

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: P685453

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

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685453
Test Lab: INNOVATION CENTER(G2)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-16-UNV-M-L935-CD-U
Description: METALUX CRUZE LINEAR 4FT MEDIUM LENS MODEL @90 CRI and 3500K
Light Source: (588) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

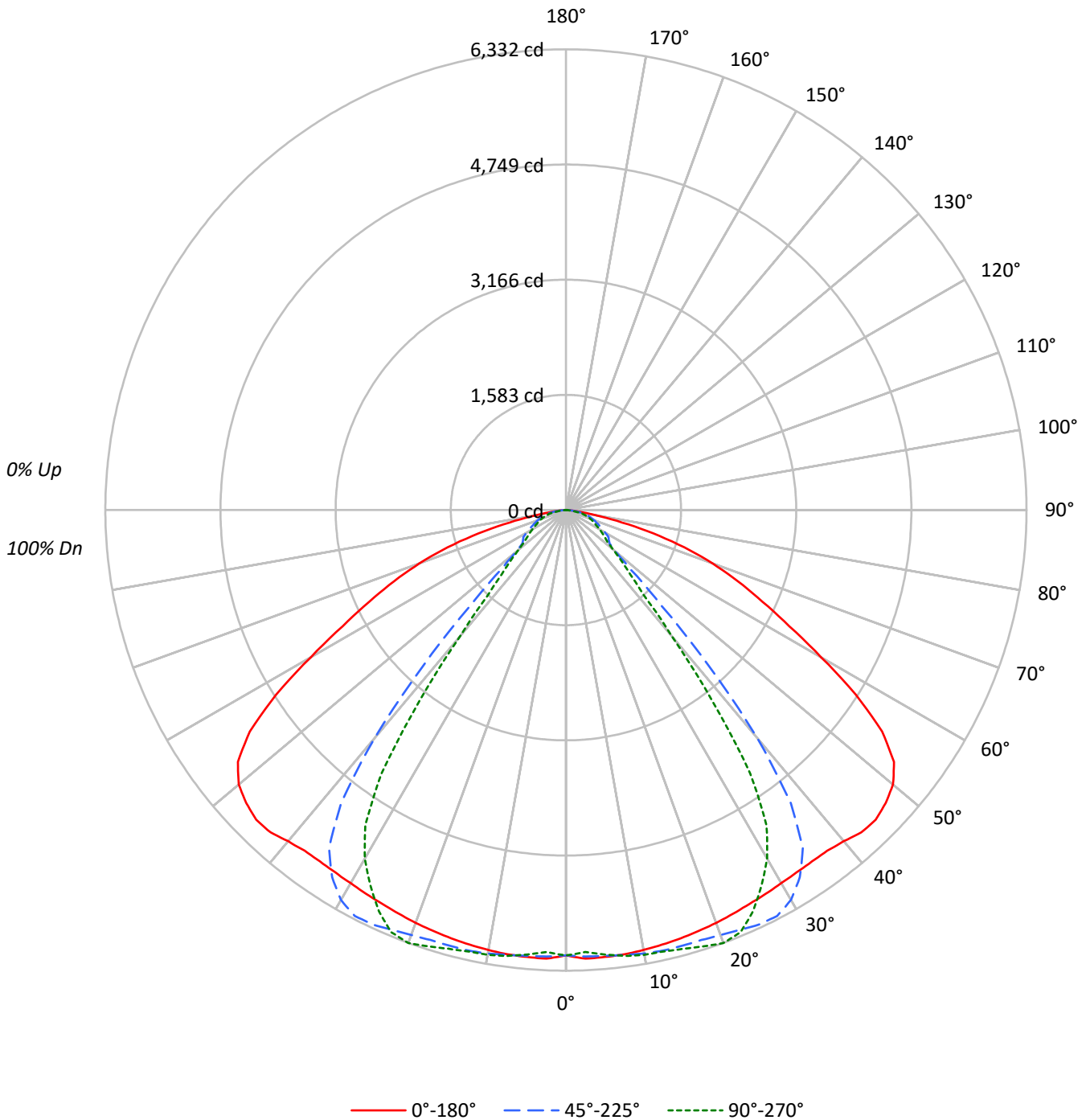
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13227.0 lumens
Efficiency: N/A
Efficacy: 128.4 lumens/watt
Spacing Criteria (0/90/45): 1.48 / 1.28 / 1.22
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

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Luminous Intensity Polar Plot





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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	90	90	90	88
2	103	96	90	86	100	94	89	85	91	87	83	88	84	81	85	82	79	79	79	79	77
3	95	86	80	74	93	85	79	73	82	77	72	79	75	71	77	73	70	70	70	70	68
4	88	78	71	65	86	77	70	64	74	68	64	72	67	63	70	66	62	62	62	62	60
5	82	71	63	57	80	70	63	57	68	61	56	66	60	56	64	59	55	55	55	55	53
6	76	65	57	51	75	64	56	51	62	55	51	61	55	50	59	54	50	50	50	50	48
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	45	45	45	43
8	67	55	47	42	65	54	47	41	53	46	41	51	45	41	50	45	41	41	41	41	39
9	63	50	43	38	61	50	43	38	49	42	38	48	42	37	47	41	37	37	37	37	36
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34	34	34	34	33

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19770	19770	19770
5°	19991	19935	19879
10°	20137	20294	20351
15°	20376	20724	20870
20°	20750	21358	21761
25°	21282	22397	21680
30°	22083	23072	20623
35°	23243	22381	17415
40°	25050	17260	9525
45°	27502	8485	5692
50°	29490	4434	4245
55°	29866	4047	3664
60°	26191	4035	3454
65°	22792	3876	3344
70°	20226	3928	3367
75°	15516	4032	3417
80°	7898	4097	2830
85°	3116	2308	804



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	586.6	4.4
10°-20°	1748.4	13.2
20°-30°	2821.7	21.3
30°-40°	3304.6	25.0
40°-50°	2249.6	17.0
50°-60°	1302.6	9.8
60°-70°	744.7	5.6
70°-80°	383.3	2.9
80°-90°	85.4	0.6
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°	5156.7	39.0
0°-40°	8461.3	64.0
0°-60°	12013.6	90.8
0°-90°	13227.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13227.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6122	6122	6122	6122	6122	
5°	6167	6107	6150	6143	6132	588
15°	6095	6086	6199	6215	6243	1725
25°	5973	6057	6286	6189	6085	2765
35°	5896	6188	5677	4788	4418	3712
45°	6022	4481	1858	1252	1246	4627
55°	5305	1538	719	669	651	4622
65°	2983	549	507	448	438	2991
75°	1244	339	323	282	274	1322
85°	84	103	62	29	22	142
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	6122.3	6122.3	6122.3	6122.3	6122.3	6122.3	6122.3	6122.3	6122.3	6122.3	6122.3
2.5°	6171.6	6154.2	6119.4	6104.9	6104.9	6142.6	6148.4	6125.2	6120.9	6100.6	6081.7
5°	6167.2	6149.8	6116.5	6103.5	6107.8	6149.8	6160.0	6141.1	6146.9	6141.1	6132.5
7.5°	6158.5	6139.7	6109.3	6100.6	6113.6	6167.2	6184.6	6174.5	6187.5	6184.6	6181.7
10°	6141.1	6126.7	6097.7	6096.2	6122.3	6189.0	6210.7	6197.7	6202.0	6200.6	6206.4
12.5°	6118.0	6104.9	6080.3	6093.3	6131.0	6202.0	6216.5	6196.2	6202.0	6203.5	6213.6
15°	6094.8	6078.8	6062.9	6093.3	6132.5	6199.1	6213.6	6210.7	6228.1	6229.6	6242.6
17.5°	6065.8	6055.6	6051.3	6091.9	6122.3	6196.2	6229.6	6247.0	6270.1	6275.9	6289.0
20°	6038.2	6029.5	6039.7	6084.6	6118.0	6215.1	6261.5	6287.5	6312.2	6319.4	6332.5
22.5°	6004.9	5999.1	6026.6	6074.5	6125.2	6244.1	6296.2	6299.1	6289.0	6270.1	6278.8
25°	5973.0	5973.0	6013.6	6071.6	6146.9	6286.1	6290.4	6207.8	6133.9	6084.6	6084.6
27.5°	5946.9	5952.7	6003.5	6084.6	6189.0	6289.0	6168.7	6004.9	5896.2	5825.2	5820.8
30°	5922.3	5932.4	6003.5	6120.9	6219.4	6187.5	5954.2	5755.6	5604.9	5536.7	5530.9
32.5°	5904.9	5920.8	6029.5	6175.9	6183.2	5983.2	5678.8	5428.0	5249.8	5148.3	5130.9
35°	5896.2	5915.0	6078.8	6223.8	6036.8	5677.3	5245.4	4858.4	4575.8	4445.3	4417.8
37.5°	5902.0	5935.3	6146.9	6183.2	5670.1	5075.8	4455.5	3900.4	3511.9	3388.7	3303.2
40°	5942.6	5999.1	6200.6	5852.7	4900.5	4094.6	3272.8	2675.6	2407.5	2319.1	2259.6
42.5°	6010.7	6067.2	6060.0	5096.1	3827.9	2909.0	2108.9	1750.9	1620.4	1605.9	1578.4
45°	6022.3	6044.0	5604.9	4106.2	2784.3	1858.1	1358.1	1252.3	1249.4	1259.5	1246.5
47.5°	5961.4	5919.4	4948.3	3140.9	1917.6	1201.6	1021.8	1039.2	1047.9	1040.7	1030.5
50°	5870.1	5715.0	4212.0	2308.9	1278.4	882.7	891.4	907.3	876.9	856.6	845.0
52.5°	5684.6	5383.1	3394.5	1636.4	884.1	753.7	823.3	776.9	733.4	721.8	720.4
55°	5304.8	4890.3	2611.8	1179.8	675.4	718.9	732.0	672.5	659.5	653.7	650.8
57.5°	4726.5	4277.2	1964.0	852.3	592.8	694.3	636.3	613.1	600.1	595.7	591.4
60°	4055.4	3591.6	1463.9	626.1	575.4	624.7	576.9	555.1	540.6	534.8	534.8
62.5°	3461.2	2972.7	1082.7	508.7	571.1	563.8	520.3	497.1	488.5	485.6	482.7
65°	2982.9	2391.5	781.2	471.1	533.4	507.3	465.3	449.3	443.5	437.7	437.7
67.5°	2556.8	1872.6	575.4	462.4	489.9	456.6	424.7	411.6	404.4	402.9	401.5
70°	2142.2	1379.8	437.7	452.2	465.3	416.0	385.5	369.6	360.9	356.6	356.6
72.5°	1706.0	946.5	349.3	416.0	426.1	368.2	337.7	326.1	318.9	314.5	313.1
75°	1243.6	594.3	307.3	349.3	366.7	323.2	292.8	282.6	279.7	275.4	273.9
77.5°	791.4	355.1	262.3	285.5	300.0	272.5	249.3	236.3	234.8	230.5	229.0
80°	424.7	227.6	210.2	224.7	233.4	220.3	192.8	166.7	159.4	153.6	152.2
82.5°	197.1	144.9	156.5	169.6	173.9	140.6	116.0	104.4	97.1	89.9	85.5
85°	84.1	78.3	97.1	104.4	85.5	62.3	40.6	30.4	24.6	23.2	21.7
87.5°	30.4	30.4	36.2	24.6	14.5	11.6	11.6	10.1	8.7	7.2	7.2
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)