

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: P588651

Luminaire Tested: **FM19WSCCR-4000K**

Issue Date: 12/1/2021

Test Information

Test Method: LM-79-08
Report Number: P588651
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-4000K
Description: FM WS CCT SELECT
Light Source: (1) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

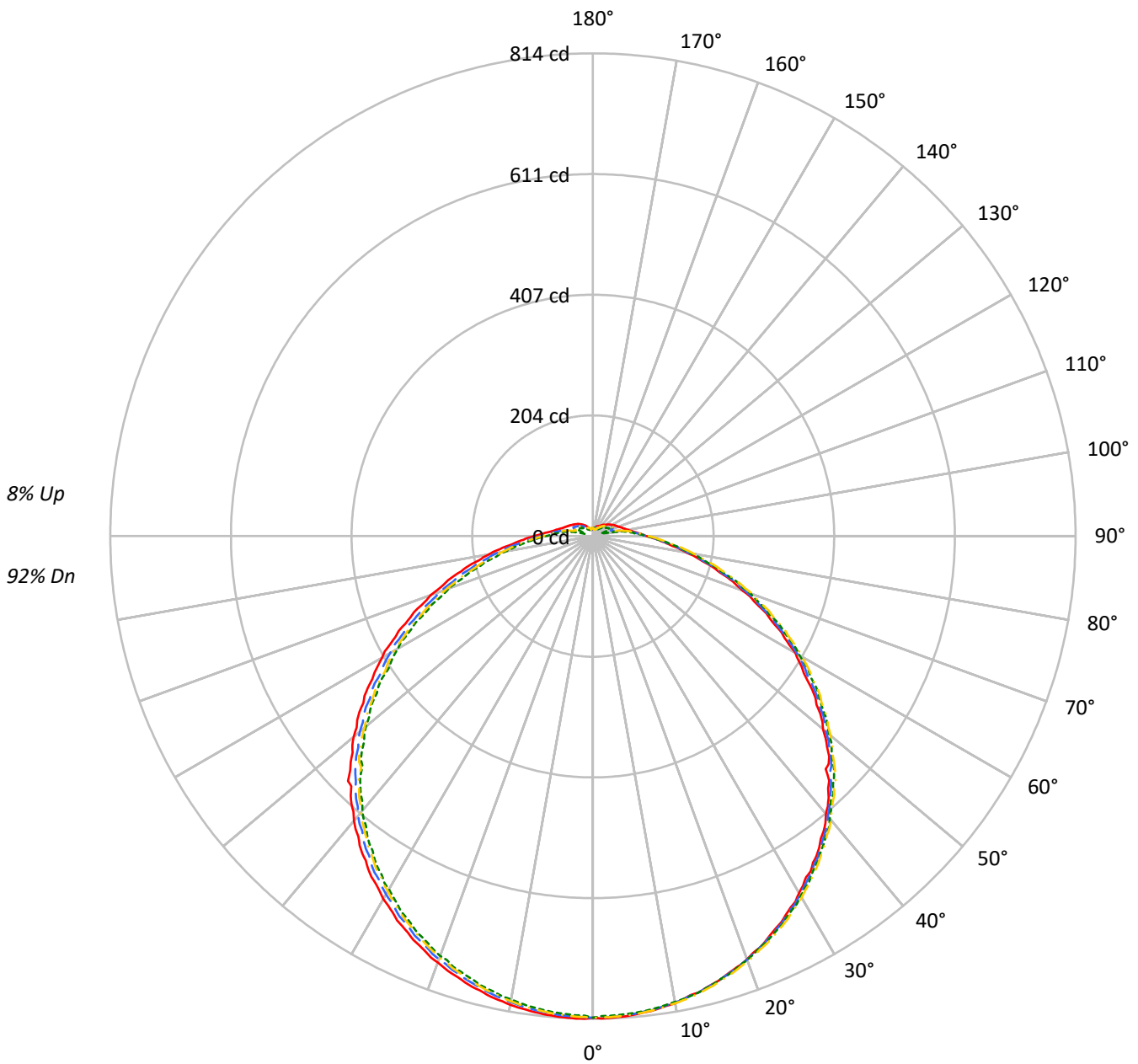
Lumens per Lamp: N/A
Luminaire Lumens: 2806.0 lumens
Efficiency: N/A
Efficacy: 94.8 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.27 / 1.4
Luminous Opening: Rectangular w/ Sides (W: 1.58m x L: 1.58m x H: 0.38m)
CIE Type: Direct

Input Watts (W): 29.6
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	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°	325	325	325	325
5°	319	318	319	317
10°	312	311	313	310
15°	304	305	306	302
20°	298	298	300	295
25°	290	291	293	287
30°	282	284	287	279
35°	275	278	279	271
40°	266	270	272	263
45°	253	262	266	250
50°	245	251	255	242
55°	234	241	244	229
60°	223	227	232	214
65°	205	213	218	198
70°	189	199	205	181
75°	174	179	187	161
80°	155	163	173	146
85°	147	153	161	136



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.8	2.7
10°-20°	220.7	7.9
20°-30°	337.3	12.0
30°-40°	412.9	14.7
40°-50°	437.5	15.6
50°-60°	407.5	14.5
60°-70°	331.9	11.8
70°-80°	229.7	8.2
80°-90°	135.1	4.8
90°-100°	75.7	2.7
100°-110°	39.5	1.4
110°-120°	34.5	1.2
120°-130°	26.3	0.9
130°-140°	18.0	0.6
140°-150°	11.2	0.4
150°-160°	6.7	0.2
160°-170°	3.4	0.1
170°-180°	1.2	0.0
0°-30°	634.9	22.6
0°-40°	1047.7	37.3
0°-60°	1892.7	67.5
0°-90°	2589.4	92.3
90°-120°	149.7	5.3
90°-150°	205.2	7.3
90°-180°	217.0	7.7
0°-180°	2806.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	812	812	812	812	812	
5°	810	807	811	805	810	77
15°	782	782	787	776	782	221
25°	730	734	738	723	730	337
35°	658	665	668	648	658	411
45°	556	575	584	549	556	434
55°	452	465	470	442	452	403
65°	329	342	349	317	329	327
75°	214	221	230	198	214	226
85°	121	126	132	112	121	107
90°	90	89	98	79	90	50
95°	72	67	76	60	72	57
105°	52	16	53	16	52	56
115°	42	30	43	29	42	42
125°	34	25	35	23	34	31
135°	27	19	28	18	27	21
145°	21	14	21	14	21	13
155°	18	12	15	12	18	8
165°	14	11	11	11	14	4
175°	14	14	12	14	14	1
180°	13	13	13	13	13	



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CANDELA DISTRIBUTION (FULL):

	0°	90°	180°	270°	360°
0°	812.2	812.2	812.2	812.2	812.2
1°	813.7	809.6	814.2	808.8	813.7
2°	813.3	809.5	814.0	808.5	813.3
3°	812.2	808.8	813.4	807.3	812.2
4°	811.4	807.8	812.8	806.5	811.4
5°	809.9	807.3	811.4	805.2	809.9
6°	808.1	805.7	810.3	803.5	808.1
7°	806.9	804.3	808.8	801.4	806.9
8°	804.3	802.5	806.6	799.6	804.3
9°	801.8	799.9	804.8	796.6	801.8
10°	799.8	797.6	802.6	793.6	799.8
11°	796.1	795.7	799.4	791.6	796.1
12°	791.2	793.0	797.1	787.2	791.2
13°	790.3	790.4	793.9	784.0	790.3
14°	785.7	786.2	789.4	781.0	785.7
15°	781.9	782.5	787.0	775.7	781.9
16°	778.5	777.7	783.0	771.6	778.5
17°	773.0	774.6	778.0	767.2	773.0
18°	768.4	770.3	774.7	763.5	768.4
19°	764.9	764.7	770.2	756.0	764.9
20°	759.7	760.8	765.4	753.5	759.7
21°	753.2	755.7	761.7	748.1	753.2
22°	749.1	749.2	755.1	741.3	749.1
23°	743.3	745.2	749.6	735.4	743.3
24°	735.7	739.4	745.2	730.7	735.7
25°	729.6	733.7	738.0	722.9	729.6
26°	724.9	728.9	732.1	716.5	724.9
27°	716.6	721.1	727.4	711.3	716.6
28°	709.8	714.5	719.1	702.8	709.8
29°	704.5	709.4	712.5	695.3	704.5
30°	695.3	700.9	707.2	688.0	695.3
31°	687.8	693.6	698.6	682.5	687.8
32°	678.4	688.0	691.2	672.8	678.4
33°	674.2	678.5	685.6	666.7	674.2
34°	664.2	670.8	677.9	658.4	664.2
35°	657.9	665.1	667.9	647.7	657.9
36°	649.5	654.6	661.8	641.2	649.5
37°	638.5	648.0	653.5	632.3	638.5
38°	632.1	639.2	642.5	621.0	632.1
39°	622.8	632.7	635.9	614.5	622.8
40°	611.2	621.4	627.1	604.8	611.2
41°	603.8	612.1	615.6	592.9	603.8
42°	593.9	599.7	608.5	585.3	593.9
43°	581.5	595.0	598.6	575.2	581.5
44°	573.7	582.8	586.4	565.0	573.7



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
45°	555.5	575.2	584.2	549.3	555.5
46°	553.0	565.1	568.9	544.0	553.0
47°	544.9	552.2	558.7	533.2	544.9
48°	531.4	541.5	545.5	519.4	531.4
49°	520.4	533.5	537.6	511.1	520.4
50°	506.5	519.7	526.6	499.7	506.5
51°	498.1	508.4	512.9	485.6	498.1
52°	486.8	500.0	504.3	477.0	486.8
53°	472.4	485.6	493.1	465.4	472.4
54°	463.7	474.0	478.6	450.4	463.7
55°	451.8	465.1	470.1	441.5	451.8
56°	436.8	453.3	458.3	429.3	436.8
57°	424.4	438.3	443.4	410.9	424.4
58°	415.5	429.1	434.7	401.6	415.5
59°	403.5	417.0	422.5	392.2	403.5
60°	394.4	401.9	410.6	379.8	394.4
61°	378.8	392.5	401.4	370.5	378.8
62°	366.5	380.0	386.2	355.0	366.5
63°	357.0	364.5	373.9	342.1	357.0
64°	341.6	355.0	364.6	332.6	341.6
65°	329.3	342.3	349.0	316.9	329.3
66°	320.1	326.4	336.7	304.4	320.1
67°	304.9	317.2	327.5	294.8	304.9
68°	292.9	304.4	312.1	279.5	292.9
69°	283.8	292.2	300.3	267.3	283.8
70°	269.0	282.8	291.0	258.1	269.0
71°	257.2	267.6	276.0	246.4	257.2
72°	248.4	258.7	264.4	231.3	248.4
73°	236.9	246.7	255.3	222.8	236.9
74°	222.4	232.1	243.8	211.6	222.4
75°	214.2	220.8	229.8	197.9	214.2
76°	203.2	212.5	221.3	189.8	203.2
77°	190.1	198.8	210.0	179.5	190.1
78°	182.2	188.3	196.4	167.1	182.2
79°	172.2	180.3	188.5	160.0	172.2
80°	159.8	167.9	178.1	150.4	159.8
81°	153.1	158.3	170.7	139.1	153.1
82°	144.6	151.4	158.6	134.9	144.6
83°	134.2	142.4	149.5	124.8	134.2
84°	128.4	131.9	138.6	117.0	128.4
85°	121.0	125.7	132.4	111.6	121.0
86°	114.3	118.0	124.6	102.7	114.3
87°	109.2	108.9	117.4	96.3	109.2
88°	101.7	103.8	112.4	91.8	101.7
89°	96.3	97.2	104.2	84.5	96.3



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
90°	90.0	89.4	98.5	79.2	90.0
91°	86.7	85.2	94.0	73.4	86.7
92°	82.6	80.0	87.8	70.1	82.6
93°	79.8	74.0	83.7	66.1	79.8
94°	75.7	69.8	80.6	63.4	75.7
95°	72.4	66.7	76.0	59.9	72.4
96°	68.7	62.6	72.3	55.9	68.7
97°	66.9	57.8	69.8	53.3	66.9
98°	64.5	54.4	66.4	50.7	64.5
99°	61.8	48.7	64.1	46.5	61.8
100°	60.3	40.4	62.3	41.6	60.3
101°	58.2	36.0	60.1	37.2	58.2
102°	56.3	29.5	57.5	30.4	56.3
103°	55.2	22.6	56.2	25.2	55.2
104°	53.4	19.4	54.5	21.3	53.4
105°	52.0	16.5	52.8	16.0	52.0
106°	51.3	14.3	51.5	13.4	51.3
107°	49.6	14.2	50.4	12.5	49.6
108°	48.4	15.7	49.0	12.4	48.4
109°	47.7	18.8	48.5	14.3	47.7
110°	46.1	21.7	47.2	16.8	46.1
111°	45.1	25.6	46.1	20.2	45.1
112°	44.6	27.7	45.5	24.1	44.6
113°	43.8	30.1	44.2	26.6	43.8
114°	42.5	30.9	43.6	28.1	42.5
115°	41.9	30.3	42.8	28.9	41.9
116°	41.3	30.0	41.7	28.2	41.3
117°	40.1	29.2	41.0	27.6	40.1
118°	39.7	28.5	40.2	27.0	39.7
119°	38.7	28.1	39.3	26.6	38.7
120°	37.6	27.4	38.6	25.9	37.6
121°	37.0	26.7	38.0	25.6	37.0
122°	36.4	26.6	37.2	25.2	36.4
123°	35.5	25.6	36.4	24.6	35.5
124°	34.8	25.1	36.1	24.0	34.8
125°	34.1	24.7	35.2	23.2	34.1
126°	33.1	24.1	34.5	23.0	33.1
127°	32.3	23.3	33.7	22.4	32.3
128°	31.8	23.0	33.1	22.1	31.8
129°	30.6	22.4	32.2	21.3	30.6
130°	30.1	21.7	32.0	20.7	30.1
131°	29.2	21.4	31.2	20.3	29.2
132°	29.0	20.9	30.1	19.5	29.0
133°	28.4	20.2	29.5	19.1	28.4
134°	27.7	19.5	28.9	18.7	27.7



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
135°	27.3	19.1	28.1	18.3	27.3
136°	26.6	18.5	27.1	17.6	26.6
137°	26.0	18.3	26.7	17.3	26.0
138°	25.4	17.4	26.0	16.8	25.4
139°	24.8	17.2	25.2	16.2	24.8
140°	24.3	16.5	24.6	15.8	24.3
141°	23.5	15.7	24.0	15.4	23.5
142°	23.0	15.4	23.3	14.7	23.0
143°	22.2	15.0	22.8	14.4	22.2
144°	21.4	14.4	22.2	13.9	21.4
145°	21.3	13.9	21.1	13.6	21.3
146°	20.7	13.8	20.6	13.1	20.7
147°	20.2	13.6	19.9	13.0	20.2
148°	19.9	13.4	19.4	13.1	19.9
149°	19.5	13.4	18.4	12.8	19.5
150°	19.4	13.1	17.6	12.3	19.4
151°	18.8	12.8	17.3	12.0	18.8
152°	18.5	13.0	16.4	12.3	18.5
153°	18.5	12.7	15.7	11.9	18.5
154°	18.4	12.5	15.3	12.0	18.4
155°	18.1	12.4	14.9	11.9	18.1
156°	18.1	12.7	14.2	11.7	18.1
157°	18.1	12.5	13.9	11.9	18.1
158°	17.7	12.4	13.5	11.9	17.7
159°	17.6	12.5	13.0	12.0	17.6
160°	16.8	12.5	13.0	11.9	16.8
161°	15.7	12.4	12.7	11.4	15.7
162°	14.7	12.0	12.3	11.1	14.7
163°	14.4	11.4	11.7	10.9	14.4
164°	13.8	11.3	11.6	11.1	13.8
165°	13.5	11.3	11.1	11.1	13.5
166°	13.1	11.3	10.9	10.9	13.1
167°	13.0	11.4	11.1	11.3	13.0
168°	12.7	11.4	10.9	11.1	12.7
169°	12.5	11.3	11.1	11.4	12.5
170°	12.4	11.6	11.1	11.4	12.4
171°	12.7	11.4	11.1	11.6	12.7
172°	13.1	12.8	11.4	13.0	13.1
173°	13.6	13.5	11.6	13.8	13.6
174°	13.5	13.8	11.7	13.8	13.5
175°	13.6	13.8	11.9	13.8	13.6
176°	13.4	14.2	11.9	13.9	13.4
177°	13.0	13.9	12.3	13.8	13.0
178°	13.1	13.9	12.7	14.2	13.1
179°	13.1	13.9	12.5	14.3	13.1



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
180°	13.3	13.3	13.3	13.3	13.3

(END OF REPORT)