

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: P892817

Luminaire Tested: 2MB-5HL-ASMF-UNV-L930

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P892817
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2407-185-1)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 2MB-5HL-ASMF-UNV-L930
Description: 5000 Lumen 2FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 90CRI, 3000K CCT
Light Source: -
Ballast/Driver: -

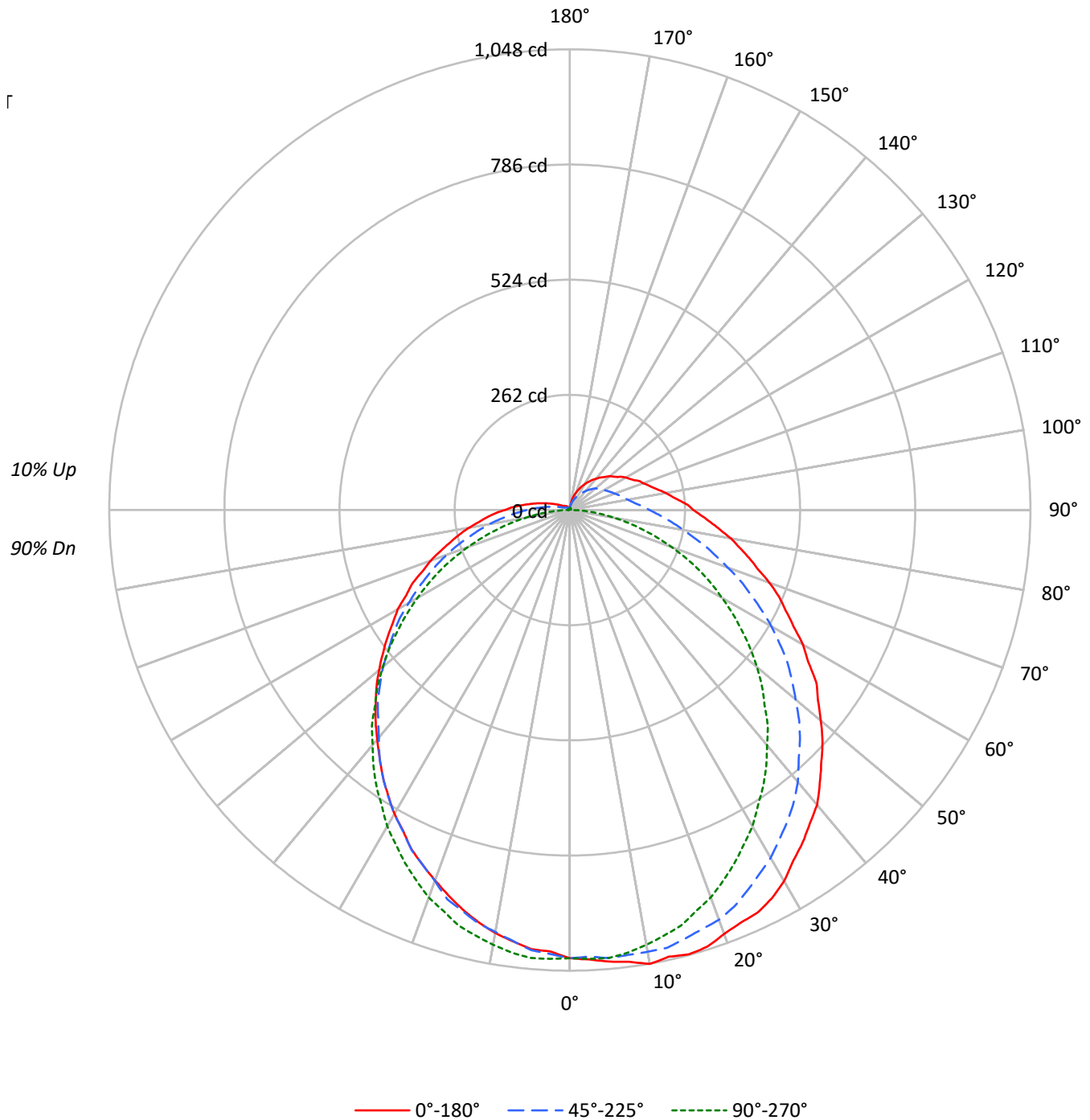
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3505.0 lumens
Efficiency: N/A
Efficacy: 104.0 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.21 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.27' x L: 1.98' x H: 0.12')
CIE Type: Direct

Input Watts (W): 33.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 4.5
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	117	117	117	117	113	113	113	113	106	106	106	99	99	99	93	93	93	93	93	93	90
1	105	99	95	90	101	96	92	88	90	87	83	85	82	79	79	77	75	75	75	75	72
2	95	86	79	72	91	83	76	71	78	72	68	73	69	65	69	65	62	62	62	62	59
3	86	75	66	60	83	73	65	58	68	62	56	64	59	54	60	56	52	52	52	52	49
4	79	66	57	50	76	64	56	49	61	53	48	57	51	46	54	49	44	44	44	44	42
5	72	59	50	43	69	57	49	42	54	47	41	51	45	40	48	43	38	38	38	38	36
6	67	53	44	37	64	52	43	37	49	41	36	46	40	35	44	38	34	34	34	34	31
7	62	48	39	33	59	47	38	32	44	37	32	42	36	31	40	34	30	30	30	30	28
8	57	44	35	29	55	43	35	29	41	33	28	39	32	27	37	31	27	27	27	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	24	24	24	22
10	50	37	29	24	49	36	29	23	34	28	23	33	27	22	31	26	22	22	22	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	20876	20876	20876	20876	20876
5°	21080	20355	20196	20001	20495
10°	21561	19895	19280	19000	20092
15°	21815	19441	18424	18174	19616
20°	21857	19004	17449	17197	19098
25°	22184	18361	16423	16384	18694
30°	22244	17742	15449	15506	18209
35°	22110	17073	14423	14665	17755
40°	22217	16381	13372	13721	17300
45°	22046	15570	12337	12999	17007
50°	22092	14739	11340	12175	16777
55°	22434	14011	10197	11350	16609
60°	22617	13115	9027	10478	16689
65°	23145	12149	7842	9608	16877
70°	24651	11222	6428	8779	17187
75°	27056	10531	4917	7818	17952
80°	32262	9856	3294	6965	20220
85°	43879	9647	1654	6084	25801

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 90°
 Luminance: 91063 cd/sqm



TEST NUMBER: P892817
 CATALOG NUMBER: 2MB-5HL-ASMF-UNV-L930

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.7	2.8
10°-20°	277.2	7.9
20°-30°	418.0	11.9
30°-40°	501.8	14.3
40°-50°	522.5	14.9
50°-60°	484.3	13.8
60°-70°	398.9	11.4
70°-80°	287.7	8.2
80°-90°	182.7	5.2
90°-100°	112.6	3.2
100°-110°	75.1	2.1
110°-120°	53.5	1.5
120°-130°	39.2	1.1
130°-140°	26.9	0.8
140°-150°	16.4	0.5
150°-160°	8.1	0.2
160°-170°	3.0	0.1
170°-180°	0.5	0.0
0°-30°	792.0	22.6
0°-40°	1293.7	36.9
0°-60°	2300.5	65.6
0°-90°	3169.7	90.4
90°-120°	241.1	6.9
90°-150°	323.7	9.2
90°-180°	335.0	9.6
0°-180°	3505.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1020	1020	1020	1020	1020	
5°	1031	1023	1023	1005	1003	99
15°	1046	1010	979	944	941	295
25°	1011	956	886	853	852	465
35°	924	864	767	742	742	579
45°	809	741	626	618	624	626
55°	685	604	478	489	507	609
65°	542	454	325	359	396	540
75°	423	321	171	238	280	448
85°	322	218	45	138	189	273
90°	281	182	4	98	147	155
95°	250	153	2	66	114	199
105°	196	120	2	27	60	210
115°	161	99	3	13	28	161
125°	131	83	4	10	16	119
135°	105	66	4	8	12	82
145°	80	47	4	6	9	51
155°	55	31	4	4	6	26
165°	32	18	4	2	3	9
175°	5	8	5	2	0	1
180°	3	3	3	3	3	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1019.5	1019.5	1019.5	1019.5	1019.5	1019.5	1019.5	1019.5	1019.5
2.5°	1023.5	1026.6	1016.9	1023.0	1022.0	1023.0	1010.8	1021.0	1005.2
5°	1031.2	1032.7	1023.0	1026.6	1023.0	1014.4	1005.2	1001.6	1002.6
7.5°	1036.3	1044.4	1020.5	1021.5	1015.4	1006.2	988.9	991.9	989.9
10°	1048.5	1039.3	1020.5	1015.9	1004.2	994.5	974.6	976.1	977.1
12.5°	1040.9	1038.8	1020.0	1003.1	991.4	983.3	962.9	957.8	960.3
15°	1046.5	1037.8	1009.8	996.5	978.7	964.4	944.0	940.4	941.0
17.5°	1041.4	1034.2	999.6	981.2	956.2	947.6	928.2	922.1	919.0
20°	1026.1	1022.5	991.9	960.3	937.9	921.1	897.6	894.1	896.6
22.5°	1015.9	1007.2	976.6	945.0	912.4	897.6	874.2	873.7	874.2
25°	1010.8	999.6	955.7	922.6	886.4	873.2	852.8	845.1	851.8
27.5°	995.5	985.3	933.8	897.6	857.4	839.5	822.7	821.2	822.2
30°	975.1	955.2	913.9	869.6	830.9	812.5	798.7	788.5	798.2
32.5°	946.1	934.8	887.9	839.5	796.7	784.0	770.2	769.2	769.2
35°	923.6	915.5	863.5	813.0	767.1	749.8	741.7	738.1	741.7
37.5°	897.6	885.4	837.5	780.9	734.0	719.2	711.1	708.0	710.6
40°	875.2	852.8	806.9	747.8	697.8	684.6	675.9	679.0	681.5
42.5°	842.1	829.3	770.7	714.1	666.7	652.5	645.3	647.9	654.0
45°	809.4	797.7	740.6	679.0	626.5	618.8	618.3	616.8	624.4
47.5°	779.9	763.1	707.5	644.3	592.8	584.1	585.2	590.3	596.9
50°	745.7	725.9	670.8	607.1	555.6	550.0	554.1	557.6	566.3
52.5°	711.6	695.8	637.2	571.9	517.9	513.8	519.4	531.1	536.2
55°	685.1	656.5	604.0	530.6	477.6	478.1	489.3	496.0	507.2
57.5°	642.8	621.4	566.3	493.9	439.9	443.5	458.8	470.0	477.1
60°	612.7	585.7	529.6	454.7	400.1	405.7	423.1	439.9	452.1
62.5°	574.0	550.5	491.4	415.9	363.4	371.6	391.0	410.8	419.5
65°	542.4	515.8	453.7	377.2	325.2	334.9	358.8	381.3	395.5
67.5°	515.3	487.8	420.0	341.5	286.5	300.7	328.8	350.7	361.9
70°	483.2	451.1	381.8	301.8	246.2	263.0	298.7	324.2	336.9
72.5°	449.1	423.1	348.7	265.1	209.0	229.4	268.6	295.1	307.4
75°	422.6	393.5	320.6	228.4	171.3	195.7	238.0	268.1	280.4
77.5°	395.5	369.0	289.0	194.7	137.6	165.2	211.0	244.2	256.9
80°	371.6	341.0	262.5	167.2	102.5	135.1	185.5	218.2	232.9
82.5°	345.1	318.6	239.6	138.1	72.9	107.6	160.6	196.2	208.5
85°	321.6	294.1	218.2	115.2	44.9	83.1	137.6	174.3	189.1
87.5°	300.2	277.3	198.3	97.9	22.4	63.2	115.7	152.9	169.7
90°	280.9	254.9	181.5	82.1	4.1	45.9	97.9	134.6	147.3
92.5°	268.6	237.5	167.7	71.9	2.5	32.6	81.6	117.7	132.5
95°	250.3	222.8	153.4	64.2	2.5	21.9	65.8	100.9	113.7
97.5°	234.5	209.0	143.2	59.6	2.0	14.8	54.0	84.6	97.9
100°	222.2	198.3	134.1	55.6	2.5	10.7	42.8	71.9	83.6
102.5°	208.5	186.6	126.9	53.0	2.5	7.6	33.6	60.7	71.4
105°	196.2	176.9	120.3	50.5	2.5	6.6	27.0	50.0	59.6
107.5°	187.1	166.7	114.7	48.9	2.5	6.6	21.4	40.8	48.9
110°	177.9	158.5	109.1	47.4	2.5	6.1	16.8	33.6	40.8



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CATALOG NUMBER: 2MB-5HL-ASMF-UNV-L930

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	171.8	150.9	104.0	45.9	3.1	6.1	13.8	28.0	33.6
115°	161.1	144.3	99.4	45.4	3.1	5.6	12.7	22.9	28.5
117.5°	153.4	138.1	94.8	43.8	3.1	5.6	12.2	18.9	22.9
120°	147.8	131.0	90.7	42.3	3.1	5.1	11.2	16.8	19.4
122.5°	140.7	124.4	87.2	41.3	3.1	5.1	10.7	15.8	17.3
125°	131.0	118.3	83.1	39.2	3.6	5.1	10.2	14.8	16.3
127.5°	124.9	112.6	80.0	36.7	3.6	4.6	9.7	13.8	15.3
130°	119.8	106.5	76.5	34.2	3.6	4.6	9.2	12.7	14.3
132.5°	112.1	100.4	71.4	32.1	3.6	4.1	8.2	11.7	13.3
135°	105.0	95.3	66.3	30.1	3.6	4.1	7.6	11.2	12.2
137.5°	100.4	90.2	61.7	28.0	3.6	3.6	7.1	10.2	11.2
140°	92.8	84.6	56.6	26.0	3.6	3.6	6.6	9.7	10.2
142.5°	87.2	79.0	52.0	24.0	3.6	3.6	6.1	8.7	9.7
145°	80.5	73.4	46.9	21.9	3.6	3.1	5.6	8.2	8.7
147.5°	74.4	66.8	42.8	20.4	3.6	3.1	5.1	7.1	7.6
150°	68.3	60.1	38.7	18.9	3.6	3.1	4.6	6.1	7.1
152.5°	61.7	52.0	34.7	17.3	3.6	3.1	4.1	5.6	6.1
155°	55.1	45.4	31.1	15.8	4.1	3.1	3.6	4.6	5.6
157.5°	49.4	39.2	27.5	14.3	4.1	2.5	3.6	4.1	4.6
160°	42.8	33.6	24.5	12.7	4.1	2.5	3.1	3.6	4.1
162.5°	37.7	28.0	21.4	11.7	4.1	2.5	3.1	3.1	3.6
165°	32.1	23.4	17.8	10.7	4.1	2.5	2.5	2.5	3.1
167.5°	26.0	18.4	14.8	9.7	4.1	2.5	2.5	2.0	2.5
170°	19.4	13.8	12.2	8.7	4.1	2.5	2.0	1.5	2.0
172.5°	8.7	10.7	9.7	7.6	4.6	2.5	2.0	1.5	1.0
175°	4.6	7.6	7.6	6.6	4.6	2.5	2.0	1.5	0.5
177.5°	3.6	4.6	5.6	5.6	4.6	3.1	2.0	1.0	0.5
180°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1



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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	20.89	22.37	21.40	22.87	23.41	19.76	21.24	20.27	21.75	22.29
	3H	22.98	24.33	23.50	24.84	25.42	21.60	22.95	22.12	23.46	24.04
	4H	23.92	25.20	24.46	25.73	26.32	22.33	23.60	22.86	24.13	24.73
	6H	24.85	26.03	25.40	26.57	27.19	22.93	24.11	23.48	24.65	25.27
	8H	25.28	26.41	25.84	26.98	27.60	23.16	24.30	23.72	24.86	25.48
	12H	25.70	26.79	26.27	27.35	27.99	23.36	24.45	23.93	25.01	25.66
4H	2H	21.37	22.65	21.91	23.18	23.77	20.34	21.61	20.88	22.14	22.74
	3H	23.69	24.77	24.24	25.34	25.96	22.36	23.45	22.92	24.02	24.64
	4H	24.80	25.80	25.37	26.38	27.03	23.19	24.19	23.76	24.77	25.42
	6H	25.91	26.79	26.50	27.39	28.05	23.92	24.79	24.51	25.40	26.06
	8H	26.44	27.26	27.04	27.87	28.54	24.21	25.04	24.81	25.64	26.31
	12H	26.97	27.72	27.59	28.35	29.03	24.47	25.22	25.09	25.85	26.53
8H	4H	25.05	25.88	25.65	26.48	27.15	23.54	24.36	24.13	24.97	25.64
	6H	26.33	27.03	26.96	27.68	28.36	24.39	25.09	25.02	25.74	26.42
	8H	27.00	27.64	27.64	28.29	28.98	24.77	25.40	25.41	26.05	26.75
	12H	27.71	28.27	28.35	28.92	29.67	25.13	25.69	25.77	26.33	27.09
12H	4H	25.07	25.82	25.68	26.45	27.13	23.60	24.35	24.22	24.98	25.66
	6H	26.39	27.02	27.03	27.67	28.36	24.50	25.14	25.14	25.79	26.48
	8H	27.13	27.69	27.77	28.33	29.09	24.94	25.51	25.59	26.15	26.91