

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: P685779

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

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685779  
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-L835-CD-U  
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH MEDIUM LENS @80 CRI and 3500K  
Light Source: (392) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

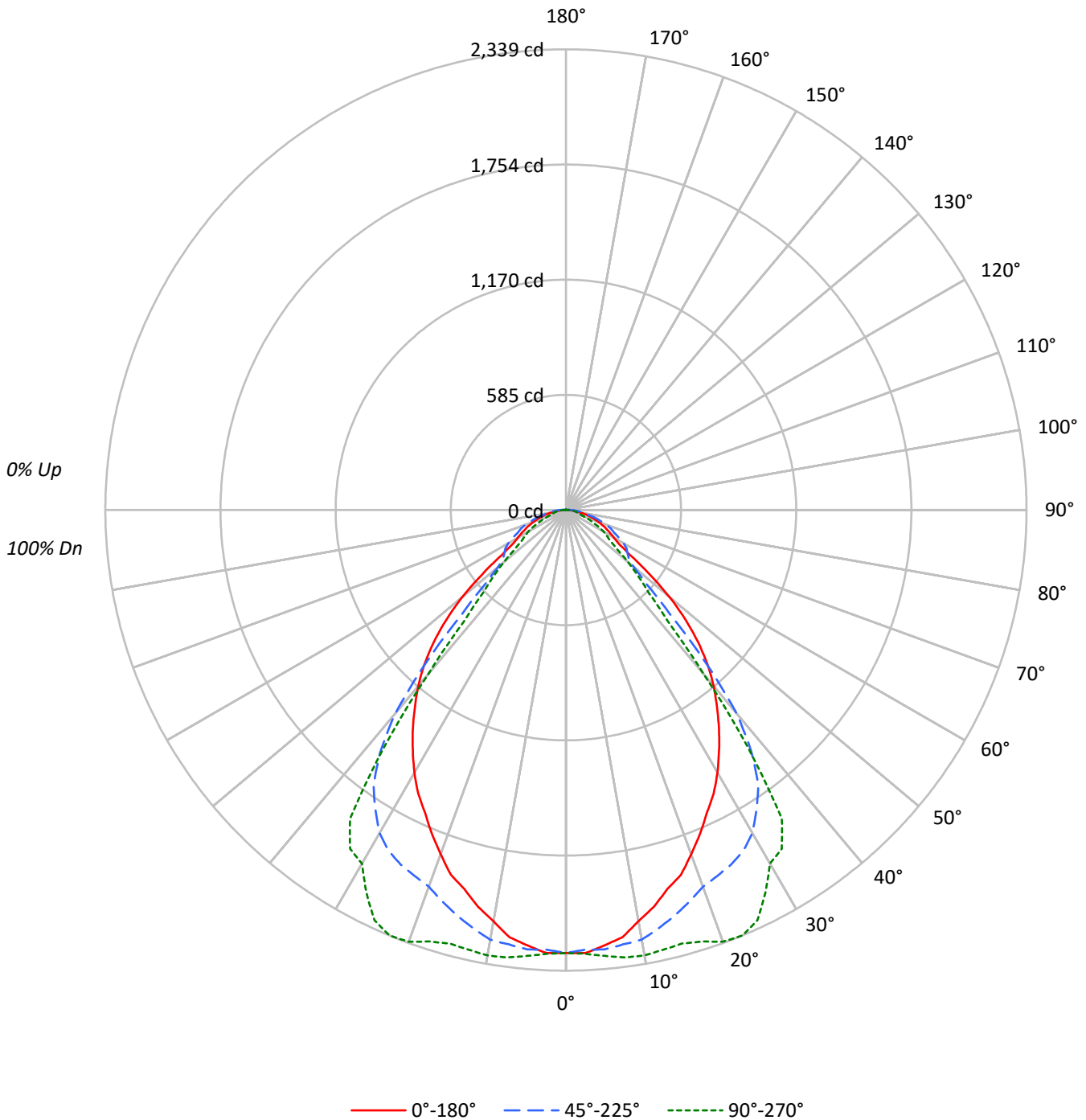
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4160.0 lumens  
Efficiency: N/A  
Efficacy: 134.2 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 (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

TEST NUMBER: P685779  
CATALOG NUMBER: 4CZL-5-UNV-M-LVR-L835-CD-U

### Luminous Intensity Polar Plot





TEST NUMBER: P685779

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

**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
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	100
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	90	90	88
2	103	96	90	86	100	94	89	84	91	86	83	87	84	81	84	81	79	79	79	77
3	95	87	80	74	93	85	79	74	82	77	72	79	75	71	77	73	70	70	70	68
4	89	78	71	65	86	77	70	65	75	69	64	73	67	63	70	66	62	62	62	60
5	83	72	64	58	81	70	63	58	68	62	57	67	61	57	65	60	56	56	56	54
6	77	65	58	52	75	65	57	52	63	56	51	61	55	51	60	55	51	51	51	49
7	72	60	53	47	70	59	52	47	58	51	47	57	51	46	55	50	46	46	46	44
8	68	56	48	43	66	55	48	43	54	47	42	52	47	42	51	46	42	42	42	40
9	64	52	44	39	62	51	44	39	50	43	39	49	43	39	48	42	39	39	39	37
10	60	48	41	36	59	47	41	36	46	40	36	46	40	36	45	39	35	35	35	34

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

	0°	45°	90°
0°	7262	7262	7262
5°	7195	7259	7368
10°	6951	7263	7529
15°	6658	7128	7617
20°	6390	6992	8013
25°	6037	7075	8191
30°	5738	7060	7726
35°	5343	6714	7533
40°	4919	5691	4591
45°	4333	3392	2721
50°	3440	2253	2054
55°	2227	2143	1558
60°	1818	2178	1432
65°	1732	2052	1170
70°	1645	2060	924
75°	1562	1928	860
80°	1445	1821	965
85°	1293	2227	1186



TEST NUMBER: P685779  
 CATALOG NUMBER: 4CZL-5-UNV-M-LVR-L835-CD-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	213.4	5.1
10°-20°	605.3	14.6
20°-30°	912.8	21.9
30°-40°	1008.6	24.2
40°-50°	632.4	15.2
50°-60°	340.5	8.2
60°-70°	231.2	5.6
70°-80°	138.1	3.3
80°-90°	60.0	1.4
90°-100°	13.1	0.3
100°-110°	1.5	0.0
110°-120°	0.6	0.0
120°-130°	0.5	0.0
130°-140°	0.6	0.0
140°-150°	0.6	0.0
150°-160°	0.4	0.0
160°-170°	0.3	0.0
170°-180°	0.1	0.0
0°-30°	1731.5	41.6
0°-40°	2740.0	65.9
0°-60°	3712.9	89.3
0°-90°	4142.2	99.6
90°-120°	15.2	0.4
90°-150°	16.9	0.4
90°-180°	18.0	0.4
0°-180°	4160.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2249	2249	2249	2249	2249	
5°	2220	2223	2239	2266	2273	209
15°	1992	2061	2132	2235	2278	562
25°	1694	1797	1986	2198	2299	782
35°	1355	1515	1703	1832	1911	846
45°	949	1033	743	606	596	724
55°	396	414	381	329	277	384
65°	227	249	269	218	153	224
75°	125	139	154	127	69	132
85°	35	43	60	79	32	38
90°	1	13	30	51	9	2
95°	0	2	12	26	5	0
105°	0	1	1	2	1	0
115°	0	1	1	1	1	0
125°	0	1	1	1	1	0
135°	1	1	1	1	1	0
145°	1	1	1	1	1	0
155°	1	1	1	1	1	0
165°	1	1	1	1	1	0
175°	1	1	1	2	2	0
180°	2	2	2	2	2	



TEST NUMBER: P685779

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

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2248.8	2248.8	2248.8	2248.8	2248.8
2.5°	2251.7	2245.6	2234.2	2254.7	2255.0
5°	2219.5	2223.3	2239.4	2265.8	2272.9
7.5°	2188.1	2202.8	2224.5	2288.1	2291.3
10°	2119.8	2150.3	2215.1	2276.4	2296.0
12.5°	2062.9	2108.1	2174.9	2255.6	2286.1
15°	1991.6	2061.4	2132.1	2235.3	2278.4
17.5°	1941.8	1997.8	2084.3	2225.9	2296.6
20°	1859.4	1938.3	2034.8	2232.4	2331.8
22.5°	1779.3	1875.2	2009.8	2234.7	2339.1
25°	1694.3	1797.2	1985.8	2197.5	2299.0
27.5°	1623.9	1710.1	1950.0	2119.8	2193.1
30°	1538.9	1640.4	1893.4	2001.0	2072.0
32.5°	1447.4	1576.1	1801.6	1910.1	2039.2
35°	1355.3	1514.6	1703.1	1832.1	1911.0
37.5°	1259.1	1463.8	1548.3	1569.1	1515.1
40°	1166.8	1393.2	1350.1	1148.6	1089.1
42.5°	1065.9	1241.3	1053.0	790.3	763.6
45°	948.9	1033.1	742.8	605.5	595.9
47.5°	824.3	799.9	553.9	506.1	500.6
50°	684.7	639.5	448.4	446.6	408.8
52.5°	533.7	507.9	402.0	387.4	327.2
55°	395.6	413.8	380.6	329.3	276.8
57.5°	316.7	358.9	365.7	287.7	247.5
60°	281.5	314.1	337.2	264.5	221.7
62.5°	252.5	278.3	302.0	245.4	191.2
65°	226.7	249.2	268.6	218.2	153.1
67.5°	199.4	222.9	246.6	187.4	130.2
70°	174.2	199.1	218.2	166.3	97.9
72.5°	148.1	173.9	182.4	139.0	78.3
75°	125.2	139.3	154.5	127.0	68.9
77.5°	101.2	113.2	119.3	116.4	60.7
80°	77.7	87.4	97.9	105.9	51.9
82.5°	56.9	63.9	78.3	93.2	41.6
85°	34.9	42.8	60.1	79.2	32.0
87.5°	15.5	25.5	44.3	65.4	20.5
90°	0.9	13.2	30.5	50.7	9.4
92.5°	0.3	5.9	19.9	37.5	6.5
95°	0.3	2.1	12.0	26.1	4.7
97.5°	0.3	0.9	6.7	16.7	2.9
100°	0.3	0.6	3.2	9.7	2.1
102.5°	0.3	0.6	1.5	4.7	1.5
105°	0.3	0.6	0.9	2.1	0.9
107.5°	0.3	0.6	0.6	0.9	0.6
110°	0.3	0.6	0.6	0.6	0.6



TEST NUMBER: P685779  
CATALOG NUMBER: 4CZL-5-UNV-M-LVR-L835-CD-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.3	0.6	0.6	0.6	0.6
115°	0.3	0.6	0.6	0.6	0.6
117.5°	0.3	0.6	0.6	0.6	0.6
120°	0.3	0.6	0.6	0.6	0.6
122.5°	0.3	0.6	0.6	0.6	0.6
125°	0.3	0.6	0.6	0.6	0.6
127.5°	0.3	0.6	0.6	0.6	0.6
130°	0.3	0.6	0.6	0.6	0.6
132.5°	0.6	0.6	0.9	0.9	0.9
135°	0.6	0.6	0.9	0.9	0.9
137.5°	0.6	0.9	0.9	0.9	0.9
140°	0.6	0.9	0.9	0.9	0.9
142.5°	0.6	0.9	0.9	0.9	0.9
145°	0.6	0.9	0.9	0.9	1.2
147.5°	0.6	0.9	0.9	0.9	1.2
150°	0.6	0.9	0.9	0.9	0.9
152.5°	0.9	0.9	0.9	0.9	0.9
155°	0.9	0.9	0.9	0.9	0.9
157.5°	0.9	0.9	0.9	1.2	1.2
160°	0.9	1.2	1.2	1.2	1.2
162.5°	0.9	1.2	1.2	1.2	1.2
165°	0.9	1.2	1.2	1.2	1.2
167.5°	0.9	1.2	1.2	1.2	1.5
170°	1.2	1.2	1.2	1.5	1.5
172.5°	1.2	1.2	1.2	1.5	1.5
175°	1.2	1.2	1.2	1.5	1.5
177.5°	1.2	1.5	1.2	1.5	1.8
180°	1.5	1.5	1.5	1.5	1.5

(END OF REPORT)