

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: P588657

Luminaire Tested: **FM9WSSCR-4000K**

Issue Date: 12/1/2021

Test Information

Test Method: LM-79-08
Report Number: P588657
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (MXL1052-9A)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 12/1/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: FM9WSCCR-4000K
Description: FM WS CCT SELECT
Light Source: (1) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

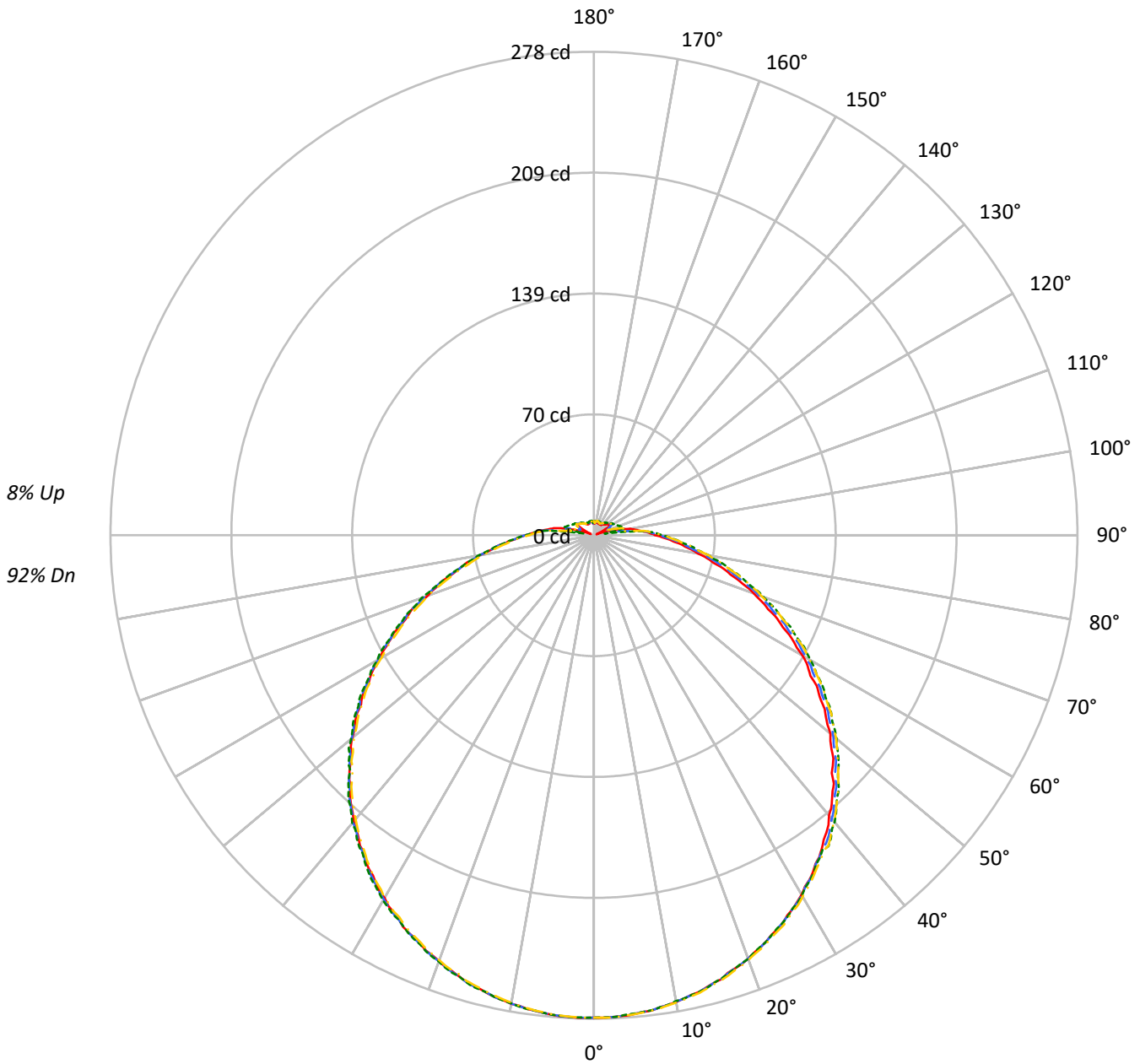
Lumens per Lamp: N/A
Luminaire Lumens: 1005.0 lumens
Efficiency: N/A
Efficacy: 89.7 lumens/watt
Spacing Criteria (0/90/45): 1.29 / 1.29 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.75m x L: 0.75m x H: 0.25m)
CIE Type: Direct

Input Watts (W): 11.2
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	94	94	94	94	94	94	92
1	105	99	94	90	101	96	92	88	90	87	83	85	82	79	80	78	75	75	75	75	73
2	95	86	78	72	91	83	76	70	78	72	67	73	69	64	69	65	62	62	62	62	59
3	86	75	66	59	83	72	64	58	68	61	56	64	58	54	60	56	52	52	52	52	49
4	78	66	56	49	75	64	55	48	60	53	47	57	50	45	54	48	44	44	44	44	41
5	72	58	49	42	69	57	48	41	54	46	40	51	44	39	48	42	38	38	38	38	35
6	66	52	43	36	64	51	42	36	48	41	35	46	39	34	43	38	33	33	33	33	31
7	61	47	38	32	59	46	38	32	44	36	31	42	35	30	40	34	29	29	29	29	27
8	57	43	34	28	55	42	34	28	40	33	27	38	32	27	36	30	26	26	26	26	24
9	53	39	31	25	51	39	31	25	37	30	25	35	29	24	34	28	23	23	23	23	21
10	50	36	28	23	48	36	28	23	34	27	22	32	26	22	31	25	21	21	21	21	19

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	493	493	493	493
5°	479	479	480	480
10°	465	464	466	466
15°	450	450	453	454
20°	437	437	440	440
25°	424	423	428	428
30°	411	412	414	418
35°	397	399	403	404
40°	381	390	390	392
45°	364	374	375	377
50°	351	360	359	361
55°	331	341	342	346
60°	312	324	321	324
65°	289	306	301	306
70°	265	281	276	286
75°	241	260	254	260
80°	215	238	237	240
85°	201	217	216	218



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	26.3	2.6
10°-20°	75.5	7.5
20°-30°	115.7	11.5
30°-40°	142.6	14.2
40°-50°	152.7	15.2
50°-60°	144.8	14.4
60°-70°	121.1	12.1
70°-80°	87.8	8.7
80°-90°	55.6	5.5
90°-100°	29.3	2.9
100°-110°	14.6	1.5
110°-120°	9.4	0.9
120°-130°	10.2	1.0
130°-140°	7.5	0.7
140°-150°	5.2	0.5
150°-160°	3.5	0.4
160°-170°	2.3	0.2
170°-180°	0.7	0.1
0°-30°	217.5	21.6
0°-40°	360.1	35.8
0°-60°	657.6	65.4
0°-90°	922.2	91.8
90°-120°	53.3	5.3
90°-150°	76.2	7.6
90°-180°	83.0	8.3
0°-180°	1005.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	277	277	277	277	277	
5°	276	276	277	277	276	26
15°	266	266	268	269	266	75
25°	250	249	252	252	250	115
35°	226	226	229	230	226	141
45°	193	198	199	200	193	150
55°	158	162	163	165	158	141
65°	118	125	123	125	118	116
75°	79	85	83	85	79	83
85°	47	51	51	52	47	42
90°	35	40	39	39	35	20
95°	28	27	30	30	28	21
105°	12	18	13	18	12	12
115°	5	14	4	14	5	5
125°	11	12	11	12	11	9
135°	9	10	10	10	9	7
145°	7	9	8	8	7	5
155°	7	8	7	8	7	3
165°	8	9	8	9	8	2
175°	7	8	7	7	7	1
180°	8	8	8	8	8	



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CANDELA DISTRIBUTION (FULL):

	0°	90°	180°	270°	360°
0°	277.4	277.4	277.4	277.4	277.4
1°	277.4	277.3	277.6	277.4	277.4
2°	277.3	277.3	277.6	277.4	277.3
3°	277.0	277.0	277.3	277.4	277.0
4°	276.8	276.2	277.3	277.0	276.8
5°	276.2	276.0	276.7	276.7	276.2
6°	275.5	275.5	276.2	276.2	275.5
7°	275.3	275.1	275.6	275.5	275.3
8°	274.1	274.1	275.1	275.2	274.1
9°	273.4	273.3	273.9	274.5	273.4
10°	272.5	272.0	273.6	273.3	272.5
11°	271.4	271.4	272.5	272.6	271.4
12°	270.2	270.3	271.7	271.8	270.2
13°	269.5	269.4	270.6	270.3	269.5
14°	267.9	268.3	269.1	269.4	267.9
15°	266.5	266.5	268.0	268.8	266.5
16°	265.6	265.3	267.0	267.2	265.6
17°	263.1	263.9	265.3	265.3	263.1
18°	262.0	262.0	263.7	264.5	262.0
19°	260.9	260.4	262.6	262.8	260.9
20°	259.2	259.2	260.6	260.9	259.2
21°	257.0	257.0	258.9	259.6	257.0
22°	255.6	255.3	257.6	258.0	255.6
23°	253.6	253.9	255.3	255.6	253.6
24°	251.3	251.6	253.4	254.3	251.3
25°	250.0	249.4	252.1	252.4	250.0
26°	247.8	247.9	250.5	250.1	247.8
27°	245.1	245.9	247.4	247.9	245.1
28°	243.4	243.2	245.6	246.7	243.4
29°	241.0	241.7	243.7	244.4	241.0
30°	238.8	239.2	240.7	242.6	238.8
31°	235.7	236.2	239.1	239.9	235.7
32°	233.7	234.2	236.4	237.5	233.7
33°	231.2	231.9	233.3	235.4	231.2
34°	227.8	228.4	231.4	232.6	227.8
35°	225.8	226.5	228.8	229.7	225.8
36°	222.9	223.6	225.1	226.2	222.9
37°	219.4	224.0	223.6	224.3	219.4
38°	217.1	221.3	220.1	221.4	217.1
39°	214.4	217.4	217.2	217.9	214.4
40°	210.2	215.3	214.8	216.3	210.2
41°	208.0	212.1	211.4	212.5	208.0
42°	204.6	208.4	208.8	209.4	204.6
43°	201.2	205.3	205.7	207.0	201.2
44°	198.6	202.8	201.2	203.1	198.6



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
45°	193.3	198.5	198.9	199.7	193.3
46°	190.9	195.1	195.4	194.7	190.9
47°	188.3	192.4	191.3	193.1	188.3
48°	183.8	189.1	187.8	189.1	183.8
49°	180.2	185.0	185.3	186.8	180.2
50°	177.5	182.1	181.5	182.3	177.5
51°	172.8	178.4	177.0	178.6	172.8
52°	169.2	173.9	174.2	175.8	169.2
53°	166.1	171.1	170.8	172.2	166.1
54°	161.3	167.4	165.6	167.5	161.3
55°	157.6	162.5	162.9	164.8	157.6
56°	154.5	159.7	159.0	160.8	154.5
57°	148.4	155.9	154.1	155.9	148.4
58°	145.5	151.0	151.1	151.9	145.5
59°	142.7	148.0	147.2	148.9	142.7
60°	138.5	143.9	142.2	143.9	138.5
61°	133.5	140.0	139.2	141.1	133.5
62°	130.1	136.9	134.8	136.9	130.1
63°	126.1	131.7	130.9	132.0	126.1
64°	120.8	127.8	128.0	128.7	120.8
65°	117.7	124.6	122.6	124.8	117.7
66°	113.8	119.4	118.5	120.4	113.8
67°	108.8	115.5	115.5	117.4	108.8
68°	105.6	112.3	112.4	112.3	105.6
69°	101.4	107.4	106.4	108.3	101.4
70°	97.7	103.6	101.6	105.5	97.7
71°	94.6	100.5	98.6	100.3	94.6
72°	89.7	95.3	94.5	96.3	89.7
73°	86.2	91.6	92.1	91.4	86.2
74°	81.5	88.5	87.2	88.4	81.5
75°	78.8	85.0	83.1	84.9	78.8
76°	75.1	80.5	79.7	80.2	75.1
77°	70.7	77.7	77.0	77.1	70.7
78°	68.0	74.1	74.4	73.8	68.0
79°	65.0	69.6	69.4	70.1	65.0
80°	60.8	67.2	66.9	67.7	60.8
81°	58.4	63.8	62.7	63.5	58.4
82°	55.5	59.5	59.3	60.2	55.5
83°	52.7	57.6	57.3	58.0	52.7
84°	50.5	54.7	54.9	54.4	50.5
85°	47.4	51.2	50.9	51.5	47.4
86°	44.8	49.6	48.9	49.6	44.8
87°	42.9	46.7	45.7	46.4	42.9
88°	39.9	44.3	43.2	44.0	39.9
89°	37.9	42.2	41.8	41.8	37.9



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
90°	35.0	39.5	39.4	39.1	35.0
91°	34.1	37.2	36.9	37.1	34.1
92°	32.3	35.8	35.3	35.8	32.3
93°	31.0	33.5	33.5	34.1	31.0
94°	28.9	30.7	31.5	31.8	28.9
95°	27.6	27.3	30.3	29.5	27.6
96°	26.2	19.6	28.8	24.7	26.2
97°	25.0	13.0	26.8	17.0	25.0
98°	23.5	9.0	25.7	12.6	23.5
99°	22.4	6.2	24.4	7.7	22.4
100°	21.3	8.2	23.5	5.8	21.3
101°	19.1	11.1	21.3	7.6	19.1
102°	17.4	14.8	19.3	11.4	17.4
103°	15.7	17.9	17.0	16.0	15.7
104°	13.5	17.8	15.6	17.6	13.5
105°	11.8	17.5	13.0	17.8	11.8
106°	9.6	17.0	11.1	17.4	9.6
107°	7.6	16.7	9.1	16.8	7.6
108°	5.0	16.4	6.5	16.6	5.0
109°	3.8	15.7	4.8	16.2	3.8
110°	2.6	15.6	3.7	15.9	2.6
111°	1.6	15.2	1.9	15.6	1.6
112°	1.9	14.8	1.9	14.9	1.9
113°	2.9	14.8	2.3	14.9	2.9
114°	3.5	14.4	3.0	14.4	3.5
115°	4.6	14.3	4.2	14.4	4.6
116°	5.6	14.1	4.6	14.0	5.6
117°	6.5	13.6	5.6	13.6	6.5
118°	8.2	13.6	7.2	13.3	8.2
119°	9.4	13.3	8.0	13.3	9.4
120°	9.9	12.9	9.1	13.0	9.9
121°	10.9	12.6	10.6	12.9	10.9
122°	11.3	12.4	11.3	12.5	11.3
123°	11.1	12.5	11.3	12.4	11.1
124°	11.1	11.8	11.5	12.1	11.1
125°	10.6	11.7	11.3	11.7	10.6
126°	10.4	11.7	11.3	11.7	10.4
127°	10.3	11.5	11.1	11.4	10.3
128°	10.2	11.4	11.1	11.3	10.2
129°	9.9	11.1	10.6	11.1	9.9
130°	9.8	11.1	10.4	10.9	9.8
131°	9.5	10.4	10.2	10.6	9.5
132°	9.4	10.7	10.2	10.6	9.4
133°	9.1	10.6	9.9	10.4	9.1
134°	8.8	10.2	9.8	10.4	8.8



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
135°	9.0	9.9	9.6	9.8	9.0
136°	8.7	9.8	9.4	9.9	8.7
137°	8.7	9.8	9.4	9.9	8.7
138°	8.5	9.6	8.8	9.6	8.5
139°	8.3	9.4	8.8	9.5	8.3
140°	8.3	9.4	8.7	9.4	8.3
141°	8.2	9.0	8.5	9.1	8.2
142°	7.9	9.0	8.5	9.1	7.9
143°	7.6	9.0	8.3	9.0	7.6
144°	7.7	8.7	8.2	8.8	7.7
145°	7.3	8.8	8.0	8.5	7.3
146°	7.6	8.5	7.9	8.5	7.6
147°	7.3	8.5	7.7	8.5	7.3
148°	7.2	8.5	7.7	8.2	7.2
149°	7.1	8.3	7.6	8.2	7.1
150°	7.1	8.3	7.3	8.0	7.1
151°	7.1	8.2	7.3	8.2	7.1
152°	7.2	8.0	7.2	7.9	7.2
153°	7.1	8.2	7.1	8.0	7.1
154°	7.1	8.0	7.2	8.0	7.1
155°	7.1	8.0	7.1	7.7	7.1
156°	7.1	8.0	7.2	7.9	7.1
157°	7.2	8.3	7.1	7.9	7.2
158°	7.2	8.3	7.6	8.0	7.2
159°	7.2	8.5	7.3	8.2	7.2
160°	7.3	8.3	7.6	8.3	7.3
161°	7.6	8.3	7.7	8.2	7.6
162°	7.6	8.5	7.7	8.3	7.6
163°	7.6	8.3	8.0	8.7	7.6
164°	7.9	8.5	8.0	8.5	7.9
165°	7.9	8.7	8.2	8.7	7.9
166°	7.7	8.7	7.9	8.3	7.7
167°	7.9	8.7	8.2	8.7	7.9
168°	7.7	8.8	8.2	8.3	7.7
169°	7.6	8.5	7.9	8.5	7.6
170°	7.6	8.7	7.9	8.5	7.6
171°	7.6	8.3	7.9	8.2	7.6
172°	7.2	8.2	7.7	8.2	7.2
173°	7.2	7.9	7.6	8.2	7.2
174°	7.1	7.9	7.3	7.7	7.1
175°	6.9	7.7	7.1	7.3	6.9
176°	6.8	7.6	6.8	7.3	6.8
177°	6.8	7.6	6.5	7.3	6.8
178°	7.6	7.7	7.3	7.2	7.6
179°	8.2	8.2	7.9	7.6	8.2



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
180°	8.3	8.3	8.3	8.3	8.3

(END OF REPORT)