

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: P473892

Luminaire Tested: **24CZ2-90VHE-UNV-L840-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P473892
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-90VHE-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

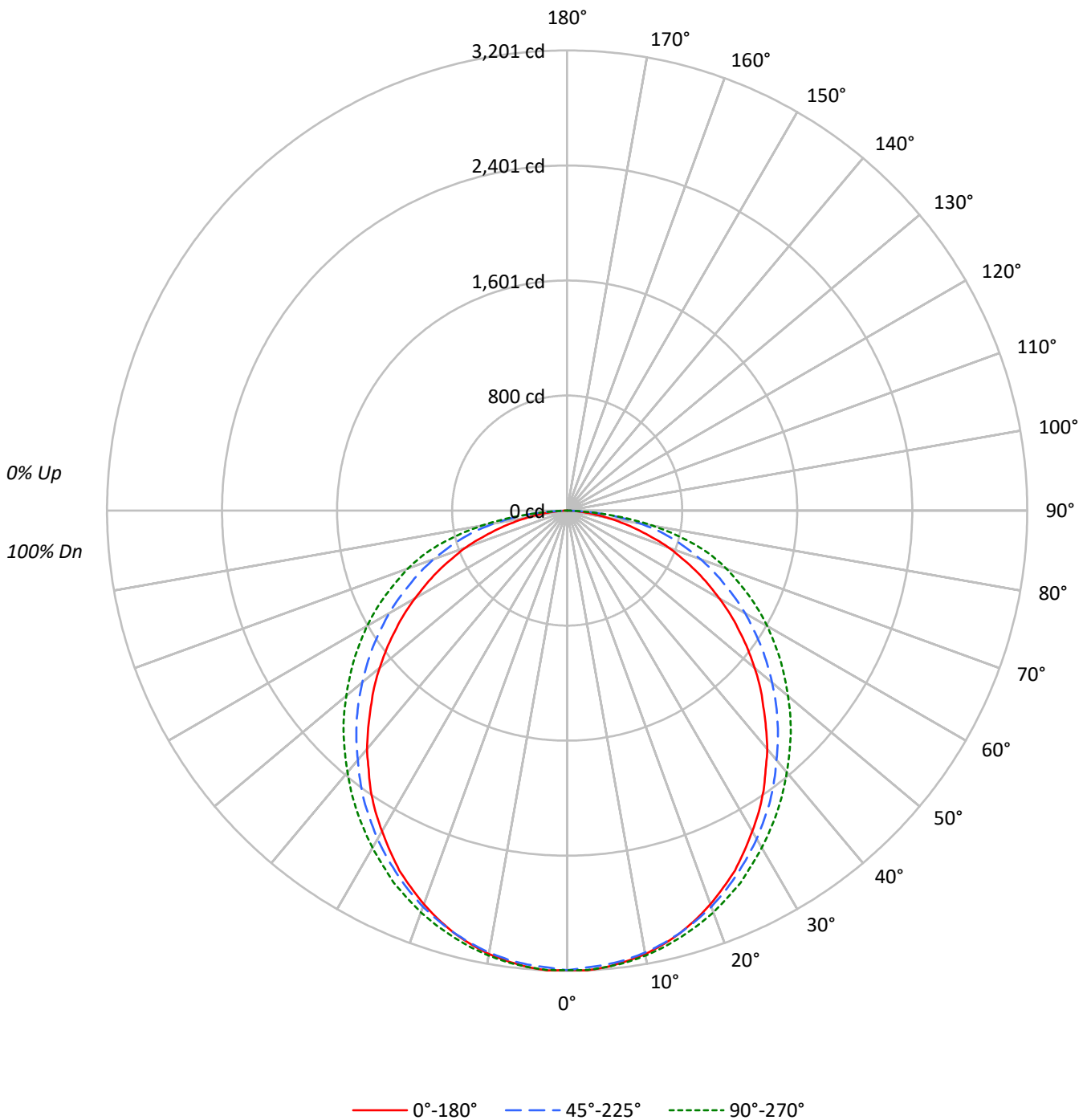
Lumens per Lamp: N/A
Luminaire Lumens: 9251.4 lumens
Efficiency: N/A
Efficacy: 144.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.36
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 64.1
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	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°	4301	4301	4301
5°	4304	4281	4304
10°	4280	4266	4294
15°	4237	4235	4276
20°	4173	4199	4259
25°	4100	4147	4238
30°	4001	4098	4208
35°	3911	4046	4191
40°	3804	3980	4174
45°	3674	3939	4186
50°	3563	3895	4198
55°	3432	3867	4246
60°	3290	3849	4324
65°	3136	3835	4435
70°	2952	3875	4639
75°	2595	3955	4825
80°	2166	3983	4655
85°	1545	3415	3461



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	302.2	3.3
10°-20°	860.8	9.3
20°-30°	1291.4	14.0
30°-40°	1541.8	16.7
40°-50°	1597.0	17.3
50°-60°	1470.2	15.9
60°-70°	1185.9	12.8
70°-80°	774.9	8.4
80°-90°	227.2	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°	2454.4	26.5
0°-40°	3996.2	43.2
0°-60°	7063.4	76.3
0°-90°	9251.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9251.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3197	3197	3197	3197	3197	
5°	3186	3184	3170	3188	3186	302
15°	3042	3042	3040	3070	3070	857
25°	2762	2768	2793	2844	2855	1270
35°	2381	2402	2463	2530	2551	1487
45°	1931	1979	2070	2163	2200	1493
55°	1463	1526	1648	1770	1810	1309
65°	985	1052	1205	1342	1393	974
75°	499	593	761	892	928	533
85°	100	173	221	235	224	124
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3196.9	3196.9	3196.9	3196.9	3196.9
2.5°	3201.4	3196.9	3180.5	3199.9	3198.4
5°	3186.5	3183.5	3170.0	3188.0	3186.5
7.5°	3162.5	3161.1	3150.6	3170.0	3170.0
10°	3132.7	3129.7	3122.2	3144.6	3143.1
12.5°	3090.8	3089.3	3084.8	3111.7	3110.2
15°	3041.5	3041.5	3040.0	3069.9	3069.9
17.5°	2981.7	2983.2	2989.2	3023.6	3025.0
20°	2914.4	2920.4	2932.4	2971.2	2974.2
22.5°	2838.2	2850.2	2866.6	2910.0	2914.4
25°	2762.0	2768.0	2793.4	2844.2	2854.7
27.5°	2669.3	2684.3	2717.2	2769.5	2779.9
30°	2575.2	2596.1	2637.9	2691.8	2708.2
32.5°	2482.5	2500.4	2549.8	2611.0	2630.5
35°	2380.9	2401.8	2463.1	2530.3	2551.3
37.5°	2268.8	2301.7	2365.9	2443.7	2466.1
40°	2165.7	2195.6	2265.8	2352.5	2376.4
42.5°	2047.6	2085.0	2170.1	2258.3	2288.2
45°	1931.0	1978.8	2070.0	2162.7	2200.0
47.5°	1821.9	1860.8	1968.4	2073.0	2105.9
50°	1702.3	1747.2	1860.8	1971.4	2005.7
52.5°	1584.3	1638.1	1753.2	1869.7	1907.1
55°	1463.2	1526.0	1648.5	1769.6	1809.9
57.5°	1346.6	1409.4	1536.4	1665.0	1706.8
60°	1222.6	1289.8	1430.3	1554.4	1606.7
62.5°	1103.0	1170.3	1318.2	1452.7	1502.1
65°	984.9	1052.2	1204.6	1342.1	1393.0
67.5°	862.4	935.6	1098.5	1231.5	1280.9
70°	750.3	820.5	984.9	1126.9	1179.2
72.5°	621.7	705.4	872.8	1013.3	1062.7
75°	499.2	593.4	760.7	892.3	928.1
77.5°	385.6	479.8	647.2	745.8	768.2
80°	279.5	375.1	514.1	582.9	600.8
82.5°	180.8	279.5	372.2	418.5	424.5
85°	100.1	173.4	221.2	234.7	224.2
87.5°	35.9	65.8	64.3	52.3	41.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)