

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: P474938

Luminaire Tested: **22CZ2-39-S-UNV-L840-CD1-U**

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474938  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-39-S-UNV-L840-CD1-U  
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4098.5 lumens  
Efficiency: N/A  
Efficacy: 139.9 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.25 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

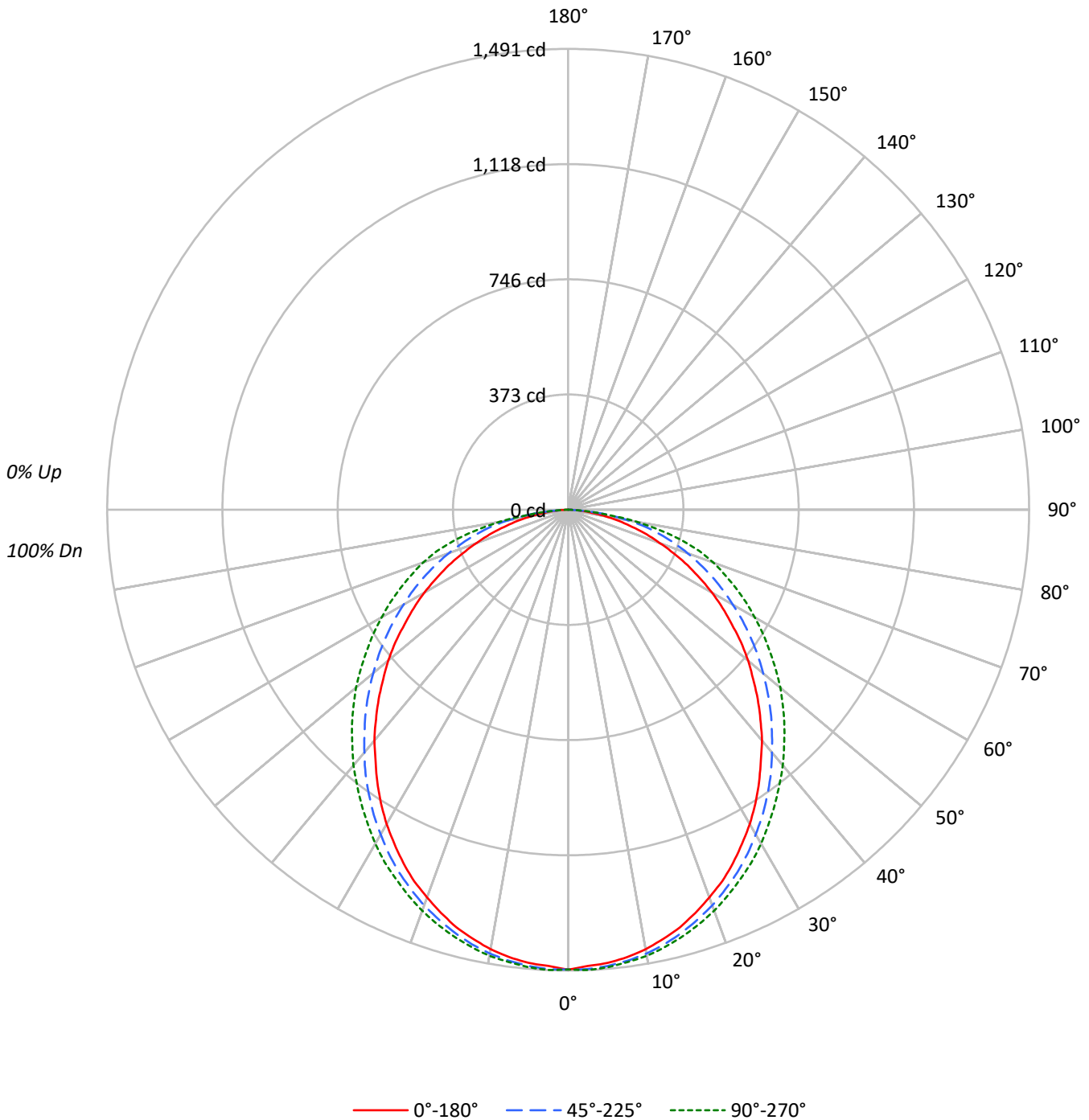
Input Watts (W): 29.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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					100			
1	109	104	99	95	106	101	97	94	97	94	91	93	91	88	90	88	86	83					83			
2	99	90	83	77	96	88	82	77	85	79	75	81	77	73	78	75	71	69					69			
3	90	79	71	64	87	78	70	64	75	68	63	72	66	61	69	64	60	58					58			
4	82	70	61	54	80	69	60	54	66	59	53	64	58	53	62	56	52	50					50			
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	43					43			
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	38					38			
7	65	51	42	36	63	50	42	36	49	41	36	47	41	36	46	40	35	33					33			
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	32	30					30			
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	29	27					27			
10	53	40	32	26	52	39	32	26	38	31	26	37	31	26	36	30	26	24					24			

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

	0°	45°	90°
0°	4004	4004	4004
5°	3976	4003	4014
10°	3946	3984	4006
15°	3896	3948	3982
20°	3823	3903	3954
25°	3746	3843	3914
30°	3649	3769	3877
35°	3535	3692	3828
40°	3425	3603	3794
45°	3299	3526	3763
50°	3180	3446	3749
55°	3029	3378	3732
60°	2893	3309	3747
65°	2716	3272	3802
70°	2482	3231	3925
75°	2227	3208	3929
80°	1875	3028	3488
85°	1408	2053	1899



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	140.5	3.4
10°-20°	399.1	9.7
20°-30°	595.0	14.5
30°-40°	702.1	17.1
40°-50°	715.3	17.5
50°-60°	645.1	15.7
60°-70°	506.6	12.4
70°-80°	316.7	7.7
80°-90°	78.1	1.9
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°	1134.6	27.7
0°-40°	1836.7	44.8
0°-60°	3197.1	78.0
0°-90°	4098.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4098.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1488	1488	1488	1488	1488	
5°	1472	1475	1482	1485	1486	140
15°	1398	1404	1417	1427	1429	394
25°	1262	1269	1294	1313	1318	580
35°	1076	1091	1124	1154	1165	673
45°	867	882	926	971	989	669
55°	646	666	720	776	796	579
65°	426	449	514	571	597	421
75°	214	244	308	361	378	229
85°	46	58	66	66	62	56
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1487.8	1487.8	1487.8	1487.8	1487.8
2.5°	1477.8	1480.8	1487.8	1490.7	1490.7
5°	1471.9	1474.9	1481.8	1484.8	1485.8
7.5°	1460.0	1464.0	1471.9	1475.9	1475.9
10°	1444.1	1449.1	1458.0	1464.0	1465.9
12.5°	1422.3	1428.2	1440.1	1447.1	1449.1
15°	1398.5	1403.5	1417.3	1427.3	1429.2
17.5°	1367.7	1375.7	1390.6	1403.5	1406.4
20°	1335.0	1343.9	1362.8	1377.7	1380.6
22.5°	1301.3	1308.2	1329.1	1346.9	1350.9
25°	1261.6	1268.6	1294.3	1313.2	1318.2
27.5°	1218.0	1229.9	1255.7	1277.5	1285.4
30°	1174.3	1186.2	1213.0	1238.8	1247.7
32.5°	1126.7	1139.6	1170.4	1197.1	1206.1
35°	1076.1	1091.0	1123.8	1154.5	1165.4
37.5°	1023.6	1040.4	1077.1	1109.9	1121.8
40°	975.0	986.9	1025.6	1063.3	1080.1
42.5°	920.4	936.3	975.0	1017.6	1033.5
45°	866.9	881.7	926.4	971.0	988.9
47.5°	811.3	830.2	874.8	924.4	942.2
50°	759.7	775.6	823.2	875.8	895.6
52.5°	704.2	721.1	772.6	827.2	845.0
55°	645.7	666.5	720.1	775.6	795.5
57.5°	592.1	612.0	668.5	726.0	746.9
60°	537.6	557.4	614.9	673.5	696.3
62.5°	480.0	502.9	565.3	621.9	647.7
65°	426.5	449.3	513.8	571.3	597.1
67.5°	370.0	396.7	461.2	521.7	547.5
70°	315.4	347.1	410.6	470.1	498.9
72.5°	266.8	292.6	359.0	421.5	445.3
75°	214.2	244.0	308.5	361.0	377.9
77.5°	169.6	195.4	256.9	291.6	302.5
80°	121.0	149.8	195.4	216.2	225.1
82.5°	80.3	104.1	132.9	136.9	134.9
85°	45.6	58.5	66.5	65.5	61.5
87.5°	17.9	19.8	14.9	8.9	6.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)