

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: P894937

Luminaire Tested: 8TMB-20HL-RNDU-UNV-L930

Issue Date: 11/11/2024

**Test Information**

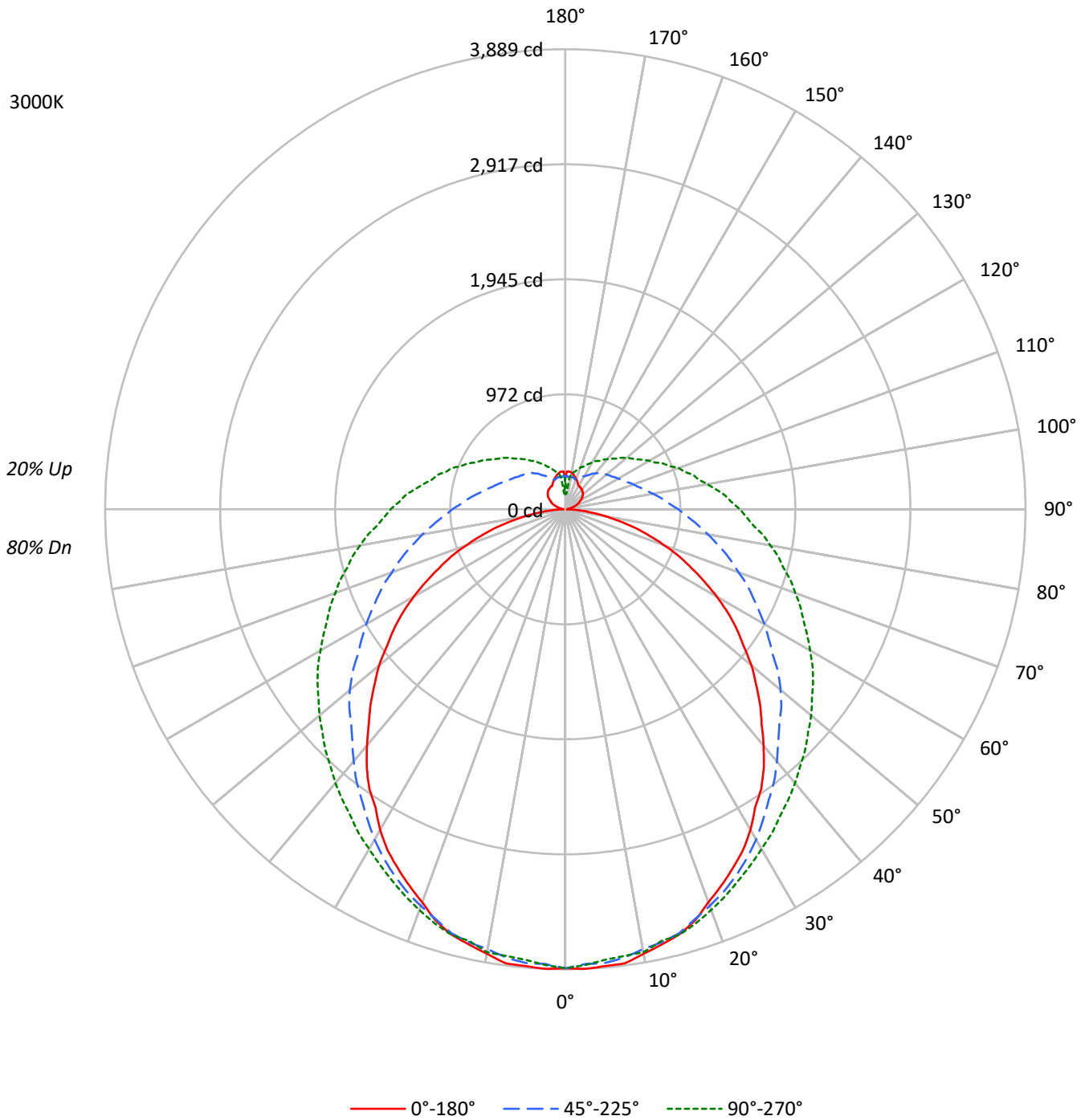
Test Method: LM-79-2019  
Report Number: P894937  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-3)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 8TMB-20HL-RNDU-UNV-L930  
Description: 20000 Lumen 8FT MICROBAY LINEAR BAY with ROUND FROSTED LENS WITH UPLIGHT, 90CRI, CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 16312.0 lumens  
Efficiency: N/A  
Efficacy: 112.5 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°	13767	13767	13767
5°	13773	13242	12996
10°	13682	12696	12492
15°	13576	12294	11928
20°	13223	11737	11347
25°	12952	11244	10800
30°	12631	10704	10321
35°	12277	10116	9905
40°	11813	9612	9585
45°	11376	9132	9300
50°	11002	8840	9059
55°	10561	8379	8872
60°	10034	8093	8699
65°	9369	7841	8569
70°	8633	7642	8564
75°	7672	7583	8588
80°	6258	7574	8755
85°	4490	7786	8953

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 11376 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	367.3	2.3
10°-20°	1049.6	6.4
20°-30°	1576.1	9.7
30°-40°	1892.7	11.6
40°-50°	2001.9	12.3
50°-60°	1929.3	11.8
60°-70°	1711.6	10.5
70°-80°	1403.7	8.6
80°-90°	1086.4	6.7
90°-100°	847.6	5.2
100°-110°	674.8	4.1
110°-120°	539.3	3.3
120°-130°	425.3	2.6
130°-140°	324.6	2.0
140°-150°	228.2	1.4
150°-160°	145.9	0.9
160°-170°	81.8	0.5
170°-180°	25.9	0.2
0°-30°	2993.1	18.3
0°-40°	4885.7	30.0
0°-60°	8816.9	54.1
0°-90°	13018.7	79.8
90°-120°	2061.6	12.6
90°-150°	3039.7	18.6
90°-180°	3293.0	20.2
0°-180°	16312.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3880	3880	3880	3880	3880	
5°	3876	3887	3850	3878	3824	369
15°	3722	3724	3711	3735	3724	1046
25°	3349	3403	3416	3474	3464	1542
35°	2886	2930	2999	3123	3164	1799
45°	2326	2396	2559	2802	2869	1795
55°	1771	1860	2140	2431	2556	1580
65°	1178	1341	1747	2109	2220	1171
75°	614	883	1391	1766	1908	650
85°	143	538	1079	1467	1597	162
90°	15	428	955	1328	1476	15
95°	20	354	844	1213	1356	19
105°	65	286	675	992	1120	69
115°	126	280	560	810	914	122
125°	176	284	482	664	736	155
135°	206	276	432	562	606	160
145°	224	254	356	471	499	140
155°	247	260	293	369	412	114
165°	293	286	276	269	334	82
175°	321	310	276	226	143	30
180°	263	263	263	263	263	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3880.2	3880.2	3880.2	3880.2	3880.2
2.5°	3888.9	3901.9	3847.7	3880.2	3856.4
5°	3875.9	3886.8	3849.9	3878.1	3823.8
7.5°	3871.6	3867.2	3821.7	3858.5	3808.6
10°	3815.1	3830.3	3776.1	3826.0	3802.1
12.5°	3767.4	3797.8	3750.0	3789.1	3739.2
15°	3721.8	3724.0	3711.0	3734.8	3724.0
17.5°	3645.9	3665.4	3635.0	3689.3	3669.7
20°	3535.2	3596.0	3567.7	3617.7	3604.6
22.5°	3444.0	3474.4	3498.3	3554.7	3537.4
25°	3348.6	3402.8	3415.8	3474.4	3463.6
27.5°	3250.9	3274.8	3324.7	3387.6	3389.8
30°	3129.4	3155.4	3224.9	3296.5	3316.0
32.5°	2986.1	3068.6	3109.8	3218.3	3248.7
35°	2886.3	2929.7	2999.2	3122.9	3164.1
37.5°	2756.1	2806.0	2899.3	3044.7	3094.6
40°	2606.4	2680.1	2782.1	2962.3	3020.9
42.5°	2456.6	2543.4	2662.8	2873.3	2940.6
45°	2326.4	2395.9	2558.6	2801.7	2869.0
47.5°	2185.4	2270.0	2476.2	2708.4	2784.3
50°	2055.1	2141.9	2376.3	2621.6	2712.7
52.5°	1898.9	1998.7	2267.8	2521.7	2628.1
55°	1770.9	1859.8	2139.8	2430.6	2556.4
57.5°	1629.8	1729.6	2039.9	2363.3	2478.3
60°	1477.9	1603.7	1942.3	2278.7	2389.3
62.5°	1328.1	1477.9	1842.5	2196.2	2304.7
65°	1178.4	1341.2	1747.0	2109.4	2220.1
67.5°	1043.8	1219.6	1660.2	2013.9	2150.6
70°	891.9	1102.4	1558.2	1924.9	2068.2
72.5°	748.7	996.1	1475.7	1853.3	1996.5
75°	614.2	883.3	1391.1	1766.5	1907.6
77.5°	479.6	776.9	1302.1	1688.4	1842.5
80°	351.6	690.1	1224.0	1612.4	1760.0
82.5°	243.1	614.2	1148.0	1549.5	1688.4
85°	143.2	538.2	1078.6	1467.0	1597.2
87.5°	65.1	477.4	1007.0	1404.1	1532.1
90°	15.2	427.5	954.9	1328.1	1475.7
92.5°	15.2	388.5	891.9	1271.7	1406.3
95°	19.5	353.7	844.2	1213.1	1356.3
97.5°	26.0	327.7	800.8	1158.9	1284.7
100°	36.9	310.3	753.0	1095.9	1219.6
102.5°	49.9	297.3	709.6	1039.5	1154.5
105°	65.1	286.5	674.9	991.8	1119.8
107.5°	80.3	282.1	640.2	946.2	1054.7
110°	95.5	280.0	614.2	898.4	1020.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	110.7	277.8	585.9	855.0	952.7
115°	125.9	280.0	559.9	809.5	913.6
117.5°	134.5	280.0	536.0	770.4	857.2
120°	147.6	282.1	518.7	729.2	820.3
122.5°	160.6	282.1	501.3	698.8	779.1
125°	175.8	284.3	481.8	664.1	735.7
127.5°	184.5	284.3	470.9	640.2	705.3
130°	193.1	282.1	455.7	609.8	677.1
132.5°	201.8	277.8	447.1	581.6	644.5
135°	206.2	275.6	431.9	562.1	605.5
137.5°	212.7	269.1	416.7	533.9	581.6
140°	219.2	266.9	395.0	512.2	553.4
142.5°	219.2	260.4	379.8	492.6	529.5
145°	223.5	253.9	355.9	470.9	499.1
147.5°	227.9	251.7	338.5	449.2	483.9
150°	227.9	249.6	323.4	425.4	457.9
152.5°	232.2	251.7	308.2	403.6	434.0
155°	247.4	260.4	293.0	368.9	412.3
157.5°	260.4	269.1	277.8	342.9	388.5
160°	271.3	275.6	264.8	316.8	377.6
162.5°	280.0	282.1	266.9	293.0	353.7
165°	293.0	286.5	275.6	269.1	334.2
167.5°	303.8	290.8	280.0	262.6	319.0
170°	312.5	299.5	275.6	247.4	312.5
172.5°	319.0	301.7	277.8	232.2	262.6
175°	321.2	310.3	275.6	225.7	143.2
177.5°	319.0	312.5	284.3	223.5	128.0
180°	262.6	262.6	262.6	262.6	262.6



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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	16.18	17.49	16.82	18.16	18.92	19.67	20.98	20.31	21.64	22.41
	3H	17.63	18.83	18.28	19.50	20.30	22.54	23.74	23.19	24.41	25.21
	4H	18.10	19.24	18.77	19.93	20.74	24.02	25.16	24.69	25.84	26.66
	6H	18.38	19.44	19.06	20.13	20.96	25.63	26.70	26.32	27.39	28.22
	8H	18.44	19.46	19.13	20.17	21.00	26.49	27.51	27.19	28.23	29.06
	12H	18.45	19.43	19.16	20.14	21.00	27.44	28.41	28.14	29.12	29.98
4H	2H	17.33	18.47	18.00	19.16	19.97	20.00	21.14	20.67	21.83	22.64
	3H	19.03	20.01	19.72	20.73	21.56	23.10	24.08	23.79	24.80	25.63
	4H	19.63	20.53	20.33	21.26	22.12	24.77	25.67	25.47	26.39	27.25
	6H	20.04	20.84	20.76	21.59	22.45	26.58	27.38	27.30	28.12	28.99
	8H	20.15	20.90	20.87	21.65	22.53	27.55	28.30	28.27	29.05	29.93
	12H	20.21	20.89	20.95	21.66	22.55	28.62	29.31	29.37	30.08	30.96
8H	4H	20.68	21.43	21.40	22.18	23.06	24.94	25.70	25.67	26.44	27.32
	6H	21.33	21.97	22.08	22.75	23.64	26.93	27.57	27.68	28.36	29.24
	8H	21.55	22.13	22.32	22.92	23.81	28.05	28.63	28.81	29.41	30.31
	12H	21.70	22.22	22.47	23.00	23.95	29.31	29.83	30.08	30.61	31.56
12H	4H	21.02	21.71	21.77	22.48	23.36	24.94	25.63	25.69	26.39	27.28
	6H	21.83	22.41	22.59	23.19	24.09	26.96	27.54	27.72	28.33	29.22
	8H	22.18	22.70	22.94	23.47	24.43	28.14	28.66	28.91	29.44	30.39