

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: P475185

Luminaire Tested: **22CZ2-60VHE-HRP-UNV-L840-CD1-U**

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P475185  
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-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: 4986.4 lumens  
Efficiency: N/A  
Efficacy: 118.4 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

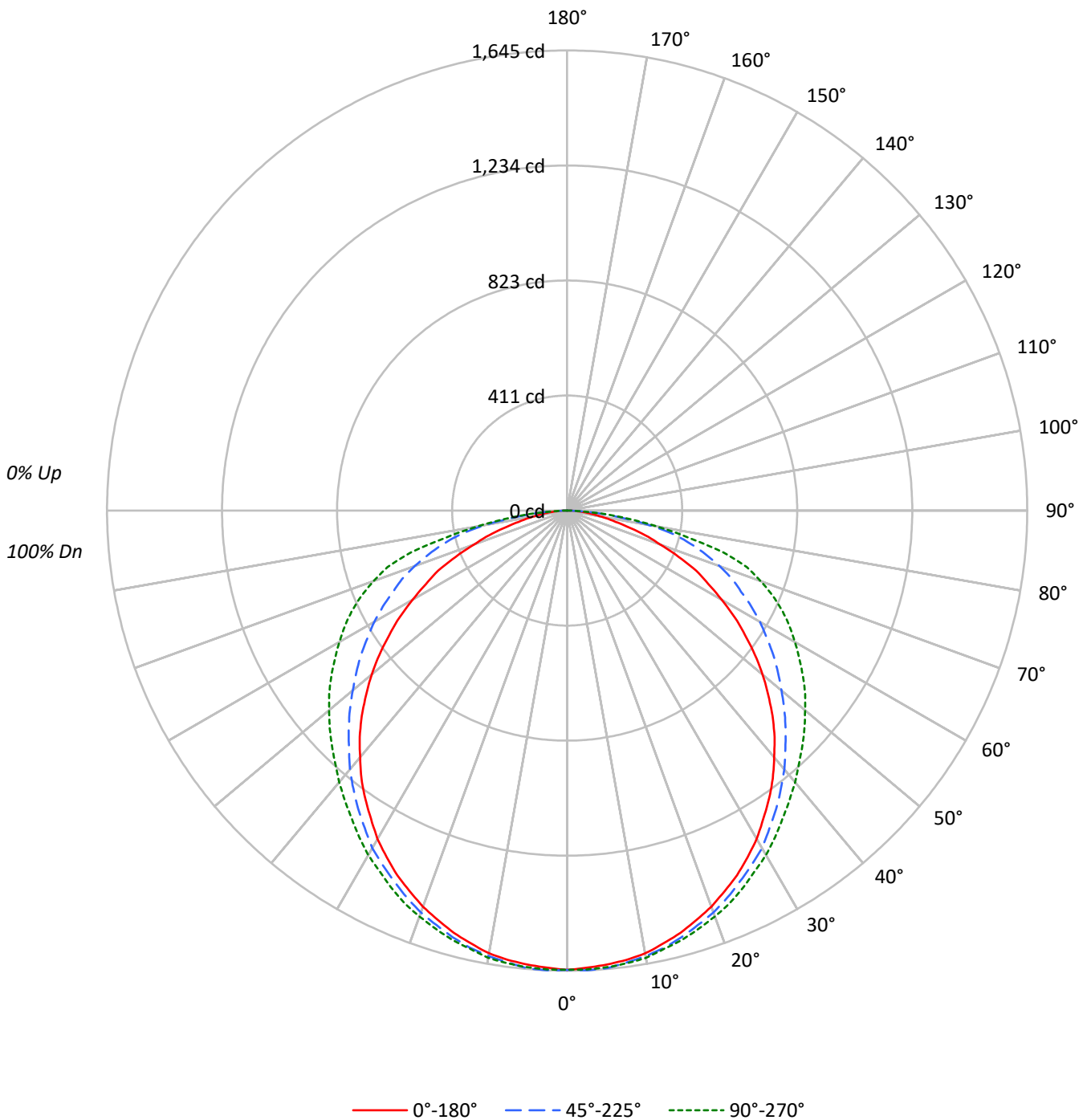
Input Watts (W): 42.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	4418	4418	4418
5°	4401	4435	4427
10°	4392	4418	4436
15°	4355	4399	4425
20°	4315	4378	4422
25°	4268	4343	4418
30°	4213	4330	4418
35°	4133	4278	4413
40°	4044	4243	4453
45°	3951	4202	4525
50°	3819	4188	4648
55°	3645	4221	4826
60°	3436	4283	5062
65°	3245	4367	5408
70°	2772	4554	5791
75°	2323	4744	6018
80°	1903	4581	5021
85°	1646	3396	3690



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	155.6	3.1
10°-20°	445.2	8.9
20°-30°	674.6	13.5
30°-40°	814.6	16.3
40°-50°	856.0	17.2
50°-60°	805.4	16.2
60°-70°	671.5	13.5
70°-80°	445.0	8.9
80°-90°	118.6	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°	1275.4	25.6
0°-40°	2090.0	41.9
0°-60°	3751.3	75.2
0°-90°	4986.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4986.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1642	1642	1642	1642	1642	
5°	1629	1632	1642	1642	1639	155
15°	1563	1570	1579	1586	1588	441
25°	1438	1447	1463	1482	1488	662
35°	1258	1271	1302	1331	1343	787
45°	1038	1054	1104	1161	1189	799
55°	777	812	900	991	1029	695
65°	510	554	686	799	849	496
75°	223	312	456	550	579	242
85°	53	82	110	120	120	62
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1641.8	1641.8	1641.8	1641.8	1641.8
2.5°	1635.7	1638.8	1645.2	1645.2	1641.8
5°	1629.3	1632.4	1641.8	1641.8	1638.8
7.5°	1619.9	1623.3	1629.3	1635.7	1632.4
10°	1607.4	1610.5	1616.9	1623.3	1623.3
12.5°	1585.5	1588.5	1601.0	1604.4	1604.4
15°	1563.2	1569.6	1579.1	1585.5	1588.5
17.5°	1535.2	1541.3	1553.8	1566.6	1566.6
20°	1506.8	1512.9	1528.8	1541.3	1544.3
22.5°	1472.1	1481.5	1497.4	1512.9	1519.3
25°	1437.6	1447.1	1462.6	1481.5	1487.9
27.5°	1396.5	1405.9	1428.2	1450.1	1453.2
30°	1355.7	1365.1	1393.4	1412.3	1421.8
32.5°	1305.4	1317.9	1346.2	1374.6	1384.0
35°	1258.1	1270.9	1302.3	1330.7	1343.2
37.5°	1207.8	1220.3	1255.1	1289.8	1305.4
40°	1151.1	1167.0	1207.8	1245.6	1267.6
42.5°	1097.8	1113.7	1154.5	1204.8	1226.7
45°	1038.1	1053.6	1104.2	1160.6	1188.9
47.5°	975.0	993.9	1053.6	1123.1	1151.1
50°	912.2	934.1	1000.3	1078.9	1110.3
52.5°	846.1	874.4	950.0	1035.0	1072.5
55°	776.9	811.6	899.7	990.8	1028.6
57.5°	710.7	742.4	846.1	943.6	984.4
60°	638.5	679.4	795.8	896.4	940.5
62.5°	569.3	613.5	742.4	849.4	896.4
65°	509.6	553.5	685.8	798.8	849.4
67.5°	431.0	490.7	638.5	745.5	795.8
70°	352.3	434.0	578.8	688.8	736.0
72.5°	292.6	371.2	519.0	629.1	673.3
75°	223.4	311.5	456.3	550.4	578.8
77.5°	166.7	257.8	390.1	437.4	440.4
80°	122.8	198.1	295.6	311.5	324.0
82.5°	85.0	138.4	192.0	210.6	217.0
85°	53.3	81.7	110.0	119.5	119.5
87.5°	28.3	31.4	37.8	37.8	37.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)