

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: P475311

Luminaire Tested: **22CZ2-110VHE-SQR-UNV-L840-CD1-U**

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P475311  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-110VHE-SQR-UNV-L840-CD1-U  
Description: 2'X2' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SQUARE LENS  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10668.3 lumens  
Efficiency: N/A  
Efficacy: 126.9 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

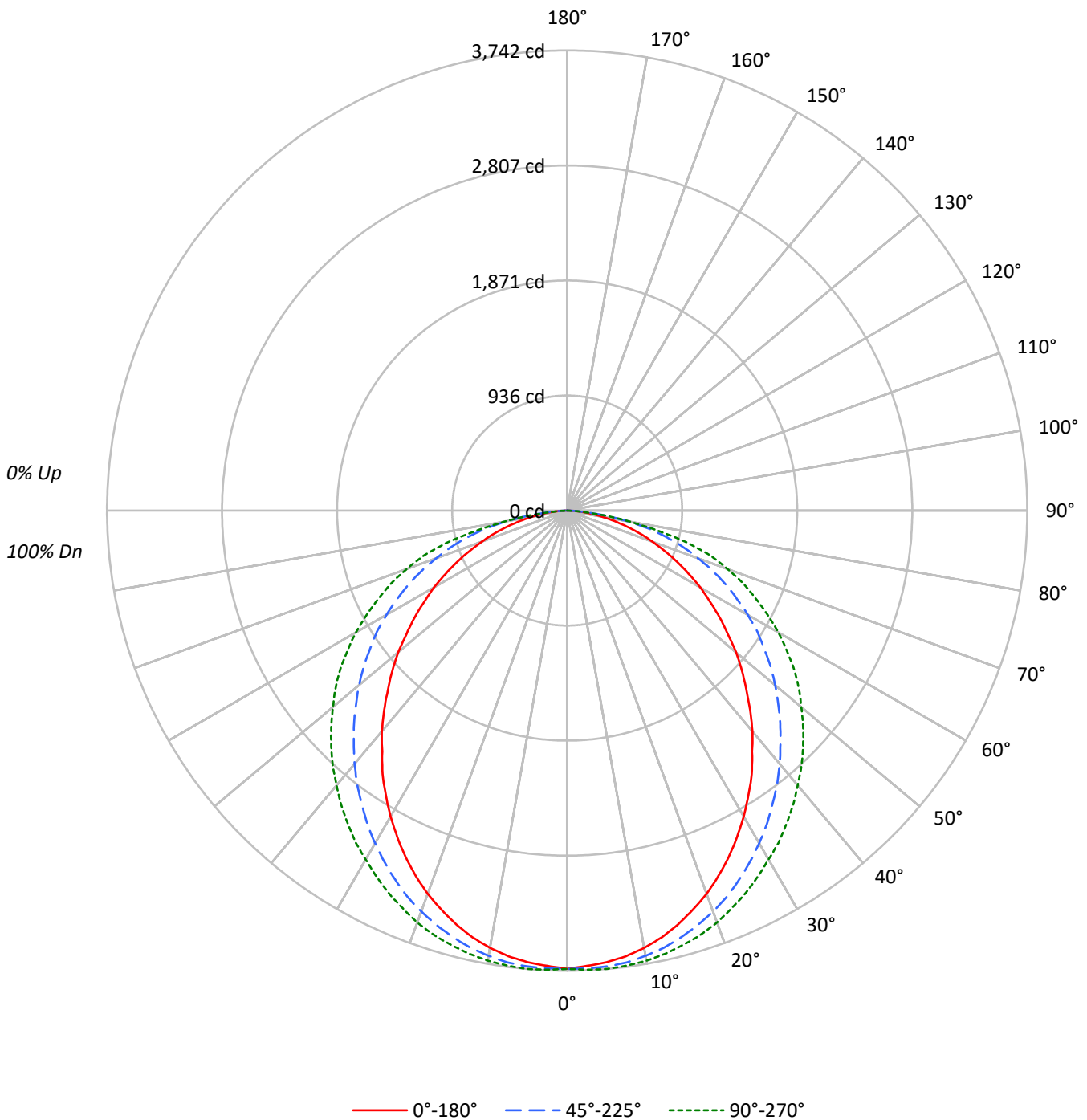
Input Watts (W): 84.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	10028	10028	10028
5°	9957	10052	10109
10°	9866	10045	10155
15°	9706	10001	10185
20°	9497	9934	10208
25°	9231	9832	10193
30°	8921	9708	10179
35°	8599	9564	10213
40°	8235	9445	10247
45°	7842	9326	10328
50°	7504	9242	10407
55°	7103	9169	10572
60°	6731	9131	10684
65°	6286	9058	10767
70°	5775	8922	10915
75°	5214	8686	10526
80°	4471	7693	7927
85°	3597	4533	3597



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	353.3	3.3
10°-20°	1010.1	9.5
20°-30°	1517.2	14.2
30°-40°	1809.4	17.0
40°-50°	1870.8	17.5
50°-60°	1719.9	16.1
60°-70°	1369.2	12.8
70°-80°	836.6	7.8
80°-90°	181.8	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°	2880.6	27.0
0°-40°	4690.0	44.0
0°-60°	8280.7	77.6
0°-90°	10668.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10668.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3726	3726	3726	3726	3726	
5°	3686	3696	3721	3737	3742	350
15°	3484	3524	3590	3641	3656	981
25°	3109	3185	3311	3403	3433	1430
35°	2618	2729	2911	3064	3109	1633
45°	2061	2208	2451	2648	2714	1594
55°	1514	1681	1954	2177	2254	1354
65°	987	1155	1423	1620	1691	978
75°	502	648	835	982	1012	534
85°	116	142	147	127	116	134
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3726.5	3726.5	3726.5	3726.5	3726.5
2.5°	3706.3	3711.4	3726.5	3737.1	3737.1
5°	3686.1	3696.2	3721.4	3737.1	3742.2
7.5°	3655.9	3671.0	3706.3	3726.5	3732.1
10°	3610.5	3630.7	3676.1	3706.3	3716.4
12.5°	3554.5	3584.7	3640.8	3681.1	3691.2
15°	3483.9	3524.2	3589.8	3640.8	3655.9
17.5°	3402.6	3453.1	3534.3	3595.4	3615.5
20°	3316.4	3367.3	3468.8	3539.3	3564.6
22.5°	3215.5	3281.1	3397.6	3478.8	3499.0
25°	3109.0	3184.7	3311.3	3402.6	3432.9
27.5°	2992.5	3083.8	3220.5	3332.0	3357.3
30°	2870.9	2967.3	3124.2	3245.8	3276.0
32.5°	2744.3	2855.8	3022.8	3159.5	3200.4
35°	2617.7	2729.2	2911.3	3063.7	3109.0
37.5°	2470.9	2602.5	2805.4	2962.3	3017.7
40°	2344.3	2470.9	2688.8	2860.8	2916.9
42.5°	2202.5	2339.2	2567.2	2754.4	2820.5
45°	2060.7	2207.5	2450.7	2648.5	2714.0
47.5°	1929.1	2075.9	2329.1	2537.0	2602.5
50°	1792.4	1944.2	2207.5	2420.5	2486.0
52.5°	1645.6	1812.5	2086.0	2298.9	2375.1
55°	1513.9	1680.9	1954.3	2177.3	2253.5
57.5°	1377.2	1549.2	1833.3	2045.6	2116.8
60°	1250.6	1417.5	1696.6	1903.9	1985.1
62.5°	1113.9	1285.9	1559.3	1762.1	1838.3
65°	987.2	1154.8	1422.6	1620.4	1691.0
67.5°	860.6	1028.1	1280.8	1468.5	1549.2
70°	734.0	901.5	1134.0	1316.7	1387.3
72.5°	623.0	769.8	992.3	1159.8	1225.4
75°	501.5	648.3	835.4	982.2	1012.4
77.5°	390.0	521.6	678.5	744.1	754.7
80°	288.5	390.0	496.4	511.5	511.5
82.5°	192.2	268.4	308.7	313.8	308.7
85°	116.5	141.8	146.8	126.6	116.5
87.5°	40.3	40.3	25.2	15.1	5.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)