

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: P475190

Luminaire Tested: **22CZ2-85VHE-HRP-UNV-L840-CD1-U**

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P475190  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-85VHE-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: 7071.4 lumens  
Efficiency: N/A  
Efficacy: 112.1 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

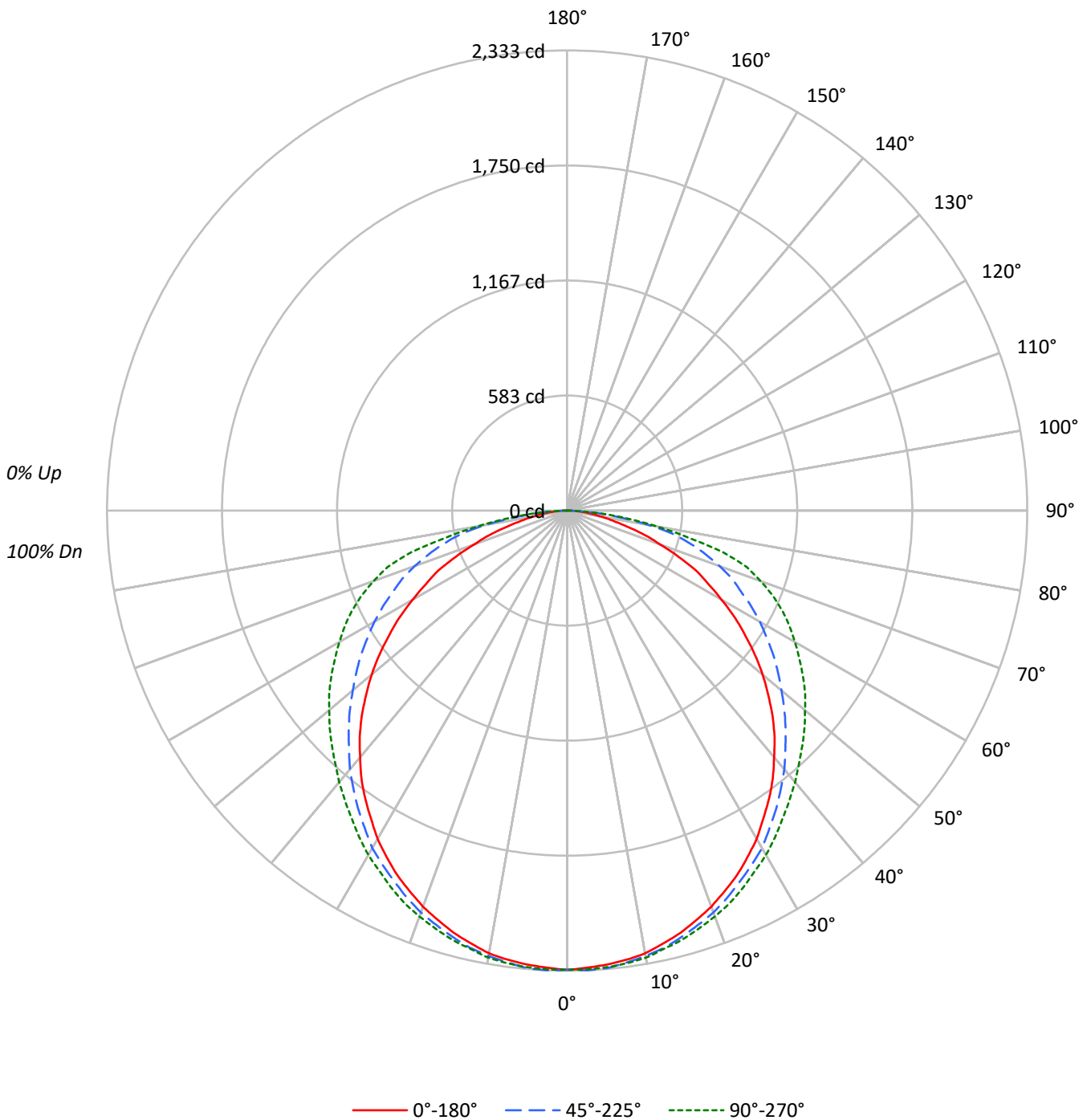
Input Watts (W): 63.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P475190

CATALOG NUMBER: 22CZ2-85VHE-HRP-UNV-L840-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P475190

CATALOG NUMBER: 22CZ2-85VHE-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°	6266	6266	6266
5°	6242	6290	6278
10°	6229	6265	6290
15°	6176	6238	6276
20°	6119	6208	6272
25°	6054	6159	6265
30°	5974	6140	6265
35°	5861	6067	6257
40°	5735	6017	6315
45°	5602	5959	6417
50°	5416	5938	6592
55°	5169	5986	6844
60°	4873	6074	7178
65°	4602	6192	7670
70°	3931	6458	8213
75°	3294	6727	8534
80°	2700	6498	7119
85°	2334	4817	5230



TEST NUMBER: P475190

CATALOG NUMBER: 22CZ2-85VHE-HRP-UNV-L840-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	220.7	3.1
10°-20°	631.3	8.9
20°-30°	956.7	13.5
30°-40°	1155.2	16.3
40°-50°	1213.9	17.2
50°-60°	1142.1	16.2
60°-70°	952.3	13.5
70°-80°	631.0	8.9
80°-90°	168.1	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°	1808.7	25.6
0°-40°	2963.9	41.9
0°-60°	5319.9	75.2
0°-90°	7071.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7071.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2328	2328	2328	2328	2328	
5°	2311	2315	2328	2328	2324	220
15°	2217	2226	2239	2248	2253	625
25°	2039	2052	2074	2101	2110	939
35°	1784	1802	1847	1887	1905	1116
45°	1472	1494	1566	1646	1686	1134
55°	1102	1151	1276	1405	1459	986
65°	723	785	972	1133	1205	703
75°	317	442	647	781	821	344
85°	76	116	156	169	169	88
90°	0	0	0	0	0	



TEST NUMBER: P475190

CATALOG NUMBER: 22CZ2-85VHE-HRP-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2328.4	2328.4	2328.4	2328.4	2328.4
2.5°	2319.7	2324.0	2333.1	2333.1	2328.4
5°	2310.6	2315.0	2328.4	2328.4	2324.0
7.5°	2297.2	2302.0	2310.6	2319.7	2315.0
10°	2279.5	2283.8	2292.9	2302.0	2302.0
12.5°	2248.4	2252.7	2270.5	2275.2	2275.2
15°	2216.9	2225.9	2239.3	2248.4	2252.7
17.5°	2177.1	2185.7	2203.5	2221.6	2221.6
20°	2136.9	2145.5	2168.0	2185.7	2190.1
22.5°	2087.6	2101.0	2123.5	2145.5	2154.6
25°	2038.8	2052.2	2074.2	2101.0	2110.1
27.5°	1980.4	1993.8	2025.4	2056.5	2060.8
30°	1922.5	1935.9	1976.1	2002.9	2016.3
32.5°	1851.2	1868.9	1909.1	1949.3	1962.7
35°	1784.2	1802.4	1846.9	1887.1	1904.8
37.5°	1712.9	1730.6	1779.9	1829.2	1851.2
40°	1632.5	1655.0	1712.9	1766.5	1797.6
42.5°	1556.9	1579.3	1637.2	1708.6	1739.7
45°	1472.1	1494.2	1565.9	1645.9	1686.1
47.5°	1382.7	1409.5	1494.2	1592.7	1632.5
50°	1293.6	1324.8	1418.5	1530.1	1574.6
52.5°	1199.8	1240.0	1347.2	1467.8	1521.0
55°	1101.7	1151.0	1275.9	1405.1	1458.7
57.5°	1007.9	1052.9	1199.8	1338.2	1396.1
60°	905.5	963.4	1128.5	1271.2	1333.8
62.5°	807.4	870.1	1052.9	1204.6	1271.2
65°	722.7	784.9	972.5	1132.8	1204.6
67.5°	611.2	695.9	905.5	1057.2	1128.5
70°	499.6	615.5	820.8	976.8	1043.8
72.5°	414.9	526.4	736.1	892.1	954.8
75°	316.8	441.7	647.0	780.6	820.8
77.5°	236.4	365.7	553.2	620.2	624.6
80°	174.2	280.9	419.3	441.7	459.4
82.5°	120.6	196.2	272.3	298.7	307.7
85°	75.6	115.8	156.0	169.4	169.4
87.5°	40.2	44.5	53.6	53.6	53.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)