

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: A1616677C001

Luminaire Tested: **22CZRK-LD4-24-UNV-L835-CD1-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: A1616677C001  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA ( A1616677C001)  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZRK-LD4-24-UNV-L835-CD1-U  
Description: 2X2 CRUZE LED RETROFIT, 2400 lum, 35K, U  
Light Source: 7S 7P CCT:3500K CRI:80  
PCB\_L-PL-A94-03-A-V2.0E lumens3030E©  
Ballast/Driver: OSRAM  
OPTOTRONIC OTI 30

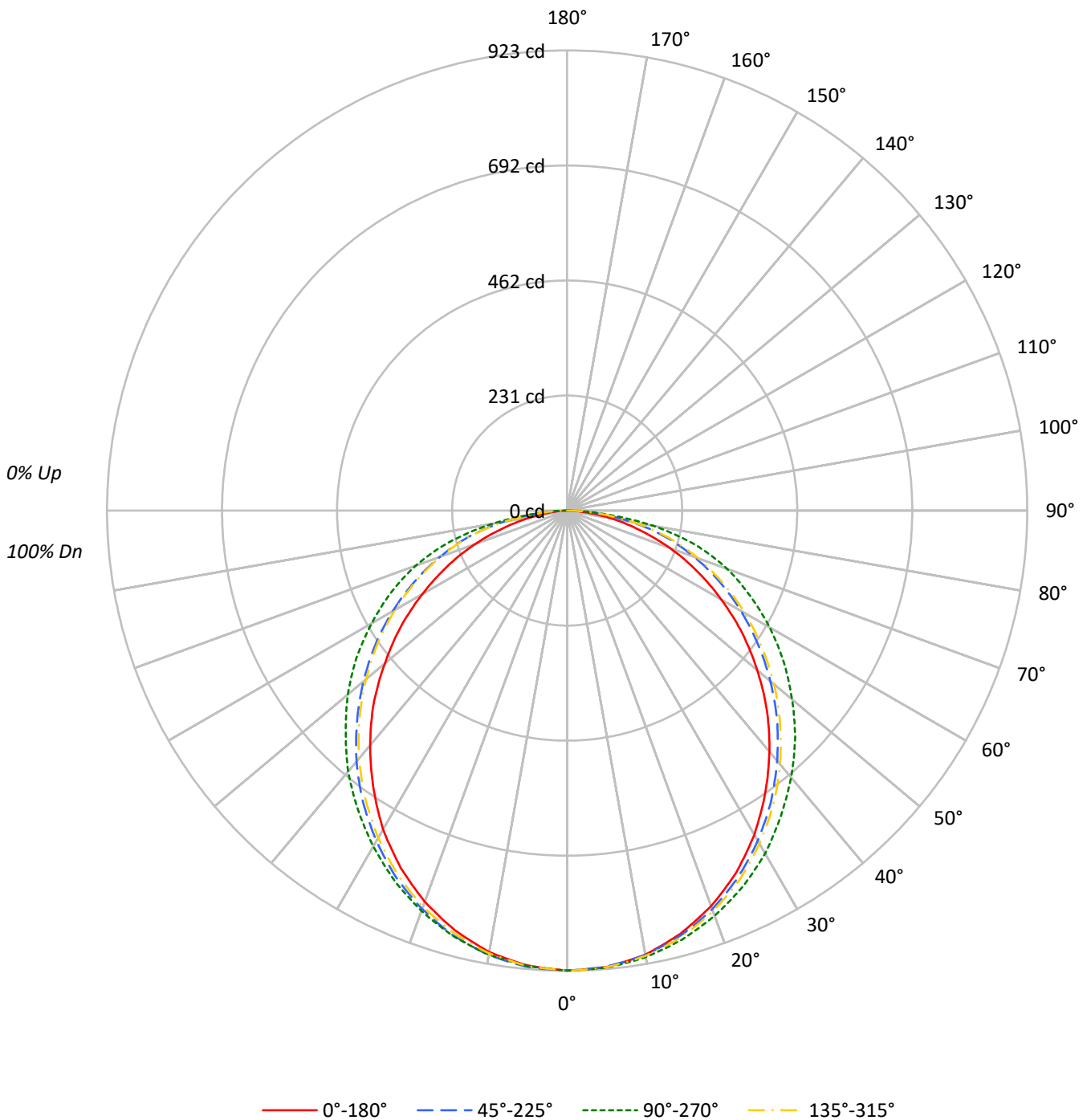
**Summary**

Lumens per Lamp: 2646.03 (1 lamp)  
Luminaire Lumens: 2646.0 lumens  
Efficiency: 100.0%  
Efficacy: 115.6 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): 22.88  
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

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### 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	69
3	89	79	70	64	87	77	69	63	74	67	62	71	65	61	69	64	60	57
4	82	70	61	54	79	68	60	53	66	58	53	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	45	39	50	44	39	37
7	64	51	42	36	63	50	41	35	48	41	35	47	40	35	45	39	35	33
8	60	46	38	32	58	45	37	32	44	37	31	43	36	31	42	36	31	29
9	56	42	34	28	55	42	34	28	41	33	28	40	33	28	39	32	28	26
10	52	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	25	24

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

	0°	90°	180°	270°
0°	2483	2483	2483	2483
5°	2471	2474	2463	2466
10°	2450	2464	2436	2450
15°	2415	2449	2395	2429
20°	2374	2433	2348	2404
25°	2326	2416	2293	2377
30°	2267	2399	2230	2349
35°	2198	2373	2152	2323
40°	2128	2356	2072	2303
45°	2055	2345	1991	2277
50°	1965	2326	1887	2269
55°	1878	2323	1787	2260
60°	1769	2324	1661	2242
65°	1654	2329	1529	2245
70°	1516	2363	1357	2241
75°	1310	2339	1119	2156
80°	1066	2119	815	1830
85°	652	1307	448	1000



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

Zone	Lumens	% Fixture	% Lamp		0°	90°	180°	270°	360°	Flux
0°-10°	87.2	3.3	3.3	0°	923	923	923	923	923	
10°-20°	248.7	9.4	9.4	5°	919	920	916	917	919	87
20°-30°	373.8	14.1	14.1	15°	878	891	871	884	878	248
30°-40°	446.2	16.9	16.9	25°	802	833	790	819	802	369
40°-50°	460.5	17.4	17.4	35°	693	748	678	732	693	433
50°-60°	420.2	15.9	15.9	45°	567	647	549	628	567	437
60°-70°	334.8	12.7	12.7	55°	429	531	408	516	429	383
70°-80°	212.8	8.0	8.0	65°	288	405	266	390	288	285
80°-90°	61.8	2.3	2.3	75°	150	267	128	246	150	160
90°-100°	0.0	0.0	0.0	85°	33	66	23	51	33	43
100°-110°	0.0	0.0	0.0	90°	3	1	2	1	3	
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°	709.7	26.8	26.8							
0°-40°	1155.9	43.7	43.7							
0°-60°	2036.6	77.0	77.0							
0°-90°	2646.0	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°	2646.0	100.0	100.0							



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**CANDELA DISTRIBUTION (FULL):**

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
0°	922.7	922.7	922.7	922.7	922.7	922.7	922.7	922.7	922.7	922.7	922.7
5°	918.9	918.9	916.9	920.0	918.9	920.0	915.8	918.9	918.9	916.9	917.9
10°	904.4	905.5	904.4	909.6	907.5	906.5	899.2	903.4	907.5	904.4	903.4
15°	878.5	881.6	882.6	890.9	887.8	883.6	871.2	878.5	886.8	883.6	881.6
20°	844.2	848.3	853.5	865.0	858.7	851.5	834.8	843.1	857.7	854.6	852.5
25°	801.6	805.8	817.2	832.8	823.4	812.0	790.2	801.6	822.4	819.3	814.1
30°	750.7	758.0	771.5	794.3	779.8	763.2	738.3	752.8	777.7	777.7	770.5
35°	692.6	703.0	722.7	747.6	732.0	709.2	678.0	697.8	730.0	732.0	721.7
40°	631.3	641.7	668.7	698.8	679.1	650.0	614.7	636.5	678.0	683.2	668.7
45°	566.9	579.4	611.6	646.9	623.0	584.6	549.3	572.1	619.9	628.2	610.6
50°	497.4	514.0	550.3	588.8	563.8	519.2	477.6	503.6	562.8	574.2	553.4
55°	428.8	444.4	490.1	530.6	500.5	452.7	408.1	437.2	502.6	516.1	494.3
60°	357.2	378.0	426.8	469.3	438.2	386.3	335.4	370.7	438.2	452.7	429.9
65°	287.6	312.5	361.4	405.0	371.7	317.7	265.8	302.2	373.8	390.4	366.5
70°	219.1	245.1	297.0	341.6	306.3	253.4	196.2	236.7	306.3	324.0	303.2
75°	149.5	181.7	227.4	266.9	237.8	184.8	127.7	171.3	239.9	246.1	234.7
80°	88.3	118.4	144.3	175.5	151.6	121.5	67.5	103.8	152.6	151.6	149.5
85°	33.2	50.9	56.1	66.5	60.2	48.8	22.8	41.5	56.1	50.9	53.0
90°	3.1	3.1	1.0	1.0	2.1	2.1	2.1	2.1	2.1	1.0	2.1



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**CANDELA DISTRIBUTION (continued):**

	330°	360°
0°	922.7	922.7
5°	915.8	918.9
10°	900.3	904.4
15°	873.3	878.5
20°	839.0	844.2
25°	796.4	801.6
30°	745.5	750.7
35°	689.5	692.6
40°	630.3	631.3
45°	566.9	566.9
50°	499.5	497.4
55°	433.0	428.8
60°	367.6	357.2
65°	300.1	287.6
70°	235.7	219.1
75°	173.4	149.5
80°	105.9	88.3
85°	44.6	33.2
90°	1.0	3.1

(END OF REPORT)