

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: P685813

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

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685813
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-16-UNV-M-LVR-L935-CD-U
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH MEDIUM LENS @90 CRI and 3500K
Light Source: (588) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

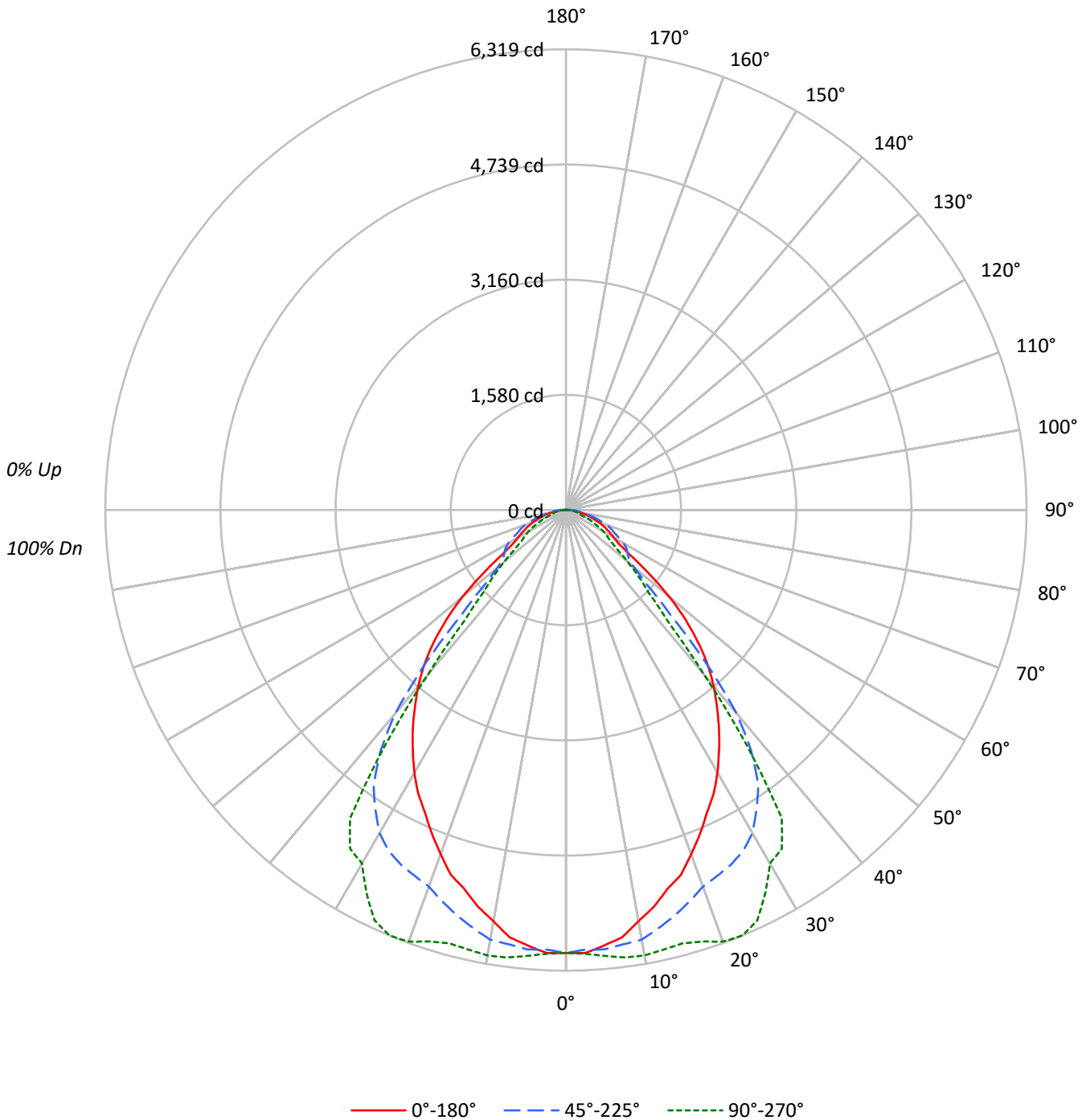
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11237.4 lumens
Efficiency: N/A
Efficacy: 109.1 lumens/watt
Spacing Criteria (0/90/45): 1.05 / 1.34 / 1.2
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				
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	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	93	91	90	88
2	103	96	90	86	100	94	89	84	91	86	83	87	84	81	84	81	79	84	81	79	77
3	95	87	80	74	93	85	79	74	82	77	72	79	75	71	77	73	70	77	73	70	68
4	89	78	71	65	86	77	70	65	75	69	64	73	67	63	70	66	62	70	66	62	60
5	83	72	64	58	81	70	63	58	68	62	57	67	61	57	65	60	56	65	60	56	54
6	77	65	58	52	75	65	57	52	63	56	51	61	55	51	60	55	51	60	55	51	49
7	72	60	53	47	70	59	52	47	58	51	47	57	51	46	55	50	46	55	50	46	44
8	68	56	48	43	66	55	48	43	54	47	42	52	47	42	51	46	42	51	46	42	40
9	64	52	44	39	62	51	44	39	50	43	39	49	43	39	48	42	39	48	42	39	37
10	60	48	41	36	59	47	41	36	46	40	36	46	40	36	45	39	35	45	39	35	34

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19617	19617	19617
5°	19435	19609	19902
10°	18776	19621	20337
15°	17986	19255	20576
20°	17260	18888	21646
25°	16308	19113	22127
30°	15500	19071	20870
35°	14433	18136	20350
40°	13286	15373	12401
45°	11706	9163	7351
50°	9292	6084	5547
55°	6016	5789	4210
60°	4911	5883	3867
65°	4679	5544	3160
70°	4442	5564	2498
75°	4220	5208	2322
80°	3903	4921	2607
85°	3494	6017	3197



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	576.5	5.1
10°-20°	1635.1	14.6
20°-30°	2465.7	21.9
30°-40°	2724.5	24.2
40°-50°	1708.2	15.2
50°-60°	919.7	8.2
60°-70°	624.6	5.6
70°-80°	373.1	3.3
80°-90°	162.1	1.4
90°-100°	35.5	0.3
100°-110°	4.1	0.0
110°-120°	1.5	0.0
120°-130°	1.3	0.0
130°-140°	1.6	0.0
140°-150°	1.5	0.0
150°-160°	1.2	0.0
160°-170°	0.9	0.0
170°-180°	0.3	0.0
0°-30°	4677.3	41.6
0°-40°	7401.8	65.9
0°-60°	10029.7	89.3
0°-90°	11189.5	99.6
90°-120°	41.1	0.4
90°-150°	45.5	0.4
90°-180°	48.0	0.4
0°-180°	11237.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6075	6075	6075	6075	6075	
5°	5996	6006	6049	6121	6140	565
15°	5380	5569	5760	6038	6155	1519
25°	4577	4855	5364	5936	6210	2113
35°	3661	4091	4601	4949	5162	2285
45°	2563	2791	2006	1636	1610	1955
55°	1069	1118	1028	890	748	1038
65°	612	673	726	589	414	606
75°	338	376	417	343	186	356
85°	94	116	162	214	86	102
90°	2	36	82	137	25	7
95°	1	6	32	70	13	1
105°	1	2	2	6	2	1
115°	1	2	2	2	2	1
125°	1	2	2	2	2	1
135°	2	2	2	2	2	1
145°	2	2	2	2	3	1
155°	2	2	2	2	2	1
165°	2	3	3	3	3	1
175°	3	3	3	4	4	0
180°	4	4	4	4	4	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6074.8	6074.8	6074.8	6074.8	6074.8
2.5°	6082.7	6066.0	6035.2	6090.6	6091.4
5°	5995.5	6005.8	6049.4	6120.7	6139.7
7.5°	5910.8	5950.4	6009.0	6180.9	6189.6
10°	5726.2	5808.6	5983.7	6149.2	6202.3
12.5°	5572.6	5694.5	5875.1	6093.0	6175.4
15°	5380.1	5568.6	5759.5	6038.3	6154.8
17.5°	5245.4	5396.7	5630.4	6013.0	6203.9
20°	5022.8	5235.9	5496.5	6030.4	6298.9
22.5°	4806.6	5065.6	5429.2	6036.7	6318.7
25°	4576.9	4854.9	5364.2	5936.1	6210.2
27.5°	4386.8	4619.6	5267.6	5726.2	5924.3
30°	4157.0	4431.1	5114.7	5405.4	5597.1
32.5°	3909.9	4257.6	4866.8	5159.9	5508.4
35°	3661.2	4091.3	4600.6	4949.2	5162.2
37.5°	3401.4	3954.3	4182.4	4238.6	4092.9
40°	3151.8	3763.4	3646.9	3102.7	2941.9
42.5°	2879.4	3353.0	2844.5	2134.8	2062.7
45°	2563.3	2790.6	2006.4	1635.7	1609.6
47.5°	2226.6	2160.9	1496.3	1367.2	1352.1
50°	1849.6	1727.6	1211.1	1206.4	1104.2
52.5°	1441.7	1371.9	1086.0	1046.4	884.0
55°	1068.6	1117.7	1028.2	889.5	747.8
57.5°	855.5	969.6	987.8	777.1	668.5
60°	760.4	848.4	910.9	714.5	598.8
62.5°	682.0	751.7	815.9	663.0	516.5
65°	612.3	673.3	725.6	589.3	413.5
67.5°	538.6	602.0	666.2	506.2	351.7
70°	470.5	537.8	589.3	449.1	264.6
72.5°	400.0	469.7	492.7	375.5	211.5
75°	338.2	376.3	417.4	343.0	186.1
77.5°	273.3	305.8	322.4	314.5	164.0
80°	209.9	236.1	264.6	286.0	140.2
82.5°	153.7	172.7	211.5	251.9	112.5
85°	94.3	115.6	162.4	213.9	86.3
87.5°	42.0	68.9	119.6	176.6	55.4
90°	2.4	35.6	82.4	137.0	25.3
92.5°	0.8	15.8	53.9	101.4	17.4
95°	0.8	5.5	32.5	70.5	12.7
97.5°	0.8	2.4	18.2	45.2	7.9
100°	0.8	1.6	8.7	26.1	5.5
102.5°	0.8	1.6	4.0	12.7	4.0
105°	0.8	1.6	2.4	5.5	2.4
107.5°	0.8	1.6	1.6	2.4	1.6
110°	0.8	1.6	1.6	1.6	1.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.8	1.6	1.6	1.6	1.6
115°	0.8	1.6	1.6	1.6	1.6
117.5°	0.8	1.6	1.6	1.6	1.6
120°	0.8	1.6	1.6	1.6	1.6
122.5°	0.8	1.6	1.6	1.6	1.6
125°	0.8	1.6	1.6	1.6	1.6
127.5°	0.8	1.6	1.6	1.6	1.6
130°	0.8	1.6	1.6	1.6	1.6
132.5°	1.6	1.6	2.4	2.4	2.4
135°	1.6	1.6	2.4	2.4	2.4
137.5°	1.6	2.4	2.4	2.4	2.4
140°	1.6	2.4	2.4	2.4	2.4
142.5°	1.6	2.4	2.4	2.4	2.4
145°	1.6	2.4	2.4	2.4	3.2
147.5°	1.6	2.4	2.4	2.4	3.2
150°	1.6	2.4	2.4	2.4	2.4
152.5°	2.4	2.4	2.4	2.4	2.4
155°	2.4	2.4	2.4	2.4	2.4
157.5°	2.4	2.4	2.4	3.2	3.2
160°	2.4	3.2	3.2	3.2	3.2
162.5°	2.4	3.2	3.2	3.2	3.2
165°	2.4	3.2	3.2	3.2	3.2
167.5°	2.4	3.2	3.2	3.2	4.0
170°	3.2	3.2	3.2	4.0	4.0
172.5°	3.2	3.2	3.2	4.0	4.0
175°	3.2	3.2	3.2	4.0	4.0
177.5°	3.2	4.0	3.2	4.0	4.8
180°	4.0	4.0	4.0	4.0	4.0

(END OF REPORT)