

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: P685792

Luminaire Tested: **4CZL-12-UNV-M-LVR-L840-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685792  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-12-UNV-M-LVR-L840-CD-U  
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH MEDIUM LENS @80 CRI and 4000K  
Light Source: (588) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

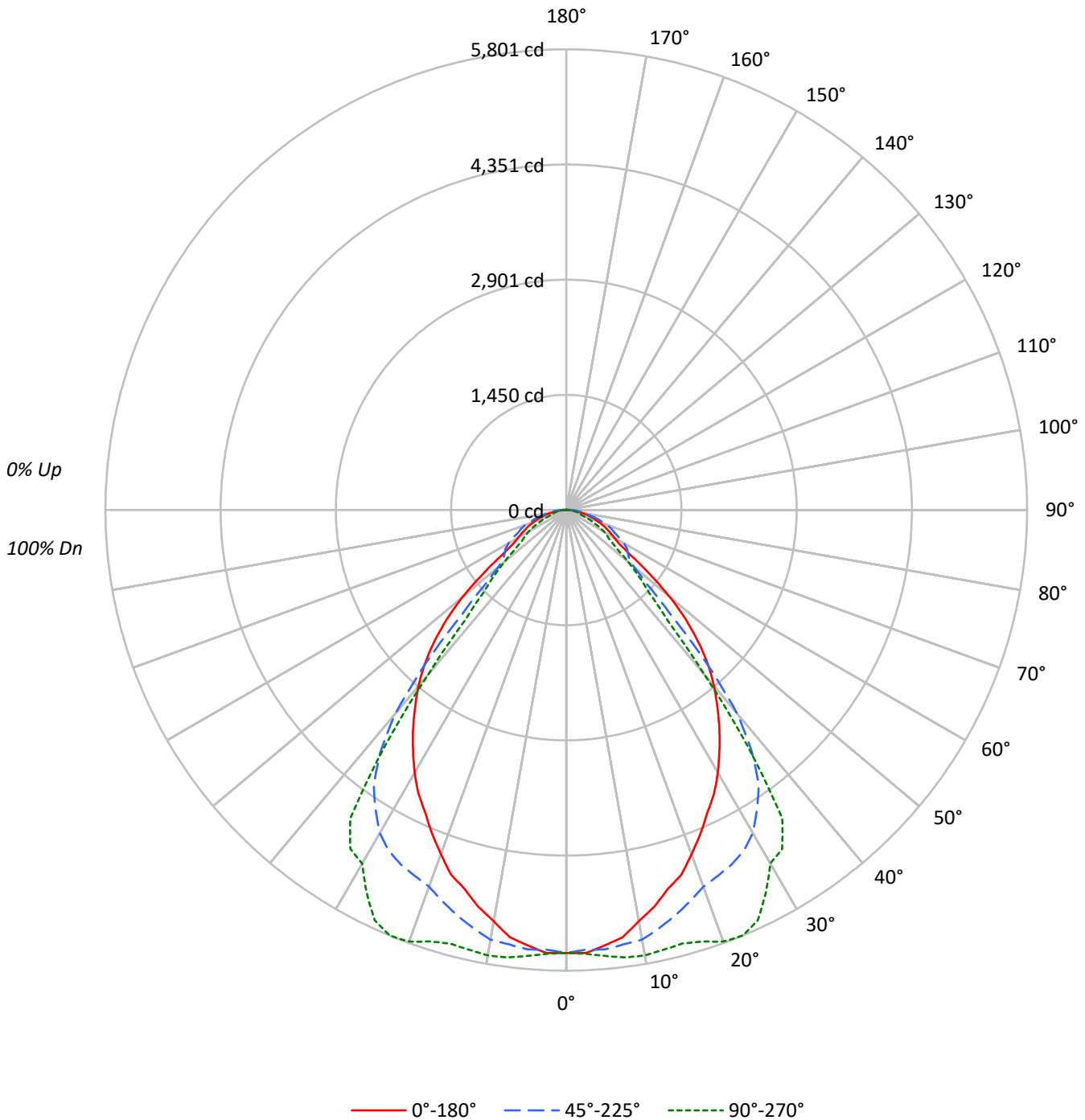
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10316.9 lumens  
Efficiency: N/A  
Efficacy: 134.0 lumens/watt  
Spacing Criteria (0/90/45): 1.05 / 1.34 / 1.2  
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 (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				
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	102	102	102	100
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	93	91	90	88
2	103	96	90	86	100	94	89	84	91	86	83	87	84	81	84	81	79	84	81	79	77
3	95	87	80	74	93	85	79	74	82	77	72	79	75	71	77	73	70	77	73	70	68
4	89	78	71	65	86	77	70	65	75	69	64	73	67	63	70	66	62	70	66	62	60
5	83	72	64	58	81	70	63	58	68	62	57	67	61	57	65	60	56	65	60	56	54
6	77	65	58	52	75	65	57	52	63	56	51	61	55	51	60	55	51	60	55	51	49
7	72	60	53	47	70	59	52	47	58	51	47	57	51	46	55	50	46	55	50	46	44
8	68	56	48	43	66	55	48	43	54	47	42	52	47	42	51	46	42	51	46	42	40
9	64	52	44	39	62	51	44	39	50	43	39	49	43	39	48	42	39	48	42	39	37
10	60	48	41	36	59	47	41	36	46	40	36	46	40	36	45	39	35	45	39	35	34

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

	0°	45°	90°
0°	18010	18010	18010
5°	17843	18003	18271
10°	17238	18013	18671
15°	16513	17677	18891
20°	15847	17341	19873
25°	14971	17547	20315
30°	14231	17509	19161
35°	13250	16650	18683
40°	12198	14114	11385
45°	10747	8412	6748
50°	8531	5586	5093
55°	5523	5314	3865
60°	4509	5401	3551
65°	4295	5090	2900
70°	4079	5109	2293
75°	3874	4781	2132
80°	3583	4517	2393
85°	3205	5524	2938



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	529.2	5.1
10°-20°	1501.2	14.6
20°-30°	2263.7	21.9
30°-40°	2501.3	24.2
40°-50°	1568.3	15.2
50°-60°	844.4	8.2
60°-70°	573.4	5.6
70°-80°	342.5	3.3
80°-90°	148.8	1.4
90°-100°	32.6	0.3
100°-110°	3.8	0.0
110°-120°	1.4	0.0
120°-130°	1.3	0.0
130°-140°	1.5	0.0
140°-150°	1.4	0.0
150°-160°	1.1	0.0
160°-170°	0.8	0.0
170°-180°	0.3	0.0
0°-30°	4294.1	41.6
0°-40°	6795.4	65.9
0°-60°	9208.1	89.3
0°-90°	10272.8	99.6
90°-120°	37.8	0.4
90°-150°	41.9	0.4
90°-180°	44.0	0.4
0°-180°	10316.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5577	5577	5577	5577	5577	
5°	5504	5514	5554	5619	5637	519
15°	4939	5112	5288	5544	5651	1394
25°	4202	4457	4925	5450	5702	1940
35°	3361	3756	4224	4544	4739	2098
45°	2353	2562	1842	1502	1478	1795
55°	981	1026	944	817	686	953
65°	562	618	666	541	380	556
75°	310	345	383	315	171	327
85°	86	106	149	196	79	93
90°	2	33	76	126	23	6
95°	1	5	30	65	12	1
105°	1	2	2	5	2	1
115°	1	2	2	2	2	1
125°	1	2	2	2	2	1
135°	2	2	2	2	2	1
145°	2	2	2	2	3	1
155°	2	2	2	2	2	1
165°	2	3	3	3	3	1
175°	3	3	3	4	4	0
180°	4	4	4	4	4	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5577.1	5577.1	5577.1	5577.1	5577.1
2.5°	5584.4	5569.1	5540.8	5591.7	5592.4
5°	5504.4	5513.8	5553.8	5619.3	5636.7
7.5°	5426.6	5462.9	5516.8	5674.6	5682.6
10°	5257.1	5332.8	5493.5	5645.5	5694.2
12.5°	5116.1	5228.0	5393.9	5593.8	5669.5
15°	4939.3	5112.4	5287.7	5543.7	5650.6
17.5°	4815.7	4954.6	5169.1	5520.4	5695.7
20°	4611.4	4807.0	5046.2	5536.4	5782.9
22.5°	4412.8	4650.6	4984.4	5542.2	5801.1
25°	4201.9	4457.2	4924.8	5449.8	5701.5
27.5°	4027.4	4241.2	4836.1	5257.1	5438.9
30°	3816.5	4068.1	4695.7	4962.6	5138.6
32.5°	3589.6	3908.9	4468.1	4737.2	5057.1
35°	3361.2	3756.1	4223.7	4543.7	4739.3
37.5°	3122.7	3630.3	3839.8	3891.4	3757.6
40°	2893.6	3455.1	3348.2	2848.6	2700.9
42.5°	2643.5	3078.4	2611.5	1959.9	1893.7
45°	2353.3	2562.0	1842.1	1501.7	1477.7
47.5°	2044.2	1983.9	1373.7	1255.2	1241.4
50°	1698.1	1586.1	1111.9	1107.6	1013.8
52.5°	1323.6	1259.6	997.0	960.7	811.6
55°	981.0	1026.1	943.9	816.7	686.5
57.5°	785.4	890.1	906.9	713.4	613.8
60°	698.1	778.9	836.3	656.0	549.8
62.5°	626.1	690.1	749.0	608.7	474.2
65°	562.1	618.1	666.1	541.1	379.6
67.5°	494.5	552.7	611.6	464.7	322.9
70°	432.0	493.8	541.1	412.3	242.9
72.5°	367.3	431.2	452.3	344.7	194.2
75°	310.5	345.4	383.2	314.9	170.9
77.5°	250.9	280.7	296.0	288.7	150.5
80°	192.7	216.7	242.9	262.5	128.7
82.5°	141.1	158.5	194.2	231.3	103.3
85°	86.5	106.2	149.1	196.4	79.3
87.5°	38.5	63.3	109.8	162.2	50.9
90°	2.2	32.7	75.6	125.8	23.3
92.5°	0.7	14.5	49.5	93.1	16.0
95°	0.7	5.1	29.8	64.7	11.6
97.5°	0.7	2.2	16.7	41.5	7.3
100°	0.7	1.5	8.0	24.0	5.1
102.5°	0.7	1.5	3.6	11.6	3.6
105°	0.7	1.5	2.2	5.1	2.2
107.5°	0.7	1.5	1.5	2.2	1.5
110°	0.7	1.5	1.5	1.5	1.5



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.7	1.5	1.5	1.5	1.5
115°	0.7	1.5	1.5	1.5	1.5
117.5°	0.7	1.5	1.5	1.5	1.5
120°	0.7	1.5	1.5	1.5	1.5
122.5°	0.7	1.5	1.5	1.5	1.5
125°	0.7	1.5	1.5	1.5	1.5
127.5°	0.7	1.5	1.5	1.5	1.5
130°	0.7	1.5	1.5	1.5	1.5
132.5°	1.5	1.5	2.2	2.2	2.2
135°	1.5	1.5	2.2	2.2	2.2
137.5°	1.5	2.2	2.2	2.2	2.2
140°	1.5	2.2	2.2	2.2	2.2
142.5°	1.5	2.2	2.2	2.2	2.2
145°	1.5	2.2	2.2	2.2	2.9
147.5°	1.5	2.2	2.2	2.2	2.9
150°	1.5	2.2	2.2	2.2	2.2
152.5°	2.2	2.2	2.2	2.2	2.2
155°	2.2	2.2	2.2	2.2	2.2
157.5°	2.2	2.2	2.2	2.9	2.9
160°	2.2	2.9	2.9	2.9	2.9
162.5°	2.2	2.9	2.9	2.9	2.9
165°	2.2	2.9	2.9	2.9	2.9
167.5°	2.2	2.9	2.9	2.9	3.6
170°	2.9	2.9	2.9	3.6	3.6
172.5°	2.9	2.9	2.9	3.6	3.6
175°	2.9	2.9	2.9	3.6	3.6
177.5°	2.9	3.6	2.9	3.6	4.4
180°	3.6	3.6	3.6	3.6	3.6

(END OF REPORT)