

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: P474596

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

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474596
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-110VHE-SQR-UNV-L830-CD1-U
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SQUARE LENS
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10120.6 lumens
Efficiency: N/A
Efficacy: 131.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.39
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

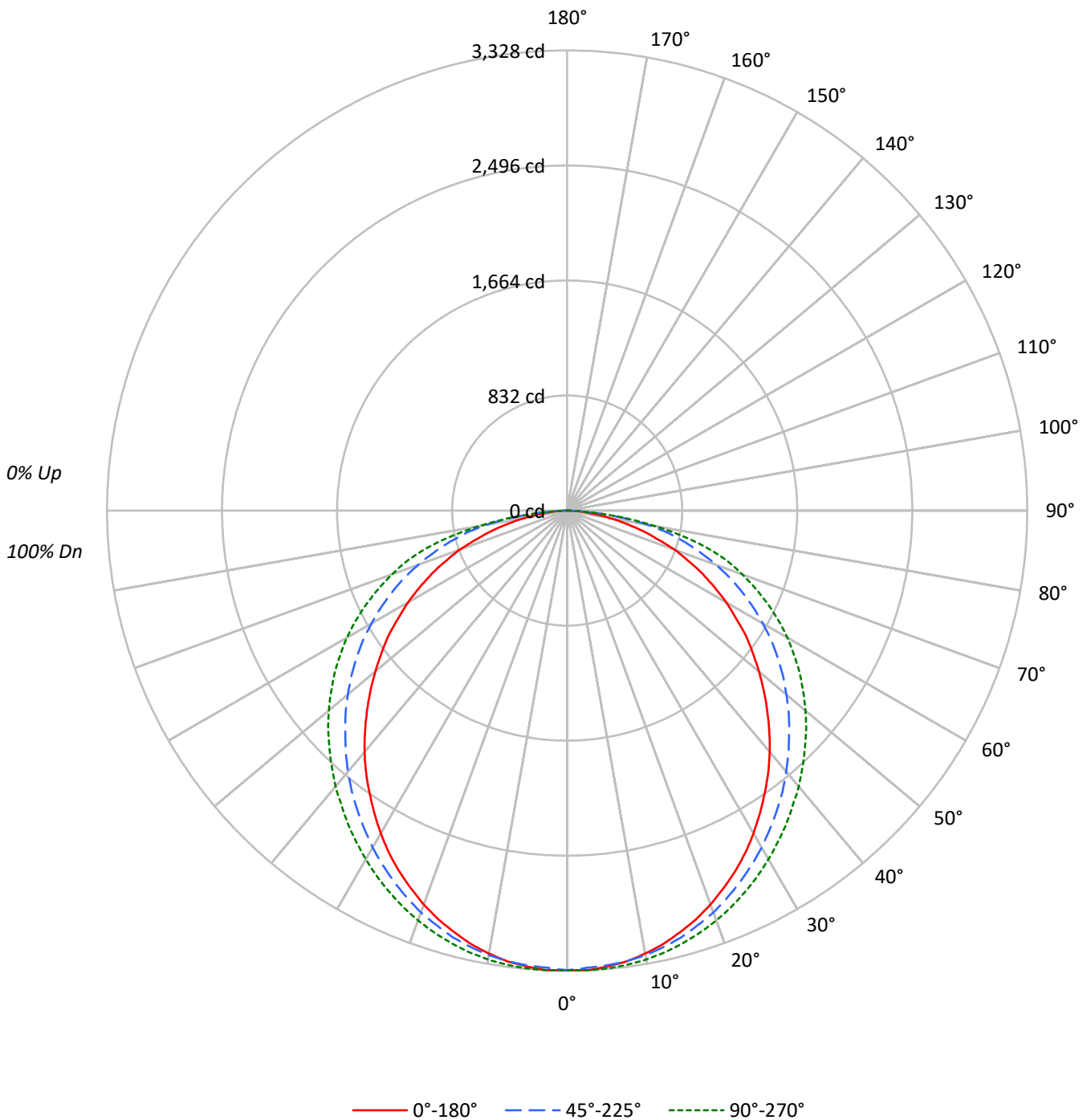
Input Watts (W): 77
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	101	96	93	96	93	90	92	90	87	89	87	84	82
2	98	89	82	76	95	87	81	75	84	78	73	80	76	71	77	73	70	68
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	59	53	79	67	59	52	65	57	51	62	56	51	60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	50	43	38	49	43	38	36
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8946	8946	8946
5°	8945	8919	8980
10°	8889	8920	9008
15°	8793	8901	9022
20°	8682	8858	9033
25°	8541	8795	9035
30°	8375	8742	9048
35°	8185	8690	9083
40°	8009	8662	9156
45°	7790	8639	9255
50°	7581	8664	9422
55°	7404	8724	9634
60°	7153	8789	9903
65°	6867	8895	10202
70°	6513	9020	10610
75°	5834	9145	10961
80°	4911	9171	9947
85°	3643	6938	6539



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	315.0	3.1
10°-20°	902.8	8.9
20°-30°	1366.7	13.5
30°-40°	1653.3	16.3
40°-50°	1745.2	17.2
50°-60°	1645.8	16.3
60°-70°	1356.8	13.4
70°-80°	890.1	8.8
80°-90°	244.7	2.4
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°	2584.6	25.5
0°-40°	4238.0	41.9
0°-60°	7628.9	75.4
0°-90°	10120.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10120.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3324	3324	3324	3324	3324	
5°	3311	3311	3302	3324	3324	314
15°	3156	3174	3195	3232	3239	890
25°	2876	2912	2962	3024	3043	1325
35°	2492	2556	2645	2736	2765	1560
45°	2047	2139	2270	2391	2432	1580
55°	1578	1690	1859	1998	2053	1406
65°	1078	1208	1397	1546	1602	1065
75°	561	705	880	1019	1054	593
85°	118	204	225	218	212	146
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3324.3	3324.3	3324.3	3324.3	3324.3
2.5°	3327.5	3324.3	3309.7	3329.1	3327.5
5°	3311.4	3311.4	3301.7	3324.3	3324.3
7.5°	3288.7	3290.3	3287.1	3313.0	3313.0
10°	3253.1	3259.6	3264.5	3293.6	3296.8
12.5°	3211.1	3222.4	3232.1	3267.7	3270.9
15°	3156.1	3173.9	3194.9	3232.1	3238.6
17.5°	3099.5	3120.6	3143.2	3191.7	3199.8
20°	3031.6	3055.9	3093.1	3141.6	3154.5
22.5°	2955.6	2989.6	3028.4	3086.6	3102.8
25°	2876.4	2912.0	2962.1	3023.6	3043.0
27.5°	2790.7	2832.8	2889.4	2960.5	2981.5
30°	2695.3	2743.8	2813.4	2889.4	2912.0
32.5°	2595.1	2651.7	2729.3	2813.4	2839.2
35°	2491.6	2556.3	2645.2	2735.7	2764.9
37.5°	2389.7	2454.4	2559.5	2654.9	2682.4
40°	2279.8	2350.9	2465.7	2567.6	2606.4
42.5°	2163.4	2247.5	2368.7	2481.9	2519.1
45°	2047.0	2139.1	2270.1	2391.4	2431.8
47.5°	1928.9	2030.8	2174.7	2297.6	2344.5
50°	1810.9	1919.2	2069.6	2202.2	2250.7
52.5°	1691.2	1804.4	1967.7	2108.4	2152.1
55°	1578.1	1689.6	1859.4	1998.5	2053.4
57.5°	1447.1	1573.2	1752.7	1893.4	1946.7
60°	1329.1	1452.0	1633.0	1781.8	1840.0
62.5°	1201.3	1327.5	1518.2	1667.0	1723.6
65°	1078.5	1207.8	1397.0	1545.7	1602.3
67.5°	945.9	1081.7	1275.7	1419.6	1474.6
70°	827.8	955.6	1146.4	1293.5	1348.5
72.5°	683.9	829.5	1012.2	1157.7	1217.5
75°	561.1	705.0	879.6	1018.6	1054.2
77.5°	431.7	575.6	748.6	839.2	863.4
80°	316.9	452.7	591.8	640.3	641.9
82.5°	213.4	333.1	412.3	436.6	433.3
85°	118.0	203.7	224.7	218.3	211.8
87.5°	48.5	67.9	55.0	38.8	30.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)