

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: P685653

Luminaire Tested: **4CZL-16-UNV-FUL-L950-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685653
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-16-UNV-FUL-L950-CD-U
Description: METALUX CRUZE LINEAR 4FT FROSTED LENS MODEL WITH UPLIGHT @90 CRI and 5000K
Light Source: (588) 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

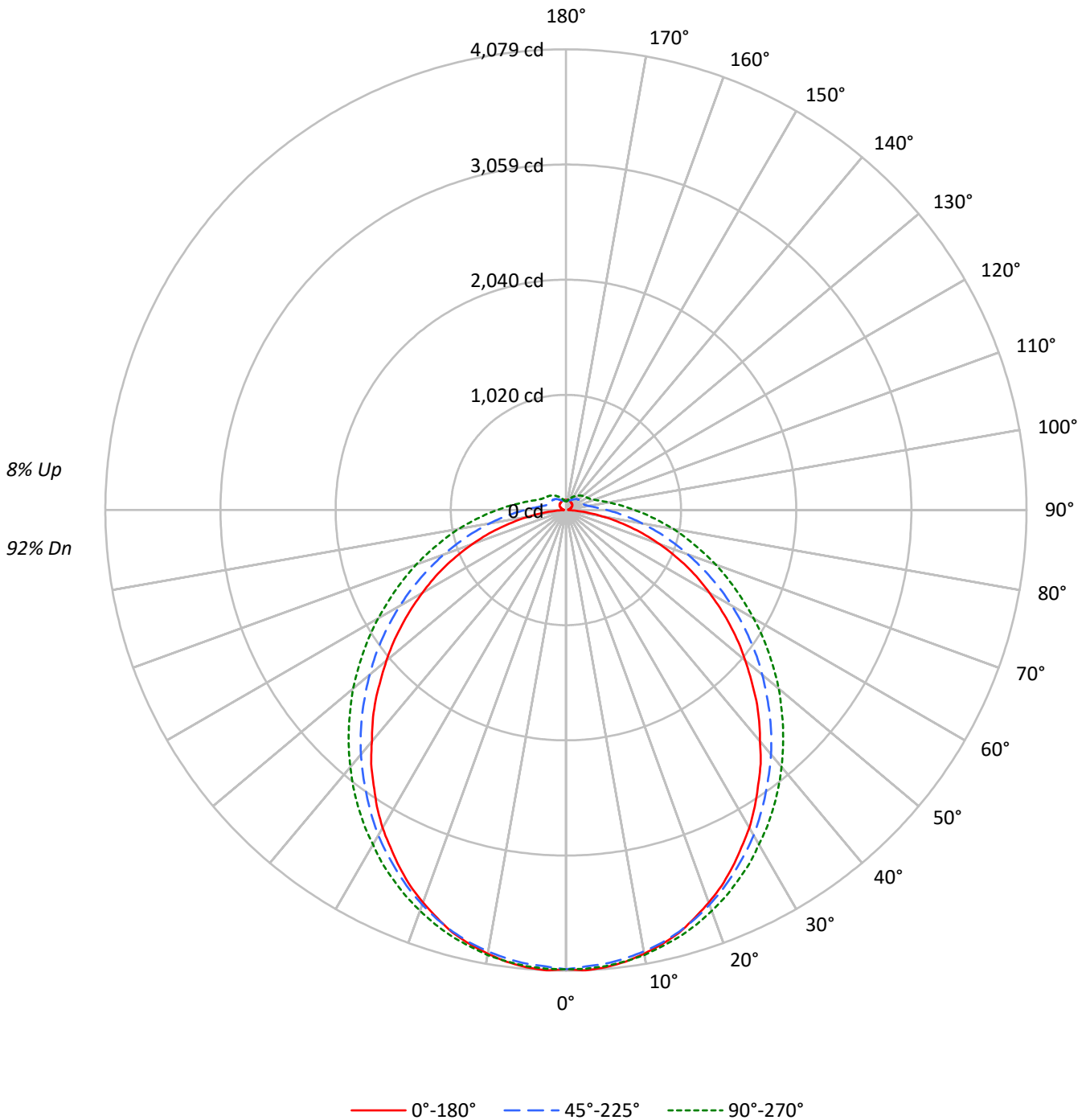
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12684.6 lumens
Efficiency: N/A
Efficacy: 123.2 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): 103
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

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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	117	117	117	117	113	113	113	113	107	107	107	100	100	100	95	95	95	95	95	95	95
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°	13130	13130	13130
5°	13124	12877	12912
10°	12986	12634	12672
15°	12812	12360	12400
20°	12519	12033	12100
25°	12194	11661	11777
30°	11830	11284	11428
35°	11371	10840	11091
40°	10889	10415	10722
45°	10452	9950	10345
50°	9927	9474	9983
55°	9414	8981	9583
60°	8840	8459	9210
65°	8270	7919	8860
70°	7453	7391	8595
75°	6444	6894	8359
80°	5016	6498	8419
85°	2926	6312	8670



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	384.6	3.0
10°-20°	1094.3	8.6
20°-30°	1634.0	12.9
30°-40°	1931.7	15.2
40°-50°	1968.4	15.5
50°-60°	1774.9	14.0
60°-70°	1404.4	11.1
70°-80°	949.1	7.5
80°-90°	530.8	4.2
90°-100°	288.8	2.3
100°-110°	189.4	1.5
110°-120°	150.3	1.2
120°-130°	127.8	1.0
130°-140°	102.3	0.8
140°-150°	73.2	0.6
150°-160°	47.2	0.4
160°-170°	25.5	0.2
170°-180°	8.0	0.1
0°-30°	3113.0	24.5
0°-40°	5044.6	39.8
0°-60°	8787.9	69.3
0°-90°	11672.2	92.0
90°-120°	628.5	5.0
90°-150°	931.8	7.3
90°-180°	1012.0	8.0
0°-180°	12684.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4066	4066	4066	4066	4066	
5°	4064	4057	4032	4055	4053	385
15°	3875	3870	3866	3900	3908	1090
25°	3489	3505	3534	3600	3614	1606
35°	2969	3009	3079	3176	3208	1858
45°	2384	2431	2551	2670	2718	1836
55°	1772	1838	1984	2134	2188	1585
65°	1179	1238	1416	1591	1657	1164
75°	597	679	905	1106	1170	634
85°	117	262	503	699	769	143
90°	18	144	362	541	607	14
95°	20	95	266	425	484	17
105°	33	84	174	274	315	35
115°	52	90	155	212	236	52
125°	69	94	148	191	206	62
135°	77	92	137	170	182	59
145°	80	88	115	145	153	50
155°	86	86	95	120	123	39
165°	89	87	86	90	97	25
175°	90	88	85	74	75	9
180°	83	83	83	83	83	

TEST NUMBER: P685653

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4066.1	4066.1	4066.1	4066.1	4066.1
2.5°	4079.1	4072.6	4045.7	4066.9	4066.1
5°	4063.6	4057.1	4031.8	4054.6	4053.0
7.5°	4033.4	4029.4	4005.7	4031.0	4030.2
10°	3989.4	3989.4	3969.0	3998.4	4000.8
12.5°	3936.4	3935.6	3925.0	3955.2	3955.2
15°	3875.3	3870.4	3866.3	3899.7	3907.9
17.5°	3788.0	3791.3	3798.6	3838.6	3846.7
20°	3698.3	3705.7	3719.5	3766.8	3777.4
22.5°	3602.1	3610.3	3632.3	3683.7	3700.8
25°	3488.8	3505.1	3533.6	3599.7	3613.6
27.5°	3366.5	3395.0	3431.7	3501.9	3525.5
30°	3249.1	3271.9	3324.9	3398.3	3418.7
32.5°	3113.8	3141.5	3203.4	3291.5	3319.2
35°	2968.6	3009.4	3078.7	3176.5	3207.5
37.5°	2833.3	2865.9	2951.5	3055.9	3092.6
40°	2673.5	2726.5	2825.1	2927.9	2970.3
42.5°	2533.2	2578.9	2689.8	2803.1	2847.1
45°	2384.0	2431.3	2551.2	2670.2	2718.3
47.5°	2224.2	2280.5	2408.5	2541.4	2586.2
50°	2074.2	2132.9	2269.9	2404.4	2460.7
52.5°	1926.6	1987.8	2129.6	2271.5	2323.7
55°	1771.7	1837.8	1984.5	2134.5	2188.4
57.5°	1620.1	1686.1	1842.7	1997.6	2055.5
60°	1467.6	1529.6	1697.5	1856.5	1920.1
62.5°	1324.9	1385.2	1558.1	1729.3	1784.8
65°	1179.0	1238.5	1416.2	1590.7	1656.8
67.5°	1028.1	1099.9	1278.4	1461.1	1531.2
70°	879.7	953.1	1150.4	1340.4	1410.5
72.5°	739.5	822.7	1021.6	1215.7	1287.4
75°	596.8	679.2	905.0	1105.6	1170.0
77.5°	462.3	558.5	790.9	993.1	1068.9
80°	333.5	442.7	688.1	886.3	966.2
82.5°	219.3	344.1	592.7	789.2	861.0
85°	116.6	261.7	503.1	698.7	768.9
87.5°	45.7	194.0	428.0	616.4	686.5
90°	17.9	144.3	362.0	540.6	607.4
92.5°	17.9	112.5	308.2	479.4	542.2
95°	19.6	94.6	265.8	424.8	484.3
97.5°	21.2	85.6	232.4	376.7	429.7
100°	24.5	82.3	207.1	337.5	385.7
102.5°	28.5	82.3	186.7	301.7	347.3
105°	33.4	84.0	173.7	274.0	314.7
107.5°	37.5	85.6	164.7	251.1	287.8
110°	42.4	88.1	159.8	234.0	265.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	47.3	89.7	156.5	221.8	249.5
115°	52.2	90.5	154.9	212.0	235.6
117.5°	57.1	92.1	153.3	205.5	225.8
120°	62.0	92.9	151.7	200.6	218.5
122.5°	66.0	92.9	150.0	195.7	212.0
125°	69.3	93.8	147.6	190.8	206.3
127.5°	71.7	94.6	145.9	185.9	199.8
130°	74.2	93.8	143.5	181.0	194.0
132.5°	75.8	92.9	140.2	176.1	188.3
135°	76.6	92.1	137.0	170.4	181.8
137.5°	77.5	91.3	132.1	164.7	175.3
140°	77.5	90.5	126.4	158.2	168.0
142.5°	78.3	88.9	120.7	151.7	160.6
145°	79.9	88.1	115.0	145.1	153.3
147.5°	81.5	86.4	110.1	137.8	145.1
150°	83.2	86.4	105.2	131.3	137.8
152.5°	84.0	86.4	100.3	125.6	130.5
155°	85.6	86.4	95.4	119.9	123.1
157.5°	86.4	86.4	92.1	112.5	115.8
160°	87.2	87.2	88.9	104.4	109.3
162.5°	88.9	87.2	87.2	96.2	102.7
165°	88.9	87.2	85.6	89.7	97.0
167.5°	89.7	88.1	84.8	84.8	92.1
170°	89.7	88.1	84.8	80.7	84.8
172.5°	89.7	88.1	84.8	77.5	79.1
175°	89.7	88.1	84.8	74.2	75.0
177.5°	89.7	88.1	84.0	71.7	75.0
180°	83.2	83.2	83.2	83.2	83.2

(END OF REPORT)