

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: P588650

Luminaire Tested: **FM19WSCCR-3000K**

Issue Date: 12/1/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P588650  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( MXL1052-19A)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 12/1/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: FM19WSCCR-3000K  
Description: FM WS CCT SELECT  
Light Source: (1) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

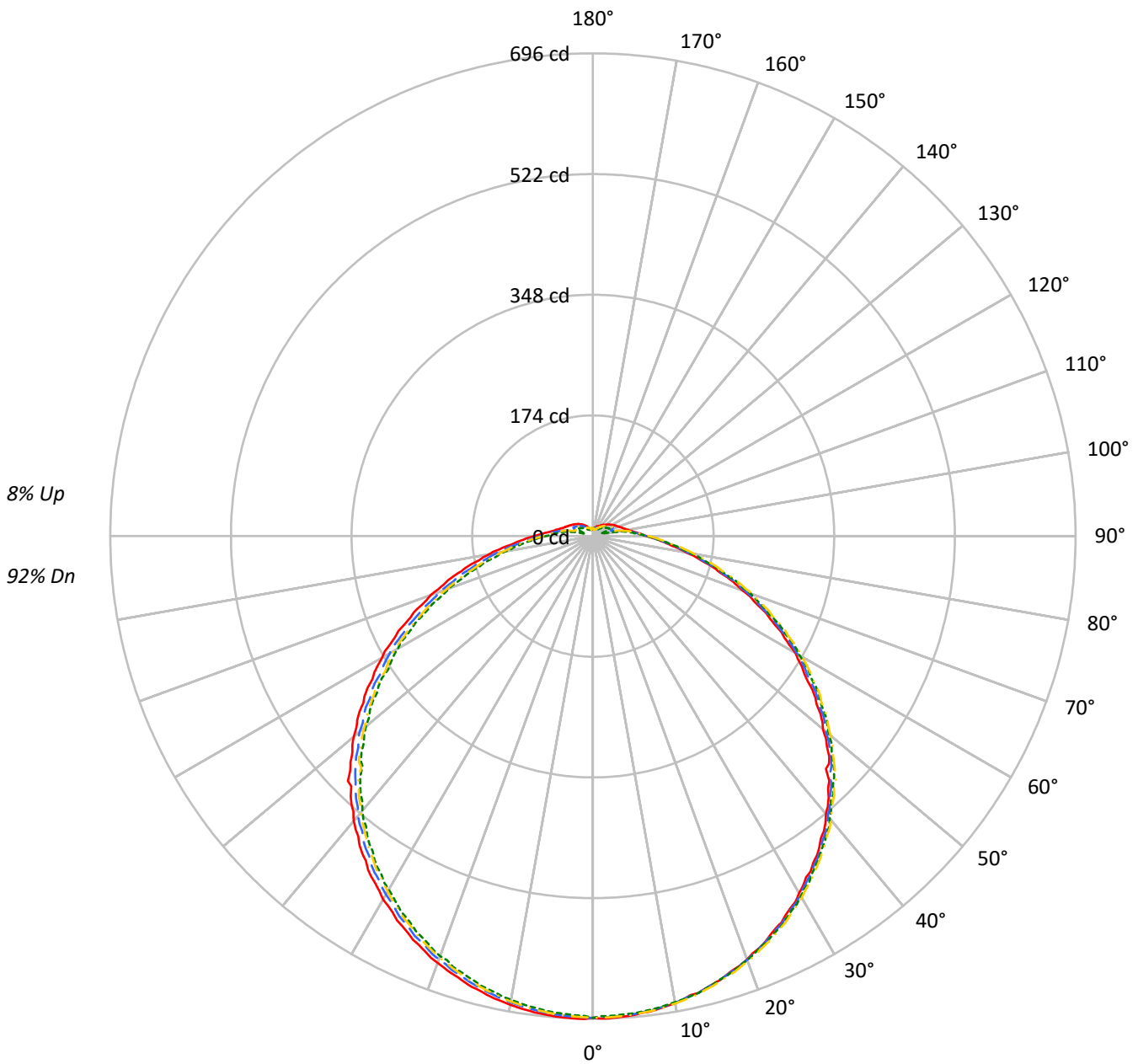
Lumens per Lamp: N/A  
Luminaire Lumens: 2400.0 lumens  
Efficiency: N/A  
Efficacy: 75.0 lumens/watt  
Spacing Criteria (0/90/45): 1.28 / 1.27 / 1.4  
Luminous Opening: Rectangular w/ Sides (W: 1.58m x L: 1.58m x H: 0.38m)  
CIE Type: Direct

Input Watts (W): 32  
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



TEST NUMBER: P588650  
CATALOG NUMBER: FM19WSCCR-3000K

### Luminous Intensity Polar Plot



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



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CATALOG NUMBER: FM19WSCCR-3000K

**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	114	114	114	114	107	107	107	101	101	101	95	95	95	95	95	95	92
1	105	100	95	91	102	97	93	89	91	88	84	86	83	80	81	79	77	77	77	77	74
2	95	86	79	73	92	84	77	71	79	73	68	74	70	66	70	67	63	63	63	63	60
3	87	75	67	60	83	73	65	59	69	62	57	65	60	55	62	57	53	53	53	53	50
4	79	67	57	50	76	65	56	50	61	54	48	58	52	47	55	49	45	45	45	45	43
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	39	39	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	39	34	34	34	34	32
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	30	30	30	28
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	37	31	27	27	27	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	29	24	24	24	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	22	32	26	22	22	22	22	20

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

	0°	90°	180°	270°
0°	278	278	278	278
5°	273	272	273	271
10°	267	266	268	265
15°	260	261	262	258
20°	255	255	256	252
25°	248	249	251	246
30°	241	243	245	239
35°	235	238	239	232
40°	227	231	233	225
45°	217	224	228	214
50°	209	215	218	207
55°	201	206	209	196
60°	190	194	198	183
65°	176	183	186	169
70°	162	170	175	155
75°	149	153	160	138
80°	133	139	148	125
85°	126	131	138	116



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	65.7	2.7
10°-20°	188.8	7.9
20°-30°	288.5	12.0
30°-40°	353.1	14.7
40°-50°	374.2	15.6
50°-60°	348.5	14.5
60°-70°	283.9	11.8
70°-80°	196.5	8.2
80°-90°	115.6	4.8
90°-100°	64.7	2.7
100°-110°	33.8	1.4
110°-120°	29.5	1.2
120°-130°	22.5	0.9
130°-140°	15.4	0.6
140°-150°	9.6	0.4
150°-160°	5.7	0.2
160°-170°	2.9	0.1
170°-180°	1.0	0.0
0°-30°	543.0	22.6
0°-40°	896.1	37.3
0°-60°	1618.8	67.5
0°-90°	2214.8	92.3
90°-120°	128.0	5.3
90°-150°	175.5	7.3
90°-180°	185.0	7.7
0°-180°	2400.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	695	695	695	695	695	
5°	693	690	694	689	693	66
15°	669	669	673	664	669	189
25°	624	628	631	618	624	288
35°	563	569	571	554	563	351
45°	475	492	500	470	475	371
55°	386	398	402	378	386	345
65°	282	293	298	271	282	280
75°	183	189	196	169	183	193
85°	104	108	113	96	104	92
90°	77	76	84	68	77	43
95°	62	57	65	51	62	48
105°	44	14	45	14	44	48
115°	36	26	37	25	36	36
125°	29	21	30	20	29	26
135°	23	16	24	16	23	18
145°	18	12	18	12	18	12
155°	15	11	13	10	15	7
165°	12	10	10	10	12	3
175°	12	12	10	12	12	1
180°	11	11	11	11	11	



TEST NUMBER: P588650

CATALOG NUMBER: FM19WSCCR-3000K

**CANDELA DISTRIBUTION (FULL):**

	0°	90°	180°	270°	360°
0°	694.7	694.7	694.7	694.7	694.7
1°	696.0	692.5	696.4	691.8	696.0
2°	695.6	692.4	696.2	691.5	695.6
3°	694.7	691.8	695.7	690.5	694.7
4°	694.0	690.9	695.2	689.8	694.0
5°	692.8	690.5	694.0	688.7	692.8
6°	691.1	689.1	693.0	687.2	691.1
7°	690.2	687.9	691.8	685.4	690.2
8°	687.9	686.4	689.9	683.9	687.9
9°	685.8	684.2	688.4	681.3	685.8
10°	684.1	682.2	686.5	678.7	684.1
11°	680.9	680.6	683.7	677.0	680.9
12°	676.7	678.3	681.8	673.3	676.7
13°	676.0	676.1	679.0	670.6	676.0
14°	672.0	672.5	675.2	668.0	672.0
15°	668.7	669.3	673.1	663.5	668.7
16°	665.9	665.2	669.7	660.0	665.9
17°	661.1	662.5	665.4	656.2	661.1
18°	657.2	658.8	662.6	653.0	657.2
19°	654.3	654.1	658.7	646.6	654.3
20°	649.8	650.7	654.6	644.4	649.8
21°	644.2	646.3	651.5	639.9	644.2
22°	640.7	640.8	645.9	634.0	640.7
23°	635.8	637.4	641.1	629.0	635.8
24°	629.3	632.4	637.4	625.0	629.3
25°	624.0	627.6	631.2	618.3	624.0
26°	620.0	623.5	626.1	612.8	620.0
27°	612.9	616.8	622.1	608.4	612.9
28°	607.1	611.1	615.1	601.1	607.1
29°	602.6	606.8	609.4	594.7	602.6
30°	594.7	599.5	604.9	588.5	594.7
31°	588.3	593.3	597.5	583.7	588.3
32°	580.2	588.5	591.2	575.4	580.2
33°	576.7	580.3	586.4	570.2	576.7
34°	568.1	573.7	579.8	563.1	568.1
35°	562.7	568.9	571.2	554.0	562.7
36°	555.5	559.9	566.0	548.5	555.5
37°	546.1	554.3	559.0	540.8	546.1
38°	540.7	546.8	549.5	531.1	540.7
39°	532.6	541.1	543.9	525.6	532.6
40°	522.7	531.5	536.4	517.3	522.7
41°	516.4	523.5	526.5	507.1	516.4
42°	508.0	512.9	520.4	500.6	508.0
43°	497.4	508.9	512.0	492.0	497.4
44°	490.7	498.4	501.6	483.3	490.7



TEST NUMBER: P588650

CATALOG NUMBER: FM19WSCCR-3000K

**CANDELA DISTRIBUTION (continued):**

	0°	90°	180°	270°	360°
45°	475.1	492.0	499.7	469.8	475.1
46°	473.0	483.4	486.6	465.3	473.0
47°	466.0	472.3	477.8	456.0	466.0
48°	454.5	463.2	466.6	444.2	454.5
49°	445.1	456.3	459.8	437.2	445.1
50°	433.2	444.5	450.4	427.4	433.2
51°	426.0	434.9	438.7	415.3	426.0
52°	416.4	427.6	431.3	408.0	416.4
53°	404.1	415.3	421.7	398.1	404.1
54°	396.6	405.4	409.3	385.2	396.6
55°	386.5	397.8	402.1	377.6	386.5
56°	373.6	387.7	392.0	367.2	373.6
57°	363.0	374.9	379.2	351.5	363.0
58°	355.4	367.0	371.8	343.5	355.4
59°	345.1	356.6	361.4	335.5	345.1
60°	337.4	343.8	351.2	324.9	337.4
61°	324.0	335.8	343.3	316.9	324.0
62°	313.5	325.0	330.3	303.6	313.5
63°	305.3	311.7	319.8	292.6	305.3
64°	292.2	303.6	311.8	284.5	292.2
65°	281.6	292.8	298.5	271.0	281.6
66°	273.8	279.1	288.0	260.4	273.8
67°	260.7	271.3	280.1	252.2	260.7
68°	250.6	260.4	266.9	239.0	250.6
69°	242.7	249.9	256.8	228.6	242.7
70°	230.1	241.9	248.9	220.7	230.1
71°	220.0	228.9	236.1	210.7	220.0
72°	212.4	221.3	226.2	197.8	212.4
73°	202.6	211.0	218.3	190.6	202.6
74°	190.2	198.5	208.5	181.0	190.2
75°	183.2	188.9	196.5	169.3	183.2
76°	173.8	181.7	189.3	162.3	173.8
77°	162.6	170.0	179.6	153.5	162.6
78°	155.8	161.1	168.0	143.0	155.8
79°	147.2	154.2	161.3	136.9	147.2
80°	136.7	143.6	152.3	128.7	136.7
81°	130.9	135.4	146.0	118.9	130.9
82°	123.7	129.5	135.6	115.4	123.7
83°	114.7	121.8	127.9	106.7	114.7
84°	109.8	112.8	118.6	100.1	109.8
85°	103.5	107.5	113.2	95.5	103.5
86°	97.8	100.9	106.5	87.9	97.8
87°	93.4	93.1	100.4	82.3	93.4
88°	87.0	88.8	96.2	78.5	87.0
89°	82.3	83.1	89.1	72.2	82.3



TEST NUMBER: P588650  
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**CANDELA DISTRIBUTION (continued):**

	0°	90°	180°	270°	360°
90°	77.0	76.4	84.2	67.8	77.0
91°	74.1	72.9	80.4	62.8	74.1
92°	70.6	68.4	75.1	59.9	70.6
93°	68.2	63.3	71.6	56.5	68.2
94°	64.7	59.7	68.9	54.2	64.7
95°	61.9	57.1	65.0	51.3	61.9
96°	58.8	53.6	61.9	47.8	58.8
97°	57.2	49.5	59.7	45.6	57.2
98°	55.2	46.5	56.8	43.4	55.2
99°	52.9	41.6	54.8	39.7	52.9
100°	51.6	34.6	53.3	35.5	51.6
101°	49.7	30.8	51.4	31.8	49.7
102°	48.1	25.3	49.2	26.0	48.1
103°	47.2	19.3	48.0	21.5	47.2
104°	45.7	16.6	46.6	18.2	45.7
105°	44.5	14.1	45.2	13.7	44.5
106°	43.8	12.2	44.0	11.4	43.8
107°	42.4	12.1	43.1	10.7	42.4
108°	41.4	13.4	41.9	10.6	41.4
109°	40.8	16.1	41.5	12.2	40.8
110°	39.5	18.6	40.4	14.4	39.5
111°	38.6	21.9	39.5	17.2	38.6
112°	38.1	23.7	38.9	20.6	38.1
113°	37.5	25.7	37.8	22.8	37.5
114°	36.3	26.4	37.3	24.0	36.3
115°	35.8	25.9	36.6	24.7	35.8
116°	35.4	25.6	35.6	24.1	35.4
117°	34.3	25.0	35.1	23.6	34.3
118°	33.9	24.4	34.4	23.1	33.9
119°	33.1	24.0	33.6	22.8	33.1
120°	32.1	23.4	33.0	22.1	32.1
121°	31.6	22.9	32.5	21.9	31.6
122°	31.2	22.8	31.8	21.5	31.2
123°	30.4	21.9	31.2	21.1	30.4
124°	29.7	21.4	30.9	20.5	29.7
125°	29.2	21.2	30.1	19.8	29.2
126°	28.3	20.6	29.5	19.6	28.3
127°	27.6	19.9	28.8	19.2	27.6
128°	27.2	19.6	28.3	18.9	27.2
129°	26.2	19.2	27.5	18.2	26.2
130°	25.7	18.6	27.4	17.7	25.7
131°	25.0	18.3	26.7	17.3	25.0
132°	24.8	17.9	25.7	16.7	24.8
133°	24.3	17.2	25.3	16.3	24.3
134°	23.7	16.7	24.7	16.0	23.7





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**CANDELA DISTRIBUTION (continued):**

	0°	90°	180°	270°	360°
135°	23.3	16.3	24.0	15.6	23.3
136°	22.8	15.8	23.2	15.1	22.8
137°	22.2	15.6	22.9	14.8	22.2
138°	21.7	14.9	22.2	14.4	21.7
139°	21.3	14.7	21.5	13.8	21.3
140°	20.8	14.1	21.1	13.5	20.8
141°	20.1	13.4	20.5	13.2	20.1
142°	19.6	13.2	19.9	12.6	19.6
143°	19.0	12.9	19.5	12.3	19.0
144°	18.3	12.3	19.0	11.9	18.3
145°	18.2	11.9	18.0	11.6	18.2
146°	17.7	11.8	17.6	11.2	17.7
147°	17.2	11.6	17.1	11.2	17.2
148°	17.1	11.4	16.6	11.2	17.1
149°	16.7	11.4	15.7	11.0	16.7
150°	16.6	11.2	15.1	10.5	16.6
151°	16.1	11.0	14.8	10.3	16.1
152°	15.8	11.2	14.0	10.5	15.8
153°	15.8	10.9	13.4	10.2	15.8
154°	15.7	10.7	13.1	10.3	15.7
155°	15.4	10.6	12.8	10.2	15.4
156°	15.4	10.9	12.1	10.0	15.4
157°	15.4	10.7	11.9	10.2	15.4
158°	15.2	10.6	11.5	10.2	15.2
159°	15.1	10.7	11.2	10.3	15.1
160°	14.4	10.7	11.2	10.2	14.4
161°	13.4	10.6	10.9	9.7	13.4
162°	12.6	10.3	10.5	9.5	12.6
163°	12.3	9.7	10.0	9.3	12.3
164°	11.8	9.6	9.9	9.5	11.8
165°	11.5	9.6	9.5	9.5	11.5
166°	11.2	9.6	9.3	9.3	11.2
167°	11.2	9.7	9.5	9.6	11.2
168°	10.9	9.7	9.3	9.5	10.9
169°	10.7	9.6	9.5	9.7	10.7
170°	10.6	9.9	9.5	9.7	10.6
171°	10.9	9.7	9.5	9.9	10.9
172°	11.2	11.0	9.7	11.2	11.2
173°	11.6	11.5	9.9	11.8	11.6
174°	11.5	11.8	10.0	11.8	11.5
175°	11.6	11.8	10.2	11.8	11.6
176°	11.4	12.1	10.2	11.9	11.4
177°	11.2	11.9	10.5	11.8	11.2
178°	11.2	11.9	10.9	12.1	11.2
179°	11.2	11.9	10.7	12.2	11.2



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**CANDELA DISTRIBUTION (continued):**

	0°	90°	180°	270°	360°
180°	11.3	11.3	11.3	11.3	11.3

(END OF REPORT)