

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: P685662

Luminaire Tested: **4CZL-12-UNV-LVR-L835-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685662  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-12-UNV-LVR-L835-CD-U  
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL @80 CRI and 3500K  
Light Source: (588) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

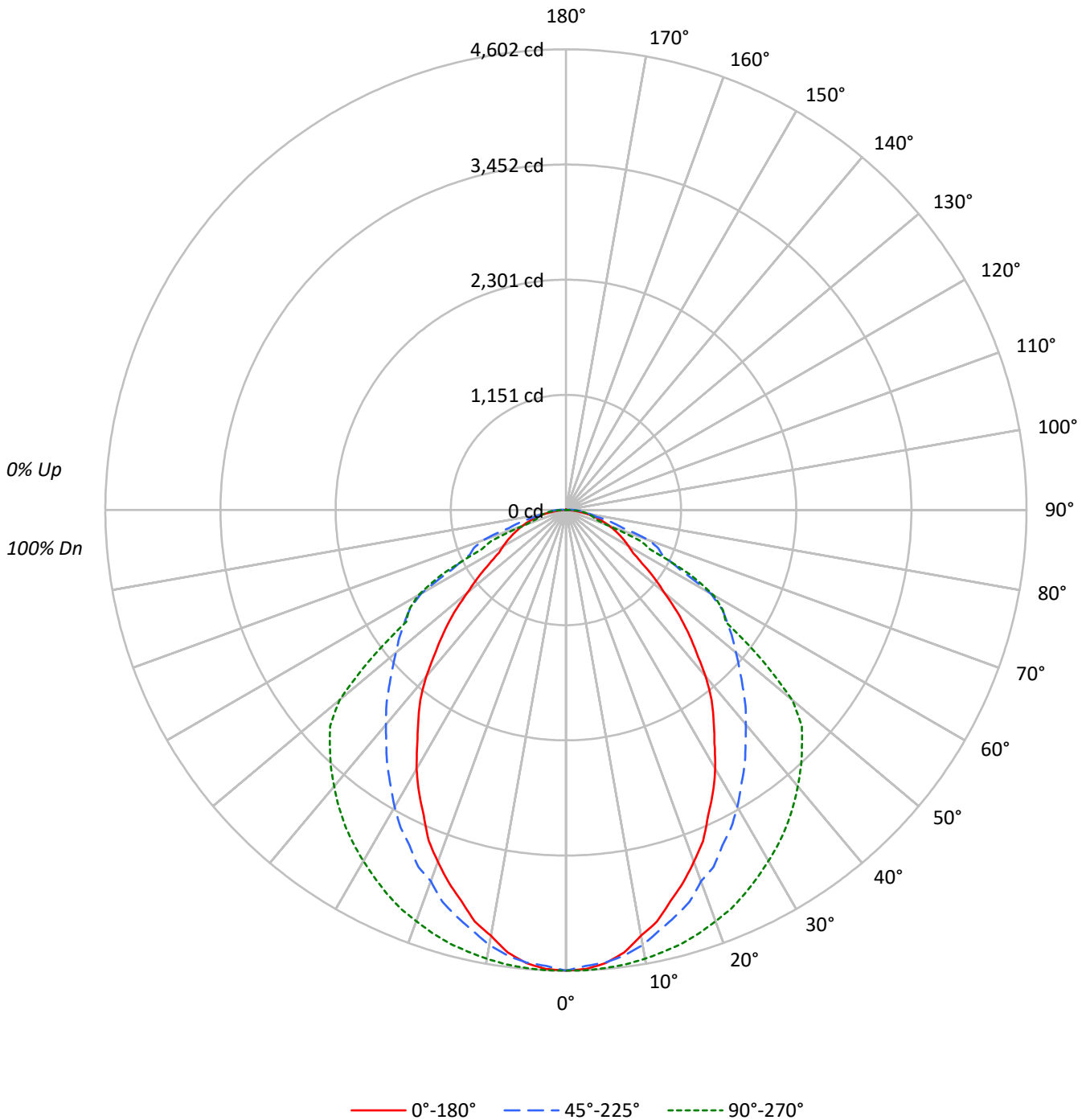
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10419.2 lumens  
Efficiency: N/A  
Efficacy: 135.3 lumens/watt  
Spacing Criteria (0/90/45): 1.01 / 1.31 / 1.26  
Luminous Opening: Rectangular (W 0.83' x L: 4' x H: 0')  
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100
1	110	105	101	98	107	103	99	96	99	96	93	95	92	90	91	89	88	85	85	85	85
2	101	93	87	81	98	91	85	80	88	83	78	84	80	77	81	78	75	73	73	73	73
3	92	82	75	69	90	81	74	68	78	72	67	75	70	66	73	68	65	63	63	63	63
4	85	74	65	59	83	72	65	59	70	63	58	68	62	57	65	60	56	54	54	54	54
5	78	66	58	51	76	65	57	51	63	56	51	61	55	50	59	54	49	47	47	47	47
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44	42	42	42	42
7	68	55	46	40	66	54	46	40	52	45	40	51	44	40	49	44	39	37	37	37	37
8	63	50	42	36	61	49	42	36	48	41	36	47	40	36	46	40	35	34	34	34	34
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30	30	30	30
10	55	43	35	30	54	42	35	30	41	34	30	40	34	30	39	34	29	28	28	28	28

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

	0°	45°	90°
0°	14857	14857	14857
5°	14728	14707	14883
10°	14156	14467	14927
15°	13513	14062	14987
20°	12849	13564	15022
25°	11983	13172	15071
30°	11126	12767	15095
35°	10143	12267	15165
40°	9150	11789	15192
45°	7870	11411	15232
50°	6432	11142	14832
55°	5238	11098	10970
60°	4670	10789	11006
65°	4515	8096	7098
70°	4337	8298	4034
75°	4181	5848	3602
80°	3814	4757	4292
85°	3416	5932	5346



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	430.9	4.1
10°-20°	1194.7	11.5
20°-30°	1728.4	16.6
30°-40°	1972.7	18.9
40°-50°	1938.3	18.6
50°-60°	1546.1	14.8
60°-70°	973.9	9.3
70°-80°	431.4	4.1
80°-90°	165.4	1.6
90°-100°	32.8	0.3
100°-110°	2.2	0.0
110°-120°	0.3	0.0
120°-130°	0.3	0.0
130°-140°	0.5	0.0
140°-150°	0.4	0.0
150°-160°	0.4	0.0
160°-170°	0.4	0.0
170°-180°	0.1	0.0
0°-30°	3354.0	32.2
0°-40°	5326.7	51.1
0°-60°	8811.1	84.6
0°-90°	10381.9	99.6
90°-120°	35.3	0.3
90°-150°	36.5	0.4
90°-180°	37.0	0.4
0°-180°	10419.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4601	4601	4601	4601	4601	
5°	4544	4554	4537	4575	4592	427
15°	4042	4082	4206	4404	4483	1138
25°	3363	3472	3697	4036	4230	1550
35°	2573	2729	3112	3570	3847	1608
45°	1723	1974	2499	3058	3335	1324
55°	930	1260	1971	2126	1948	855
65°	591	804	1060	1129	929	586
75°	335	387	469	355	289	351
85°	92	112	160	206	144	97
90°	1	39	84	123	24	5
95°	1	6	35	60	8	1
105°	1	1	1	2	0	1
115°	1	1	0	0	0	1
125°	1	1	0	0	0	1
135°	1	1	1	0	0	1
145°	1	1	1	0	0	1
155°	1	1	1	0	0	1
165°	2	2	1	1	0	1
175°	2	2	1	1	1	0
180°	1	1	1	1	1	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4600.8	4600.8	4600.8	4600.8	4600.8
2.5°	4588.6	4585.8	4557.9	4597.2	4601.5
5°	4543.6	4553.6	4537.2	4575.0	4591.5
7.5°	4457.2	4467.9	4487.2	4556.5	4576.5
10°	4317.1	4344.3	4412.1	4509.3	4552.2
12.5°	4209.9	4243.5	4304.2	4469.3	4518.6
15°	4042.0	4082.0	4206.4	4403.6	4482.9
17.5°	3899.1	3972.0	4104.2	4320.7	4431.4
20°	3739.1	3797.7	3947.0	4239.2	4371.4
22.5°	3579.0	3653.3	3857.0	4130.6	4310.7
25°	3363.2	3471.8	3696.9	4035.6	4229.9
27.5°	3180.3	3317.5	3576.2	3923.4	4139.9
30°	2983.8	3090.3	3424.0	3809.1	4048.4
32.5°	2762.3	2929.5	3259.6	3678.3	3952.7
35°	2573.0	2728.7	3111.7	3570.4	3847.0
37.5°	2390.1	2536.5	2948.1	3448.3	3729.8
40°	2170.7	2363.6	2796.6	3308.9	3604.0
42.5°	1927.8	2164.3	2655.9	3177.5	3476.1
45°	1723.4	1974.2	2498.7	3058.1	3335.4
47.5°	1511.2	1775.6	2351.5	2913.1	3196.0
50°	1280.4	1601.9	2217.9	2778.8	2952.4
52.5°	1111.8	1421.2	2097.8	2535.8	2488.7
55°	930.3	1259.7	1971.3	2125.7	1948.5
57.5°	792.4	1113.9	1852.7	1669.1	1859.9
60°	723.1	997.5	1670.5	1589.1	1704.1
62.5°	658.1	895.3	1277.6	1490.5	1401.9
65°	590.9	804.5	1059.6	1128.9	928.9
67.5°	525.9	725.9	998.9	843.1	808.8
70°	459.4	665.2	878.9	718.8	427.3
72.5°	396.6	595.2	600.9	398.0	317.2
75°	335.1	387.3	468.7	355.1	288.7
77.5°	267.9	332.2	313.7	318.0	261.5
80°	205.1	228.6	255.8	284.4	230.8
82.5°	145.0	170.1	207.2	248.7	189.3
85°	92.2	112.2	160.1	206.5	144.3
87.5°	36.4	70.7	119.3	166.5	85.0
90°	0.7	38.6	84.3	122.9	23.6
92.5°	0.7	17.9	56.4	90.0	12.1
95°	0.7	5.7	35.0	60.0	7.9
97.5°	0.7	2.1	18.6	37.2	4.3
100°	0.7	0.7	7.9	20.0	2.1
102.5°	0.7	0.7	2.9	7.9	0.7
105°	0.7	0.7	0.7	2.1	0.0
107.5°	0.7	0.7	0.0	0.0	0.0
110°	0.7	0.7	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.7	0.7	0.0	0.0	0.0
115°	0.7	0.7	0.0	0.0	0.0
117.5°	0.7	0.7	0.0	0.0	0.0
120°	0.7	0.7	0.0	0.0	0.0
122.5°	0.7	0.7	0.0	0.0	0.0
125°	0.7	1.4	0.0	0.0	0.0
127.5°	0.7	0.7	0.0	0.0	0.0
130°	0.7	1.4	0.7	0.0	0.0
132.5°	0.7	1.4	0.7	0.0	0.0
135°	0.7	1.4	0.7	0.0	0.0
137.5°	0.7	1.4	0.7	0.0	0.0
140°	1.4	1.4	0.7	0.0	0.0
142.5°	1.4	1.4	0.7	0.0	0.0
145°	1.4	1.4	0.7	0.0	0.0
147.5°	1.4	1.4	0.7	0.0	0.0
150°	1.4	1.4	0.7	0.0	0.0
152.5°	1.4	1.4	0.7	0.0	0.0
155°	1.4	1.4	0.7	0.0	0.0
157.5°	1.4	2.1	0.7	0.0	0.0
160°	2.1	2.1	0.7	0.0	0.0
162.5°	2.1	2.1	1.4	0.7	0.0
165°	2.1	2.1	1.4	0.7	0.0
167.5°	2.1	2.1	1.4	0.7	0.0
170°	2.1	2.1	1.4	0.7	0.7
172.5°	2.1	2.1	1.4	0.7	0.7
175°	2.1	2.1	1.4	0.7	0.7
177.5°	2.1	2.1	1.4	0.7	0.7
180°	1.4	1.4	1.4	1.4	1.4

(END OF REPORT)