

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: P685612

Luminaire Tested: **4CZL-12-UNV-FUL-L840-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685612
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-L840-CD-U
Description: METALUX CRUZE LINEAR 4FT FROSTED LENS MODEL WITH UPLIGHT @80 CRI and 4000K
Light Source: (588) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

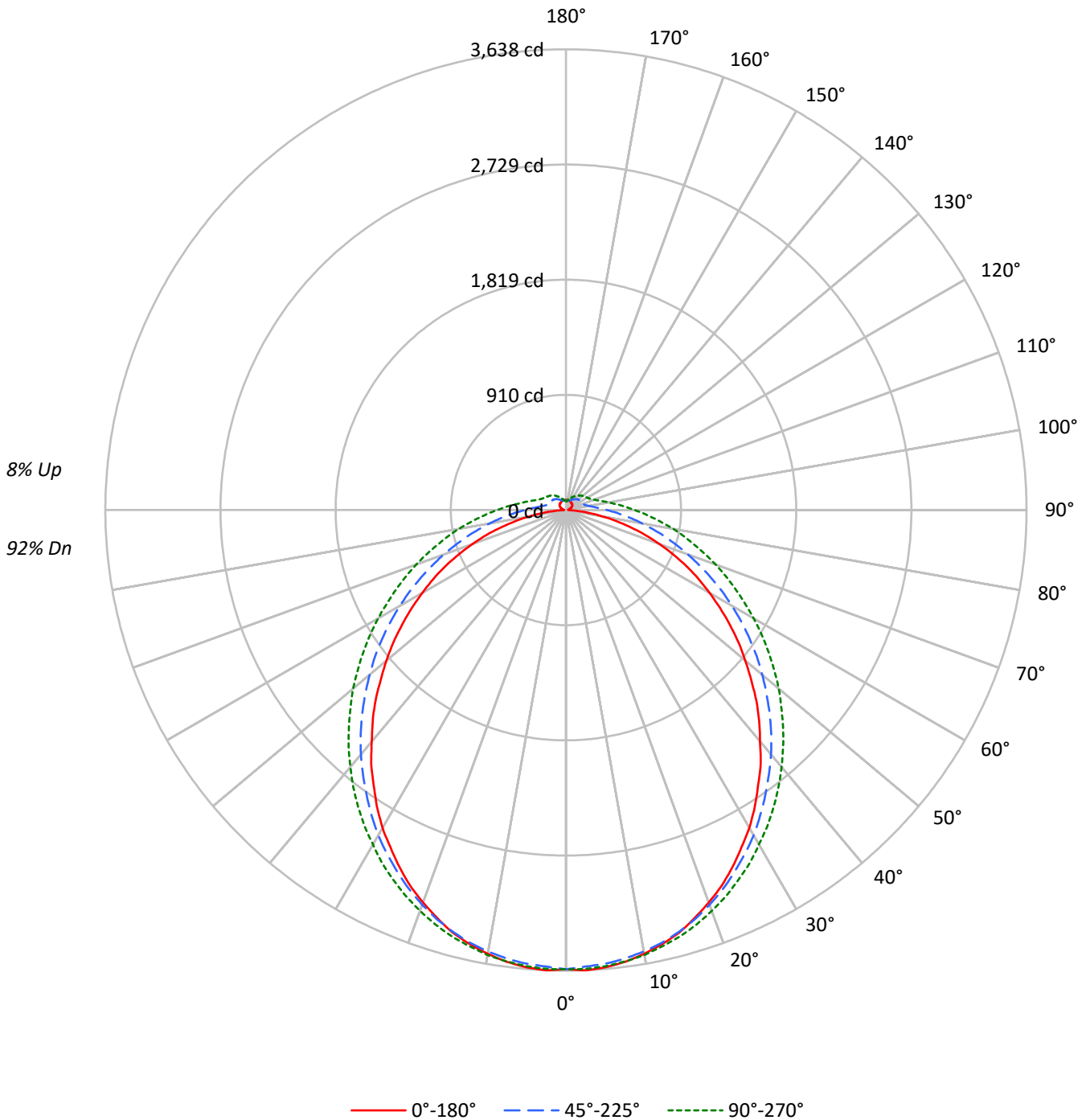
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11313.9 lumens
Efficiency: N/A
Efficacy: 146.9 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: P685612
CATALOG NUMBER: 4CZL-12-UNV-FUL-L840-CD-U

Luminous Intensity Polar Plot





TEST NUMBER: P685612

CATALOG NUMBER: 4CZL-12-UNV-FUL-L840-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	95
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°	11711	11711	11711
5°	11706	11485	11517
10°	11583	11268	11303
15°	11428	11024	11060
20°	11166	10733	10792
25°	10876	10401	10504
30°	10552	10065	10193
35°	10142	9668	9893
40°	9712	9290	9563
45°	9322	8875	9227
50°	8855	8450	8904
55°	8397	8011	8548
60°	7885	7545	8215
65°	7376	7063	7902
70°	6648	6593	7666
75°	5748	6149	7456
80°	4473	5797	7509
85°	2610	5629	7733



TEST NUMBER: P685612
 CATALOG NUMBER: 4CZL-12-UNV-FUL-L840-CD-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	343.1	3.0
10°-20°	976.1	8.6
20°-30°	1457.5	12.9
30°-40°	1722.9	15.2
40°-50°	1755.7	15.5
50°-60°	1583.1	14.0
60°-70°	1252.6	11.1
70°-80°	846.6	7.5
80°-90°	473.4	4.2
90°-100°	257.6	2.3
100°-110°	169.0	1.5
110°-120°	134.0	1.2
120°-130°	114.0	1.0
130°-140°	91.2	0.8
140°-150°	65.3	0.6
150°-160°	42.1	0.4
160°-170°	22.7	0.2
170°-180°	7.1	0.1
0°-30°	2776.6	24.5
0°-40°	4499.5	39.8
0°-60°	7838.3	69.3
0°-90°	10410.9	92.0
90°-120°	560.6	5.0
90°-150°	831.1	7.3
90°-180°	903.0	8.0
0°-180°	11313.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3627	3627	3627	3627	3627	
5°	3624	3619	3596	3616	3615	344
15°	3456	3452	3448	3478	3486	972
25°	3112	3126	3152	3211	3223	1432
35°	2648	2684	2746	2833	2861	1657
45°	2126	2169	2276	2382	2425	1637
55°	1580	1639	1770	1904	1952	1414
65°	1052	1105	1263	1419	1478	1038
75°	532	606	807	986	1044	565
85°	104	233	449	623	686	127
90°	16	129	323	482	542	12
95°	18	84	237	379	432	15
105°	30	75	155	244	281	31
115°	46	81	138	189	210	46
125°	62	84	132	170	184	55
135°	68	82	122	152	162	53
145°	71	78	102	129	137	45
155°	76	77	85	107	110	35
165°	79	78	76	80	86	22
175°	80	78	76	66	67	8
180°	74	74	74	74	74	

TEST NUMBER: P685612

CATALOG NUMBER: 4CZL-12-UNV-FUL-L840-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3626.7	3626.7	3626.7	3626.7	3626.7
2.5°	3638.3	3632.5	3608.5	3627.4	3626.7
5°	3624.5	3618.7	3596.1	3616.5	3615.0
7.5°	3597.6	3594.0	3572.9	3595.4	3594.7
10°	3558.3	3558.3	3540.1	3566.3	3568.5
12.5°	3511.1	3510.3	3500.9	3527.8	3527.8
15°	3456.5	3452.1	3448.5	3478.3	3485.6
17.5°	3378.7	3381.6	3388.2	3423.8	3431.1
20°	3298.7	3305.2	3317.6	3359.8	3369.2
22.5°	3212.9	3220.2	3239.8	3285.6	3300.9
25°	3111.8	3126.4	3151.8	3210.7	3223.1
27.5°	3002.7	3028.2	3060.9	3123.4	3144.5
30°	2898.0	2918.4	2965.6	3031.1	3049.3
32.5°	2777.3	2802.0	2857.3	2935.8	2960.5
35°	2647.8	2684.2	2746.0	2833.3	2860.9
37.5°	2527.1	2556.2	2632.6	2725.6	2758.4
40°	2384.6	2431.8	2519.8	2611.5	2649.3
42.5°	2259.5	2300.2	2399.1	2500.2	2539.5
45°	2126.4	2168.6	2275.5	2381.7	2424.6
47.5°	1983.9	2034.1	2148.2	2266.8	2306.8
50°	1850.1	1902.4	2024.6	2144.6	2194.8
52.5°	1718.4	1773.0	1899.5	2026.1	2072.6
55°	1580.3	1639.2	1770.1	1903.9	1951.9
57.5°	1445.0	1503.9	1643.5	1781.7	1833.3
60°	1309.0	1364.3	1514.1	1655.9	1712.6
62.5°	1181.7	1235.6	1389.7	1542.4	1591.9
65°	1051.6	1104.7	1263.2	1418.8	1477.7
67.5°	917.0	981.0	1140.3	1303.2	1365.7
70°	784.7	850.1	1026.1	1195.6	1258.1
72.5°	659.6	733.8	911.2	1084.3	1148.3
75°	532.3	605.8	807.2	986.1	1043.6
77.5°	412.3	498.2	705.4	885.8	953.4
80°	297.4	394.9	613.8	790.5	861.8
82.5°	195.6	306.9	528.7	704.0	768.0
85°	104.0	233.4	448.7	623.2	685.8
87.5°	40.7	173.1	381.8	549.8	612.3
90°	16.0	128.7	322.9	482.2	541.8
92.5°	16.0	100.4	274.9	427.6	483.6
95°	17.5	84.4	237.1	378.9	432.0
97.5°	18.9	76.4	207.3	336.0	383.2
100°	21.8	73.4	184.7	301.1	344.0
102.5°	25.5	73.4	166.5	269.1	309.8
105°	29.8	74.9	154.9	244.3	280.7
107.5°	33.5	76.4	146.9	224.0	256.7
110°	37.8	78.5	142.5	208.7	237.1



TEST NUMBER: P685612

CATALOG NUMBER: 4CZL-12-UNV-FUL-L840-CD-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	42.2	80.0	139.6	197.8	222.5
115°	46.5	80.7	138.2	189.1	210.2
117.5°	50.9	82.2	136.7	183.3	201.4
120°	55.3	82.9	135.3	178.9	194.9
122.5°	58.9	82.9	133.8	174.5	189.1
125°	61.8	83.6	131.6	170.2	184.0
127.5°	64.0	84.4	130.2	165.8	178.2
130°	66.2	83.6	128.0	161.4	173.1
132.5°	67.6	82.9	125.1	157.1	168.0
135°	68.4	82.2	122.2	152.0	162.2
137.5°	69.1	81.4	117.8	146.9	156.4
140°	69.1	80.7	112.7	141.1	149.8
142.5°	69.8	79.3	107.6	135.3	143.3
145°	71.3	78.5	102.5	129.4	136.7
147.5°	72.7	77.1	98.2	122.9	129.4
150°	74.2	77.1	93.8	117.1	122.9
152.5°	74.9	77.1	89.4	112.0	116.4
155°	76.4	77.1	85.1	106.9	109.8
157.5°	77.1	77.1	82.2	100.4	103.3
160°	77.8	77.8	79.3	93.1	97.4
162.5°	79.3	77.8	77.8	85.8	91.6
165°	79.3	77.8	76.4	80.0	86.5
167.5°	80.0	78.5	75.6	75.6	82.2
170°	80.0	78.5	75.6	72.0	75.6
172.5°	80.0	78.5	75.6	69.1	70.5
175°	80.0	78.5	75.6	66.2	66.9
177.5°	80.0	78.5	74.9	64.0	66.9
180°	74.2	74.2	74.2	74.2	74.2

(END OF REPORT)