

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: P473798

Luminaire Tested: **24CZ2-120VHE-UNV-L830-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P473798  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-120VHE-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: 11558.6 lumens  
Efficiency: N/A  
Efficacy: 137.3 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

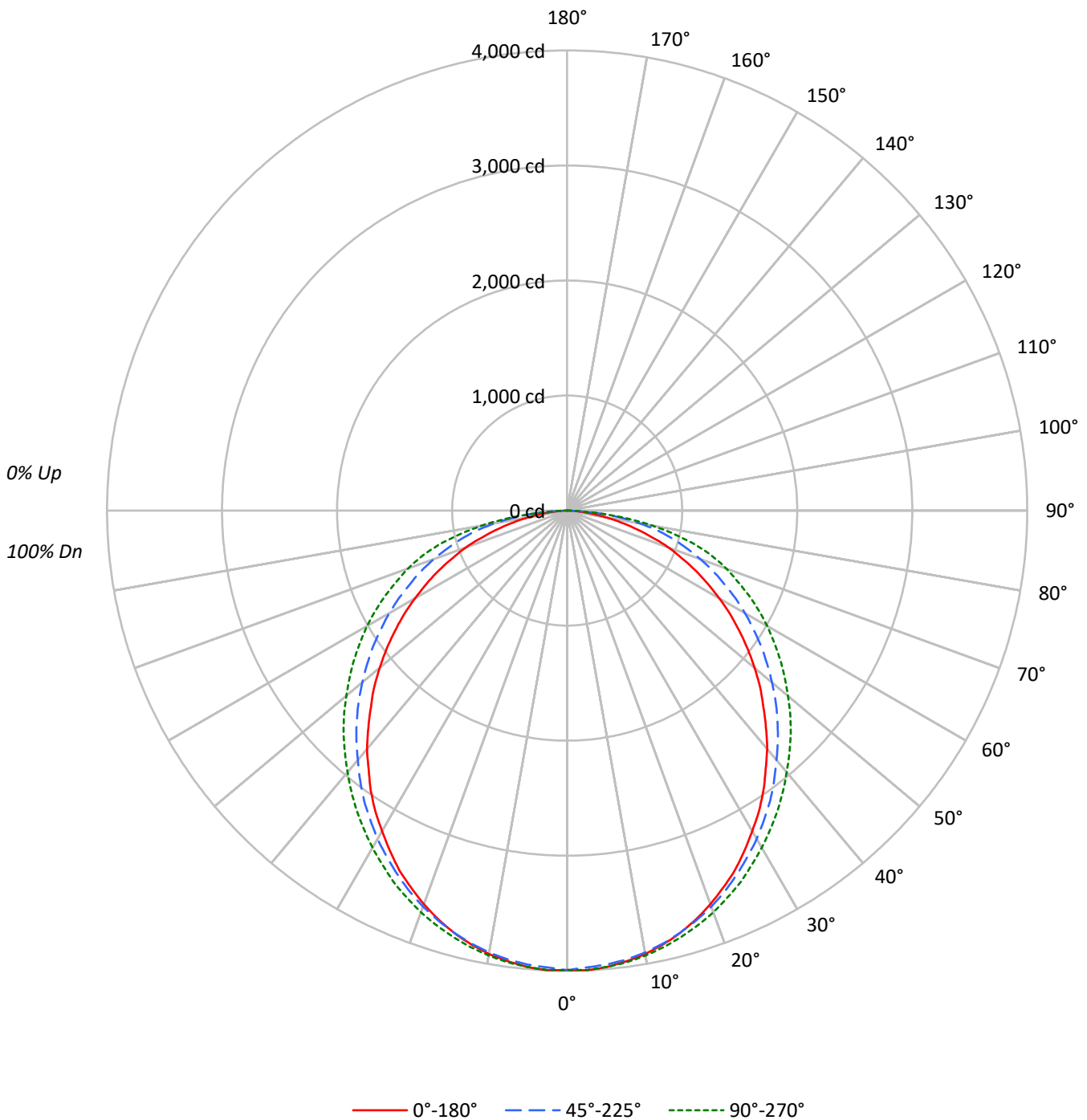
Input Watts (W): 84.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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					100			
1	108	103	99	95	105	101	97	93	97	93	90	93	90	87	89	87	85	83					83			
2	98	89	82	76	95	88	81	75	84	78	74	81	76	72	78	74	70	68					68			
3	89	78	70	63	87	77	69	63	74	67	61	71	65	60	68	63	59	57					57			
4	82	69	60	53	79	68	59	53	65	58	52	63	57	51	61	55	51	48					48			
5	75	62	53	46	73	61	52	46	58	51	45	56	50	44	55	49	44	42					42			
6	69	56	46	40	67	55	46	40	53	45	39	51	44	39	49	43	39	37					37			
7	64	50	41	35	62	50	41	35	48	40	35	47	40	35	45	39	34	32					32			
8	60	46	37	31	58	45	37	31	44	36	31	43	36	31	41	35	31	29					29			
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	26					26			
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	36	30	25	23					23			

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

	0°	45°	90°
0°	5374	5374	5374
5°	5377	5349	5377
10°	5347	5330	5365
15°	5293	5291	5343
20°	5214	5246	5321
25°	5123	5181	5295
30°	4999	5120	5257
35°	4886	5055	5236
40°	4752	4972	5215
45°	4591	4921	5230
50°	4452	4866	5246
55°	4288	4832	5305
60°	4110	4809	5402
65°	3918	4792	5541
70°	3688	4841	5796
75°	3242	4941	6028
80°	2706	4978	5817
85°	1931	4267	4324



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	377.6	3.3
10°-20°	1075.5	9.3
20°-30°	1613.4	14.0
30°-40°	1926.3	16.7
40°-50°	1995.3	17.3
50°-60°	1836.9	15.9
60°-70°	1481.7	12.8
70°-80°	968.1	8.4
80°-90°	283.9	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°	3066.5	26.5
0°-40°	4992.8	43.2
0°-60°	8824.9	76.3
0°-90°	11558.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11558.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3994	3994	3994	3994	3994	
5°	3981	3977	3961	3983	3981	378
15°	3800	3800	3798	3836	3836	1071
25°	3451	3458	3490	3554	3567	1587
35°	2975	3001	3077	3161	3188	1858
45°	2413	2472	2586	2702	2749	1865
55°	1828	1906	2060	2211	2261	1636
65°	1231	1315	1505	1677	1740	1217
75°	624	741	950	1115	1160	666
85°	125	217	276	293	280	155
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3994.2	3994.2	3994.2	3994.2	3994.2
2.5°	3999.8	3994.2	3973.7	3998.0	3996.1
5°	3981.1	3977.4	3960.6	3983.0	3981.1
7.5°	3951.3	3949.4	3936.3	3960.6	3960.6
10°	3913.9	3910.2	3900.9	3928.9	3927.0
12.5°	3861.6	3859.8	3854.2	3887.8	3885.9
15°	3800.0	3800.0	3798.1	3835.5	3835.5
17.5°	3725.3	3727.2	3734.7	3777.6	3779.5
20°	3641.3	3648.8	3663.7	3712.3	3716.0
22.5°	3546.1	3561.0	3581.5	3635.7	3641.3
25°	3450.8	3458.3	3490.0	3553.5	3566.6
27.5°	3335.1	3353.7	3394.8	3460.2	3473.2
30°	3217.4	3243.6	3295.8	3363.1	3383.6
32.5°	3101.6	3124.0	3185.7	3262.2	3286.5
35°	2974.7	3000.8	3077.4	3161.4	3187.5
37.5°	2834.6	2875.7	2956.0	3053.1	3081.1
40°	2705.8	2743.1	2830.9	2939.2	2969.1
42.5°	2558.2	2604.9	2711.4	2821.5	2858.9
45°	2412.6	2472.3	2586.3	2702.0	2748.7
47.5°	2276.3	2324.8	2459.3	2590.0	2631.1
50°	2126.9	2182.9	2324.8	2463.0	2506.0
52.5°	1979.4	2046.6	2190.4	2336.0	2382.7
55°	1828.1	1906.5	2059.7	2210.9	2261.3
57.5°	1682.5	1760.9	1919.6	2080.2	2132.5
60°	1527.5	1611.5	1787.0	1942.0	2007.4
62.5°	1378.1	1462.1	1647.0	1815.0	1876.7
65°	1230.6	1314.6	1505.1	1676.9	1740.4
67.5°	1077.4	1168.9	1372.5	1538.7	1600.3
70°	937.4	1025.2	1230.6	1408.0	1473.3
72.5°	776.8	881.4	1090.5	1266.0	1327.7
75°	623.7	741.3	950.5	1114.8	1159.6
77.5°	481.8	599.4	808.6	931.8	959.8
80°	349.2	468.7	642.4	728.3	750.7
82.5°	225.9	349.2	465.0	522.9	530.3
85°	125.1	216.6	276.4	293.2	280.1
87.5°	44.8	82.2	80.3	65.4	52.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)