

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: P894892

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

Issue Date: 11/11/2024

**Test Information**

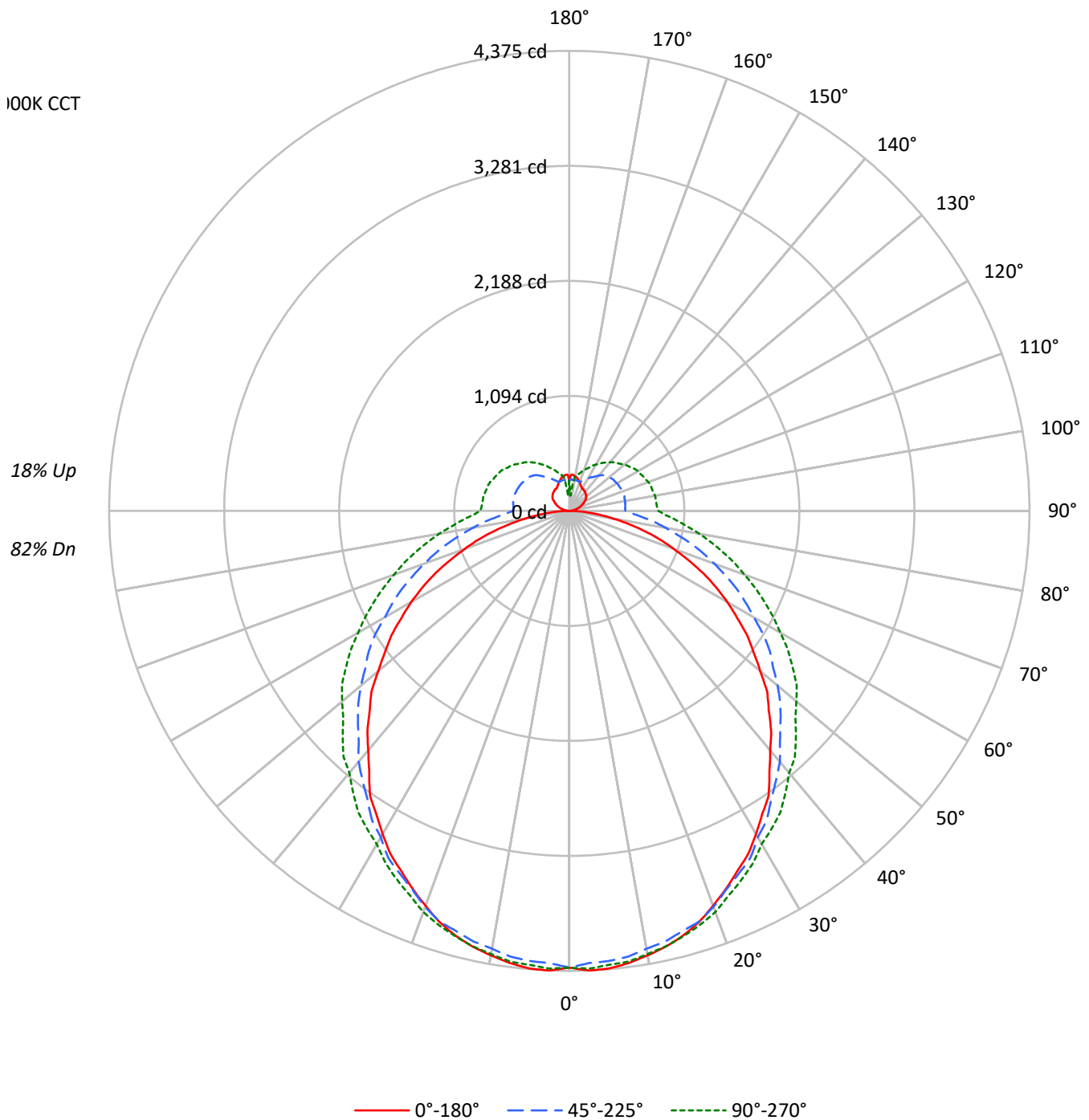
Test Method: LM-79-2019  
Report Number: P894892  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-6)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 8TMB-20HL-FLTU-UNV-L950  
Description: 20000 Lumen 8FT MICROBAY LINEAR BAY with FLAT FROSTED LENS WITH UPLIGHT, 90CRI, 50  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 16328.0 lumens  
Efficiency: N/A  
Efficacy: 112.6 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.26 / 1.36  
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

TEST NUMBER: P894892  
CATALOG NUMBER: 8TMB-20HL-FLTU-UNV-L950

### Luminous Intensity Polar Plot





TEST NUMBER: P894892  
 CATALOG NUMBER: 8TMB-20HL-FLTU-UNV-L950

**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	115	115	115	115	110	110	110	110	101	101	101	93	93	93	86	86	86	86	86	86	82
1	103	98	93	89	99	94	90	86	87	83	80	80	77	74	73	71	69	69	69	69	66
2	93	85	77	71	89	81	75	69	75	70	65	69	65	61	63	60	57	57	57	57	54
3	85	74	66	59	81	71	63	57	66	59	54	60	55	51	56	51	48	48	48	48	45
4	78	65	56	49	74	63	55	48	58	51	46	54	48	43	50	45	41	41	41	41	38
5	71	58	49	42	68	56	48	41	52	45	39	48	42	37	44	39	35	35	35	35	33
6	66	52	43	37	63	50	42	36	47	40	34	43	37	33	40	35	31	31	31	31	28
7	61	47	38	32	58	46	37	32	42	35	30	39	33	29	37	31	27	27	27	27	25
8	56	43	34	29	54	42	34	28	39	32	27	36	30	26	34	28	24	24	24	24	22
9	53	39	31	26	50	38	30	25	36	29	24	33	27	23	31	26	22	22	22	22	20
10	49	36	28	23	47	35	28	23	33	26	22	31	25	21	29	24	20	20	20	20	18

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	15410	15410	15410
5°	15524	14780	14730
10°	15394	14214	14057
15°	15254	13716	13416
20°	14950	13187	12779
25°	14620	12534	12075
30°	14326	11896	11391
35°	14057	11286	10952
40°	13472	10764	10317
45°	13113	10139	9875
50°	12687	9615	9409
55°	12317	9118	8994
60°	11782	8433	8436
65°	11174	7883	7910
70°	10230	7198	7338
75°	9254	6516	6795
80°	7598	5769	6245
85°	5716	5047	5730

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 13113 cd/sqm



TEST NUMBER: P894892  
 CATALOG NUMBER: 8TMB-20HL-FLTU-UNV-L950

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	411.4	2.5
10°-20°	1174.8	7.2
20°-30°	1764.7	10.8
30°-40°	2115.0	13.0
40°-50°	2217.4	13.6
50°-60°	2080.1	12.7
60°-70°	1727.7	10.6
70°-80°	1235.3	7.6
80°-90°	732.6	4.5
90°-100°	537.4	3.3
100°-110°	529.5	3.2
110°-120°	493.9	3.0
120°-130°	433.4	2.7
130°-140°	349.0	2.1
140°-150°	250.5	1.5
150°-160°	159.2	1.0
160°-170°	88.2	0.5
170°-180°	27.8	0.2
0°-30°	3350.8	20.5
0°-40°	5465.8	33.5
0°-60°	9763.3	59.8
0°-90°	13459.0	82.4
90°-120°	1560.8	9.6
90°-150°	2593.8	15.9
90°-180°	2869.0	17.6
0°-180°	16328.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4343	4343	4343	4343	4343	
5°	4368	4359	4297	4318	4334	414
15°	4182	4156	4140	4170	4188	1177
25°	3780	3815	3808	3852	3872	1744
35°	3305	3316	3346	3443	3498	2051
45°	2682	2758	2841	3028	3046	2074
55°	2065	2132	2328	2518	2592	1837
65°	1405	1512	1756	1992	2049	1385
75°	741	912	1195	1442	1509	783
85°	182	399	699	935	1022	200
90°	7	242	533	762	845	15
95°	21	254	533	752	831	22
105°	74	279	542	743	812	78
115°	134	302	531	706	775	132
125°	192	312	515	655	715	168
135°	222	300	478	593	642	172
145°	240	277	392	522	558	151
155°	263	277	321	404	457	122
165°	314	305	295	293	367	88
175°	346	332	298	247	150	32
180°	286	286	286	286	286	



TEST NUMBER: P894892

CATALOG NUMBER: 8TMB-20HL-FLTU-UNV-L950

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4343.1	4343.1	4343.1	4343.1	4343.1
2.5°	4375.4	4340.8	4303.9	4359.3	4357.0
5°	4368.5	4359.3	4297.0	4317.7	4333.9
7.5°	4336.2	4313.1	4276.2	4327.0	4322.3
10°	4292.3	4264.6	4227.7	4257.7	4278.5
12.5°	4243.9	4220.8	4195.4	4227.7	4241.6
15°	4181.6	4156.2	4140.0	4170.0	4188.5
17.5°	4100.8	4093.9	4096.2	4098.5	4128.5
20°	3996.9	4001.6	4008.5	4050.0	4059.3
22.5°	3890.8	3916.2	3897.7	3962.3	3957.7
25°	3780.0	3814.6	3807.7	3851.6	3872.3
27.5°	3680.8	3683.1	3724.6	3786.9	3780.0
30°	3549.3	3588.5	3583.9	3660.0	3660.0
32.5°	3415.4	3473.1	3491.6	3558.5	3581.6
35°	3304.6	3316.2	3346.2	3443.1	3498.5
37.5°	3124.6	3180.0	3228.5	3355.4	3376.2
40°	2972.3	3027.7	3115.4	3263.1	3251.6
42.5°	2840.8	2898.5	2963.1	3133.9	3175.4
45°	2681.6	2757.7	2840.8	3027.7	3046.2
47.5°	2552.3	2612.3	2720.8	2891.6	2914.6
50°	2370.0	2466.9	2584.6	2783.1	2817.7
52.5°	2208.5	2291.6	2441.6	2646.9	2725.4
55°	2065.4	2132.3	2328.5	2517.7	2591.6
57.5°	1890.0	1982.3	2187.7	2397.7	2464.6
60°	1735.4	1825.4	2023.9	2263.9	2316.9
62.5°	1571.5	1677.7	1892.3	2125.4	2185.4
65°	1405.4	1511.5	1756.2	1991.6	2049.2
67.5°	1225.4	1356.9	1606.2	1850.8	1910.8
70°	1056.9	1200.0	1467.7	1712.3	1772.3
72.5°	904.6	1059.2	1331.5	1583.1	1647.7
75°	740.8	911.5	1195.4	1442.3	1509.2
77.5°	581.5	766.2	1054.6	1303.9	1382.3
80°	426.9	630.0	932.3	1172.3	1255.4
82.5°	300.0	507.7	819.2	1054.6	1130.8
85°	182.3	399.2	699.2	934.6	1022.3
87.5°	80.8	309.2	604.6	837.7	916.2
90°	6.9	242.3	533.1	761.5	844.6
92.5°	13.8	246.9	530.8	752.3	835.4
95°	20.8	253.8	533.1	752.3	830.8
97.5°	30.0	263.1	537.7	752.3	828.5
100°	43.8	267.7	540.0	752.3	828.5
102.5°	57.7	274.6	537.7	740.8	819.2
105°	73.8	279.2	542.3	743.1	812.3
107.5°	90.0	283.8	542.3	731.5	810.0
110°	106.2	290.8	537.7	724.6	800.8



TEST NUMBER: P894892  
 CATALOG NUMBER: 8TMB-20HL-FLTU-UNV-L950

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	120.0	297.7	535.4	710.8	784.6
115°	133.8	302.3	530.8	706.2	775.4
117.5°	147.7	304.6	528.5	694.6	761.5
120°	159.2	309.2	523.8	680.8	754.6
122.5°	173.1	311.5	516.9	666.9	740.8
125°	191.5	311.5	514.6	655.4	715.4
127.5°	200.8	313.8	505.4	641.5	703.9
130°	210.0	306.9	500.8	625.4	685.4
132.5°	216.9	304.6	489.2	609.2	662.3
135°	221.5	300.0	477.7	593.1	641.5
137.5°	228.5	293.1	461.5	581.5	627.7
140°	233.1	288.5	438.5	558.5	604.6
142.5°	237.7	281.5	415.4	537.7	581.5
145°	240.0	276.9	392.3	521.5	558.5
147.5°	246.9	270.0	378.5	500.8	533.1
150°	244.6	265.4	357.7	475.4	507.7
152.5°	251.5	272.3	339.2	440.8	486.9
155°	263.1	276.9	320.8	403.8	456.9
157.5°	274.6	286.2	306.9	371.5	433.8
160°	290.8	290.8	290.8	346.2	415.4
162.5°	300.0	300.0	293.1	316.2	390.0
165°	313.8	304.6	295.4	293.1	366.9
167.5°	327.7	309.2	300.0	283.8	350.8
170°	330.0	316.2	297.7	267.7	339.2
172.5°	339.2	323.1	295.4	253.8	263.1
175°	346.2	332.3	297.7	246.9	150.0
177.5°	343.8	332.3	304.6	246.9	145.4
180°	286.2	286.2	286.2	286.2	286.2



TEST NUMBER: P894892  
 CATALOG NUMBER: 8TMB-20HL-FLTU-UNV-L950

**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	17.25	18.58	17.86	19.20	19.92	19.84	21.17	20.45	21.79	22.51
	3H	18.68	19.89	19.31	20.52	21.27	22.24	23.44	22.86	24.08	24.83
	4H	19.15	20.29	19.79	20.94	21.70	23.38	24.52	24.03	25.17	25.94
	6H	19.41	20.47	20.07	21.13	21.91	24.54	25.60	25.20	26.26	27.04
	8H	19.46	20.48	20.13	21.16	21.94	25.12	26.14	25.79	26.82	27.60
	12H	19.48	20.45	20.15	21.13	21.94	25.75	26.73	26.43	27.40	28.21
4H	2H	18.14	19.28	18.78	19.93	20.69	20.18	21.32	20.83	21.97	22.74
	3H	19.79	20.76	20.45	21.45	22.23	22.79	23.76	23.45	24.45	25.23
	4H	20.37	21.26	21.05	21.95	22.76	24.09	24.98	24.77	25.67	26.49
	6H	20.74	21.53	21.44	22.24	23.06	25.42	26.20	26.12	26.92	27.74
	8H	20.84	21.57	21.53	22.28	23.12	26.10	26.83	26.80	27.55	28.38
	12H	20.88	21.54	21.60	22.28	23.12	26.84	27.51	27.56	28.24	29.08
8H	4H	21.01	21.74	21.71	22.46	23.29	24.24	24.98	24.94	25.69	26.53
	6H	21.54	22.16	22.27	22.92	23.75	25.72	26.34	26.45	27.09	27.93
	8H	21.71	22.27	22.45	23.03	23.88	26.51	27.07	27.25	27.83	28.68
	12H	21.82	22.31	22.56	23.06	23.97	27.41	27.91	28.16	28.66	29.57
12H	4H	21.17	21.84	21.89	22.58	23.42	24.23	24.90	24.96	25.64	26.48
	6H	21.80	22.36	22.54	23.11	23.96	25.73	26.29	26.47	27.05	27.90
	8H	22.04	22.54	22.79	23.29	24.20	26.58	27.08	27.33	27.83	28.74