

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: P474208

Luminaire Tested: **24CZ2-170VHE-RDP-UNV-L830-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474208  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-170VHE-RDP-UNV-L830-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ RDP  
INSERT  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11040.6 lumens  
Efficiency: N/A  
Efficacy: 87.2 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

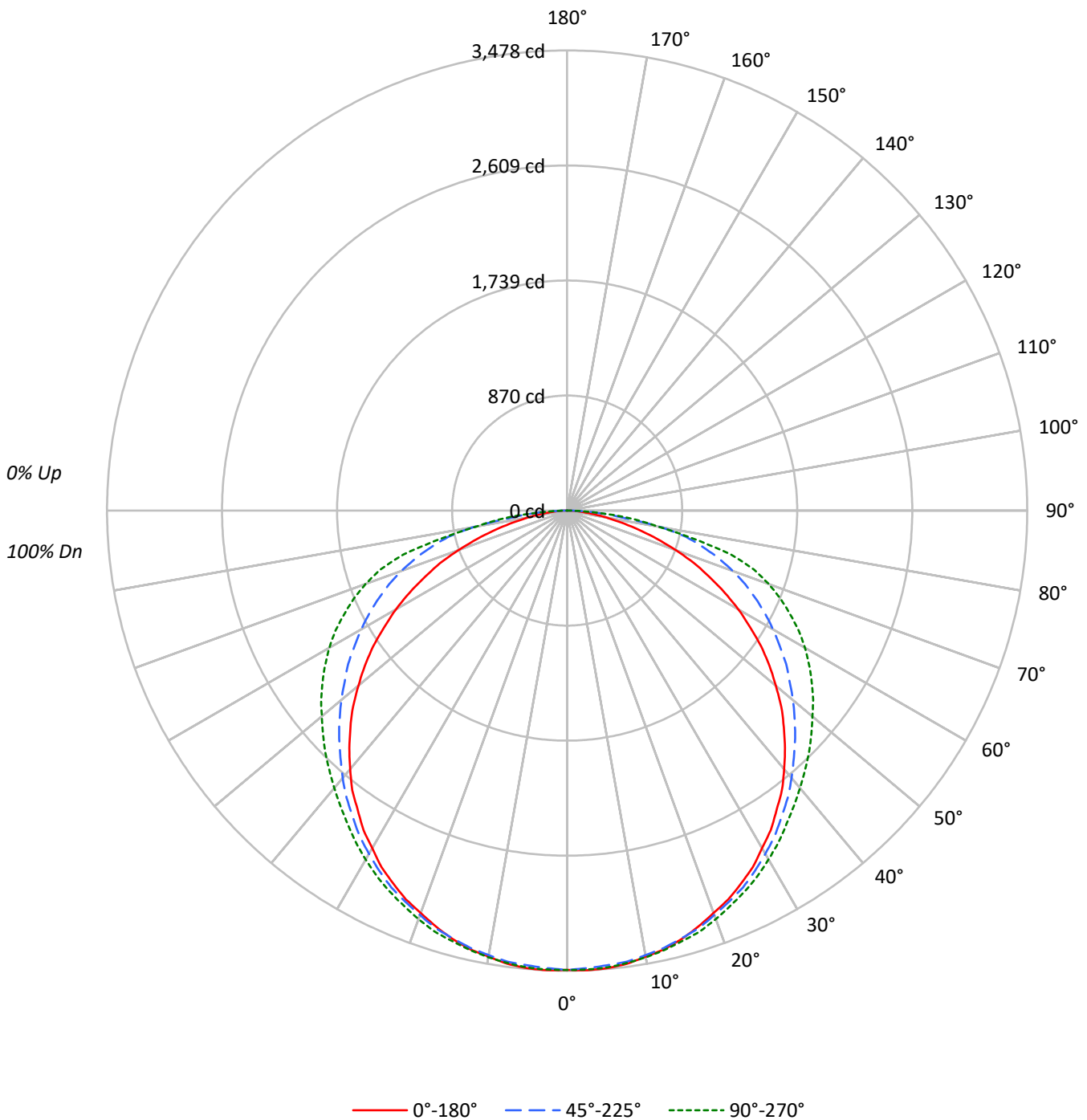
Input Watts (W): 126.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P474208

CATALOG NUMBER: 24CZ2-170VHE-RDP-UNV-L830-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P474208

CATALOG NUMBER: 24CZ2-170VHE-RDP-UNV-L830-CD1-U

**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	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

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

	0°	45°	90°
0°	4672	4672	4672
5°	4690	4660	4682
10°	4676	4661	4684
15°	4669	4661	4691
20°	4634	4658	4705
25°	4618	4667	4715
30°	4577	4654	4731
35°	4533	4641	4749
40°	4483	4636	4809
45°	4408	4637	4918
50°	4310	4666	5067
55°	4200	4740	5293
60°	4024	4833	5585
65°	3766	5003	5927
70°	3425	5236	6376
75°	2902	5523	6662
80°	2293	5557	5387
85°	1692	4230	4736



TEST NUMBER: P474208

CATALOG NUMBER: 24CZ2-170VHE-RDP-UNV-L830-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	329.4	3.0
10°-20°	947.9	8.6
20°-30°	1449.5	13.1
30°-40°	1771.9	16.0
40°-50°	1888.6	17.1
50°-60°	1805.7	16.4
60°-70°	1529.6	13.9
70°-80°	1028.0	9.3
80°-90°	290.1	2.6
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°	2726.7	24.7
0°-40°	4498.6	40.7
0°-60°	8192.9	74.2
0°-90°	11040.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11040.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3472	3472	3472	3472	3472	
5°	3472	3467	3450	3467	3467	330
15°	3352	3352	3346	3374	3368	945
25°	3110	3122	3143	3171	3176	1434
35°	2760	2782	2826	2880	2891	1729
45°	2317	2355	2437	2541	2584	1787
55°	1791	1856	2021	2180	2256	1595
65°	1183	1304	1571	1780	1862	1174
75°	558	761	1062	1243	1282	598
85°	110	225	274	296	307	136
90°	0	0	0	0	0	



TEST NUMBER: P474208

CATALOG NUMBER: 24CZ2-170VHE-RDP-UNV-L830-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3472.1	3472.1	3472.1	3472.1	3472.1
2.5°	3477.6	3477.6	3461.2	3472.1	3472.1
5°	3472.1	3466.7	3450.2	3466.7	3466.7
7.5°	3455.7	3450.2	3439.3	3455.7	3450.2
10°	3422.8	3422.8	3411.9	3428.3	3428.3
12.5°	3395.4	3390.0	3384.5	3406.4	3400.9
15°	3351.6	3351.6	3346.1	3373.5	3368.0
17.5°	3296.8	3302.3	3307.8	3329.7	3335.2
20°	3236.5	3247.5	3253.0	3285.8	3285.8
22.5°	3181.7	3187.2	3198.2	3231.1	3231.1
25°	3110.5	3121.5	3143.4	3170.8	3176.3
27.5°	3039.3	3044.8	3072.2	3110.5	3116.0
30°	2946.1	2962.6	2995.5	3039.3	3044.8
32.5°	2864.0	2880.4	2918.7	2962.6	2973.5
35°	2759.8	2781.8	2825.6	2880.4	2891.3
37.5°	2666.7	2683.1	2737.9	2798.2	2814.6
40°	2552.2	2584.5	2639.3	2710.5	2737.9
42.5°	2437.1	2470.0	2535.8	2628.3	2661.2
45°	2316.6	2354.9	2437.1	2541.2	2584.5
47.5°	2196.0	2239.9	2333.0	2453.6	2502.9
50°	2059.1	2113.9	2228.9	2365.9	2420.7
52.5°	1927.6	1993.3	2119.3	2272.8	2344.0
55°	1790.6	1856.3	2020.7	2179.6	2256.3
57.5°	1637.2	1724.8	1905.6	2086.5	2168.6
60°	1495.3	1576.9	1796.1	1993.3	2075.5
62.5°	1341.8	1451.4	1686.5	1894.7	1976.9
65°	1182.9	1303.5	1571.4	1779.6	1861.8
67.5°	1040.5	1172.0	1456.9	1664.6	1746.8
70°	870.6	1035.0	1330.9	1538.5	1620.7
72.5°	711.7	892.6	1199.4	1402.1	1478.8
75°	558.3	761.1	1062.4	1243.2	1281.6
77.5°	416.4	629.6	919.9	996.7	969.3
80°	295.9	504.1	717.2	678.9	695.3
82.5°	191.8	383.5	443.8	504.1	520.0
85°	109.6	224.6	274.0	295.9	306.8
87.5°	49.3	82.2	109.6	109.6	104.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)