

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: P685431

Luminaire Tested: **4CZL-9-UNV-M-L840-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685431
Test Lab: INNOVATION CENTER(G2)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-9-UNV-M-L840-CD-U
Description: METALUX CRUZE LINEAR 4FT MEDIUM LENS MODEL @80 CRI and 4000K
Light Source: (588) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

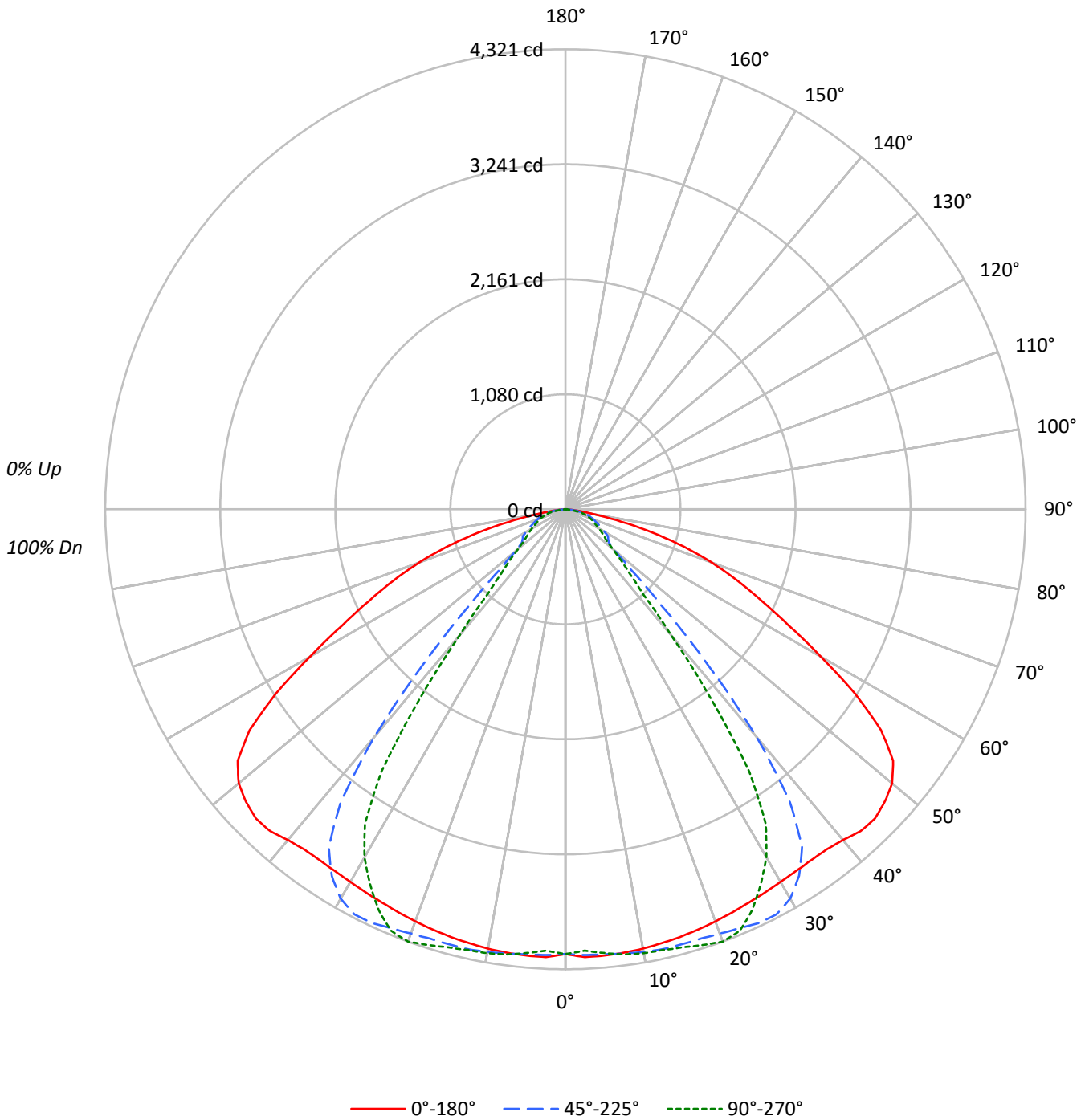
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9024.6 lumens
Efficiency: N/A
Efficacy: 167.1 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): 54
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: P685431
CATALOG NUMBER: 4CZL-9-UNV-M-L840-CD-U

Luminous Intensity Polar Plot





TEST NUMBER: P685431
 CATALOG NUMBER: 4CZL-9-UNV-M-L840-CD-U

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	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°	13489	13489	13489
5°	13640	13601	13563
10°	13739	13846	13885
15°	13902	14140	14239
20°	14157	14572	14847
25°	14520	15281	14792
30°	15067	15742	14071
35°	15859	15270	11882
40°	17091	11777	6499
45°	18764	5790	3884
50°	20121	3025	2896
55°	20377	2761	2500
60°	17870	2753	2357
65°	15551	2645	2282
70°	13800	2680	2297
75°	10586	2751	2332
80°	5389	2795	1930
85°	2127	1575	548



TEST NUMBER: P685431
 CATALOG NUMBER: 4CZL-9-UNV-M-L840-CD-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	400.2	4.4
10°-20°	1192.9	13.2
20°-30°	1925.2	21.3
30°-40°	2254.7	25.0
40°-50°	1534.9	17.0
50°-60°	888.8	9.8
60°-70°	508.1	5.6
70°-80°	261.5	2.9
80°-90°	58.2	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°	3518.3	39.0
0°-40°	5773.0	64.0
0°-60°	8196.7	90.8
0°-90°	9024.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9024.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4177	4177	4177	4177	4177	
5°	4208	4167	4196	4191	4184	401
15°	4158	4152	4230	4240	4259	1177
25°	4075	4133	4289	4223	4152	1886
35°	4023	4222	3874	3267	3014	2533
45°	4109	3057	1268	854	850	3157
55°	3619	1049	490	457	444	3154
65°	2035	374	346	306	299	2041
75°	848	231	220	192	187	902
85°	57	70	42	20	15	97
90°	0	0	0	0	0	



TEST NUMBER: P685431

CATALOG NUMBER: 4CZL-9-UNV-M-L840-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	4177.2	4177.2	4177.2	4177.2	4177.2	4177.2	4177.2	4177.2	4177.2	4177.2	4177.2
2.5°	4210.8	4198.9	4175.2	4165.3	4165.3	4191.0	4195.0	4179.1	4176.2	4162.3	4149.5
5°	4207.8	4196.0	4173.2	4164.3	4167.3	4196.0	4202.9	4190.0	4194.0	4190.0	4184.1
7.5°	4201.9	4189.0	4168.3	4162.3	4171.2	4207.8	4219.7	4212.8	4221.7	4219.7	4217.7
10°	4190.0	4180.1	4160.4	4159.4	4177.2	4222.7	4237.5	4228.6	4231.6	4230.6	4234.5
12.5°	4174.2	4165.3	4148.5	4157.4	4183.1	4231.6	4241.4	4227.6	4231.6	4232.5	4239.5
15°	4158.4	4147.5	4136.6	4157.4	4184.1	4229.6	4239.5	4237.5	4249.4	4250.3	4259.2
17.5°	4138.6	4131.7	4128.7	4156.4	4177.2	4227.6	4250.3	4262.2	4278.0	4282.0	4290.9
20°	4119.8	4113.9	4120.8	4151.5	4174.2	4240.5	4272.1	4289.9	4306.7	4311.7	4320.6
22.5°	4097.1	4093.1	4111.9	4144.5	4179.1	4260.2	4295.8	4297.8	4290.9	4278.0	4284.0
25°	4075.3	4075.3	4103.0	4142.6	4194.0	4288.9	4291.9	4235.5	4185.1	4151.5	4151.5
27.5°	4057.5	4061.5	4096.1	4151.5	4222.7	4290.9	4208.8	4097.1	4022.9	3974.4	3971.5
30°	4040.7	4047.6	4096.1	4176.2	4243.4	4221.7	4062.5	3927.0	3824.1	3777.6	3773.7
32.5°	4028.8	4039.7	4113.9	4213.8	4218.7	4082.2	3874.6	3703.5	3581.8	3512.6	3500.8
35°	4022.9	4035.8	4147.5	4246.4	4118.8	3873.6	3578.9	3314.8	3122.0	3033.0	3014.2
37.5°	4026.9	4049.6	4194.0	4218.7	3868.6	3463.2	3039.9	2661.2	2396.1	2312.1	2253.7
40°	4054.5	4093.1	4230.6	3993.2	3343.5	2793.7	2233.0	1825.5	1642.6	1582.3	1541.7
42.5°	4101.0	4139.6	4134.6	3477.0	2611.7	1984.7	1438.9	1194.6	1105.6	1095.7	1076.9
45°	4108.9	4123.8	3824.1	2801.6	1899.7	1267.8	926.6	854.4	852.4	859.4	850.5
47.5°	4067.4	4038.7	3376.1	2143.0	1308.3	819.8	697.2	709.1	715.0	710.0	703.1
50°	4005.1	3899.3	2873.8	1575.3	872.2	602.2	608.2	619.1	598.3	584.4	576.5
52.5°	3878.5	3672.8	2316.0	1116.5	603.2	514.2	561.7	530.1	500.4	492.5	491.5
55°	3619.4	3336.6	1782.0	805.0	460.8	490.5	499.4	458.9	450.0	446.0	444.0
57.5°	3224.8	2918.3	1340.0	581.5	404.5	473.7	434.1	418.3	409.4	406.4	403.5
60°	2767.0	2450.5	998.8	427.2	392.6	426.2	393.6	378.8	368.9	364.9	364.9
62.5°	2361.5	2028.3	738.7	347.1	389.6	384.7	355.0	339.2	333.3	331.3	329.3
65°	2035.2	1631.7	533.0	321.4	363.9	346.1	317.4	306.6	302.6	298.7	298.7
67.5°	1744.4	1277.7	392.6	315.5	334.3	311.5	289.8	280.9	275.9	274.9	273.9
70°	1461.6	941.4	298.7	308.5	317.4	283.8	263.1	252.2	246.2	243.3	243.3
72.5°	1163.9	645.8	238.3	283.8	290.7	251.2	230.4	222.5	217.6	214.6	213.6
75°	848.5	405.5	209.6	238.3	250.2	220.5	199.8	192.8	190.9	187.9	186.9
77.5°	539.9	242.3	179.0	194.8	204.7	185.9	170.1	161.2	160.2	157.2	156.2
80°	289.8	155.3	143.4	153.3	159.2	150.3	131.5	113.7	108.8	104.8	103.8
82.5°	134.5	98.9	106.8	115.7	118.7	95.9	79.1	71.2	66.3	61.3	58.3
85°	57.4	53.4	66.3	71.2	58.3	42.5	27.7	20.8	16.8	15.8	14.8
87.5°	20.8	20.8	24.7	16.8	9.9	7.9	7.9	6.9	5.9	4.9	4.9
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)