

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: P474097

Luminaire Tested: **24CZ2-115VHE-S-UNV-L840-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474097  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-115VHE-S-UNV-L840-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

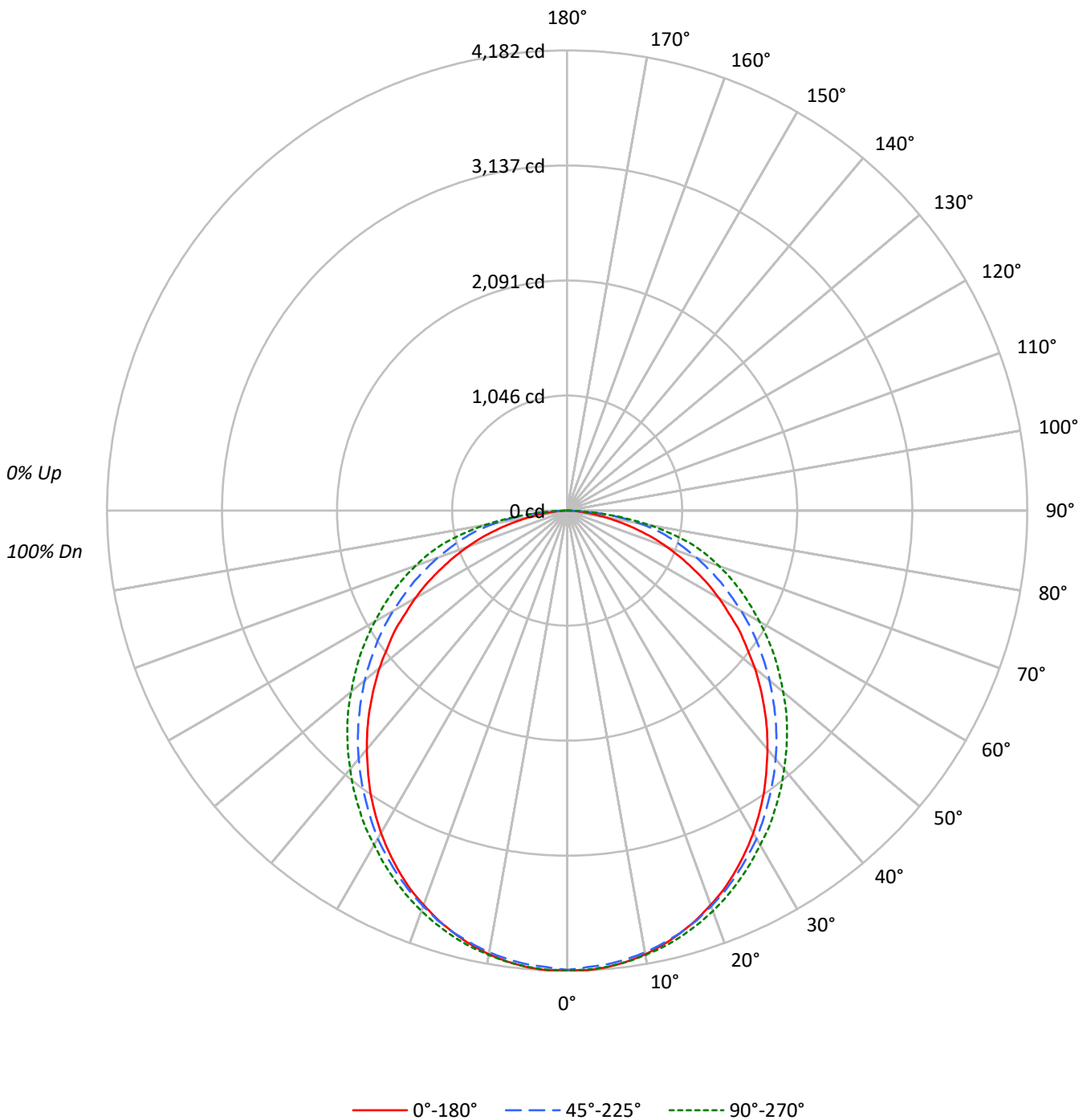
Lumens per Lamp: N/A  
Luminaire Lumens: 11963.4 lumens  
Efficiency: N/A  
Efficacy: 148.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.25 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 80.6  
Input Voltage (V): 120  
Input Current (Ain): 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°	5618	5618	5618
5°	5627	5592	5621
10°	5595	5571	5603
15°	5537	5535	5581
20°	5461	5478	5546
25°	5371	5417	5502
30°	5257	5349	5450
35°	5126	5255	5419
40°	4973	5177	5388
45°	4823	5096	5377
50°	4660	5026	5364
55°	4494	4965	5393
60°	4289	4918	5431
65°	4060	4898	5562
70°	3788	4924	5759
75°	3371	5067	6068
80°	2756	5177	5923
85°	1942	4520	4611



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	394.8	3.3
10°-20°	1124.4	9.4
20°-30°	1685.4	14.1
30°-40°	2007.4	16.8
40°-50°	2069.8	17.3
50°-60°	1888.7	15.8
60°-70°	1510.3	12.6
70°-80°	986.5	8.2
80°-90°	296.2	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°	3204.6	26.8
0°-40°	5211.9	43.6
0°-60°	9170.4	76.7
0°-90°	11963.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11963.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4176	4176	4176	4176	4176	
5°	4166	4158	4140	4166	4162	395
15°	3975	3977	3973	4007	4007	1121
25°	3618	3624	3649	3702	3706	1666
35°	3120	3142	3199	3280	3299	1949
45°	2535	2580	2678	2790	2826	1955
55°	1916	1971	2116	2256	2299	1706
65°	1275	1362	1539	1690	1747	1265
75°	648	756	975	1132	1167	689
85°	126	226	293	299	299	160
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4175.7	4175.7	4175.7	4175.7	4175.7
2.5°	4181.6	4175.7	4154.1	4179.7	4175.7
5°	4165.9	4158.1	4140.4	4165.9	4162.0
7.5°	4134.5	4130.5	4112.9	4142.3	4138.4
10°	4095.2	4091.2	4077.5	4107.0	4101.1
12.5°	4040.2	4038.2	4028.4	4063.7	4059.8
15°	3975.3	3977.3	3973.3	4006.8	4006.8
17.5°	3900.6	3898.7	3906.5	3947.8	3943.9
20°	3814.2	3816.1	3826.0	3873.1	3873.1
22.5°	3723.8	3721.8	3743.4	3790.6	3794.5
25°	3617.7	3623.6	3649.1	3702.2	3706.1
27.5°	3503.7	3513.5	3545.0	3605.9	3611.8
30°	3383.8	3395.6	3442.8	3499.8	3507.6
32.5°	3252.2	3277.7	3320.9	3393.7	3413.3
35°	3120.5	3142.1	3199.1	3279.7	3299.3
37.5°	2975.1	3010.5	3075.3	3163.7	3189.3
40°	2831.6	2867.0	2947.6	3039.9	3067.5
42.5°	2686.2	2723.6	2815.9	2920.1	2949.5
45°	2534.9	2580.1	2678.4	2790.4	2825.8
47.5°	2379.7	2432.7	2538.9	2660.7	2700.0
50°	2226.4	2279.5	2401.3	2527.1	2562.4
52.5°	2061.3	2128.2	2257.8	2393.4	2428.8
55°	1915.9	1971.0	2116.4	2255.9	2299.1
57.5°	1745.0	1819.6	1974.9	2116.4	2157.6
60°	1593.7	1662.4	1827.5	1971.0	2018.1
62.5°	1440.4	1511.1	1676.2	1839.3	1882.5
65°	1275.3	1361.8	1538.6	1689.9	1746.9
67.5°	1118.1	1208.5	1389.3	1550.4	1609.4
70°	962.9	1055.2	1251.7	1416.8	1464.0
72.5°	809.6	905.9	1110.3	1271.4	1326.4
75°	648.5	756.5	974.7	1131.9	1167.2
77.5°	497.2	617.0	837.1	943.2	968.8
80°	355.7	487.3	668.1	744.8	764.4
82.5°	233.8	361.6	499.1	540.4	534.5
85°	125.8	226.0	292.8	298.7	298.7
87.5°	49.1	90.4	92.4	70.7	66.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)