

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: P685609

Luminaire Tested: **4CZL-5-UNV-FUL-L840-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685609  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-5-UNV-FUL-L840-CD-U  
Description: METALUX CRUZE LINEAR 4FT FROSTED LENS MODEL WITH UPLIGHT @80 CRI and 4000K  
Light Source: (392) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

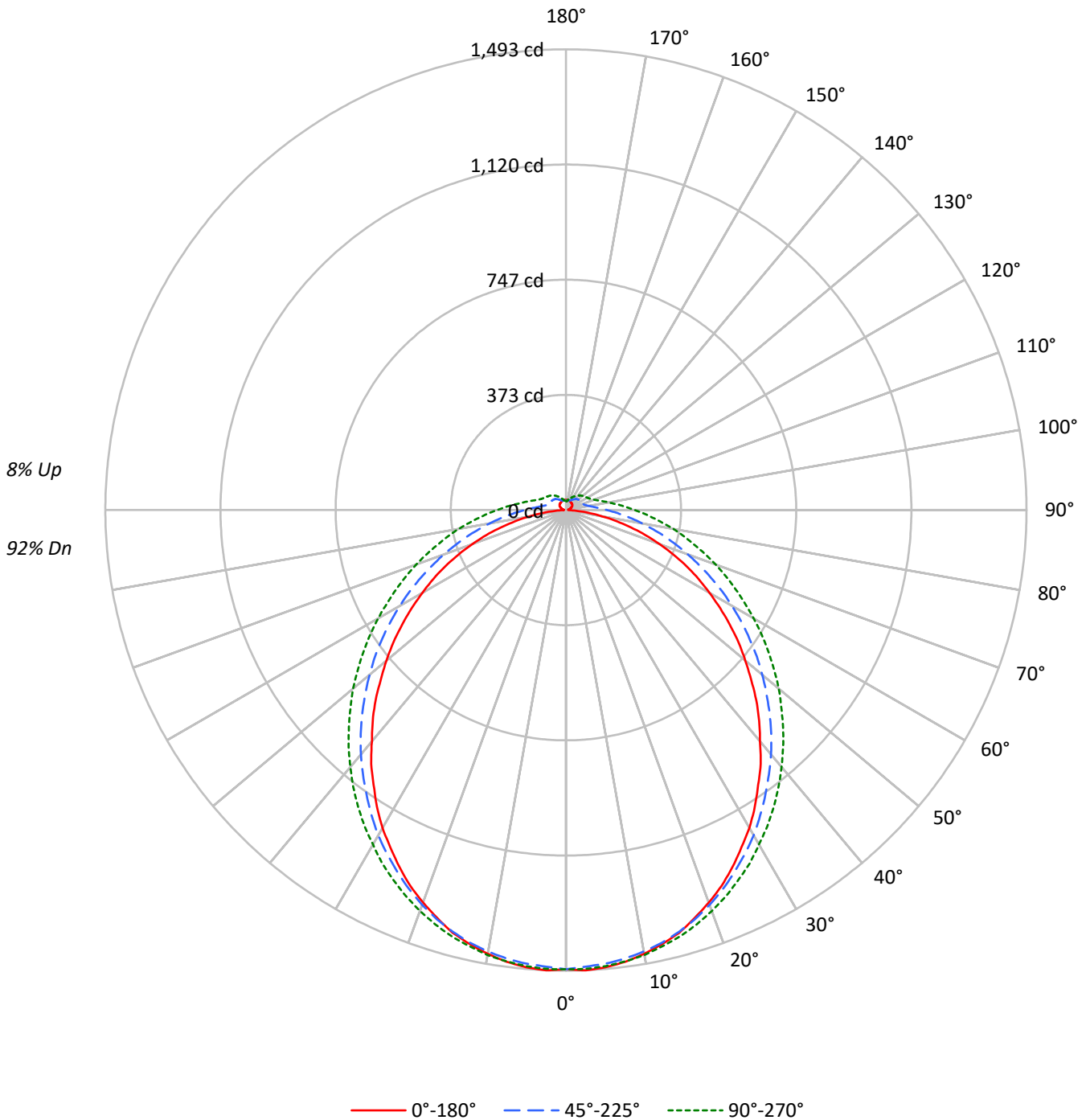
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4643.2 lumens  
Efficiency: N/A  
Efficacy: 149.8 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.25 / 1.34  
Luminous Opening: Rectangular w/ Sides (W: 0.83' x L: 4' x H: 0.17')  
CIE Type: Direct

Input Watts (W): 31  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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: 25 FT

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### Luminous Intensity Polar Plot





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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	95
1	106	101	96	92	102	98	93	90	92	88	85	87	84	81	82	79	77	77	77	77	75
2	96	87	80	74	93	85	78	73	80	74	70	75	71	67	71	68	64	64	64	64	62
3	87	77	68	61	84	74	67	60	70	64	58	66	61	56	63	58	54	54	54	54	52
4	80	68	59	52	77	66	58	51	62	55	50	59	53	48	56	51	47	47	47	47	44
5	74	61	51	45	71	59	50	44	56	49	43	53	47	42	50	45	41	41	41	41	38
6	68	54	45	39	65	53	45	38	50	43	38	48	42	37	46	40	36	36	36	36	33
7	63	49	41	34	61	48	40	34	46	39	33	44	37	32	42	36	32	32	32	32	30
8	59	45	37	31	57	44	36	30	42	35	30	40	34	29	38	33	28	28	28	28	26
9	55	41	33	28	53	40	33	27	39	32	27	37	31	26	35	30	26	26	26	26	24
10	51	38	30	25	50	37	30	25	36	29	24	34	28	24	33	27	23	23	23	23	22

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

	0°	45°	90°
0°	4806	4806	4806
5°	4804	4714	4726
10°	4754	4625	4639
15°	4690	4524	4539
20°	4583	4405	4429
25°	4464	4269	4311
30°	4331	4131	4183
35°	4162	3968	4060
40°	3986	3813	3925
45°	3826	3642	3787
50°	3634	3468	3654
55°	3446	3287	3508
60°	3236	3097	3372
65°	3027	2899	3243
70°	2728	2706	3146
75°	2359	2524	3060
80°	1837	2379	3082
85°	1072	2310	3173



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	140.8	3.0
10°-20°	400.6	8.6
20°-30°	598.1	12.9
30°-40°	707.1	15.2
40°-50°	720.6	15.5
50°-60°	649.7	14.0
60°-70°	514.1	11.1
70°-80°	347.4	7.5
80°-90°	194.3	4.2
90°-100°	105.7	2.3
100°-110°	69.3	1.5
110°-120°	55.0	1.2
120°-130°	46.8	1.0
130°-140°	37.4	0.8
140°-150°	26.8	0.6
150°-160°	17.3	0.4
160°-170°	9.3	0.2
170°-180°	2.9	0.1
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0°-30°	1139.5	24.5
0°-40°	1846.6	39.8
0°-60°	3216.9	69.3
0°-90°	4272.7	92.0
90°-120°	230.1	5.0
90°-150°	341.1	7.3
90°-180°	371.0	8.0
0°-180°	4643.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1488	1488	1488	1488	1488	
5°	1488	1485	1476	1484	1484	141
15°	1419	1417	1415	1428	1430	399
25°	1277	1283	1294	1318	1323	588
35°	1087	1102	1127	1163	1174	680
45°	873	890	934	977	995	672
55°	648	673	726	781	801	580
65°	432	453	518	582	606	426
75°	218	249	331	405	428	232
85°	43	96	184	256	281	52
90°	7	53	132	198	222	5
95°	7	35	97	156	177	6
105°	12	31	64	100	115	13
115°	19	33	57	78	86	19
125°	25	34	54	70	76	23
135°	28	34	50	62	67	22
145°	29	32	42	53	56	18
155°	31	32	35	44	45	14
165°	32	32	31	33	36	9
175°	33	32	31	27	28	3
180°	30	30	30	30	30	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1488.4	1488.4	1488.4	1488.4	1488.4
2.5°	1493.2	1490.8	1480.9	1488.7	1488.4
5°	1487.5	1485.1	1475.9	1484.2	1483.6
7.5°	1476.5	1475.0	1466.3	1475.6	1475.3
10°	1460.4	1460.4	1452.9	1463.6	1464.5
12.5°	1441.0	1440.7	1436.8	1447.8	1447.8
15°	1418.6	1416.8	1415.3	1427.5	1430.5
17.5°	1386.6	1387.8	1390.5	1405.1	1408.1
20°	1353.8	1356.5	1361.6	1378.9	1382.8
22.5°	1318.6	1321.6	1329.6	1348.4	1354.7
25°	1277.1	1283.1	1293.5	1317.7	1322.8
27.5°	1232.3	1242.8	1256.2	1281.9	1290.5
30°	1189.4	1197.7	1217.1	1244.0	1251.4
32.5°	1139.8	1150.0	1172.6	1204.9	1215.0
35°	1086.7	1101.6	1127.0	1162.8	1174.1
37.5°	1037.1	1049.1	1080.4	1118.6	1132.0
40°	978.6	998.0	1034.2	1071.8	1087.3
42.5°	927.3	944.0	984.6	1026.1	1042.2
45°	872.7	890.0	933.9	977.4	995.1
47.5°	814.2	834.8	881.6	930.3	946.7
50°	759.3	780.8	830.9	880.2	900.7
52.5°	705.3	727.6	779.6	831.5	850.6
55°	648.5	672.7	726.4	781.4	801.1
57.5°	593.0	617.2	674.5	731.2	752.4
60°	537.2	559.9	621.4	679.6	702.9
62.5°	485.0	507.1	570.4	633.0	653.3
65°	431.6	453.4	518.4	582.3	606.5
67.5°	376.4	402.6	468.0	534.8	560.5
70°	322.0	348.9	421.1	490.7	516.3
72.5°	270.7	301.1	374.0	445.0	471.3
75°	218.5	248.6	331.3	404.7	428.3
77.5°	169.2	204.4	289.5	363.5	391.3
80°	122.1	162.1	251.9	324.4	353.7
82.5°	80.3	125.9	217.0	288.9	315.2
85°	42.7	95.8	184.1	255.8	281.4
87.5°	16.7	71.0	156.7	225.6	251.3
90°	6.6	52.8	132.5	197.9	222.4
92.5°	6.6	41.2	112.8	175.5	198.5
95°	7.2	34.6	97.3	155.5	177.3
97.5°	7.8	31.3	85.1	137.9	157.3
100°	9.0	30.1	75.8	123.6	141.2
102.5°	10.4	30.1	68.3	110.4	127.1
105°	12.2	30.7	63.6	100.3	115.2
107.5°	13.7	31.3	60.3	91.9	105.4
110°	15.5	32.2	58.5	85.7	97.3

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	17.3	32.8	57.3	81.2	91.3
115°	19.1	33.1	56.7	77.6	86.3
117.5°	20.9	33.7	56.1	75.2	82.7
120°	22.7	34.0	55.5	73.4	80.0
122.5°	24.2	34.0	54.9	71.6	77.6
125°	25.4	34.3	54.0	69.8	75.5
127.5°	26.3	34.6	53.4	68.0	73.1
130°	27.2	34.3	52.5	66.3	71.0
132.5°	27.8	34.0	51.3	64.5	68.9
135°	28.1	33.7	50.1	62.4	66.6
137.5°	28.4	33.4	48.4	60.3	64.2
140°	28.4	33.1	46.3	57.9	61.5
142.5°	28.7	32.5	44.2	55.5	58.8
145°	29.2	32.2	42.1	53.1	56.1
147.5°	29.8	31.6	40.3	50.4	53.1
150°	30.4	31.6	38.5	48.1	50.4
152.5°	30.7	31.6	36.7	46.0	47.8
155°	31.3	31.6	34.9	43.9	45.1
157.5°	31.6	31.6	33.7	41.2	42.4
160°	31.9	31.9	32.5	38.2	40.0
162.5°	32.5	31.9	31.9	35.2	37.6
165°	32.5	31.9	31.3	32.8	35.5
167.5°	32.8	32.2	31.0	31.0	33.7
170°	32.8	32.2	31.0	29.5	31.0
172.5°	32.8	32.2	31.0	28.4	29.0
175°	32.8	32.2	31.0	27.2	27.5
177.5°	32.8	32.2	30.7	26.3	27.5
180°	30.4	30.4	30.4	30.4	30.4

(END OF REPORT)