

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: P474494

Luminaire Tested: **24CZ2-100VHE-HRP-UNV-L840-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474494  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-100VHE-HRP-UNV-L840-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ HRP  
INSERT  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8261.7 lumens  
Efficiency: N/A  
Efficacy: 116.2 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

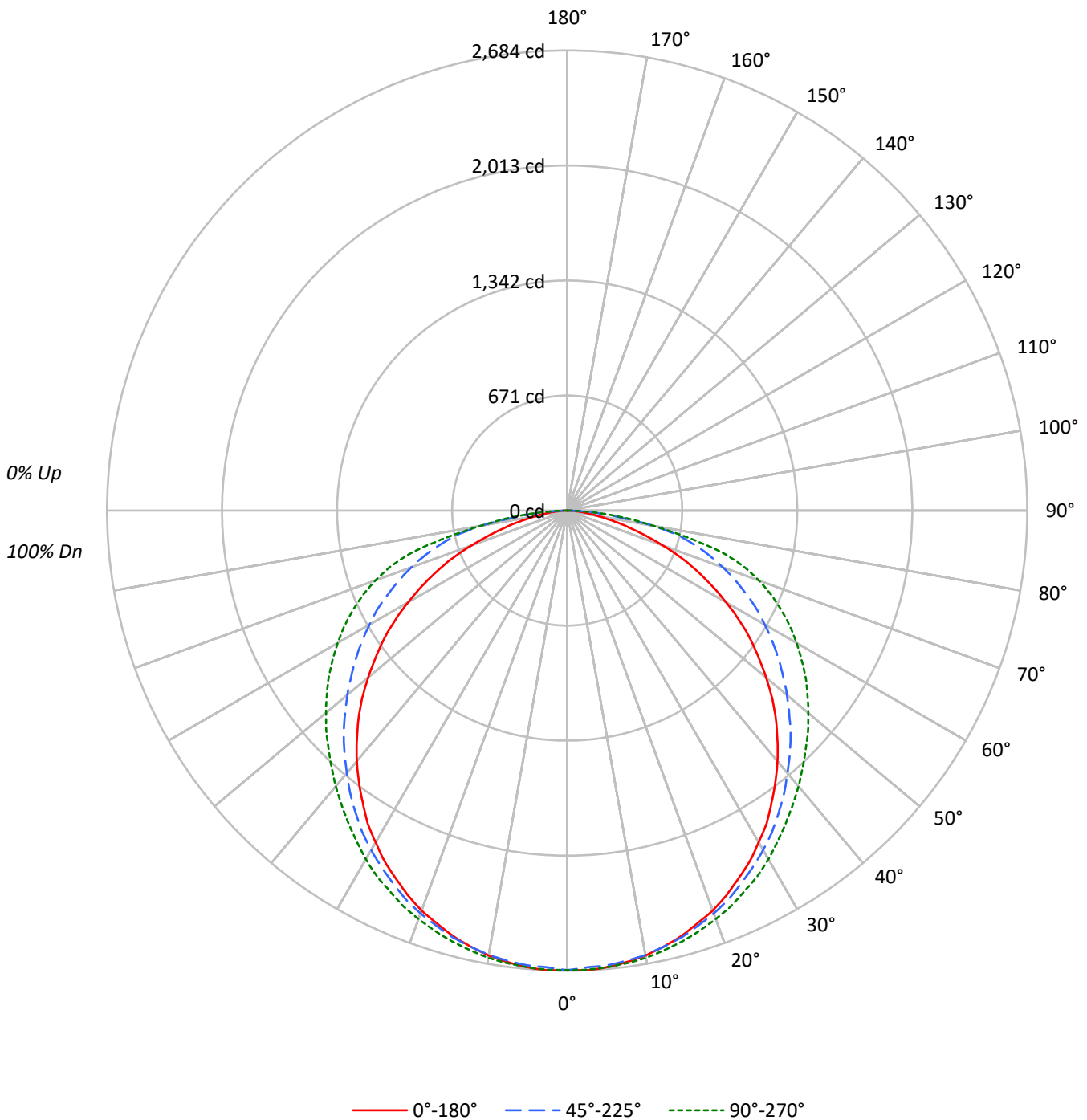
Input Watts (W): 71.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	98	94	105	101	96	93	96	93	90		92	90	87		89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61		70	64	59		68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51		62	56	50		60	54	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	38		50	43	38		49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34		46	39	34		44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30		42	35	30		41	34	30	28
9	55	41	33	27	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	24		35	29	24	23

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

	0°	45°	90°
0°	3607	3607	3607
5°	3611	3597	3611
10°	3601	3596	3620
15°	3579	3589	3623
20°	3556	3580	3630
25°	3512	3564	3635
30°	3471	3552	3649
35°	3415	3533	3653
40°	3353	3512	3687
45°	3277	3508	3745
50°	3171	3504	3845
55°	3059	3529	3984
60°	2885	3583	4160
65°	2665	3667	4394
70°	2327	3795	4681
75°	1888	3991	4837
80°	1395	3914	3914
85°	1068	2882	3256



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	253.9	3.1
10°-20°	729.2	8.8
20°-30°	1110.1	13.4
30°-40°	1347.9	16.3
40°-50°	1424.1	17.2
50°-60°	1343.8	16.3
60°-70°	1117.3	13.5
70°-80°	735.1	8.9
80°-90°	200.4	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°	2093.2	25.3
0°-40°	3441.1	41.7
0°-60°	6209.0	75.2
0°-90°	8261.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8261.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2680	2680	2680	2680	2680	
5°	2674	2674	2663	2674	2674	254
15°	2570	2573	2577	2601	2601	725
25°	2366	2380	2400	2442	2449	1091
35°	2079	2103	2151	2207	2224	1301
45°	1722	1757	1843	1933	1968	1326
55°	1304	1359	1504	1646	1698	1161
65°	837	934	1152	1321	1380	827
75°	363	529	768	910	930	391
85°	69	152	187	208	211	85
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2680.5	2680.5	2680.5	2680.5	2680.5
2.5°	2684.0	2680.5	2666.6	2680.5	2680.5
5°	2673.7	2673.7	2663.1	2673.7	2673.7
7.5°	2656.4	2656.4	2649.3	2663.1	2663.1
10°	2635.4	2635.4	2632.2	2649.3	2649.3
12.5°	2604.5	2607.7	2604.5	2625.1	2625.1
15°	2569.7	2573.3	2576.8	2601.0	2601.0
17.5°	2525.0	2531.8	2538.9	2566.2	2569.7
20°	2483.5	2486.7	2500.5	2531.8	2535.3
22.5°	2428.1	2438.4	2455.8	2486.7	2497.3
25°	2365.6	2379.5	2400.4	2441.9	2448.7
27.5°	2307.0	2317.3	2345.0	2390.1	2404.0
30°	2234.3	2251.7	2286.1	2331.2	2348.6
32.5°	2165.1	2182.4	2224.0	2272.3	2286.1
35°	2078.8	2102.9	2151.2	2206.6	2224.0
37.5°	1995.7	2019.9	2078.8	2140.9	2161.9
40°	1909.1	1936.8	1999.3	2071.7	2099.4
42.5°	1815.7	1853.7	1923.0	2002.5	2033.7
45°	1722.4	1757.2	1843.4	1933.2	1968.0
47.5°	1622.3	1663.8	1757.2	1864.4	1905.9
50°	1515.1	1566.9	1674.1	1791.6	1836.7
52.5°	1407.9	1466.4	1587.5	1718.8	1767.5
55°	1303.9	1359.2	1504.4	1646.4	1698.2
57.5°	1189.9	1259.1	1418.2	1570.1	1622.3
60°	1072.1	1148.4	1331.5	1490.6	1546.0
62.5°	954.6	1041.2	1248.5	1407.9	1466.4
65°	837.1	934.0	1151.9	1321.3	1380.2
67.5°	722.7	830.0	1061.8	1231.4	1290.0
70°	591.4	726.3	964.8	1131.0	1189.9
72.5°	470.4	626.2	871.5	1027.3	1079.2
75°	363.1	529.3	767.8	909.5	930.4
77.5°	266.2	432.4	660.6	708.9	712.5
80°	180.0	345.8	505.1	498.0	505.1
82.5°	117.5	259.5	318.1	356.4	359.6
85°	69.2	152.3	186.7	207.7	210.9
87.5°	34.4	51.8	65.7	69.2	76.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)