

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: P474148

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

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474148  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-120VHE-S-UNV-L850-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

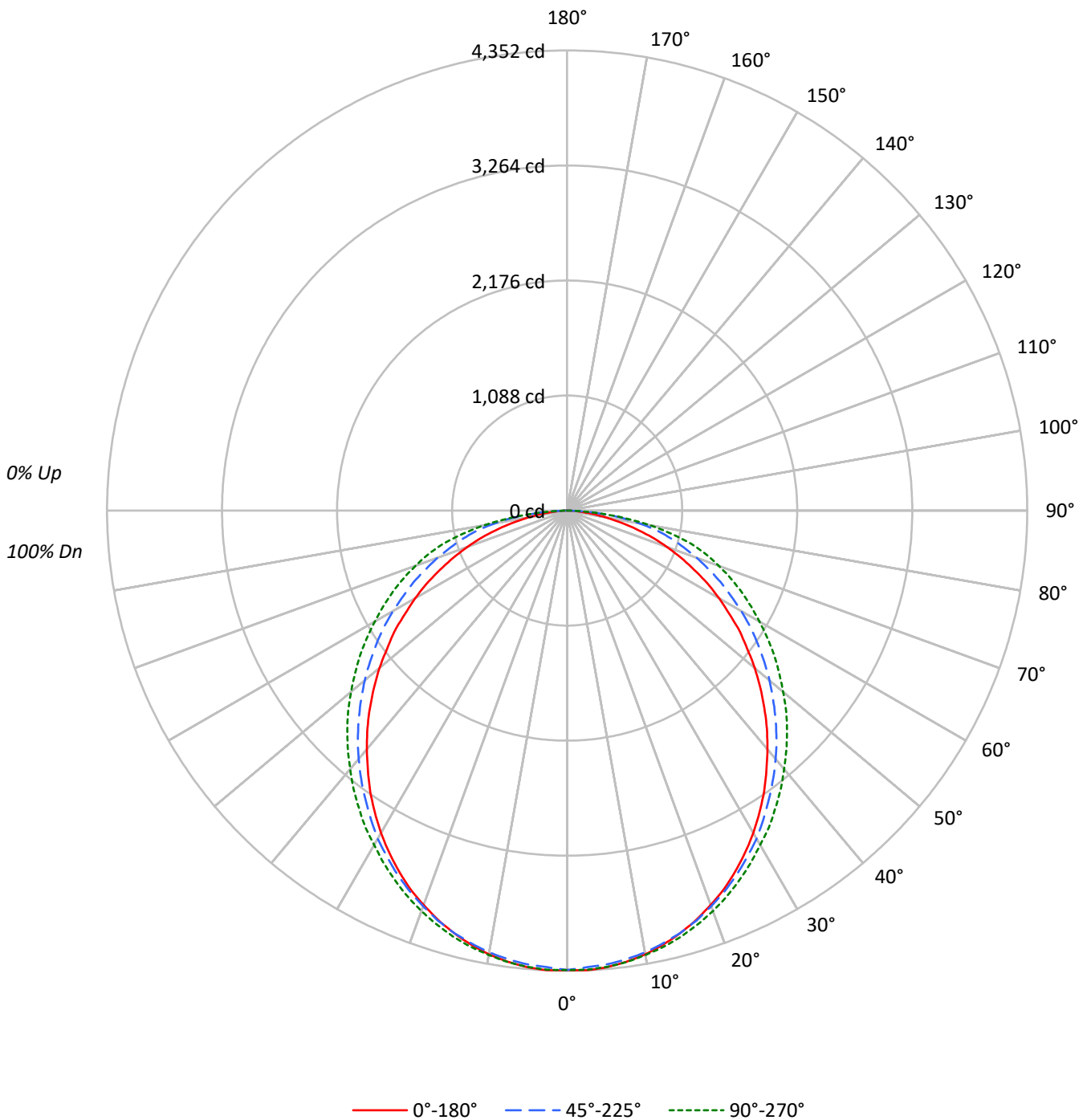
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12449.8 lumens  
Efficiency: N/A  
Efficacy: 147.9 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.25 / 1.35  
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	99	95	105	101	97	93	97	93	90		93	90	87		89	87	85	83
2	98	90	83	77	95	88	81	76	84	79	74		81	76	72		78	74	71	68
3	89	78	70	63	87	77	69	63	74	67	62		71	65	61		68	64	59	57
4	82	69	60	54	79	68	60	53	66	58	52		63	57	52		61	55	51	49
5	75	62	53	46	73	61	52	46	59	51	45		57	50	45		55	49	44	42
6	69	56	47	40	67	55	46	40	53	45	40		51	44	39		50	44	39	37
7	64	51	42	35	63	50	41	35	48	41	35		47	40	35		45	39	34	32
8	60	46	38	32	58	45	37	31	44	37	31		43	36	31		42	35	31	29
9	56	42	34	28	54	42	34	28	41	33	28		39	33	28		38	32	28	26
10	52	39	31	26	51	39	31	26	38	30	26		37	30	25		36	30	25	24

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

	0°	45°	90°
0°	5847	5847	5847
5°	5855	5819	5850
10°	5823	5797	5831
15°	5763	5760	5808
20°	5683	5701	5771
25°	5589	5638	5726
30°	5471	5566	5671
35°	5334	5468	5640
40°	5176	5388	5607
45°	5020	5304	5595
50°	4850	5231	5582
55°	4677	5166	5613
60°	4463	5118	5652
65°	4225	5098	5788
70°	3942	5124	5993
75°	3508	5273	6315
80°	2868	5387	6164
85°	2021	4704	4798



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	410.8	3.3
10°-20°	1170.1	9.4
20°-30°	1753.9	14.1
30°-40°	2089.0	16.8
40°-50°	2153.9	17.3
50°-60°	1965.5	15.8
60°-70°	1571.7	12.6
70°-80°	1026.6	8.2
80°-90°	308.2	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°	3334.9	26.8
0°-40°	5423.9	43.6
0°-60°	9543.3	76.7
0°-90°	12449.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12449.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4346	4346	4346	4346	4346	
5°	4335	4327	4309	4335	4331	411
15°	4137	4139	4135	4170	4170	1166
25°	3765	3771	3798	3853	3857	1733
35°	3247	3270	3329	3413	3434	2029
45°	2638	2685	2787	2904	2941	2034
55°	1994	2051	2202	2348	2393	1776
65°	1327	1417	1601	1759	1818	1316
75°	675	787	1014	1178	1215	717
85°	131	235	305	311	311	166
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4345.5	4345.5	4345.5	4345.5	4345.5
2.5°	4351.7	4345.5	4323.0	4349.6	4345.5
5°	4335.3	4327.1	4308.7	4335.3	4331.2
7.5°	4302.6	4298.5	4280.1	4310.8	4306.7
10°	4261.7	4257.6	4243.3	4274.0	4267.8
12.5°	4204.4	4202.4	4192.2	4229.0	4224.9
15°	4136.9	4139.0	4134.9	4169.7	4169.7
17.5°	4059.2	4057.2	4065.4	4108.3	4104.2
20°	3969.3	3971.3	3981.5	4030.6	4030.6
22.5°	3875.2	3873.1	3895.6	3944.7	3948.8
25°	3764.8	3770.9	3797.5	3852.7	3856.8
27.5°	3646.2	3656.4	3689.1	3752.5	3758.6
30°	3521.4	3533.7	3582.8	3642.1	3650.2
32.5°	3384.4	3411.0	3456.0	3531.6	3552.1
35°	3247.4	3269.9	3329.2	3413.0	3433.5
37.5°	3096.1	3132.9	3200.4	3292.4	3319.0
40°	2946.8	2983.6	3067.4	3163.5	3192.2
42.5°	2795.5	2834.3	2930.4	3038.8	3069.5
45°	2638.0	2685.0	2787.3	2903.8	2940.6
47.5°	2476.4	2531.7	2642.1	2768.9	2809.8
50°	2316.9	2372.1	2498.9	2629.8	2666.6
52.5°	2145.2	2214.7	2349.7	2490.8	2527.6
55°	1993.8	2051.1	2202.4	2347.6	2392.6
57.5°	1815.9	1893.6	2055.2	2202.4	2245.4
60°	1658.5	1730.0	1901.8	2051.1	2100.2
62.5°	1499.0	1572.6	1744.3	1914.1	1959.1
65°	1327.2	1417.2	1601.2	1758.7	1818.0
67.5°	1163.6	1257.6	1445.8	1613.5	1674.8
70°	1002.0	1098.1	1302.6	1474.4	1523.5
72.5°	842.5	942.7	1155.4	1323.1	1380.3
75°	674.8	787.3	1014.3	1177.9	1214.7
77.5°	517.4	642.1	871.2	981.6	1008.2
80°	370.1	507.1	695.3	775.0	795.5
82.5°	243.3	376.3	519.4	562.4	556.2
85°	130.9	235.2	304.7	310.8	310.8
87.5°	51.1	94.1	96.1	73.6	69.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)