

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: P387968

Luminaire Tested: **22CZ2-39VHE-SQR-UNV-L940-CD1-U**

Issue Date: 2/28/2020

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: P387968  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-542-6)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-39VHE-SQR-UNV-L940-CD1-U  
Description: 2x2 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3345.5 lumens  
Efficiency: N/A  
Efficacy: 117.0 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.31 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

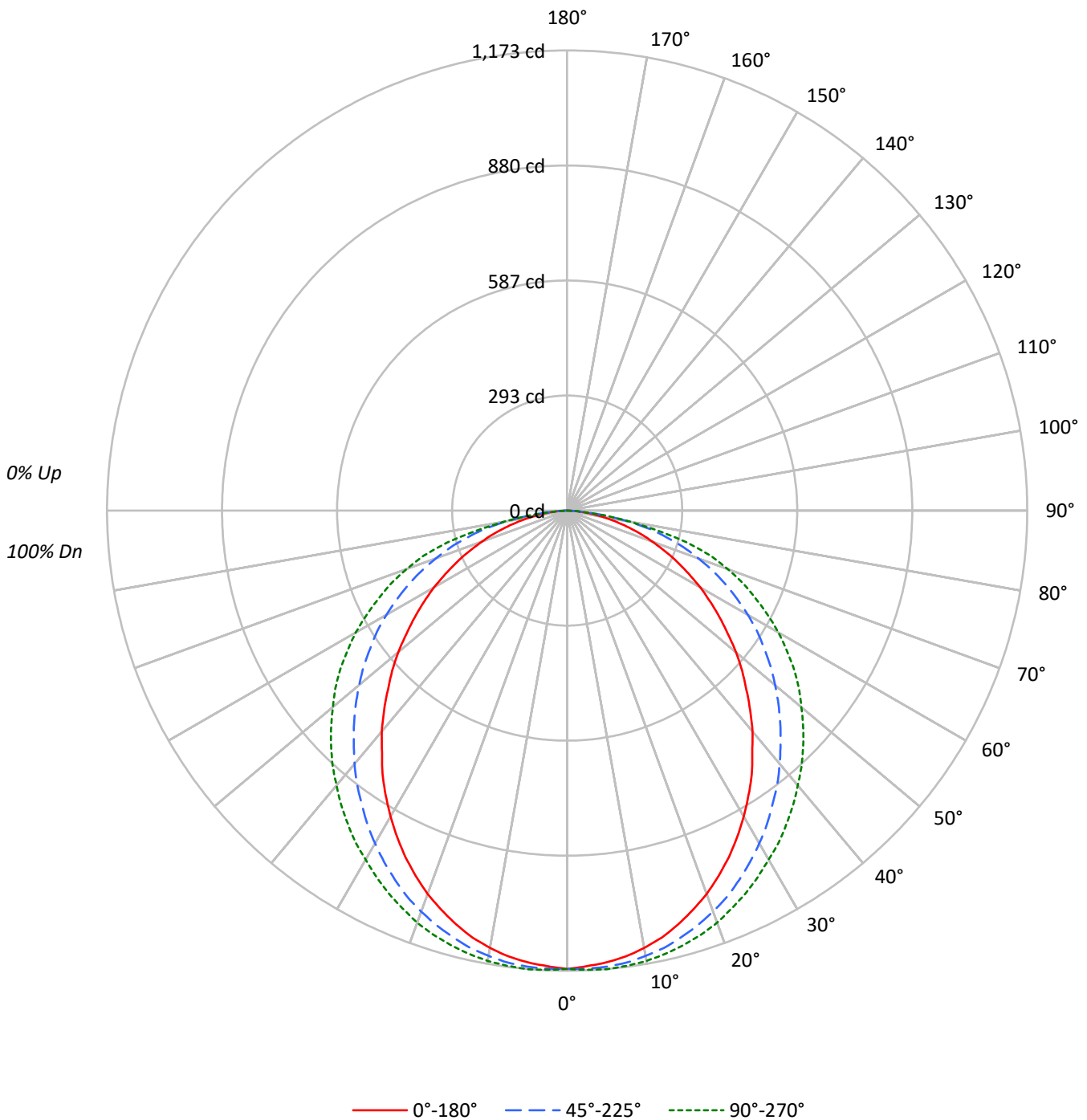
Input Watts (W): 28.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P387968

CATALOG NUMBER: 22CZ2-39VHE-SQR-UNV-L940-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P387968

CATALOG NUMBER: 22CZ2-39VHE-SQR-UNV-L940-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	109	104	99	95	106	101	97	94	97	94	91		93	91	88		90	87	85	83
2	99	90	83	77	96	88	82	76	85	79	75		81	77	73		78	75	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	68	60	54	66	59	53		64	57	52		61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		55	49	45	43
6	70	56	47	41	68	55	47	40	53	46	40		52	45	40		50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36	30	26	24

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

	0°	45°	90°
0°	3145	3145	3145
5°	3123	3153	3170
10°	3093	3150	3185
15°	3043	3136	3194
20°	2978	3115	3201
25°	2895	3083	3197
30°	2797	3044	3192
35°	2697	2999	3203
40°	2583	2962	3213
45°	2460	2925	3239
50°	2353	2898	3264
55°	2228	2875	3315
60°	2111	2863	3350
65°	1971	2841	3377
70°	1811	2799	3423
75°	1634	2724	3302
80°	1402	2411	2486
85°	1127	1420	1127



TEST NUMBER: P387968

CATALOG NUMBER: 22CZ2-39VHE-SQR-UNV-L940-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	110.8	3.3
10°-20°	316.8	9.5
20°-30°	475.8	14.2
30°-40°	567.4	17.0
40°-50°	586.7	17.5
50°-60°	539.4	16.1
60°-70°	429.4	12.8
70°-80°	262.3	7.8
80°-90°	57.0	1.7
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°	903.3	27.0
0°-40°	1470.7	44.0
0°-60°	2596.8	77.6
0°-90°	3345.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3345.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1169	1169	1169	1169	1169	
5°	1156	1159	1167	1172	1173	110
15°	1092	1105	1126	1142	1146	308
25°	975	999	1038	1067	1077	448
35°	821	856	913	961	975	512
45°	646	692	768	830	851	500
55°	475	527	613	683	707	425
65°	310	362	446	508	530	307
75°	157	203	262	308	318	167
85°	36	44	46	40	36	42
90°	0	0	0	0	0	



TEST NUMBER: P387968

CATALOG NUMBER: 22CZ2-39VHE-SQR-UNV-L940-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1168.7	1168.7	1168.7	1168.7	1168.7
2.5°	1162.3	1163.9	1168.7	1171.8	1171.8
5°	1156.0	1159.1	1167.1	1171.8	1173.4
7.5°	1146.4	1151.2	1162.3	1168.7	1170.3
10°	1132.1	1138.5	1152.8	1162.3	1165.5
12.5°	1114.7	1124.2	1141.7	1154.4	1157.5
15°	1092.4	1105.1	1125.8	1141.7	1146.4
17.5°	1067.0	1082.9	1108.3	1127.4	1133.7
20°	1040.0	1055.9	1087.7	1109.9	1117.9
22.5°	1008.3	1028.9	1065.5	1090.9	1097.2
25°	974.9	998.8	1038.5	1067.0	1076.6
27.5°	938.4	967.0	1009.9	1044.8	1052.8
30°	900.3	930.5	979.7	1017.8	1027.3
32.5°	860.6	895.6	948.0	990.8	1003.5
35°	820.9	855.9	913.0	960.7	974.9
37.5°	774.9	816.2	879.7	928.9	946.4
40°	735.2	774.9	843.2	897.1	914.6
42.5°	690.7	733.6	805.0	863.8	884.4
45°	646.3	692.3	768.5	830.4	851.1
47.5°	605.0	651.0	730.4	795.5	816.2
50°	562.1	609.7	692.3	759.0	779.6
52.5°	516.1	568.5	654.2	720.9	744.7
55°	474.8	527.2	612.9	682.8	706.6
57.5°	431.9	485.9	574.8	641.5	663.7
60°	392.2	444.6	531.9	597.0	622.4
62.5°	349.3	403.3	489.1	552.6	576.4
65°	309.6	362.0	446.2	508.1	530.3
67.5°	269.9	322.3	401.7	460.5	485.9
70°	230.2	282.6	355.7	412.8	435.1
72.5°	195.3	241.4	311.2	363.6	384.3
75°	157.2	203.2	262.0	308.0	317.6
77.5°	122.3	163.5	212.8	233.4	236.6
80°	90.5	122.3	155.6	160.4	160.4
82.5°	60.3	84.2	96.9	98.4	96.9
85°	36.5	44.5	46.0	39.7	36.5
87.5°	12.7	12.7	7.9	4.8	1.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)