

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: P685941

Luminaire Tested: **4CZL-9-UNV-LVRF-L940-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685941
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-9-UNV-LVRF-L940-CD-U
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH FROSTED LAY-IN @90 CRI and 4000K
Light Source: (588) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

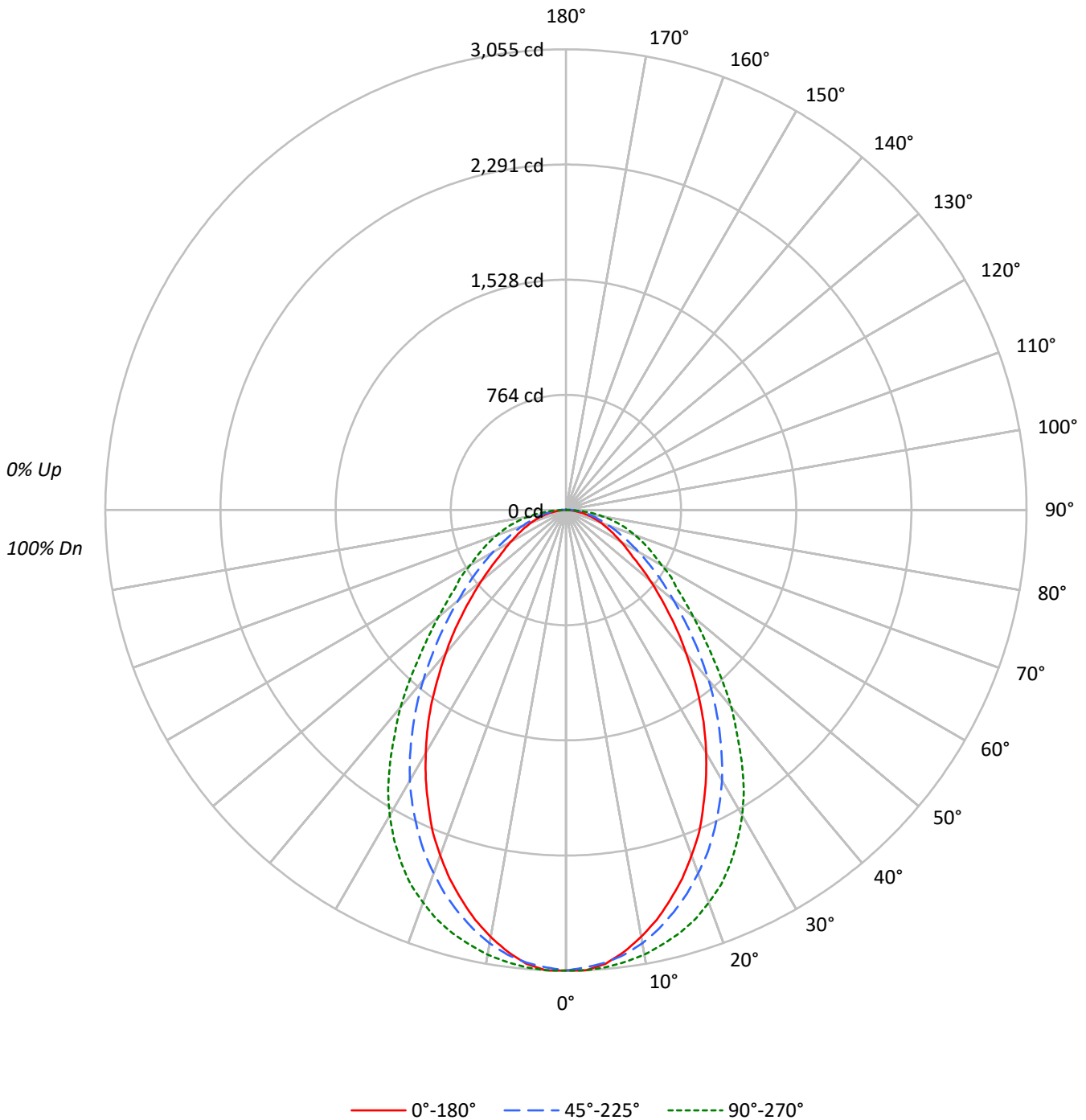
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5633.5 lumens
Efficiency: N/A
Efficacy: 104.3 lumens/watt
Spacing Criteria (0/90/45): 0.97 / 1.15 / 1.12
Luminous Opening: Rectangular (W 0.83' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 54
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: P685941
CATALOG NUMBER: 4CZL-9-UNV-LVRF-L940-CD-U

Luminous Intensity Polar Plot





TEST NUMBER: P685941
 CATALOG NUMBER: 4CZL-9-UNV-LVRF-L940-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	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	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	88	88	88	86
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	82	79	76	76	76	76	74
3	94	84	77	71	91	83	76	70	80	74	69	77	72	68	74	70	67	67	67	67	65
4	87	76	68	62	84	74	67	61	72	66	61	70	64	60	68	63	59	59	59	59	57
5	80	69	61	55	78	68	60	54	66	59	54	64	58	53	62	57	53	53	53	53	51
6	75	63	55	49	73	62	54	48	60	53	48	58	52	48	57	51	47	47	47	47	45
7	70	57	49	44	68	57	49	44	55	48	43	54	48	43	52	47	43	43	43	43	41
8	65	53	45	40	64	52	45	40	51	44	39	50	44	39	49	43	39	39	39	39	37
9	61	49	41	36	60	48	41	36	47	41	36	46	40	36	45	40	36	36	36	36	34
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	33	33	33	31

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9862	9862	9862
5°	9790	9767	9865
10°	9424	9563	9817
15°	8942	9229	9714
20°	8374	8808	9520
25°	7689	8310	9205
30°	6931	7723	8716
35°	6104	6985	8006
40°	5225	6202	7199
45°	4401	5406	6270
50°	3676	4686	5543
55°	3042	4117	5026
60°	2741	3608	4740
65°	2492	3176	4635
70°	2321	2851	4600
75°	2152	2661	4692
80°	1951	2637	4701
85°	1675	3090	4650



TEST NUMBER: P685941
 CATALOG NUMBER: 4CZL-9-UNV-LVRF-L940-CD-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	285.8	5.1
10°-20°	780.9	13.9
20°-30°	1079.0	19.2
30°-40°	1110.0	19.7
40°-50°	910.0	16.2
50°-60°	653.0	11.6
60°-70°	439.2	7.8
70°-80°	256.3	4.6
80°-90°	98.8	1.8
90°-100°	17.1	0.3
100°-110°	1.4	0.0
110°-120°	0.2	0.0
120°-130°	0.2	0.0
130°-140°	0.3	0.0
140°-150°	0.4	0.0
150°-160°	0.4	0.0
160°-170°	0.3	0.0
170°-180°	0.1	0.0
0°-30°	2145.7	38.1
0°-40°	3255.6	57.8
0°-60°	4818.6	85.5
0°-90°	5612.9	99.6
90°-120°	18.8	0.3
90°-150°	19.8	0.4
90°-180°	21.0	0.4
0°-180°	5633.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3054	3054	3054	3054	3054	
5°	3020	3022	3013	3041	3043	283
15°	2675	2702	2761	2868	2906	750
25°	2158	2209	2332	2495	2583	991
35°	1548	1620	1772	1938	2031	965
45°	964	1039	1184	1300	1373	748
55°	540	605	731	831	893	497
65°	326	345	416	534	607	325
75°	172	179	213	296	376	183
85°	45	56	83	125	126	49
90°	0	19	43	65	14	3
95°	0	3	18	31	6	0
105°	0	0	1	2	1	0
115°	0	0	0	0	0	0
125°	0	0	0	0	0	0
135°	0	1	0	0	0	0
145°	1	1	1	0	0	1
155°	1	1	1	0	0	0
165°	1	1	1	1	0	0
175°	1	2	1	1	1	0
180°	1	1	1	1	1	



TEST NUMBER: P685941

CATALOG NUMBER: 4CZL-9-UNV-LVRF-L940-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3053.9	3053.9	3053.9	3053.9	3053.9
2.5°	3055.2	3052.6	3035.5	3055.2	3054.4
5°	3020.1	3022.3	3013.1	3041.2	3043.4
7.5°	2954.7	2963.5	2973.6	3014.9	3022.3
10°	2874.0	2887.1	2916.5	2978.0	2993.8
12.5°	2783.1	2797.6	2845.4	2930.1	2952.1
15°	2674.7	2701.9	2760.7	2867.8	2905.6
17.5°	2562.8	2596.1	2669.0	2795.8	2846.8
20°	2436.8	2470.2	2563.2	2704.5	2770.4
22.5°	2310.4	2342.9	2456.6	2607.1	2689.2
25°	2158.1	2208.6	2332.4	2494.8	2583.4
27.5°	2012.4	2065.9	2203.8	2378.0	2466.2
30°	1858.8	1921.5	2071.2	2237.6	2337.6
32.5°	1706.5	1770.1	1922.9	2096.2	2195.4
35°	1548.5	1620.0	1771.9	1937.8	2030.8
37.5°	1388.3	1466.4	1622.6	1785.9	1861.0
40°	1239.5	1316.3	1471.2	1617.4	1707.8
42.5°	1102.1	1177.6	1321.1	1453.7	1534.9
45°	963.8	1038.9	1183.7	1300.0	1372.9
47.5°	840.1	916.9	1051.6	1169.3	1230.3
50°	731.7	801.4	932.7	1039.3	1103.4
52.5°	632.5	696.1	826.0	929.6	991.5
55°	540.3	604.8	731.2	831.3	892.7
57.5°	478.4	524.5	638.2	749.2	828.2
60°	424.4	453.0	558.7	690.4	733.9
62.5°	369.6	395.5	482.4	598.2	665.8
65°	326.1	345.4	415.6	533.7	606.6
67.5°	283.1	297.6	357.7	471.4	545.1
70°	245.8	255.0	302.0	409.9	487.2
72.5°	210.2	215.1	257.2	353.8	430.6
75°	172.5	178.6	213.3	296.3	376.1
77.5°	136.5	145.3	176.0	247.1	313.8
80°	104.9	111.9	141.8	203.2	252.8
82.5°	72.9	82.5	110.6	160.6	193.6
85°	45.2	56.2	83.4	124.6	125.5
87.5°	18.9	35.1	61.0	92.2	64.1
90°	0.4	18.9	42.6	65.0	13.6
92.5°	0.0	8.8	29.0	46.5	7.9
95°	0.4	3.1	18.0	31.2	5.7
97.5°	0.0	0.9	9.7	19.8	3.5
100°	0.0	0.4	4.0	11.0	2.2
102.5°	0.0	0.4	1.8	4.8	1.3
105°	0.0	0.4	0.9	1.8	0.9
107.5°	0.0	0.4	0.4	0.4	0.4
110°	0.4	0.4	0.4	0.4	0.0



TEST NUMBER: P685941
 CATALOG NUMBER: 4CZL-9-UNV-LVRF-L940-CD-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	0.4	0.4	0.0	0.0
115°	0.4	0.4	0.4	0.0	0.0
117.5°	0.4	0.4	0.4	0.0	0.0
120°	0.4	0.4	0.4	0.0	0.0
122.5°	0.4	0.4	0.4	0.0	0.0
125°	0.4	0.4	0.4	0.0	0.0
127.5°	0.4	0.4	0.4	0.0	0.0
130°	0.4	0.4	0.4	0.0	0.0
132.5°	0.4	0.9	0.4	0.4	0.0
135°	0.4	0.9	0.4	0.4	0.0
137.5°	0.4	0.9	0.4	0.4	0.0
140°	0.4	0.9	0.4	0.4	0.4
142.5°	0.9	0.9	0.9	0.4	0.4
145°	0.9	0.9	0.9	0.4	0.4
147.5°	0.9	0.9	0.9	0.4	0.4
150°	0.9	0.9	0.9	0.4	0.4
152.5°	0.9	1.3	0.9	0.4	0.4
155°	0.9	1.3	0.9	0.4	0.4
157.5°	0.9	1.3	0.9	0.4	0.4
160°	0.9	1.3	0.9	0.4	0.4
162.5°	1.3	1.3	0.9	0.9	0.4
165°	1.3	1.3	1.3	0.9	0.4
167.5°	1.3	1.3	1.3	0.9	0.4
170°	1.3	1.3	1.3	0.9	0.9
172.5°	1.3	1.3	1.3	0.9	0.9
175°	1.3	1.8	1.3	0.9	0.9
177.5°	1.3	1.8	1.3	0.9	0.9
180°	1.3	1.3	1.3	1.3	1.3

(END OF REPORT)