
25°	2940	2962	2848	2830	2842	1356
35°	2677	2644	2546	2556	2577	1676
45°	2333	2213	2194	2221	2243	1799
55°	1887	1759	1781	1222	1008	1686
65°	1356	1243	723	243	195	1337
75°	739	412	144	142	140	780
85°	153	51	48	44	42	192
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3245.5	3245.5	3245.5	3245.5	3245.5
2.5°	3210.5	3266.5	3231.5	3238.5	3241.5
5°	3203.5	3260.5	3224.5	3229.5	3251.5
7.5°	3188.5	3246.5	3208.5	3211.5	3228.5
10°	3171.5	3224.5	3183.5	3178.5	3189.5
12.5°	3148.5	3196.5	3148.5	3150.5	3164.5
15°	3117.5	3165.5	3110.5	3108.5	3103.5
17.5°	3080.5	3125.5	3071.5	3039.5	3028.5
20°	3040.5	3075.5	3005.5	2956.5	2959.5
22.5°	2992.5	3022.5	2934.5	2889.5	2902.5
25°	2940.5	2961.5	2847.5	2829.5	2841.5
27.5°	2883.5	2899.5	2772.4	2768.4	2778.4
30°	2820.4	2826.5	2702.4	2700.4	2713.4
32.5°	2750.4	2740.4	2627.4	2629.4	2646.4
35°	2677.4	2644.4	2546.4	2556.4	2577.4
37.5°	2600.4	2541.4	2466.4	2479.4	2502.4
40°	2514.4	2434.4	2378.4	2398.4	2420.4
42.5°	2426.4	2322.4	2293.4	2312.4	2333.4
45°	2333.4	2213.4	2194.3	2221.4	2243.4
47.5°	2232.4	2106.3	2103.3	2124.3	2114.3
50°	2124.3	1995.3	2002.3	1974.3	1905.3
52.5°	2008.3	1880.3	1894.3	1773.3	1433.2
55°	1887.3	1759.3	1781.3	1222.2	1008.2
57.5°	1763.3	1635.3	1621.3	935.1	934.1
60°	1631.3	1509.2	1415.2	826.1	762.1
62.5°	1498.2	1378.2	869.1	622.1	350.1
65°	1356.2	1243.2	723.1	243.0	195.0
67.5°	1207.2	1106.2	579.1	183.0	190.0
70°	1054.2	964.2	232.0	177.0	181.0
72.5°	898.1	744.1	154.0	164.0	164.0
75°	739.1	412.1	144.0	142.0	140.0
77.5°	581.1	276.0	126.0	117.0	114.0
80°	429.1	99.0	102.0	91.0	88.0
82.5°	284.0	77.0	73.0	66.0	64.0
85°	153.0	51.0	48.0	44.0	42.0
87.5°	55.0	26.0	26.0	21.0	19.0
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	25.68	27.25	26.04	27.56	27.88	21.67	23.24	22.03	23.55	23.87
	3H	27.68	29.09	28.06	29.42	29.78	21.80	23.20	22.17	23.53	23.89
	4H	28.29	29.61	28.69	29.96	30.34	21.92	23.23	22.31	23.58	23.96
	6H	28.69	29.91	29.11	30.28	30.67	22.02	23.24	22.44	23.61	24.00
	8H	28.81	29.97	29.24	30.36	30.76	22.06	23.22	22.48	23.61	24.01
	12H	28.88	29.99	29.31	30.38	30.80	22.08	23.19	22.51	23.57	24.00
4H	2H	25.80	27.12	26.20	27.47	27.85	22.39	23.71	22.79	24.06	24.44
	3H	27.96	29.05	28.38	29.45	29.85	22.59	23.68	23.00	24.08	24.48
	4H	28.62	29.60	29.05	30.01	30.45	22.74	23.72	23.17	24.14	24.57
	6H	29.07	29.91	29.52	30.36	30.82	22.91	23.76	23.36	24.20	24.66
	8H	29.21	30.00	29.67	30.44	30.91	22.96	23.75	23.42	24.20	24.66
	12H	29.31	30.02	29.79	30.50	30.97	23.01	23.72	23.49	24.19	24.66
8H	4H	28.56	29.35	29.02	29.79	30.26	23.02	23.81	23.48	24.25	24.72
	6H	29.00	29.65	29.49	30.14	30.62	23.22	23.88	23.72	24.37	24.85
	8H	29.15	29.74	29.66	30.24	30.73	23.31	23.89	23.82	24.40	24.89
	12H	29.28	29.80	29.79	30.29	30.86	23.39	23.91	23.90	24.41	24.97
12H	4H	28.53	29.24	29.01	29.72	30.19	23.03	23.74	23.51	24.22	24.69
	6H	28.96	29.55	29.47	30.06	30.54	23.24	23.83	23.75	24.34	24.83
	8H	29.13	29.65	29.64	30.14	30.71	23.36	23.89	23.87	24.38	24.94