

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: P272041

Luminaire Tested: **22CZ2-39-S-UNV-L930-CD1-U**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

**Test Information**

Test Method: LM-79-08  
Report Number: P272041  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-39-S-UNV-L930-CD1-U  
Description: 2'X2' TROFFER LED MODULE,SMOOTH LENS, 90CRI  
Light Source: (98) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3431.0 lumens  
Efficiency: N/A  
Efficacy: 99.4 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

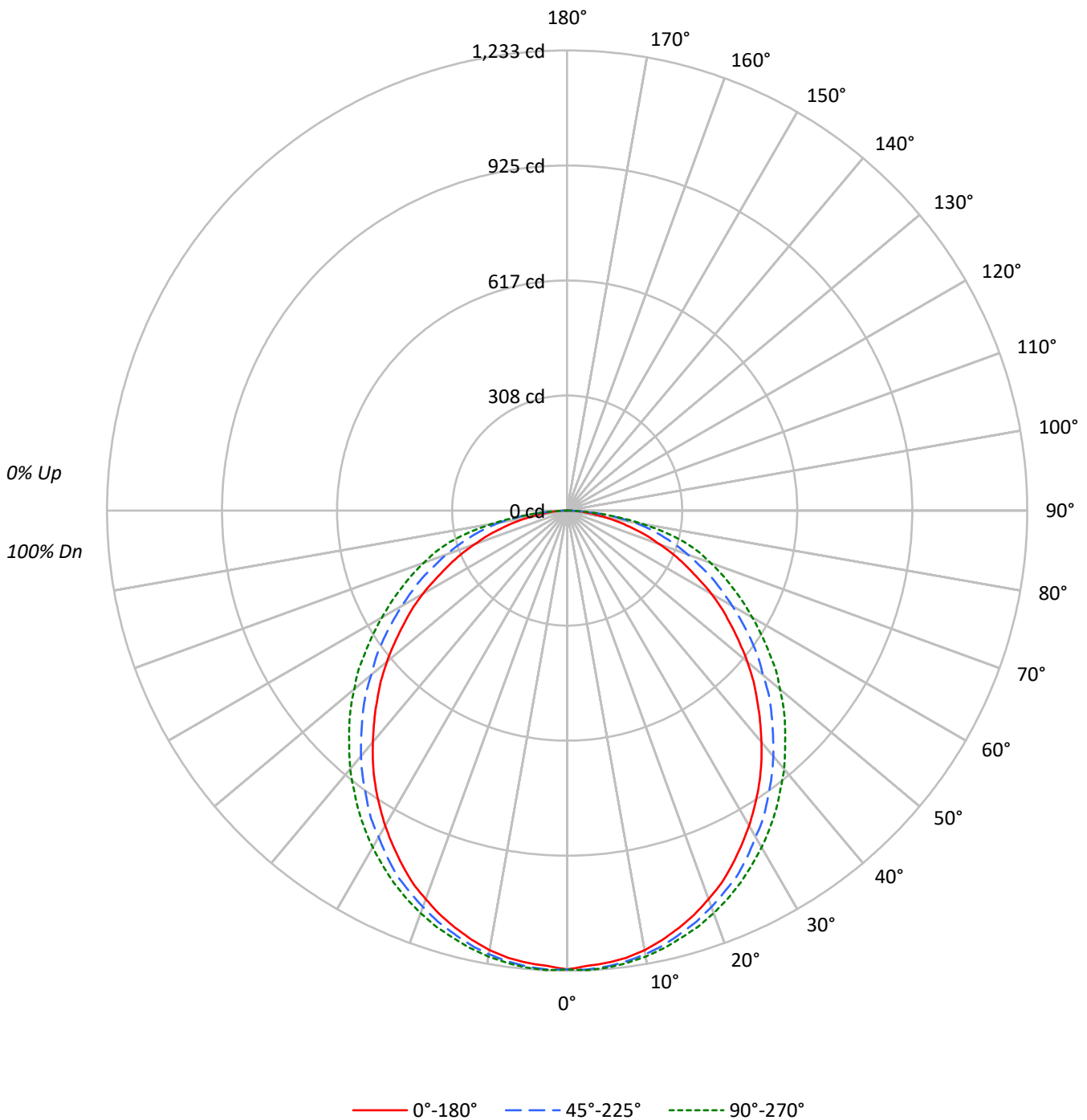
Input Watts (W): 34.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

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

	0°	45°	90°
0°	3308	3308	3308
5°	3286	3312	3321
10°	3268	3298	3316
15°	3224	3269	3300
20°	3172	3237	3287
25°	3108	3204	3265
30°	3029	3139	3238
35°	2945	3082	3208
40°	2845	3020	3177
45°	2742	2949	3143
50°	2640	2869	3116
55°	2516	2816	3094
60°	2404	2749	3084
65°	2243	2732	3119
70°	2065	2708	3212
75°	1864	2746	3379
80°	1613	2828	3175
85°	1334	2371	2371



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	116.3	3.4
10°-20°	330.9	9.6
20°-30°	495.1	14.4
30°-40°	586.3	17.1
40°-50°	597.5	17.4
50°-60°	535.5	15.6
60°-70°	419.3	12.2
70°-80°	270.4	7.9
80°-90°	79.9	2.3
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°	942.2	27.5
0°-40°	1528.5	44.5
0°-60°	2661.5	77.6
0°-90°	3431.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3431.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1229	1229	1229	1229	1229	
5°	1217	1220	1226	1228	1229	116
15°	1157	1164	1173	1183	1185	326
25°	1047	1056	1079	1093	1100	482
35°	896	908	938	967	976	560
45°	720	736	775	815	826	556
55°	536	554	600	642	660	481
65°	352	373	429	471	490	350
75°	179	206	264	309	325	192
85°	43	59	77	77	77	51
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1229.4	1229.4	1229.4	1229.4	1229.4
2.5°	1221.4	1224.6	1231.0	1232.6	1232.6
5°	1216.6	1219.8	1226.2	1227.8	1229.4
7.5°	1208.6	1210.2	1218.2	1221.4	1223.0
10°	1195.8	1199.0	1207.0	1211.8	1213.4
12.5°	1178.2	1183.0	1192.6	1199.0	1200.6
15°	1157.4	1163.8	1173.4	1183.0	1184.6
17.5°	1135.0	1141.4	1154.2	1165.4	1168.6
20°	1107.8	1115.8	1130.2	1143.0	1147.8
22.5°	1080.6	1087.0	1104.6	1120.6	1125.4
25°	1046.9	1056.5	1079.0	1093.4	1099.8
27.5°	1011.7	1022.9	1045.3	1064.5	1071.0
30°	974.9	986.1	1010.1	1034.1	1042.1
32.5°	936.5	949.3	978.1	1002.1	1010.1
35°	896.5	907.7	938.1	966.9	976.5
37.5°	854.8	864.4	899.7	930.1	939.7
40°	810.0	822.8	859.6	894.9	904.5
42.5°	765.2	779.6	816.4	854.8	864.4
45°	720.4	736.4	774.8	814.8	826.0
47.5°	677.1	690.0	733.2	771.6	787.6
50°	630.7	643.5	685.2	728.4	744.4
52.5°	582.7	600.3	645.1	686.8	706.0
55°	536.3	553.9	600.3	641.9	659.5
57.5°	493.1	507.5	555.5	598.7	616.3
60°	446.6	459.4	510.7	557.1	573.1
62.5°	397.0	416.2	469.0	512.3	531.5
65°	352.2	373.0	429.0	470.6	489.9
67.5°	310.6	329.8	384.2	429.0	449.8
70°	262.5	288.1	344.2	389.0	408.2
72.5°	224.1	246.5	304.2	349.0	369.8
75°	179.3	206.5	264.1	309.0	325.0
77.5°	142.5	169.7	224.1	259.3	267.3
80°	104.1	131.3	182.5	200.1	204.9
82.5°	70.4	96.0	131.3	136.1	137.7
85°	43.2	59.2	76.8	76.8	76.8
87.5°	20.8	24.0	27.2	25.6	25.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)