

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: P473803

Luminaire Tested: **24CZ2-145VHE-UNV-L830-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P473803  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-145VHE-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: 14000.0 lumens  
Efficiency: N/A  
Efficacy: 133.0 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

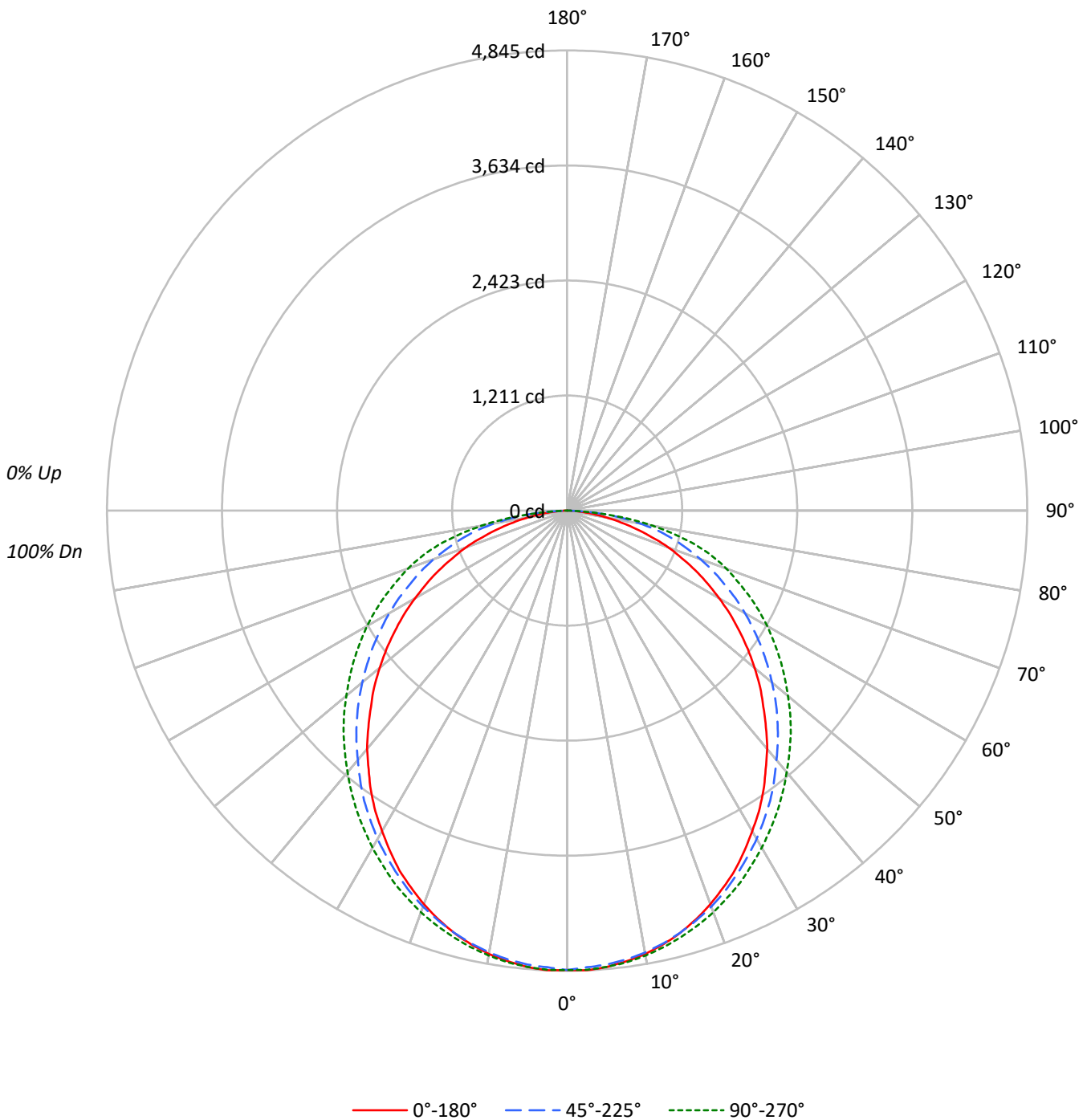
Input Watts (W): 105.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	6509	6509	6509
5°	6513	6479	6513
10°	6477	6455	6499
15°	6411	6408	6471
20°	6315	6354	6445
25°	6205	6276	6413
30°	6055	6202	6367
35°	5918	6122	6342
40°	5756	6022	6316
45°	5560	5961	6335
50°	5392	5894	6354
55°	5194	5852	6425
60°	4979	5825	6543
65°	4745	5804	6711
70°	4467	5864	7020
75°	3927	5985	7301
80°	3277	6028	7045
85°	2339	5167	5238



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	457.3	3.3
10°-20°	1302.7	9.3
20°-30°	1954.2	14.0
30°-40°	2333.2	16.7
40°-50°	2416.7	17.3
50°-60°	2224.8	15.9
60°-70°	1794.7	12.8
70°-80°	1172.6	8.4
80°-90°	343.8	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°	3714.2	26.5
0°-40°	6047.4	43.2
0°-60°	10688.9	76.3
0°-90°	14000.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14000.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4838	4838	4838	4838	4838	
5°	4822	4818	4797	4824	4822	458
15°	4603	4603	4600	4646	4646	1297
25°	4180	4189	4227	4304	4320	1922
35°	3603	3635	3727	3829	3861	2251
45°	2922	2995	3132	3273	3329	2259
55°	2214	2309	2495	2678	2739	1982
65°	1490	1592	1823	2031	2108	1474
75°	755	898	1151	1350	1404	806
85°	152	262	335	355	339	188
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4837.9	4837.9	4837.9	4837.9	4837.9
2.5°	4844.7	4837.9	4813.0	4842.4	4840.1
5°	4822.0	4817.5	4797.2	4824.3	4822.0
7.5°	4785.9	4783.6	4767.8	4797.2	4797.2
10°	4740.6	4736.1	4724.8	4758.7	4756.5
12.5°	4677.3	4675.0	4668.2	4709.0	4706.7
15°	4602.7	4602.7	4600.4	4645.6	4645.6
17.5°	4512.2	4514.4	4523.5	4575.5	4577.8
20°	4410.4	4419.5	4437.5	4496.4	4500.9
22.5°	4295.1	4313.2	4338.0	4403.6	4410.4
25°	4179.7	4188.8	4227.2	4304.1	4319.9
27.5°	4039.5	4062.1	4111.9	4191.0	4206.9
30°	3897.0	3928.7	3992.0	4073.4	4098.3
32.5°	3756.8	3783.9	3858.5	3951.3	3980.7
35°	3603.0	3634.6	3727.4	3829.1	3860.8
37.5°	3433.3	3483.1	3580.3	3698.0	3731.9
40°	3277.3	3322.5	3428.8	3560.0	3596.2
42.5°	3098.6	3155.1	3284.1	3417.5	3462.7
45°	2922.2	2994.6	3132.5	3272.7	3329.3
47.5°	2757.1	2815.9	2978.7	3137.0	3186.8
50°	2576.1	2644.0	2815.9	2983.2	3035.3
52.5°	2397.5	2478.9	2653.0	2829.4	2886.0
55°	2214.3	2309.2	2494.7	2677.9	2739.0
57.5°	2037.8	2132.8	2325.1	2519.6	2582.9
60°	1850.1	1951.9	2164.5	2352.2	2431.4
62.5°	1669.2	1770.9	1994.9	2198.4	2273.1
65°	1490.5	1592.3	1823.0	2031.0	2107.9
67.5°	1305.0	1415.9	1662.4	1863.7	1938.3
70°	1135.4	1241.7	1490.5	1705.4	1784.5
72.5°	940.9	1067.5	1320.9	1533.5	1608.1
75°	755.4	897.9	1151.2	1350.3	1404.5
77.5°	583.5	726.0	979.3	1128.6	1162.5
80°	422.9	567.7	778.0	882.1	909.2
82.5°	273.7	422.9	563.2	633.3	642.3
85°	151.5	262.4	334.7	355.1	339.3
87.5°	54.3	99.5	97.3	79.2	63.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)