

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: P685599

Luminaire Tested: **4CZL-5-UNV-FUL-L835-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685599
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-5-UNV-FUL-L835-CD-U
Description: METALUX CRUZE LINEAR 4FT FROSTED LENS MODEL WITH UPLIGHT @80 CRI and 3500K
Light Source: (392) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

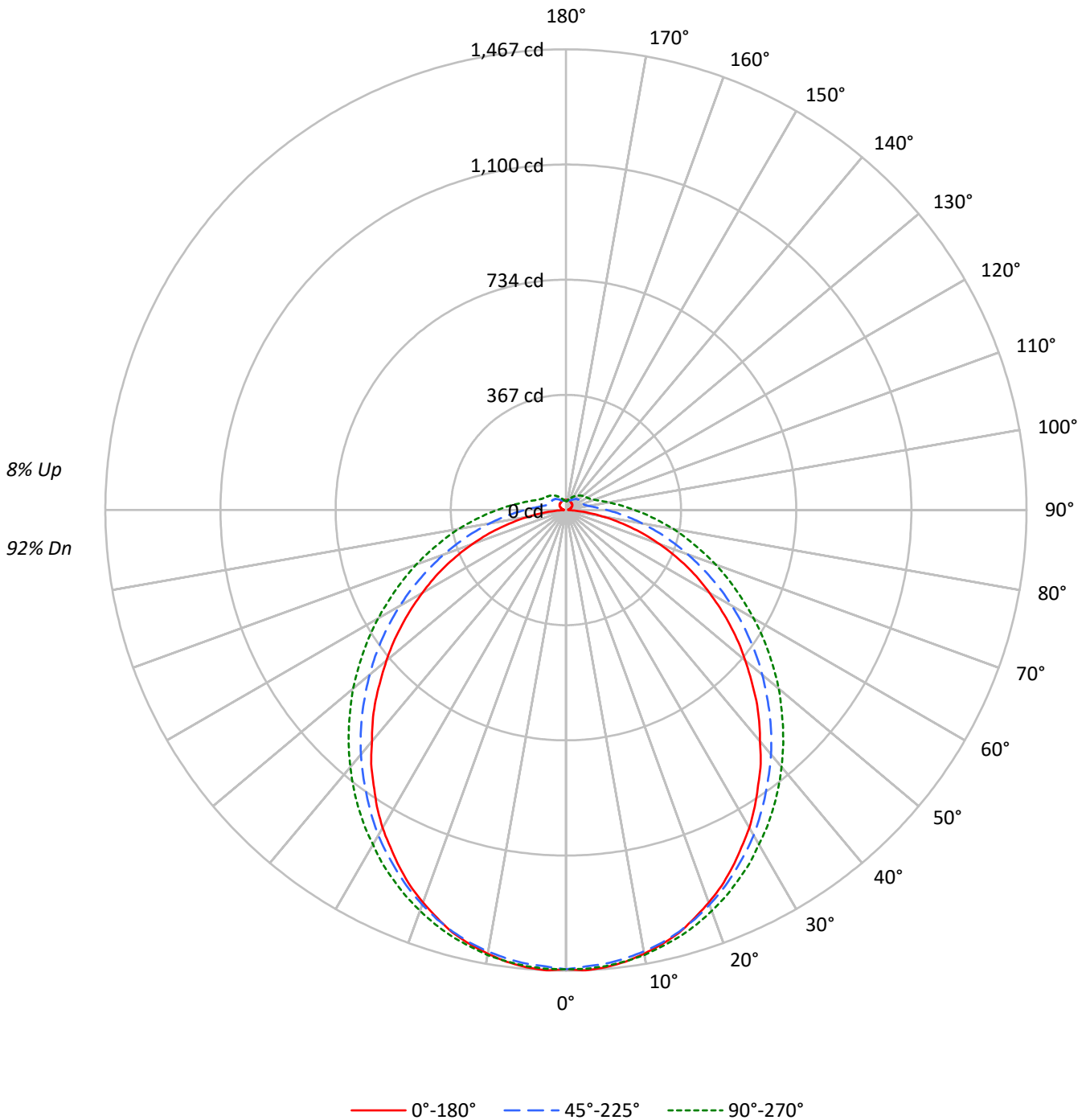
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4562.0 lumens
Efficiency: N/A
Efficacy: 147.2 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): 31
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

TEST NUMBER: P685599
CATALOG NUMBER: 4CZL-5-UNV-FUL-L835-CD-U

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	92
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°	4722	4722	4722
5°	4720	4631	4644
10°	4670	4544	4557
15°	4608	4445	4460
20°	4503	4328	4352
25°	4385	4194	4235
30°	4255	4058	4110
35°	4090	3899	3989
40°	3916	3746	3856
45°	3759	3578	3720
50°	3570	3407	3590
55°	3386	3230	3446
60°	3179	3042	3313
65°	2974	2848	3187
70°	2680	2659	3091
75°	2317	2480	3006
80°	1804	2337	3028
85°	1052	2270	3118



TEST NUMBER: P685599
 CATALOG NUMBER: 4CZL-5-UNV-FUL-L835-CD-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.3	3.0
10°-20°	393.6	8.6
20°-30°	587.7	12.9
30°-40°	694.7	15.2
40°-50°	707.9	15.5
50°-60°	638.3	14.0
60°-70°	505.1	11.1
70°-80°	341.4	7.5
80°-90°	190.9	4.2
90°-100°	103.9	2.3
100°-110°	68.1	1.5
110°-120°	54.0	1.2
120°-130°	46.0	1.0
130°-140°	36.8	0.8
140°-150°	26.3	0.6
150°-160°	17.0	0.4
160°-170°	9.2	0.2
170°-180°	2.9	0.1
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0°-30°	1119.6	24.5
0°-40°	1814.3	39.8
0°-60°	3160.5	69.3
0°-90°	4197.9	92.0
90°-120°	226.1	5.0
90°-150°	335.1	7.3
90°-180°	364.0	8.0
0°-180°	4562.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1462	1462	1462	1462	1462	
5°	1462	1459	1450	1458	1458	139
15°	1394	1392	1390	1402	1406	392
25°	1255	1261	1271	1295	1300	578
35°	1068	1082	1107	1142	1154	668
45°	857	874	918	960	978	660
55°	637	661	714	768	787	570
65°	424	445	509	572	596	419
75°	215	244	326	398	421	228
85°	42	94	181	251	276	51
90°	6	52	130	194	218	5
95°	7	34	96	153	174	6
105°	12	30	62	98	113	13
115°	19	32	56	76	85	19
125°	25	34	53	69	74	22
135°	28	33	49	61	65	21
145°	29	32	41	52	55	18
155°	31	31	34	43	44	14
165°	32	31	31	32	35	9
175°	32	32	30	27	27	3
180°	30	30	30	30	30	

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CATALOG NUMBER: 4CZL-5-UNV-FUL-L835-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1462.4	1462.4	1462.4	1462.4	1462.4
2.5°	1467.1	1464.7	1455.0	1462.7	1462.4
5°	1461.5	1459.1	1450.0	1458.3	1457.7
7.5°	1450.6	1449.2	1440.7	1449.7	1449.5
10°	1434.8	1434.8	1427.5	1438.0	1438.9
12.5°	1415.7	1415.4	1411.6	1422.5	1422.5
15°	1393.7	1392.0	1390.5	1402.5	1405.5
17.5°	1362.4	1363.5	1366.2	1380.5	1383.5
20°	1330.1	1332.7	1337.7	1354.7	1358.6
22.5°	1295.5	1298.4	1306.4	1324.8	1331.0
25°	1254.7	1260.6	1270.9	1294.6	1299.6
27.5°	1210.8	1221.0	1234.2	1259.4	1267.9
30°	1168.5	1176.7	1195.8	1222.2	1229.5
32.5°	1119.9	1129.8	1152.1	1183.8	1193.8
35°	1067.7	1082.3	1107.3	1142.4	1153.6
37.5°	1019.0	1030.7	1061.5	1099.0	1112.2
40°	961.5	980.6	1016.1	1053.0	1068.3
42.5°	911.1	927.5	967.4	1008.1	1024.0
45°	857.4	874.4	917.5	960.3	977.6
47.5°	799.9	820.2	866.2	914.0	930.1
50°	746.0	767.1	816.4	864.7	885.0
52.5°	692.9	714.9	765.9	817.0	835.7
55°	637.2	660.9	713.7	767.7	787.0
57.5°	582.7	606.4	662.7	718.4	739.2
60°	527.8	550.1	610.5	667.7	690.6
62.5°	476.5	498.2	560.4	621.9	641.9
65°	424.0	445.4	509.3	572.1	595.9
67.5°	369.8	395.6	459.8	525.5	550.7
70°	316.4	342.8	413.8	482.1	507.3
72.5°	266.0	295.9	367.4	437.2	463.0
75°	214.6	244.3	325.5	397.6	420.8
77.5°	166.3	200.9	284.4	357.2	384.4
80°	119.9	159.2	247.5	318.7	347.5
82.5°	78.9	123.7	213.2	283.9	309.7
85°	41.9	94.1	180.9	251.3	276.5
87.5°	16.4	69.8	153.9	221.7	246.9
90°	6.5	51.9	130.2	194.4	218.5
92.5°	6.5	40.5	110.8	172.4	195.0
95°	7.0	34.0	95.6	152.8	174.2
97.5°	7.6	30.8	83.6	135.5	154.5
100°	8.8	29.6	74.5	121.4	138.7
102.5°	10.3	29.6	67.2	108.5	124.9
105°	12.0	30.2	62.5	98.5	113.2
107.5°	13.5	30.8	59.2	90.3	103.5
110°	15.2	31.7	57.5	84.2	95.6



TEST NUMBER: P685599

CATALOG NUMBER: 4CZL-5-UNV-FUL-L835-CD-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	17.0	32.3	56.3	79.8	89.7
115°	18.8	32.5	55.7	76.2	84.7
117.5°	20.5	33.1	55.1	73.9	81.2
120°	22.3	33.4	54.5	72.1	78.6
122.5°	23.8	33.4	54.0	70.4	76.2
125°	24.9	33.7	53.1	68.6	74.2
127.5°	25.8	34.0	52.5	66.9	71.8
130°	26.7	33.7	51.6	65.1	69.8
132.5°	27.3	33.4	50.4	63.3	67.7
135°	27.6	33.1	49.3	61.3	65.4
137.5°	27.9	32.8	47.5	59.2	63.0
140°	27.9	32.5	45.5	56.9	60.4
142.5°	28.2	32.0	43.4	54.5	57.8
145°	28.7	31.7	41.3	52.2	55.1
147.5°	29.3	31.1	39.6	49.6	52.2
150°	29.9	31.1	37.8	47.2	49.6
152.5°	30.2	31.1	36.1	45.2	46.9
155°	30.8	31.1	34.3	43.1	44.3
157.5°	31.1	31.1	33.1	40.5	41.6
160°	31.4	31.4	32.0	37.5	39.3
162.5°	32.0	31.4	31.4	34.6	36.9
165°	32.0	31.4	30.8	32.3	34.9
167.5°	32.3	31.7	30.5	30.5	33.1
170°	32.3	31.7	30.5	29.0	30.5
172.5°	32.3	31.7	30.5	27.9	28.4
175°	32.3	31.7	30.5	26.7	27.0
177.5°	32.3	31.7	30.2	25.8	27.0
180°	29.9	29.9	29.9	29.9	29.9

(END OF REPORT)