

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: P685602

Luminaire Tested: **4CZL-12-UNV-FUL-L835-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685602
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-L835-CD-U
Description: METALUX CRUZE LINEAR 4FT FROSTED LENS MODEL WITH UPLIGHT @80 CRI
and 3500K
Light Source: (588) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

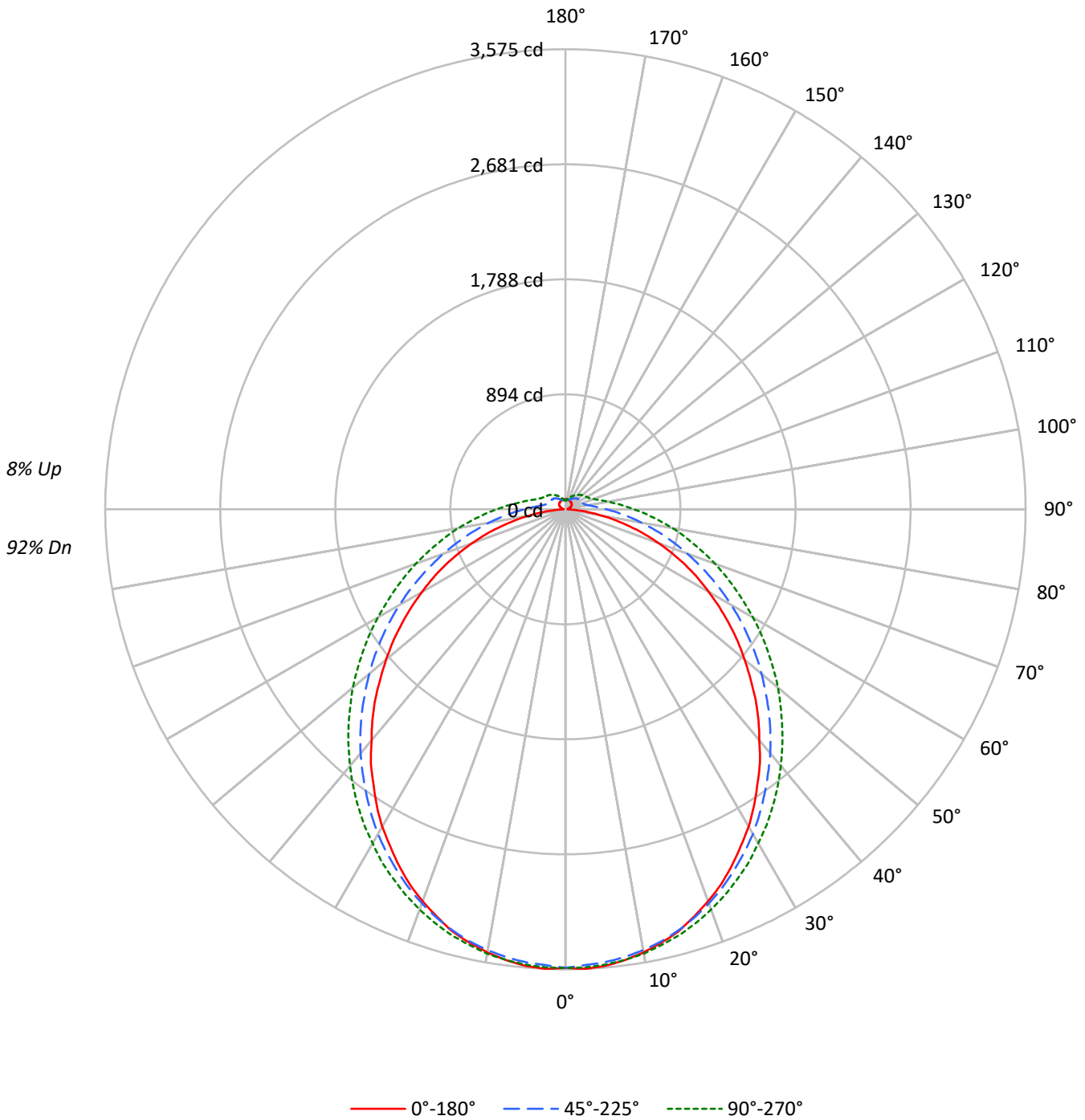
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11115.9 lumens
Efficiency: N/A
Efficacy: 144.4 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: P685602
CATALOG NUMBER: 4CZL-12-UNV-FUL-L835-CD-U

Luminous Intensity Polar Plot





TEST NUMBER: P685602

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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°	11506	11506	11506
5°	11501	11284	11315
10°	11380	11071	11105
15°	11228	10831	10866
20°	10971	10545	10604
25°	10686	10219	10320
30°	10367	9889	10015
35°	9965	9499	9719
40°	9542	9127	9396
45°	9159	8720	9065
50°	8700	8302	8748
55°	8250	7870	8398
60°	7747	7413	8071
65°	7247	6940	7764
70°	6531	6478	7532
75°	5647	6042	7325
80°	4395	5695	7377
85°	2565	5530	7597



TEST NUMBER: P685602
 CATALOG NUMBER: 4CZL-12-UNV-FUL-L835-CD-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	337.1	3.0
10°-20°	959.0	8.6
20°-30°	1431.9	12.9
30°-40°	1692.8	15.2
40°-50°	1725.0	15.5
50°-60°	1555.4	14.0
60°-70°	1230.7	11.1
70°-80°	831.7	7.5
80°-90°	465.2	4.2
90°-100°	253.1	2.3
100°-110°	166.0	1.5
110°-120°	131.7	1.2
120°-130°	112.0	1.0
130°-140°	89.6	0.8
140°-150°	64.1	0.6
150°-160°	41.3	0.4
160°-170°	22.3	0.2
170°-180°	7.0	0.1
0°-30°	2728.0	24.5
0°-40°	4420.8	39.8
0°-60°	7701.1	69.3
0°-90°	10228.7	92.0
90°-120°	550.8	5.0
90°-150°	816.6	7.3
90°-180°	887.0	8.0
0°-180°	11115.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3563	3563	3563	3563	3563	
5°	3561	3555	3533	3553	3552	338
15°	3396	3392	3388	3418	3425	955
25°	3057	3072	3097	3154	3167	1407
35°	2602	2637	2698	2784	2811	1628
45°	2089	2131	2236	2340	2382	1609
55°	1553	1610	1739	1871	1918	1389
65°	1033	1085	1241	1394	1452	1020
75°	523	595	793	969	1025	556
85°	102	229	441	612	674	125
90°	16	126	317	474	532	12
95°	17	83	233	372	424	15
105°	29	74	152	240	276	31
115°	46	79	136	186	206	45
125°	61	82	129	167	181	54
135°	67	81	120	149	159	52
145°	70	77	101	127	134	44
155°	75	76	84	105	108	35
165°	78	76	75	79	85	22
175°	79	77	74	65	66	7
180°	73	73	73	73	73	



TEST NUMBER: P685602

CATALOG NUMBER: 4CZL-12-UNV-FUL-L835-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3563.2	3563.2	3563.2	3563.2	3563.2
2.5°	3574.6	3568.9	3545.4	3563.9	3563.2
5°	3561.1	3555.4	3533.2	3553.2	3551.8
7.5°	3534.6	3531.1	3510.3	3532.5	3531.8
10°	3496.1	3496.1	3478.2	3503.9	3506.1
12.5°	3449.6	3448.9	3439.6	3466.0	3466.0
15°	3396.0	3391.7	3388.2	3417.5	3424.6
17.5°	3319.6	3322.4	3328.9	3363.9	3371.0
20°	3241.0	3247.4	3259.6	3301.0	3310.3
22.5°	3156.7	3163.8	3183.1	3228.1	3243.1
25°	3057.3	3071.6	3096.6	3154.5	3166.7
27.5°	2950.2	2975.2	3007.3	3068.8	3089.5
30°	2847.3	2867.3	2913.7	2978.0	2995.9
32.5°	2728.7	2753.0	2807.3	2884.4	2908.7
35°	2601.5	2637.2	2698.0	2783.7	2810.8
37.5°	2482.9	2511.5	2586.5	2677.9	2710.1
40°	2342.8	2389.3	2475.7	2565.8	2602.9
42.5°	2220.0	2260.0	2357.1	2456.5	2495.0
45°	2089.2	2130.6	2235.7	2340.0	2382.1
47.5°	1949.2	1998.5	2110.6	2227.1	2266.4
50°	1817.7	1869.1	1989.2	2107.1	2156.4
52.5°	1688.4	1742.0	1866.3	1990.6	2036.3
55°	1552.6	1610.5	1739.1	1870.6	1917.7
57.5°	1419.7	1477.6	1614.8	1750.5	1801.3
60°	1286.1	1340.4	1487.6	1626.9	1682.6
62.5°	1161.1	1213.9	1365.4	1515.5	1564.0
65°	1033.2	1085.3	1241.1	1394.0	1451.9
67.5°	901.0	963.9	1120.3	1280.4	1341.8
70°	770.9	835.3	1008.2	1174.6	1236.1
72.5°	648.1	720.9	895.3	1065.3	1128.2
75°	523.0	595.2	793.1	968.9	1025.3
77.5°	405.1	489.4	693.1	870.3	936.7
80°	292.2	388.0	603.0	776.7	846.7
82.5°	192.2	301.5	519.4	691.6	754.5
85°	102.2	229.4	440.8	612.3	673.8
87.5°	40.0	170.1	375.1	540.2	601.6
90°	15.7	126.5	317.2	473.7	532.3
92.5°	15.7	98.6	270.1	420.1	475.1
95°	17.1	82.9	232.9	372.3	424.4
97.5°	18.6	75.0	203.6	330.1	376.5
100°	21.4	72.2	181.5	295.8	338.0
102.5°	25.0	72.2	163.6	264.4	304.4
105°	29.3	73.6	152.2	240.1	275.8
107.5°	32.9	75.0	144.3	220.1	252.2
110°	37.2	77.2	140.0	205.1	232.9

TEST NUMBER: P685602

CATALOG NUMBER: 4CZL-12-UNV-FUL-L835-CD-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	41.4	78.6	137.2	194.3	218.6
115°	45.7	79.3	135.8	185.8	206.5
117.5°	50.0	80.7	134.3	180.1	197.9
120°	54.3	81.5	132.9	175.8	191.5
122.5°	57.9	81.5	131.5	171.5	185.8
125°	60.7	82.2	129.3	167.2	180.8
127.5°	62.9	82.9	127.9	162.9	175.1
130°	65.0	82.2	125.8	158.6	170.1
132.5°	66.4	81.5	122.9	154.3	165.0
135°	67.2	80.7	120.0	149.3	159.3
137.5°	67.9	80.0	115.7	144.3	153.6
140°	67.9	79.3	110.7	138.6	147.2
142.5°	68.6	77.9	105.7	132.9	140.8
145°	70.0	77.2	100.7	127.2	134.3
147.5°	71.5	75.7	96.5	120.8	127.2
150°	72.9	75.7	92.2	115.0	120.8
152.5°	73.6	75.7	87.9	110.0	114.3
155°	75.0	75.7	83.6	105.0	107.9
157.5°	75.7	75.7	80.7	98.6	101.5
160°	76.5	76.5	77.9	91.5	95.7
162.5°	77.9	76.5	76.5	84.3	90.0
165°	77.9	76.5	75.0	78.6	85.0
167.5°	78.6	77.2	74.3	74.3	80.7
170°	78.6	77.2	74.3	70.7	74.3
172.5°	78.6	77.2	74.3	67.9	69.3
175°	78.6	77.2	74.3	65.0	65.7
177.5°	78.6	77.2	73.6	62.9	65.7
180°	72.9	72.9	72.9	72.9	72.9

(END OF REPORT)