

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: A1616677B001

Luminaire Tested: **22CZRK-LD4-34-UNV-L840-CD1-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: A1616677B001  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA ( A1616677B001)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZRK-LD4-34-UNV-L840-CD1-U  
Description: 2X2 CRUZE LED RETROFIT, 3400 lum, 40K, U  
Light Source: -  
Ballast/Driver: -

**Summary**

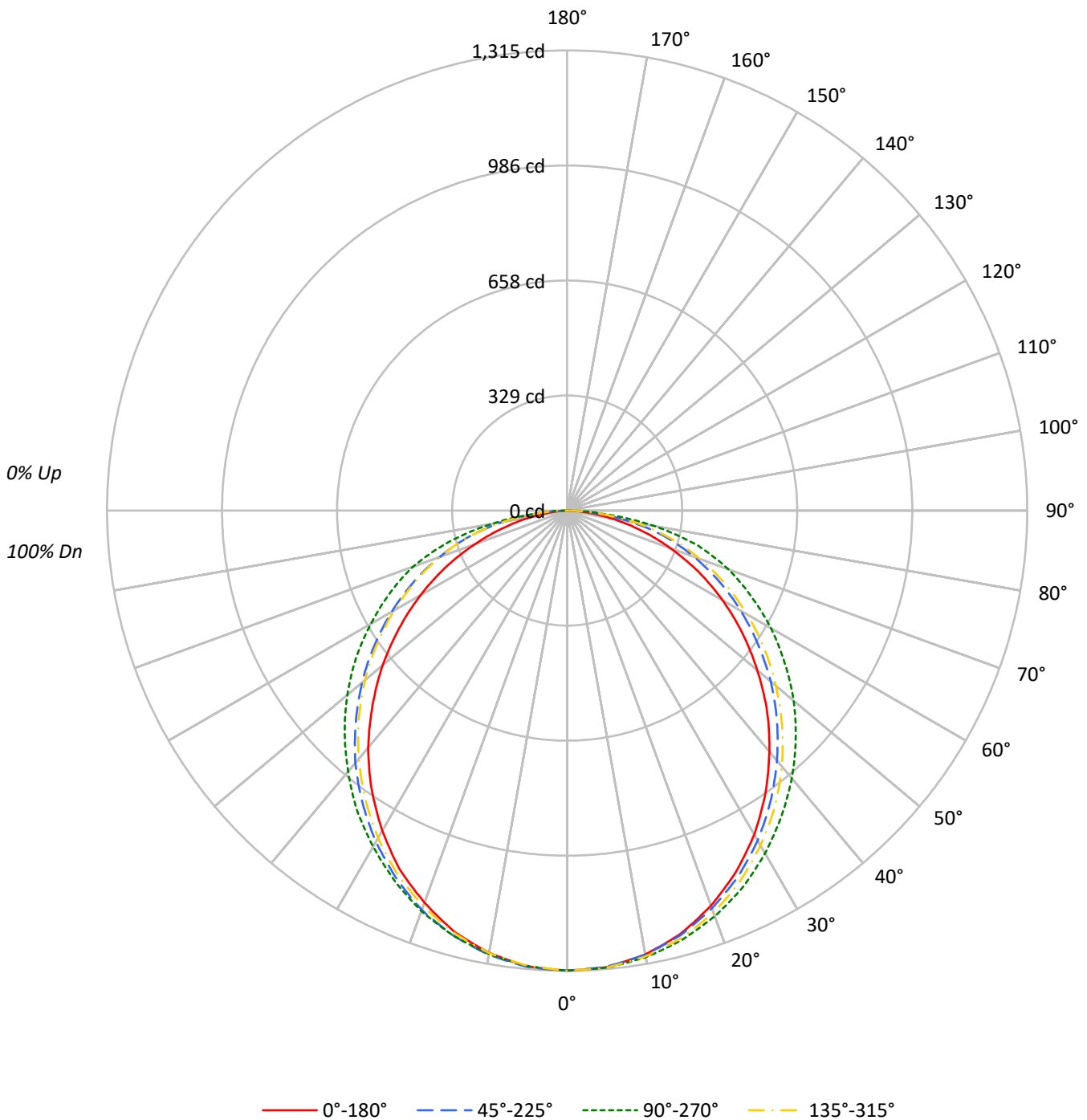
Lumens per Lamp: 3785.168 (1 lamp)  
Luminaire Lumens: 3785.1 lumens  
Efficiency: 100.0%  
Efficacy: 120.5 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.36  
Luminous Opening: Rectangular w/ Sides (W: 2' x L: 2' x H: 0.1')  
CIE Type: Direct

Input Watts (W): 31.418  
Input Voltage (V): NR  
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

TEST NUMBER: A1616677B001

CATALOG NUMBER: 22CZRK-LD4-34-UNV-L840-CD1-U

### 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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	68
3	89	79	70	63	87	77	69	63	74	67	62	71	65	61	69	64	60	57
4	82	69	60	54	79	68	60	53	66	58	52	63	57	52	61	56	51	49
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42
6	69	56	47	40	67	55	46	40	53	45	40	51	44	39	50	44	39	37
7	64	51	42	35	63	50	41	35	48	41	35	47	40	35	45	39	34	32
8	60	46	38	32	58	45	37	31	44	37	31	43	36	31	42	35	31	29
9	56	42	34	28	54	42	34	28	41	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	38	30	26	37	30	25	36	30	25	24

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	3538	3538	3538	3538
5°	3522	3524	3516	3513
10°	3488	3510	3476	3485
15°	3443	3491	3425	3457
20°	3379	3469	3352	3426
25°	3308	3447	3284	3386
30°	3230	3415	3189	3349
35°	3134	3388	3091	3322
40°	3032	3368	2983	3284
45°	2928	3349	2849	3259
50°	2802	3339	2720	3241
55°	2678	3324	2564	3228
60°	2541	3333	2397	3209
65°	2383	3338	2204	3219
70°	2169	3390	1932	3246
75°	1911	3394	1610	3103
80°	1516	3034	1178	2645
85°	978	1918	652	1448



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

Zone	Lumens	% Fixture	% Lamp		0°	90°	180°	270°	360°	Flux
0°-10°	124.2	3.3	3.3	0°	1315	1315	1315	1315	1315	
10°-20°	354.4	9.4	9.4	5°	1309	1310	1307	1306	1309	124
20°-30°	533.0	14.1	14.1	15°	1252	1270	1246	1258	1252	353
30°-40°	637.3	16.8	16.8	25°	1140	1188	1132	1167	1140	525
40°-50°	658.9	17.4	17.4	35°	988	1067	974	1047	988	618
50°-60°	601.9	15.9	15.9	45°	808	924	786	899	808	623
60°-70°	480.3	12.7	12.7	55°	612	759	586	737	612	547
70°-80°	305.8	8.1	8.1	65°	414	580	383	560	414	410
80°-90°	89.2	2.4	2.4	75°	218	387	184	354	218	231
90°-100°	0.0	0.0	0.0	85°	50	98	33	74	50	62
100°-110°	0.0	0.0	0.0	90°	2	2	2	2	2	
110°-120°	0.0	0.0	0.0							
120°-130°	0.0	0.0	0.0							
130°-140°	0.0	0.0	0.0							
140°-150°	0.0	0.0	0.0							
150°-160°	0.0	0.0	0.0							
160°-170°	0.0	0.0	0.0							
170°-180°	0.0	0.0	0.0							
0°-30°	1011.7	26.7	26.7							
0°-40°	1649.0	43.6	43.6							
0°-60°	2909.8	76.9	76.9							
0°-90°	3785.1	100.0	100.0							
90°-120°	0.0	0.0	0.0							
90°-150°	0.0	0.0	0.0							
90°-180°	0.0	0.0	0.0							
0°-180°	3785.1	100.0	100.0							



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CATALOG NUMBER: 22CZRK-LD4-34-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
0°	1314.6	1314.6	1314.6	1314.6	1314.6	1314.6	1314.6	1314.6	1314.6	1314.6	1314.6
5°	1309.4	1308.3	1307.3	1310.4	1309.4	1311.4	1307.3	1308.3	1309.4	1306.3	1306.3
10°	1287.6	1287.6	1288.6	1295.9	1293.8	1292.8	1283.4	1286.5	1291.7	1286.5	1286.5
15°	1252.3	1254.3	1257.5	1269.9	1265.8	1262.6	1246.0	1252.3	1262.6	1257.5	1254.3
20°	1201.4	1204.5	1213.8	1233.6	1227.3	1218.0	1192.0	1205.5	1223.2	1218.0	1212.8
25°	1140.1	1147.4	1161.9	1187.9	1177.5	1160.9	1131.8	1144.3	1171.3	1167.1	1160.9
30°	1069.5	1077.8	1099.6	1130.8	1116.2	1093.4	1056.0	1074.7	1111.0	1109.0	1097.5
35°	987.5	998.9	1028.0	1067.4	1049.8	1018.6	974.0	997.9	1041.5	1046.7	1030.1
40°	899.2	914.8	951.1	998.9	974.0	935.6	884.7	913.8	969.8	974.0	955.3
45°	807.8	825.5	870.1	924.1	894.0	843.1	786.0	820.3	887.8	899.2	875.3
50°	709.2	733.1	786.0	845.2	807.8	749.7	688.4	725.8	804.7	820.3	791.2
55°	611.6	635.5	695.7	759.0	721.7	654.2	585.6	630.3	715.4	737.2	706.1
60°	513.0	539.9	606.4	672.9	633.4	554.5	483.9	530.6	627.2	647.9	614.7
65°	414.3	442.3	516.1	580.4	538.9	460.0	383.2	436.1	533.7	559.7	524.4
70°	313.6	349.9	420.5	490.1	445.5	362.4	279.3	337.5	438.2	469.3	434.0
75°	218.1	259.6	325.0	387.3	342.7	268.9	183.8	243.0	341.6	354.1	334.4
80°	125.6	166.1	203.5	251.3	221.2	178.6	97.6	150.6	222.2	219.1	214.9
85°	49.8	72.7	78.9	97.6	88.3	72.7	33.2	59.2	82.0	73.7	76.8
90°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1



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**CANDELA DISTRIBUTION (continued):**

	330°	360°
0°	1314.6	1314.6
5°	1304.2	1309.4
10°	1281.3	1287.6
15°	1244.0	1252.3
20°	1193.1	1201.4
25°	1132.9	1140.1
30°	1063.3	1069.5
35°	982.3	987.5
40°	897.1	899.2
45°	808.9	807.8
50°	716.5	709.2
55°	618.9	611.6
60°	525.4	513.0
65°	433.0	414.3
70°	339.5	313.6
75°	250.2	218.1
80°	153.7	125.6
85°	66.5	49.8
90°	2.1	2.1

(END OF REPORT)