

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: P475195

Luminaire Tested: **22CZ2-110VHE-HRP-UNV-L840-CD1-U**

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P475195  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-110VHE-HRP-UNV-L840-CD1-U  
Description: 2'X2' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ HRP  
INSERT  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9096.2 lumens  
Efficiency: N/A  
Efficacy: 108.2 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

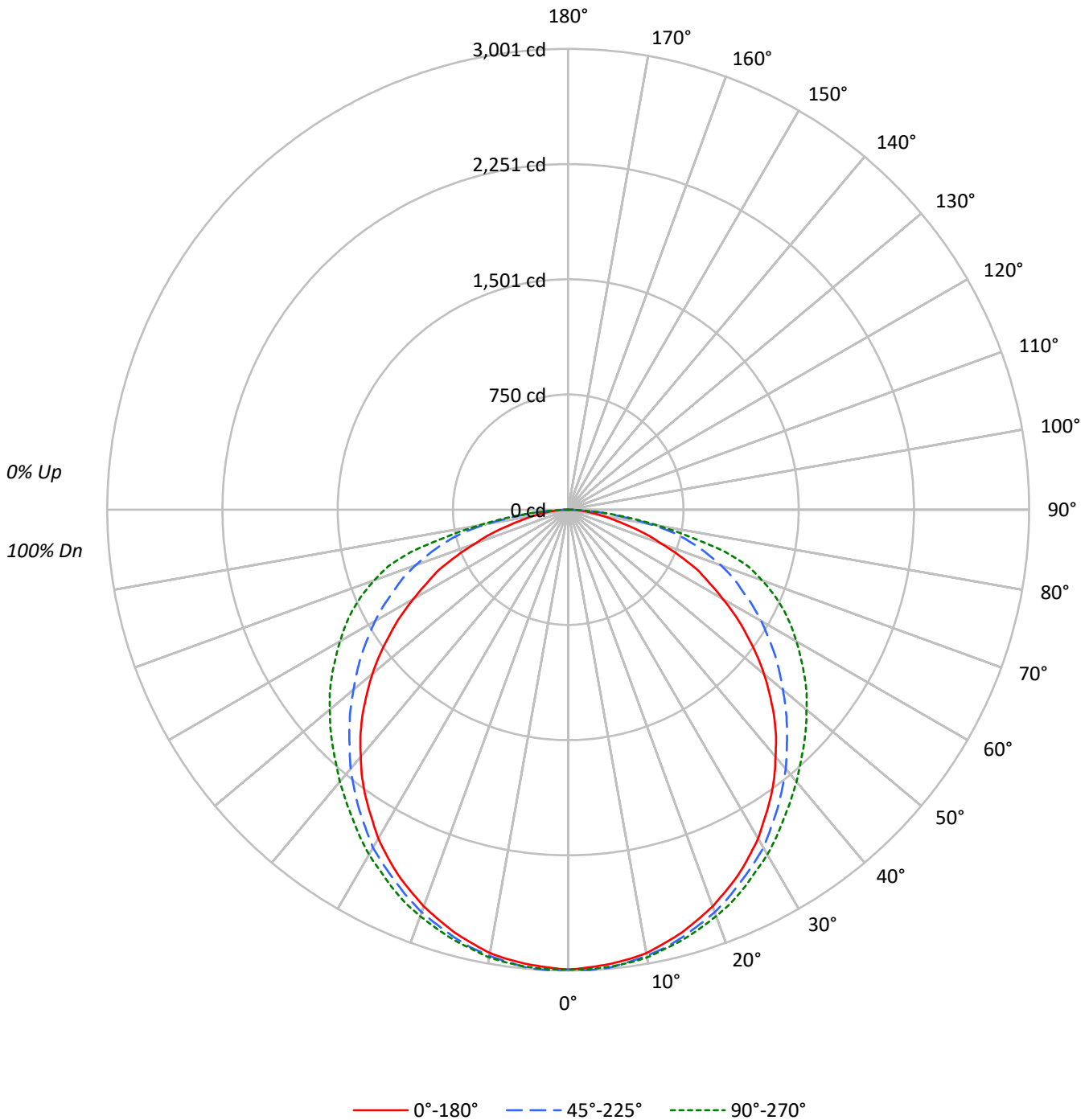
Input Watts (W): 84.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	80	75	84	78	73	80	75	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	52	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°	8060	8060	8060
5°	8029	8091	8075
10°	8012	8059	8091
15°	7944	8025	8073
20°	7872	7986	8067
25°	7787	7922	8059
30°	7684	7898	8059
35°	7540	7804	8049
40°	7377	7740	8123
45°	7207	7666	8254
50°	6966	7639	8479
55°	6649	7700	8803
60°	6269	7813	9234
65°	5919	7966	9866
70°	5057	8307	10564
75°	4237	8654	10977
80°	3473	8357	9159
85°	3004	6197	6728



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	283.9	3.1
10°-20°	812.0	8.9
20°-30°	1230.7	13.5
30°-40°	1486.0	16.3
40°-50°	1561.4	17.2
50°-60°	1469.2	16.2
60°-70°	1225.0	13.5
70°-80°	811.7	8.9
80°-90°	216.3	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°	2326.6	25.6
0°-40°	3812.6	41.9
0°-60°	6843.2	75.2
0°-90°	9096.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9096.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2995	2995	2995	2995	2995	
5°	2972	2978	2995	2995	2990	282
15°	2852	2863	2880	2892	2898	804
25°	2622	2640	2668	2703	2714	1207
35°	2295	2318	2376	2427	2450	1435
45°	1894	1922	2014	2117	2169	1458
55°	1417	1481	1641	1808	1876	1268
65°	930	1010	1251	1457	1550	905
75°	408	568	832	1004	1056	442
85°	97	149	201	218	218	113
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2995.1	2995.1	2995.1	2995.1	2995.1
2.5°	2983.9	2989.5	3001.2	3001.2	2995.1
5°	2972.3	2977.8	2995.1	2995.1	2989.5
7.5°	2955.0	2961.1	2972.3	2983.9	2977.8
10°	2932.2	2937.8	2949.5	2961.1	2961.1
12.5°	2892.2	2897.8	2920.6	2926.7	2926.7
15°	2851.6	2863.3	2880.5	2892.2	2897.8
17.5°	2800.5	2811.6	2834.4	2857.7	2857.7
20°	2748.8	2759.9	2788.8	2811.6	2817.1
22.5°	2685.4	2702.6	2731.5	2759.9	2771.5
25°	2622.5	2639.8	2668.1	2702.6	2714.3
27.5°	2547.5	2564.7	2605.3	2645.3	2650.9
30°	2473.0	2490.2	2541.9	2576.4	2593.6
32.5°	2381.3	2404.0	2455.8	2507.5	2524.7
35°	2295.1	2318.4	2375.7	2427.4	2450.2
37.5°	2203.3	2226.1	2289.5	2352.9	2381.3
40°	2099.9	2128.8	2203.3	2272.3	2312.3
42.5°	2002.6	2031.5	2106.0	2197.8	2237.8
45°	1893.7	1922.0	2014.3	2117.2	2168.9
47.5°	1778.6	1813.0	1922.0	2048.8	2099.9
50°	1664.0	1704.1	1824.7	1968.2	2025.4
52.5°	1543.4	1595.1	1733.0	1888.1	1956.5
55°	1417.2	1480.6	1641.2	1807.5	1876.4
57.5°	1296.5	1354.4	1543.4	1721.3	1795.8
60°	1164.8	1239.3	1451.7	1635.1	1715.7
62.5°	1038.6	1119.2	1354.4	1549.5	1635.1
65°	929.6	1009.7	1251.0	1457.2	1549.5
67.5°	786.2	895.1	1164.8	1359.9	1451.7
70°	642.7	791.7	1055.8	1256.5	1342.7
72.5°	533.7	677.2	946.8	1147.5	1228.2
75°	407.5	568.2	832.3	1004.1	1055.8
77.5°	304.1	470.4	711.7	797.8	803.4
80°	224.1	361.4	539.3	568.2	591.0
82.5°	155.1	252.4	350.3	384.2	395.9
85°	97.3	149.0	200.7	217.9	217.9
87.5°	51.7	57.3	68.9	68.9	68.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)