

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: P893917

Luminaire Tested: 4MB-8HL-ASMF-UNV-L930

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893917
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-8HL-ASMF-UNV-L930
Description: 8000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 90CRI, 3000K CCT
Light Source: -
Ballast/Driver: -

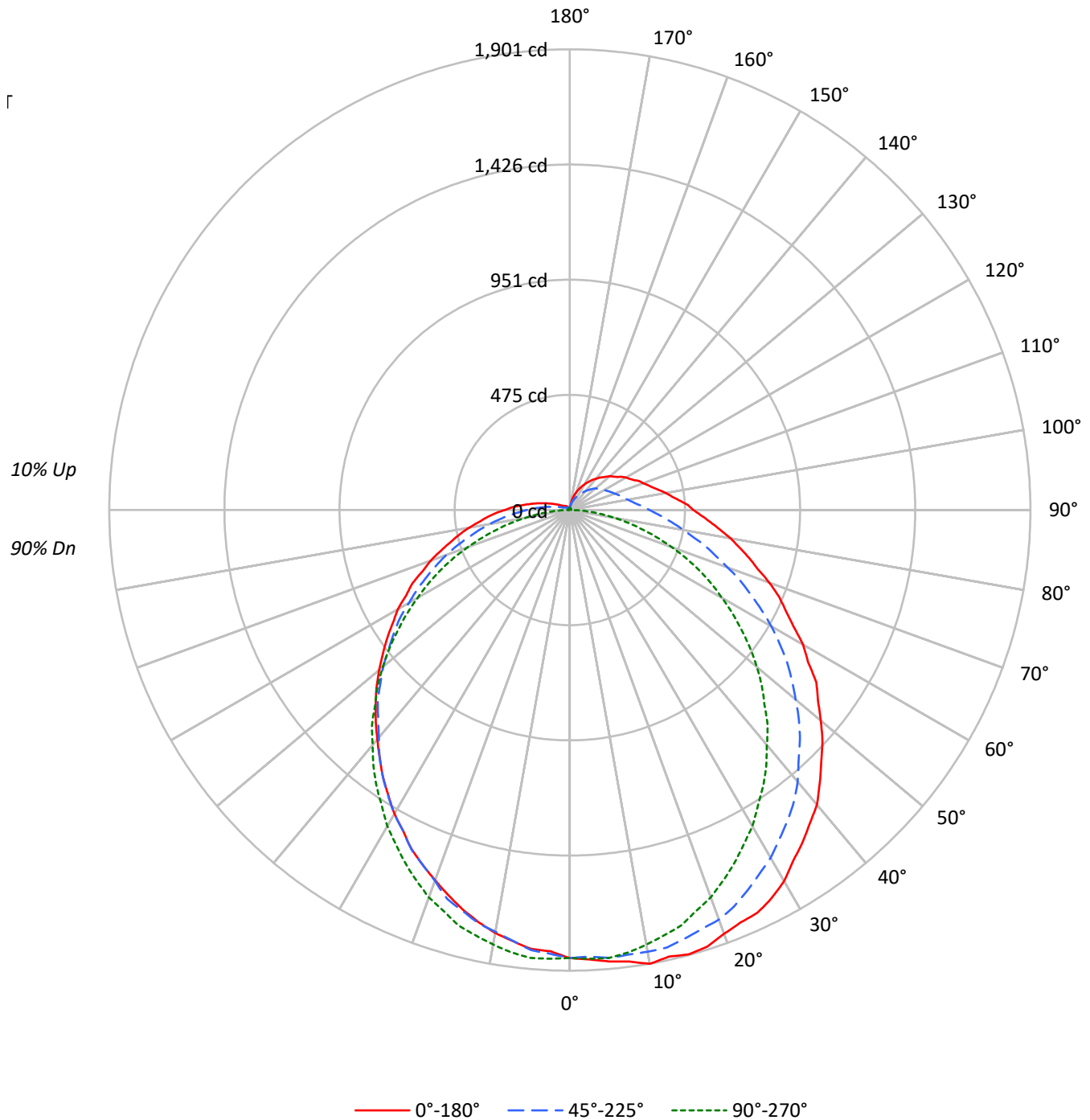
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6356.0 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): 57.9
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.999
Total Harmonic Distortion (THDi): 4.23
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	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	93	93	90		
	1	105	99	95	90	101	96	92	88	90	87	83	85	82	79	79	77	75	75	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	62	62	59		
	3	86	75	66	60	83	73	65	58	68	62	56	64	59	54	60	56	52	52	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	44	44	42		
	5	72	59	50	43	69	57	49	42	54	47	41	51	45	40	48	43	38	38	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	34	34	31		
	7	62	48	39	33	59	47	38	32	44	37	32	42	36	31	40	34	30	30	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	27	27	25		
	9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	24	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	22	22	20		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	18828	18828	18828	18828	18828
5°	19064	18395	18216	18073	18537
10°	19555	18009	17389	17200	18224
15°	19841	17629	16616	16482	17840
20°	19938	17265	15737	15623	17422
25°	20300	16709	14812	14909	17106
30°	20424	16176	13933	14136	16719
35°	20375	15592	13009	13392	16361
40°	20558	14988	12061	12555	16007
45°	20498	14276	11126	11918	15811
50°	20652	13543	10227	11187	15683
55°	21111	12905	9197	10456	15629
60°	21463	12114	8143	9677	15838
65°	22204	11256	7073	8903	16194
70°	24020	10436	5798	8166	16748
75°	26989	9841	4434	7307	17906
80°	33542	9265	2970	6550	21027
85°	50151	9140	1489	5767	29482

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 90°
 Luminance: 165107 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	175.4	2.8
10°-20°	502.7	7.9
20°-30°	758.1	11.9
30°-40°	909.9	14.3
40°-50°	947.4	14.9
50°-60°	878.3	13.8
60°-70°	723.3	11.4
70°-80°	521.7	8.2
80°-90°	331.2	5.2
90°-100°	204.2	3.2
100°-110°	136.1	2.1
110°-120°	96.9	1.5
120°-130°	71.0	1.1
130°-140°	48.9	0.8
140°-150°	29.7	0.5
150°-160°	14.7	0.2
160°-170°	5.4	0.1
170°-180°	0.9	0.0
0°-30°	1436.2	22.6
0°-40°	2346.1	36.9
0°-60°	4171.8	65.6
0°-90°	5748.0	90.4
90°-120°	437.3	6.9
90°-150°	586.9	9.2
90°-180°	608.0	9.6
0°-180°	6356.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1849	1849	1849	1849	1849	
5°	1870	1855	1855	1823	1818	179
15°	1898	1831	1775	1712	1706	535
25°	1833	1733	1607	1546	1545	843
35°	1675	1566	1391	1345	1345	1049
45°	1468	1343	1136	1121	1132	1136
55°	1242	1095	866	887	920	1104
65°	984	823	590	651	717	979
75°	766	581	311	432	508	812
85°	583	396	81	250	343	495
90°	509	329	7	178	267	281
95°	454	278	5	119	206	361
105°	356	218	5	49	108	380
115°	292	180	6	23	52	292
125°	238	151	6	18	30	216
135°	190	120	6	14	22	149
145°	146	85	6	10	16	92
155°	100	56	7	6	10	47
165°	58	32	7	5	6	17
175°	8	14	8	4	1	2
180°	6	6	6	6	6	



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 CATALOG NUMBER: 4MB-8HL-ASMF-UNV-L930

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1848.7	1848.7	1848.7	1848.7	1848.7	1848.7	1848.7	1848.7	1848.7
2.5°	1856.1	1861.6	1844.1	1855.2	1853.3	1855.2	1833.0	1851.5	1822.8
5°	1869.9	1872.7	1855.2	1861.6	1855.2	1839.4	1822.8	1816.3	1818.2
7.5°	1879.2	1894.0	1850.5	1852.4	1841.3	1824.7	1793.2	1798.8	1795.1
10°	1901.4	1884.7	1850.5	1842.2	1821.0	1803.4	1767.3	1770.1	1772.0
12.5°	1887.5	1883.8	1849.6	1819.1	1797.9	1783.1	1746.1	1736.8	1741.5
15°	1897.7	1882.0	1831.1	1807.1	1774.7	1748.9	1711.9	1705.4	1706.3
17.5°	1888.4	1875.5	1812.6	1779.4	1734.1	1718.4	1683.2	1672.1	1666.6
20°	1860.7	1854.2	1798.8	1741.5	1700.8	1670.3	1627.8	1621.3	1625.9
22.5°	1842.2	1826.5	1771.0	1713.7	1654.6	1627.8	1585.3	1584.3	1585.3
25°	1833.0	1812.6	1733.1	1673.1	1607.4	1583.4	1546.4	1532.6	1544.6
27.5°	1805.2	1786.8	1693.4	1627.8	1554.7	1522.4	1491.9	1489.1	1491.0
30°	1768.3	1732.2	1657.4	1576.9	1506.7	1473.4	1448.4	1430.0	1447.5
32.5°	1715.6	1695.2	1610.2	1522.4	1444.8	1421.6	1396.7	1394.8	1394.8
35°	1674.9	1660.1	1565.8	1474.3	1391.1	1359.7	1344.9	1338.5	1344.9
37.5°	1627.8	1605.6	1518.7	1416.1	1331.1	1304.3	1289.5	1283.9	1288.5
40°	1587.1	1546.4	1463.2	1356.0	1265.4	1241.4	1225.7	1231.2	1235.8
42.5°	1527.0	1503.9	1397.6	1295.0	1209.0	1183.2	1170.2	1174.8	1185.9
45°	1467.9	1446.6	1343.1	1231.2	1136.0	1122.2	1121.2	1118.5	1132.3
47.5°	1414.2	1383.7	1283.0	1168.4	1075.0	1059.3	1061.1	1070.4	1082.4
50°	1352.3	1316.3	1216.4	1100.9	1007.5	997.4	1004.8	1011.2	1026.9
52.5°	1290.4	1261.7	1155.4	1037.1	939.1	931.7	941.9	963.2	972.4
55°	1242.3	1190.6	1095.3	962.2	866.1	867.0	887.4	899.4	919.7
57.5°	1165.6	1126.8	1026.9	895.7	797.7	804.2	831.9	852.2	865.2
60°	1111.1	1062.1	960.4	824.5	725.6	735.8	767.2	797.7	819.9
62.5°	1040.8	998.3	891.1	754.3	659.1	673.8	709.0	745.0	760.7
65°	983.5	935.4	822.7	684.0	589.7	607.3	650.7	691.4	717.3
67.5°	934.5	884.6	761.7	619.3	519.5	545.4	596.2	635.9	656.3
70°	876.3	818.0	692.3	547.2	446.5	477.0	541.7	587.9	611.0
72.5°	814.3	767.2	632.3	480.7	379.0	416.0	487.1	535.2	557.4
75°	766.3	713.6	581.4	414.1	310.6	354.9	431.7	486.2	508.4
77.5°	717.3	669.2	524.1	353.1	249.6	299.5	382.7	442.8	465.9
80°	673.8	618.4	476.0	303.2	185.8	245.0	336.5	395.6	422.4
82.5°	625.8	577.7	434.4	250.5	132.2	195.0	291.2	355.9	378.1
85°	583.3	533.3	395.6	208.9	81.3	150.7	249.6	316.1	342.9
87.5°	544.4	502.8	359.6	177.5	40.7	114.6	209.8	277.3	307.8
90°	509.3	462.2	329.1	148.8	7.4	83.2	177.5	244.0	267.1
92.5°	487.1	430.7	304.1	130.3	4.6	59.2	147.9	213.5	240.3
95°	453.9	403.9	278.2	116.5	4.6	39.7	119.2	183.0	206.1
97.5°	425.2	379.0	259.7	108.1	3.7	26.8	98.0	153.4	177.5
100°	403.0	359.6	243.1	100.8	4.6	19.4	77.6	130.3	151.6
102.5°	378.1	338.3	230.2	96.1	4.6	13.9	61.0	110.0	129.4
105°	355.9	320.7	218.1	91.5	4.6	12.0	49.0	90.6	108.1
107.5°	339.2	302.3	208.0	88.7	4.6	12.0	38.8	73.9	88.7
110°	322.6	287.5	197.8	86.0	4.6	11.1	30.5	61.0	73.9



TEST NUMBER: P893917

CATALOG NUMBER: 4MB-8HL-ASMF-UNV-L930

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	311.5	273.6	188.6	83.2	5.5	11.1	25.0	50.8	61.0
115°	292.1	261.6	180.2	82.3	5.5	10.2	23.1	41.6	51.8
117.5°	278.2	250.5	171.9	79.5	5.5	10.2	22.2	34.2	41.6
120°	268.1	237.6	164.5	76.7	5.5	9.2	20.3	30.5	35.1
122.5°	255.1	225.5	158.1	74.9	5.5	9.2	19.4	28.7	31.4
125°	237.6	214.4	150.7	71.2	6.5	9.2	18.5	26.8	29.6
127.5°	226.5	204.3	145.1	66.6	6.5	8.3	17.6	25.0	27.7
130°	217.2	193.2	138.7	61.9	6.5	8.3	16.6	23.1	25.9
132.5°	203.4	182.1	129.4	58.2	6.5	7.4	14.8	21.3	24.0
135°	190.4	172.9	120.2	54.5	6.5	7.4	13.9	20.3	22.2
137.5°	182.1	163.6	111.8	50.8	6.5	6.5	12.9	18.5	20.3
140°	168.2	153.4	102.6	47.1	6.5	6.5	12.0	17.6	18.5
142.5°	158.1	143.3	94.3	43.4	6.5	6.5	11.1	15.7	17.6
145°	146.0	133.1	85.0	39.7	6.5	5.5	10.2	14.8	15.7
147.5°	135.0	121.1	77.6	37.0	6.5	5.5	9.2	12.9	13.9
150°	123.9	109.1	70.3	34.2	6.5	5.5	8.3	11.1	12.9
152.5°	111.8	94.3	62.9	31.4	6.5	5.5	7.4	10.2	11.1
155°	99.8	82.3	56.4	28.7	7.4	5.5	6.5	8.3	10.2
157.5°	89.7	71.2	49.9	25.9	7.4	4.6	6.5	7.4	8.3
160°	77.6	61.0	44.4	23.1	7.4	4.6	5.5	6.5	7.4
162.5°	68.4	50.8	38.8	21.3	7.4	4.6	5.5	5.5	6.5
165°	58.2	42.5	32.4	19.4	7.4	4.6	4.6	4.6	5.5
167.5°	47.1	33.3	26.8	17.6	7.4	4.6	4.6	3.7	4.6
170°	35.1	25.0	22.2	15.7	7.4	4.6	3.7	2.8	3.7
172.5°	15.7	19.4	17.6	13.9	8.3	4.6	3.7	2.8	1.8
175°	8.3	13.9	13.9	12.0	8.3	4.6	3.7	2.8	0.9
177.5°	6.5	8.3	10.2	10.2	8.3	5.5	3.7	1.8	0.9
180°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5



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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	20.56	22.04	21.07	22.54	23.09	19.53	21.01	20.04	21.51	22.06
	3H	22.65	24.00	23.17	24.51	25.09	21.40	22.75	21.92	23.26	23.85
	4H	23.59	24.87	24.13	25.40	25.99	22.15	23.43	22.69	23.96	24.55
	6H	24.51	25.70	25.06	26.24	26.85	22.78	23.97	23.34	24.51	25.13
	8H	24.94	26.08	25.50	26.64	27.26	23.04	24.18	23.60	24.74	25.36
	12H	25.36	26.45	25.93	27.01	27.66	23.27	24.36	23.84	24.92	25.57
4H	2H	21.06	22.33	21.60	22.86	23.46	20.10	21.37	20.64	21.90	22.50
	3H	23.37	24.46	23.92	25.03	25.64	22.16	23.24	22.71	23.81	24.43
	4H	24.48	25.48	25.05	26.06	26.71	23.01	24.00	23.58	24.58	25.23
	6H	25.59	26.47	26.18	27.07	27.73	23.77	24.64	24.36	25.25	25.91
	8H	26.11	26.94	26.71	27.54	28.22	24.08	24.91	24.68	25.51	26.18
	12H	26.64	27.39	27.26	28.02	28.70	24.37	25.12	24.99	25.75	26.43
8H	4H	24.74	25.57	25.34	26.17	26.84	23.35	24.17	23.94	24.78	25.45
	6H	26.02	26.72	26.65	27.37	28.05	24.23	24.93	24.86	25.58	26.26
	8H	26.69	27.32	27.33	27.98	28.67	24.63	25.26	25.27	25.92	26.61
	12H	27.39	27.96	28.04	28.60	29.36	25.02	25.58	25.66	26.23	26.98
12H	4H	24.76	25.51	25.38	26.14	26.82	23.41	24.16	24.03	24.79	25.47
	6H	26.08	26.71	26.72	27.36	28.06	24.34	24.97	24.98	25.63	26.32
	8H	26.82	27.38	27.46	28.03	28.78	24.80	25.37	25.45	26.01	26.77