

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: P893182

Luminaire Tested: 4MB-10HL-FLTU-UNV-L935

Issue Date: 11/11/2024

**Test Information**

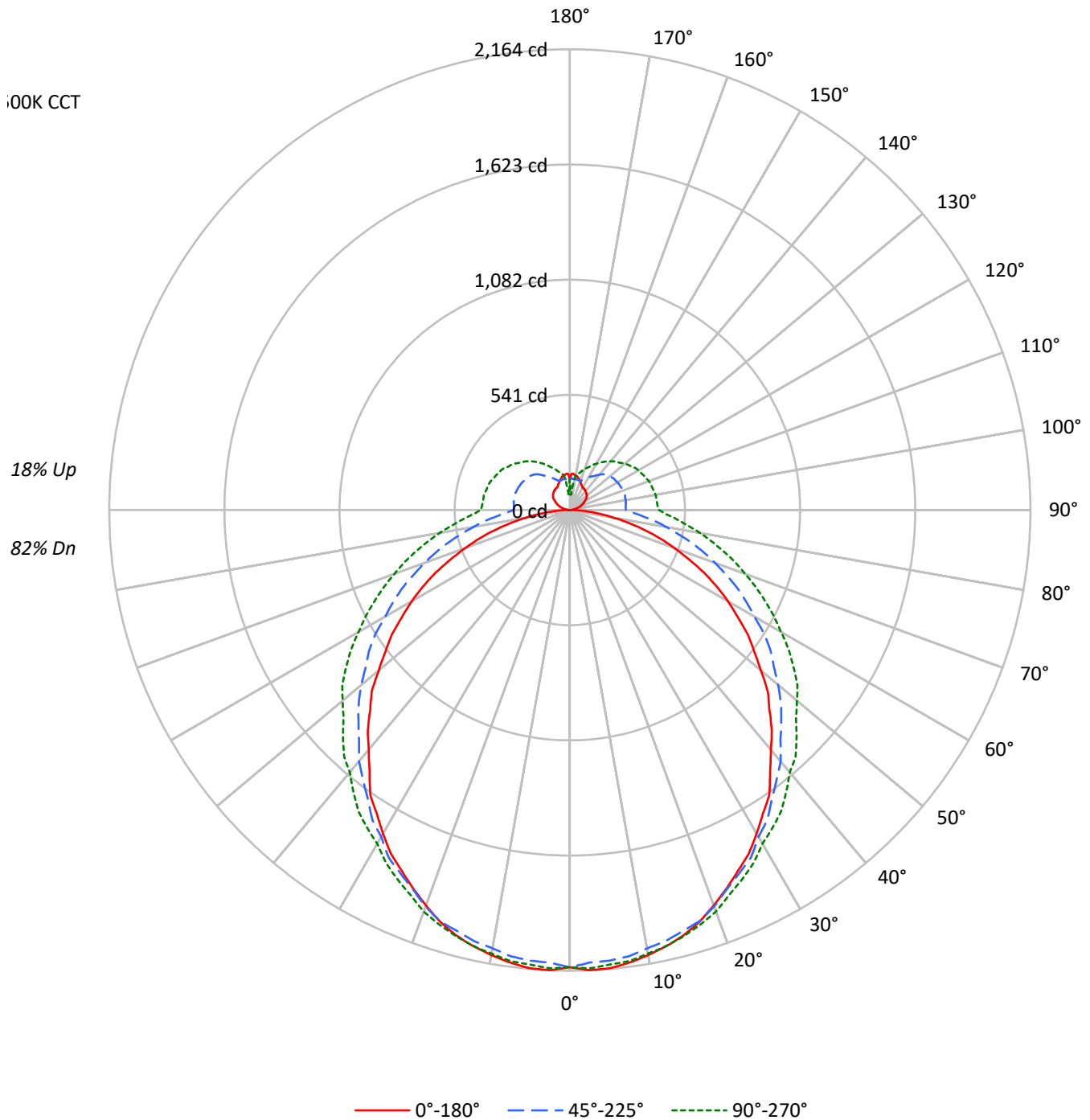
Test Method: LM-79-2019  
Report Number: P893182  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-6)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-10HL-FLTU-UNV-L935  
Description: 10000 Lumen 4FT MICROBAY LINEAR BAY with FLAT FROSTED LENS WITH UPLIGHT, 90CRI, 35  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8074.0 lumens  
Efficiency: N/A  
Efficacy: 106.9 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.26 / 1.36  
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 3.98' x H: 0.21')  
CIE Type: Semi-Direct  
  
Input Watts (W): 75.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.997  
Total Harmonic Distortion (THDi): 7.45  
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	115	115	115	115	110	110	110	110	101	101	101	93	93	93	86	86	86	86	86	86	82
1	103	98	93	89	99	94	90	86	87	83	80	80	77	74	73	71	69	69	69	69	66
2	93	85	77	71	89	81	75	69	75	70	65	69	65	61	63	60	57	57	57	57	54
3	85	74	66	59	81	71	63	57	66	59	54	60	55	51	56	51	48	48	48	48	45
4	78	65	56	49	74	63	55	48	58	51	46	54	48	43	50	45	41	41	41	41	38
5	71	58	49	42	68	56	48	41	52	45	39	48	42	37	44	39	35	35	35	35	33
6	66	52	43	37	63	50	42	36	47	40	34	43	37	33	40	35	31	31	31	31	28
7	61	47	38	32	58	46	37	32	42	35	30	39	33	29	37	31	27	27	27	27	25
8	56	43	34	29	54	42	34	28	39	32	27	36	30	26	34	28	24	24	24	24	22
9	53	39	31	26	50	38	30	25	36	29	24	33	27	23	31	26	22	22	22	22	20
10	49	36	28	23	47	35	28	23	33	26	22	31	25	21	29	24	20	20	20	20	18

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

	0°	45°	90°
0°	15280	15280	15280
5°	15358	14632	14606
10°	15194	14052	13939
15°	15020	13540	13303
20°	14685	12999	12671
25°	14324	12339	11973
30°	13996	11694	11295
35°	13692	11079	10860
40°	13077	10550	10230
45°	12679	9922	9791
50°	12210	9395	9330
55°	11787	8892	8918
60°	11195	8207	8365
65°	10520	7653	7843
70°	9504	6970	7277
75°	8424	6288	6738
80°	6669	5544	6193
85°	4602	4824	5682

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 12679 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	203.4	2.5
10°-20°	580.9	7.2
20°-30°	872.6	10.8
30°-40°	1045.8	13.0
40°-50°	1096.5	13.6
50°-60°	1028.6	12.7
60°-70°	854.3	10.6
70°-80°	610.8	7.6
80°-90°	362.3	4.5
90°-100°	265.8	3.3
100°-110°	261.8	3.2
110°-120°	244.2	3.0
120°-130°	214.3	2.7
130°-140°	172.6	2.1
140°-150°	123.9	1.5
150°-160°	78.7	1.0
160°-170°	43.6	0.5
170°-180°	13.7	0.2
0°-30°	1656.9	20.5
0°-40°	2702.8	33.5
0°-60°	4827.8	59.8
0°-90°	6655.3	82.4
90°-120°	771.8	9.6
90°-150°	1282.6	15.9
90°-180°	1419.0	17.6
0°-180°	8074.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2148	2148	2148	2148	2148	
5°	2160	2156	2125	2135	2143	205
15°	2068	2055	2047	2062	2071	582
25°	1869	1886	1883	1905	1915	863
35°	1634	1640	1655	1703	1730	1014
45°	1326	1364	1405	1497	1506	1026
55°	1021	1054	1151	1245	1282	909
65°	695	747	868	985	1013	685
75°	366	451	591	713	746	387
85°	90	197	346	462	506	99
90°	3	120	264	377	418	7
95°	10	126	264	372	411	11
105°	36	138	268	367	402	39
115°	66	150	262	349	383	65
125°	95	154	254	324	354	83
135°	110	148	236	293	317	85
145°	119	137	194	258	276	75
155°	130	137	159	200	226	60
165°	155	151	146	145	181	44
175°	171	164	147	122	74	16
180°	142	142	142	142	142	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2147.6	2147.6	2147.6	2147.6	2147.6
2.5°	2163.6	2146.5	2128.2	2155.6	2154.5
5°	2160.2	2155.6	2124.8	2135.1	2143.0
7.5°	2144.2	2132.8	2114.5	2139.6	2137.3
10°	2122.5	2108.8	2090.6	2105.4	2115.7
12.5°	2098.5	2087.1	2074.6	2090.6	2097.4
15°	2067.7	2055.2	2047.2	2062.0	2071.2
17.5°	2027.8	2024.4	2025.5	2026.7	2041.5
20°	1976.4	1978.7	1982.1	2002.7	2007.3
22.5°	1924.0	1936.5	1927.4	1959.3	1957.0
25°	1869.2	1886.3	1882.9	1904.6	1914.8
27.5°	1820.1	1821.2	1841.8	1872.6	1869.2
30°	1755.1	1774.5	1772.2	1809.8	1809.8
32.5°	1688.9	1717.4	1726.5	1759.6	1771.0
35°	1634.1	1639.8	1654.6	1702.6	1730.0
37.5°	1545.1	1572.5	1596.4	1659.2	1669.5
40°	1469.8	1497.2	1540.5	1613.6	1607.9
42.5°	1404.7	1433.3	1465.2	1549.7	1570.2
45°	1326.0	1363.7	1404.7	1497.2	1506.3
47.5°	1262.1	1291.8	1345.4	1429.8	1441.3
50°	1171.9	1219.9	1278.1	1376.2	1393.3
52.5°	1092.1	1133.1	1207.3	1308.9	1347.7
55°	1021.3	1054.4	1151.4	1245.0	1281.5
57.5°	934.6	980.2	1081.8	1185.6	1218.7
60°	858.1	902.6	1000.8	1119.5	1145.7
62.5°	777.1	829.6	935.7	1051.0	1080.7
65°	695.0	747.4	868.4	984.8	1013.3
67.5°	605.9	671.0	794.2	915.2	944.9
70°	522.6	593.4	725.8	846.7	876.4
72.5°	447.3	523.8	658.4	782.8	814.8
75°	366.3	450.7	591.1	713.2	746.3
77.5°	287.6	378.9	521.5	644.7	683.5
80°	211.1	311.5	461.0	579.7	620.8
82.5°	148.3	251.0	405.1	521.5	559.2
85°	90.1	197.4	345.8	462.2	505.5
87.5°	39.9	152.9	299.0	414.2	453.0
90°	3.4	119.8	263.6	376.6	417.7
92.5°	6.8	122.1	262.5	372.0	413.1
95°	10.3	125.5	263.6	372.0	410.8
97.5°	14.8	130.1	265.9	372.0	409.7
100°	21.7	132.4	267.0	372.0	409.7
102.5°	28.5	135.8	265.9	366.3	405.1
105°	36.5	138.1	268.2	367.4	401.7
107.5°	44.5	140.4	268.2	361.7	400.5
110°	52.5	143.8	265.9	358.3	396.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	59.3	147.2	264.7	351.5	388.0
115°	66.2	149.5	262.5	349.2	383.4
117.5°	73.0	150.6	261.3	343.5	376.6
120°	78.7	152.9	259.0	336.6	373.2
122.5°	85.6	154.1	255.6	329.8	366.3
125°	94.7	154.1	254.5	324.1	353.8
127.5°	99.3	155.2	249.9	317.2	348.0
130°	103.8	151.8	247.6	309.2	338.9
132.5°	107.3	150.6	241.9	301.3	327.5
135°	109.5	148.3	236.2	293.3	317.2
137.5°	113.0	144.9	228.2	287.6	310.4
140°	115.3	142.6	216.8	276.2	299.0
142.5°	117.5	139.2	205.4	265.9	287.6
145°	118.7	136.9	194.0	257.9	276.2
147.5°	122.1	133.5	187.1	247.6	263.6
150°	121.0	131.2	176.9	235.1	251.0
152.5°	124.4	134.7	167.7	218.0	240.8
155°	130.1	136.9	158.6	199.7	225.9
157.5°	135.8	141.5	151.8	183.7	214.5
160°	143.8	143.8	143.8	171.2	205.4
162.5°	148.3	148.3	144.9	156.3	192.9
165°	155.2	150.6	146.1	144.9	181.4
167.5°	162.0	152.9	148.3	140.4	173.5
170°	163.2	156.3	147.2	132.4	167.7
172.5°	167.7	159.8	146.1	125.5	130.1
175°	171.2	164.3	147.2	122.1	74.2
177.5°	170.0	164.3	150.6	122.1	71.9
180°	141.5	141.5	141.5	141.5	141.5



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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	17.20	18.52	17.81	19.15	19.86	19.71	21.03	20.32	21.66	22.38
	3H	18.63	19.83	19.25	20.47	21.22	22.07	23.28	22.70	23.92	24.67
	4H	19.09	20.24	19.74	20.89	21.65	23.19	24.33	23.83	24.98	25.74
	6H	19.36	20.42	20.02	21.08	21.86	24.30	25.37	24.96	26.03	26.80
	8H	19.41	20.43	20.08	21.11	21.89	24.85	25.87	25.52	26.55	27.33
	12H	19.43	20.40	20.10	21.08	21.89	25.44	26.41	26.11	27.08	27.90
4H	2H	18.07	19.21	18.71	19.86	20.62	20.05	21.20	20.70	21.85	22.61
	3H	19.72	20.69	20.38	21.38	22.16	22.63	23.60	23.29	24.29	25.07
	4H	20.31	21.19	20.98	21.89	22.70	23.91	24.80	24.59	25.49	26.30
	6H	20.68	21.46	21.38	22.18	23.00	25.20	25.98	25.89	26.70	27.52
	8H	20.77	21.51	21.47	22.22	23.06	25.84	26.58	26.54	27.29	28.12
	12H	20.81	21.48	21.54	22.22	23.06	26.53	27.20	27.25	27.94	28.78
8H	4H	20.93	21.66	21.63	22.38	23.21	24.06	24.80	24.76	25.51	26.35
	6H	21.46	22.08	22.19	22.84	23.68	25.50	26.12	26.23	26.87	27.71
	8H	21.63	22.19	22.38	22.95	23.80	26.27	26.82	27.01	27.58	28.43
	12H	21.74	22.24	22.48	22.98	23.89	27.12	27.61	27.86	28.36	29.27
12H	4H	21.09	21.75	21.81	22.49	23.33	24.06	24.72	24.78	25.46	26.30
	6H	21.71	22.27	22.45	23.03	23.88	25.52	26.08	26.26	26.83	27.68
	8H	21.96	22.45	22.70	23.20	24.11	26.34	26.83	27.08	27.58	28.49