

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: P473796

Luminaire Tested: **24CZ2-110VHE-UNV-L830-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P473796  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-110VHE-UNV-L830-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,RIBBED LENS  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10652.5 lumens  
Efficiency: N/A  
Efficacy: 138.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.36  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

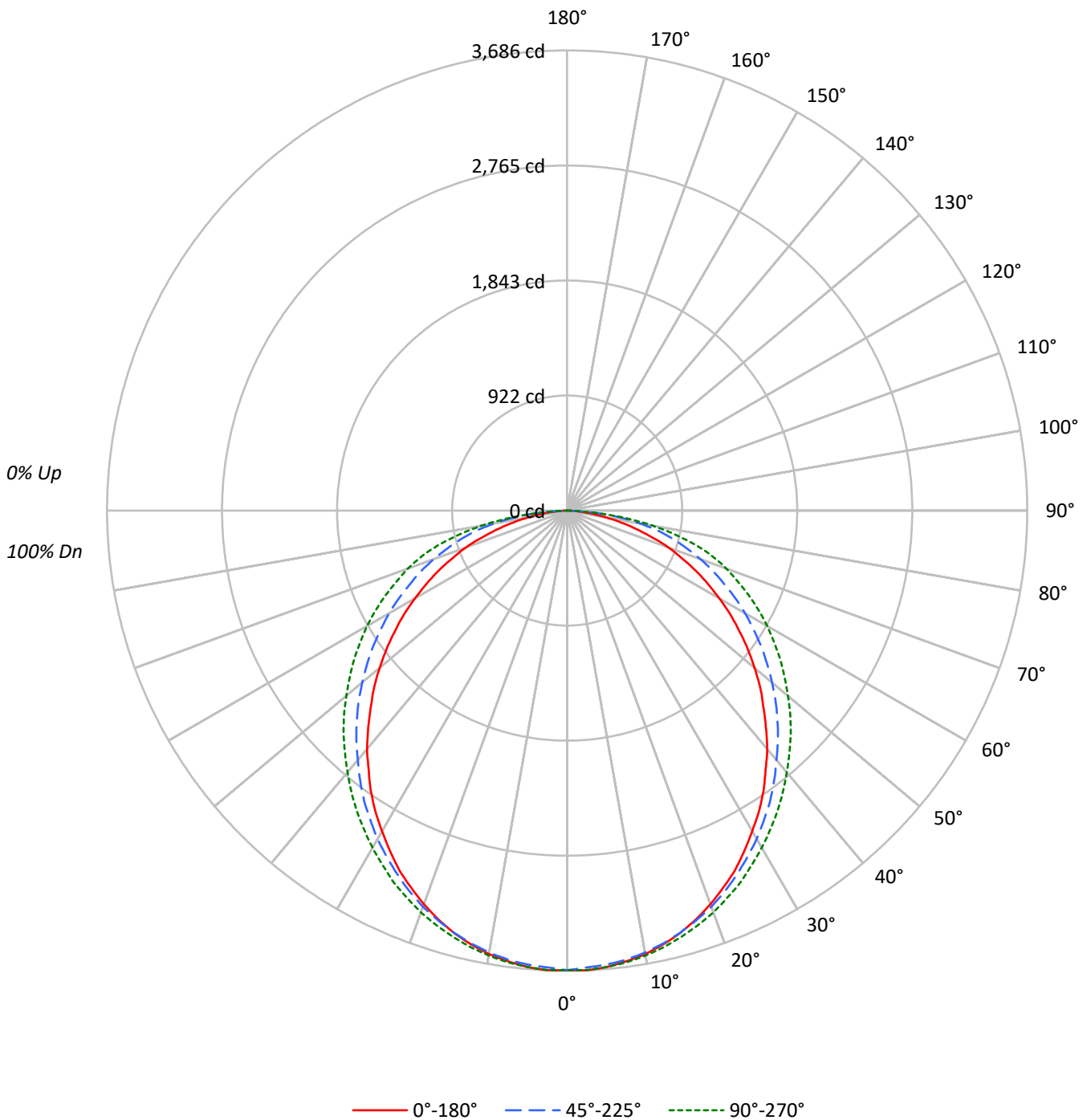
Input Watts (W): 77  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	108	103	99	95	105	101	97	93	97	93	90	93	90	87	89	87	85	83
2	98	89	82	76	95	88	81	75	84	78	74	81	76	72	78	74	70	68
3	89	78	70	63	87	77	69	63	74	67	61	71	65	60	68	63	59	57
4	82	69	60	53	79	68	59	53	65	58	52	63	57	51	61	55	51	48
5	75	62	53	46	73	61	52	46	58	51	45	56	50	44	55	49	44	42
6	69	56	46	40	67	55	46	40	53	45	39	51	44	39	49	43	39	37
7	64	50	41	35	62	50	41	35	48	40	35	47	40	35	45	39	34	32
8	60	46	37	31	58	45	37	31	44	36	31	43	36	31	41	35	31	29
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	36	30	25	23

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

	0°	45°	90°
0°	4953	4953	4953
5°	4955	4930	4955
10°	4928	4912	4945
15°	4878	4876	4924
20°	4805	4835	4904
25°	4721	4775	4880
30°	4607	4719	4845
35°	4503	4658	4825
40°	4380	4582	4806
45°	4231	4535	4820
50°	4103	4485	4834
55°	3952	4453	4889
60°	3788	4432	4978
65°	3611	4416	5106
70°	3399	4461	5342
75°	2988	4554	5556
80°	2493	4587	5360
85°	1780	3932	3984



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	348.0	3.3
10°-20°	991.2	9.3
20°-30°	1487.0	14.0
30°-40°	1775.3	16.7
40°-50°	1838.9	17.3
50°-60°	1692.9	15.9
60°-70°	1365.6	12.8
70°-80°	892.2	8.4
80°-90°	261.6	2.5
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°	2826.1	26.5
0°-40°	4601.4	43.2
0°-60°	8133.1	76.3
0°-90°	10652.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10652.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3681	3681	3681	3681	3681	
5°	3669	3666	3650	3671	3669	348
15°	3502	3502	3500	3535	3535	987
25°	3180	3187	3216	3275	3287	1462
35°	2742	2766	2836	2914	2938	1713
45°	2224	2278	2384	2490	2533	1719
55°	1685	1757	1898	2038	2084	1508
65°	1134	1212	1387	1545	1604	1121
75°	575	683	876	1027	1069	613
85°	115	200	255	270	258	143
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3681.1	3681.1	3681.1	3681.1	3681.1
2.5°	3686.3	3681.1	3662.2	3684.5	3682.8
5°	3669.0	3665.6	3650.1	3670.8	3669.0
7.5°	3641.5	3639.8	3627.7	3650.1	3650.1
10°	3607.1	3603.7	3595.0	3620.9	3619.1
12.5°	3558.9	3557.2	3552.0	3583.0	3581.3
15°	3502.1	3502.1	3500.4	3534.8	3534.8
17.5°	3433.3	3435.0	3441.9	3481.5	3483.2
20°	3355.8	3362.7	3376.5	3421.2	3424.7
22.5°	3268.1	3281.8	3300.8	3350.7	3355.8
25°	3180.3	3187.2	3216.4	3275.0	3287.0
27.5°	3073.6	3090.8	3128.7	3188.9	3201.0
30°	2965.2	2989.3	3037.5	3099.4	3118.3
32.5°	2858.5	2879.1	2935.9	3006.5	3028.9
35°	2741.5	2765.6	2836.1	2913.6	2937.6
37.5°	2612.4	2650.3	2724.3	2813.7	2839.6
40°	2493.6	2528.1	2608.9	2708.8	2736.3
42.5°	2357.7	2400.7	2498.8	2600.3	2634.8
45°	2223.5	2278.5	2383.5	2490.2	2533.2
47.5°	2097.8	2142.6	2266.5	2386.9	2424.8
50°	1960.2	2011.8	2142.6	2269.9	2309.5
52.5°	1824.2	1886.2	2018.7	2152.9	2195.9
55°	1684.8	1757.1	1898.2	2037.6	2084.1
57.5°	1550.6	1622.8	1769.1	1917.1	1965.3
60°	1407.7	1485.2	1646.9	1789.8	1850.0
62.5°	1270.1	1347.5	1517.9	1672.8	1729.5
65°	1134.1	1211.5	1387.1	1545.4	1603.9
67.5°	993.0	1077.3	1264.9	1418.1	1474.8
70°	863.9	944.8	1134.1	1297.6	1357.8
72.5°	715.9	812.3	1005.0	1166.8	1223.6
75°	574.8	683.2	876.0	1027.4	1068.7
77.5°	444.0	552.4	745.2	858.8	884.6
80°	321.8	432.0	592.0	671.2	691.8
82.5°	208.2	321.8	428.5	481.9	488.7
85°	115.3	199.6	254.7	270.2	258.1
87.5°	41.3	75.7	74.0	60.2	48.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)