

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: P685753

Luminaire Tested: **4CZL-16-UNV-N-LVR-L935-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685753  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-16-UNV-N-LVR-L935-CD-U  
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH NARROW LENS @90 CRI and 3500K  
Light Source: (588) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

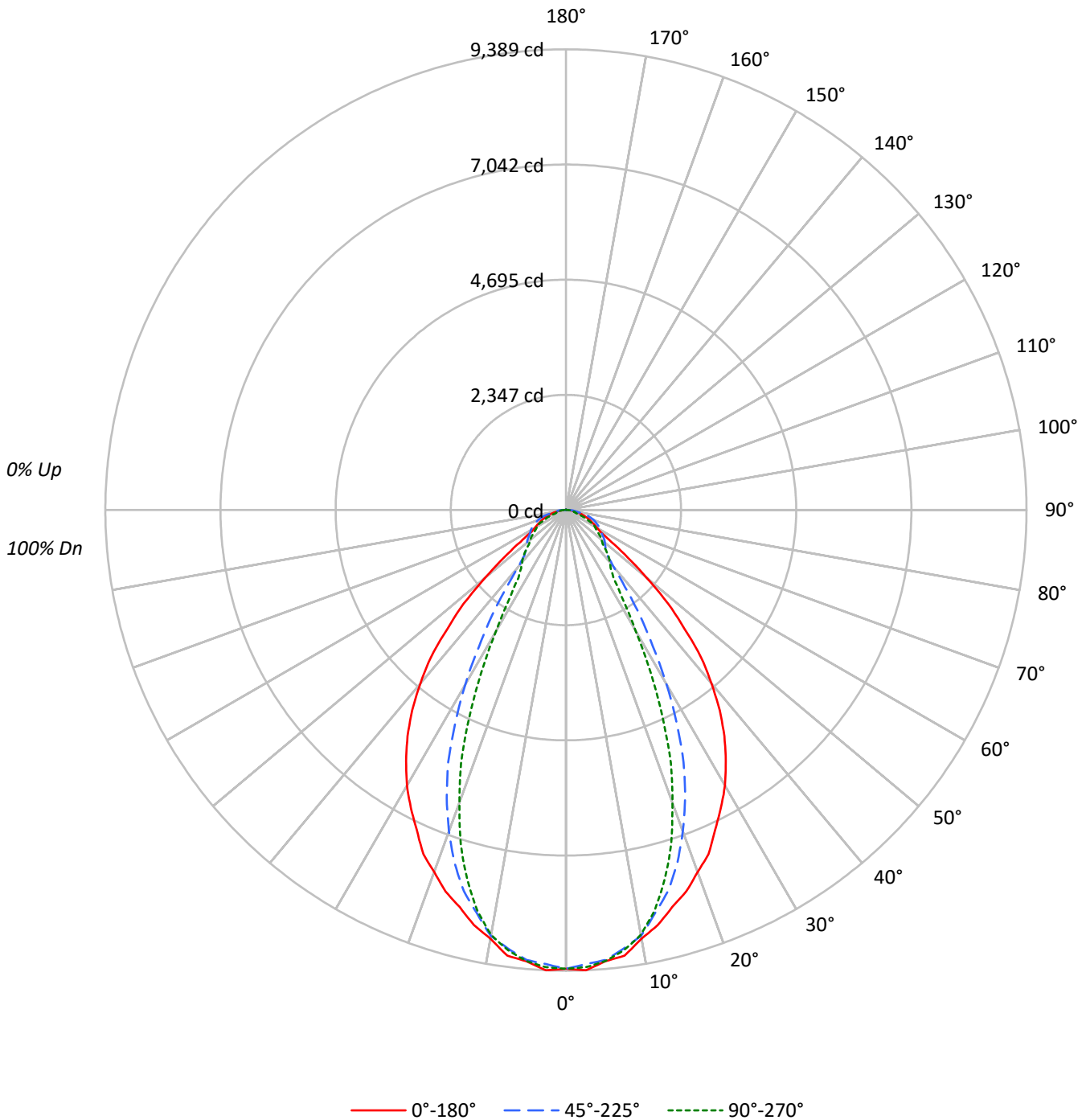
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11068.9 lumens  
Efficiency: N/A  
Efficacy: 107.5 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 0.8 / 0.85  
Luminous Opening: Rectangular (W 0.83' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 103  
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	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	93	92	90	88
2	103	97	92	87	101	95	90	86	92	88	84	88	85	82	86	83	80	86	83	80	78
3	97	88	82	77	94	87	81	76	84	79	75	81	77	73	79	75	72	79	75	72	70
4	90	81	74	68	88	79	73	68	77	71	67	75	70	66	73	69	65	73	69	65	63
5	85	74	67	62	83	73	66	61	71	65	61	69	64	60	68	63	59	68	63	59	58
6	80	69	61	56	78	68	61	56	66	60	55	65	59	55	63	58	55	63	58	55	53
7	75	64	57	51	73	63	56	51	62	55	51	60	55	51	59	54	50	59	54	50	49
8	71	59	52	47	69	59	52	47	58	51	47	56	51	47	55	50	47	55	50	47	45
9	67	56	49	44	66	55	49	44	54	48	44	53	48	44	52	47	43	52	47	43	42
10	64	52	46	41	62	52	45	41	51	45	41	50	45	41	49	44	41	49	44	41	39

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

	0°	45°	90°
0°	30189	30189	30189
5°	29922	29837	29914
10°	29078	28899	28829
15°	27999	26882	26029
20°	26968	23947	21800
25°	25628	20221	16623
30°	24174	15296	10621
35°	22188	10370	6672
40°	19459	6317	5853
45°	15590	5263	5245
50°	10779	5201	4735
55°	6350	5155	4459
60°	4732	5356	4405
65°	4478	5392	3873
70°	4307	5751	2924
75°	4061	5772	2500
80°	3771	4787	2828
85°	3346	5810	3494



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	868.4	7.8
10°-20°	2248.6	20.3
20°-30°	2626.9	23.7
30°-40°	1948.9	17.6
40°-50°	1292.0	11.7
50°-60°	856.8	7.7
60°-70°	639.3	5.8
70°-80°	377.3	3.4
80°-90°	158.9	1.4
90°-100°	34.3	0.3
100°-110°	4.6	0.0
110°-120°	2.4	0.0
120°-130°	2.2	0.0
130°-140°	2.1	0.0
140°-150°	2.2	0.0
150°-160°	1.9	0.0
160°-170°	1.4	0.0
170°-180°	0.5	0.0
0°-30°	5744.0	51.9
0°-40°	7692.9	69.5
0°-60°	9841.7	88.9
0°-90°	11017.2	99.5
90°-120°	41.4	0.4
90°-150°	47.8	0.4
90°-180°	52.0	0.5
0°-180°	11068.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	9349	9349	9349	9349	9349	
5°	9231	9223	9205	9238	9228	873
15°	8375	8276	8041	7902	7786	2363
25°	7193	6676	5675	4868	4665	3313
35°	5628	4170	2630	1778	1693	3494
45°	3414	2014	1152	1196	1148	2628
55°	1128	991	916	884	792	1110
65°	586	655	706	690	507	584
75°	326	364	463	336	200	344
85°	90	110	157	208	94	97
90°	2	33	78	135	28	6
95°	1	6	31	67	14	1
105°	1	2	3	6	5	1
115°	1	2	2	3	3	1
125°	2	2	2	3	3	1
135°	2	2	2	3	3	1
145°	2	3	3	4	4	2
155°	3	4	4	5	5	1
165°	4	5	5	6	6	1
175°	4	5	6	6	7	0
180°	6	6	6	6	6	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	9348.8	9348.8	9348.8	9348.8	9348.8
2.5°	9389.2	9338.5	9265.6	9331.4	9325.8
5°	9230.8	9222.8	9204.6	9237.9	9228.4
7.5°	9159.5	9116.7	9015.3	9093.7	9049.4
10°	8868.0	8818.1	8813.3	8797.5	8792.0
12.5°	8661.3	8601.1	8408.6	8398.3	8355.5
15°	8375.3	8275.5	8041.1	7902.5	7786.0
17.5°	8153.5	7936.5	7545.2	7287.0	7137.3
20°	7847.8	7608.6	6968.6	6517.9	6343.7
22.5°	7595.9	7172.2	6349.2	5711.6	5592.0
25°	7192.8	6675.6	5675.2	4868.1	4665.3
27.5°	6842.7	6129.0	4879.9	3994.4	3745.7
30°	6483.1	5516.8	4102.1	3137.4	2848.3
32.5°	6064.1	4899.7	3301.3	2354.0	2144.9
35°	5628.4	4170.2	2630.5	1778.2	1692.6
37.5°	5148.4	3514.4	1977.0	1485.1	1499.4
40°	4616.2	2942.5	1498.6	1361.6	1388.5
42.5°	4085.5	2461.0	1246.7	1280.8	1288.7
45°	3413.8	2014.2	1152.5	1196.0	1148.5
47.5°	2826.9	1645.9	1085.9	1081.2	1013.8
50°	2145.7	1341.8	1035.2	978.2	942.6
52.5°	1588.9	1131.9	986.9	924.3	887.9
55°	1127.9	990.9	915.6	883.9	792.1
57.5°	847.5	891.1	861.0	789.7	725.5
60°	732.7	803.2	829.3	744.5	682.0
62.5°	661.4	727.9	777.8	717.6	624.1
65°	586.1	655.0	705.7	689.9	506.9
67.5°	520.4	597.2	659.8	591.7	414.3
70°	456.2	527.5	609.1	502.2	309.7
72.5°	387.3	441.2	539.4	390.5	225.7
75°	325.5	364.4	462.6	335.8	200.4
77.5°	260.6	293.1	316.8	305.7	176.6
80°	202.8	235.2	257.4	278.0	152.1
82.5°	147.3	168.7	204.4	246.3	126.7
85°	90.3	110.1	156.8	208.3	94.3
87.5°	38.8	67.3	114.8	172.7	61.8
90°	1.6	33.3	78.4	134.7	27.7
92.5°	0.8	14.3	50.7	99.0	18.2
95°	0.8	5.5	30.9	67.3	14.3
97.5°	0.8	2.4	15.8	43.6	10.3
100°	0.8	1.6	8.7	25.3	7.1
102.5°	0.8	1.6	4.0	12.7	5.5
105°	0.8	1.6	3.2	5.5	4.8
107.5°	0.8	1.6	2.4	4.0	4.0
110°	0.8	1.6	2.4	4.0	4.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.8	1.6	2.4	4.0	4.0
115°	0.8	1.6	2.4	3.2	3.2
117.5°	0.8	1.6	2.4	3.2	3.2
120°	0.8	1.6	2.4	3.2	3.2
122.5°	0.8	1.6	2.4	3.2	3.2
125°	1.6	1.6	2.4	3.2	3.2
127.5°	1.6	2.4	2.4	3.2	3.2
130°	1.6	2.4	2.4	3.2	3.2
132.5°	1.6	2.4	2.4	3.2	3.2
135°	1.6	2.4	2.4	3.2	3.2
137.5°	1.6	2.4	3.2	3.2	3.2
140°	2.4	3.2	3.2	3.2	3.2
142.5°	2.4	3.2	3.2	4.0	3.2
145°	2.4	3.2	3.2	4.0	4.0
147.5°	2.4	3.2	4.0	4.0	4.0
150°	2.4	3.2	4.0	4.8	4.8
152.5°	3.2	3.2	4.0	4.8	4.8
155°	3.2	4.0	4.0	4.8	4.8
157.5°	3.2	4.0	4.0	4.8	5.5
160°	3.2	4.0	4.8	5.5	5.5
162.5°	3.2	4.0	4.8	5.5	5.5
165°	4.0	4.8	4.8	5.5	5.5
167.5°	4.0	4.8	5.5	5.5	6.3
170°	4.0	4.8	5.5	6.3	6.3
172.5°	4.0	4.8	5.5	6.3	6.3
175°	4.0	4.8	5.5	6.3	7.1
177.5°	4.0	4.8	5.5	6.3	7.1
180°	5.5	5.5	5.5	5.5	5.5

(END OF REPORT)