

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: P475114

Luminaire Tested: **22CZ2-20HE-HRP-UNV-L830-CD1-U**

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P475114  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-20HE-HRP-UNV-L830-CD1-U  
Description: 2'X2' TROFFER LED MODULE, 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: 1586.8 lumens  
Efficiency: N/A  
Efficacy: 105.8 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

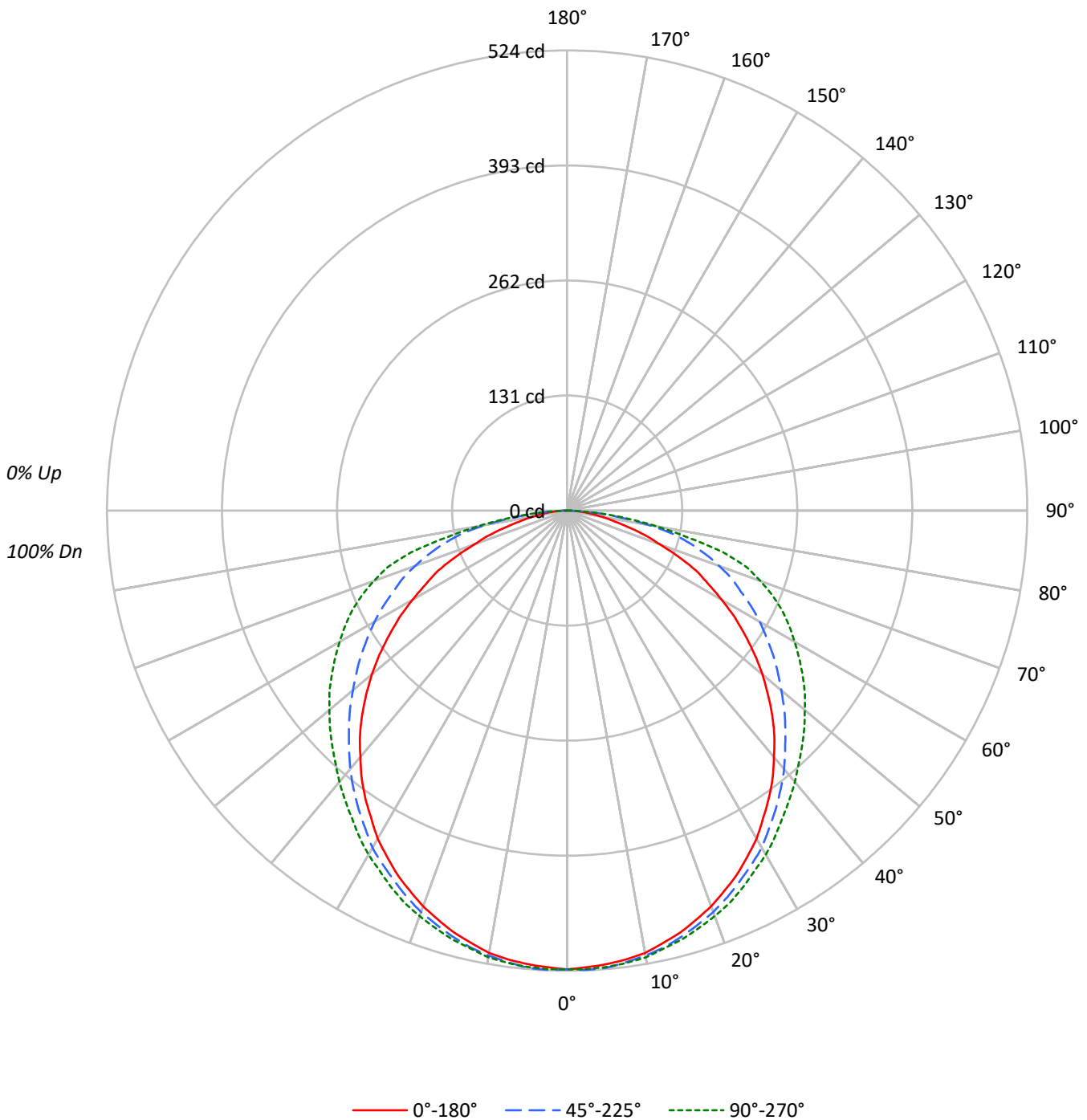
Input Watts (W): 15  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P475114

CATALOG NUMBER: 22CZ2-20HE-HRP-UNV-L830-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P475114

CATALOG NUMBER: 22CZ2-20HE-HRP-UNV-L830-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°	1406	1406	1406
5°	1401	1411	1409
10°	1398	1406	1412
15°	1386	1400	1408
20°	1373	1393	1407
25°	1358	1382	1406
30°	1340	1378	1406
35°	1315	1361	1404
40°	1287	1350	1417
45°	1257	1337	1440
50°	1215	1333	1479
55°	1160	1343	1536
60°	1094	1363	1611
65°	1033	1389	1721
70°	882	1449	1843
75°	739	1510	1915
80°	606	1458	1598
85°	525	1081	1173



TEST NUMBER: P475114

CATALOG NUMBER: 22CZ2-20HE-HRP-UNV-L830-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	49.5	3.1
10°-20°	141.7	8.9
20°-30°	214.7	13.5
30°-40°	259.2	16.3
40°-50°	272.4	17.2
50°-60°	256.3	16.2
60°-70°	213.7	13.5
70°-80°	141.6	8.9
80°-90°	37.7	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°	405.9	25.6
0°-40°	665.1	41.9
0°-60°	1193.8	75.2
0°-90°	1586.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1586.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	522	522	522	522	522	
5°	518	520	522	522	522	49
15°	498	500	502	504	506	140
25°	458	460	466	472	474	211
35°	400	404	414	424	427	250
45°	330	335	351	369	378	254
55°	247	258	286	315	327	221
65°	162	176	218	254	270	158
75°	71	99	145	175	184	77
85°	17	26	35	38	38	20
90°	0	0	0	0	0	



TEST NUMBER: P475114

CATALOG NUMBER: 22CZ2-20HE-HRP-UNV-L830-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	522.5	522.5	522.5	522.5	522.5
2.5°	520.5	521.5	523.5	523.5	522.5
5°	518.5	519.5	522.5	522.5	521.5
7.5°	515.5	516.6	518.5	520.5	519.5
10°	511.5	512.5	514.5	516.6	516.6
12.5°	504.5	505.5	509.5	510.6	510.6
15°	497.5	499.5	502.5	504.5	505.5
17.5°	488.5	490.5	494.5	498.5	498.5
20°	479.5	481.5	486.5	490.5	491.4
22.5°	468.5	471.5	476.5	481.5	483.5
25°	457.5	460.5	465.5	471.5	473.5
27.5°	444.4	447.4	454.5	461.5	462.4
30°	431.4	434.4	443.4	449.4	452.5
32.5°	415.4	419.4	428.4	437.4	440.4
35°	400.4	404.4	414.4	423.5	427.4
37.5°	384.4	388.3	399.4	410.5	415.4
40°	366.3	371.4	384.4	396.4	403.4
42.5°	349.4	354.4	367.4	383.4	390.4
45°	330.3	335.3	351.4	369.3	378.4
47.5°	310.3	316.3	335.3	357.4	366.3
50°	290.3	297.3	318.3	343.3	353.3
52.5°	269.2	278.3	302.3	329.4	341.3
55°	247.2	258.3	286.3	315.3	327.3
57.5°	226.2	236.3	269.2	300.3	313.3
60°	203.2	216.2	253.2	285.2	299.3
62.5°	181.2	195.2	236.3	270.3	285.2
65°	162.2	176.1	218.2	254.2	270.3
67.5°	137.1	156.2	203.2	237.2	253.2
70°	112.1	138.1	184.2	219.2	234.2
72.5°	93.1	118.1	165.2	200.2	214.2
75°	71.1	99.1	145.2	175.2	184.2
77.5°	53.1	82.1	124.1	139.2	140.1
80°	39.1	63.0	94.1	99.1	103.1
82.5°	27.1	44.0	61.1	67.0	69.1
85°	17.0	26.0	35.0	38.0	38.0
87.5°	9.0	10.0	12.0	12.0	12.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)