

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: P473792

Luminaire Tested: **24CZ2-90VHE-UNV-L830-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P473792  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-90VHE-UNV-L830-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,RIBBED LENS  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

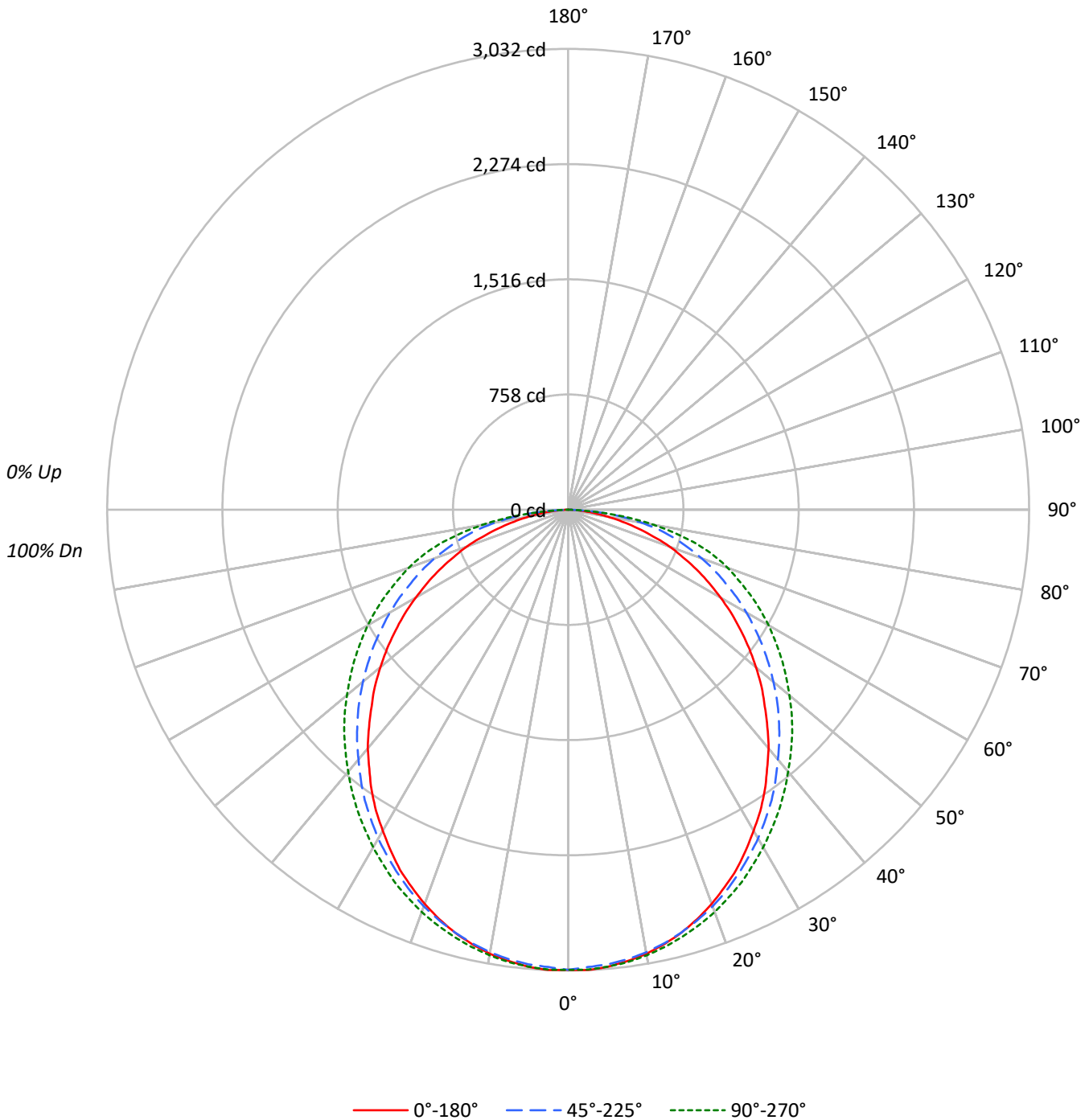
Lumens per Lamp: N/A  
Luminaire Lumens: 8761.1 lumens  
Efficiency: N/A  
Efficacy: 136.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.36  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 64.1  
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	99	95	105	101	97	93	97	93	90	93	90	87	89	87	85	83
2	98	89	82	76	95	88	81	75	84	78	74	81	76	72	78	74	70	68
3	89	78	70	63	87	77	69	63	74	67	61	71	65	60	68	63	59	57
4	82	69	60	53	79	68	59	53	65	58	52	63	57	51	61	55	51	48
5	75	62	53	46	73	61	52	46	58	51	45	56	50	44	55	49	44	42
6	69	56	46	40	67	55	46	40	53	45	39	51	44	39	49	43	39	37
7	64	50	41	35	62	50	41	35	48	40	35	47	40	35	45	39	34	32
8	60	46	37	31	58	45	37	31	44	36	31	43	36	31	41	35	31	29
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	36	30	25	23

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

	0°	45°	90°
0°	4073	4073	4073
5°	4076	4055	4076
10°	4053	4040	4067
15°	4012	4010	4050
20°	3952	3976	4033
25°	3883	3927	4013
30°	3789	3881	3985
35°	3703	3831	3969
40°	3602	3769	3953
45°	3480	3730	3964
50°	3374	3689	3976
55°	3251	3662	4021
60°	3116	3645	4094
65°	2969	3632	4200
70°	2795	3669	4393
75°	2457	3745	4570
80°	2051	3773	4409
85°	1463	3234	3277



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	286.2	3.3
10°-20°	815.2	9.3
20°-30°	1222.9	14.0
30°-40°	1460.1	16.7
40°-50°	1512.4	17.3
50°-60°	1392.3	15.9
60°-70°	1123.1	12.8
70°-80°	733.8	8.4
80°-90°	215.1	2.5
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°	2324.3	26.5
0°-40°	3784.4	43.2
0°-60°	6689.1	76.3
0°-90°	8761.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8761.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3028	3028	3028	3028	3028	
5°	3018	3015	3002	3019	3018	286
15°	2880	2880	2879	2907	2907	812
25°	2616	2621	2645	2694	2703	1203
35°	2255	2274	2333	2396	2416	1408
45°	1829	1874	1960	2048	2083	1414
55°	1386	1445	1561	1676	1714	1240
65°	933	996	1141	1271	1319	922
75°	473	562	720	845	879	505
85°	95	164	210	222	212	118
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3027.5	3027.5	3027.5	3027.5	3027.5
2.5°	3031.8	3027.5	3011.9	3030.3	3028.9
5°	3017.6	3014.8	3002.0	3019.0	3017.6
7.5°	2995.0	2993.5	2983.6	3002.0	3002.0
10°	2966.6	2963.8	2956.7	2978.0	2976.6
12.5°	2927.0	2925.6	2921.4	2946.8	2945.4
15°	2880.3	2880.3	2878.9	2907.2	2907.2
17.5°	2823.7	2825.1	2830.8	2863.3	2864.7
20°	2760.0	2765.7	2777.0	2813.8	2816.6
22.5°	2687.8	2699.1	2714.7	2755.8	2760.0
25°	2615.6	2621.3	2645.4	2693.5	2703.4
27.5°	2527.9	2542.0	2573.2	2622.7	2632.6
30°	2438.7	2458.5	2498.2	2549.1	2564.7
32.5°	2351.0	2367.9	2414.6	2472.7	2491.1
35°	2254.7	2274.5	2332.6	2396.2	2416.1
37.5°	2148.6	2179.7	2240.6	2314.2	2335.4
40°	2050.9	2079.2	2145.7	2227.8	2250.5
42.5°	1939.1	1974.5	2055.1	2138.6	2167.0
45°	1828.7	1874.0	1960.3	2048.1	2083.4
47.5°	1725.4	1762.2	1864.1	1963.1	1994.3
50°	1612.1	1654.6	1762.2	1866.9	1899.4
52.5°	1500.3	1551.3	1660.2	1770.6	1806.0
55°	1385.7	1445.1	1561.2	1675.8	1714.0
57.5°	1275.3	1334.7	1455.0	1576.7	1616.4
60°	1157.8	1221.5	1354.5	1472.0	1521.5
62.5°	1044.6	1108.2	1248.4	1375.8	1422.5
65°	932.7	996.4	1140.8	1271.0	1319.1
67.5°	816.7	886.0	1040.3	1166.3	1213.0
70°	710.5	777.0	932.7	1067.2	1116.7
72.5°	588.8	668.1	826.6	959.6	1006.3
75°	472.7	561.9	720.4	845.0	879.0
77.5°	365.2	454.3	612.9	706.3	727.5
80°	264.7	355.3	486.9	552.0	569.0
82.5°	171.3	264.7	352.4	396.3	402.0
85°	94.8	164.2	209.5	222.2	212.3
87.5°	34.0	62.3	60.9	49.5	39.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)