

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: P685689

Luminaire Tested: **4CZL-5-UNV-LVR-L935-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685689
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-5-UNV-LVR-L935-CD-U
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL @90 CRI and 3500K
Light Source: (392) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

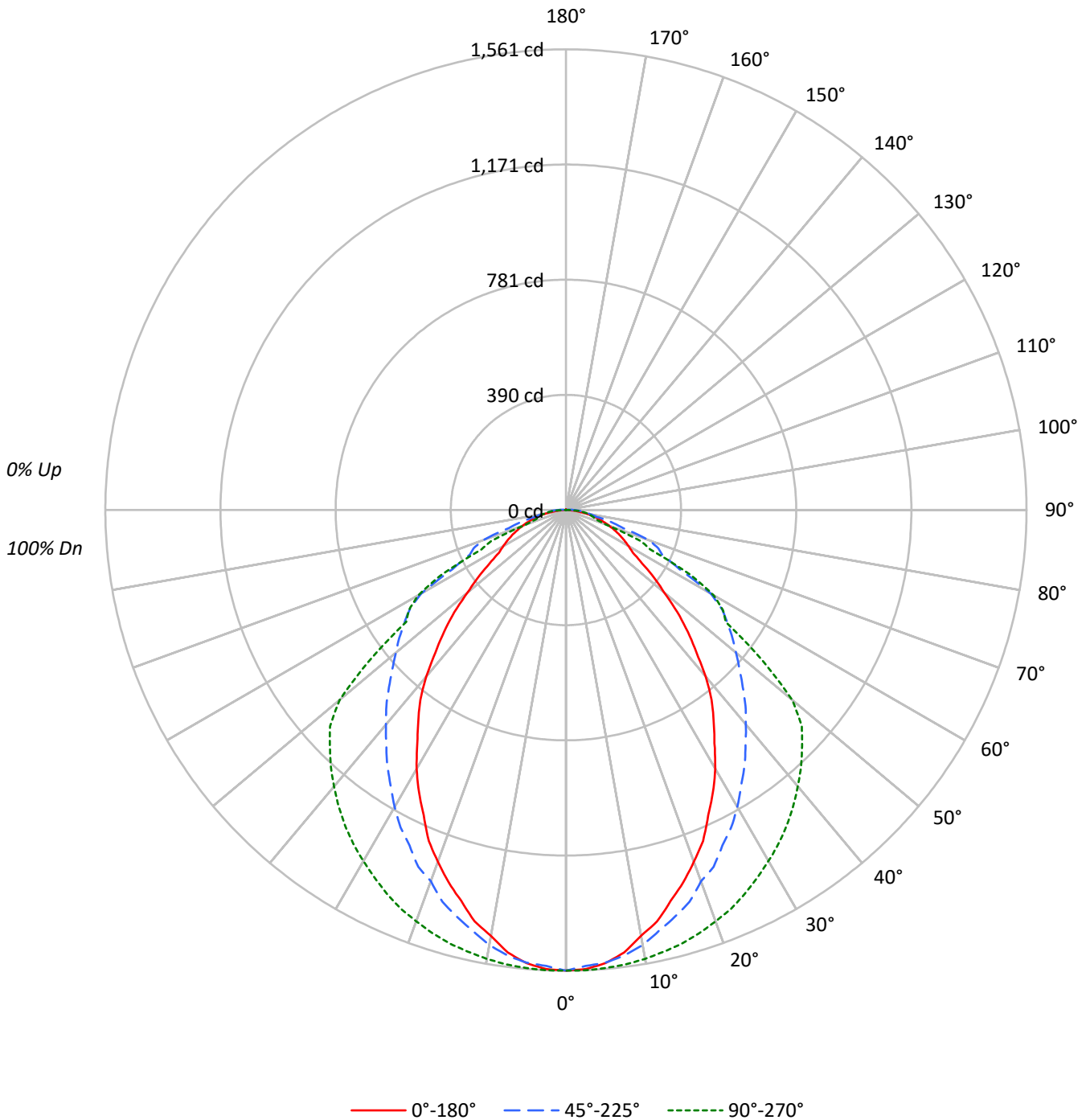
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3534.4 lumens
Efficiency: N/A
Efficacy: 114.0 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1.31 / 1.26
Luminous Opening: Rectangular (W 0.83' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 31
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	100	100	100	100
1	110	105	101	98	107	103	99	96	99	96	93	95	92	90	91	89	88	85	85	85	85
2	101	93	87	81	98	91	85	80	88	83	78	84	80	77	81	78	75	73	73	73	73
3	92	82	75	69	90	81	74	68	78	72	67	75	70	66	73	68	65	63	63	63	63
4	85	74	65	59	83	72	65	59	70	63	58	68	62	57	65	60	56	54	54	54	54
5	78	66	58	51	76	65	57	51	63	56	51	61	55	50	59	54	49	47	47	47	47
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44	42	42	42	42
7	68	55	46	40	66	54	46	40	52	45	40	51	44	40	49	44	39	37	37	37	37
8	63	50	42	36	61	49	42	36	48	41	36	47	40	36	46	40	35	34	34	34	34
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30	30	30	30
10	55	43	35	30	54	42	35	30	41	34	30	40	34	30	39	34	29	28	28	28	28

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5040	5040	5040
5°	4996	4989	5049
10°	4802	4908	5063
15°	4584	4770	5084
20°	4359	4601	5096
25°	4065	4468	5113
30°	3774	4331	5121
35°	3441	4161	5144
40°	3104	3999	5154
45°	2670	3871	5167
50°	2182	3780	5031
55°	1777	3765	3721
60°	1584	3660	3734
65°	1532	2747	2408
70°	1472	2815	1368
75°	1419	1984	1221
80°	1294	1614	1456
85°	1160	2012	1815



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.2	4.1
10°-20°	405.3	11.5
20°-30°	586.3	16.6
30°-40°	669.2	18.9
40°-50°	657.5	18.6
50°-60°	524.5	14.8
60°-70°	330.4	9.3
70°-80°	146.4	4.1
80°-90°	56.1	1.6
90°-100°	11.1	0.3
100°-110°	0.7	0.0
110°-120°	0.1	0.0
120°-130°	0.1	0.0
130°-140°	0.2	0.0
140°-150°	0.1	0.0
150°-160°	0.1	0.0
160°-170°	0.1	0.0
170°-180°	0.0	0.0
0°-30°	1137.8	32.2
0°-40°	1806.9	51.1
0°-60°	2989.0	84.6
0°-90°	3521.8	99.6
90°-120°	11.9	0.3
90°-150°	12.3	0.3
90°-180°	13.0	0.4
0°-180°	3534.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1561	1561	1561	1561	1561	
5°	1541	1545	1539	1552	1558	145
15°	1371	1385	1427	1494	1521	386
25°	1141	1178	1254	1369	1435	526
35°	873	926	1056	1211	1305	546
45°	585	670	848	1037	1131	449
55°	316	427	669	721	661	290
65°	200	273	360	383	315	199
75°	114	131	159	120	98	119
85°	31	38	54	70	49	33
90°	0	13	29	42	8	2
95°	0	2	12	20	3	0
105°	0	0	0	1	0	0
115°	0	0	0	0	0	0
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	1	1	0	0	0	0
175°	1	1	0	0	0	0
180°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1560.7	1560.7	1560.7	1560.7	1560.7
2.5°	1556.6	1555.6	1546.2	1559.5	1560.9
5°	1541.3	1544.7	1539.1	1552.0	1557.5
7.5°	1512.0	1515.6	1522.2	1545.7	1552.5
10°	1464.5	1473.7	1496.7	1529.7	1544.2
12.5°	1428.1	1439.5	1460.1	1516.1	1532.8
15°	1371.2	1384.7	1426.9	1493.8	1520.7
17.5°	1322.7	1347.4	1392.2	1465.7	1503.3
20°	1268.4	1288.3	1338.9	1438.1	1482.9
22.5°	1214.1	1239.3	1308.4	1401.2	1462.3
25°	1140.9	1177.7	1254.1	1369.0	1434.9
27.5°	1078.8	1125.4	1213.1	1330.9	1404.4
30°	1012.2	1048.3	1161.5	1292.1	1373.3
32.5°	937.0	993.8	1105.7	1247.8	1340.9
35°	872.8	925.7	1055.6	1211.2	1305.0
37.5°	810.8	860.5	1000.1	1169.7	1265.2
40°	736.4	801.8	948.7	1122.5	1222.6
42.5°	653.9	734.2	900.9	1077.9	1179.2
45°	584.6	669.7	847.6	1037.4	1131.4
47.5°	512.6	602.3	797.7	988.2	1084.2
50°	434.3	543.4	752.4	942.6	1001.5
52.5°	377.1	482.1	711.6	860.2	844.2
55°	315.6	427.3	668.7	721.1	661.0
57.5°	268.8	377.9	628.5	566.2	630.9
60°	245.3	338.4	566.7	539.1	578.1
62.5°	223.2	303.7	433.4	505.6	475.6
65°	200.5	272.9	359.5	383.0	315.1
67.5°	178.4	246.3	338.9	286.0	274.4
70°	155.9	225.7	298.1	243.8	144.9
72.5°	134.5	201.9	203.8	135.0	107.6
75°	113.7	131.4	159.0	120.5	97.9
77.5°	90.9	112.7	106.4	107.9	88.7
80°	69.6	77.6	86.8	96.5	78.3
82.5°	49.2	57.7	70.3	84.3	64.2
85°	31.3	38.1	54.3	70.0	49.0
87.5°	12.4	24.0	40.5	56.5	28.8
90°	0.2	13.1	28.6	41.7	8.0
92.5°	0.2	6.1	19.1	30.5	4.1
95°	0.2	1.9	11.9	20.4	2.7
97.5°	0.2	0.7	6.3	12.6	1.5
100°	0.2	0.2	2.7	6.8	0.7
102.5°	0.2	0.2	1.0	2.7	0.2
105°	0.2	0.2	0.2	0.7	0.0
107.5°	0.2	0.2	0.0	0.0	0.0
110°	0.2	0.2	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.2	0.2	0.0	0.0	0.0
115°	0.2	0.2	0.0	0.0	0.0
117.5°	0.2	0.2	0.0	0.0	0.0
120°	0.2	0.2	0.0	0.0	0.0
122.5°	0.2	0.2	0.0	0.0	0.0
125°	0.2	0.5	0.0	0.0	0.0
127.5°	0.2	0.2	0.0	0.0	0.0
130°	0.2	0.5	0.2	0.0	0.0
132.5°	0.2	0.5	0.2	0.0	0.0
135°	0.2	0.5	0.2	0.0	0.0
137.5°	0.2	0.5	0.2	0.0	0.0
140°	0.5	0.5	0.2	0.0	0.0
142.5°	0.5	0.5	0.2	0.0	0.0
145°	0.5	0.5	0.2	0.0	0.0
147.5°	0.5	0.5	0.2	0.0	0.0
150°	0.5	0.5	0.2	0.0	0.0
152.5°	0.5	0.5	0.2	0.0	0.0
155°	0.5	0.5	0.2	0.0	0.0
157.5°	0.5	0.7	0.2	0.0	0.0
160°	0.7	0.7	0.2	0.0	0.0
162.5°	0.7	0.7	0.5	0.2	0.0
165°	0.7	0.7	0.5	0.2	0.0
167.5°	0.7	0.7	0.5	0.2	0.0
170°	0.7	0.7	0.5	0.2	0.2
172.5°	0.7	0.7	0.5	0.2	0.2
175°	0.7	0.7	0.5	0.2	0.2
177.5°	0.7	0.7	0.5	0.2	0.2
180°	0.5	0.5	0.5	0.5	0.5

(END OF REPORT)