

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: P474306

Luminaire Tested: **24CZ2-160VHE-RDP-UNV-L840-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474306  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-160VHE-RDP-UNV-L840-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ RDP  
INSERT  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10990.7 lumens  
Efficiency: N/A  
Efficacy: 92.7 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

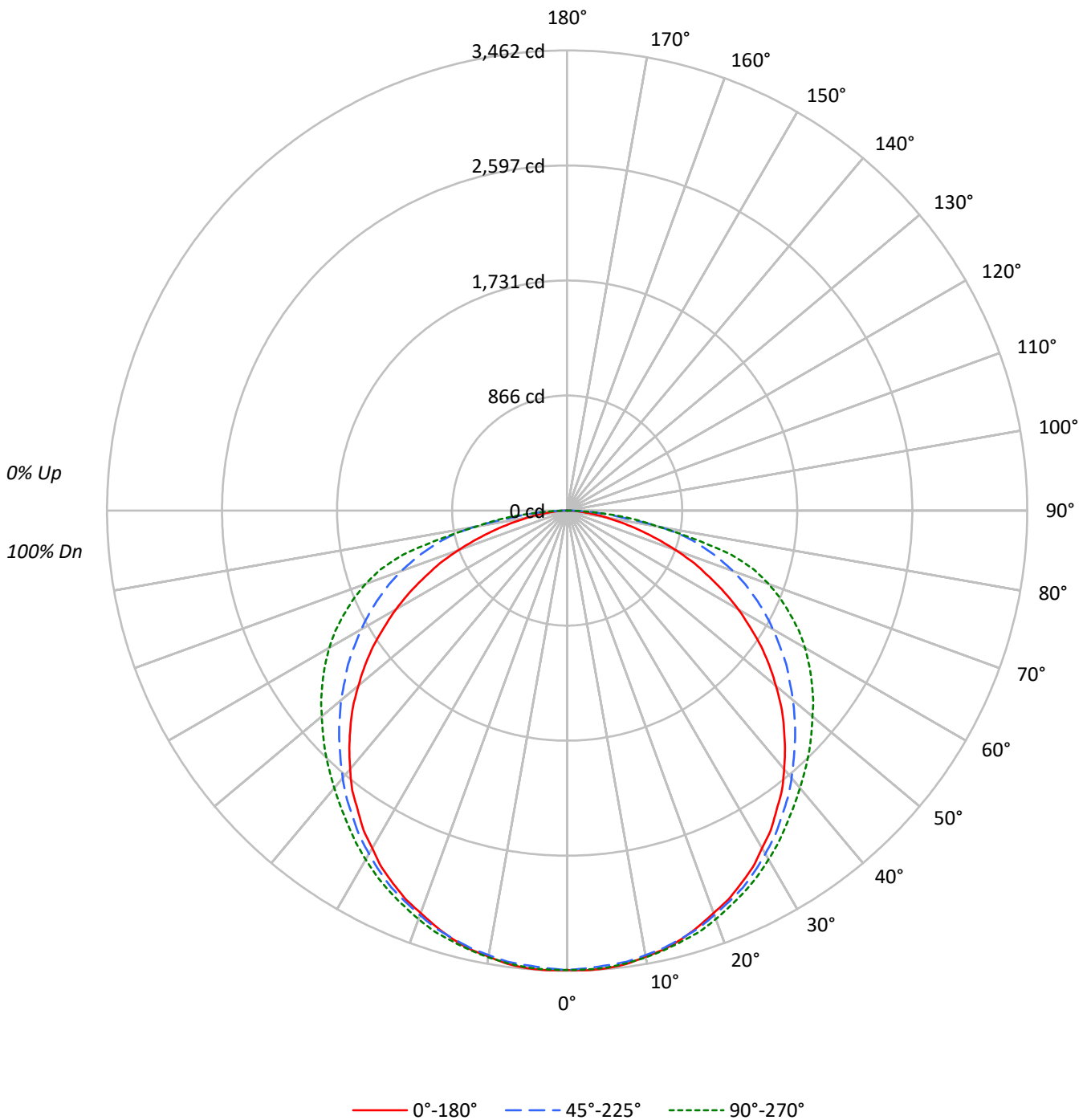
Input Watts (W): 118.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

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

	0°	45°	90°
0°	4651	4651	4651
5°	4668	4639	4661
10°	4655	4640	4663
15°	4647	4640	4670
20°	4613	4637	4684
25°	4597	4646	4694
30°	4557	4633	4709
35°	4513	4620	4728
40°	4463	4615	4787
45°	4388	4616	4896
50°	4291	4644	5044
55°	4181	4719	5269
60°	4006	4811	5560
65°	3749	4980	5901
70°	3410	5212	6347
75°	2889	5498	6632
80°	2282	5532	5363
85°	1684	4210	4715



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	327.9	3.0
10°-20°	943.6	8.6
20°-30°	1442.9	13.1
30°-40°	1763.9	16.0
40°-50°	1880.1	17.1
50°-60°	1797.5	16.4
60°-70°	1522.7	13.9
70°-80°	1023.4	9.3
80°-90°	288.8	2.6
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°	2714.4	24.7
0°-40°	4478.3	40.7
0°-60°	8155.9	74.2
0°-90°	10990.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10990.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3456	3456	3456	3456	3456	
5°	3456	3451	3435	3451	3451	328
15°	3336	3336	3331	3358	3353	941
25°	3096	3107	3129	3156	3162	1427
35°	2747	2769	2813	2867	2878	1721
45°	2306	2344	2426	2530	2573	1779
55°	1782	1848	2012	2170	2246	1588
65°	1178	1298	1564	1772	1853	1169
75°	556	758	1058	1238	1276	595
85°	109	224	273	294	305	135
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3456.4	3456.4	3456.4	3456.4	3456.4
2.5°	3461.9	3461.9	3445.5	3456.4	3456.4
5°	3456.4	3451.0	3434.6	3451.0	3451.0
7.5°	3440.1	3434.6	3423.7	3440.1	3434.6
10°	3407.4	3407.4	3396.4	3412.8	3412.8
12.5°	3380.1	3374.6	3369.2	3391.0	3385.5
15°	3336.4	3336.4	3331.0	3358.3	3352.8
17.5°	3281.9	3287.4	3292.8	3314.6	3320.1
20°	3221.9	3232.8	3238.3	3271.0	3271.0
22.5°	3167.4	3172.8	3183.7	3216.5	3216.5
25°	3096.5	3107.4	3129.2	3156.5	3161.9
27.5°	3025.5	3031.0	3058.3	3096.5	3101.9
30°	2932.8	2949.2	2981.9	3025.5	3031.0
32.5°	2851.0	2867.4	2905.6	2949.2	2960.1
35°	2747.4	2769.2	2812.8	2867.4	2878.3
37.5°	2654.6	2671.0	2725.6	2785.6	2801.9
40°	2540.7	2572.8	2627.4	2698.3	2725.6
42.5°	2426.1	2458.8	2524.3	2616.5	2649.2
45°	2306.1	2344.3	2426.1	2529.7	2572.8
47.5°	2186.1	2229.8	2322.5	2442.5	2491.6
50°	2049.8	2104.3	2218.8	2355.2	2409.7
52.5°	1918.9	1984.3	2109.8	2262.5	2333.4
55°	1782.5	1847.9	2011.6	2169.8	2246.1
57.5°	1629.8	1717.0	1897.0	2077.0	2158.8
60°	1488.5	1569.8	1787.9	1984.3	2066.1
62.5°	1335.8	1444.9	1678.9	1886.1	1967.9
65°	1177.6	1297.6	1564.3	1771.6	1853.4
67.5°	1035.8	1166.7	1450.3	1657.0	1738.9
70°	866.7	1030.3	1324.9	1531.6	1613.4
72.5°	708.5	888.5	1194.0	1395.8	1472.1
75°	555.8	757.6	1057.6	1237.6	1275.8
77.5°	414.5	626.7	915.8	992.2	964.9
80°	294.5	501.8	714.0	675.8	692.2
82.5°	190.9	381.8	441.8	501.8	517.6
85°	109.1	223.6	272.7	294.5	305.4
87.5°	49.1	81.8	109.1	109.1	103.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)