

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: P685513

Luminaire Tested: **4CZL-16-UNV-W-L935-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685513  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-16-UNV-W-L935-CD-U  
Description: METALUX CRUZE LINEAR 4FT WIDE LENS MODEL @90 CRI and 3500K  
Light Source: (588) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

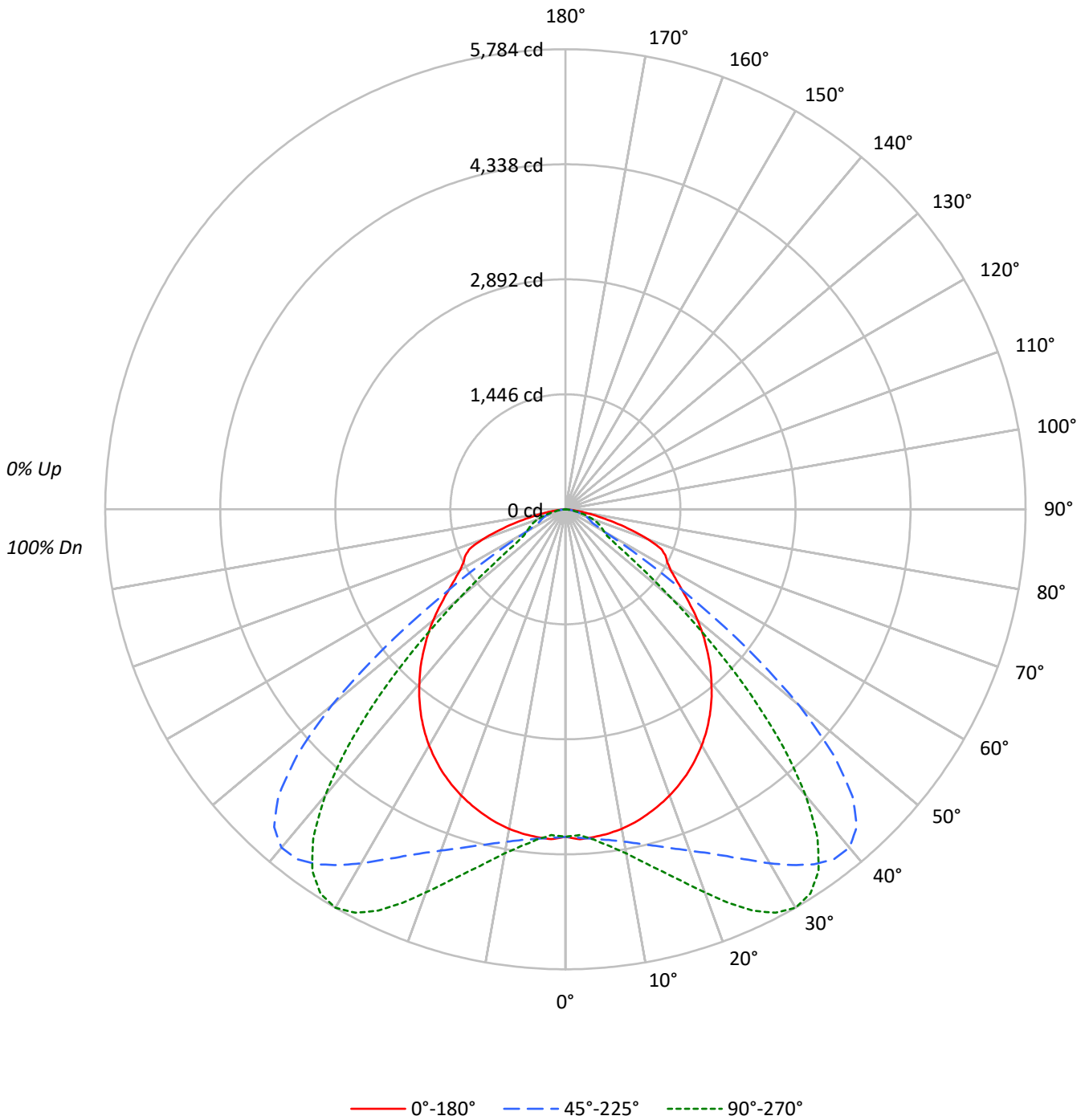
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 13166.0 lumens  
Efficiency: N/A  
Efficacy: 127.8 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.69 / 1.65  
Luminous Opening: Rectangular (W 0.83' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 103  
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: P685513  
CATALOG NUMBER: 4CZL-16-UNV-W-L935-CD-U

### Luminous Intensity Polar Plot





TEST NUMBER: P685513  
 CATALOG NUMBER: 4CZL-16-UNV-W-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	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	111	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	89	89	89	87
2	102	94	88	83	99	93	87	82	89	85	81	86	82	79	83	80	77	77	77	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	67	67	67	65
4	86	75	67	61	84	73	66	60	71	65	59	69	63	59	67	62	58	58	58	58	56
5	79	67	59	52	77	66	58	52	64	57	52	62	56	51	60	55	51	51	51	51	49
6	73	60	52	46	71	59	51	46	58	51	45	56	50	45	55	49	45	45	45	45	43
7	68	55	46	40	66	54	46	40	52	45	40	51	45	40	50	44	39	39	39	39	38
8	63	50	42	36	61	49	41	36	48	41	36	47	40	35	45	40	35	35	35	35	33
9	59	46	38	32	57	45	37	32	44	37	32	43	36	32	42	36	32	32	32	32	30
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	29	29	29	27

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

	0°	45°	90°
0°	13293	13293	13293
5°	13409	13479	13520
10°	13376	13911	14400
15°	13279	14647	15762
20°	13163	15691	17609
25°	13005	17146	19834
30°	12783	19161	21568
35°	12470	21476	21865
40°	12038	23399	19809
45°	11518	23310	15035
50°	10894	19264	8665
55°	10154	10597	4456
60°	9854	3697	3633
65°	10620	2690	3642
70°	10487	2757	3514
75°	7929	2410	2822
80°	4790	1969	1997
85°	2386	1008	426



TEST NUMBER: P685513  
 CATALOG NUMBER: 4CZL-16-UNV-W-L935-CD-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	398.4	3.0
10°-20°	1238.9	9.4
20°-30°	2176.3	16.5
30°-40°	3023.4	23.0
40°-50°	3066.1	23.3
50°-60°	1967.7	14.9
60°-70°	920.3	7.0
70°-80°	319.1	2.4
80°-90°	55.6	0.4
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	3813.6	29.0
0°-40°	6837.1	51.9
0°-60°	11870.9	90.2
0°-90°	13166.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13166.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4117	4117	4117	4117	4117	
5°	4137	4107	4158	4171	4171	393
15°	3972	4066	4381	4617	4715	1121
25°	3650	4024	4812	5376	5567	1680
35°	3163	4058	5448	5635	5547	1975
45°	2522	4344	5104	3807	3292	1944
55°	1804	4487	1882	906	792	1628
65°	1390	1434	352	441	477	1352
75°	636	220	193	223	226	688
85°	64	58	27	15	12	97
90°	0	0	0	0	0	



TEST NUMBER: P685513

CATALOG NUMBER: 4CZL-16-UNV-W-L935-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	4116.6	4116.6	4116.6	4116.6	4116.6	4116.6	4116.6	4116.6	4116.6	4116.6	4116.6
2.5°	4152.4	4139.5	4118.1	4109.5	4113.8	4135.2	4142.4	4126.6	4122.4	4110.9	4099.5
5°	4136.7	4125.2	4109.5	4106.6	4122.4	4158.1	4173.9	4169.6	4176.7	4178.2	4171.0
7.5°	4113.8	4103.7	4090.9	4103.7	4136.7	4193.9	4229.7	4241.2	4266.9	4272.6	4271.2
10°	4079.4	4070.8	4066.5	4099.5	4156.7	4242.6	4305.6	4337.1	4374.3	4387.2	4391.5
12.5°	4033.6	4025.0	4036.5	4093.7	4183.9	4307.0	4400.0	4455.9	4508.8	4536.0	4544.6
15°	3972.1	3969.2	3997.8	4089.4	4218.3	4381.4	4510.3	4597.6	4673.4	4703.5	4714.9
17.5°	3904.8	3906.2	3957.7	4088.0	4259.8	4468.7	4633.4	4757.9	4850.9	4893.9	4906.7
20°	3830.4	3834.6	3911.9	4086.6	4311.3	4566.1	4769.3	4932.5	5048.5	5105.7	5124.3
22.5°	3743.0	3751.6	3861.8	4088.0	4365.7	4677.7	4929.7	5124.3	5263.2	5331.9	5354.8
25°	3650.0	3662.9	3810.3	4095.2	4434.4	4812.3	5112.9	5340.5	5480.7	5540.8	5566.6
27.5°	3542.6	3564.1	3754.5	4105.2	4516.0	4968.3	5300.4	5519.4	5649.6	5695.4	5718.3
30°	3428.1	3452.5	3700.1	4125.2	4621.9	5138.6	5473.6	5658.2	5745.5	5771.3	5784.2
32.5°	3302.2	3342.3	3645.7	4158.1	4746.4	5303.2	5601.0	5711.2	5732.7	5724.1	5728.4
35°	3163.3	3206.3	3594.2	4212.5	4888.1	5447.8	5651.1	5651.1	5588.1	5549.4	5546.6
37.5°	3015.9	3070.3	3542.6	4275.5	5052.7	5543.7	5596.7	5455.0	5301.8	5218.8	5205.9
40°	2855.6	2928.6	3506.9	4361.4	5201.6	5550.9	5402.0	5110.0	4849.5	4714.9	4699.2
42.5°	2696.7	2786.9	3491.1	4473.0	5313.3	5419.2	5035.6	4584.7	4231.1	4072.3	4055.1
45°	2522.1	2640.9	3496.8	4626.2	5343.3	5104.3	4490.2	3906.2	3509.7	3309.3	3292.2
47.5°	2348.9	2496.3	3511.2	4799.4	5211.6	4570.4	3764.5	3088.9	2695.3	2484.9	2482.0
50°	2168.5	2360.3	3545.5	4941.1	4855.2	3834.6	2872.8	2212.9	1898.0	1737.7	1724.8
52.5°	1981.0	2241.5	3619.9	4966.9	4221.1	2889.9	1949.5	1477.2	1272.5	1170.9	1150.8
55°	1803.5	2141.3	3741.6	4735.0	3309.3	1882.3	1228.1	931.8	828.8	787.3	791.5
57.5°	1650.4	2066.9	3883.3	4129.5	2148.5	1107.9	711.4	619.8	616.9	621.2	622.6
60°	1525.8	2021.1	3946.3	3097.5	1179.5	572.5	496.7	516.7	543.9	559.7	562.5
62.5°	1444.3	1996.8	3754.5	1794.9	523.9	399.4	433.7	470.9	502.4	516.7	518.2
65°	1389.9	1932.4	3071.7	887.5	320.6	352.1	395.1	433.7	462.3	473.8	476.6
67.5°	1305.4	1750.6	2105.6	367.9	282.0	317.8	359.3	396.5	420.8	429.4	430.8
70°	1110.7	1465.7	1223.8	244.8	254.8	292.0	324.9	353.5	369.3	373.6	372.2
72.5°	867.4	1160.8	618.4	221.9	236.2	256.2	274.8	290.6	299.2	303.5	303.5
75°	635.5	848.8	290.6	196.1	176.1	193.2	211.8	221.9	224.7	226.2	226.2
77.5°	426.5	585.4	173.2	151.7	136.0	150.3	157.5	153.2	150.3	153.2	153.2
80°	257.6	360.7	151.7	110.2	104.5	105.9	100.2	100.2	105.9	108.8	107.4
82.5°	138.8	204.7	133.1	80.2	70.1	64.4	63.0	60.1	57.3	55.8	55.8
85°	64.4	104.5	85.9	48.7	37.2	27.2	21.5	15.7	14.3	11.5	11.5
87.5°	25.8	40.1	25.8	15.7	8.6	5.7	4.3	2.9	1.4	1.4	1.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)