

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: P894072

Luminaire Tested: 4MB-9HL-RND-UNV-L950

Issue Date: 11/11/2024

**Test Information**

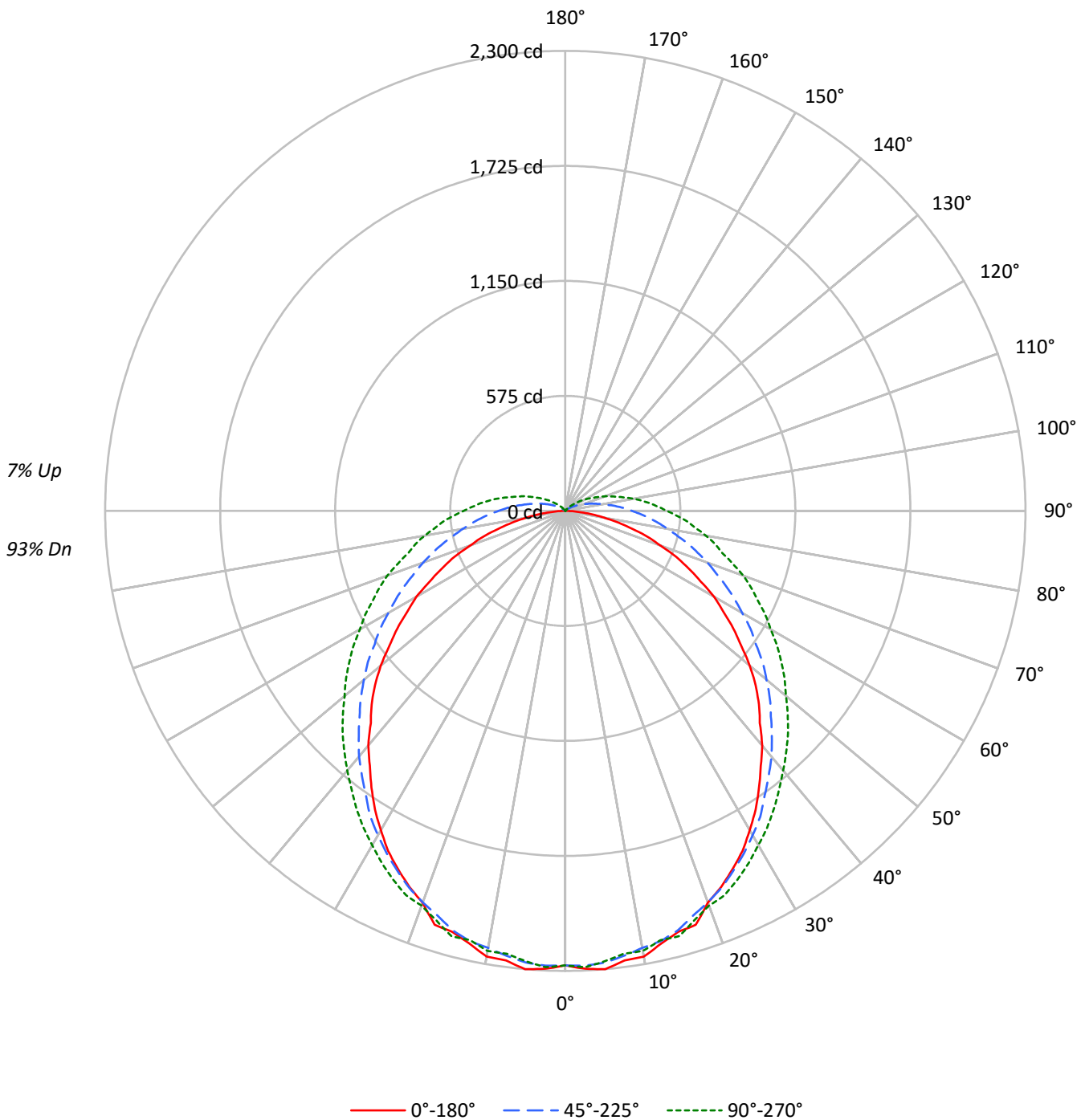
Test Method: LM-79-2019  
Report Number: P894072  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-9HL-RND-UNV-L950  
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with ROUND FROSTED LENS, 90CRI, 5000K CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7486.0 lumens  
Efficiency: N/A  
Efficacy: 116.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.26 / 1.35  
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				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	114	114	114	114	107	107	107	101	101	101	96	96	96	96	96	96	93
1	105	100	95	90	102	97	92	88	91	87	84	86	83	80	81	79	77	77	77	77	74
2	95	86	79	72	92	84	77	71	79	73	68	74	70	66	70	67	63	63	63	63	60
3	86	75	66	60	83	73	65	59	69	62	57	65	60	55	62	57	53	53	53	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	47	55	50	45	45	45	45	43
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	39	39	39	37
6	67	53	44	37	65	52	43	37	49	42	36	47	40	35	45	39	34	34	34	34	32
7	62	48	39	33	60	47	39	33	45	37	32	43	36	31	41	35	30	30	30	30	28
8	58	44	35	29	56	43	35	29	41	34	28	39	33	28	38	32	27	27	27	27	25
9	54	40	32	26	52	39	32	26	38	31	26	36	30	25	35	29	25	25	25	25	23
10	51	37	29	24	49	36	29	24	35	28	23	34	27	23	32	27	22	22	22	22	21

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

	0°	45°	90°
0°	16170	16170	16170
5°	16425	16187	16143
10°	16345	16029	16142
15°	16051	15997	16213
20°	15783	15767	15901
25°	15524	15589	15973
30°	15144	15383	15853
35°	14665	15090	15794
40°	14224	14890	15739
45°	13777	14624	15838
50°	13326	14535	15938
55°	12716	14432	16353
60°	12221	14527	16865
65°	11413	14913	17888
70°	10489	15746	19702
75°	9517	17434	22322
80°	8178	21298	29263
85°	6621	34458	50075

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 87.5°  
 Luminance: 90904 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	215.5	2.9
10°-20°	613.4	8.2
20°-30°	919.2	12.3
30°-40°	1092.3	14.6
40°-50°	1130.9	15.1
50°-60°	1048.0	14.0
60°-70°	872.5	11.7
70°-80°	647.6	8.7
80°-90°	428.3	5.7
90°-100°	260.6	3.5
100°-110°	146.1	2.0
110°-120°	72.0	1.0
120°-130°	29.3	0.4
130°-140°	8.5	0.1
140°-150°	1.2	0.0
150°-160°	0.3	0.0
160°-170°	0.2	0.0
170°-180°	0.1	0.0
0°-30°	1748.1	23.4
0°-40°	2840.4	37.9
0°-60°	5019.3	67.0
0°-90°	6967.7	93.1
90°-120°	478.7	6.4
90°-150°	517.7	6.9
90°-180°	518.0	6.9
0°-180°	7486.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2273	2273	2273	2273	2273	
5°	2300	2275	2266	2278	2260	217
15°	2179	2171	2172	2175	2201	617
25°	1977	1975	1986	2024	2035	910
35°	1688	1701	1737	1792	1818	1056
45°	1369	1389	1453	1544	1574	1055
55°	1025	1069	1163	1280	1318	917
65°	678	741	886	1016	1062	673
75°	346	451	634	770	812	370
85°	81	228	422	572	613	91
90°	4	148	334	467	508	6
95°	1	92	259	386	428	1
105°	1	30	140	238	271	1
115°	1	7	66	131	157	1
125°	1	2	24	60	77	1
135°	2	1	6	20	27	1
145°	2	1	0	2	3	1
155°	2	2	0	0	0	1
165°	3	2	0	0	0	1
175°	3	2	0	0	0	0
180°	1	1	1	1	1	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2272.7	2272.7	2272.7	2272.7	2272.7
2.5°	2291.4	2280.0	2275.8	2270.6	2283.1
5°	2299.7	2274.8	2266.4	2277.9	2260.2
7.5°	2267.5	2261.3	2243.6	2249.8	2233.2
10°	2262.3	2228.0	2218.6	2239.4	2234.2
12.5°	2215.5	2186.4	2203.0	2217.6	2197.8
15°	2179.1	2170.8	2171.8	2175.0	2201.0
17.5°	2169.8	2132.3	2121.9	2147.9	2145.8
20°	2084.5	2077.2	2082.4	2116.7	2100.1
22.5°	2034.6	2011.7	2039.8	2073.1	2080.4
25°	1977.4	1975.3	1985.7	2024.2	2034.6
27.5°	1917.1	1903.6	1931.7	1976.4	1984.7
30°	1843.3	1838.1	1872.4	1910.9	1929.6
32.5°	1770.5	1773.7	1813.2	1845.4	1877.6
35°	1688.4	1700.9	1737.3	1792.4	1818.4
37.5°	1605.2	1620.8	1669.7	1733.1	1754.9
40°	1531.4	1534.5	1603.1	1667.6	1694.6
42.5°	1438.9	1470.1	1528.3	1613.5	1634.3
45°	1369.2	1389.0	1453.4	1543.9	1574.0
47.5°	1290.2	1313.1	1386.9	1475.3	1507.5
50°	1203.9	1224.7	1313.1	1413.9	1439.9
52.5°	1108.3	1150.9	1243.4	1347.4	1381.7
55°	1025.1	1068.8	1163.4	1279.8	1318.3
57.5°	935.7	979.4	1097.9	1206.0	1255.9
60°	858.8	900.3	1020.9	1155.1	1185.2
62.5°	763.1	822.4	953.4	1085.4	1128.0
65°	677.9	741.3	885.8	1015.7	1062.5
67.5°	599.9	665.4	816.1	955.4	1006.4
70°	504.2	590.5	756.9	894.1	947.1
72.5°	433.5	519.8	693.5	829.6	877.5
75°	346.2	451.2	634.2	770.4	812.0
77.5°	273.4	386.8	572.9	725.7	767.3
80°	199.6	328.5	519.8	666.4	714.2
82.5°	136.2	274.5	471.0	611.3	657.1
85°	81.1	227.7	422.1	571.8	613.4
87.5°	35.3	186.1	377.4	514.6	557.3
90°	4.2	147.6	333.7	466.8	508.4
92.5°	1.0	118.5	295.3	424.2	464.7
95°	1.0	91.5	258.9	385.7	428.3
97.5°	1.0	70.7	222.5	346.2	386.8
100°	1.0	54.1	192.3	304.6	348.3
102.5°	1.0	40.5	163.2	270.3	307.7
105°	1.0	30.2	140.4	238.1	271.4
107.5°	1.0	21.8	117.5	207.9	241.2
110°	1.0	15.6	98.8	179.9	213.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.0	11.4	80.1	154.9	183.0
115°	1.0	7.3	65.5	131.0	157.0
117.5°	1.0	5.2	52.0	110.2	135.2
120°	1.0	4.2	41.6	91.5	113.3
122.5°	1.0	3.1	32.2	74.9	95.6
125°	1.0	2.1	23.9	60.3	76.9
127.5°	1.0	2.1	17.7	47.8	62.4
130°	1.0	1.0	12.5	36.4	48.9
132.5°	1.0	1.0	8.3	27.0	36.4
135°	2.1	1.0	6.2	19.8	27.0
137.5°	2.1	1.0	4.2	13.5	18.7
140°	2.1	1.0	2.1	8.3	11.4
142.5°	2.1	1.0	1.0	4.2	6.2
145°	2.1	1.0	0.0	2.1	3.1
147.5°	2.1	1.0	0.0	1.0	1.0
150°	2.1	1.0	0.0	0.0	0.0
152.5°	2.1	1.0	0.0	0.0	0.0
155°	2.1	2.1	0.0	0.0	0.0
157.5°	2.1	2.1	0.0	0.0	0.0
160°	2.1	2.1	0.0	0.0	0.0
162.5°	2.1	2.1	0.0	0.0	0.0
165°	3.1	2.1	0.0	0.0	0.0
167.5°	3.1	2.1	0.0	0.0	0.0
170°	3.1	2.1	0.0	0.0	0.0
172.5°	3.1	2.1	0.0	0.0	0.0
175°	3.1	2.1	0.0	0.0	0.0
177.5°	3.1	2.1	0.0	0.0	0.0
180°	1.0	1.0	1.0	1.0	1.0



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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	19.90	21.44	20.37	21.89	22.37	21.47	23.01	21.94	23.46	23.95
	3H	21.66	23.07	22.14	23.53	24.05	24.06	25.46	24.54	25.93	26.45
	4H	22.32	23.65	22.82	24.13	24.67	25.32	26.65	25.82	27.13	27.67
	6H	22.80	24.04	23.31	24.53	25.09	26.70	27.94	27.21	28.43	28.99
	8H	22.95	24.13	23.47	24.65	25.21	27.43	28.62	27.96	29.14	29.70
	12H	23.04	24.19	23.58	24.70	25.29	28.27	29.41	28.80	29.92	30.51
4H	2H	20.85	22.19	21.36	22.67	23.20	22.04	23.38	22.55	23.86	24.39
	3H	22.90	24.03	23.41	24.56	25.12	24.91	26.05	25.43	26.57	27.13
	4H	23.71	24.75	24.24	25.28	25.88	26.39	27.43	26.93	27.97	28.56
	6H	24.36	25.28	24.91	25.84	26.45	28.01	28.93	28.56	29.49	30.10
	8H	24.58	25.45	25.14	26.01	26.63	28.87	29.73	29.43	30.29	30.91
	12H	24.75	25.54	25.34	26.13	26.75	29.86	30.65	30.44	31.24	31.86
8H	4H	24.56	25.42	25.12	25.98	26.60	26.76	27.63	27.32	28.19	28.81
	6H	25.48	26.22	26.07	26.82	27.44	28.64	29.38	29.23	29.98	30.60
	8H	25.86	26.53	26.47	27.14	27.78	29.70	30.37	30.30	30.98	31.62
	12H	26.18	26.78	26.79	27.38	28.08	30.96	31.55	31.56	32.15	32.86
12H	4H	24.82	25.61	25.40	26.20	26.82	26.80	27.59	27.39	28.18	28.81
	6H	25.90	26.57	26.51	27.18	27.82	28.75	29.42	29.35	30.03	30.67
	8H	26.44	27.04	27.05	27.64	28.34	29.92	30.52	30.53	31.12	31.83