

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: P474948

Luminaire Tested: **22CZ2-29VHE-S-UNV-L840-CD1-U**

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474948  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-29VHE-S-UNV-L840-CD1-U  
Description: 2'X2' 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: 3039.3 lumens  
Efficiency: N/A  
Efficacy: 152.7 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.25 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

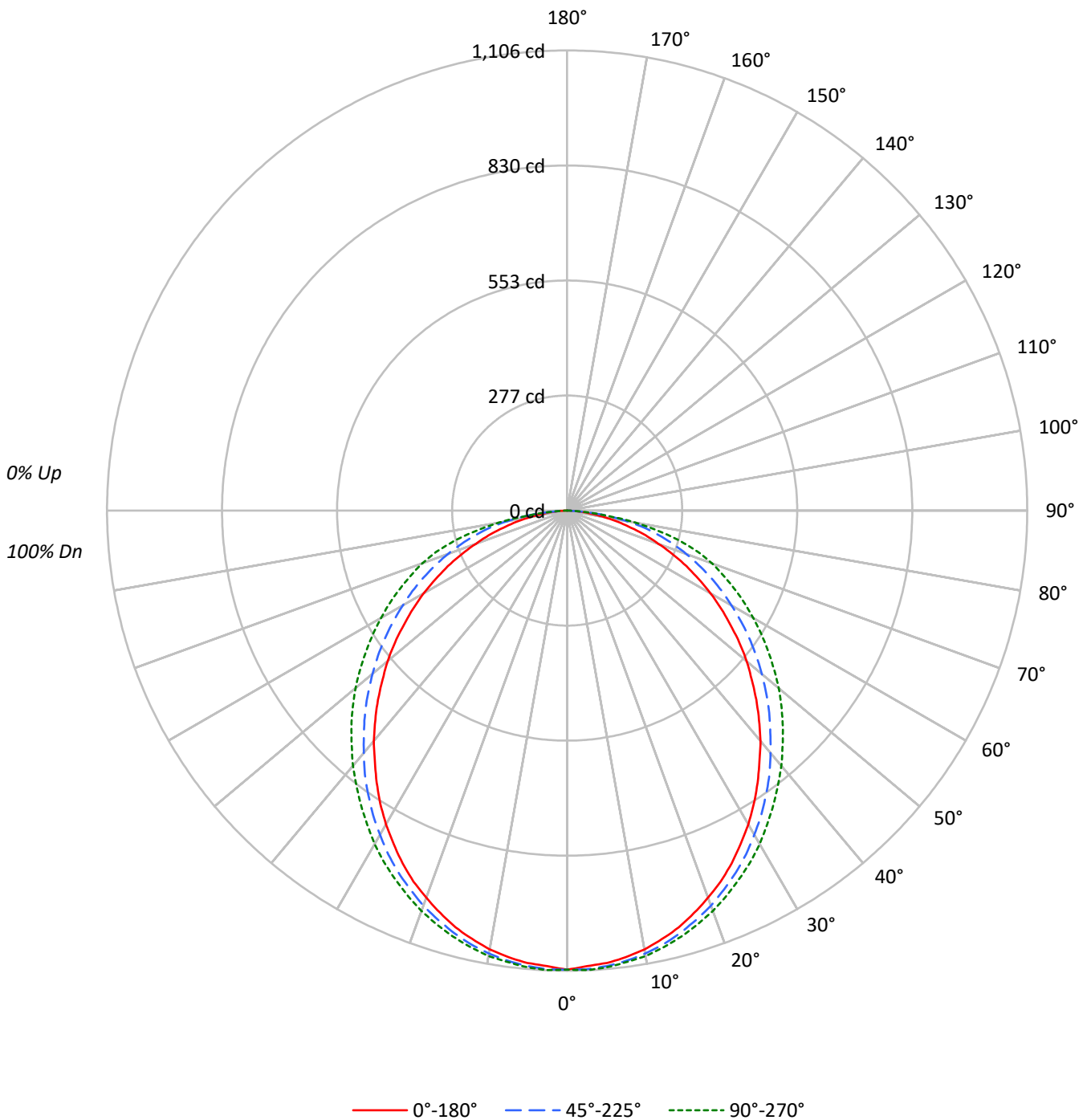
Input Watts (W): 19.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	109	104	99	95	106	101	97	94	97	94	91	93	91	88	90	88	86	83
2	99	90	83	77	96	88	82	77	85	79	75	81	77	73	78	75	71	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	58	53	62	56	52	50
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	38
7	65	51	42	36	63	50	42	36	49	41	36	47	41	36	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	32	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	29	27
10	53	40	32	26	52	39	32	26	38	31	26	37	31	26	36	30	26	24

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

	0°	45°	90°
0°	2969	2969	2969
5°	2948	2968	2976
10°	2926	2954	2970
15°	2889	2928	2953
20°	2835	2894	2932
25°	2778	2850	2902
30°	2706	2795	2875
35°	2621	2737	2839
40°	2540	2672	2814
45°	2446	2614	2791
50°	2359	2556	2781
55°	2246	2505	2768
60°	2145	2454	2779
65°	2014	2426	2819
70°	1840	2396	2911
75°	1652	2378	2913
80°	1390	2245	2588
85°	1044	1522	1408



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	104.2	3.4
10°-20°	295.9	9.7
20°-30°	441.2	14.5
30°-40°	520.6	17.1
40°-50°	530.4	17.5
50°-60°	478.4	15.7
60°-70°	375.7	12.4
70°-80°	234.9	7.7
80°-90°	57.9	1.9
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°	841.4	27.7
0°-40°	1362.0	44.8
0°-60°	2370.8	78.0
0°-90°	3039.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3039.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1103	1103	1103	1103	1103	
5°	1092	1094	1099	1101	1102	104
15°	1037	1041	1051	1058	1060	292
25°	936	941	960	974	978	430
35°	798	809	833	856	864	499
45°	643	654	687	720	733	496
55°	479	494	534	575	590	429
65°	316	333	381	424	443	312
75°	159	181	229	268	280	170
85°	34	43	49	48	46	41
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1103.3	1103.3	1103.3	1103.3	1103.3
2.5°	1095.9	1098.1	1103.3	1105.5	1105.5
5°	1091.5	1093.7	1098.9	1101.1	1101.8
7.5°	1082.7	1085.6	1091.5	1094.4	1094.4
10°	1070.9	1074.6	1081.2	1085.6	1087.1
12.5°	1054.7	1059.1	1068.0	1073.1	1074.6
15°	1037.1	1040.8	1051.1	1058.4	1059.9
17.5°	1014.3	1020.2	1031.2	1040.8	1043.0
20°	990.0	996.6	1010.6	1021.6	1023.8
22.5°	965.0	970.1	985.6	998.8	1001.8
25°	935.6	940.7	959.8	973.8	977.5
27.5°	903.2	912.0	931.2	947.3	953.2
30°	870.8	879.7	899.5	918.7	925.3
32.5°	835.5	845.1	867.9	887.8	894.4
35°	798.0	809.1	833.3	856.1	864.2
37.5°	759.1	771.6	798.8	823.0	831.9
40°	723.0	731.8	760.5	788.5	801.0
42.5°	682.6	694.3	723.0	754.6	766.4
45°	642.8	653.9	687.0	720.1	733.3
47.5°	601.7	615.6	648.7	685.5	698.7
50°	563.4	575.2	610.5	649.5	664.2
52.5°	522.2	534.7	573.0	613.4	626.7
55°	478.8	494.3	534.0	575.2	589.9
57.5°	439.1	453.8	495.7	538.4	553.8
60°	398.6	413.4	456.0	499.4	516.3
62.5°	356.0	372.9	419.2	461.2	480.3
65°	316.3	333.2	381.0	423.7	442.8
67.5°	274.3	294.2	342.0	386.9	406.0
70°	233.9	257.4	304.5	348.6	370.0
72.5°	197.9	217.0	266.3	312.6	330.2
75°	158.9	180.9	228.7	267.7	280.2
77.5°	125.8	144.9	190.5	216.2	224.3
80°	89.7	111.1	144.9	160.3	167.0
82.5°	59.6	77.2	98.6	101.5	100.0
85°	33.8	43.4	49.3	48.5	45.6
87.5°	13.2	14.7	11.0	6.6	5.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)