

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: P475187

Luminaire Tested: **22CZ2-70VHE-HRP-UNV-L840-CD1-U**

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P475187  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-70VHE-HRP-UNV-L840-CD1-U  
Description: 2'X2' 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: 5755.7 lumens  
Efficiency: N/A  
Efficacy: 116.7 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

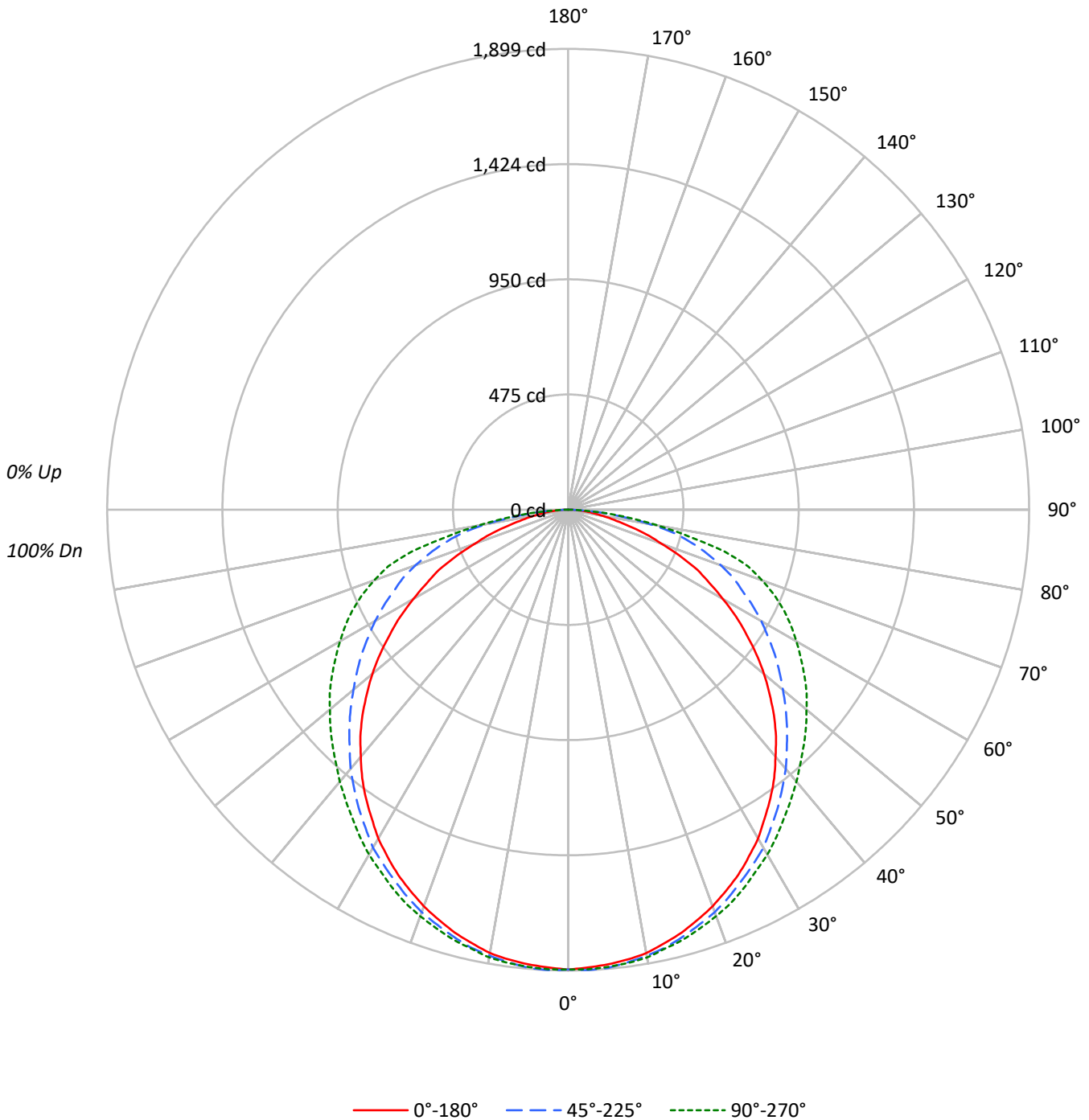
Input Watts (W): 49.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P475187

CATALOG NUMBER: 22CZ2-70VHE-HRP-UNV-L840-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P475187

CATALOG NUMBER: 22CZ2-70VHE-HRP-UNV-L840-CD1-U

**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	80	75	84	78	73		80	75	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	52	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°	5100	5100	5100
5°	5080	5119	5110
10°	5070	5100	5120
15°	5027	5078	5108
20°	4981	5053	5105
25°	4927	5013	5100
30°	4862	4998	5099
35°	4771	4938	5093
40°	4667	4898	5140
45°	4560	4851	5223
50°	4408	4834	5365
55°	4207	4872	5570
60°	3967	4943	5843
65°	3745	5040	6243
70°	3200	5257	6685
75°	2681	5475	6946
80°	2197	5287	5796
85°	1902	3921	4258



TEST NUMBER: P475187

CATALOG NUMBER: 22CZ2-70VHE-HRP-UNV-L840-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	179.6	3.1
10°-20°	513.8	8.9
20°-30°	778.7	13.5
30°-40°	940.3	16.3
40°-50°	988.0	17.2
50°-60°	929.6	16.2
60°-70°	775.1	13.5
70°-80°	513.6	8.9
80°-90°	136.9	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°	1472.2	25.6
0°-40°	2412.5	41.9
0°-60°	4330.1	75.2
0°-90°	5755.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5755.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1895	1895	1895	1895	1895	
5°	1881	1884	1895	1895	1892	179
15°	1804	1812	1823	1830	1834	509
25°	1659	1670	1688	1710	1718	764
35°	1452	1467	1503	1536	1550	908
45°	1198	1216	1275	1340	1372	923
55°	897	937	1038	1144	1187	802
65°	588	639	792	922	980	572
75°	258	360	527	635	668	280
85°	62	94	127	138	138	72
90°	0	0	0	0	0	



TEST NUMBER: P475187

CATALOG NUMBER: 22CZ2-70VHE-HRP-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1895.1	1895.1	1895.1	1895.1	1895.1
2.5°	1888.1	1891.6	1899.0	1899.0	1895.1
5°	1880.7	1884.2	1895.1	1895.1	1891.6
7.5°	1869.8	1873.7	1880.7	1888.1	1884.2
10°	1855.4	1858.9	1866.3	1873.7	1873.7
12.5°	1830.1	1833.6	1848.0	1851.9	1851.9
15°	1804.4	1811.8	1822.7	1830.1	1833.6
17.5°	1772.0	1779.1	1793.5	1808.3	1808.3
20°	1739.3	1746.3	1764.6	1779.1	1782.6
22.5°	1699.2	1710.1	1728.4	1746.3	1753.7
25°	1659.4	1670.3	1688.3	1710.1	1717.5
27.5°	1611.9	1622.9	1648.5	1673.9	1677.4
30°	1564.8	1575.7	1608.4	1630.2	1641.1
32.5°	1506.8	1521.2	1553.9	1586.6	1597.5
35°	1452.2	1467.0	1503.2	1536.0	1550.4
37.5°	1394.2	1408.6	1448.7	1488.8	1506.8
40°	1328.7	1347.0	1394.2	1437.8	1463.1
42.5°	1267.2	1285.5	1332.6	1390.7	1416.0
45°	1198.2	1216.2	1274.6	1339.7	1372.4
47.5°	1125.4	1147.2	1216.2	1296.4	1328.7
50°	1052.9	1078.3	1154.6	1245.4	1281.6
52.5°	976.6	1009.3	1096.6	1194.7	1238.0
55°	896.7	936.8	1038.5	1143.7	1187.3
57.5°	820.4	857.0	976.6	1089.2	1136.3
60°	737.0	784.2	918.5	1034.6	1085.7
62.5°	657.2	708.2	857.0	980.5	1034.6
65°	588.2	638.9	791.5	922.1	980.5
67.5°	497.4	566.4	737.0	860.5	918.5
70°	406.7	501.0	668.1	795.1	849.6
72.5°	337.7	428.5	599.1	726.1	777.1
75°	257.9	359.5	526.6	635.4	668.1
77.5°	192.4	297.6	450.3	504.8	508.4
80°	141.8	228.7	341.2	359.5	374.0
82.5°	98.2	159.7	221.6	243.1	250.5
85°	61.6	94.3	127.0	137.9	137.9
87.5°	32.7	36.2	43.6	43.6	43.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)