

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: P474905

Luminaire Tested: **22CZ2-110VHE-S-UNV-L830-CD1-U**

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474905  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-110VHE-S-UNV-L830-CD1-U  
Description: 2'X2' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10847.6 lumens  
Efficiency: N/A  
Efficacy: 129.0 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.25 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

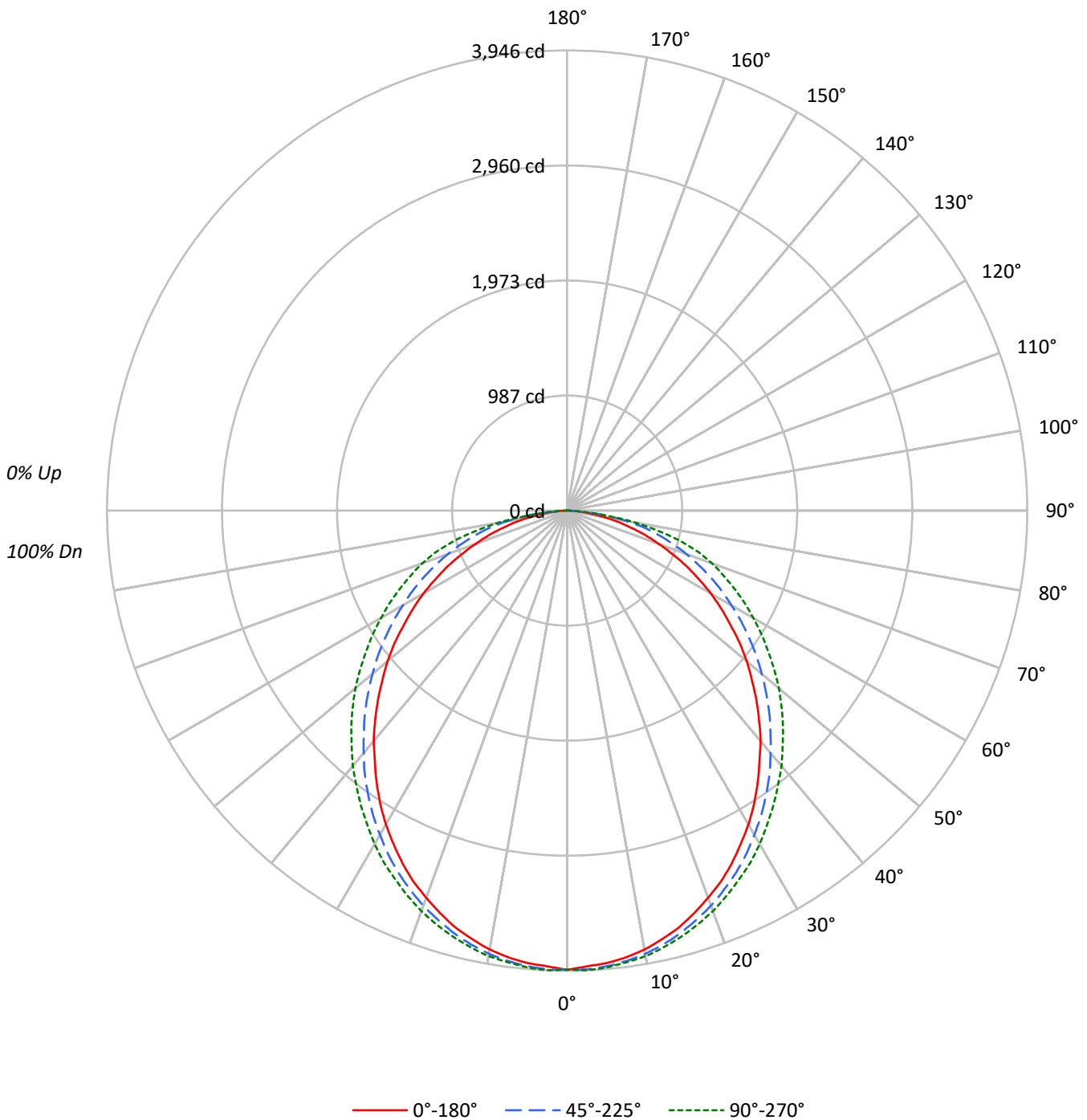
Input Watts (W): 84.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	88	86	83
2	99	90	83	77	96	88	82	77	85	79	75		81	77	73		78	75	71	69
3	90	79	71	64	87	78	70	64	75	68	63		72	66	61		69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53		64	58	53		62	56	52	50
5	76	63	54	47	74	62	53	47	59	52	46		57	51	46		56	50	45	43
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50	44	40	38
7	65	51	42	36	63	50	42	36	49	41	36		47	41	36		46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32		43	37	32		42	36	32	30
9	56	43	35	29	55	42	34	29	41	34	29		40	33	29		39	33	29	27
10	53	40	32	26	52	39	32	26	38	31	26		37	31	26		36	30	26	24

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

	0°	45°	90°
0°	10596	10596	10596
5°	10523	10594	10622
10°	10444	10544	10602
15°	10312	10451	10539
20°	10119	10329	10464
25°	9914	10172	10359
30°	9658	9976	10261
35°	9357	9771	10133
40°	9065	9535	10042
45°	8732	9331	9960
50°	8418	9121	9924
55°	8018	8941	9877
60°	7657	8760	9918
65°	7188	8658	10062
70°	6568	8551	10389
75°	5895	8488	10399
80°	4964	8013	9235
85°	3730	5431	5027



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	371.9	3.4
10°-20°	1056.2	9.7
20°-30°	1574.8	14.5
30°-40°	1858.2	17.1
40°-50°	1893.2	17.5
50°-60°	1707.4	15.7
60°-70°	1340.9	12.4
70°-80°	838.3	7.7
80°-90°	206.7	1.9
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°	3002.9	27.7
0°-40°	4861.1	44.8
0°-60°	8461.7	78.0
0°-90°	10847.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10847.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3938	3938	3938	3938	3938	
5°	3896	3904	3922	3930	3932	370
15°	3701	3714	3751	3778	3783	1042
25°	3339	3358	3426	3476	3489	1536
35°	2848	2888	2974	3056	3084	1781
45°	2294	2334	2452	2570	2617	1770
55°	1709	1764	1906	2053	2105	1533
65°	1129	1189	1360	1512	1580	1115
75°	567	646	816	956	1000	606
85°	121	155	176	173	163	147
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3937.7	3937.7	3937.7	3937.7	3937.7
2.5°	3911.4	3919.3	3937.7	3945.6	3945.6
5°	3895.7	3903.5	3921.9	3929.8	3932.4
7.5°	3864.2	3874.7	3895.7	3906.2	3906.2
10°	3822.2	3835.3	3858.9	3874.7	3879.9
12.5°	3764.4	3780.2	3811.7	3830.0	3835.3
15°	3701.4	3714.5	3751.3	3777.5	3782.8
17.5°	3620.0	3641.0	3680.4	3714.5	3722.4
20°	3533.4	3557.0	3606.9	3646.3	3654.2
22.5°	3444.2	3462.5	3517.7	3564.9	3575.4
25°	3339.1	3357.5	3425.8	3475.7	3488.8
27.5°	3223.6	3255.1	3323.4	3381.2	3402.2
30°	3108.1	3139.6	3210.5	3278.8	3302.4
32.5°	2982.1	3016.3	3097.6	3168.5	3192.1
35°	2848.3	2887.6	2974.3	3055.6	3084.5
37.5°	2709.1	2753.7	2850.9	2937.5	2969.0
40°	2580.5	2612.0	2714.4	2814.1	2858.8
42.5°	2436.1	2478.1	2580.5	2693.4	2735.4
45°	2294.4	2333.7	2451.9	2570.0	2617.2
47.5°	2147.3	2197.2	2315.4	2446.6	2493.9
50°	2010.8	2052.8	2178.8	2318.0	2370.5
52.5°	1863.8	1908.5	2045.0	2189.3	2236.6
55°	1709.0	1764.1	1905.8	2052.8	2105.3
57.5°	1567.2	1619.7	1769.3	1921.6	1976.7
60°	1422.8	1475.3	1627.6	1782.5	1842.8
62.5°	1270.6	1330.9	1496.3	1645.9	1714.2
65°	1128.8	1189.2	1359.8	1512.1	1580.3
67.5°	979.2	1050.0	1220.7	1380.8	1449.1
70°	834.8	918.8	1086.8	1244.3	1320.4
72.5°	706.2	774.4	950.3	1115.7	1178.7
75°	567.0	645.8	816.4	955.5	1000.2
77.5°	448.9	517.1	679.9	771.8	800.7
80°	320.3	396.4	517.1	572.3	595.9
82.5°	212.6	275.6	351.8	362.3	357.0
85°	120.8	154.9	175.9	173.3	162.8
87.5°	47.3	52.5	39.4	23.6	18.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)