

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: P474696

Luminaire Tested: **24CZ2-110VHE-SQR-UNV-L840-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474696
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-110VHE-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: 10686.9 lumens
Efficiency: N/A
Efficacy: 138.8 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

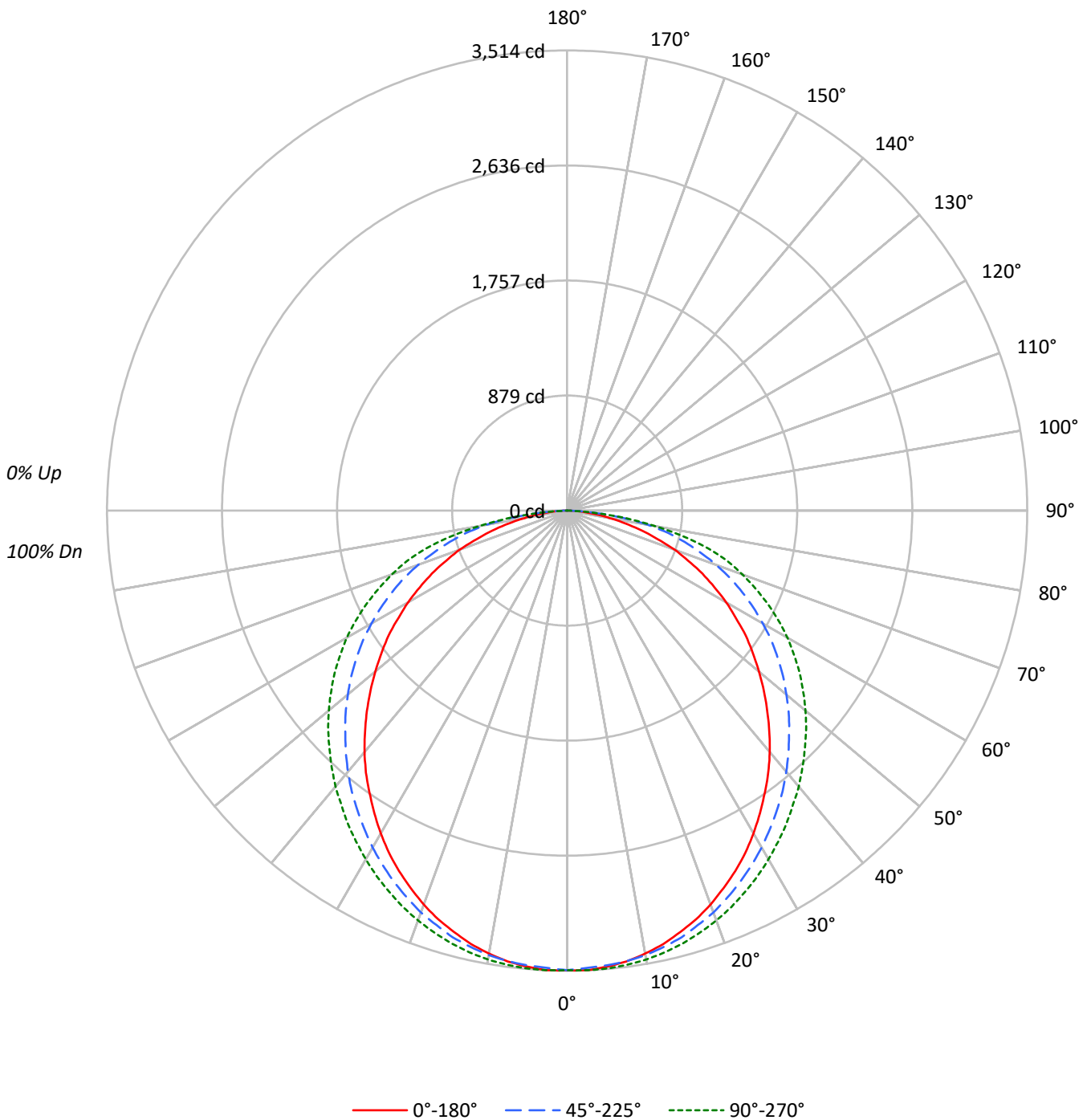
Input Watts (W): 77
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	9446	9446	9446
5°	9445	9418	9482
10°	9387	9419	9513
15°	9285	9399	9527
20°	9167	9353	9539
25°	9019	9287	9541
30°	8844	9231	9555
35°	8643	9176	9591
40°	8457	9146	9668
45°	8226	9122	9772
50°	8005	9149	9949
55°	7818	9212	10173
60°	7553	9281	10457
65°	7251	9393	10774
70°	6878	9524	11203
75°	6160	9657	11574
80°	5185	9684	10504
85°	3847	7327	6907



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	332.7	3.1
10°-20°	953.4	8.9
20°-30°	1443.2	13.5
30°-40°	1745.9	16.3
40°-50°	1842.9	17.2
50°-60°	1737.9	16.3
60°-70°	1432.7	13.4
70°-80°	939.9	8.8
80°-90°	258.4	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°	2729.2	25.5
0°-40°	4475.1	41.9
0°-60°	8055.8	75.4
0°-90°	10686.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10686.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3510	3510	3510	3510	3510	
5°	3497	3497	3486	3510	3510	332
15°	3333	3352	3374	3413	3420	940
25°	3037	3075	3128	3193	3213	1399
35°	2631	2699	2793	2889	2920	1647
45°	2162	2259	2397	2525	2568	1668
55°	1666	1784	1964	2110	2168	1485
65°	1139	1275	1475	1632	1692	1124
75°	592	744	929	1076	1113	626
85°	125	215	237	230	224	155
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3510.3	3510.3	3510.3	3510.3	3510.3
2.5°	3513.7	3510.3	3494.9	3515.4	3513.7
5°	3496.7	3496.7	3486.4	3510.3	3510.3
7.5°	3472.7	3474.5	3471.0	3498.4	3498.4
10°	3435.2	3442.0	3447.1	3477.9	3481.3
12.5°	3390.8	3402.7	3413.0	3450.6	3454.0
15°	3332.7	3351.5	3373.7	3413.0	3419.8
17.5°	3273.0	3295.2	3319.1	3370.3	3378.8
20°	3201.3	3226.9	3266.2	3317.4	3331.0
22.5°	3121.0	3156.9	3197.9	3259.3	3276.4
25°	3037.4	3074.9	3127.9	3192.7	3213.2
27.5°	2946.9	2991.3	3051.0	3126.2	3148.4
30°	2846.2	2897.4	2970.8	3051.0	3074.9
32.5°	2740.3	2800.1	2882.0	2970.8	2998.1
35°	2631.0	2699.3	2793.2	2888.8	2919.6
37.5°	2523.5	2591.8	2702.7	2803.5	2832.5
40°	2407.4	2482.5	2603.7	2711.3	2752.2
42.5°	2284.4	2373.2	2501.3	2620.8	2660.1
45°	2161.5	2258.8	2397.1	2525.2	2567.9
47.5°	2036.9	2144.4	2296.4	2426.1	2475.7
50°	1912.2	2026.6	2185.4	2325.4	2376.6
52.5°	1785.9	1905.4	2077.8	2226.4	2272.5
55°	1666.4	1784.2	1963.5	2110.3	2168.3
57.5°	1528.1	1661.3	1850.8	1999.3	2055.6
60°	1403.4	1533.2	1724.4	1881.5	1943.0
62.5°	1268.6	1401.7	1603.2	1760.3	1820.0
65°	1138.8	1275.4	1475.2	1632.2	1692.0
67.5°	998.8	1142.2	1347.1	1499.1	1557.1
70°	874.2	1009.0	1210.5	1365.9	1423.9
72.5°	722.2	875.9	1068.8	1222.5	1285.6
75°	592.5	744.4	928.8	1075.6	1113.2
77.5°	455.9	607.8	790.5	886.1	911.7
80°	334.6	478.1	624.9	676.1	677.8
82.5°	225.4	351.7	435.4	461.0	457.6
85°	124.6	215.1	237.3	230.5	223.7
87.5°	51.2	71.7	58.0	41.0	32.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)