

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: P475137

Luminaire Tested: **22CZ2-110VHE-HRP-UNV-L830-CD1-U**

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P475137  
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-L830-CD1-U  
Description: 2'X2' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ HRP  
INSERT  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8614.2 lumens  
Efficiency: N/A  
Efficacy: 102.4 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

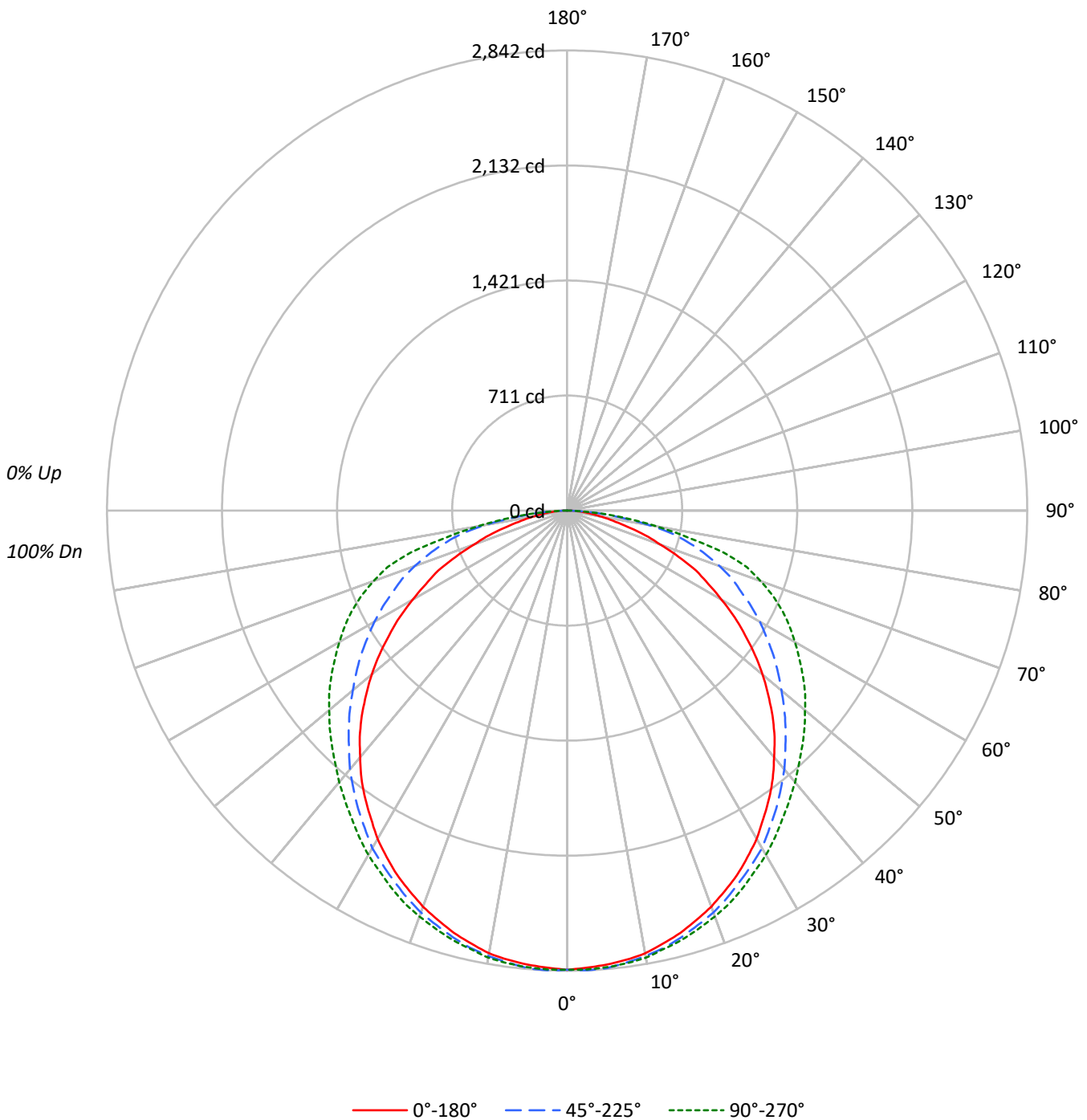
Input Watts (W): 84.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	7632	7632	7632
5°	7603	7662	7648
10°	7588	7632	7662
15°	7523	7600	7645
20°	7454	7563	7640
25°	7374	7502	7632
30°	7277	7480	7632
35°	7140	7391	7623
40°	6986	7330	7692
45°	6825	7260	7816
50°	6597	7234	8030
55°	6297	7292	8337
60°	5936	7399	8745
65°	5605	7543	9344
70°	4789	7867	10004
75°	4012	8195	10396
80°	3288	7914	8674
85°	2844	5869	6373



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	268.8	3.1
10°-20°	769.0	8.9
20°-30°	1165.4	13.5
30°-40°	1407.3	16.3
40°-50°	1478.7	17.2
50°-60°	1391.3	16.2
60°-70°	1160.1	13.5
70°-80°	768.7	8.9
80°-90°	204.8	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°	2203.3	25.6
0°-40°	3610.6	41.9
0°-60°	6480.6	75.2
0°-90°	8614.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8614.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2836	2836	2836	2836	2836	
5°	2815	2820	2836	2836	2831	268
15°	2700	2712	2728	2739	2744	762
25°	2484	2500	2527	2559	2570	1143
35°	2174	2196	2250	2299	2320	1359
45°	1793	1820	1908	2005	2054	1381
55°	1342	1402	1554	1712	1777	1201
65°	880	956	1185	1380	1467	857
75°	386	538	788	951	1000	419
85°	92	141	190	206	206	107
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2836.3	2836.3	2836.3	2836.3	2836.3
2.5°	2825.8	2831.1	2842.1	2842.1	2836.3
5°	2814.7	2820.0	2836.3	2836.3	2831.1
7.5°	2798.4	2804.2	2814.7	2825.8	2820.0
10°	2776.8	2782.1	2793.2	2804.2	2804.2
12.5°	2738.9	2744.2	2765.8	2771.6	2771.6
15°	2700.5	2711.6	2727.9	2738.9	2744.2
17.5°	2652.1	2662.6	2684.2	2706.3	2706.3
20°	2603.1	2613.6	2641.0	2662.6	2667.9
22.5°	2543.1	2559.4	2586.8	2613.6	2624.7
25°	2483.6	2499.9	2526.7	2559.4	2570.4
27.5°	2412.5	2428.8	2467.2	2505.2	2510.4
30°	2341.9	2358.3	2407.2	2439.9	2456.2
32.5°	2255.1	2276.7	2325.6	2374.6	2390.9
35°	2173.5	2195.6	2249.8	2298.8	2320.4
37.5°	2086.6	2108.2	2168.2	2228.2	2255.1
40°	1988.6	2016.0	2086.6	2151.9	2189.8
42.5°	1896.5	1923.9	1994.4	2081.3	2119.2
45°	1793.3	1820.2	1907.6	2005.0	2053.9
47.5°	1684.3	1717.0	1820.2	1940.2	1988.6
50°	1575.9	1613.8	1728.0	1863.9	1918.1
52.5°	1461.6	1510.6	1641.1	1788.0	1852.8
55°	1342.1	1402.1	1554.3	1711.7	1777.0
57.5°	1227.8	1282.6	1461.6	1630.1	1700.6
60°	1103.0	1173.6	1374.7	1548.5	1624.8
62.5°	983.5	1059.9	1282.6	1467.4	1548.5
65°	880.3	956.2	1184.7	1380.0	1467.4
67.5°	744.5	847.7	1103.0	1287.9	1374.7
70°	608.7	749.8	999.9	1189.9	1271.5
72.5°	505.5	641.3	896.7	1086.7	1163.1
75°	385.9	538.1	788.2	950.9	999.9
77.5°	288.0	445.4	673.9	755.5	760.8
80°	212.2	342.2	510.7	538.1	559.7
82.5°	146.9	239.0	331.7	363.8	374.9
85°	92.1	141.1	190.1	206.4	206.4
87.5°	49.0	54.2	65.3	65.3	65.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)