

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: P473846

Luminaire Tested: **24CZ2-110VHE-UNV-L835-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P473846  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-110VHE-UNV-L835-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,RIBBED LENS  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11038.9 lumens  
Efficiency: N/A  
Efficacy: 143.4 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

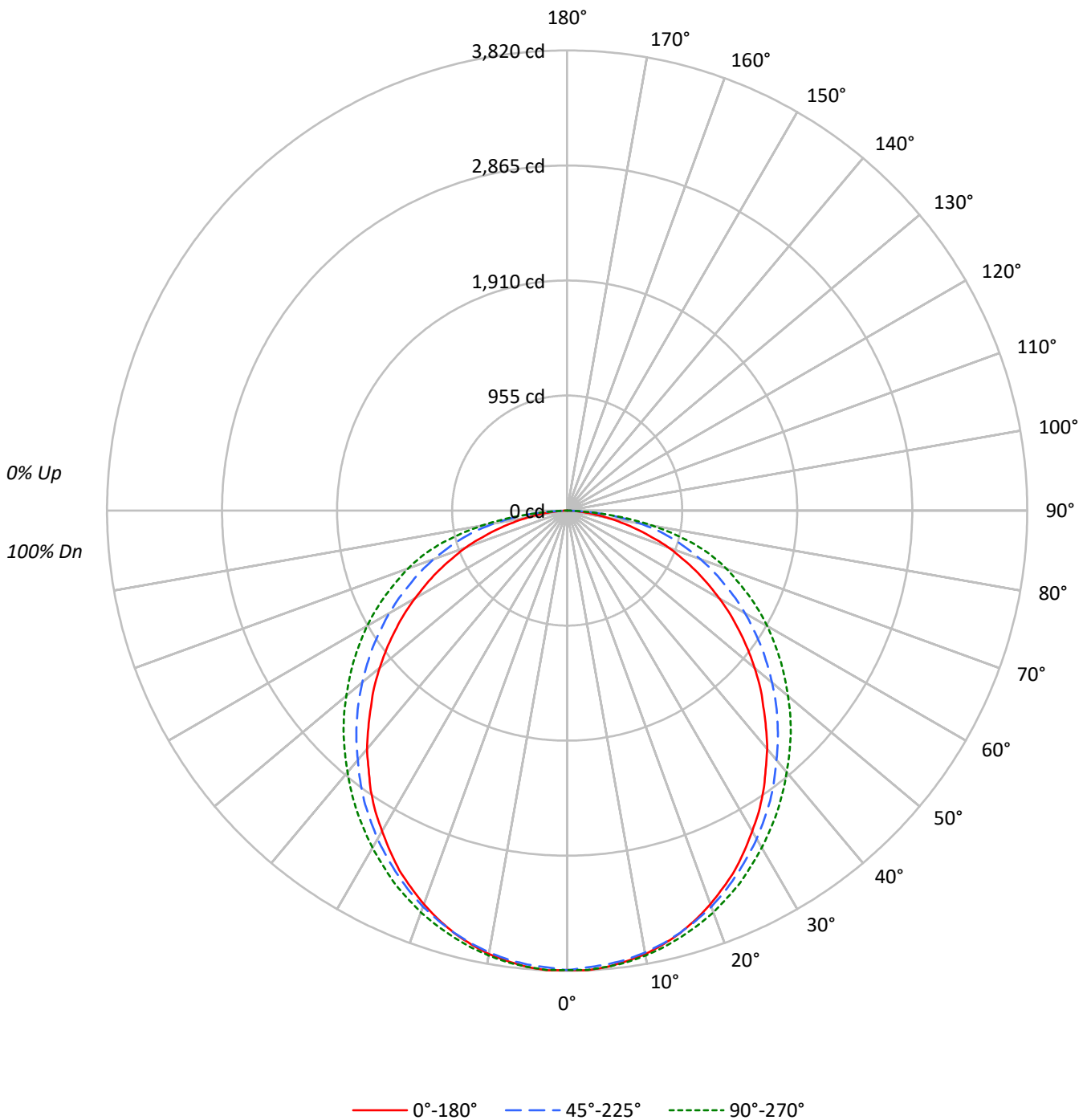
Input Watts (W): 77  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	5133	5133	5133
5°	5135	5109	5135
10°	5107	5090	5124
15°	5055	5053	5102
20°	4979	5010	5081
25°	4893	4948	5057
30°	4774	4890	5020
35°	4666	4827	5000
40°	4539	4749	4980
45°	4384	4700	4995
50°	4252	4648	5010
55°	4096	4614	5066
60°	3926	4593	5159
65°	3741	4576	5292
70°	3522	4623	5535
75°	3096	4719	5757
80°	2584	4754	5555
85°	1845	4074	4130



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	360.6	3.3
10°-20°	1027.1	9.3
20°-30°	1540.9	14.0
30°-40°	1839.7	16.7
40°-50°	1905.6	17.3
50°-60°	1754.3	15.9
60°-70°	1415.1	12.8
70°-80°	924.6	8.4
80°-90°	271.1	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°	2928.6	26.5
0°-40°	4768.3	43.2
0°-60°	8428.1	76.3
0°-90°	11038.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11038.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3815	3815	3815	3815	3815	
5°	3802	3799	3782	3804	3802	361
15°	3629	3629	3627	3663	3663	1023
25°	3296	3303	3333	3394	3406	1515
35°	2841	2866	2939	3019	3044	1775
45°	2304	2361	2470	2580	2625	1781
55°	1746	1821	1967	2112	2160	1562
65°	1175	1256	1437	1602	1662	1162
75°	596	708	908	1065	1108	636
85°	120	207	264	280	268	148
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3814.6	3814.6	3814.6	3814.6	3814.6
2.5°	3820.0	3814.6	3795.0	3818.2	3816.4
5°	3802.1	3798.6	3782.5	3803.9	3802.1
7.5°	3773.6	3771.8	3759.3	3782.5	3782.5
10°	3737.9	3734.4	3725.4	3752.2	3750.4
12.5°	3688.0	3686.2	3680.9	3713.0	3711.2
15°	3629.1	3629.1	3627.4	3663.0	3663.0
17.5°	3557.8	3559.6	3566.7	3607.7	3609.5
20°	3477.6	3484.7	3499.0	3545.3	3548.9
22.5°	3386.6	3400.9	3420.5	3472.2	3477.6
25°	3295.6	3302.8	3333.1	3393.7	3406.2
27.5°	3185.1	3202.9	3242.1	3304.6	3317.1
30°	3072.7	3097.7	3147.6	3211.8	3231.4
32.5°	2962.2	2983.6	3042.4	3115.5	3138.7
35°	2840.9	2865.9	2939.0	3019.2	3044.2
37.5°	2707.1	2746.4	2823.1	2915.8	2942.5
40°	2584.1	2619.8	2703.6	2807.0	2835.5
42.5°	2443.2	2487.8	2589.4	2694.7	2730.3
45°	2304.1	2361.2	2470.0	2580.5	2625.1
47.5°	2173.9	2220.3	2348.7	2473.5	2512.8
50°	2031.2	2084.7	2220.3	2352.3	2393.3
52.5°	1890.4	1954.6	2091.9	2231.0	2275.6
55°	1745.9	1820.8	1967.0	2111.5	2159.6
57.5°	1606.8	1681.7	1833.3	1986.7	2036.6
60°	1458.8	1539.0	1706.7	1854.7	1917.1
62.5°	1316.1	1396.4	1572.9	1733.4	1792.3
65°	1175.2	1255.5	1437.4	1601.5	1662.1
67.5°	1029.0	1116.4	1310.8	1469.5	1528.3
70°	895.2	979.1	1175.2	1344.7	1407.1
72.5°	741.9	841.7	1041.5	1209.1	1268.0
75°	595.6	708.0	907.7	1064.7	1107.5
77.5°	460.1	572.5	772.2	889.9	916.6
80°	333.5	447.6	613.5	695.5	716.9
82.5°	215.8	333.5	444.1	499.3	506.5
85°	119.5	206.9	263.9	280.0	267.5
87.5°	42.8	78.5	76.7	62.4	49.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)