

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: P390599

Luminaire Tested: **22CZ2-70VHE-HRP-UNV-L930-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: P390599  
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: 22CZ2-70VHE-HRP-UNV-L930-CD1-U  
Description: 2x2 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4914.3 lumens  
Efficiency: N/A  
Efficacy: 97.7 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

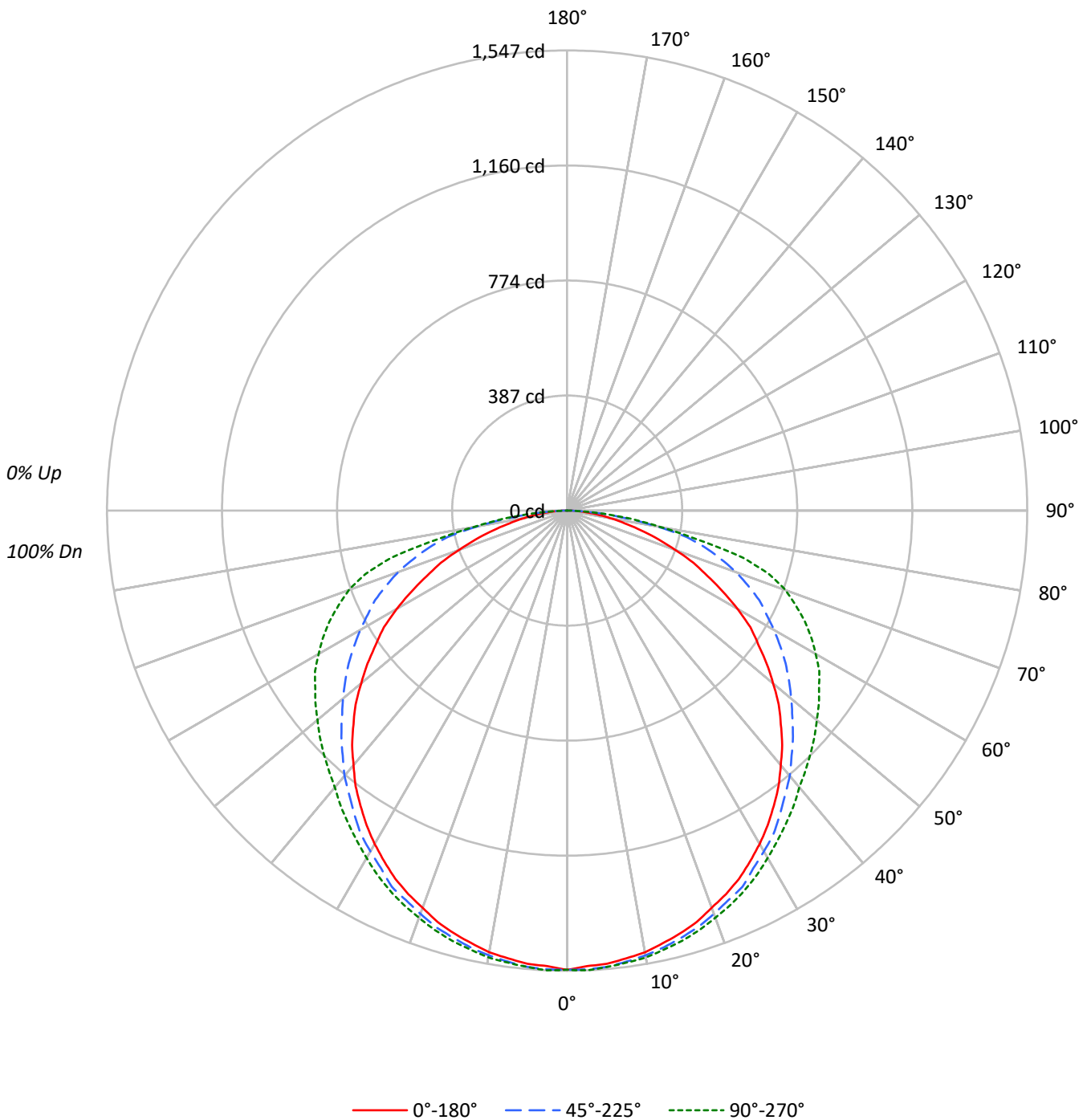
Input Watts (W): 50.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	4154	4154	4154
5°	4131	4160	4160
10°	4119	4149	4169
15°	4099	4139	4170
20°	4069	4131	4172
25°	4057	4143	4186
30°	4021	4111	4190
35°	3979	4097	4216
40°	3924	4089	4267
45°	3866	4086	4402
50°	3784	4117	4586
55°	3681	4206	4851
60°	3561	4320	5195
65°	3315	4535	5617
70°	3043	4750	6144
75°	2669	4999	6353
80°	2297	4762	4985
85°	2010	3461	3795



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	146.0	3.0
10°-20°	419.3	8.5
20°-30°	639.6	13.0
30°-40°	781.0	15.9
40°-50°	835.1	17.0
50°-60°	806.1	16.4
60°-70°	693.9	14.1
70°-80°	469.5	9.6
80°-90°	123.9	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°	1204.9	24.5
0°-40°	1985.9	40.4
0°-60°	3627.1	73.8
0°-90°	4914.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4914.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1544	1544	1544	1544	1544	
5°	1529	1533	1540	1540	1540	145
15°	1471	1475	1486	1493	1497	415
25°	1366	1374	1395	1403	1410	629
35°	1211	1222	1247	1272	1283	758
45°	1016	1034	1074	1128	1157	784
55°	784	810	897	987	1034	703
65°	521	571	712	824	882	518
75°	257	340	481	578	611	275
85°	65	90	112	116	123	73
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1543.7	1543.7	1543.7	1543.7	1543.7
2.5°	1532.8	1536.4	1543.7	1543.7	1547.3
5°	1529.2	1532.8	1540.1	1540.1	1540.1
7.5°	1518.4	1522.0	1529.2	1532.8	1532.8
10°	1507.5	1511.1	1518.4	1522.0	1525.6
12.5°	1489.4	1493.1	1503.9	1511.1	1511.1
15°	1471.4	1475.0	1485.8	1493.1	1496.7
17.5°	1449.7	1456.9	1467.7	1475.0	1478.6
20°	1420.8	1428.0	1442.4	1453.3	1456.9
22.5°	1395.4	1402.7	1417.1	1428.0	1435.2
25°	1366.5	1373.8	1395.4	1402.7	1409.9
27.5°	1330.4	1337.6	1355.7	1370.1	1381.0
30°	1294.2	1301.5	1323.1	1341.2	1348.4
32.5°	1254.5	1265.3	1290.6	1305.1	1315.9
35°	1211.1	1221.9	1247.2	1272.5	1283.4
37.5°	1167.7	1178.5	1203.8	1236.4	1250.8
40°	1117.1	1131.5	1164.1	1207.5	1214.7
42.5°	1070.1	1088.2	1117.1	1167.7	1185.8
45°	1015.9	1033.9	1073.7	1127.9	1156.8
47.5°	965.2	983.3	1026.7	1091.8	1127.9
50°	903.8	929.1	983.3	1059.2	1095.4
52.5°	845.9	867.6	939.9	1023.1	1066.5
55°	784.5	809.8	896.6	986.9	1033.9
57.5°	730.3	752.0	849.6	950.8	1005.0
60°	661.6	690.5	802.6	911.0	965.2
62.5°	589.3	632.7	755.6	867.6	925.5
65°	520.6	571.2	712.2	824.3	882.1
67.5°	459.1	513.4	658.0	777.3	831.5
70°	386.8	455.5	603.7	719.4	780.9
72.5°	321.7	397.7	542.3	658.0	712.2
75°	256.7	339.8	480.8	578.4	611.0
77.5°	198.8	278.4	412.1	441.0	444.7
80°	148.2	220.5	307.3	310.9	321.7
82.5°	101.2	155.5	198.8	216.9	220.5
85°	65.1	90.4	112.1	115.7	122.9
87.5°	28.9	32.5	39.8	36.2	36.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)