

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: P474548

Luminaire Tested: **24CZ2-120VHE-HRP-UNV-L850-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474548  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-120VHE-HRP-UNV-L850-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ HRP  
INSERT  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9887.9 lumens  
Efficiency: N/A  
Efficacy: 117.4 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

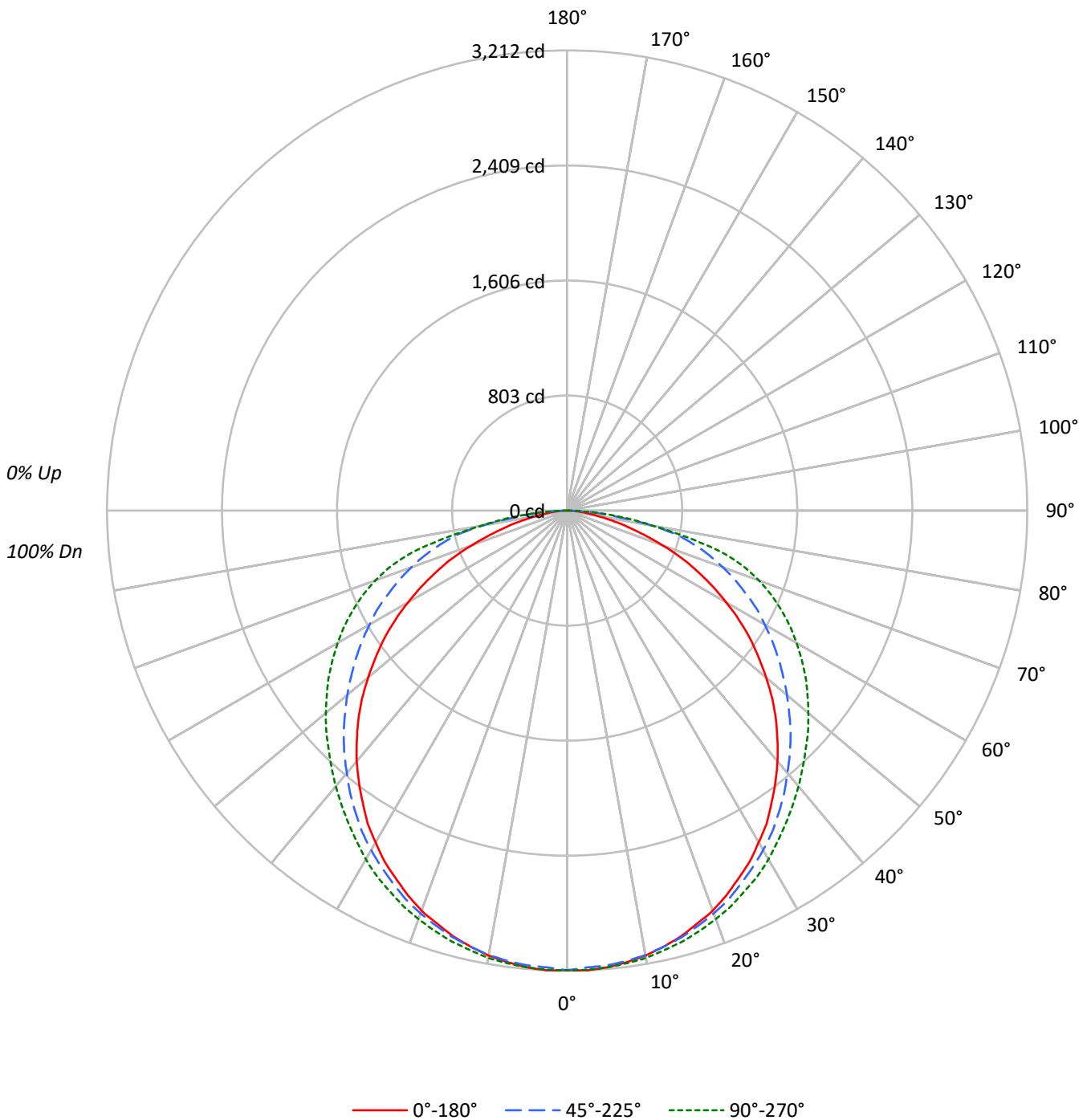
Input Watts (W): 84.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	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	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	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	24	35	29	24	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4316	4316	4316
5°	4322	4305	4322
10°	4309	4304	4332
15°	4284	4296	4336
20°	4256	4285	4345
25°	4203	4265	4351
30°	4155	4251	4367
35°	4087	4229	4372
40°	4013	4203	4413
45°	3922	4198	4482
50°	3796	4194	4601
55°	3661	4224	4768
60°	3453	4289	4979
65°	3189	4389	5259
70°	2784	4543	5602
75°	2259	4777	5789
80°	1669	4685	4685
85°	1278	3450	3896



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	303.9	3.1
10°-20°	872.7	8.8
20°-30°	1328.6	13.4
30°-40°	1613.2	16.3
40°-50°	1704.4	17.2
50°-60°	1608.3	16.3
60°-70°	1337.2	13.5
70°-80°	879.8	8.9
80°-90°	239.8	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°	2505.2	25.3
0°-40°	4118.5	41.7
0°-60°	7431.2	75.2
0°-90°	9887.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9887.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3208	3208	3208	3208	3208	
5°	3200	3200	3187	3200	3200	304
15°	3076	3080	3084	3113	3113	867
25°	2831	2848	2873	2923	2931	1306
35°	2488	2517	2575	2641	2662	1557
45°	2061	2103	2206	2314	2355	1588
55°	1560	1627	1801	1970	2032	1390
65°	1002	1118	1379	1581	1652	990
75°	435	634	919	1088	1114	468
85°	83	182	224	248	252	101
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3208.1	3208.1	3208.1	3208.1	3208.1
2.5°	3212.4	3208.1	3191.6	3208.1	3208.1
5°	3200.1	3200.1	3187.3	3200.1	3200.1
7.5°	3179.2	3179.2	3170.7	3187.3	3187.3
10°	3154.2	3154.2	3150.3	3170.7	3170.7
12.5°	3117.2	3121.0	3117.2	3141.8	3141.8
15°	3075.6	3079.8	3084.1	3113.0	3113.0
17.5°	3022.0	3030.1	3038.6	3071.3	3075.6
20°	2972.3	2976.2	2992.7	3030.1	3034.4
22.5°	2906.1	2918.4	2939.2	2976.2	2988.9
25°	2831.3	2847.8	2872.9	2922.6	2930.7
27.5°	2761.2	2773.5	2806.6	2860.6	2877.2
30°	2674.1	2694.9	2736.1	2790.1	2810.9
32.5°	2591.2	2612.0	2661.8	2719.5	2736.1
35°	2488.0	2516.9	2574.7	2640.9	2661.8
37.5°	2388.6	2417.5	2488.0	2562.3	2587.4
40°	2284.9	2318.0	2392.8	2479.5	2512.6
42.5°	2173.2	2218.6	2301.5	2396.6	2434.0
45°	2061.4	2103.1	2206.3	2313.8	2355.4
47.5°	1941.6	1991.3	2103.1	2231.4	2281.1
50°	1813.3	1875.3	2003.6	2144.3	2198.2
52.5°	1685.0	1755.1	1900.0	2057.2	2115.4
55°	1560.5	1626.8	1800.6	1970.5	2032.5
57.5°	1424.1	1507.0	1697.3	1879.2	1941.6
60°	1283.1	1374.4	1593.7	1784.0	1850.3
62.5°	1142.5	1246.1	1494.2	1685.0	1755.1
65°	1001.8	1117.8	1378.7	1581.3	1651.9
67.5°	865.0	993.3	1270.8	1473.8	1543.9
70°	707.8	869.3	1154.8	1353.6	1424.1
72.5°	562.9	749.5	1043.0	1229.5	1291.6
75°	434.6	633.5	919.0	1088.5	1113.6
77.5°	318.6	517.5	790.7	848.4	852.7
80°	215.4	413.8	604.6	596.1	604.6
82.5°	140.6	310.6	380.7	426.6	430.4
85°	82.8	182.3	223.5	248.5	252.4
87.5°	41.2	62.0	78.6	82.8	90.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)