

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: P685952

Luminaire Tested: **4CZL-12-UNV-LVRF-L950-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685952  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-12-UNV-LVRF-L950-CD-U  
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH FROSTED LAY-IN @90 CRI and 5000K  
Light Source: (588) 5000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

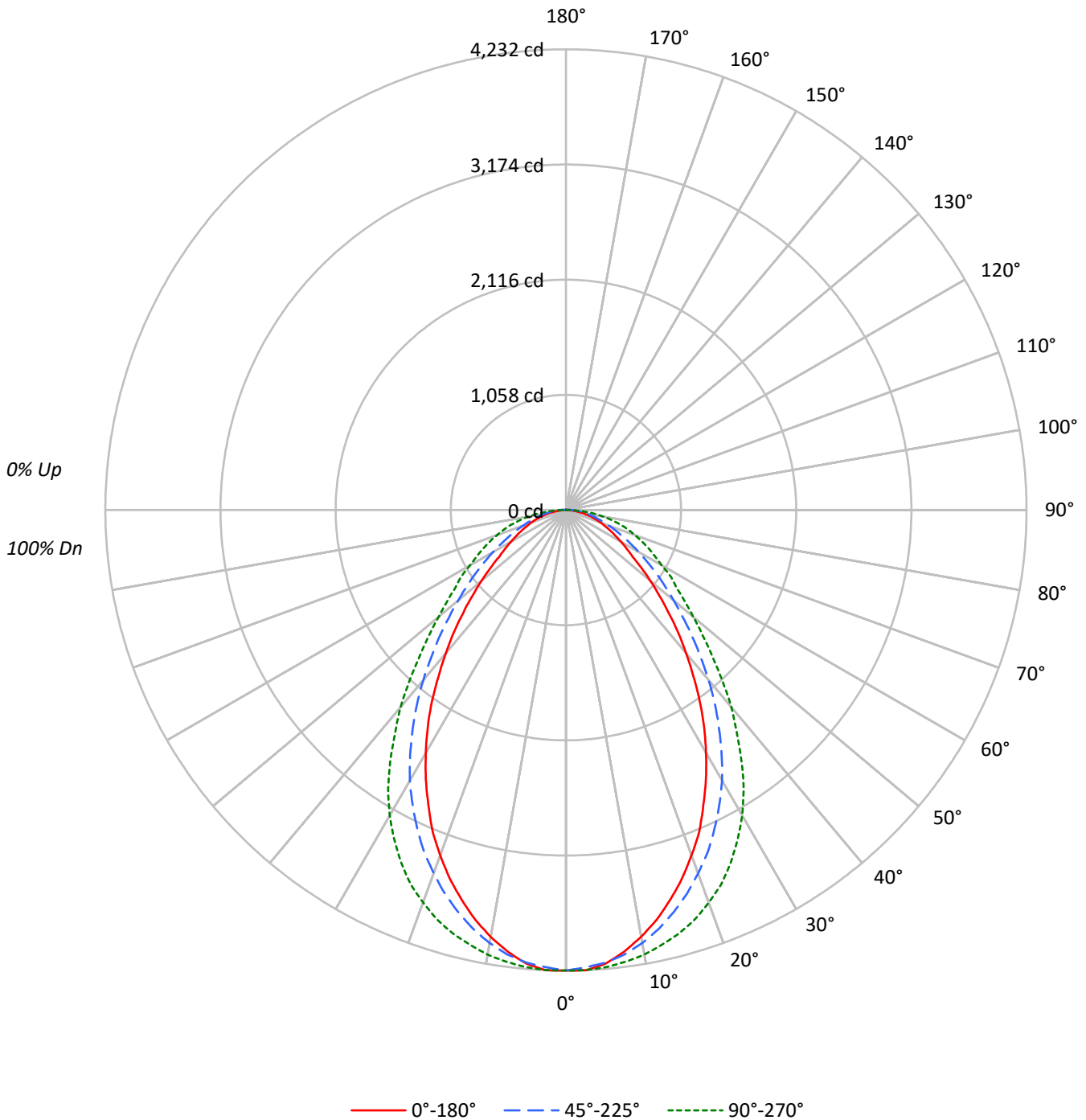
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7802.6 lumens  
Efficiency: N/A  
Efficacy: 101.3 lumens/watt  
Spacing Criteria (0/90/45): 0.97 / 1.15 / 1.12  
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	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	88	88	88	86
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	82	79	76	76	76	76	74
3	94	84	77	71	91	83	76	70	80	74	69	77	72	68	74	70	67	67	67	67	65
4	87	76	68	62	84	74	67	61	72	66	61	70	64	60	68	63	59	59	59	59	57
5	80	69	61	55	78	68	60	54	66	59	54	64	58	53	62	57	53	53	53	53	51
6	75	63	55	49	73	62	54	48	60	53	48	58	52	48	57	51	47	47	47	47	45
7	70	57	49	44	68	57	49	44	55	48	43	54	48	43	52	47	43	43	43	43	41
8	65	53	45	40	64	52	45	40	51	44	39	50	44	39	49	43	39	39	39	39	37
9	61	49	41	36	60	48	41	36	47	41	36	46	40	36	45	40	36	36	36	36	34
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	33	33	33	31

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

	0°	45°	90°
0°	13659	13659	13659
5°	13559	13528	13664
10°	13052	13246	13596
15°	12385	12783	13454
20°	11598	12200	13186
25°	10650	11510	12749
30°	9600	10697	12073
35°	8455	9674	11088
40°	7237	8590	9971
45°	6096	7487	8684
50°	5091	6490	7678
55°	4213	5702	6961
60°	3796	4998	6564
65°	3451	4399	6419
70°	3214	3948	6371
75°	2981	3686	6500
80°	2702	3652	6512
85°	2319	4279	6443



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	395.8	5.1
10°-20°	1081.6	13.9
20°-30°	1494.4	19.2
30°-40°	1537.3	19.7
40°-50°	1260.3	16.2
50°-60°	904.4	11.6
60°-70°	608.3	7.8
70°-80°	355.0	4.6
80°-90°	136.8	1.8
90°-100°	23.7	0.3
100°-110°	2.0	0.0
110°-120°	0.4	0.0
120°-130°	0.3	0.0
130°-140°	0.5	0.0
140°-150°	0.6	0.0
150°-160°	0.5	0.0
160°-170°	0.4	0.0
170°-180°	0.2	0.0
0°-30°	2971.8	38.1
0°-40°	4509.2	57.8
0°-60°	6673.9	85.5
0°-90°	7774.0	99.6
90°-120°	26.1	0.3
90°-150°	27.5	0.4
90°-180°	29.0	0.4
0°-180°	7802.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4230	4230	4230	4230	4230	
5°	4183	4186	4173	4212	4215	393
15°	3704	3742	3824	3972	4024	1039
25°	2989	3059	3230	3455	3578	1372
35°	2145	2244	2454	2684	2813	1336
45°	1335	1439	1640	1801	1902	1036
55°	748	838	1013	1151	1236	689
65°	452	478	576	739	840	450
75°	239	247	295	410	521	254
85°	63	78	116	173	174	68
90°	1	26	59	90	19	4
95°	1	4	25	43	8	0
105°	0	1	1	2	1	0
115°	1	1	1	0	0	0
125°	1	1	1	0	0	1
135°	1	1	1	1	0	0
145°	1	1	1	1	1	1
155°	1	2	1	1	1	1
165°	2	2	2	1	1	0
175°	2	2	2	1	1	0
180°	2	2	2	2	2	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4229.8	4229.8	4229.8	4229.8	4229.8
2.5°	4231.6	4227.9	4204.2	4231.6	4230.4
5°	4183.0	4186.0	4173.2	4212.1	4215.2
7.5°	4092.4	4104.5	4118.5	4175.7	4186.0
10°	3980.5	3998.8	4039.5	4124.6	4146.5
12.5°	3854.7	3874.8	3941.0	4058.3	4088.7
15°	3704.5	3742.2	3823.7	3972.0	4024.3
17.5°	3549.5	3595.7	3696.6	3872.3	3942.8
20°	3375.1	3421.3	3550.1	3745.9	3837.1
22.5°	3200.0	3245.0	3402.4	3610.9	3724.6
25°	2989.0	3059.0	3230.4	3455.3	3578.1
27.5°	2787.2	2861.4	3052.3	3293.6	3415.8
30°	2574.5	2661.4	2868.7	3099.1	3237.7
32.5°	2363.5	2451.7	2663.2	2903.3	3040.7
35°	2144.7	2243.8	2454.1	2683.9	2812.8
37.5°	1922.8	2031.0	2247.4	2473.5	2577.5
40°	1716.7	1823.1	2037.7	2240.1	2365.3
42.5°	1526.4	1631.0	1829.8	2013.4	2125.8
45°	1334.9	1438.9	1639.5	1800.6	1901.5
47.5°	1163.5	1269.9	1456.5	1619.4	1703.9
50°	1013.4	1110.0	1291.8	1439.5	1528.3
52.5°	876.0	964.1	1144.1	1287.5	1373.2
55°	748.3	837.7	1012.8	1151.4	1236.5
57.5°	662.6	726.4	883.9	1037.7	1147.1
60°	587.8	627.4	773.9	956.2	1016.4
62.5°	511.9	547.7	668.1	828.6	922.2
65°	451.7	478.4	575.7	739.2	840.1
67.5°	392.1	412.2	495.4	652.9	755.0
70°	340.4	353.2	418.2	567.8	674.8
72.5°	291.2	297.9	356.2	490.0	596.3
75°	238.9	247.4	295.4	410.3	521.0
77.5°	189.1	201.2	243.8	342.2	434.6
80°	145.3	155.0	196.4	281.5	350.2
82.5°	100.9	114.3	153.2	222.5	268.1
85°	62.6	77.8	115.5	172.6	173.9
87.5°	26.1	48.6	84.5	127.7	88.8
90°	0.6	26.1	59.0	90.0	18.8
92.5°	0.0	12.2	40.1	64.4	10.9
95°	0.6	4.3	24.9	43.2	7.9
97.5°	0.0	1.2	13.4	27.4	4.9
100°	0.0	0.6	5.5	15.2	3.0
102.5°	0.0	0.6	2.4	6.7	1.8
105°	0.0	0.6	1.2	2.4	1.2
107.5°	0.0	0.6	0.6	0.6	0.6
110°	0.6	0.6	0.6	0.6	0.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	0.6	0.6	0.0	0.0
115°	0.6	0.6	0.6	0.0	0.0
117.5°	0.6	0.6	0.6	0.0	0.0
120°	0.6	0.6	0.6	0.0	0.0
122.5°	0.6	0.6	0.6	0.0	0.0
125°	0.6	0.6	0.6	0.0	0.0
127.5°	0.6	0.6	0.6	0.0	0.0
130°	0.6	0.6	0.6	0.0	0.0
132.5°	0.6	1.2	0.6	0.6	0.0
135°	0.6	1.2	0.6	0.6	0.0
137.5°	0.6	1.2	0.6	0.6	0.0
140°	0.6	1.2	0.6	0.6	0.6
142.5°	1.2	1.2	1.2	0.6	0.6
145°	1.2	1.2	1.2	0.6	0.6
147.5°	1.2	1.2	1.2	0.6	0.6
150°	1.2	1.2	1.2	0.6	0.6
152.5°	1.2	1.8	1.2	0.6	0.6
155°	1.2	1.8	1.2	0.6	0.6
157.5°	1.2	1.8	1.2	0.6	0.6
160°	1.2	1.8	1.2	0.6	0.6
162.5°	1.8	1.8	1.2	1.2	0.6
165°	1.8	1.8	1.8	1.2	0.6
167.5°	1.8	1.8	1.8	1.2	0.6
170°	1.8	1.8	1.8	1.2	1.2
172.5°	1.8	1.8	1.8	1.2	1.2
175°	1.8	2.4	1.8	1.2	1.2
177.5°	1.8	2.4	1.8	1.2	1.2
180°	1.8	1.8	1.8	1.8	1.8

(END OF REPORT)