

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: P894940

Luminaire Tested: 8TMB-20HL-RNDU-UNV-L950

Issue Date: 11/11/2024

**Test Information**

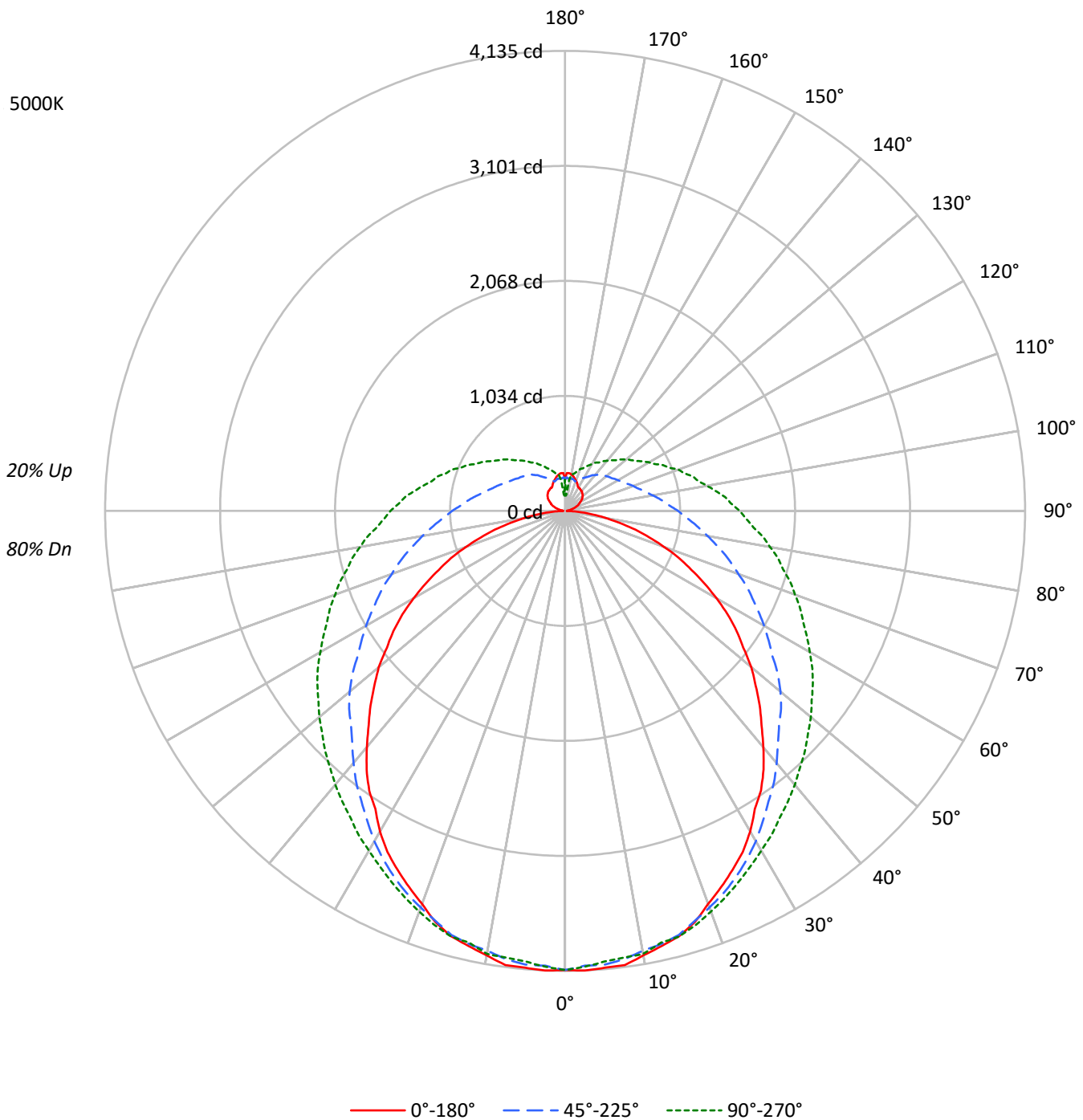
Test Method: LM-79-2019  
Report Number: P894940  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-3)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 8TMB-20HL-RNDU-UNV-L950  
Description: 20000 Lumen 8FT MICROBAY LINEAR BAY with ROUND FROSTED LENS WITH UPLIGHT, 90CRI, CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 17346.0 lumens  
Efficiency: N/A  
Efficacy: 119.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 7.98' x H: 0.21')  
CIE Type: Semi-Direct  
  
Input Watts (W): 145  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.997  
Total Harmonic Distortion (THDi): 7.79  
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°	14640	14640	14640
5°	14646	14081	13820
10°	14550	13501	13283
15°	14437	13074	12684
20°	14061	12481	12067
25°	13773	11957	11485
30°	13431	11382	10975
35°	13056	10757	10533
40°	12562	10222	10193
45°	12098	9711	9890
50°	11699	9401	9633
55°	11230	8910	9434
60°	10670	8606	9251
65°	9963	8338	9113
70°	9181	8126	9106
75°	8158	8064	9133
80°	6654	8054	9310
85°	4775	8279	9520

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 12098 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	390.6	2.3
10°-20°	1116.2	6.4
20°-30°	1676.0	9.7
30°-40°	2012.6	11.6
40°-50°	2128.8	12.3
50°-60°	2051.6	11.8
60°-70°	1820.1	10.5
70°-80°	1492.7	8.6
80°-90°	1155.3	6.7
90°-100°	901.3	5.2
100°-110°	717.6	4.1
110°-120°	573.4	3.3
120°-130°	452.3	2.6
130°-140°	345.1	2.0
140°-150°	242.7	1.4
150°-160°	155.1	0.9
160°-170°	86.9	0.5
170°-180°	27.6	0.2
0°-30°	3182.8	18.3
0°-40°	5195.5	30.0
0°-60°	9375.8	54.1
0°-90°	13844.0	79.8
90°-120°	2192.3	12.6
90°-150°	3232.4	18.6
90°-180°	3502.0	20.2
0°-180°	17346.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4126	4126	4126	4126	4126	
5°	4122	4133	4094	4124	4066	392
15°	3958	3960	3946	3972	3960	1112
25°	3561	3618	3632	3695	3683	1640
35°	3069	3115	3189	3321	3365	1913
45°	2474	2548	2721	2979	3051	1908
55°	1883	1978	2275	2585	2718	1680
65°	1253	1426	1858	2243	2361	1246
75°	653	939	1479	1878	2028	691
85°	152	572	1147	1560	1698	172
90°	16	455	1015	1412	1569	16
95°	21	376	898	1290	1442	21
105°	69	305	718	1055	1191	73
115°	134	298	595	861	972	130
125°	187	302	512	706	782	164
135°	219	293	459	598	644	170
145°	238	270	378	501	531	149
155°	263	277	312	392	438	121
165°	312	305	293	286	355	87
175°	342	330	293	240	152	32
180°	279	279	279	279	279	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4126.2	4126.2	4126.2	4126.2	4126.2
2.5°	4135.4	4149.3	4091.6	4126.2	4100.8
5°	4121.6	4133.1	4093.9	4123.9	4066.2
7.5°	4117.0	4112.4	4063.9	4103.1	4050.1
10°	4057.0	4073.1	4015.4	4068.5	4043.1
12.5°	4006.2	4038.5	3987.7	4029.3	3976.2
15°	3957.7	3960.1	3946.2	3971.6	3960.1
17.5°	3877.0	3897.7	3865.4	3923.1	3902.4
20°	3759.3	3823.9	3793.9	3847.0	3833.1
22.5°	3662.4	3694.7	3720.1	3780.1	3761.6
25°	3560.8	3618.5	3632.4	3694.7	3683.1
27.5°	3457.0	3482.4	3535.4	3602.4	3604.7
30°	3327.7	3355.4	3429.3	3505.4	3526.2
32.5°	3175.4	3263.1	3307.0	3422.4	3454.7
35°	3069.3	3115.4	3189.3	3320.8	3364.7
37.5°	2930.8	2983.9	3083.1	3237.7	3290.8
40°	2771.6	2850.0	2958.5	3150.0	3212.4
42.5°	2612.3	2704.7	2831.6	3055.4	3127.0
45°	2473.9	2547.7	2720.8	2979.3	3050.8
47.5°	2323.9	2413.9	2633.1	2880.0	2960.8
50°	2185.4	2277.7	2527.0	2787.7	2884.7
52.5°	2019.3	2125.4	2411.6	2681.6	2794.7
55°	1883.1	1977.7	2275.4	2584.7	2718.5
57.5°	1733.1	1839.3	2169.3	2513.1	2635.4
60°	1571.6	1705.4	2065.4	2423.1	2540.8
62.5°	1412.3	1571.6	1959.3	2335.4	2450.8
65°	1253.1	1426.2	1857.7	2243.1	2360.8
67.5°	1110.0	1296.9	1765.4	2141.6	2287.0
70°	948.5	1172.3	1656.9	2047.0	2199.3
72.5°	796.2	1059.2	1569.3	1970.8	2123.1
75°	653.1	939.2	1479.3	1878.5	2028.5
77.5°	510.0	826.2	1384.6	1795.4	1959.3
80°	373.9	733.9	1301.6	1714.6	1871.6
82.5°	258.5	653.1	1220.8	1647.7	1795.4
85°	152.3	572.3	1146.9	1560.0	1698.5
87.5°	69.2	507.7	1070.8	1493.1	1629.3
90°	16.2	454.6	1015.4	1412.3	1569.3
92.5°	16.2	413.1	948.5	1352.3	1495.4
95°	20.8	376.2	897.7	1290.0	1442.3
97.5°	27.7	348.5	851.5	1232.3	1366.2
100°	39.2	330.0	800.8	1165.4	1296.9
102.5°	53.1	316.2	754.6	1105.4	1227.7
105°	69.2	304.6	717.7	1054.6	1190.8
107.5°	85.4	300.0	680.8	1006.2	1121.6
110°	101.5	297.7	653.1	955.4	1084.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	117.7	295.4	623.1	909.2	1013.1
115°	133.8	297.7	595.4	860.8	971.6
117.5°	143.1	297.7	570.0	819.2	911.6
120°	156.9	300.0	551.5	775.4	872.3
122.5°	170.8	300.0	533.1	743.1	828.5
125°	186.9	302.3	512.3	706.2	782.3
127.5°	196.2	302.3	500.8	680.8	750.0
130°	205.4	300.0	484.6	648.5	720.0
132.5°	214.6	295.4	475.4	618.5	685.4
135°	219.2	293.1	459.2	597.7	643.9
137.5°	226.2	286.2	443.1	567.7	618.5
140°	233.1	283.8	420.0	544.6	588.5
142.5°	233.1	276.9	403.9	523.9	563.1
145°	237.7	270.0	378.5	500.8	530.8
147.5°	242.3	267.7	360.0	477.7	514.6
150°	242.3	265.4	343.9	452.3	486.9
152.5°	246.9	267.7	327.7	429.2	461.5
155°	263.1	276.9	311.5	392.3	438.5
157.5°	276.9	286.2	295.4	364.6	413.1
160°	288.5	293.1	281.5	336.9	401.5
162.5°	297.7	300.0	283.8	311.5	376.2
165°	311.5	304.6	293.1	286.2	355.4
167.5°	323.1	309.2	297.7	279.2	339.2
170°	332.3	318.5	293.1	263.1	332.3
172.5°	339.2	320.8	295.4	246.9	279.2
175°	341.5	330.0	293.1	240.0	152.3
177.5°	339.2	332.3	302.3	237.7	136.2
180°	279.2	279.2	279.2	279.2	279.2



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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	16.39	17.71	17.03	18.37	19.14	19.88	21.19	20.52	21.86	22.62
	3H	17.84	19.04	18.49	19.72	20.51	22.75	23.95	23.40	24.62	25.42
	4H	18.31	19.45	18.98	20.14	20.95	24.23	25.37	24.90	26.06	26.87
	6H	18.59	19.65	19.27	20.35	21.18	25.84	26.91	26.53	27.60	28.43
	8H	18.65	19.67	19.34	20.39	21.21	26.70	27.72	27.40	28.44	29.27
	12H	18.67	19.65	19.37	20.36	21.22	27.65	28.63	28.35	29.34	30.20
4H	2H	17.54	18.69	18.22	19.37	20.18	20.21	21.36	20.89	22.04	22.85
	3H	19.25	20.23	19.93	20.95	21.78	23.32	24.30	24.00	25.02	25.85
	4H	19.84	20.75	20.55	21.47	22.33	24.98	25.88	25.68	26.61	27.47
	6H	20.25	21.05	20.97	21.80	22.66	26.79	27.59	27.51	28.34	29.20
	8H	20.36	21.12	21.09	21.86	22.74	27.76	28.51	28.49	29.26	30.14
	12H	20.42	21.11	21.17	21.88	22.76	28.83	29.52	29.58	30.29	31.18
8H	4H	20.89	21.65	21.62	22.39	23.27	25.16	25.91	25.88	26.66	27.54
	6H	21.54	22.18	22.29	22.97	23.85	27.14	27.79	27.90	28.57	29.45
	8H	21.77	22.35	22.53	23.13	24.03	28.26	28.84	29.03	29.63	30.52
	12H	21.91	22.43	22.68	23.21	24.16	29.52	30.04	30.29	30.82	31.77
12H	4H	21.24	21.92	21.98	22.69	23.58	25.15	25.84	25.90	26.61	27.49
	6H	22.04	22.62	22.81	23.41	24.30	27.17	27.76	27.94	28.54	29.44
	8H	22.39	22.91	23.16	23.69	24.64	28.35	28.87	29.12	29.65	30.60