

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: P893229

Luminaire Tested: 4MB-10HL-RNDU-UNV-L930

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893229
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-3)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-10HL-RNDU-UNV-L930
Description: 10000 Lumen 4FT MICROBAY LINEAR BAY with ROUND FROSTED LENS WITH UPLIGHT, 90CRI, CCT
Light Source: -
Ballast/Driver: -

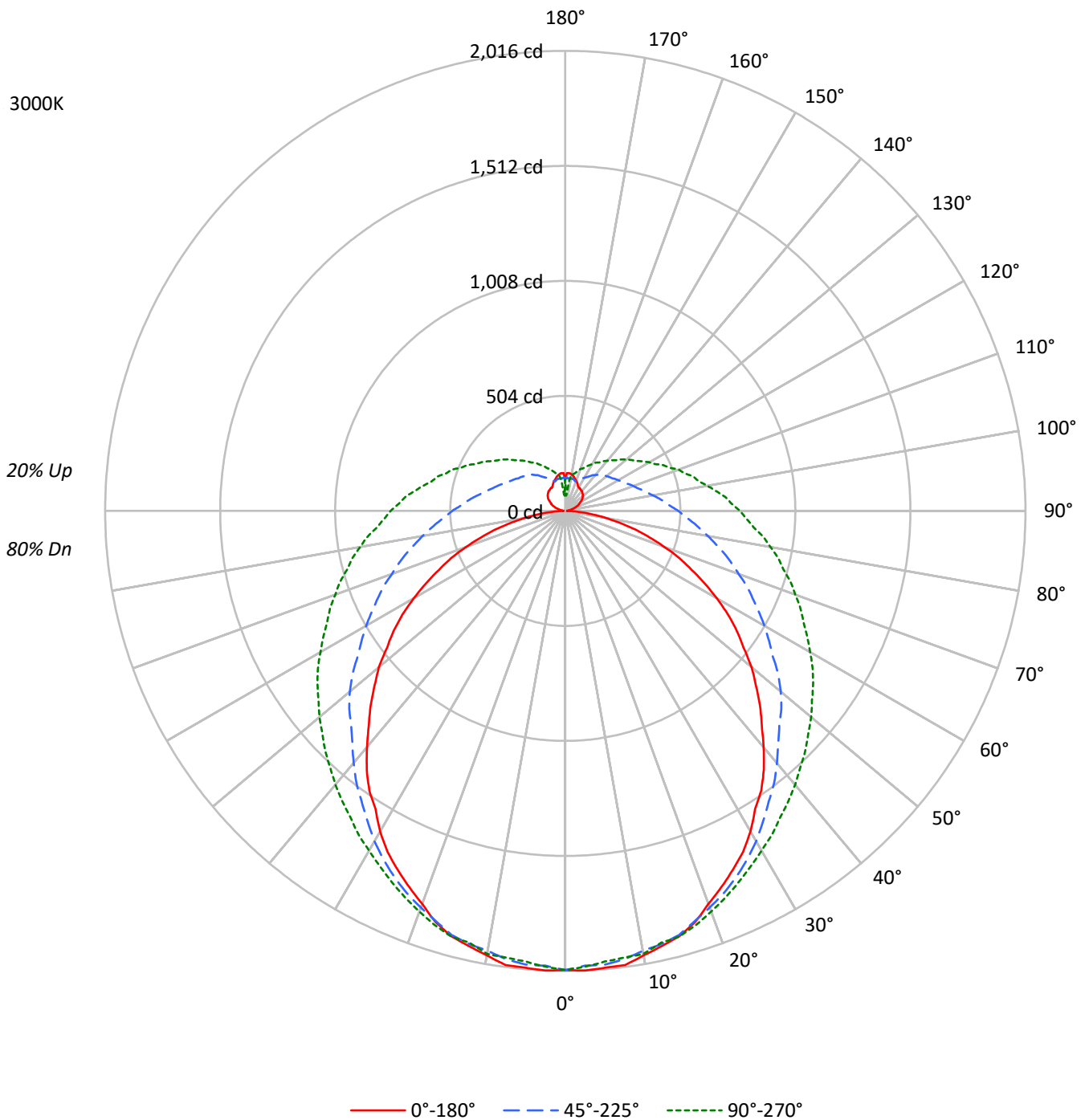
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8457.0 lumens
Efficiency: N/A
Efficacy: 112.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37
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 (Ain): 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	114	114	114	114	109	109	109	109	100	100	100	91	91	91	83	83	83	83	83	83	80
1	102	96	91	86	97	92	87	83	84	80	77	76	73	71	69	67	65	65	65	65	61
2	92	82	75	68	87	79	72	66	72	66	61	66	61	57	60	56	53	53	53	53	49
3	83	72	63	56	79	69	61	54	63	56	51	57	52	47	52	48	44	44	44	44	41
4	76	63	54	47	72	60	52	45	55	48	43	51	45	40	46	41	37	37	37	37	34
5	69	56	47	40	66	54	45	39	49	42	37	45	39	34	41	36	32	32	32	32	29
6	64	50	41	35	61	48	40	34	44	37	32	41	35	30	38	32	28	28	28	28	26
7	59	46	37	30	56	44	35	30	40	33	28	37	31	26	34	29	25	25	25	25	23
8	55	41	33	27	52	40	32	26	37	30	25	34	28	24	31	26	22	22	22	22	20
9	51	38	30	24	49	37	29	23	34	27	22	31	25	21	29	24	20	20	20	20	18
10	48	35	27	22	46	34	26	21	31	25	20	29	23	19	27	22	18	18	18	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14313	14313	14313
5°	14287	13745	13512
10°	14160	13159	12987
15°	14017	12725	12401
20°	13618	12131	11797
25°	13304	11605	11228
30°	12938	11032	10730
35°	12538	10411	10297
40°	12023	9878	9965
45°	11532	9370	9669
50°	11101	9056	9418
55°	10596	8568	9223
60°	9996	8258	9044
65°	9247	7982	8909
70°	8410	7758	8903
75°	7322	7672	8929
80°	5759	7631	9102
85°	3795	7801	9308

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11532 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	190.5	2.3
10°-20°	544.2	6.4
20°-30°	817.1	9.7
30°-40°	981.3	11.6
40°-50°	1037.9	12.3
50°-60°	1000.2	11.8
60°-70°	887.4	10.5
70°-80°	727.8	8.6
80°-90°	563.3	6.7
90°-100°	439.4	5.2
100°-110°	349.8	4.1
110°-120°	279.6	3.3
120°-130°	220.5	2.6
130°-140°	168.3	2.0
140°-150°	118.3	1.4
150°-160°	75.6	0.9
160°-170°	42.4	0.5
170°-180°	13.4	0.2
0°-30°	1551.8	18.3
0°-40°	2533.0	30.0
0°-60°	4571.2	54.1
0°-90°	6749.6	79.8
90°-120°	1068.9	12.6
90°-150°	1576.0	18.6
90°-180°	1707.0	20.2
0°-180°	8457.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2012	2012	2012	2012	2012	
5°	2010	2015	1996	2011	1982	191
15°	1930	1931	1924	1936	1931	542
25°	1736	1764	1771	1801	1796	800
35°	1496	1519	1555	1619	1640	933
45°	1206	1242	1326	1452	1487	930
55°	918	964	1109	1260	1325	819
65°	611	695	906	1094	1151	607
75°	318	458	721	916	989	337
85°	74	279	559	761	828	84
90°	8	222	495	689	765	8
95°	10	183	438	629	703	10
105°	34	148	350	514	581	36
115°	65	145	290	420	474	63
125°	91	147	250	344	381	80
135°	107	143	224	291	314	83
145°	116	132	184	244	259	73
155°	128	135	152	191	214	59
165°	152	148	143	140	173	43
175°	166	161	143	117	74	16
180°	136	136	136	136	136	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2011.7	2011.7	2011.7	2011.7	2011.7
2.5°	2016.2	2023.0	1994.8	2011.7	1999.3
5°	2009.5	2015.1	1996.0	2010.6	1982.5
7.5°	2007.2	2005.0	1981.3	2000.5	1974.6
10°	1978.0	1985.8	1957.7	1983.6	1971.2
12.5°	1953.2	1969.0	1944.2	1964.5	1938.6
15°	1929.6	1930.7	1924.0	1936.3	1930.7
17.5°	1890.2	1900.3	1884.6	1912.7	1902.6
20°	1832.8	1864.3	1849.7	1875.6	1868.8
22.5°	1785.6	1801.3	1813.7	1843.0	1834.0
25°	1736.1	1764.2	1770.9	1801.3	1795.7
27.5°	1685.4	1697.8	1723.7	1756.3	1757.4
30°	1622.4	1635.9	1671.9	1709.1	1719.2
32.5°	1548.2	1590.9	1612.3	1668.6	1684.3
35°	1496.4	1518.9	1554.9	1619.1	1640.4
37.5°	1428.9	1454.8	1503.2	1578.6	1604.4
40°	1351.3	1389.5	1442.4	1535.8	1566.2
42.5°	1273.6	1318.6	1380.5	1489.7	1524.5
45°	1206.1	1242.1	1326.5	1452.5	1487.4
47.5°	1133.0	1176.9	1283.8	1404.2	1443.5
50°	1065.5	1110.5	1232.0	1359.2	1406.4
52.5°	984.5	1036.2	1175.8	1307.4	1362.5
55°	918.1	964.2	1109.4	1260.1	1325.4
57.5°	845.0	896.7	1057.6	1225.3	1284.9
60°	766.2	831.5	1007.0	1181.4	1238.8
62.5°	688.6	766.2	955.2	1138.6	1194.9
65°	610.9	695.3	905.7	1093.6	1151.0
67.5°	541.2	632.3	860.7	1044.1	1115.0
70°	462.4	571.6	807.8	998.0	1072.2
72.5°	388.2	516.4	765.1	960.9	1035.1
75°	318.4	457.9	721.2	915.9	989.0
77.5°	248.7	402.8	675.1	875.3	955.2
80°	182.3	357.8	634.6	836.0	912.5
82.5°	126.0	318.4	595.2	803.3	875.3
85°	74.3	279.0	559.2	760.6	828.1
87.5°	33.8	247.5	522.1	728.0	794.3
90°	7.9	221.6	495.1	688.6	765.1
92.5°	7.9	201.4	462.4	659.3	729.1
95°	10.1	183.4	437.7	628.9	703.2
97.5°	13.5	169.9	415.2	600.8	666.1
100°	19.1	160.9	390.4	568.2	632.3
102.5°	25.9	154.1	367.9	538.9	598.6
105°	33.8	148.5	349.9	514.2	580.6
107.5°	41.6	146.3	331.9	490.6	546.8
110°	49.5	145.1	318.4	465.8	528.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	57.4	144.0	303.8	443.3	493.9
115°	65.3	145.1	290.3	419.7	473.7
117.5°	69.8	145.1	277.9	399.4	444.4
120°	76.5	146.3	268.9	378.0	425.3
122.5°	83.3	146.3	259.9	362.3	403.9
125°	91.1	147.4	249.8	344.3	381.4
127.5°	95.6	147.4	244.2	331.9	365.7
130°	100.1	146.3	236.3	316.2	351.0
132.5°	104.6	144.0	231.8	301.5	334.2
135°	106.9	142.9	223.9	291.4	313.9
137.5°	110.3	139.5	216.0	276.8	301.5
140°	113.6	138.4	204.8	265.5	286.9
142.5°	113.6	135.0	196.9	255.4	274.5
145°	115.9	131.6	184.5	244.2	258.8
147.5°	118.1	130.5	175.5	232.9	250.9
150°	118.1	129.4	167.6	220.5	237.4
152.5°	120.4	130.5	159.8	209.3	225.0
155°	128.3	135.0	151.9	191.3	213.8
157.5°	135.0	139.5	144.0	177.8	201.4
160°	140.6	142.9	137.3	164.3	195.8
162.5°	145.1	146.3	138.4	151.9	183.4
165°	151.9	148.5	142.9	139.5	173.3
167.5°	157.5	150.8	145.1	136.1	165.4
170°	162.0	155.3	142.9	128.3	162.0
172.5°	165.4	156.4	144.0	120.4	136.1
175°	166.5	160.9	142.9	117.0	74.3
177.5°	165.4	162.0	147.4	115.9	66.4
180°	136.1	136.1	136.1	136.1	136.1



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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	16.29	17.60	16.93	18.27	19.03	19.70	21.01	20.34	21.68	22.44
	3H	17.74	18.94	18.39	19.61	20.41	22.53	23.73	23.19	24.41	25.21
	4H	18.21	19.35	18.88	20.04	20.85	23.98	25.12	24.65	25.81	26.62
	6H	18.49	19.56	19.18	20.25	21.08	25.54	26.61	26.23	27.30	28.13
	8H	18.55	19.57	19.24	20.29	21.12	26.36	27.38	27.06	28.10	28.93
	12H	18.57	19.55	19.27	20.26	21.12	27.24	28.22	27.94	28.93	29.79
4H	2H	17.43	18.57	18.10	19.25	20.06	20.04	21.18	20.71	21.86	22.67
	3H	19.13	20.11	19.82	20.83	21.66	23.11	24.09	23.79	24.81	25.64
	4H	19.73	20.63	20.43	21.35	22.21	24.74	25.64	25.44	26.37	27.23
	6H	20.14	20.94	20.86	21.69	22.55	26.50	27.30	27.22	28.05	28.91
	8H	20.25	21.00	20.97	21.75	22.63	27.43	28.19	28.16	28.93	29.81
	12H	20.31	20.99	21.05	21.76	22.65	28.44	29.13	29.19	29.90	30.78
8H	4H	20.76	21.51	21.48	22.26	23.14	24.92	25.68	25.65	26.42	27.30
	6H	21.41	22.05	22.16	22.83	23.71	26.86	27.51	27.62	28.29	29.17
	8H	21.63	22.21	22.40	23.00	23.89	27.95	28.53	28.71	29.31	30.21
	12H	21.78	22.30	22.55	23.08	24.03	29.15	29.67	29.91	30.44	31.40
12H	4H	21.09	21.78	21.83	22.54	23.43	24.92	25.61	25.66	26.37	27.26
	6H	21.90	22.48	22.66	23.26	24.16	26.90	27.48	27.66	28.26	29.16
	8H	22.24	22.76	23.01	23.54	24.49	28.04	28.56	28.81	29.34	30.29