

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: P475133

Luminaire Tested: **22CZ2-90VHE-HRP-UNV-L830-CD1-U**

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P475133  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-90VHE-HRP-UNV-L830-CD1-U  
Description: 2'X2' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ HRP  
INSERT  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7027.4 lumens  
Efficiency: N/A  
Efficacy: 105.4 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

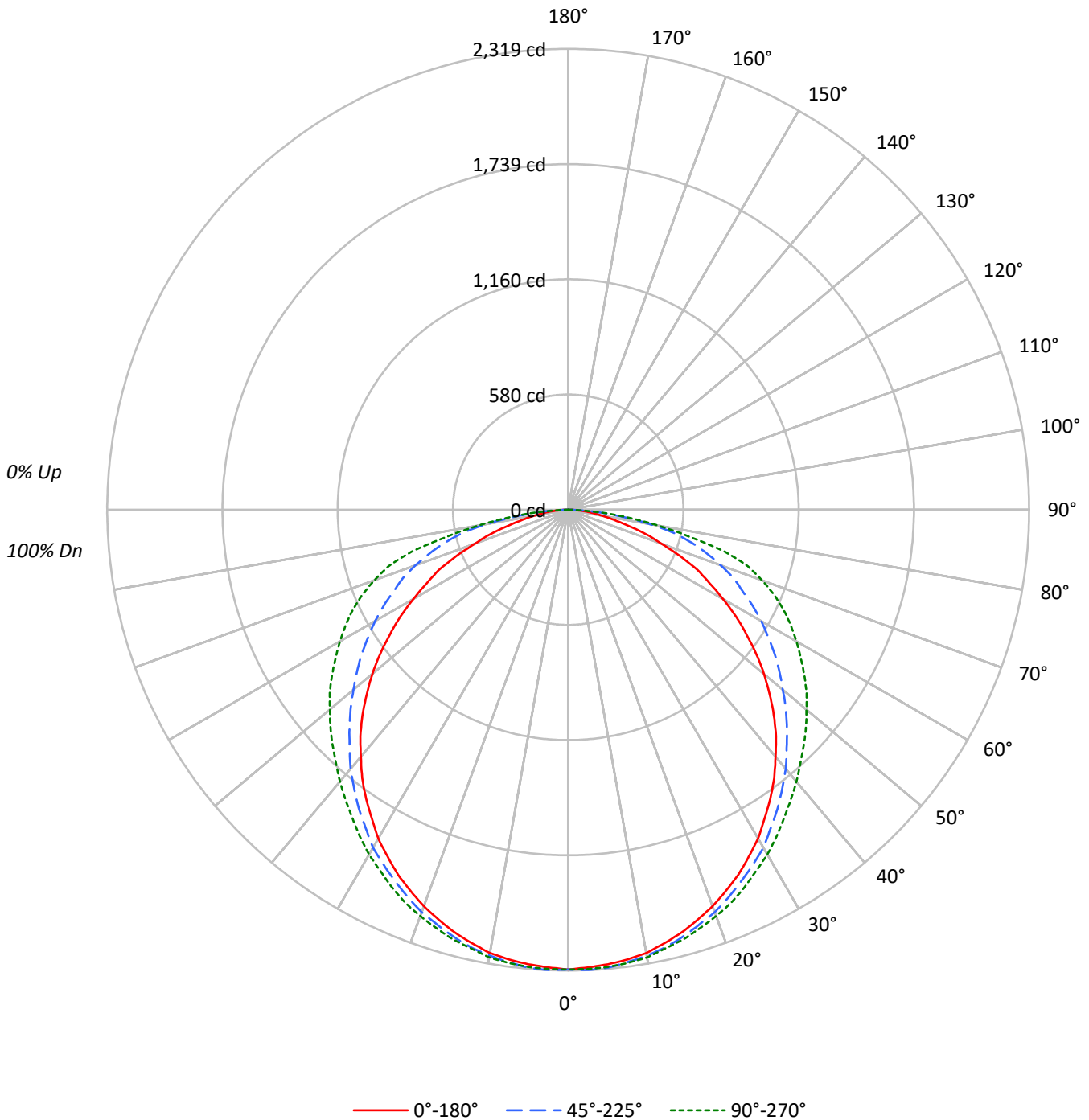
Input Watts (W): 66.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	6227	6227	6227
5°	6203	6250	6239
10°	6190	6226	6251
15°	6137	6200	6237
20°	6081	6170	6233
25°	6016	6120	6226
30°	5936	6102	6226
35°	5825	6029	6218
40°	5699	5980	6275
45°	5568	5922	6377
50°	5382	5902	6551
55°	5137	5949	6801
60°	4843	6036	7134
65°	4573	6153	7622
70°	3906	6418	8161
75°	3273	6685	8481
80°	2682	6456	7076
85°	2322	4789	5199



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	219.3	3.1
10°-20°	627.4	8.9
20°-30°	950.8	13.5
30°-40°	1148.0	16.3
40°-50°	1206.3	17.2
50°-60°	1135.0	16.2
60°-70°	946.4	13.5
70°-80°	627.1	8.9
80°-90°	167.1	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°	1797.4	25.6
0°-40°	2945.5	41.9
0°-60°	5286.8	75.2
0°-90°	7027.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7027.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2314	2314	2314	2314	2314	
5°	2296	2300	2314	2314	2310	218
15°	2203	2212	2225	2234	2239	621
25°	2026	2039	2061	2088	2097	933
35°	1773	1791	1835	1875	1893	1109
45°	1463	1485	1556	1636	1676	1127
55°	1095	1144	1268	1396	1450	979
65°	718	780	966	1126	1197	699
75°	315	439	643	776	816	342
85°	75	115	155	168	168	87
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2313.9	2313.9	2313.9	2313.9	2313.9
2.5°	2305.3	2309.6	2318.6	2318.6	2313.9
5°	2296.2	2300.5	2313.9	2313.9	2309.6
7.5°	2282.9	2287.7	2296.2	2305.3	2300.5
10°	2265.3	2269.6	2278.6	2287.7	2287.7
12.5°	2234.4	2238.7	2256.3	2261.0	2261.0
15°	2203.0	2212.1	2225.4	2234.4	2238.7
17.5°	2163.5	2172.1	2189.7	2207.8	2207.8
20°	2123.6	2132.2	2154.5	2172.1	2176.4
22.5°	2074.6	2087.9	2110.3	2132.2	2141.2
25°	2026.1	2039.4	2061.3	2087.9	2096.9
27.5°	1968.1	1981.4	2012.8	2043.7	2048.0
30°	1910.5	1923.8	1963.8	1990.4	2003.7
32.5°	1839.7	1857.3	1897.2	1937.2	1950.5
35°	1773.1	1791.1	1835.4	1875.3	1892.9
37.5°	1702.2	1719.8	1768.8	1817.8	1839.7
40°	1622.3	1644.7	1702.2	1755.5	1786.4
42.5°	1547.2	1569.5	1627.0	1697.9	1728.8
45°	1463.0	1484.9	1556.2	1635.6	1675.6
47.5°	1374.1	1400.7	1484.9	1582.8	1622.3
50°	1285.6	1316.5	1409.7	1520.5	1564.8
52.5°	1192.4	1232.3	1338.8	1458.7	1511.5
55°	1094.9	1143.8	1268.0	1396.4	1449.6
57.5°	1001.7	1046.3	1192.4	1329.8	1387.4
60°	899.9	957.4	1121.5	1263.2	1325.5
62.5°	802.4	864.6	1046.3	1197.1	1263.2
65°	718.2	780.0	966.4	1125.8	1197.1
67.5°	607.3	691.5	899.9	1050.6	1121.5
70°	496.5	611.6	815.7	970.7	1037.3
72.5°	412.3	523.2	731.5	886.5	948.8
75°	314.8	439.0	643.0	775.7	815.7
77.5°	235.0	363.4	549.8	616.4	620.7
80°	173.1	279.2	416.6	439.0	456.6
82.5°	119.8	195.0	270.6	296.8	305.8
85°	75.2	115.1	155.1	168.4	168.4
87.5°	39.9	44.2	53.3	53.3	53.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)