

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: P473996

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

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P473996
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-110VHE-S-UNV-L830-CD1-U
Description: 2'X4' 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: 10865.7 lumens
Efficiency: N/A
Efficacy: 141.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.25 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

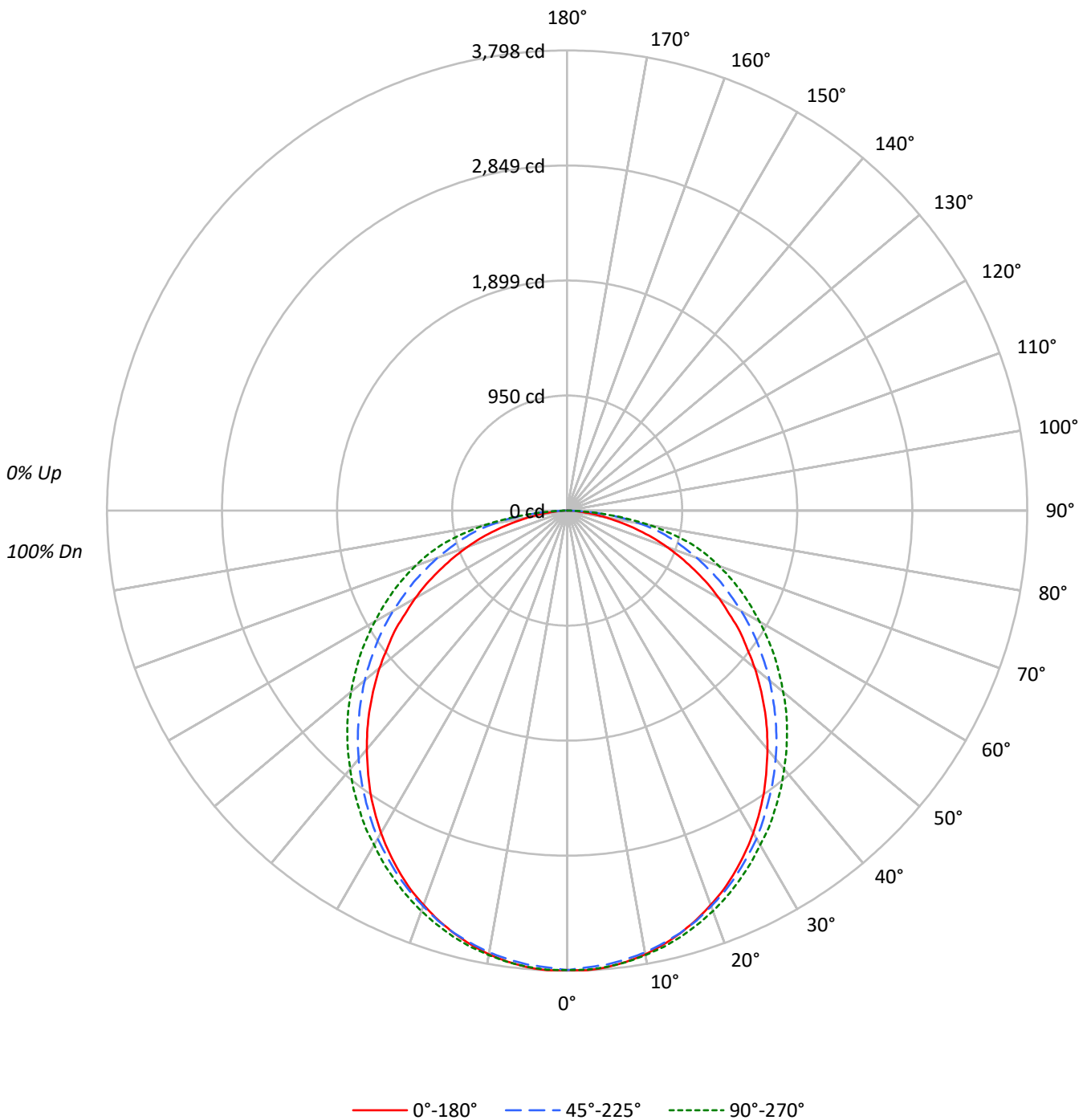
Input Watts (W): 77
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20			20				20			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	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	
1	108	103	99	95	105	101	97	93	97	93	90	93	90	87	89	87	85	83	83	
2	98	90	83	77	95	88	81	76	84	79	74	81	76	72	78	74	71	68	68	
3	89	78	70	63	87	77	69	63	74	67	62	71	65	61	68	64	59	57	57	
4	82	69	60	54	79	68	60	53	66	58	52	63	57	52	61	55	51	49	49	
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42	42	
6	69	56	47	40	67	55	46	40	53	45	40	51	44	39	50	44	39	37	37	
7	64	51	42	35	63	50	41	35	48	41	35	47	40	35	45	39	34	32	32	
8	60	46	38	32	58	45	37	31	44	37	31	43	36	31	42	35	31	29	29	
9	56	42	34	28	54	42	34	28	41	33	28	39	33	28	38	32	28	26	26	
10	52	39	31	26	51	39	31	26	38	30	26	37	30	25	36	30	25	24	24	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5103	5103	5103
5°	5110	5079	5106
10°	5082	5060	5089
15°	5029	5027	5069
20°	4960	4976	5037
25°	4878	4920	4997
30°	4775	4858	4950
35°	4655	4773	4922
40°	4517	4702	4893
45°	4381	4629	4884
50°	4233	4565	4872
55°	4082	4509	4898
60°	3895	4466	4933
65°	3688	4449	5052
70°	3440	4473	5231
75°	3062	4602	5512
80°	2503	4702	5380
85°	1763	4105	4188



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	358.6	3.3
10°-20°	1021.2	9.4
20°-30°	1530.8	14.1
30°-40°	1823.2	16.8
40°-50°	1879.9	17.3
50°-60°	1715.4	15.8
60°-70°	1371.7	12.6
70°-80°	896.0	8.2
80°-90°	269.0	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°	2910.6	26.8
0°-40°	4733.8	43.6
0°-60°	8329.1	76.7
0°-90°	10865.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10865.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3793	3793	3793	3793	3793	
5°	3784	3777	3760	3784	3780	359
15°	3611	3612	3609	3639	3639	1018
25°	3286	3291	3314	3362	3366	1513
35°	2834	2854	2906	2979	2997	1771
45°	2302	2343	2433	2534	2566	1776
55°	1740	1790	1922	2049	2088	1550
65°	1158	1237	1398	1535	1587	1149
75°	589	687	885	1028	1060	626
85°	114	205	266	271	271	145
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3792.6	3792.6	3792.6	3792.6	3792.6
2.5°	3798.0	3792.6	3773.0	3796.2	3792.6
5°	3783.7	3776.6	3760.5	3783.7	3780.1
7.5°	3755.2	3751.6	3735.5	3762.3	3758.7
10°	3719.5	3715.9	3703.4	3730.2	3724.8
12.5°	3669.5	3667.7	3658.8	3690.9	3687.3
15°	3610.6	3612.4	3608.8	3639.1	3639.1
17.5°	3542.8	3541.0	3548.1	3585.6	3582.0
20°	3464.2	3466.0	3474.9	3517.8	3517.8
22.5°	3382.1	3380.4	3400.0	3442.8	3446.4
25°	3285.8	3291.1	3314.3	3362.5	3366.1
27.5°	3182.2	3191.2	3219.7	3275.1	3280.4
30°	3073.4	3084.1	3126.9	3178.7	3185.8
32.5°	2953.8	2977.0	3016.3	3082.3	3100.1
35°	2834.2	2853.8	2905.6	2978.8	2996.6
37.5°	2702.1	2734.3	2793.2	2873.5	2896.7
40°	2571.9	2604.0	2677.2	2761.0	2786.0
42.5°	2439.8	2473.7	2557.6	2652.2	2678.9
45°	2302.4	2343.4	2432.6	2534.4	2566.5
47.5°	2161.4	2209.5	2305.9	2416.6	2452.3
50°	2022.1	2070.3	2181.0	2295.2	2327.3
52.5°	1872.2	1932.9	2050.7	2173.9	2206.0
55°	1740.2	1790.1	1922.2	2048.9	2088.2
57.5°	1584.9	1652.7	1793.7	1922.2	1959.7
60°	1447.4	1509.9	1659.8	1790.1	1833.0
62.5°	1308.2	1372.5	1522.4	1670.5	1709.8
65°	1158.3	1236.8	1397.5	1534.9	1586.7
67.5°	1015.5	1097.6	1261.8	1408.2	1461.7
70°	874.5	958.4	1136.9	1286.8	1329.7
72.5°	735.3	822.8	1008.4	1154.7	1204.7
75°	589.0	687.1	885.2	1028.0	1060.2
77.5°	451.5	560.4	760.3	856.7	879.9
80°	323.0	442.6	606.8	676.4	694.3
82.5°	212.4	328.4	453.3	490.8	485.5
85°	114.2	205.2	265.9	271.3	271.3
87.5°	44.6	82.1	83.9	64.3	60.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)