

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: P473904

Luminaire Tested: **24CZ2-150VHE-UNV-L840-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P473904  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-150VHE-UNV-L840-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,RIBBED LENS  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

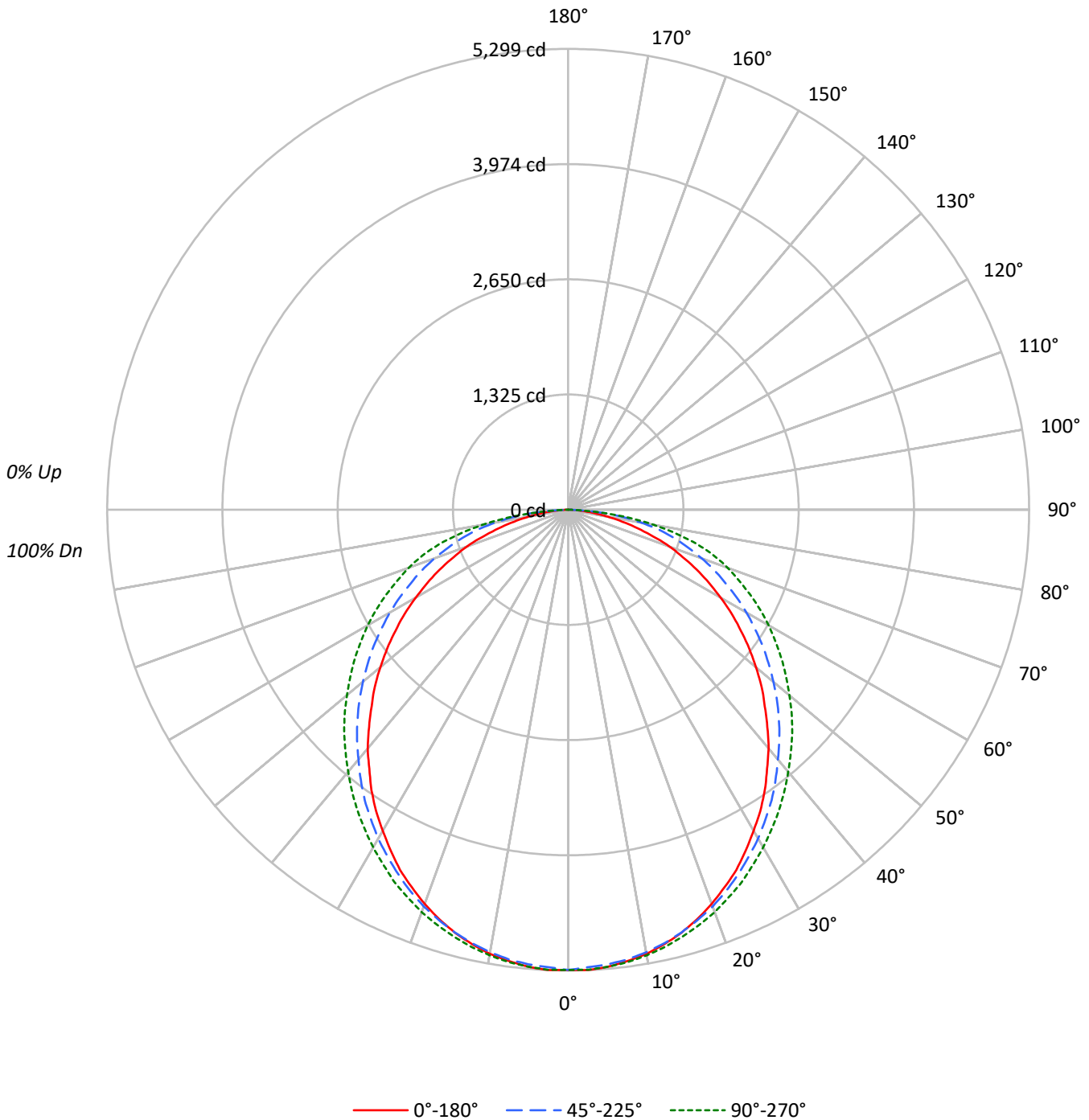
Lumens per Lamp: N/A  
Luminaire Lumens: 15313.3 lumens  
Efficiency: N/A  
Efficacy: 139.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.36  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 109.7  
Input Voltage (V): 120  
Input Current (Ain): 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°	7120	7120	7120
5°	7124	7087	7124
10°	7084	7061	7108
15°	7013	7009	7078
20°	6907	6950	7049
25°	6787	6864	7015
30°	6623	6784	6964
35°	6473	6697	6936
40°	6296	6587	6909
45°	6082	6520	6929
50°	5898	6447	6949
55°	5682	6401	7028
60°	5446	6371	7157
65°	5190	6348	7341
70°	4886	6414	7679
75°	4296	6546	7987
80°	3584	6594	7706
85°	2560	5652	5729



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	500.2	3.3
10°-20°	1424.8	9.3
20°-30°	2137.5	14.0
30°-40°	2552.0	16.7
40°-50°	2643.4	17.3
50°-60°	2433.5	15.9
60°-70°	1963.0	12.8
70°-80°	1282.6	8.4
80°-90°	376.0	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°	4062.6	26.5
0°-40°	6614.7	43.2
0°-60°	11691.6	76.3
0°-90°	15313.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15313.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5292	5292	5292	5292	5292	
5°	5274	5269	5247	5277	5274	501
15°	5034	5034	5032	5081	5081	1419
25°	4572	4582	4624	4708	4725	2102
35°	3941	3976	4077	4188	4223	2462
45°	3196	3276	3426	3580	3642	2471
55°	2422	2526	2729	2929	2996	2168
65°	1630	1742	1994	2222	2306	1612
75°	826	982	1259	1477	1536	882
85°	166	287	366	388	371	206
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5291.7	5291.7	5291.7	5291.7	5291.7
2.5°	5299.1	5291.7	5264.5	5296.7	5294.2
5°	5274.4	5269.4	5247.2	5276.9	5274.4
7.5°	5234.8	5232.3	5215.0	5247.2	5247.2
10°	5185.3	5180.4	5168.0	5205.1	5202.6
12.5°	5116.1	5113.6	5106.2	5150.7	5148.2
15°	5034.4	5034.4	5031.9	5081.4	5081.4
17.5°	4935.5	4937.9	4947.8	5004.7	5007.2
20°	4824.1	4834.0	4853.8	4918.1	4923.1
22.5°	4698.0	4717.8	4745.0	4816.7	4824.1
25°	4571.8	4581.7	4623.7	4707.9	4725.2
27.5°	4418.4	4443.2	4497.6	4584.2	4601.5
30°	4262.6	4297.2	4366.5	4455.5	4482.7
32.5°	4109.2	4138.9	4220.5	4321.9	4354.1
35°	3940.9	3975.6	4077.0	4188.3	4223.0
37.5°	3755.4	3809.8	3916.2	4044.9	4082.0
40°	3584.7	3634.2	3750.5	3893.9	3933.5
42.5°	3389.3	3451.1	3592.1	3738.1	3787.6
45°	3196.3	3275.5	3426.4	3579.8	3641.6
47.5°	3015.7	3080.0	3258.1	3431.3	3485.7
50°	2817.8	2892.0	3080.0	3263.1	3320.0
52.5°	2622.3	2711.4	2901.9	3094.9	3156.7
55°	2422.0	2525.9	2728.7	2929.1	2995.9
57.5°	2229.0	2332.9	2543.2	2755.9	2825.2
60°	2023.7	2135.0	2367.5	2572.9	2659.5
62.5°	1825.7	1937.1	2182.0	2404.6	2486.3
65°	1630.3	1741.6	1994.0	2221.6	2305.7
67.5°	1427.4	1548.7	1818.3	2038.5	2120.1
70°	1241.9	1358.2	1630.3	1865.3	1951.9
72.5°	1029.1	1167.7	1444.8	1677.3	1759.0
75°	826.3	982.1	1259.2	1476.9	1536.3
77.5°	638.3	794.1	1071.2	1234.5	1271.6
80°	462.6	621.0	851.0	964.8	994.5
82.5°	299.3	462.6	616.0	692.7	702.6
85°	165.8	287.0	366.1	388.4	371.1
87.5°	59.4	108.9	106.4	86.6	69.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)