

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: P893822

Luminaire Tested: 4MB-7HL-ASMF-UNV-L935

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893822
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: 4MB-7HL-ASMF-UNV-L935
Description: 7000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 90CRI, 3500K CCT
Light Source: -
Ballast/Driver: -

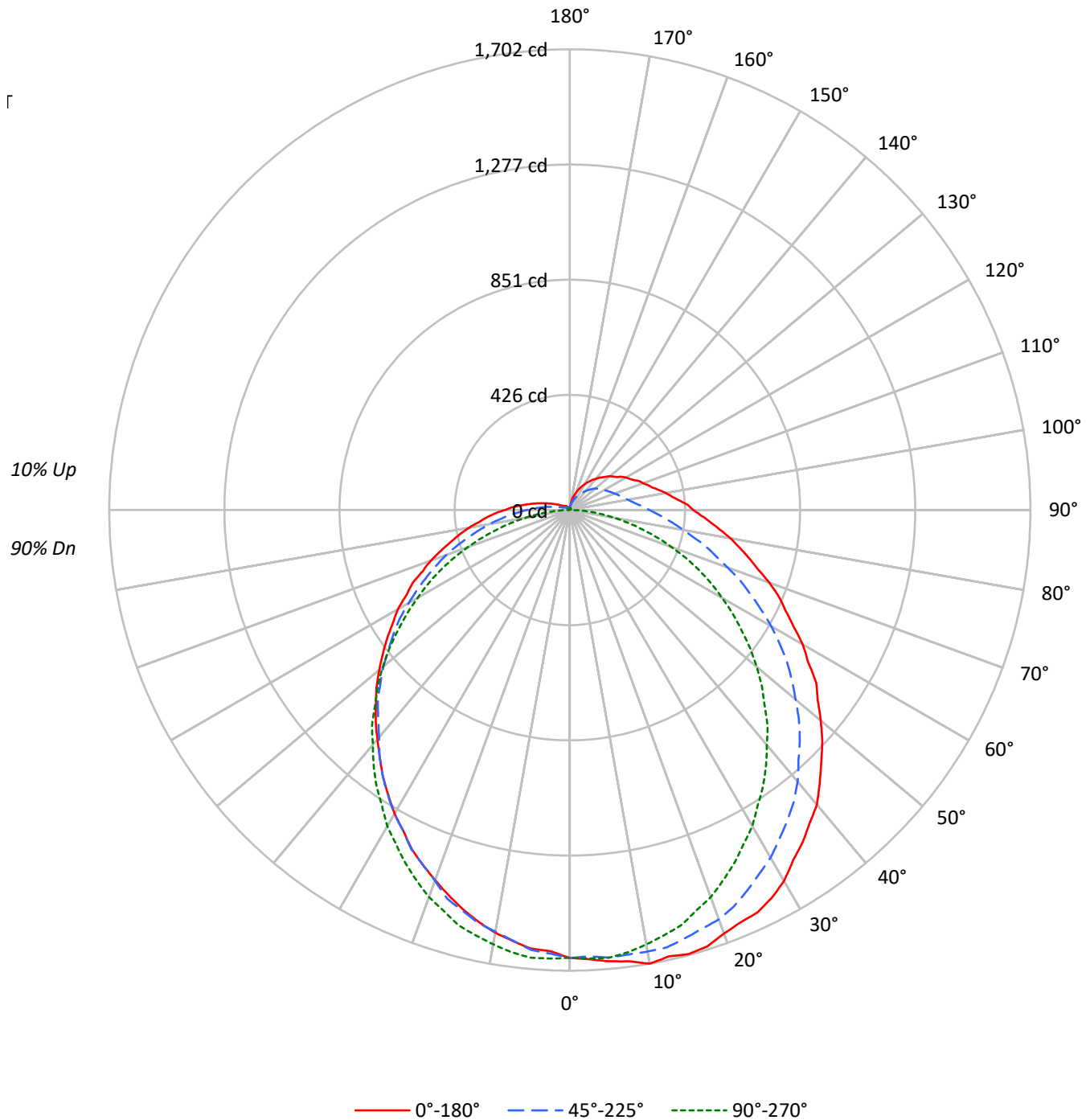
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5688.0 lumens
Efficiency: N/A
Efficacy: 109.8 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.21 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.27' x L: 3.98' x H: 0.12')
CIE Type: Direct

Input Watts (W): 51.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 4
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°	16849	16849	16849	16849	16849
5°	17060	16461	16301	16174	16588
10°	17499	16117	15561	15392	16308
15°	17755	15777	14870	14750	15965
20°	17843	15450	14083	13981	15591
25°	18166	14953	13256	13342	15308
30°	18277	14475	12468	12650	14962
35°	18234	13954	11641	11985	14642
40°	18397	13414	10793	11236	14326
45°	18343	12776	9956	10666	14150
50°	18482	12120	9152	10012	14035
55°	18893	11549	8231	9356	13987
60°	19207	10841	7287	8660	14173
65°	19870	10073	6330	7967	14492
70°	21496	9340	5188	7307	14988
75°	24150	8807	3967	6538	16025
80°	30017	8292	2658	5861	18817
85°	44881	8179	1334	5159	26387

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 90°
 Luminance: 147763 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.0	2.8
10°-20°	449.9	7.9
20°-30°	678.4	11.9
30°-40°	814.3	14.3
40°-50°	847.9	14.9
50°-60°	786.0	13.8
60°-70°	647.3	11.4
70°-80°	466.9	8.2
80°-90°	296.4	5.2
90°-100°	182.7	3.2
100°-110°	121.8	2.1
110°-120°	86.8	1.5
120°-130°	63.6	1.1
130°-140°	43.7	0.8
140°-150°	26.6	0.5
150°-160°	13.2	0.2
160°-170°	4.8	0.1
170°-180°	0.8	0.0
0°-30°	1285.3	22.6
0°-40°	2099.5	36.9
0°-60°	3733.3	65.6
0°-90°	5143.9	90.4
90°-120°	391.3	6.9
90°-150°	525.2	9.2
90°-180°	544.0	9.6
0°-180°	5688.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1654	1654	1654	1654	1654	
5°	1673	1660	1660	1631	1627	160
15°	1698	1639	1588	1532	1527	479
25°	1640	1551	1438	1384	1382	754
35°	1499	1401	1245	1204	1204	939
45°	1314	1202	1017	1003	1013	1016
55°	1112	980	775	794	823	988
65°	880	736	528	582	642	876
75°	686	520	278	386	455	727
85°	522	354	73	223	307	443
90°	456	294	7	159	239	251
95°	406	249	4	107	184	323
105°	318	195	4	44	97	340
115°	261	161	5	21	46	262
125°	213	135	6	16	26	193
135°	170	108	6	12	20	134
145°	131	76	6	9	14	83
155°	89	50	7	6	9	42
165°	52	29	7	4	5	15
175°	7	12	7	3	1	1
180°	5	5	5	5	5	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1654.4	1654.4	1654.4	1654.4	1654.4	1654.4	1654.4	1654.4	1654.4
2.5°	1661.0	1666.0	1650.3	1660.2	1658.5	1660.2	1640.3	1656.9	1631.2
5°	1673.4	1675.9	1660.2	1666.0	1660.2	1646.1	1631.2	1625.4	1627.1
7.5°	1681.7	1694.9	1656.1	1657.7	1647.8	1632.9	1604.8	1609.7	1606.4
10°	1701.5	1686.7	1656.1	1648.6	1629.6	1613.9	1581.6	1584.1	1585.7
12.5°	1689.1	1685.8	1655.2	1627.9	1608.9	1595.7	1562.6	1554.3	1558.4
15°	1698.2	1684.2	1638.7	1617.2	1588.2	1565.1	1532.0	1526.2	1527.0
17.5°	1690.0	1678.4	1622.1	1592.4	1551.8	1537.8	1506.3	1496.4	1491.4
20°	1665.2	1659.4	1609.7	1558.4	1522.0	1494.7	1456.7	1450.9	1455.0
22.5°	1648.6	1634.5	1584.9	1533.6	1480.7	1456.7	1418.6	1417.8	1418.6
25°	1640.3	1622.1	1551.0	1497.2	1438.5	1417.0	1383.9	1371.5	1382.2
27.5°	1615.5	1599.0	1515.4	1456.7	1391.3	1362.4	1335.1	1332.6	1334.3
30°	1582.4	1550.2	1483.2	1411.2	1348.3	1318.6	1296.2	1279.7	1295.4
32.5°	1535.3	1517.1	1441.0	1362.4	1292.9	1272.2	1249.9	1248.2	1248.2
35°	1498.9	1485.6	1401.3	1319.4	1244.9	1216.8	1203.6	1197.8	1203.6
37.5°	1456.7	1436.8	1359.1	1267.3	1191.2	1167.2	1153.9	1149.0	1153.1
40°	1420.3	1383.9	1309.5	1213.5	1132.4	1110.9	1096.9	1101.8	1106.0
42.5°	1366.5	1345.9	1250.7	1158.9	1082.0	1058.8	1047.2	1051.4	1061.3
45°	1313.6	1294.6	1201.9	1101.8	1016.6	1004.2	1003.4	1000.9	1013.3
47.5°	1265.6	1238.3	1148.2	1045.6	962.0	948.0	949.6	957.9	968.6
50°	1210.2	1177.9	1088.6	985.2	901.6	892.5	899.2	905.0	919.0
52.5°	1154.8	1129.1	1034.0	928.1	840.4	833.8	842.9	861.9	870.2
55°	1111.8	1065.4	980.2	861.1	775.1	775.9	794.1	804.9	823.1
57.5°	1043.1	1008.4	919.0	801.6	713.9	719.7	744.5	762.7	774.3
60°	994.3	950.5	859.5	737.9	649.4	658.5	686.6	713.9	733.7
62.5°	931.4	893.4	797.4	675.0	589.8	603.0	634.5	666.7	680.8
65°	880.1	837.1	736.2	612.1	527.8	543.5	582.3	618.7	641.9
67.5°	836.3	791.6	681.6	554.2	464.9	488.0	533.5	569.1	587.3
70°	784.2	732.1	619.6	489.7	399.5	426.8	484.7	526.1	546.8
72.5°	728.8	686.6	565.8	430.1	339.2	372.2	435.9	478.9	498.8
75°	685.7	638.6	520.3	370.6	277.9	317.6	386.3	435.1	455.0
77.5°	641.9	598.9	469.0	316.0	223.3	268.0	342.5	396.2	416.9
80°	603.0	553.4	426.0	271.3	166.3	219.2	301.1	354.0	378.0
82.5°	560.0	517.0	388.8	224.2	118.3	174.5	260.6	318.5	338.3
85°	522.0	477.3	354.0	186.9	72.8	134.8	223.3	282.9	306.9
87.5°	487.2	450.0	321.8	158.8	36.4	102.6	187.8	248.2	275.5
90°	455.8	413.6	294.5	133.2	6.6	74.4	158.8	218.4	239.1
92.5°	435.9	385.5	272.1	116.6	4.1	52.9	132.4	191.1	215.1
95°	406.2	361.5	249.0	104.2	4.1	35.6	106.7	163.8	184.5
97.5°	380.5	339.2	232.4	96.8	3.3	24.0	87.7	137.3	158.8
100°	360.7	321.8	217.6	90.2	4.1	17.4	69.5	116.6	135.7
102.5°	338.3	302.8	206.0	86.0	4.1	12.4	54.6	98.4	115.8
105°	318.5	287.0	195.2	81.9	4.1	10.8	43.8	81.1	96.8
107.5°	303.6	270.5	186.1	79.4	4.1	10.8	34.7	66.2	79.4
110°	288.7	257.3	177.0	76.9	4.1	9.9	27.3	54.6	66.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	278.8	244.9	168.7	74.4	5.0	9.9	22.3	45.5	54.6
115°	261.4	234.1	161.3	73.6	5.0	9.1	20.7	37.2	46.3
117.5°	249.0	224.2	153.9	71.1	5.0	9.1	19.9	30.6	37.2
120°	239.9	212.6	147.2	68.7	5.0	8.3	18.2	27.3	31.4
122.5°	228.3	201.8	141.5	67.0	5.0	8.3	17.4	25.6	28.1
125°	212.6	191.9	134.8	63.7	5.8	8.3	16.5	24.0	26.5
127.5°	202.7	182.8	129.9	59.6	5.8	7.4	15.7	22.3	24.8
130°	194.4	172.9	124.1	55.4	5.8	7.4	14.9	20.7	23.2
132.5°	182.0	163.0	115.8	52.1	5.8	6.6	13.2	19.0	21.5
135°	170.4	154.7	107.5	48.8	5.8	6.6	12.4	18.2	19.9
137.5°	163.0	146.4	100.1	45.5	5.8	5.8	11.6	16.5	18.2
140°	150.6	137.3	91.8	42.2	5.8	5.8	10.8	15.7	16.5
142.5°	141.5	128.2	84.4	38.9	5.8	5.8	9.9	14.1	15.7
145°	130.7	119.1	76.1	35.6	5.8	5.0	9.1	13.2	14.1
147.5°	120.8	108.4	69.5	33.1	5.8	5.0	8.3	11.6	12.4
150°	110.8	97.6	62.9	30.6	5.8	5.0	7.4	9.9	11.6
152.5°	100.1	84.4	56.2	28.1	5.8	5.0	6.6	9.1	9.9
155°	89.3	73.6	50.5	25.6	6.6	5.0	5.8	7.4	9.1
157.5°	80.2	63.7	44.7	23.2	6.6	4.1	5.8	6.6	7.4
160°	69.5	54.6	39.7	20.7	6.6	4.1	5.0	5.8	6.6
162.5°	61.2	45.5	34.7	19.0	6.6	4.1	5.0	5.0	5.8
165°	52.1	38.1	29.0	17.4	6.6	4.1	4.1	4.1	5.0
167.5°	42.2	29.8	24.0	15.7	6.6	4.1	4.1	3.3	4.1
170°	31.4	22.3	19.9	14.1	6.6	4.1	3.3	2.5	3.3
172.5°	14.1	17.4	15.7	12.4	7.4	4.1	3.3	2.5	1.7
175°	7.4	12.4	12.4	10.8	7.4	4.1	3.3	2.5	0.8
177.5°	5.8	7.4	9.1	9.1	7.4	5.0	3.3	1.7	0.8
180°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0



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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	20.18	21.65	20.68	22.16	22.70	19.15	20.63	19.65	21.13	21.67
	3H	22.26	23.61	22.78	24.12	24.70	21.02	22.37	21.54	22.88	23.46
	4H	23.21	24.48	23.75	25.01	25.61	21.76	23.04	22.30	23.57	24.17
	6H	24.12	25.31	24.68	25.85	26.47	22.40	23.59	22.95	24.13	24.74
	8H	24.55	25.69	25.12	26.26	26.87	22.65	23.79	23.22	24.36	24.97
	12H	24.98	26.07	25.55	26.62	27.27	22.88	23.98	23.45	24.53	25.18
4H	2H	20.67	21.95	21.21	22.47	23.07	19.71	20.99	20.25	21.52	22.11
	3H	22.98	24.07	23.54	24.64	25.26	21.77	22.86	22.32	23.43	24.05
	4H	24.10	25.09	24.67	25.67	26.32	22.62	23.62	23.20	24.20	24.85
	6H	25.20	26.08	25.79	26.68	27.35	23.38	24.26	23.97	24.86	25.52
	8H	25.73	26.56	26.33	27.16	27.83	23.69	24.52	24.29	25.12	25.80
	12H	26.26	27.01	26.88	27.64	28.32	23.99	24.74	24.61	25.37	26.05
8H	4H	24.35	25.18	24.95	25.78	26.46	22.96	23.79	23.56	24.39	25.07
	6H	25.64	26.34	26.26	26.98	27.66	23.85	24.55	24.47	25.19	25.87
	8H	26.30	26.94	26.95	27.59	28.28	24.24	24.88	24.89	25.53	26.22
	12H	27.01	27.57	27.65	28.21	28.97	24.63	25.20	25.28	25.84	26.60
12H	4H	24.37	25.12	24.99	25.75	26.43	23.03	23.78	23.64	24.41	25.09
	6H	25.69	26.32	26.33	26.98	27.67	23.95	24.59	24.60	25.24	25.93
	8H	26.43	27.00	27.08	27.64	28.40	24.42	24.98	25.06	25.62	26.38