

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: P685839

Luminaire Tested: **4CZL-5-UNV-W-LVR-L835-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685839  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-5-UNV-W-LVR-L835-CD-U  
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH WIDE LENS @80 CRI and 3500K  
Light Source: (392) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

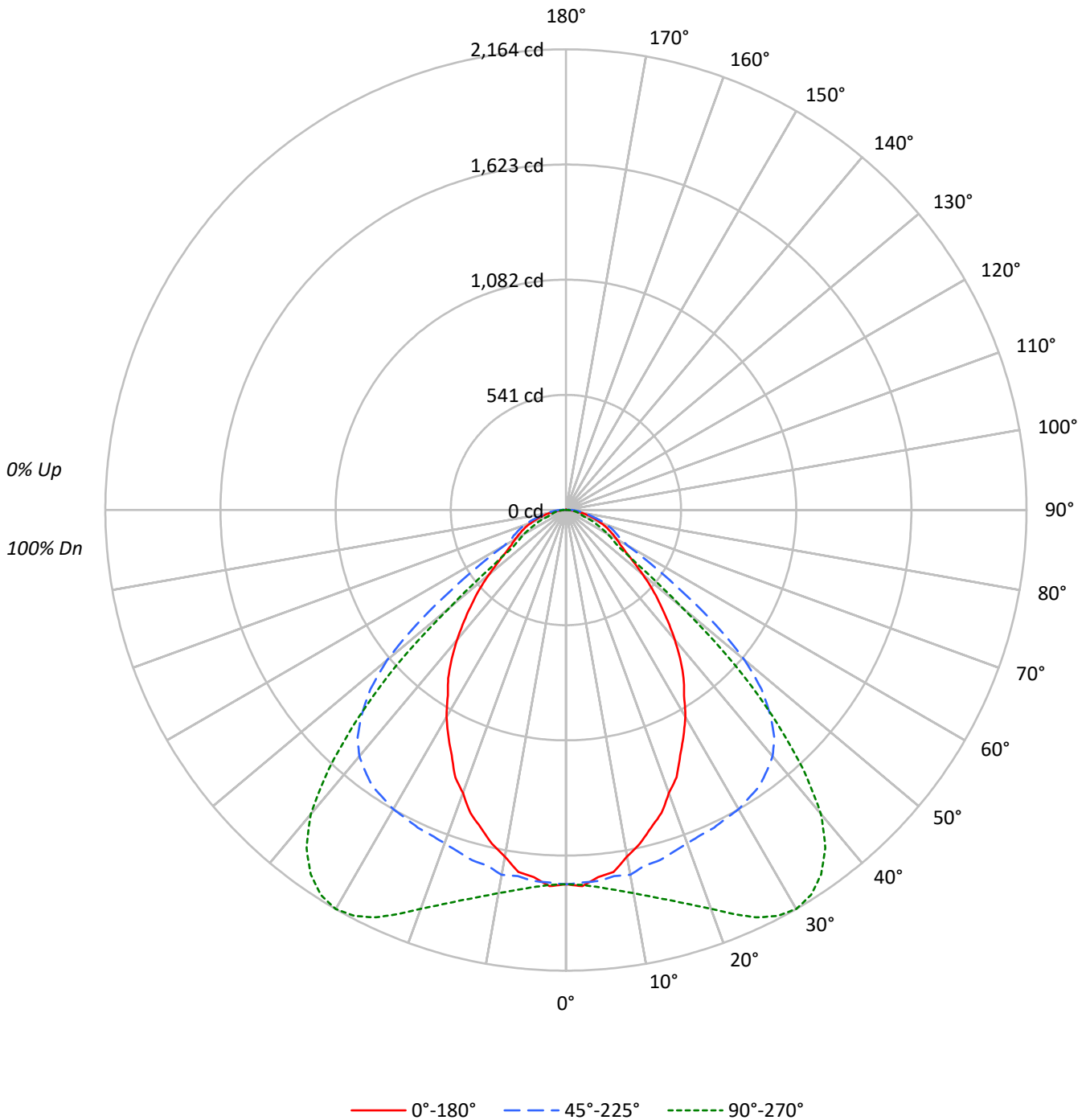
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4182.7 lumens  
Efficiency: N/A  
Efficacy: 134.9 lumens/watt  
Spacing Criteria (0/90/45): 1 / 1.64 / 1.46  
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 (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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66
4	87	76	68	62	85	75	68	62	72	66	61	70	65	60	68	63	59	57
5	80	69	61	55	78	68	60	54	66	59	54	64	58	53	62	57	53	51
6	75	62	54	48	73	62	54	48	60	53	48	58	52	47	57	51	47	45
7	69	57	49	43	68	56	48	43	55	48	43	53	47	42	52	46	42	40
8	65	52	44	39	63	51	44	39	50	43	38	49	43	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	40	35	45	39	35	44	39	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	35	31	30

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

	0°	45°	90°
0°	5677	5677	5677
5°	5612	5670	5763
10°	5419	5705	5992
15°	5163	5694	6345
20°	4860	5725	6848
25°	4525	5866	7522
30°	4184	6051	8069
35°	3801	6247	8238
40°	3351	6365	7860
45°	2857	6191	6301
50°	2368	5505	3575
55°	1928	3720	1710
60°	1781	2163	1477
65°	1716	1990	1201
70°	1620	1952	858
75°	1507	1782	835
80°	1374	1750	917
85°	1052	2097	1011



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	167.2	4.0
10°-20°	485.2	11.6
20°-30°	770.0	18.4
30°-40°	961.8	23.0
40°-50°	883.4	21.1
50°-60°	471.4	11.3
60°-70°	242.6	5.8
70°-80°	133.4	3.2
80°-90°	55.0	1.3
90°-100°	10.6	0.3
100°-110°	0.6	0.0
110°-120°	0.1	0.0
120°-130°	0.2	0.0
130°-140°	0.3	0.0
140°-150°	0.3	0.0
150°-160°	0.2	0.0
160°-170°	0.2	0.0
170°-180°	0.1	0.0
0°-30°	1422.4	34.0
0°-40°	2384.2	57.0
0°-60°	3739.0	89.4
0°-90°	4170.1	99.7
90°-120°	11.4	0.3
90°-150°	12.2	0.3
90°-180°	13.0	0.3
0°-180°	4182.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1758	1758	1758	1758	1758	
5°	1731	1736	1749	1776	1778	164
15°	1544	1595	1703	1842	1898	434
25°	1270	1389	1646	1948	2111	585
35°	964	1142	1585	1930	2090	599
45°	626	902	1356	1405	1380	484
55°	342	614	661	370	304	316
65°	225	294	260	212	157	222
75°	121	134	143	127	67	128
85°	28	37	57	74	27	33
90°	0	11	28	45	6	1
95°	0	1	11	21	3	0
105°	0	0	0	0	0	0
115°	0	0	0	0	0	0
125°	0	0	0	0	0	0
135°	0	1	1	0	0	0
145°	0	1	1	0	0	0
155°	1	1	1	0	0	0
165°	1	1	1	0	0	0
175°	1	1	1	0	0	0
180°	1	1	1	1	1	

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CATALOG NUMBER: 4CZL-5-UNV-W-LVR-L835-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1758.0	1758.0	1758.0	1758.0	1758.0
2.5°	1768.3	1764.5	1751.9	1763.3	1762.4
5°	1731.3	1735.7	1749.2	1776.2	1778.0
7.5°	1714.9	1726.9	1734.6	1792.9	1800.5
10°	1652.5	1671.2	1739.8	1800.5	1827.5
12.5°	1605.5	1643.4	1709.9	1812.9	1859.8
15°	1544.5	1595.0	1703.2	1841.9	1897.9
17.5°	1492.6	1544.2	1682.7	1863.9	1942.2
20°	1414.3	1507.9	1665.9	1886.8	1992.9
22.5°	1358.3	1453.0	1653.0	1907.0	2053.0
25°	1270.1	1389.4	1646.3	1947.8	2111.1
27.5°	1196.2	1335.7	1631.3	1973.9	2149.5
30°	1122.0	1270.1	1622.8	1978.5	2163.9
32.5°	1032.5	1216.7	1601.4	1967.7	2143.4
35°	964.2	1142.2	1584.7	1930.5	2089.7
37.5°	880.9	1083.6	1548.1	1863.0	2001.7
40°	795.0	1029.3	1509.9	1757.7	1864.5
42.5°	708.2	968.3	1448.9	1617.3	1649.8
45°	625.5	901.7	1355.7	1405.0	1379.7
47.5°	551.3	830.2	1245.4	1138.7	1079.4
50°	471.3	757.5	1095.9	866.8	711.7
52.5°	399.1	696.8	890.0	587.1	442.8
55°	342.5	614.1	660.7	370.1	303.8
57.5°	302.3	550.7	476.8	292.7	260.1
60°	275.7	471.5	334.9	268.6	228.7
62.5°	249.3	373.0	286.5	244.9	192.4
65°	224.6	294.4	260.4	212.3	157.2
67.5°	199.1	239.0	235.2	192.7	131.1
70°	171.6	196.5	206.7	161.3	90.9
72.5°	146.9	164.8	175.9	137.8	77.1
75°	120.8	134.0	142.8	127.0	66.9
77.5°	95.9	107.9	116.4	115.0	58.6
80°	73.9	81.8	94.1	102.9	49.3
82.5°	50.4	56.3	74.2	88.9	38.4
85°	28.4	37.2	56.6	74.5	27.3
87.5°	8.2	22.0	41.1	59.8	15.8
90°	0.0	10.6	27.9	45.2	5.9
92.5°	0.0	4.1	18.2	31.7	4.1
95°	0.0	1.2	10.6	20.8	2.6
97.5°	0.0	0.3	5.0	12.3	1.2
100°	0.0	0.3	1.8	5.9	0.3
102.5°	0.0	0.3	0.6	2.1	0.0
105°	0.0	0.3	0.3	0.3	0.0
107.5°	0.0	0.3	0.3	0.0	0.0
110°	0.0	0.3	0.3	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	0.3	0.3	0.0	0.0
115°	0.0	0.3	0.3	0.0	0.0
117.5°	0.0	0.3	0.3	0.0	0.0
120°	0.0	0.3	0.3	0.0	0.0
122.5°	0.0	0.3	0.3	0.0	0.0
125°	0.0	0.3	0.3	0.0	0.0
127.5°	0.3	0.3	0.3	0.3	0.0
130°	0.3	0.6	0.6	0.3	0.0
132.5°	0.3	0.6	0.6	0.3	0.0
135°	0.3	0.6	0.6	0.3	0.3
137.5°	0.3	0.6	0.6	0.3	0.3
140°	0.3	0.6	0.6	0.3	0.3
142.5°	0.3	0.6	0.6	0.3	0.3
145°	0.3	0.6	0.6	0.3	0.3
147.5°	0.3	0.6	0.6	0.3	0.3
150°	0.3	0.6	0.6	0.3	0.3
152.5°	0.6	0.6	0.6	0.3	0.3
155°	0.6	0.6	0.6	0.3	0.3
157.5°	0.6	0.6	0.6	0.3	0.3
160°	0.6	0.6	0.6	0.3	0.3
162.5°	0.6	0.9	0.6	0.3	0.3
165°	0.6	0.9	0.6	0.3	0.3
167.5°	0.6	0.9	0.6	0.3	0.3
170°	0.6	0.9	0.6	0.3	0.3
172.5°	0.6	0.9	0.6	0.3	0.3
175°	0.9	0.9	0.6	0.3	0.3
177.5°	0.9	0.9	0.6	0.6	0.6
180°	0.6	0.6	0.6	0.6	0.6

(END OF REPORT)