

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: P390821

Luminaire Tested: **22CZ2-90VHE-RDP-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: P390821  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-24)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-90VHE-RDP-UNV-L940-CD1-U  
Description: 2x2 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND RDP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5242.5 lumens  
Efficiency: N/A  
Efficacy: 76.9 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

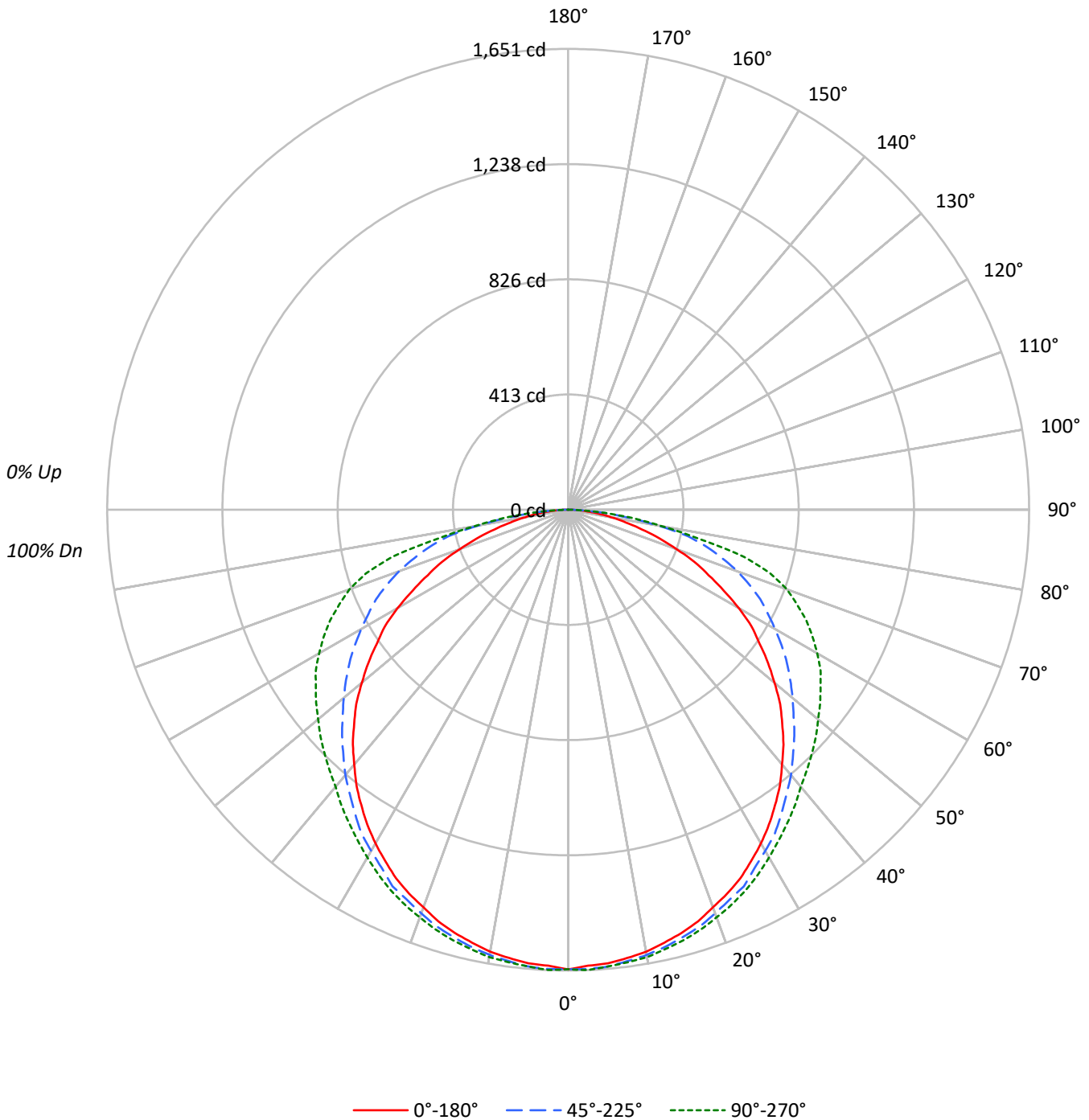
Input Watts (W): 68.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	82
2	97	88	81	75	95	86	80	74	83	77	72	80	75	71	76	72	69	67
3	88	77	68	61	86	75	67	61	72	65	60	70	64	59	67	62	58	55
4	80	68	59	51	78	66	58	51	64	56	50	61	55	50	59	54	49	47
5	74	60	51	44	72	59	50	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	44	38	51	43	38	50	43	37	48	42	37	35
7	63	49	40	33	61	48	39	33	47	39	33	45	38	33	44	37	33	31
8	59	45	36	30	57	44	35	30	43	35	29	41	34	29	40	34	29	27
9	55	41	32	27	53	40	32	27	39	32	26	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

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

	0°	45°	90°
0°	4432	4432	4432
5°	4407	4438	4438
10°	4394	4426	4447
15°	4373	4416	4448
20°	4340	4407	4451
25°	4328	4420	4466
30°	4290	4386	4470
35°	4244	4371	4498
40°	4186	4362	4552
45°	4124	4359	4697
50°	4036	4392	4892
55°	3926	4487	5175
60°	3799	4608	5542
65°	3536	4837	5992
70°	3247	5067	6554
75°	2847	5333	6777
80°	2450	5080	5318
85°	2143	3693	4048



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	155.8	3.0
10°-20°	447.3	8.5
20°-30°	682.4	13.0
30°-40°	833.2	15.9
40°-50°	890.9	17.0
50°-60°	859.9	16.4
60°-70°	740.2	14.1
70°-80°	500.8	9.6
80°-90°	132.2	2.5
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°	1285.4	24.5
0°-40°	2118.6	40.4
0°-60°	3869.3	73.8
0°-90°	5242.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5242.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1647	1647	1647	1647	1647	
5°	1631	1635	1643	1643	1643	155
15°	1570	1574	1585	1593	1597	443
25°	1458	1466	1489	1496	1504	671
35°	1292	1304	1330	1358	1369	808
45°	1084	1103	1145	1203	1234	836
55°	837	864	956	1053	1103	750
65°	555	609	760	879	941	552
75°	274	362	513	617	652	294
85°	69	96	120	123	131	78
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1646.8	1646.8	1646.8	1646.8	1646.8
2.5°	1635.2	1639.0	1646.8	1646.8	1650.6
5°	1631.3	1635.2	1642.9	1642.9	1642.9
7.5°	1619.8	1623.6	1631.3	1635.2	1635.2
10°	1608.2	1612.1	1619.8	1623.6	1627.5
12.5°	1588.9	1592.8	1604.3	1612.1	1612.1
15°	1569.6	1573.5	1585.1	1592.8	1596.6
17.5°	1546.5	1554.2	1565.8	1573.5	1577.3
20°	1515.6	1523.3	1538.8	1550.3	1554.2
22.5°	1488.6	1496.4	1511.8	1523.3	1531.1
25°	1457.8	1465.5	1488.6	1496.4	1504.1
27.5°	1419.2	1426.9	1446.2	1461.6	1473.2
30°	1380.7	1388.4	1411.5	1430.8	1438.5
32.5°	1338.2	1349.8	1376.8	1392.2	1403.8
35°	1292.0	1303.5	1330.5	1357.5	1369.1
37.5°	1245.7	1257.2	1284.2	1319.0	1334.4
40°	1191.7	1207.1	1241.8	1288.1	1295.8
42.5°	1141.5	1160.8	1191.7	1245.7	1265.0
45°	1083.7	1103.0	1145.4	1203.3	1234.1
47.5°	1029.7	1049.0	1095.3	1164.7	1203.3
50°	964.1	991.1	1049.0	1130.0	1168.5
52.5°	902.4	925.6	1002.7	1091.4	1137.7
55°	836.9	863.9	956.4	1052.8	1103.0
57.5°	779.0	802.2	906.3	1014.3	1072.1
60°	705.8	736.6	856.2	971.9	1029.7
62.5°	628.6	674.9	806.0	925.6	987.3
65°	555.3	609.3	759.7	879.3	941.0
67.5°	489.8	547.6	701.9	829.2	887.0
70°	412.7	485.9	644.0	767.5	833.0
72.5°	343.2	424.2	578.5	701.9	759.7
75°	273.8	362.5	512.9	617.1	651.8
77.5°	212.1	297.0	439.7	470.5	474.4
80°	158.1	235.3	327.8	331.7	343.2
82.5°	108.0	165.8	212.1	231.4	235.3
85°	69.4	96.4	119.6	123.4	131.1
87.5°	30.9	34.7	42.4	38.6	38.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)