

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: P475249

Luminaire Tested: **22CZ2-90VHE-SQR-UNV-L830-CD1-U**

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P475249  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-90VHE-SQR-UNV-L830-CD1-U  
Description: 2'X2' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SQUARE LENS  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8241.9 lumens  
Efficiency: N/A  
Efficacy: 123.6 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.31 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

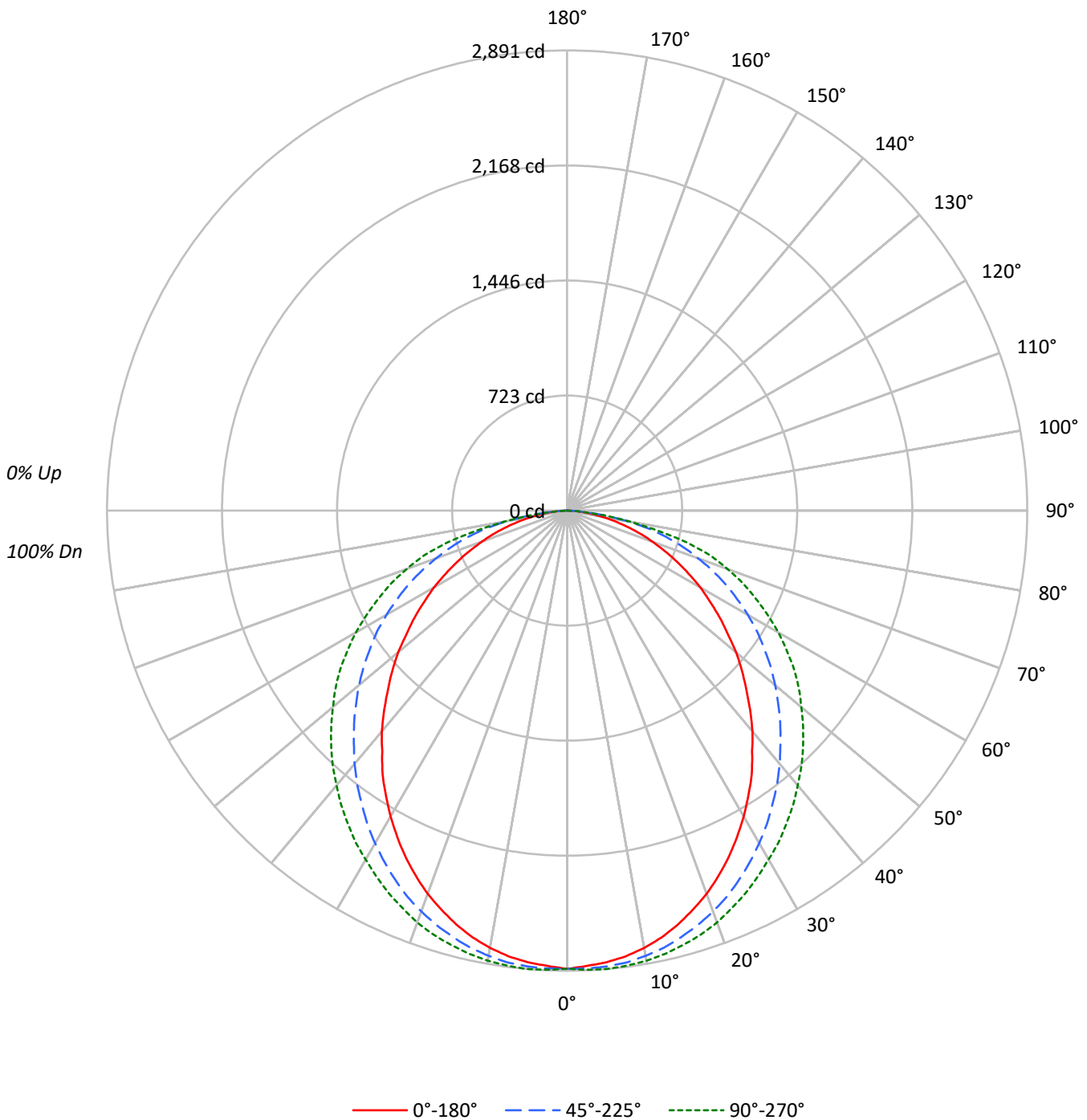
Input Watts (W): 66.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	109	104	99	95	106	101	97	94	97	94	91	93	91	88	90	87	85	83
2	99	90	83	77	96	88	82	76	85	79	75	81	77	73	78	75	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	64	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	43
6	70	56	47	41	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

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

	0°	45°	90°
0°	7747	7747	7747
5°	7693	7766	7809
10°	7622	7760	7845
15°	7498	7726	7869
20°	7337	7674	7886
25°	7132	7596	7875
30°	6892	7500	7864
35°	6643	7388	7890
40°	6362	7297	7916
45°	6059	7205	7980
50°	5797	7140	8040
55°	5487	7083	8168
60°	5200	7054	8254
65°	4856	6998	8318
70°	4461	6893	8433
75°	4028	6710	8133
80°	3454	5943	6124
85°	2779	3501	2779



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	272.9	3.3
10°-20°	780.4	9.5
20°-30°	1172.1	14.2
30°-40°	1397.9	17.0
40°-50°	1445.3	17.5
50°-60°	1328.7	16.1
60°-70°	1057.8	12.8
70°-80°	646.3	7.8
80°-90°	140.4	1.7
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°	2225.4	27.0
0°-40°	3623.3	44.0
0°-60°	6397.3	77.6
0°-90°	8241.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8241.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2879	2879	2879	2879	2879	
5°	2848	2856	2875	2887	2891	270
15°	2692	2723	2773	2813	2824	758
25°	2402	2460	2558	2629	2652	1105
35°	2022	2108	2249	2367	2402	1262
45°	1592	1706	1893	2046	2097	1231
55°	1170	1299	1510	1682	1741	1046
65°	763	892	1099	1252	1306	756
75°	387	501	645	759	782	413
85°	90	110	113	98	90	104
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2878.9	2878.9	2878.9	2878.9	2878.9
2.5°	2863.3	2867.2	2878.9	2887.2	2887.2
5°	2847.8	2855.6	2875.0	2887.2	2891.0
7.5°	2824.4	2836.1	2863.3	2878.9	2883.3
10°	2789.3	2804.9	2840.0	2863.3	2871.1
12.5°	2746.0	2769.4	2812.7	2843.9	2851.7
15°	2691.5	2722.7	2773.3	2812.7	2824.4
17.5°	2628.7	2667.7	2730.5	2777.6	2793.2
20°	2562.1	2601.5	2679.8	2734.4	2753.8
22.5°	2484.2	2534.8	2624.8	2687.6	2703.2
25°	2401.9	2460.4	2558.2	2628.7	2652.1
27.5°	2311.9	2382.4	2488.1	2574.2	2593.7
30°	2218.0	2292.4	2413.6	2507.5	2530.9
32.5°	2120.1	2206.3	2335.3	2440.9	2472.5
35°	2022.3	2108.4	2249.1	2366.9	2401.9
37.5°	1908.9	2010.6	2167.3	2288.5	2331.4
40°	1811.1	1908.9	2077.3	2210.2	2253.4
42.5°	1701.6	1807.2	1983.3	2127.9	2179.0
45°	1592.0	1705.5	1893.3	2046.1	2096.8
47.5°	1490.3	1603.7	1799.4	1960.0	2010.6
50°	1384.7	1502.0	1705.5	1869.9	1920.6
52.5°	1271.3	1400.3	1611.5	1776.0	1834.9
55°	1169.6	1298.6	1509.8	1682.1	1740.9
57.5°	1064.0	1196.8	1416.3	1580.4	1635.3
60°	966.1	1095.1	1310.7	1470.8	1533.6
62.5°	860.5	993.4	1204.6	1361.3	1420.2
65°	762.7	892.1	1099.0	1251.8	1306.4
67.5°	664.9	794.3	989.5	1134.5	1196.8
70°	567.0	696.5	876.1	1017.2	1071.8
72.5°	481.3	594.7	766.6	896.0	946.7
75°	387.4	500.8	645.4	758.8	782.2
77.5°	301.3	403.0	524.2	574.8	583.1
80°	222.9	301.3	383.5	395.2	395.2
82.5°	148.5	207.3	238.5	242.4	238.5
85°	90.0	109.5	113.4	97.8	90.0
87.5°	31.2	31.2	19.5	11.7	3.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)