

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: P685809

Luminaire Tested: **4CZL-5-UNV-M-LVR-L935-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685809  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-5-UNV-M-LVR-L935-CD-U  
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH MEDIUM LENS @90 CRI and 3500K  
Light Source: (392) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

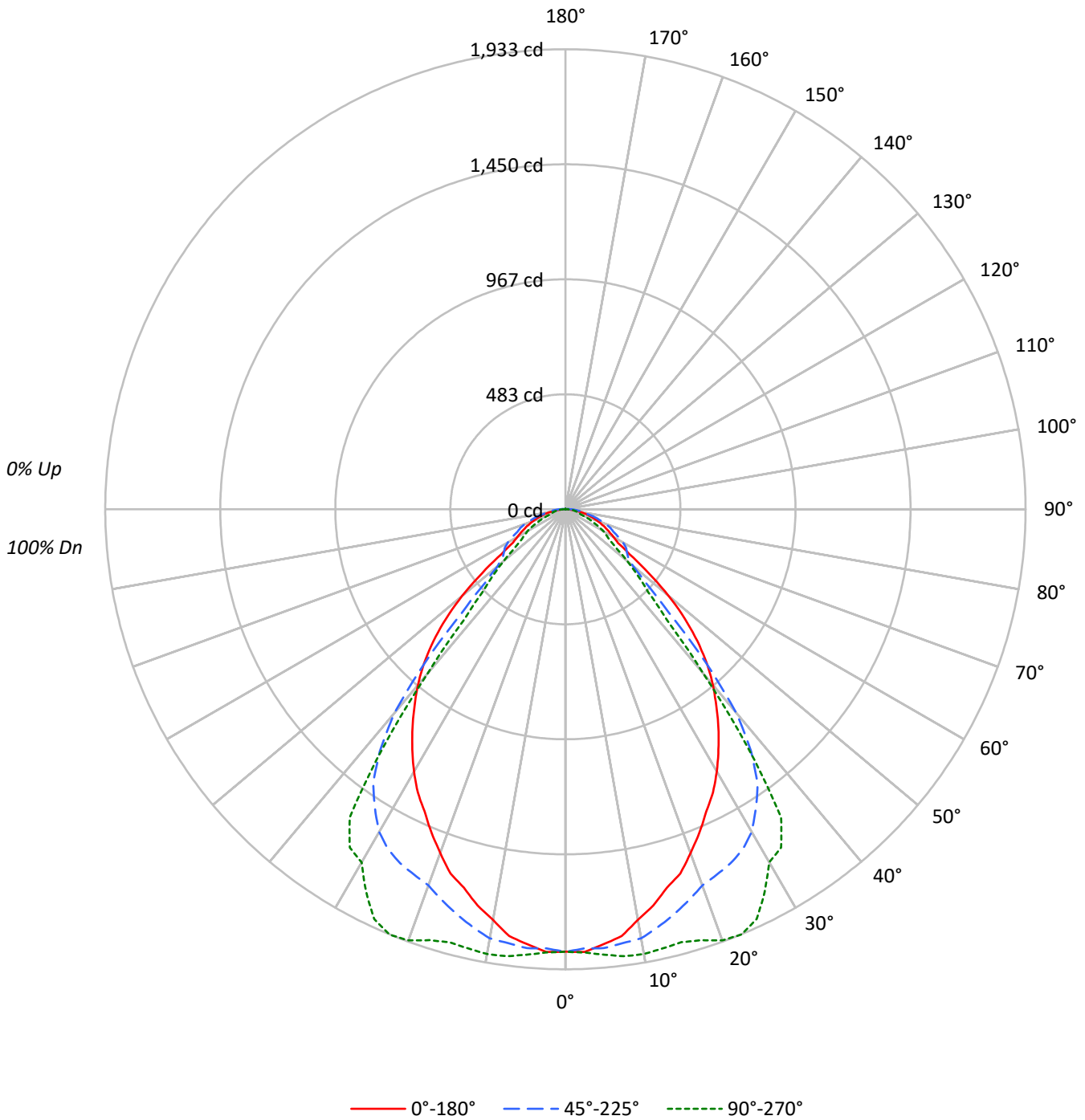
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3438.4 lumens  
Efficiency: N/A  
Efficacy: 110.9 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): 31  
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				
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°	6002	6002	6002
5°	5947	6000	6090
10°	5745	6004	6223
15°	5503	5892	6296
20°	5281	5780	6623
25°	4990	5848	6770
30°	4743	5835	6386
35°	4416	5549	6227
40°	4065	4704	3795
45°	3582	2804	2249
50°	2843	1862	1698
55°	1841	1771	1288
60°	1503	1800	1183
65°	1432	1696	967
70°	1360	1702	765
75°	1291	1593	711
80°	1194	1506	798
85°	1067	1841	978



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	176.4	5.1
10°-20°	500.3	14.6
20°-30°	754.5	21.9
30°-40°	833.7	24.2
40°-50°	522.7	15.2
50°-60°	281.4	8.2
60°-70°	191.1	5.6
70°-80°	114.1	3.3
80°-90°	49.6	1.4
90°-100°	10.9	0.3
100°-110°	1.2	0.0
110°-120°	0.5	0.0
120°-130°	0.4	0.0
130°-140°	0.5	0.0
140°-150°	0.4	0.0
150°-160°	0.3	0.0
160°-170°	0.3	0.0
170°-180°	0.1	0.0
<b>0°-30°</b>	<b>1431.2</b>	<b>41.6</b>
<b>0°-40°</b>	<b>2264.8</b>	<b>65.9</b>
<b>0°-60°</b>	<b>3069.0</b>	<b>89.3</b>
<b>0°-90°</b>	<b>3423.8</b>	<b>99.6</b>
90°-120°	12.6	0.4
90°-150°	13.9	0.4
<b>90°-180°</b>	<b>15.0</b>	<b>0.4</b>
<b>0°-180°</b>	<b>3438.4</b>	<b>100.0</b>

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1859	1859	1859	1859	1859	
5°	1835	1838	1851	1873	1879	173
15°	1646	1704	1762	1848	1883	465
25°	1400	1486	1641	1816	1900	647
35°	1120	1252	1408	1514	1580	699
45°	784	854	614	500	492	598
55°	327	342	315	272	229	318
65°	187	206	222	180	126	185
75°	104	115	128	105	57	109
85°	29	35	50	65	26	31
90°	1	11	25	42	8	2
95°	0	2	10	22	4	0
105°	0	0	1	2	1	0
115°	0	0	0	0	0	0
125°	0	0	0	0	0	0
135°	0	0	1	1	1	0
145°	0	1	1	1	1	0
155°	1	1	1	1	1	0
165°	1	1	1	1	1	0
175°	1	1	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°	1858.8	1858.8	1858.8	1858.8	1858.8
2.5°	1861.2	1856.1	1846.7	1863.6	1863.9
5°	1834.6	1837.7	1851.0	1872.8	1878.7
7.5°	1808.6	1820.7	1838.7	1891.3	1893.9
10°	1752.1	1777.4	1830.9	1881.6	1897.8
12.5°	1705.1	1742.5	1797.7	1864.4	1889.6
15°	1646.2	1703.9	1762.3	1847.6	1883.3
17.5°	1605.0	1651.3	1722.8	1839.9	1898.3
20°	1536.9	1602.1	1681.9	1845.2	1927.4
22.5°	1470.7	1550.0	1661.3	1847.2	1933.4
25°	1400.5	1485.5	1641.4	1816.4	1900.2
27.5°	1342.3	1413.5	1611.8	1752.1	1812.7
30°	1272.0	1355.9	1565.0	1654.0	1712.6
32.5°	1196.4	1302.8	1489.2	1578.8	1685.5
35°	1120.3	1251.9	1407.7	1514.4	1579.6
37.5°	1040.8	1209.9	1279.8	1297.0	1252.4
40°	964.4	1151.5	1115.9	949.4	900.2
42.5°	881.0	1026.0	870.4	653.2	631.2
45°	784.3	853.9	613.9	500.5	492.5
47.5°	681.3	661.2	457.9	418.3	413.7
50°	566.0	528.6	370.6	369.1	337.9
52.5°	441.1	419.8	332.3	320.2	270.5
55°	327.0	342.0	314.6	272.2	228.8
57.5°	261.8	296.7	302.2	237.8	204.6
60°	232.7	259.6	278.7	218.6	183.2
62.5°	208.7	230.0	249.6	202.9	158.0
65°	187.4	206.0	222.0	180.3	126.5
67.5°	164.8	184.2	203.8	154.9	107.6
70°	144.0	164.6	180.3	137.4	81.0
72.5°	122.4	143.7	150.8	114.9	64.7
75°	103.5	115.1	127.7	104.9	57.0
77.5°	83.6	93.6	98.6	96.2	50.2
80°	64.2	72.2	81.0	87.5	42.9
82.5°	47.0	52.8	64.7	77.1	34.4
85°	28.8	35.4	49.7	65.4	26.4
87.5°	12.8	21.1	36.6	54.1	17.0
90°	0.7	10.9	25.2	41.9	7.8
92.5°	0.2	4.8	16.5	31.0	5.3
95°	0.2	1.7	9.9	21.6	3.9
97.5°	0.2	0.7	5.6	13.8	2.4
100°	0.2	0.5	2.7	8.0	1.7
102.5°	0.2	0.5	1.2	3.9	1.2
105°	0.2	0.5	0.7	1.7	0.7
107.5°	0.2	0.5	0.5	0.7	0.5
110°	0.2	0.5	0.5	0.5	0.5



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.2	0.5	0.5	0.5	0.5
115°	0.2	0.5	0.5	0.5	0.5
117.5°	0.2	0.5	0.5	0.5	0.5
120°	0.2	0.5	0.5	0.5	0.5
122.5°	0.2	0.5	0.5	0.5	0.5
125°	0.2	0.5	0.5	0.5	0.5
127.5°	0.2	0.5	0.5	0.5	0.5
130°	0.2	0.5	0.5	0.5	0.5
132.5°	0.5	0.5	0.7	0.7	0.7
135°	0.5	0.5	0.7	0.7	0.7
137.5°	0.5	0.7	0.7	0.7	0.7
140°	0.5	0.7	0.7	0.7	0.7
142.5°	0.5	0.7	0.7	0.7	0.7
145°	0.5	0.7	0.7	0.7	1.0
147.5°	0.5	0.7	0.7	0.7	1.0
150°	0.5	0.7	0.7	0.7	0.7
152.5°	0.7	0.7	0.7	0.7	0.7
155°	0.7	0.7	0.7	0.7	0.7
157.5°	0.7	0.7	0.7	1.0	1.0
160°	0.7	1.0	1.0	1.0	1.0
162.5°	0.7	1.0	1.0	1.0	1.0
165°	0.7	1.0	1.0	1.0	1.0
167.5°	0.7	1.0	1.0	1.0	1.2
170°	1.0	1.0	1.0	1.2	1.2
172.5°	1.0	1.0	1.0	1.2	1.2
175°	1.0	1.0	1.0	1.2	1.2
177.5°	1.0	1.2	1.0	1.2	1.5
180°	1.2	1.2	1.2	1.2	1.2

(END OF REPORT)