

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P588639

Luminaire Tested: **FM11WSCCR-4000K**

Issue Date: 12/1/2021

Test Information

Test Method: LM-79-08
Report Number: P588639
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (MXL1052-11A)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 12/1/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: FM11WSCCR-4000K
Description: FM WS CCT SELECT
Light Source: (1) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

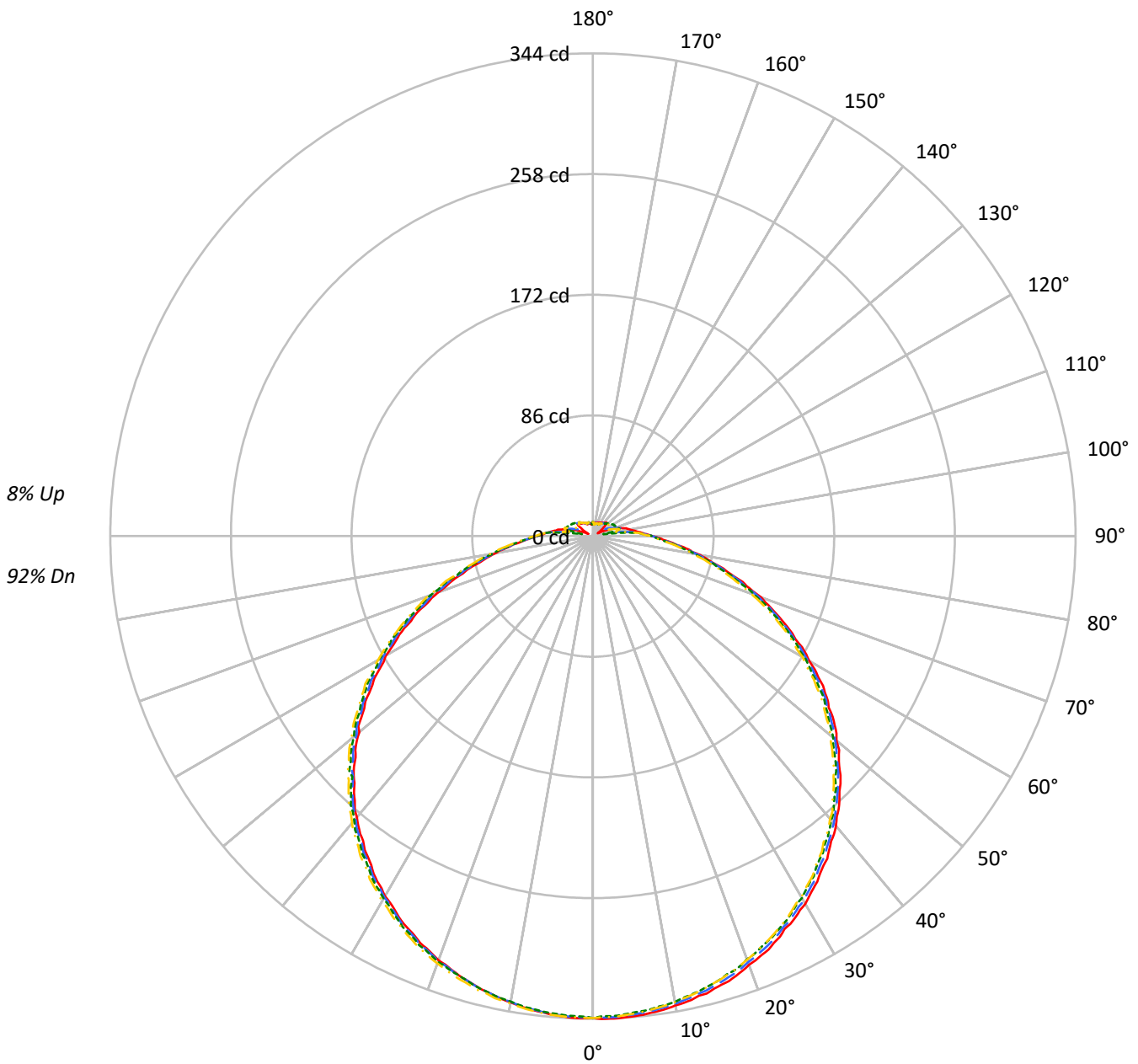
Lumens per Lamp: N/A
Luminaire Lumens: 1225.0 lumens
Efficiency: N/A
Efficacy: 93.5 lumens/watt
Spacing Criteria (0/90/45): 1.3 / 1.29 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.92m x L: 0.92m x H: 0.25m)
CIE Type: Direct

Input Watts (W): 13.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
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



— 0°-180° - - 45°-225° - · - · 90°-270° - · - · 135°-315°



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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	117	117	117	117	113	113	113	113	107	107	107	100	100	100	95	95	95	95	95	95	92
1	105	100	95	90	102	97	92	88	91	87	84	85	83	80	81	78	76	76	76	76	73
2	95	86	79	72	92	83	77	71	78	73	68	74	69	65	70	66	62	62	62	62	60
3	86	75	66	59	83	73	65	58	69	62	56	65	59	54	61	56	52	52	52	52	50
4	79	66	57	50	76	64	56	49	61	53	47	57	51	46	54	49	44	44	44	44	42
5	72	59	49	43	69	57	48	42	54	47	41	51	45	40	49	43	38	38	38	38	36
6	67	53	44	37	64	51	43	36	49	41	35	46	40	34	44	38	34	34	34	34	31
7	62	48	39	32	59	47	38	32	44	37	31	42	35	30	40	34	30	30	30	30	27
8	57	43	35	29	55	42	34	28	40	33	28	38	32	27	37	31	26	26	26	26	24
9	53	40	31	26	52	39	31	25	37	30	25	35	29	24	34	28	24	24	24	24	22
10	50	37	29	23	48	36	28	23	34	27	23	33	26	22	31	26	22	22	22	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	408	408	408	408
5°	400	397	399	398
10°	391	388	389	388
15°	383	379	379	380
20°	375	370	370	372
25°	367	362	360	363
30°	359	353	352	354
35°	349	343	341	344
40°	341	334	331	334
45°	330	323	319	320
50°	317	312	304	310
55°	305	300	290	298
60°	288	283	275	284
65°	271	264	254	263
70°	253	243	234	245
75°	227	220	211	221
80°	208	198	190	195
85°	190	181	174	180



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.5	2.7
10°-20°	93.6	7.6
20°-30°	143.8	11.7
30°-40°	177.0	14.5
40°-50°	188.9	15.4
50°-60°	178.4	14.6
60°-70°	147.0	12.0
70°-80°	102.4	8.4
80°-90°	60.8	5.0
90°-100°	32.1	2.6
100°-110°	19.4	1.6
110°-120°	12.6	1.0
120°-130°	11.1	0.9
130°-140°	10.1	0.8
140°-150°	7.1	0.6
150°-160°	4.6	0.4
160°-170°	2.7	0.2
170°-180°	0.9	0.1
0°-30°	269.9	22.0
0°-40°	446.9	36.5
0°-60°	814.3	66.5
0°-90°	1124.5	91.8
90°-120°	64.1	5.2
90°-150°	92.4	7.5
90°-180°	101.0	8.2
0°-180°	1225.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	344	344	344	344	344	
5°	343	341	342	341	343	33
15°	334	330	330	331	334	94
25°	315	311	310	312	315	145
35°	286	282	279	282	286	180
45°	250	244	241	242	250	192
55°	204	201	194	200	204	183
65°	153	149	143	148	153	151
75°	100	97	93	97	100	106
85°	57	54	52	54	57	51
90°	42	43	40	40	42	23
95°	33	28	31	29	33	26
105°	22	20	18	20	22	23
115°	9	17	4	18	9	9
125°	7	15	12	16	7	6
135°	14	13	13	14	14	10
145°	11	11	11	12	11	7
155°	10	9	10	10	10	5
165°	10	9	10	10	10	3
175°	9	8	8	8	9	1
180°	10	10	10	10	10	



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CANDELA DISTRIBUTION (FULL):

	0°	90°	180°	270°	360°
0°	343.5	343.5	343.5	343.5	343.5
1°	344.2	342.3	343.8	342.5	344.2
2°	344.1	342.3	343.7	342.3	344.1
3°	344.1	342.2	343.4	342.2	344.1
4°	343.7	341.4	342.7	341.7	343.7
5°	343.4	340.7	342.2	341.4	343.4
6°	343.0	340.3	341.4	340.7	343.0
7°	342.2	339.7	340.6	339.9	342.2
8°	341.7	338.6	339.9	339.2	341.7
9°	340.7	338.0	338.7	338.2	340.7
10°	339.7	337.1	337.5	336.8	339.7
11°	338.9	335.4	336.4	336.0	338.9
12°	338.0	334.4	335.1	335.1	338.0
13°	336.2	333.2	333.6	333.5	336.2
14°	335.9	331.6	332.4	332.4	335.9
15°	334.0	330.3	330.5	330.9	334.0
16°	332.6	328.8	328.9	328.9	332.6
17°	331.6	326.6	327.3	327.3	331.6
18°	329.6	325.6	325.1	326.1	329.6
19°	327.6	323.7	323.1	324.1	327.6
20°	325.3	321.0	321.7	322.9	325.3
21°	323.8	319.5	319.1	320.5	323.8
22°	321.8	317.1	316.8	318.3	321.8
23°	320.2	315.1	315.1	316.7	320.2
24°	317.4	313.3	312.0	313.7	317.4
25°	315.2	310.7	309.6	311.7	315.2
26°	311.6	308.1	307.6	309.7	311.6
27°	310.2	306.1	304.7	306.5	310.2
28°	307.6	302.9	301.4	303.9	307.6
29°	304.7	299.9	298.4	300.4	304.7
30°	302.7	297.9	296.3	298.4	302.7
31°	299.3	294.4	292.7	295.1	299.3
32°	296.3	291.5	290.1	292.8	296.3
33°	293.6	289.0	286.9	289.8	293.6
34°	289.7	284.7	282.7	285.8	289.7
35°	286.5	281.5	279.4	282.3	286.5
36°	284.1	278.9	276.7	279.8	284.1
37°	279.9	274.6	272.0	275.5	279.9
38°	275.9	272.0	269.3	272.0	275.9
39°	273.2	268.1	265.7	269.4	273.2
40°	269.6	264.3	261.7	264.5	269.6
41°	265.0	261.5	258.7	260.7	265.0
42°	261.8	256.7	253.6	257.9	261.8
43°	257.6	252.5	249.7	252.7	257.6
44°	252.9	249.6	244.6	248.5	252.9



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
45°	249.6	244.2	241.1	242.5	249.6
46°	245.3	241.0	236.7	241.4	245.3
47°	239.9	236.7	231.2	235.9	239.9
48°	235.9	231.5	227.8	232.4	235.9
49°	232.5	226.9	223.2	227.7	232.5
50°	226.7	223.7	217.4	222.2	226.7
51°	223.4	218.8	215.1	218.6	223.4
52°	218.6	213.3	209.2	214.1	218.6
53°	214.0	209.4	204.2	208.1	214.0
54°	207.7	204.5	200.6	204.5	207.7
55°	204.5	201.0	194.5	199.6	204.5
56°	199.4	195.1	189.4	194.9	199.4
57°	195.6	189.8	185.7	191.2	195.6
58°	189.4	183.8	179.5	185.0	189.4
59°	184.3	179.6	174.1	179.6	184.3
60°	178.0	174.9	170.4	176.0	178.0
61°	173.8	168.5	164.1	169.3	173.8
62°	168.9	164.6	159.1	164.2	168.9
63°	162.0	159.4	154.9	160.4	162.0
64°	158.0	154.3	149.4	153.6	158.0
65°	152.8	148.8	143.0	148.3	152.8
66°	147.3	143.5	139.1	144.3	147.3
67°	142.0	138.2	133.7	137.6	142.0
68°	136.9	134.2	127.0	132.1	136.9
69°	131.6	127.7	123.1	128.5	131.6
70°	127.4	122.3	117.6	123.0	127.4
71°	120.7	118.3	111.0	116.4	120.7
72°	115.3	111.8	107.0	112.4	115.3
73°	111.7	106.7	102.3	107.3	111.7
74°	104.7	103.0	96.4	100.7	104.7
75°	99.6	96.6	92.8	97.1	99.6
76°	96.0	91.8	87.9	92.1	96.0
77°	89.8	88.2	82.2	86.2	89.8
78°	85.1	83.6	78.9	82.6	85.1
79°	81.6	77.9	74.8	77.9	81.6
80°	77.3	73.6	70.6	72.6	77.3
81°	71.7	70.5	67.8	69.6	71.7
82°	69.0	65.5	63.0	65.3	69.0
83°	65.0	62.4	59.3	60.7	65.0
84°	60.1	58.7	57.0	58.0	60.1
85°	57.3	54.5	52.5	54.4	57.3
86°	54.0	51.2	49.7	51.2	54.0
87°	50.1	49.0	47.4	48.2	50.1
88°	48.1	45.4	44.3	45.2	48.1
89°	45.4	43.6	41.8	43.1	45.4



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
90°	42.0	42.7	39.9	39.6	42.0
91°	40.4	38.3	37.5	38.4	40.4
92°	38.1	36.0	35.6	36.8	38.1
93°	36.1	34.8	34.5	34.6	36.1
94°	34.8	32.6	33.0	33.0	34.8
95°	33.0	27.7	31.1	29.4	33.0
96°	31.3	24.0	30.2	23.1	31.3
97°	30.5	18.9	28.9	19.2	30.5
98°	28.9	12.5	27.5	14.0	28.9
99°	27.8	9.3	26.2	9.7	27.8
100°	26.8	7.6	25.9	7.9	26.8
101°	25.9	9.7	24.3	8.6	25.9
102°	25.0	12.2	22.7	11.8	25.0
103°	24.6	15.7	21.7	14.1	24.6
104°	23.2	19.1	20.0	18.2	23.2
105°	21.9	19.6	18.4	20.3	21.9
106°	20.8	19.6	17.1	20.7	20.8
107°	19.6	19.2	15.6	20.3	19.6
108°	18.4	19.1	13.6	19.7	18.4
109°	16.2	18.8	12.5	19.7	16.2
110°	16.2	18.5	10.7	19.3	16.2
111°	14.2	18.2	8.6	19.2	14.2
112°	12.8	18.1	7.3	19.1	12.8
113°	11.4	17.9	5.8	18.9	11.4
114°	10.2	17.6	4.3	18.8	10.2
115°	8.7	17.4	4.0	18.4	8.7
116°	7.8	17.1	3.8	18.2	7.8
117°	5.9	17.1	4.2	17.9	5.9
118°	5.0	17.1	4.7	17.6	5.0
119°	4.0	16.5	5.6	17.2	4.0
120°	4.0	16.4	7.0	17.1	4.0
121°	4.2	16.1	7.6	17.1	4.2
122°	5.0	16.0	9.0	16.8	5.0
123°	5.5	15.4	9.4	16.4	5.5
124°	6.4	15.4	10.6	16.2	6.4
125°	7.0	15.0	11.8	16.1	7.0
126°	7.6	14.8	12.8	15.6	7.6
127°	8.5	14.4	13.4	15.7	8.5
128°	9.1	14.2	14.2	15.3	9.1
129°	10.1	14.1	14.0	15.0	10.1
130°	11.3	14.0	14.0	15.0	11.3
131°	11.8	13.6	13.6	14.6	11.8
132°	12.8	13.4	13.7	14.2	12.8
133°	13.4	13.0	13.3	14.2	13.4
134°	13.7	13.0	12.9	14.1	13.7



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
135°	13.6	12.6	12.9	13.6	13.6
136°	13.4	12.2	12.6	13.7	13.4
137°	12.9	12.2	12.2	13.4	12.9
138°	12.9	12.2	12.1	13.0	12.9
139°	12.8	11.9	12.2	12.8	12.8
140°	12.2	11.6	12.1	12.6	12.2
141°	12.1	11.4	11.6	12.2	12.1
142°	12.2	11.3	11.8	12.1	12.2
143°	11.9	11.1	11.6	11.9	11.9
144°	11.6	10.7	11.4	11.8	11.6
145°	11.4	10.6	11.3	11.8	11.4
146°	11.3	10.6	10.9	11.6	11.3
147°	11.1	10.5	10.9	11.3	11.1
148°	11.1	10.5	10.7	11.1	11.1
149°	10.9	10.2	10.6	11.1	10.9
150°	10.9	10.1	10.1	10.7	10.9
151°	10.6	9.8	10.2	10.6	10.6
152°	10.5	9.4	9.9	10.2	10.5
153°	10.5	9.7	9.8	10.5	10.5
154°	10.1	9.4	9.4	10.2	10.1
155°	10.5	9.3	9.7	10.1	10.5
156°	10.2	9.4	9.3	10.1	10.2
157°	9.9	9.3	9.4	9.8	9.9
158°	9.9	9.3	9.4	9.9	9.9
159°	10.1	9.1	9.4	9.8	10.1
160°	9.8	9.3	9.4	9.8	9.8
161°	9.9	9.1	9.1	9.8	9.9
162°	9.9	9.1	9.4	10.1	9.9
163°	10.1	9.1	9.4	10.2	10.1
164°	10.2	9.4	9.4	10.1	10.2
165°	10.1	9.4	9.8	10.1	10.1
166°	10.2	9.4	9.4	9.9	10.2
167°	10.1	9.3	9.1	9.8	10.1
168°	9.9	9.0	9.0	9.4	9.9
169°	9.7	8.7	9.0	9.4	9.7
170°	9.8	8.7	8.6	9.3	9.8
171°	9.7	8.6	9.0	9.0	9.7
172°	9.7	8.6	8.7	9.0	9.7
173°	9.3	8.5	8.3	8.7	9.3
174°	9.0	8.3	8.3	8.6	9.0
175°	9.1	8.2	8.2	8.3	9.1
176°	9.0	8.6	9.1	8.3	9.0
177°	9.1	9.8	9.8	9.3	9.1
178°	9.8	9.9	9.8	9.9	9.8
179°	9.9	9.8	9.8	10.1	9.9



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
180°	9.9	9.9	9.9	9.9	9.9

(END OF REPORT)