

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: P475127

Luminaire Tested: **22CZ2-60VHE-HRP-UNV-L830-CD1-U**

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P475127  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-60VHE-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: 4722.1 lumens  
Efficiency: N/A  
Efficacy: 112.2 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

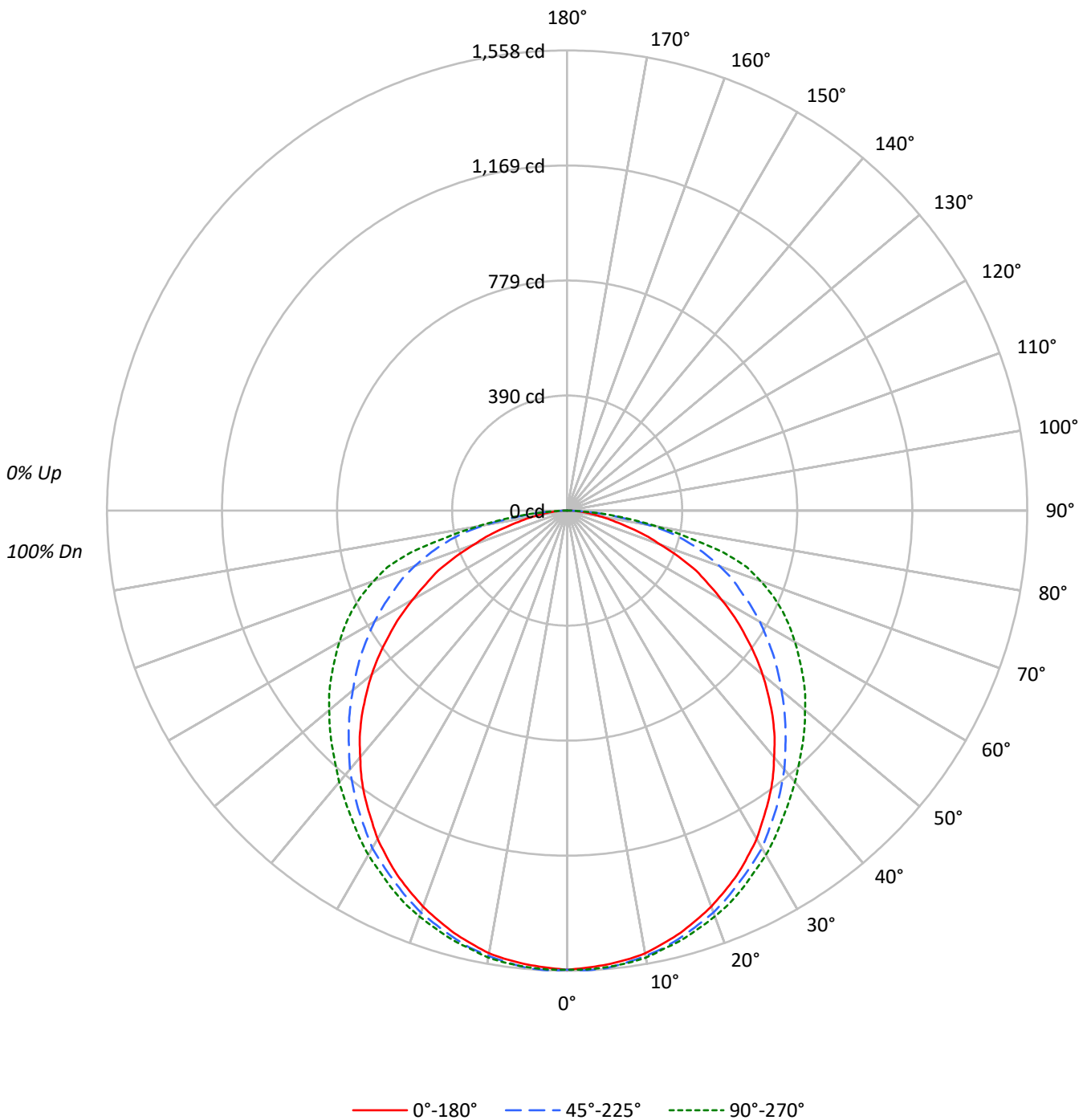
Input Watts (W): 42.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	87	84
2	98	89	82	76	95	87	80	75	84	78	73	80	75	71	77	73	70
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59
4	81	69	59	52	79	67	59	52	65	57	51	62	56	51	60	55	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	39	50	43	38	49	43	38
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30
9	55	42	33	28	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	25	35	29	24

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

	0°	45°	90°
0°	4184	4184	4184
5°	4168	4200	4192
10°	4159	4184	4200
15°	4124	4166	4191
20°	4086	4146	4188
25°	4043	4113	4184
30°	3989	4100	4184
35°	3914	4051	4179
40°	3829	4018	4217
45°	3741	3980	4285
50°	3617	3966	4402
55°	3452	3997	4570
60°	3254	4056	4794
65°	3073	4135	5122
70°	2626	4312	5484
75°	2200	4493	5699
80°	1802	4339	4754
85°	1559	3217	3492



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	147.4	3.1
10°-20°	421.6	8.9
20°-30°	638.9	13.5
30°-40°	771.4	16.3
40°-50°	810.6	17.2
50°-60°	762.7	16.2
60°-70°	635.9	13.5
70°-80°	421.4	8.9
80°-90°	112.3	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°	1207.8	25.6
0°-40°	1979.2	41.9
0°-60°	3552.5	75.2
0°-90°	4722.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4722.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1555	1555	1555	1555	1555	
5°	1543	1546	1555	1555	1552	147
15°	1480	1486	1495	1501	1504	417
25°	1362	1370	1385	1403	1409	627
35°	1192	1204	1233	1260	1272	745
45°	983	998	1046	1099	1126	757
55°	736	769	852	938	974	658
65°	483	524	649	756	804	470
75°	212	295	432	521	548	230
85°	50	77	104	113	113	59
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1554.8	1554.8	1554.8	1554.8	1554.8
2.5°	1549.1	1552.0	1558.0	1558.0	1554.8
5°	1543.0	1545.9	1554.8	1554.8	1552.0
7.5°	1534.1	1537.2	1543.0	1549.1	1545.9
10°	1522.2	1525.1	1531.2	1537.2	1537.2
12.5°	1501.4	1504.3	1516.2	1519.3	1519.3
15°	1480.4	1486.4	1495.4	1501.4	1504.3
17.5°	1453.8	1459.6	1471.4	1483.5	1483.5
20°	1427.0	1432.7	1447.8	1459.6	1462.5
22.5°	1394.1	1403.0	1418.0	1432.7	1438.8
25°	1361.5	1370.4	1385.1	1403.0	1409.1
27.5°	1322.5	1331.4	1352.5	1373.3	1376.2
30°	1283.8	1292.8	1319.6	1337.5	1346.4
32.5°	1236.2	1248.0	1274.9	1301.7	1310.7
35°	1191.5	1203.6	1233.3	1260.1	1272.0
37.5°	1143.8	1155.7	1188.6	1221.5	1236.2
40°	1090.1	1105.2	1143.8	1179.6	1200.4
42.5°	1039.6	1054.6	1093.3	1140.9	1161.7
45°	983.1	997.8	1045.7	1099.1	1125.9
47.5°	923.3	941.2	997.8	1063.6	1090.1
50°	863.9	884.6	947.3	1021.7	1051.5
52.5°	801.2	828.1	899.7	980.2	1015.7
55°	735.7	768.6	852.0	938.3	974.1
57.5°	673.1	703.1	801.2	893.6	932.3
60°	604.7	643.4	753.6	848.9	890.7
62.5°	539.2	581.0	703.1	804.4	848.9
65°	482.6	524.1	649.4	756.5	804.4
67.5°	408.1	464.7	604.7	706.0	753.6
70°	333.7	411.0	548.1	652.3	697.0
72.5°	277.1	351.5	491.5	595.7	637.6
75°	211.6	295.0	432.1	521.3	548.1
77.5°	157.9	244.2	369.4	414.2	417.1
80°	116.3	187.6	280.0	295.0	306.8
82.5°	80.5	131.0	181.8	199.4	205.5
85°	50.5	77.4	104.2	113.1	113.1
87.5°	26.8	29.7	35.8	35.8	35.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)