

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: P685621

Luminaire Tested: **4CZL-9-UNV-FUL-L850-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685621  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-9-UNV-FUL-L850-CD-U  
Description: METALUX CRUZE LINEAR 4FT FROSTED LENS MODEL WITH UPLIGHT @80 CRI and 5000K  
Light Source: (588) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

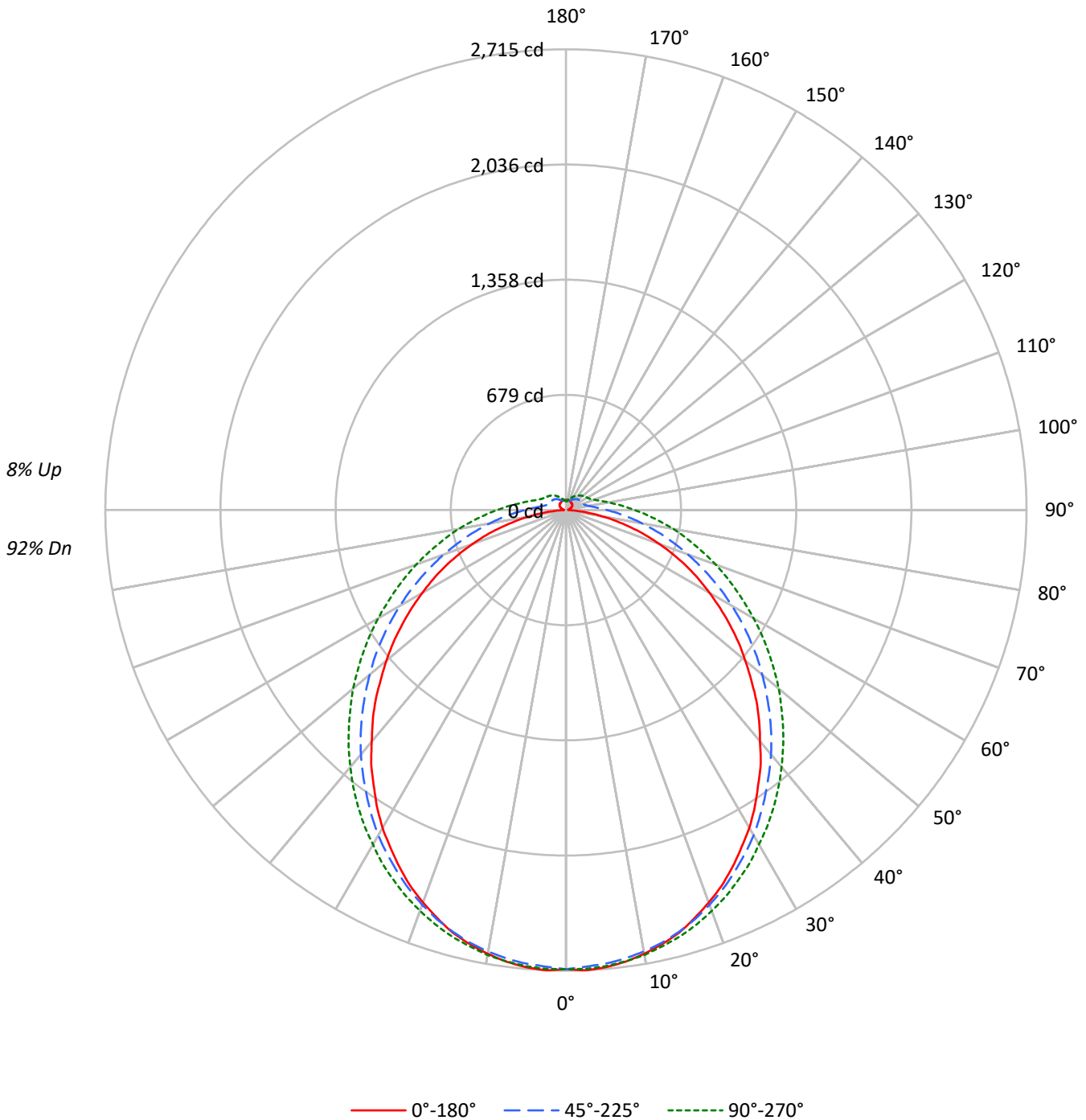
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8443.4 lumens  
Efficiency: N/A  
Efficacy: 156.4 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): 54  
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	92
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°	8740	8740	8740
5°	8736	8571	8595
10°	8644	8410	8435
15°	8529	8227	8254
20°	8333	8010	8054
25°	8117	7762	7839
30°	7875	7511	7607
35°	7569	7215	7383
40°	7248	6933	7137
45°	6957	6623	6886
50°	6608	6306	6645
55°	6266	5978	6379
60°	5885	5631	6131
65°	5505	5271	5897
70°	4961	4920	5721
75°	4290	4589	5564
80°	3339	4326	5603
85°	1948	4202	5771



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	256.0	3.0
10°-20°	728.4	8.6
20°-30°	1087.7	12.9
30°-40°	1285.8	15.2
40°-50°	1310.3	15.5
50°-60°	1181.4	14.0
60°-70°	934.8	11.1
70°-80°	631.8	7.5
80°-90°	353.3	4.2
90°-100°	192.3	2.3
100°-110°	126.1	1.5
110°-120°	100.0	1.2
120°-130°	85.1	1.0
130°-140°	68.1	0.8
140°-150°	48.7	0.6
150°-160°	31.4	0.4
160°-170°	17.0	0.2
170°-180°	5.3	0.1
0°-30°	2072.1	24.5
0°-40°	3357.9	39.8
0°-60°	5849.6	69.3
0°-90°	7769.5	92.0
90°-120°	418.4	5.0
90°-150°	620.2	7.3
90°-180°	674.0	8.0
0°-180°	8443.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2706	2706	2706	2706	2706	
5°	2705	2701	2684	2699	2698	257
15°	2580	2576	2574	2596	2601	726
25°	2322	2333	2352	2396	2405	1069
35°	1976	2003	2049	2114	2135	1237
45°	1587	1618	1698	1777	1809	1222
55°	1179	1223	1321	1421	1457	1055
65°	785	824	943	1059	1103	775
75°	397	452	602	736	779	422
85°	78	174	335	465	512	95
90°	12	96	241	360	404	9
95°	13	63	177	283	322	11
105°	22	56	116	182	210	23
115°	35	60	103	141	157	34
125°	46	62	98	127	137	41
135°	51	61	91	113	121	39
145°	53	59	76	97	102	33
155°	57	58	64	80	82	26
165°	59	58	57	60	65	17
175°	60	59	56	49	50	6
180°	55	55	55	55	55	



TEST NUMBER: P685621

CATALOG NUMBER: 4CZL-9-UNV-FUL-L850-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2706.5	2706.5	2706.5	2706.5	2706.5
2.5°	2715.2	2710.9	2693.0	2707.1	2706.5
5°	2704.9	2700.6	2683.8	2699.0	2697.9
7.5°	2684.8	2682.1	2666.4	2683.2	2682.7
10°	2655.5	2655.5	2642.0	2661.5	2663.1
12.5°	2620.3	2619.7	2612.7	2632.7	2632.7
15°	2579.6	2576.3	2573.6	2595.8	2601.3
17.5°	2521.5	2523.7	2528.5	2555.1	2560.6
20°	2461.8	2466.7	2475.9	2507.4	2514.4
22.5°	2397.7	2403.2	2417.8	2452.0	2463.4
25°	2322.3	2333.2	2352.2	2396.1	2405.3
27.5°	2240.9	2259.9	2284.3	2331.0	2346.7
30°	2162.7	2177.9	2213.2	2262.1	2275.6
32.5°	2072.7	2091.1	2132.4	2191.0	2209.4
35°	1976.0	2003.2	2049.3	2114.4	2135.1
37.5°	1886.0	1907.7	1964.6	2034.1	2058.5
40°	1779.6	1814.9	1880.5	1948.9	1977.1
42.5°	1686.2	1716.6	1790.4	1865.9	1895.2
45°	1586.9	1618.4	1698.2	1777.4	1809.4
47.5°	1480.5	1518.0	1603.2	1691.7	1721.5
50°	1380.7	1419.8	1510.9	1600.5	1637.9
52.5°	1282.4	1323.2	1417.6	1512.0	1546.8
55°	1179.3	1223.3	1321.0	1420.8	1456.7
57.5°	1078.4	1122.3	1226.5	1329.7	1368.2
60°	976.9	1018.1	1129.9	1235.8	1278.1
62.5°	881.9	922.1	1037.1	1151.1	1188.0
65°	784.8	824.4	942.7	1058.8	1102.8
67.5°	684.4	732.1	851.0	972.6	1019.2
70°	585.6	634.4	765.8	892.2	938.9
72.5°	492.2	547.6	680.0	809.2	857.0
75°	397.3	452.1	602.4	735.9	778.8
77.5°	307.7	371.8	526.4	661.0	711.5
80°	222.0	294.7	458.1	589.9	643.1
82.5°	146.0	229.0	394.6	525.4	573.1
85°	77.6	174.2	334.9	465.1	511.8
87.5°	30.4	129.2	284.9	410.3	457.0
90°	11.9	96.1	241.0	359.8	404.3
92.5°	11.9	74.9	205.1	319.1	360.9
95°	13.0	63.0	176.9	282.8	322.4
97.5°	14.1	57.0	154.7	250.7	286.0
100°	16.3	54.8	137.9	224.7	256.7
102.5°	19.0	54.8	124.3	200.8	231.2
105°	22.3	55.9	115.6	182.4	209.5
107.5°	25.0	57.0	109.6	167.2	191.6
110°	28.2	58.6	106.4	155.8	176.9

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	31.5	59.7	104.2	147.6	166.1
115°	34.7	60.2	103.1	141.1	156.8
117.5°	38.0	61.3	102.0	136.8	150.3
120°	41.2	61.9	100.9	133.5	145.4
122.5°	44.0	61.9	99.9	130.3	141.1
125°	46.1	62.4	98.2	127.0	137.3
127.5°	47.8	63.0	97.1	123.7	133.0
130°	49.4	62.4	95.5	120.5	129.2
132.5°	50.5	61.9	93.3	117.2	125.4
135°	51.0	61.3	91.2	113.4	121.0
137.5°	51.6	60.8	87.9	109.6	116.7
140°	51.6	60.2	84.1	105.3	111.8
142.5°	52.1	59.2	80.3	100.9	106.9
145°	53.2	58.6	76.5	96.6	102.0
147.5°	54.3	57.5	73.3	91.7	96.6
150°	55.4	57.5	70.0	87.4	91.7
152.5°	55.9	57.5	66.8	83.6	86.8
155°	57.0	57.5	63.5	79.8	82.0
157.5°	57.5	57.5	61.3	74.9	77.1
160°	58.1	58.1	59.2	69.5	72.7
162.5°	59.2	58.1	58.1	64.0	68.4
165°	59.2	58.1	57.0	59.7	64.6
167.5°	59.7	58.6	56.4	56.4	61.3
170°	59.7	58.6	56.4	53.7	56.4
172.5°	59.7	58.6	56.4	51.6	52.6
175°	59.7	58.6	56.4	49.4	49.9
177.5°	59.7	58.6	55.9	47.8	49.9
180°	55.4	55.4	55.4	55.4	55.4

(END OF REPORT)