

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: P685622

Luminaire Tested: **4CZL-12-UNV-FUL-L850-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685622  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-12-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

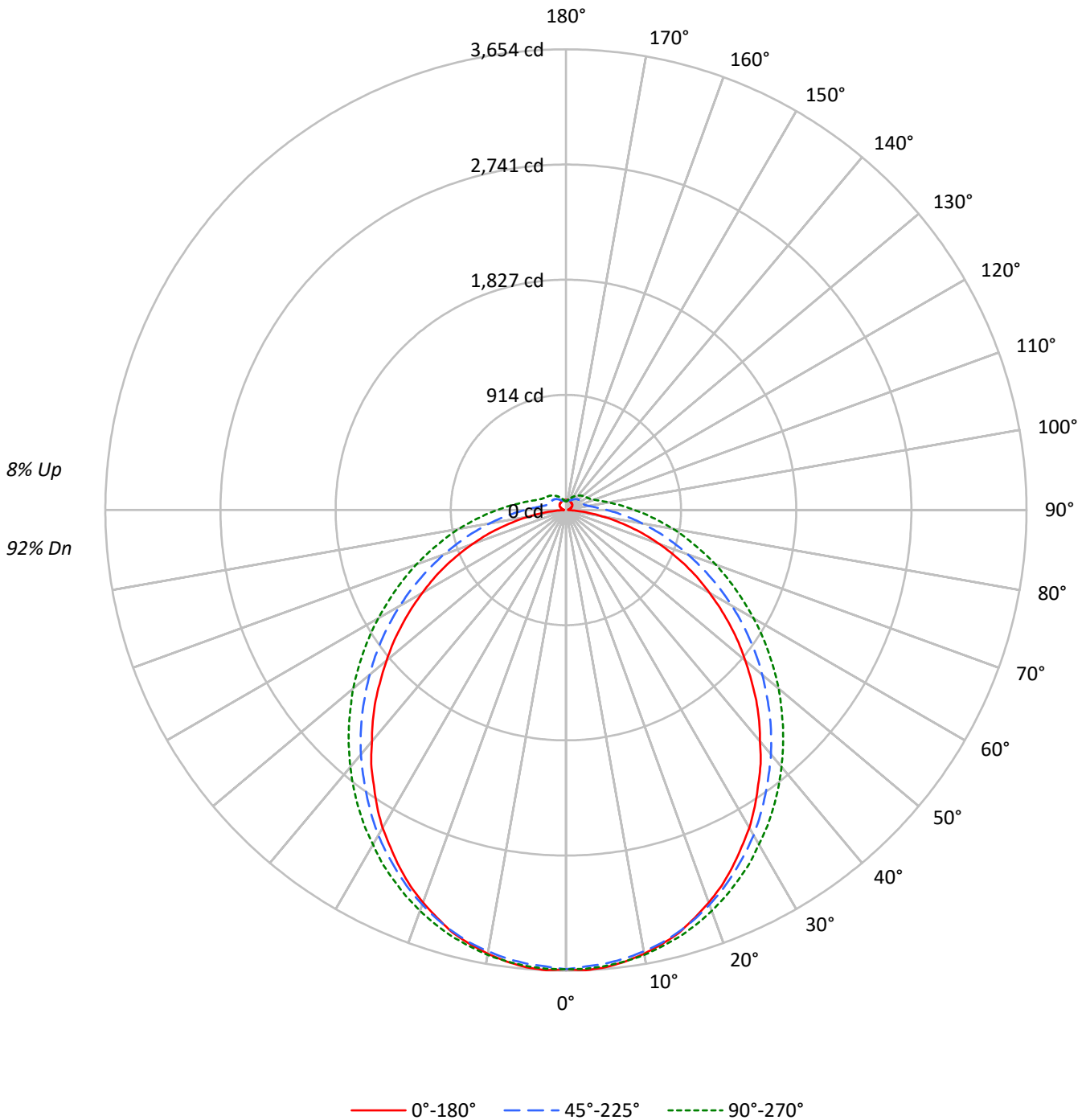
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11361.5 lumens  
Efficiency: N/A  
Efficacy: 147.6 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): 77  
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: 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°	11760	11760	11760
5°	11755	11533	11565
10°	11631	11316	11350
15°	11476	11070	11106
20°	11213	10778	10838
25°	10922	10445	10548
30°	10596	10107	10236
35°	10185	9709	9934
40°	9753	9329	9603
45°	9361	8912	9266
50°	8892	8486	8941
55°	8432	8044	8583
60°	7918	7577	8249
65°	7407	7093	7935
70°	6676	6620	7698
75°	5772	6175	7487
80°	4493	5821	7540
85°	2620	5653	7765



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	344.5	3.0
10°-20°	980.2	8.6
20°-30°	1463.6	12.9
30°-40°	1730.2	15.2
40°-50°	1763.1	15.5
50°-60°	1589.7	14.0
60°-70°	1257.9	11.1
70°-80°	850.1	7.5
80°-90°	475.4	4.2
90°-100°	258.7	2.3
100°-110°	169.7	1.5
110°-120°	134.6	1.2
120°-130°	114.5	1.0
130°-140°	91.6	0.8
140°-150°	65.5	0.6
150°-160°	42.2	0.4
160°-170°	22.8	0.2
170°-180°	7.1	0.1
0°-30°	2788.2	24.5
0°-40°	4518.4	39.8
0°-60°	7871.2	69.3
0°-90°	10454.7	92.0
90°-120°	563.0	5.0
90°-150°	834.6	7.3
90°-180°	907.0	8.0
0°-180°	11361.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3642	3642	3642	3642	3642	
5°	3640	3634	3611	3632	3630	345
15°	3471	3467	3463	3493	3500	976
25°	3125	3140	3165	3224	3237	1438
35°	2659	2696	2758	2845	2873	1664
45°	2135	2178	2285	2392	2435	1644
55°	1587	1646	1778	1912	1960	1420
65°	1056	1109	1268	1425	1484	1043
75°	535	608	811	990	1048	568
85°	104	234	451	626	689	128
90°	16	129	324	484	544	12
95°	18	85	238	380	434	15
105°	30	75	156	245	282	31
115°	47	81	139	190	211	46
125°	62	84	132	171	185	55
135°	69	82	123	153	163	53
145°	72	79	103	130	137	45
155°	77	77	85	107	110	35
165°	80	78	77	80	87	23
175°	80	79	76	66	67	8
180°	74	74	74	74	74	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3641.9	3641.9	3641.9	3641.9	3641.9
2.5°	3653.6	3647.8	3623.7	3642.6	3641.9
5°	3639.7	3633.9	3611.2	3631.7	3630.2
7.5°	3612.7	3609.1	3587.9	3610.5	3609.8
10°	3573.3	3573.3	3555.0	3581.3	3583.5
12.5°	3525.8	3525.1	3515.6	3542.6	3542.6
15°	3471.0	3466.6	3463.0	3492.9	3500.2
17.5°	3392.9	3395.8	3402.4	3438.2	3445.5
20°	3312.6	3319.1	3331.5	3373.9	3383.4
22.5°	3226.4	3233.7	3253.4	3299.4	3314.7
25°	3124.9	3139.5	3165.0	3224.2	3236.6
27.5°	3015.3	3040.9	3073.8	3136.6	3157.7
30°	2910.2	2930.6	2978.1	3043.8	3062.1
32.5°	2788.9	2813.8	2869.3	2948.1	2973.0
35°	2659.0	2695.5	2757.5	2845.2	2872.9
37.5°	2537.7	2566.9	2643.6	2737.1	2770.0
40°	2394.6	2442.1	2530.4	2622.4	2660.4
42.5°	2269.0	2309.9	2409.2	2510.7	2550.1
45°	2135.3	2177.7	2285.1	2391.7	2434.8
47.5°	1992.2	2042.6	2157.3	2276.3	2316.5
50°	1857.8	1910.4	2033.1	2153.6	2204.0
52.5°	1725.7	1780.4	1907.5	2034.6	2081.3
55°	1586.9	1646.1	1777.5	1911.9	1960.1
57.5°	1451.1	1510.2	1650.4	1789.2	1841.0
60°	1314.5	1370.0	1520.4	1662.9	1719.8
62.5°	1186.7	1240.7	1395.6	1548.9	1598.6
65°	1056.0	1109.3	1268.5	1424.8	1483.9
67.5°	920.9	985.2	1145.1	1308.7	1371.5
70°	788.0	853.7	1030.4	1200.6	1263.4
72.5°	662.4	736.9	915.0	1088.9	1153.1
75°	534.6	608.3	810.6	990.3	1048.0
77.5°	414.1	500.2	708.4	889.5	957.4
80°	298.7	396.5	616.4	793.8	865.4
82.5°	196.4	308.2	530.9	706.9	771.2
85°	104.4	234.4	450.6	625.9	688.7
87.5°	40.9	173.8	383.4	552.1	614.9
90°	16.1	129.3	324.2	484.2	544.1
92.5°	16.1	100.8	276.0	429.4	485.6
95°	17.5	84.7	238.1	380.5	433.8
97.5°	19.0	76.7	208.1	337.4	384.9
100°	21.9	73.8	185.5	302.3	345.4
102.5°	25.6	73.8	167.2	270.2	311.1
105°	29.9	75.2	155.6	245.4	281.9
107.5°	33.6	76.7	147.5	224.9	257.8
110°	38.0	78.9	143.1	209.6	238.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	42.4	80.3	140.2	198.6	223.5
115°	46.7	81.1	138.8	189.9	211.1
117.5°	51.1	82.5	137.3	184.0	202.3
120°	55.5	83.3	135.8	179.6	195.7
122.5°	59.2	83.3	134.4	175.3	189.9
125°	62.1	84.0	132.2	170.9	184.8
127.5°	64.3	84.7	130.7	166.5	178.9
130°	66.5	84.0	128.5	162.1	173.8
132.5°	67.9	83.3	125.6	157.7	168.7
135°	68.6	82.5	122.7	152.6	162.9
137.5°	69.4	81.8	118.3	147.5	157.0
140°	69.4	81.1	113.2	141.7	150.4
142.5°	70.1	79.6	108.1	135.8	143.9
145°	71.6	78.9	103.0	130.0	137.3
147.5°	73.0	77.4	98.6	123.4	130.0
150°	74.5	77.4	94.2	117.6	123.4
152.5°	75.2	77.4	89.8	112.5	116.8
155°	76.7	77.4	85.4	107.4	110.3
157.5°	77.4	77.4	82.5	100.8	103.7
160°	78.1	78.1	79.6	93.5	97.9
162.5°	79.6	78.1	78.1	86.2	92.0
165°	79.6	78.1	76.7	80.3	86.9
167.5°	80.3	78.9	75.9	75.9	82.5
170°	80.3	78.9	75.9	72.3	75.9
172.5°	80.3	78.9	75.9	69.4	70.8
175°	80.3	78.9	75.9	66.5	67.2
177.5°	80.3	78.9	75.2	64.3	67.2
180°	74.5	74.5	74.5	74.5	74.5

(END OF REPORT)