

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: P474697

Luminaire Tested: **24CZ2-115VHE-SQR-UNV-L840-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474697  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-115VHE-SQR-UNV-L840-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SQUARE LENS  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11142.9 lumens  
Efficiency: N/A  
Efficacy: 138.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.39  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

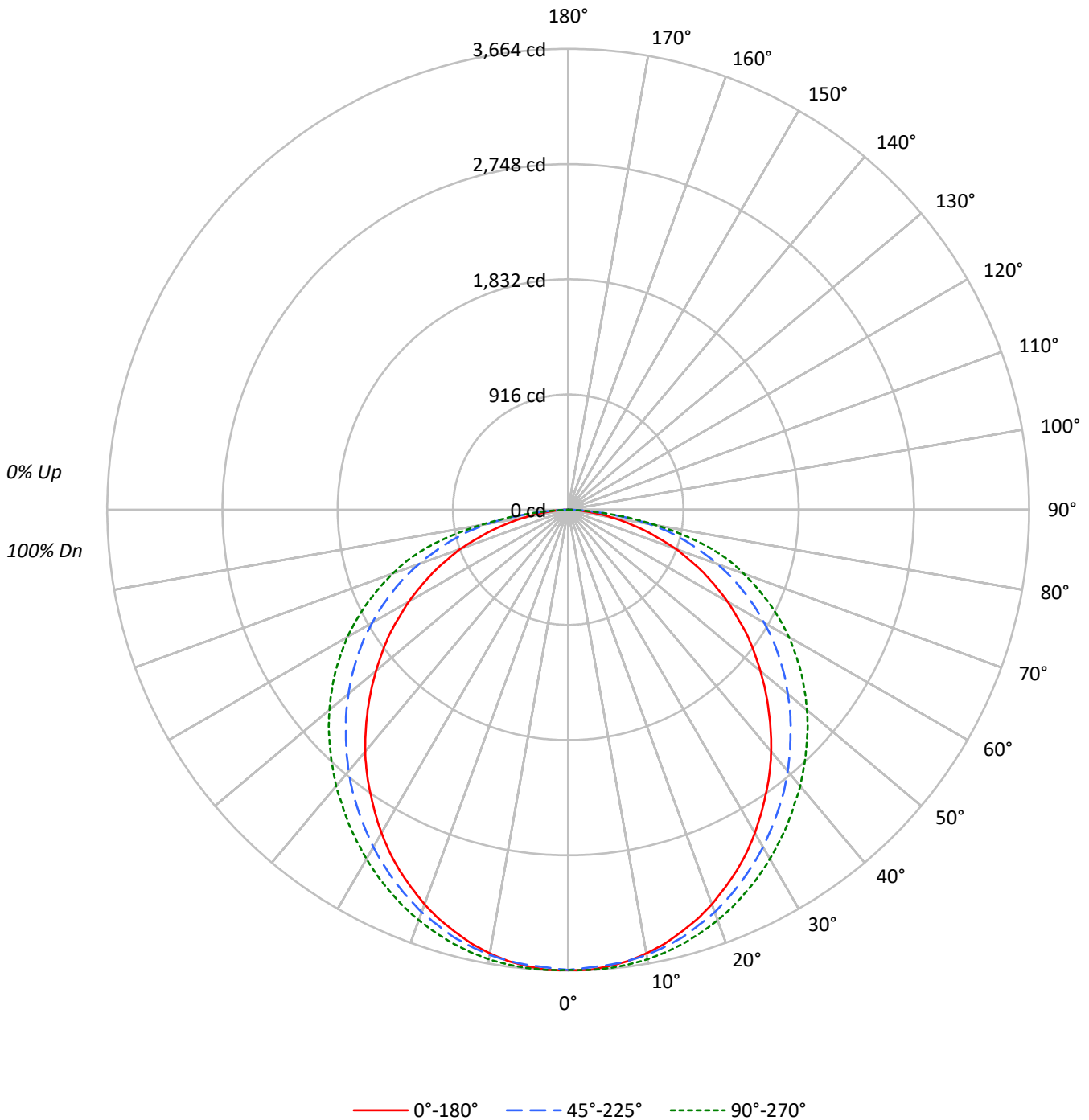
Input Watts (W): 80.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	87	89	87	84	82
2	98	89	82	76	95	87	81	75	84	78	73	80	76	71	77	73	70	68
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	59	53	79	67	59	52	65	57	51	62	56	51	60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	50	43	38	49	43	38	36
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

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

	0°	45°	90°
0°	9849	9849	9849
5°	9848	9820	9887
10°	9787	9821	9918
15°	9681	9800	9934
20°	9559	9752	9946
25°	9403	9683	9948
30°	9221	9625	9962
35°	9012	9567	10000
40°	8818	9537	10081
45°	8577	9512	10189
50°	8347	9540	10374
55°	8152	9605	10607
60°	7875	9677	10903
65°	7561	9794	11233
70°	7172	9931	11681
75°	6422	10069	12068
80°	5407	10098	10952
85°	4014	7639	7200



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	346.9	3.1
10°-20°	994.0	8.9
20°-30°	1504.8	13.5
30°-40°	1820.3	16.3
40°-50°	1921.5	17.2
50°-60°	1812.0	16.3
60°-70°	1493.9	13.4
70°-80°	980.0	8.8
80°-90°	269.5	2.4
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°	2845.7	25.5
0°-40°	4666.0	41.9
0°-60°	8399.5	75.4
0°-90°	11142.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11142.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3660	3660	3660	3660	3660	
5°	3646	3646	3635	3660	3660	346
15°	3475	3494	3518	3559	3566	980
25°	3167	3206	3261	3329	3350	1458
35°	2743	2814	2912	3012	3044	1717
45°	2254	2355	2499	2633	2677	1739
55°	1738	1860	2047	2200	2261	1548
65°	1187	1330	1538	1702	1764	1172
75°	618	776	968	1122	1161	653
85°	130	224	247	240	233	161
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3660.1	3660.1	3660.1	3660.1	3660.1
2.5°	3663.6	3660.1	3644.1	3665.4	3663.6
5°	3645.8	3645.8	3635.2	3660.1	3660.1
7.5°	3620.9	3622.7	3619.1	3647.6	3647.6
10°	3581.8	3588.9	3594.2	3626.3	3629.8
12.5°	3535.5	3547.9	3558.6	3597.8	3601.3
15°	3474.9	3494.5	3517.7	3558.6	3565.7
17.5°	3412.6	3435.8	3460.7	3514.1	3523.0
20°	3337.9	3364.6	3405.5	3458.9	3473.2
22.5°	3254.2	3291.6	3334.3	3398.4	3416.2
25°	3167.0	3206.1	3261.3	3329.0	3350.3
27.5°	3072.6	3118.9	3181.2	3259.5	3282.7
30°	2967.6	3021.0	3097.5	3181.2	3206.1
32.5°	2857.2	2919.5	3005.0	3097.5	3126.0
35°	2743.3	2814.5	2912.4	3012.1	3044.1
37.5°	2631.1	2702.3	2818.1	2923.1	2953.3
40°	2510.1	2588.4	2714.8	2827.0	2869.7
42.5°	2381.9	2474.5	2608.0	2732.6	2773.5
45°	2253.7	2355.2	2499.4	2632.9	2677.4
47.5°	2123.8	2235.9	2394.4	2529.7	2581.3
50°	1993.8	2113.1	2278.7	2424.6	2478.0
52.5°	1862.1	1986.7	2166.5	2321.4	2369.4
55°	1737.5	1860.3	2047.2	2200.3	2260.9
57.5°	1593.3	1732.1	1929.7	2084.6	2143.4
60°	1463.3	1598.6	1798.0	1961.8	2025.9
62.5°	1322.7	1461.5	1671.6	1835.4	1897.7
65°	1187.4	1329.8	1538.1	1701.9	1764.2
67.5°	1041.4	1191.0	1404.6	1563.0	1623.5
70°	911.5	1052.1	1262.2	1424.2	1484.7
72.5°	753.0	913.2	1114.4	1274.6	1340.5
75°	617.7	776.2	968.4	1121.5	1160.7
77.5°	475.3	633.8	824.2	923.9	950.6
80°	348.9	498.5	651.6	705.0	706.7
82.5°	235.0	366.7	454.0	480.7	477.1
85°	130.0	224.3	247.4	240.3	233.2
87.5°	53.4	74.8	60.5	42.7	33.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)