

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: P685632

Luminaire Tested: **4CZL-12-UNV-FUL-L935-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685632
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-12-UNV-FUL-L935-CD-U
Description: METALUX CRUZE LINEAR 4FT FROSTED LENS MODEL WITH UPLIGHT @90 CRI
and 3500K
Light Source: (588) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

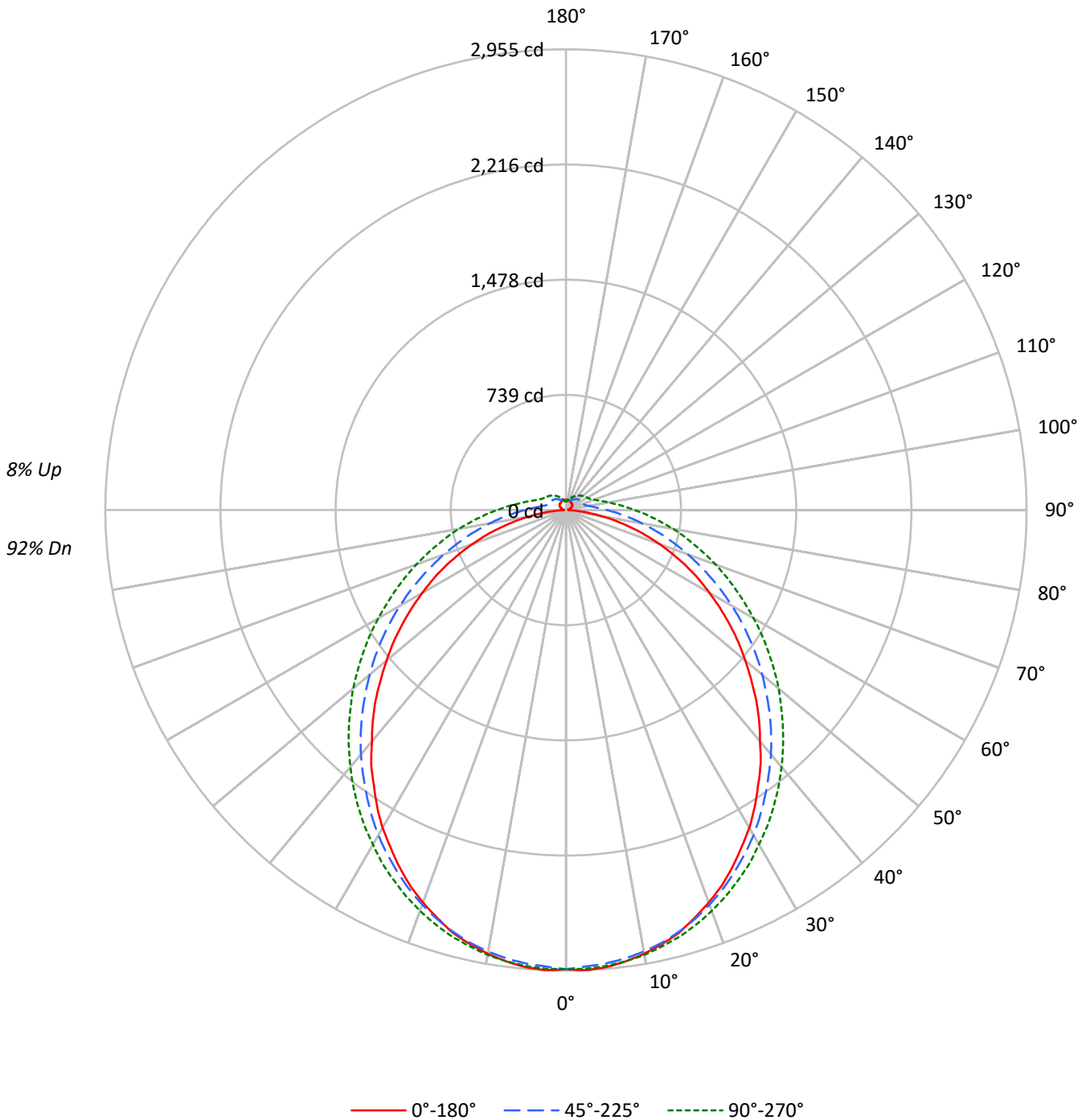
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9188.0 lumens
Efficiency: N/A
Efficacy: 119.3 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): 77
Input Voltage (V): 120
Input Current (A_{in}): 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: P685632
CATALOG NUMBER: 4CZL-12-UNV-FUL-L935-CD-U

Luminous Intensity Polar Plot





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CATALOG NUMBER: 4CZL-12-UNV-FUL-L935-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	50	30	10
RCR																							
0	117	117	117	117	113	113	113	113	107	107	107	100	100	100	95	95	95	95	95	95	95	95	95
1	106	101	96	92	102	98	93	90	92	88	85	87	84	81	82	79	77	77	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	64	64	62
3	87	77	68	61	84	74	67	60	70	64	58	66	61	56	63	58	54	54	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	47	47	44
5	74	61	51	45	71	59	50	44	56	49	43	53	47	42	50	45	41	41	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	36	36	33
7	63	49	41	34	61	48	40	34	46	39	33	44	37	32	42	36	32	32	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	28	28	26
9	55	41	33	28	53	40	33	27	39	32	27	37	31	26	35	30	26	26	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	23	23	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9511	9511	9511
5°	9507	9327	9353
10°	9406	9151	9179
15°	9280	8952	8982
20°	9068	8716	8765
25°	8832	8447	8531
30°	8569	8174	8278
35°	8236	7851	8034
40°	7887	7545	7766
45°	7571	7207	7493
50°	7191	6862	7231
55°	6819	6505	6941
60°	6403	6128	6671
65°	5990	5736	6417
70°	5398	5354	6225
75°	4668	4994	6055
80°	3633	4708	6097
85°	2121	4572	6279



TEST NUMBER: P685632
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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	278.6	3.0
10°-20°	792.7	8.6
20°-30°	1183.6	12.9
30°-40°	1399.2	15.2
40°-50°	1425.8	15.5
50°-60°	1285.6	14.0
60°-70°	1017.2	11.1
70°-80°	687.5	7.5
80°-90°	384.5	4.2
90°-100°	209.2	2.3
100°-110°	137.2	1.5
110°-120°	108.8	1.2
120°-130°	92.6	1.0
130°-140°	74.1	0.8
140°-150°	53.0	0.6
150°-160°	34.2	0.4
160°-170°	18.5	0.2
170°-180°	5.8	0.1
0°-30°	2254.9	24.5
0°-40°	3654.0	39.8
0°-60°	6365.5	69.3
0°-90°	8454.7	92.0
90°-120°	455.3	5.0
90°-150°	674.9	7.3
90°-180°	733.0	8.0
0°-180°	9188.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2945	2945	2945	2945	2945	
5°	2944	2939	2920	2937	2936	279
15°	2807	2804	2800	2825	2831	790
25°	2527	2539	2560	2607	2618	1163
35°	2150	2180	2230	2301	2323	1346
45°	1727	1761	1848	1934	1969	1330
55°	1283	1331	1438	1546	1585	1148
65°	854	897	1026	1152	1200	843
75°	432	492	656	801	848	459
85°	84	190	364	506	557	103
90°	13	104	262	392	440	10
95°	14	68	192	308	351	12
105°	24	61	126	198	228	25
115°	38	66	112	154	171	37
125°	50	68	107	138	149	45
135°	56	67	99	123	132	43
145°	58	64	83	105	111	36
155°	62	63	69	87	89	29
165°	64	63	62	65	70	18
175°	65	64	61	54	54	6
180°	60	60	60	60	60	

TEST NUMBER: P685632

CATALOG NUMBER: 4CZL-12-UNV-FUL-L935-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2945.2	2945.2	2945.2	2945.2	2945.2
2.5°	2954.7	2950.0	2930.5	2945.8	2945.2
5°	2943.5	2938.7	2920.4	2937.0	2935.8
7.5°	2921.6	2918.7	2901.5	2919.8	2919.2
10°	2889.7	2889.7	2875.0	2896.2	2898.0
12.5°	2851.3	2850.7	2843.1	2864.9	2864.9
15°	2807.0	2803.5	2800.5	2824.8	2830.7
17.5°	2743.8	2746.2	2751.5	2780.5	2786.4
20°	2678.9	2684.2	2694.2	2728.5	2736.2
22.5°	2609.2	2615.1	2631.0	2668.2	2680.6
25°	2527.1	2538.9	2559.6	2607.4	2617.5
27.5°	2438.5	2459.2	2485.8	2536.5	2553.7
30°	2353.5	2370.0	2408.4	2461.5	2476.3
32.5°	2255.4	2275.5	2320.4	2384.2	2404.3
35°	2150.3	2179.8	2230.0	2300.9	2323.3
37.5°	2052.3	2075.9	2137.9	2213.5	2240.1
40°	1936.5	1974.9	2046.4	2120.8	2151.5
42.5°	1834.9	1868.0	1948.3	2030.4	2062.3
45°	1726.9	1761.1	1847.9	1934.2	1969.0
47.5°	1611.1	1651.9	1744.6	1840.8	1873.3
50°	1502.4	1545.0	1644.2	1741.6	1782.4
52.5°	1395.5	1439.8	1542.6	1645.4	1683.2
55°	1283.3	1331.2	1437.5	1546.1	1585.1
57.5°	1173.5	1221.3	1334.7	1446.9	1488.9
60°	1063.0	1107.9	1229.6	1344.8	1390.8
62.5°	959.7	1003.4	1128.6	1252.6	1292.8
65°	854.0	897.1	1025.8	1152.2	1200.1
67.5°	744.7	796.7	926.0	1058.3	1109.1
70°	637.2	690.4	833.3	970.9	1021.7
72.5°	535.7	595.9	740.0	880.6	932.5
75°	432.3	492.0	655.5	800.8	847.5
77.5°	334.9	404.5	572.9	719.3	774.3
80°	241.5	320.7	498.5	642.0	699.8
82.5°	158.9	249.2	429.4	571.7	623.7
85°	84.5	189.6	364.4	506.1	556.9
87.5°	33.1	140.6	310.1	446.5	497.3
90°	13.0	104.5	262.2	391.6	440.0
92.5°	13.0	81.5	223.2	347.3	392.7
95°	14.2	68.5	192.5	307.7	350.8
97.5°	15.4	62.0	168.3	272.8	311.2
100°	17.7	59.6	150.0	244.5	279.3
102.5°	20.7	59.6	135.2	218.5	251.6
105°	24.2	60.8	125.8	198.4	228.0
107.5°	27.2	62.0	119.3	181.9	208.5
110°	30.7	63.8	115.8	169.5	192.5

TEST NUMBER: P685632

CATALOG NUMBER: 4CZL-12-UNV-FUL-L935-CD-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	34.3	65.0	113.4	160.6	180.7
115°	37.8	65.6	112.2	153.6	170.7
117.5°	41.3	66.7	111.0	148.8	163.6
120°	44.9	67.3	109.8	145.3	158.3
122.5°	47.8	67.3	108.7	141.7	153.6
125°	50.2	67.9	106.9	138.2	149.4
127.5°	52.0	68.5	105.7	134.7	144.7
130°	53.7	67.9	103.9	131.1	140.6
132.5°	54.9	67.3	101.6	127.6	136.4
135°	55.5	66.7	99.2	123.4	131.7
137.5°	56.1	66.1	95.7	119.3	127.0
140°	56.1	65.6	91.5	114.6	121.7
142.5°	56.7	64.4	87.4	109.8	116.3
145°	57.9	63.8	83.3	105.1	111.0
147.5°	59.1	62.6	79.7	99.8	105.1
150°	60.2	62.6	76.2	95.1	99.8
152.5°	60.8	62.6	72.6	90.9	94.5
155°	62.0	62.6	69.1	86.8	89.2
157.5°	62.6	62.6	66.7	81.5	83.9
160°	63.2	63.2	64.4	75.6	79.1
162.5°	64.4	63.2	63.2	69.7	74.4
165°	64.4	63.2	62.0	65.0	70.3
167.5°	65.0	63.8	61.4	61.4	66.7
170°	65.0	63.8	61.4	58.5	61.4
172.5°	65.0	63.8	61.4	56.1	57.3
175°	65.0	63.8	61.4	53.7	54.3
177.5°	65.0	63.8	60.8	52.0	54.3
180°	60.2	60.2	60.2	60.2	60.2

(END OF REPORT)