

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: P474152

Luminaire Tested: **24CZ2-140VHE-S-UNV-L850-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474152  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-140VHE-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**

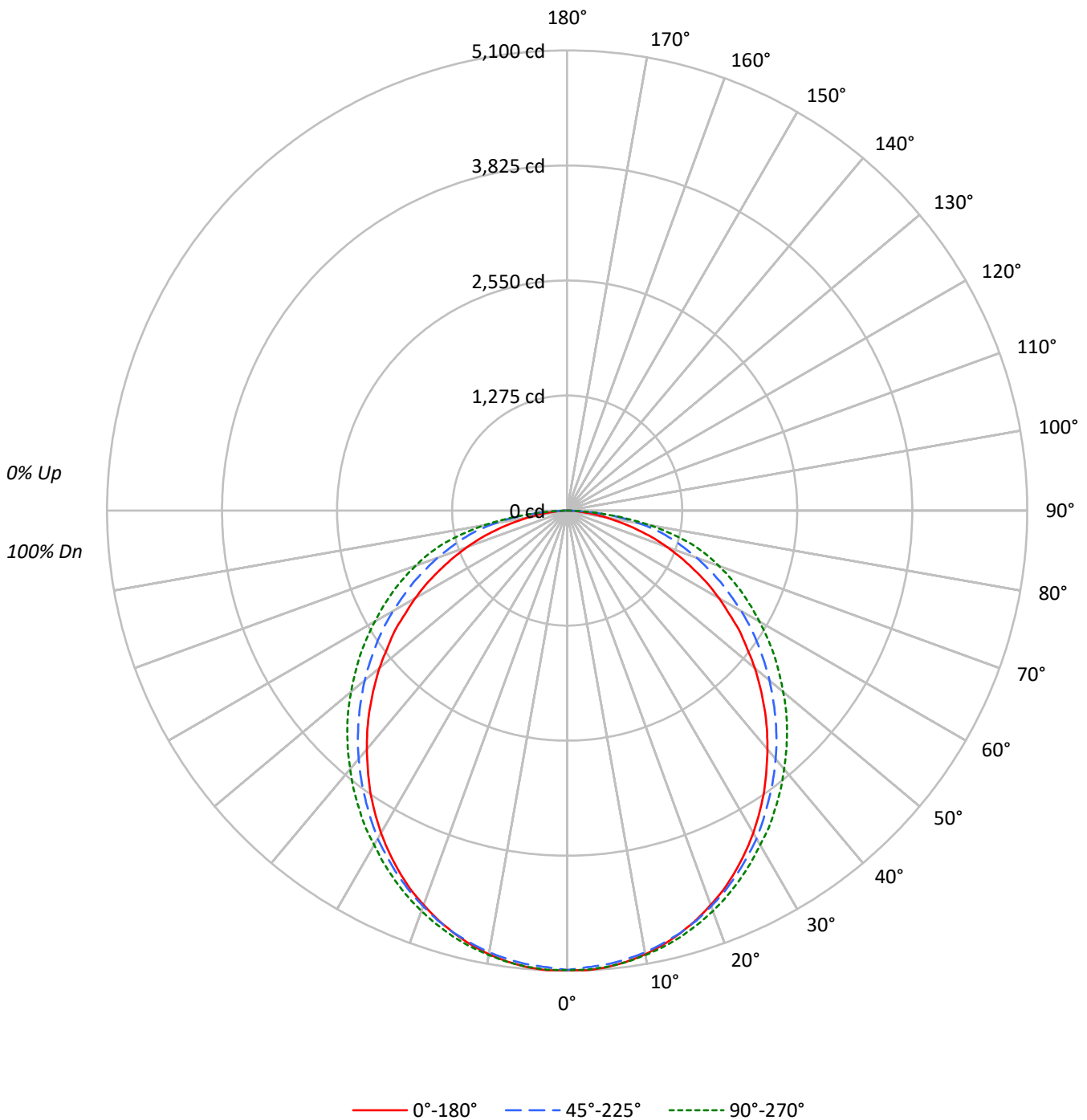
Lumens per Lamp: N/A  
Luminaire Lumens: 14589.9 lumens  
Efficiency: N/A  
Efficacy: 145.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.25 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 100.5  
Input Voltage (V): 120  
Input Current (Ain): 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°	6852	6852	6852
5°	6862	6820	6855
10°	6823	6794	6833
15°	6753	6750	6807
20°	6660	6681	6763
25°	6550	6607	6710
30°	6411	6523	6646
35°	6251	6408	6609
40°	6065	6314	6571
45°	5883	6215	6557
50°	5683	6130	6541
55°	5481	6054	6577
60°	5230	5997	6623
65°	4952	5974	6783
70°	4620	6006	7024
75°	4111	6180	7400
80°	3361	6313	7223
85°	2368	5513	5624



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	481.4	3.3
10°-20°	1371.2	9.4
20°-30°	2055.4	14.1
30°-40°	2448.1	16.8
40°-50°	2524.2	17.3
50°-60°	2303.3	15.8
60°-70°	1841.8	12.6
70°-80°	1203.1	8.2
80°-90°	361.2	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°	3908.1	26.8
0°-40°	6356.2	43.6
0°-60°	11183.8	76.7
0°-90°	14589.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14589.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5092	5092	5092	5092	5092	
5°	5080	5071	5049	5080	5076	482
15°	4848	4850	4846	4886	4886	1367
25°	4412	4419	4450	4515	4520	2031
35°	3806	3832	3902	4000	4024	2377
45°	3092	3147	3266	3403	3446	2384
55°	2337	2404	2581	2751	2804	2081
65°	1555	1661	1876	2061	2130	1542
75°	791	923	1189	1380	1424	840
85°	153	276	357	364	364	195
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5092.5	5092.5	5092.5	5092.5	5092.5
2.5°	5099.7	5092.5	5066.2	5097.3	5092.5
5°	5080.5	5071.0	5049.4	5080.5	5075.7
7.5°	5042.2	5037.4	5015.8	5051.8	5047.0
10°	4994.3	4989.5	4972.7	5008.6	5001.5
12.5°	4927.2	4924.8	4912.8	4955.9	4951.1
15°	4848.1	4850.5	4845.7	4886.4	4886.4
17.5°	4757.0	4754.6	4764.2	4814.5	4809.7
20°	4651.6	4654.0	4665.9	4723.5	4723.5
22.5°	4541.3	4538.9	4565.3	4622.8	4627.6
25°	4411.9	4419.1	4450.3	4515.0	4519.8
27.5°	4272.9	4284.9	4323.3	4397.5	4404.7
30°	4126.7	4141.1	4198.6	4268.1	4277.7
32.5°	3966.2	3997.3	4050.1	4138.7	4162.7
35°	3805.6	3832.0	3901.5	3999.7	4023.7
37.5°	3628.3	3671.4	3750.5	3858.3	3889.5
40°	3453.3	3496.5	3594.7	3707.4	3740.9
42.5°	3276.0	3321.5	3434.2	3561.2	3597.1
45°	3091.5	3146.6	3266.4	3403.0	3446.1
47.5°	2902.1	2966.8	3096.3	3244.8	3292.8
50°	2715.2	2779.9	2928.5	3081.9	3125.0
52.5°	2513.9	2595.4	2753.6	2918.9	2962.1
55°	2336.6	2403.7	2581.0	2751.2	2803.9
57.5°	2128.1	2219.1	2408.5	2581.0	2631.3
60°	1943.5	2027.4	2228.7	2403.7	2461.2
62.5°	1756.6	1842.9	2044.2	2243.1	2295.8
65°	1555.3	1660.8	1876.4	2061.0	2130.5
67.5°	1363.6	1473.8	1694.3	1890.8	1962.7
70°	1174.3	1286.9	1526.6	1727.9	1785.4
72.5°	987.4	1104.8	1354.0	1550.5	1617.6
75°	790.8	922.6	1188.7	1380.4	1423.5
77.5°	606.3	752.5	1020.9	1150.3	1181.5
80°	433.8	594.3	814.8	908.3	932.2
82.5°	285.2	441.0	608.7	659.0	651.8
85°	153.4	275.6	357.1	364.3	364.3
87.5°	59.9	110.2	112.6	86.3	81.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)