

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: P473807

Luminaire Tested: **24CZ2-165VHE-UNV-L830-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P473807  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-165VHE-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**

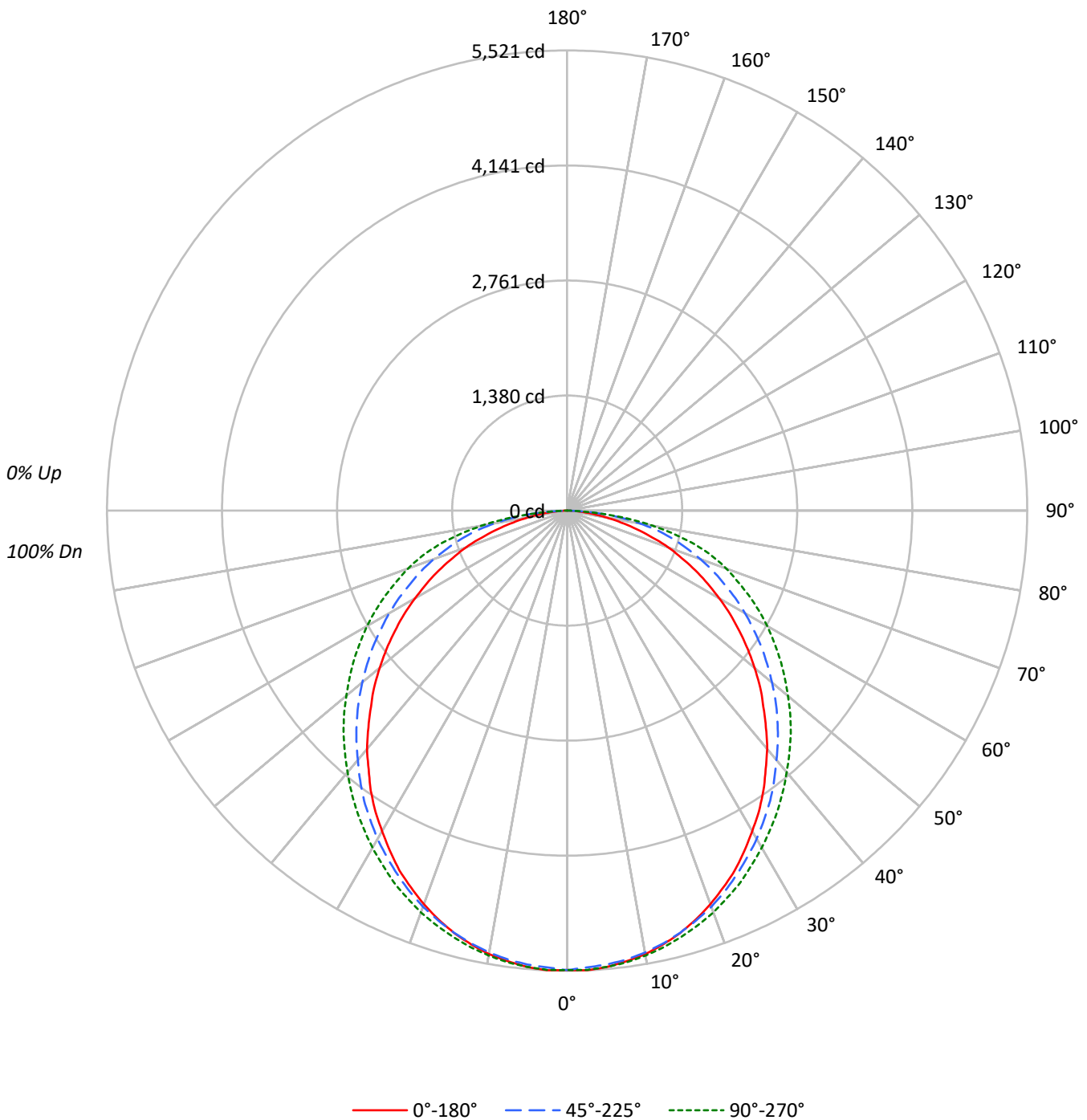
Lumens per Lamp: N/A  
Luminaire Lumens: 15954.1 lumens  
Efficiency: N/A  
Efficacy: 130.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.36  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 122.1  
Input Voltage (V): 120  
Input Current (Ain): 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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	108	103	99	95	105	101	97	93	97	93	90	93	90	87	89	87	85
2	98	89	82	76	95	88	81	75	84	78	74	81	76	72	78	74	70
3	89	78	70	63	87	77	69	63	74	67	61	71	65	60	68	63	59
4	82	69	60	53	79	68	59	53	65	58	52	63	57	51	61	55	51
5	75	62	53	46	73	61	52	46	58	51	45	56	50	44	55	49	44
6	69	56	46	40	67	55	46	40	53	45	39	51	44	39	49	43	39
7	64	50	41	35	62	50	41	35	48	40	35	47	40	35	45	39	34
8	60	46	37	31	58	45	37	31	44	36	31	43	36	31	41	35	31
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	36	30	25

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

	0°	45°	90°
0°	7418	7418	7418
5°	7422	7383	7422
10°	7381	7356	7406
15°	7306	7303	7374
20°	7196	7241	7344
25°	7071	7152	7308
30°	6900	7068	7256
35°	6744	6977	7227
40°	6560	6863	7198
45°	6337	6793	7219
50°	6145	6717	7240
55°	5919	6669	7322
60°	5673	6638	7456
65°	5408	6614	7648
70°	5090	6682	8000
75°	4475	6820	8321
80°	3735	6870	8028
85°	2666	5890	5968



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	521.2	3.3
10°-20°	1484.5	9.3
20°-30°	2227.0	14.0
30°-40°	2658.8	16.7
40°-50°	2754.0	17.3
50°-60°	2535.4	15.9
60°-70°	2045.2	12.8
70°-80°	1336.3	8.4
80°-90°	391.8	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°	4232.6	26.5
0°-40°	6891.4	43.2
0°-60°	12180.9	76.3
0°-90°	15954.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15954.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5513	5513	5513	5513	5513	
5°	5495	5490	5467	5498	5495	521
15°	5245	5245	5242	5294	5294	1478
25°	4763	4773	4817	4905	4923	2190
35°	4106	4142	4248	4364	4400	2565
45°	3330	3412	3570	3730	3794	2574
55°	2523	2632	2843	3052	3121	2258
65°	1698	1814	2077	2314	2402	1680
75°	861	1023	1312	1539	1601	919
85°	173	299	382	405	387	214
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5513.1	5513.1	5513.1	5513.1	5513.1
2.5°	5520.9	5513.1	5484.8	5518.3	5515.7
5°	5495.1	5489.9	5466.7	5497.7	5495.1
7.5°	5453.9	5451.3	5433.2	5466.7	5466.7
10°	5402.3	5397.2	5384.3	5422.9	5420.4
12.5°	5330.1	5327.6	5319.8	5366.2	5363.6
15°	5245.1	5245.1	5242.5	5294.1	5294.1
17.5°	5142.0	5144.6	5154.9	5214.2	5216.7
20°	5026.0	5036.3	5056.9	5123.9	5129.1
22.5°	4894.6	4915.2	4943.5	5018.3	5026.0
25°	4763.1	4773.4	4817.2	4904.9	4922.9
27.5°	4603.3	4629.1	4685.8	4776.0	4794.0
30°	4440.9	4477.0	4549.2	4642.0	4670.3
32.5°	4281.1	4312.1	4397.1	4502.8	4536.3
35°	4105.9	4141.9	4247.6	4363.6	4399.7
37.5°	3912.6	3969.3	4080.1	4214.1	4252.8
40°	3734.7	3786.3	3907.4	4056.9	4098.1
42.5°	3531.1	3595.5	3742.4	3894.5	3946.1
45°	3330.1	3412.5	3569.8	3729.6	3794.0
47.5°	3141.9	3208.9	3394.5	3574.9	3631.6
50°	2935.7	3013.0	3208.9	3399.6	3458.9
52.5°	2732.1	2824.9	3023.3	3224.4	3288.8
55°	2523.3	2631.6	2842.9	3051.7	3121.3
57.5°	2322.3	2430.5	2649.6	2871.3	2943.4
60°	2108.3	2224.3	2466.6	2680.5	2770.7
62.5°	1902.1	2018.1	2273.3	2505.3	2590.3
65°	1698.5	1814.5	2077.4	2314.5	2402.2
67.5°	1487.2	1613.5	1894.4	2123.8	2208.9
70°	1293.9	1415.0	1698.5	1943.4	2033.6
72.5°	1072.2	1216.6	1505.2	1747.5	1832.6
75°	860.9	1023.2	1311.9	1538.7	1600.6
77.5°	665.0	827.4	1116.0	1286.1	1324.8
80°	482.0	646.9	886.6	1005.2	1036.1
82.5°	311.9	482.0	641.8	721.7	732.0
85°	172.7	299.0	381.5	404.7	386.6
87.5°	61.9	113.4	110.8	90.2	72.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)