

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: P474488

Luminaire Tested: **24CZ2-70VHE-HRP-UNV-L840-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474488  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-70VHE-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: 5773.6 lumens  
Efficiency: N/A  
Efficacy: 120.8 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

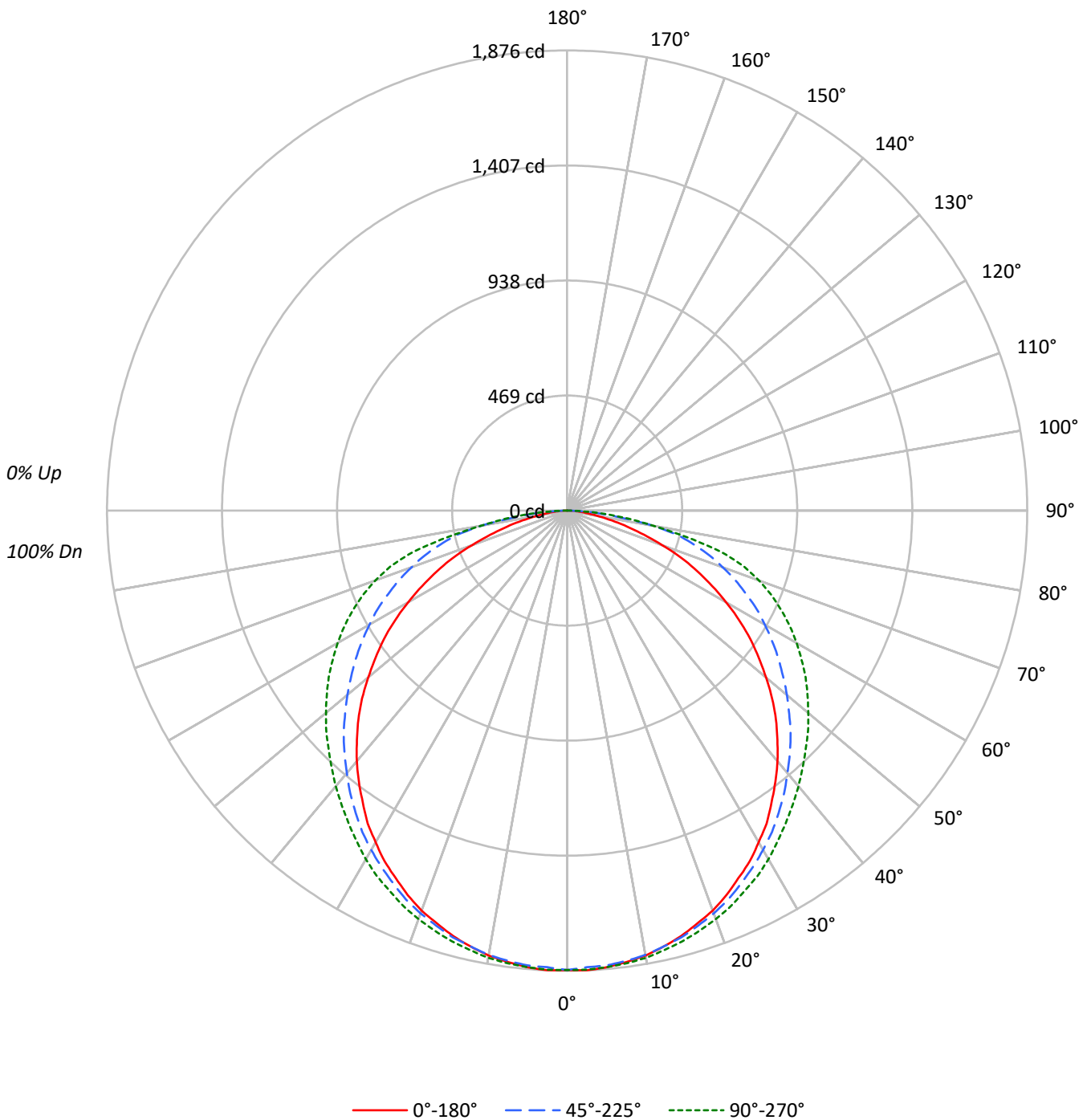
Input Watts (W): 47.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24

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

	0°	45°	90°
0°	2520	2520	2520
5°	2524	2514	2524
10°	2516	2513	2529
15°	2501	2508	2532
20°	2485	2502	2537
25°	2454	2490	2540
30°	2426	2482	2550
35°	2386	2469	2553
40°	2343	2454	2577
45°	2290	2451	2617
50°	2216	2449	2687
55°	2137	2466	2784
60°	2016	2504	2907
65°	1862	2563	3071
70°	1626	2653	3271
75°	1319	2790	3380
80°	975	2735	2735
85°	747	2015	2276



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	177.5	3.1
10°-20°	509.6	8.8
20°-30°	775.8	13.4
30°-40°	942.0	16.3
40°-50°	995.2	17.2
50°-60°	939.1	16.3
60°-70°	780.8	13.5
70°-80°	513.7	8.9
80°-90°	140.0	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°	1462.8	25.3
0°-40°	2404.8	41.7
0°-60°	4339.1	75.2
0°-90°	5773.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5773.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1873	1873	1873	1873	1873	
5°	1868	1868	1861	1868	1868	177
15°	1796	1798	1801	1818	1818	506
25°	1653	1663	1678	1706	1711	763
35°	1453	1470	1503	1542	1554	909
45°	1204	1228	1288	1351	1375	927
55°	911	950	1051	1151	1187	812
65°	585	653	805	923	964	578
75°	254	370	537	636	650	273
85°	48	106	130	145	147	59
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1873.2	1873.2	1873.2	1873.2	1873.2
2.5°	1875.7	1873.2	1863.6	1873.2	1873.2
5°	1868.5	1868.5	1861.1	1868.5	1868.5
7.5°	1856.4	1856.4	1851.4	1861.1	1861.1
10°	1841.7	1841.7	1839.5	1851.4	1851.4
12.5°	1820.1	1822.4	1820.1	1834.5	1834.5
15°	1795.8	1798.3	1800.8	1817.7	1817.7
17.5°	1764.6	1769.3	1774.3	1793.4	1795.8
20°	1735.6	1737.8	1747.5	1769.3	1771.8
22.5°	1696.9	1704.0	1716.2	1737.8	1745.2
25°	1653.2	1662.9	1677.5	1706.5	1711.2
27.5°	1612.3	1619.5	1638.8	1670.3	1680.0
30°	1561.4	1573.6	1597.6	1629.1	1641.3
32.5°	1513.0	1525.2	1554.2	1587.9	1597.6
35°	1452.7	1469.6	1503.4	1542.1	1554.2
37.5°	1394.7	1411.6	1452.7	1496.2	1510.8
40°	1334.2	1353.5	1397.2	1447.8	1467.1
42.5°	1268.9	1295.5	1343.8	1399.4	1421.2
45°	1203.7	1228.0	1288.3	1351.0	1375.3
47.5°	1133.7	1162.7	1228.0	1302.9	1331.9
50°	1058.8	1095.0	1169.9	1252.1	1283.6
52.5°	983.9	1024.8	1109.4	1201.2	1235.2
55°	911.2	949.9	1051.4	1150.6	1186.8
57.5°	831.6	879.9	991.1	1097.2	1133.7
60°	749.2	802.5	930.5	1041.7	1080.4
62.5°	667.1	727.6	872.5	983.9	1024.8
65°	585.0	652.7	805.0	923.3	964.5
67.5°	505.1	580.0	742.0	860.6	901.5
70°	413.3	507.6	674.3	790.4	831.6
72.5°	328.7	437.6	609.0	717.9	754.2
75°	253.8	369.9	536.6	635.6	650.2
77.5°	186.1	302.2	461.7	495.4	497.9
80°	125.8	241.6	353.0	348.1	353.0
82.5°	82.1	181.3	222.3	249.1	251.3
85°	48.4	106.4	130.5	145.1	147.4
87.5°	24.1	36.2	45.9	48.4	53.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)