

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: P475166

Luminaire Tested: **22CZ2-110VHE-HRP-UNV-L835-CD1-U**

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P475166  
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-L835-CD1-U  
Description: 2'X2' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ HRP  
INSERT  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8926.6 lumens  
Efficiency: N/A  
Efficacy: 106.1 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

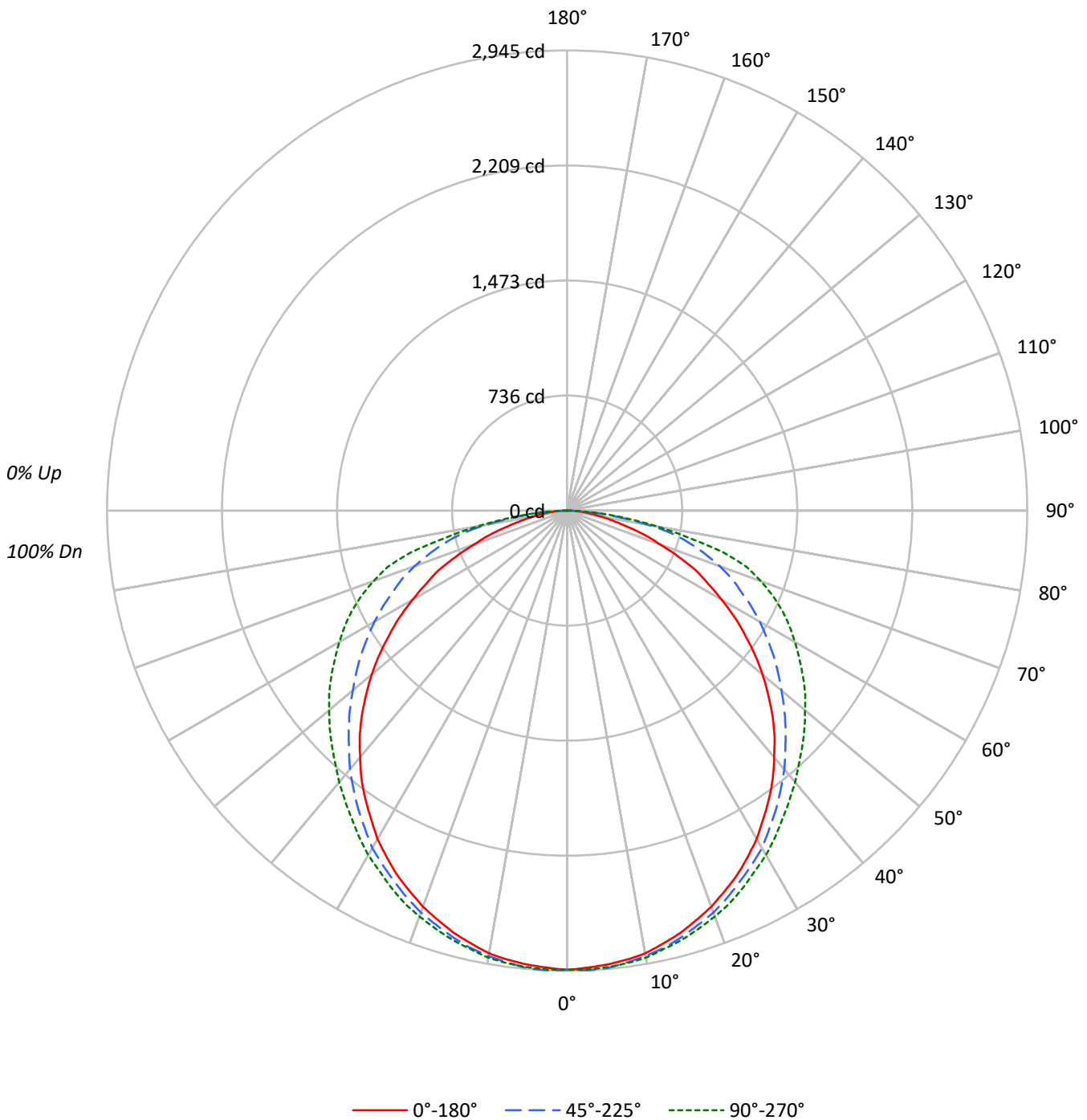
Input Watts (W): 84.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	7909	7909	7909
5°	7879	7940	7925
10°	7863	7909	7940
15°	7796	7875	7922
20°	7725	7837	7917
25°	7641	7774	7909
30°	7541	7751	7909
35°	7399	7659	7899
40°	7239	7596	7971
45°	7072	7523	8100
50°	6836	7497	8321
55°	6525	7556	8639
60°	6152	7667	9062
65°	5809	7817	9682
70°	4962	8152	10368
75°	4158	8492	10772
80°	3408	8201	8988
85°	2949	6082	6604



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	278.6	3.1
10°-20°	796.9	8.9
20°-30°	1207.7	13.5
30°-40°	1458.3	16.3
40°-50°	1532.3	17.2
50°-60°	1441.8	16.2
60°-70°	1202.1	13.5
70°-80°	796.6	8.9
80°-90°	212.3	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°	2283.2	25.6
0°-40°	3741.5	41.9
0°-60°	6715.6	75.2
0°-90°	8926.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8926.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2939	2939	2939	2939	2939	
5°	2917	2922	2939	2939	2934	277
15°	2798	2810	2827	2838	2844	789
25°	2574	2591	2618	2652	2664	1185
35°	2252	2275	2331	2382	2404	1408
45°	1858	1886	1977	2078	2128	1431
55°	1391	1453	1611	1774	1841	1244
65°	912	991	1228	1430	1521	888
75°	400	558	817	985	1036	434
85°	96	146	197	214	214	111
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2939.2	2939.2	2939.2	2939.2	2939.2
2.5°	2928.3	2933.8	2945.2	2945.2	2939.2
5°	2916.8	2922.3	2939.2	2939.2	2933.8
7.5°	2899.9	2905.9	2916.8	2928.3	2922.3
10°	2877.6	2883.0	2894.5	2905.9	2905.9
12.5°	2838.3	2843.7	2866.1	2872.1	2872.1
15°	2798.4	2809.9	2826.8	2838.3	2843.7
17.5°	2748.2	2759.2	2781.5	2804.4	2804.4
20°	2697.5	2708.4	2736.8	2759.2	2764.6
22.5°	2635.3	2652.2	2680.6	2708.4	2719.9
25°	2573.6	2590.6	2618.4	2652.2	2663.7
27.5°	2500.0	2516.9	2556.7	2596.0	2601.5
30°	2426.9	2443.8	2494.5	2528.4	2545.3
32.5°	2336.9	2359.2	2410.0	2460.7	2477.6
35°	2252.3	2275.2	2331.4	2382.1	2404.5
37.5°	2162.3	2184.6	2246.8	2309.0	2336.9
40°	2060.8	2089.1	2162.3	2229.9	2269.2
42.5°	1965.3	1993.7	2066.8	2156.8	2196.1
45°	1858.4	1886.2	1976.7	2077.7	2128.4
47.5°	1745.4	1779.2	1886.2	2010.6	2060.8
50°	1633.0	1672.3	1790.7	1931.5	1987.7
52.5°	1514.6	1565.4	1700.7	1852.9	1920.0
55°	1390.8	1453.0	1610.6	1773.8	1841.4
57.5°	1272.4	1329.1	1514.6	1689.2	1762.3
60°	1143.1	1216.2	1424.6	1604.6	1683.8
62.5°	1019.2	1098.3	1329.1	1520.6	1604.6
65°	912.3	990.8	1227.6	1430.0	1520.6
67.5°	771.5	878.4	1143.1	1334.6	1424.6
70°	630.7	777.0	1036.1	1233.1	1317.7
72.5°	523.8	664.6	929.2	1126.1	1205.3
75°	399.9	557.6	816.8	985.4	1036.1
77.5°	298.4	461.6	698.4	783.0	788.4
80°	219.9	354.6	529.2	557.6	580.0
82.5°	152.2	247.7	343.7	377.0	388.5
85°	95.5	146.2	197.0	213.9	213.9
87.5°	50.7	56.2	67.7	67.7	67.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)