

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: P685600

Luminaire Tested: **4CZL-7-UNV-FUL-L835-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685600  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-7-UNV-FUL-L835-CD-U  
Description: METALUX CRUZE LINEAR 4FT FROSTED LENS MODEL WITH UPLIGHT @80 CRI and 3500K  
Light Source: (392) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

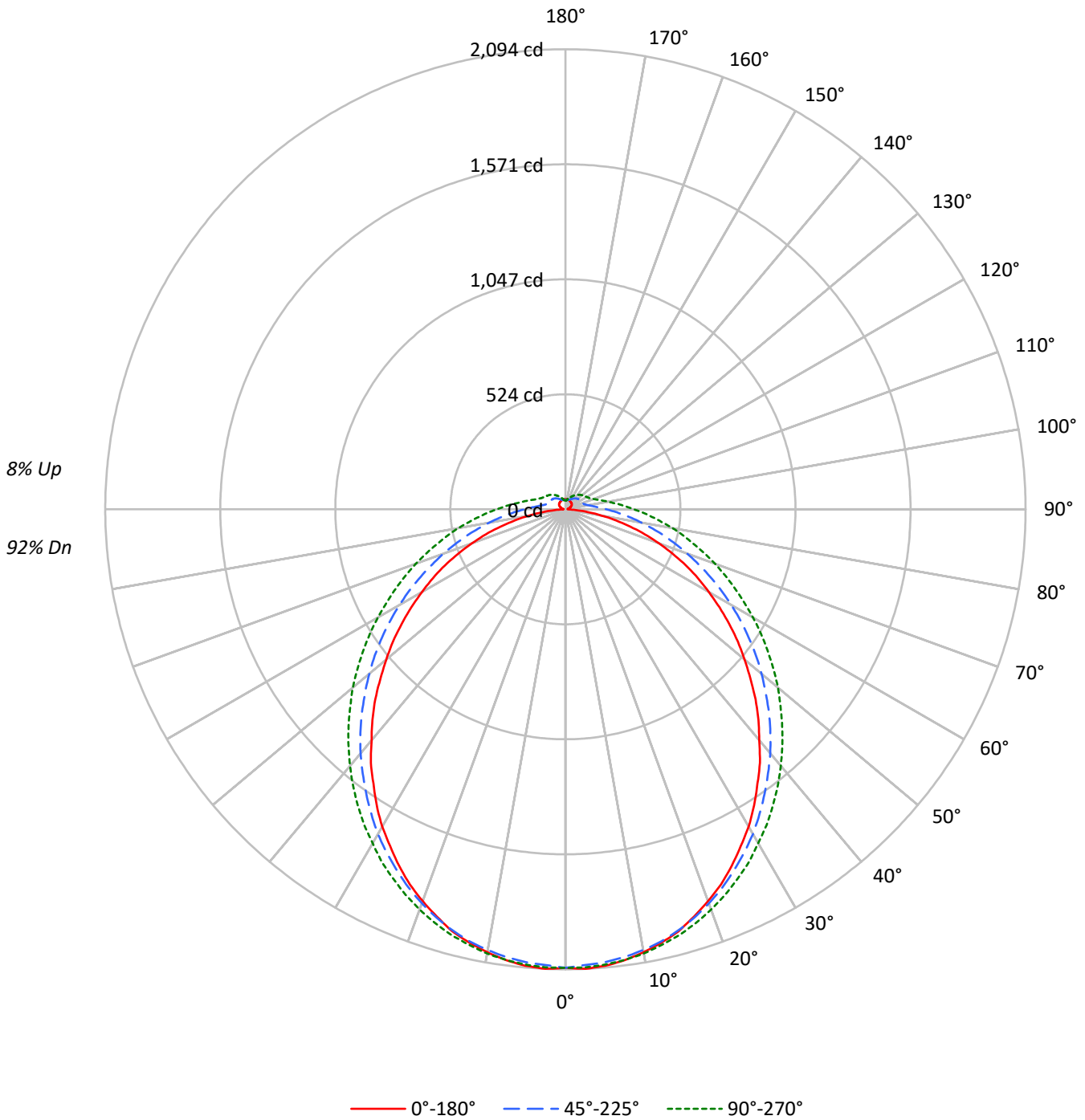
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6510.6 lumens  
Efficiency: N/A  
Efficacy: 148.0 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.25 / 1.34  
Luminous Opening: Rectangular w/ Sides (W: 0.83' x L: 4' x H: 0.17')  
CIE Type: Direct

Input Watts (W): 44  
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

TEST NUMBER: P685600  
CATALOG NUMBER: 4CZL-7-UNV-FUL-L835-CD-U

### Luminous Intensity Polar Plot





TEST NUMBER: P685600  
 CATALOG NUMBER: 4CZL-7-UNV-FUL-L835-CD-U

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				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	117	117	117	117	113	113	113	113	107	107	107	100	100	100	95	95	95	95	95	95	92
1	106	101	96	92	102	98	93	90	92	88	85	87	84	81	82	79	77	77	77	77	75
2	96	87	80	74	93	85	78	73	80	74	70	75	71	67	71	68	64	64	64	64	62
3	87	77	68	61	84	74	67	60	70	64	58	66	61	56	63	58	54	54	54	54	52
4	80	68	59	52	77	66	58	51	62	55	50	59	53	48	56	51	47	47	47	47	44
5	74	61	51	45	71	59	50	44	56	49	43	53	47	42	50	45	41	41	41	41	38
6	68	54	45	39	65	53	45	38	50	43	38	48	42	37	46	40	36	36	36	36	33
7	63	49	41	34	61	48	40	34	46	39	33	44	37	32	42	36	32	32	32	32	30
8	59	45	37	31	57	44	36	30	42	35	30	40	34	29	38	33	28	28	28	28	26
9	55	41	33	28	53	40	33	27	39	32	27	37	31	26	35	30	26	26	26	26	24
10	51	38	30	25	50	37	30	25	36	29	24	34	28	24	33	27	23	23	23	23	22

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

	0°	45°	90°
0°	6739	6739	6739
5°	6736	6609	6627
10°	6665	6485	6504
15°	6576	6344	6365
20°	6426	6176	6210
25°	6259	5985	6045
30°	6072	5792	5866
35°	5836	5564	5693
40°	5589	5346	5503
45°	5364	5107	5310
50°	5095	4863	5124
55°	4832	4610	4919
60°	4538	4342	4727
65°	4244	4065	4547
70°	3825	3794	4412
75°	3307	3539	4290
80°	2575	3336	4321
85°	1501	3239	4449



TEST NUMBER: P685600  
 CATALOG NUMBER: 4CZL-7-UNV-FUL-L835-CD-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	197.4	3.0
10°-20°	561.7	8.6
20°-30°	838.7	12.9
30°-40°	991.5	15.2
40°-50°	1010.3	15.5
50°-60°	911.0	14.0
60°-70°	720.8	11.1
70°-80°	487.2	7.5
80°-90°	272.4	4.2
90°-100°	148.3	2.3
100°-110°	97.2	1.5
110°-120°	77.1	1.2
120°-130°	65.6	1.0
130°-140°	52.5	0.8
140°-150°	37.6	0.6
150°-160°	24.2	0.4
160°-170°	13.1	0.2
170°-180°	4.1	0.1
0°-30°	1597.8	24.5
0°-40°	2589.2	39.8
0°-60°	4510.6	69.3
0°-90°	5991.0	92.0
90°-120°	322.6	5.0
90°-150°	478.3	7.3
90°-180°	520.0	8.0
0°-180°	6510.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2087	2087	2087	2087	2087	
5°	2086	2082	2069	2081	2080	198
15°	1989	1986	1984	2002	2006	560
25°	1791	1799	1814	1848	1855	824
35°	1524	1545	1580	1630	1646	954
45°	1224	1248	1309	1370	1395	942
55°	909	943	1019	1096	1123	813
65°	605	636	727	816	850	597
75°	306	349	464	568	600	325
85°	60	134	258	359	395	73
90°	9	74	186	278	312	7
95°	10	48	136	218	249	9
105°	17	43	89	141	162	18
115°	27	46	80	109	121	27
125°	36	48	76	98	106	32
135°	39	47	70	88	93	30
145°	41	45	59	74	79	26
155°	44	44	49	62	63	20
165°	46	45	44	46	50	13
175°	46	45	44	38	38	4
180°	43	43	43	43	43	

TEST NUMBER: P685600

CATALOG NUMBER: 4CZL-7-UNV-FUL-L835-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2087.0	2087.0	2087.0	2087.0	2087.0
2.5°	2093.7	2090.3	2076.5	2087.4	2087.0
5°	2085.7	2082.4	2069.4	2081.1	2080.3
7.5°	2070.2	2068.2	2056.0	2069.0	2068.6
10°	2047.6	2047.6	2037.2	2052.2	2053.5
12.5°	2020.4	2020.0	2014.6	2030.1	2030.1
15°	1989.1	1986.5	1984.5	2001.6	2005.8
17.5°	1944.3	1946.0	1949.7	1970.2	1974.4
20°	1898.2	1902.0	1909.1	1933.4	1938.8
22.5°	1848.9	1853.1	1864.3	1890.7	1899.5
25°	1790.7	1799.1	1813.7	1847.6	1854.7
27.5°	1727.9	1742.6	1761.4	1797.4	1809.5
30°	1667.7	1679.4	1706.6	1744.2	1754.7
32.5°	1598.2	1612.4	1644.2	1689.4	1703.7
35°	1523.7	1544.6	1580.2	1630.4	1646.3
37.5°	1454.2	1471.0	1514.9	1568.5	1587.3
40°	1372.2	1399.4	1450.0	1502.8	1524.5
42.5°	1300.2	1323.7	1380.6	1438.8	1461.3
45°	1223.6	1247.9	1309.4	1370.5	1395.2
47.5°	1141.6	1170.5	1236.2	1304.4	1327.4
50°	1064.6	1094.8	1165.1	1234.1	1263.0
52.5°	988.9	1020.3	1093.1	1165.9	1192.7
55°	909.4	943.3	1018.6	1095.6	1123.2
57.5°	831.5	865.4	945.8	1025.3	1055.0
60°	753.3	785.1	871.3	952.9	985.5
62.5°	680.0	711.0	799.7	887.6	916.1
65°	605.1	635.7	726.9	816.5	850.4
67.5°	527.7	564.5	656.2	749.9	785.9
70°	451.5	489.2	590.5	688.0	724.0
72.5°	379.6	422.3	524.4	624.0	660.8
75°	306.3	348.6	464.5	567.5	600.5
77.5°	237.3	286.7	405.9	509.7	548.6
80°	171.2	227.2	353.2	454.9	495.9
82.5°	112.6	176.6	304.2	405.1	441.9
85°	59.8	134.3	258.2	358.6	394.6
87.5°	23.4	99.6	219.7	316.4	352.4
90°	9.2	74.1	185.8	277.5	311.8
92.5°	9.2	57.8	158.2	246.1	278.3
95°	10.0	48.5	136.4	218.0	248.6
97.5°	10.9	43.9	119.3	193.3	220.5
100°	12.6	42.3	106.3	173.3	197.9
102.5°	14.6	42.3	95.8	154.8	178.3
105°	17.2	43.1	89.1	140.6	161.5
107.5°	19.3	43.9	84.5	128.9	147.7
110°	21.8	45.2	82.0	120.1	136.4

TEST NUMBER: P685600

CATALOG NUMBER: 4CZL-7-UNV-FUL-L835-CD-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	24.3	46.0	80.3	113.8	128.1
115°	26.8	46.5	79.5	108.8	120.9
117.5°	29.3	47.3	78.7	105.5	115.9
120°	31.8	47.7	77.8	102.9	112.2
122.5°	33.9	47.7	77.0	100.4	108.8
125°	35.6	48.1	75.7	97.9	105.9
127.5°	36.8	48.5	74.9	95.4	102.5
130°	38.1	48.1	73.7	92.9	99.6
132.5°	38.9	47.7	72.0	90.4	96.7
135°	39.3	47.3	70.3	87.5	93.3
137.5°	39.8	46.9	67.8	84.5	90.0
140°	39.8	46.5	64.9	81.2	86.2
142.5°	40.2	45.6	61.9	77.8	82.4
145°	41.0	45.2	59.0	74.5	78.7
147.5°	41.8	44.4	56.5	70.7	74.5
150°	42.7	44.4	54.0	67.4	70.7
152.5°	43.1	44.4	51.5	64.4	67.0
155°	43.9	44.4	49.0	61.5	63.2
157.5°	44.4	44.4	47.3	57.8	59.4
160°	44.8	44.8	45.6	53.6	56.1
162.5°	45.6	44.8	44.8	49.4	52.7
165°	45.6	44.8	43.9	46.0	49.8
167.5°	46.0	45.2	43.5	43.5	47.3
170°	46.0	45.2	43.5	41.4	43.5
172.5°	46.0	45.2	43.5	39.8	40.6
175°	46.0	45.2	43.5	38.1	38.5
177.5°	46.0	45.2	43.1	36.8	38.5
180°	42.7	42.7	42.7	42.7	42.7

(END OF REPORT)