

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: P685601

Luminaire Tested: **4CZL-9-UNV-FUL-L835-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685601  
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-L835-CD-U  
Description: METALUX CRUZE LINEAR 4FT FROSTED LENS MODEL WITH UPLIGHT @80 CRI and 3500K  
Light Source: (588) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

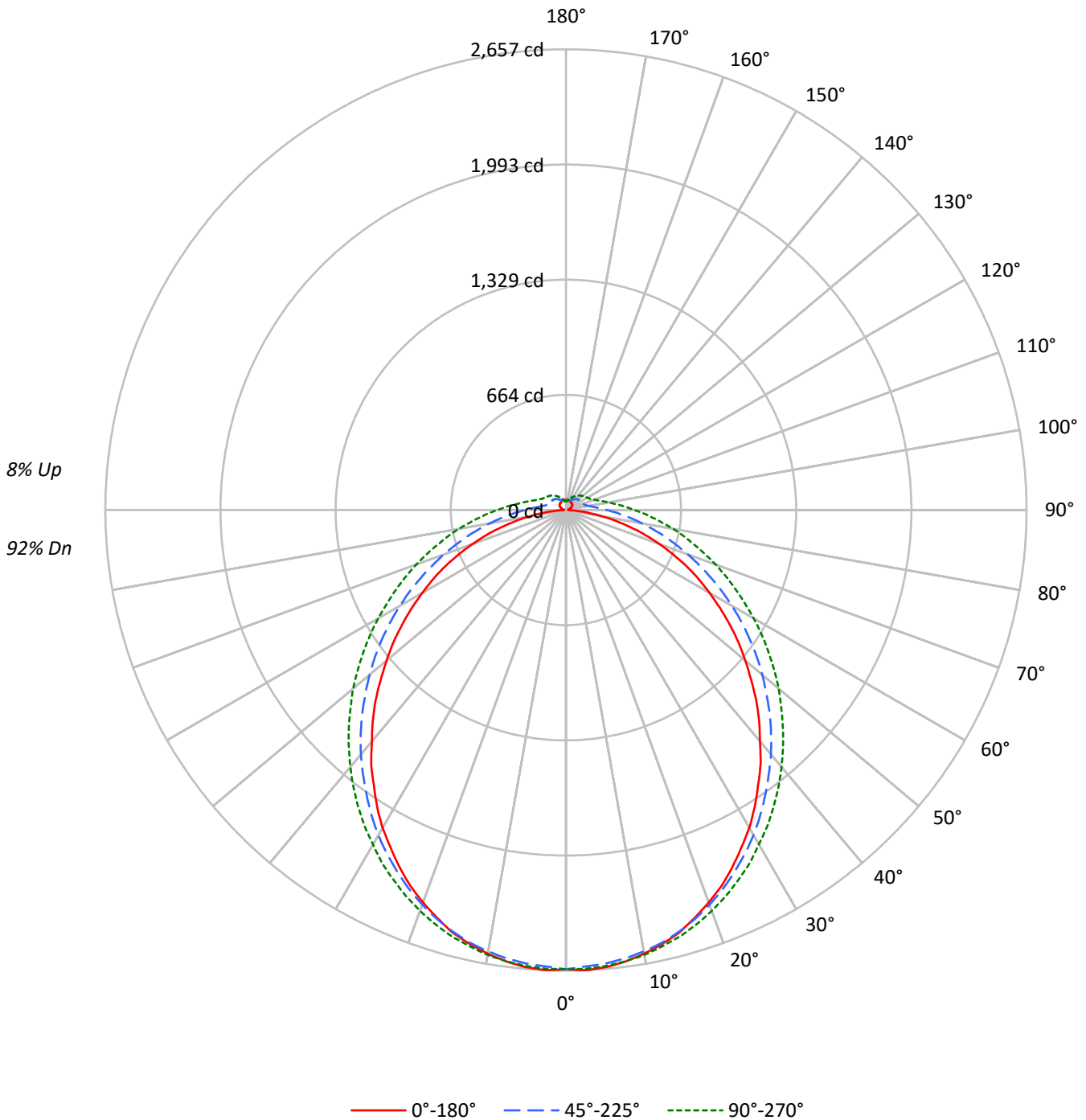
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8260.9 lumens  
Efficiency: N/A  
Efficacy: 153.0 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 (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°	8551	8551	8551
5°	8548	8386	8409
10°	8457	8228	8253
15°	8344	8049	8076
20°	8153	7837	7880
25°	7941	7594	7670
30°	7705	7349	7443
35°	7405	7059	7223
40°	7092	6783	6982
45°	6807	6480	6737
50°	6465	6170	6501
55°	6131	5849	6241
60°	5757	5509	5998
65°	5385	5157	5770
70°	4853	4814	5597
75°	4197	4490	5444
80°	3267	4233	5482
85°	1905	4110	5646



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	250.5	3.0
10°-20°	712.7	8.6
20°-30°	1064.2	12.9
30°-40°	1258.0	15.2
40°-50°	1281.9	15.5
50°-60°	1155.9	14.0
60°-70°	914.6	11.1
70°-80°	618.1	7.5
80°-90°	345.7	4.2
90°-100°	188.1	2.3
100°-110°	123.4	1.5
110°-120°	97.9	1.2
120°-130°	83.3	1.0
130°-140°	66.6	0.8
140°-150°	47.7	0.6
150°-160°	30.7	0.4
160°-170°	16.6	0.2
170°-180°	5.2	0.1
0°-30°	2027.3	24.5
0°-40°	3285.4	39.8
0°-60°	5723.2	69.3
0°-90°	7601.6	92.0
90°-120°	409.3	5.0
90°-150°	606.8	7.3
90°-180°	659.0	8.0
0°-180°	8260.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2648	2648	2648	2648	2648	
5°	2646	2642	2626	2641	2640	251
15°	2524	2521	2518	2540	2545	710
25°	2272	2283	2301	2344	2353	1046
35°	1933	1960	2005	2069	2089	1210
45°	1553	1583	1662	1739	1770	1196
55°	1154	1197	1292	1390	1425	1032
65°	768	807	922	1036	1079	758
75°	389	442	589	720	762	413
85°	76	170	328	455	501	93
90°	12	94	236	352	396	9
95°	13	62	173	277	315	11
105°	22	55	113	178	205	23
115°	34	59	101	138	154	34
125°	45	61	96	124	134	40
135°	50	60	89	111	118	39
145°	52	57	75	94	100	33
155°	56	56	62	78	80	26
165°	58	57	56	58	63	16
175°	58	57	55	48	49	6
180°	54	54	54	54	54	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2648.1	2648.1	2648.1	2648.1	2648.1
2.5°	2656.6	2652.3	2634.8	2648.6	2648.1
5°	2646.5	2642.2	2625.8	2640.6	2639.6
7.5°	2626.8	2624.2	2608.8	2625.2	2624.7
10°	2598.1	2598.1	2584.9	2604.0	2605.6
12.5°	2563.6	2563.1	2556.2	2575.8	2575.8
15°	2523.8	2520.6	2518.0	2539.7	2545.1
17.5°	2467.0	2469.1	2473.9	2499.9	2505.2
20°	2408.6	2413.4	2422.4	2453.2	2460.1
22.5°	2345.9	2351.2	2365.6	2399.0	2410.2
25°	2272.1	2282.7	2301.3	2344.3	2353.4
27.5°	2192.5	2211.1	2235.0	2280.6	2296.0
30°	2116.0	2130.9	2165.4	2213.2	2226.5
32.5°	2027.9	2045.9	2086.3	2143.6	2161.7
35°	1933.3	1959.9	2005.0	2068.7	2088.9
37.5°	1845.2	1866.4	1922.2	1990.2	2014.1
40°	1741.1	1775.6	1839.9	1906.8	1934.4
42.5°	1649.8	1679.5	1751.7	1825.6	1854.2
45°	1552.6	1583.4	1661.5	1739.0	1770.3
47.5°	1448.5	1485.2	1568.6	1655.1	1684.3
50°	1350.8	1389.1	1478.3	1565.9	1602.5
52.5°	1254.7	1294.6	1387.0	1479.3	1513.3
55°	1153.8	1196.9	1292.4	1390.1	1425.2
57.5°	1055.1	1098.1	1200.0	1300.9	1338.6
60°	955.8	996.1	1105.5	1209.1	1250.5
62.5°	862.9	902.2	1014.7	1126.2	1162.3
65°	767.8	806.6	922.3	1036.0	1079.0
67.5°	669.6	716.3	832.6	951.5	997.2
70°	572.9	620.7	749.2	873.0	918.6
72.5°	481.6	535.8	665.3	791.7	838.4
75°	388.7	442.3	589.4	720.0	762.0
77.5°	301.1	363.7	515.1	646.7	696.1
80°	217.2	288.3	448.2	577.2	629.2
82.5°	142.8	224.1	386.0	514.0	560.7
85°	75.9	170.4	327.6	455.1	500.7
87.5°	29.7	126.4	278.8	401.4	447.1
90°	11.7	94.0	235.8	352.0	395.6
92.5°	11.7	73.3	200.7	312.2	353.1
95°	12.7	61.6	173.1	276.6	315.4
97.5°	13.8	55.8	151.3	245.3	279.8
100°	15.9	53.6	134.9	219.8	251.2
102.5°	18.6	53.6	121.6	196.5	226.2
105°	21.8	54.7	113.1	178.4	205.0
107.5°	24.4	55.8	107.3	163.5	187.4
110°	27.6	57.3	104.1	152.4	173.1

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	30.8	58.4	102.0	144.4	162.5
115°	34.0	58.9	100.9	138.1	153.5
117.5°	37.2	60.0	99.8	133.8	147.1
120°	40.4	60.5	98.8	130.6	142.3
122.5°	43.0	60.5	97.7	127.4	138.1
125°	45.1	61.1	96.1	124.3	134.3
127.5°	46.7	61.6	95.0	121.1	130.1
130°	48.3	61.1	93.5	117.9	126.4
132.5°	49.4	60.5	91.3	114.7	122.7
135°	49.9	60.0	89.2	111.0	118.4
137.5°	50.4	59.5	86.0	107.3	114.2
140°	50.4	58.9	82.3	103.0	109.4
142.5°	51.0	57.9	78.6	98.8	104.6
145°	52.0	57.3	74.9	94.5	99.8
147.5°	53.1	56.3	71.7	89.7	94.5
150°	54.2	56.3	68.5	85.5	89.7
152.5°	54.7	56.3	65.3	81.8	85.0
155°	55.8	56.3	62.1	78.1	80.2
157.5°	56.3	56.3	60.0	73.3	75.4
160°	56.8	56.8	57.9	68.0	71.2
162.5°	57.9	56.8	56.8	62.7	66.9
165°	57.9	56.8	55.8	58.4	63.2
167.5°	58.4	57.3	55.2	55.2	60.0
170°	58.4	57.3	55.2	52.6	55.2
172.5°	58.4	57.3	55.2	50.4	51.5
175°	58.4	57.3	55.2	48.3	48.9
177.5°	58.4	57.3	54.7	46.7	48.9
180°	54.2	54.2	54.2	54.2	54.2

(END OF REPORT)