

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: P390602

Luminaire Tested: **22CZ2-70VHE-HRP-UNV-L935-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: P390602  
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-L935-CD1-U  
Description: 2x2 CRUZE LED TROFFER WITH 3500K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5035.9 lumens  
Efficiency: N/A  
Efficacy: 100.1 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

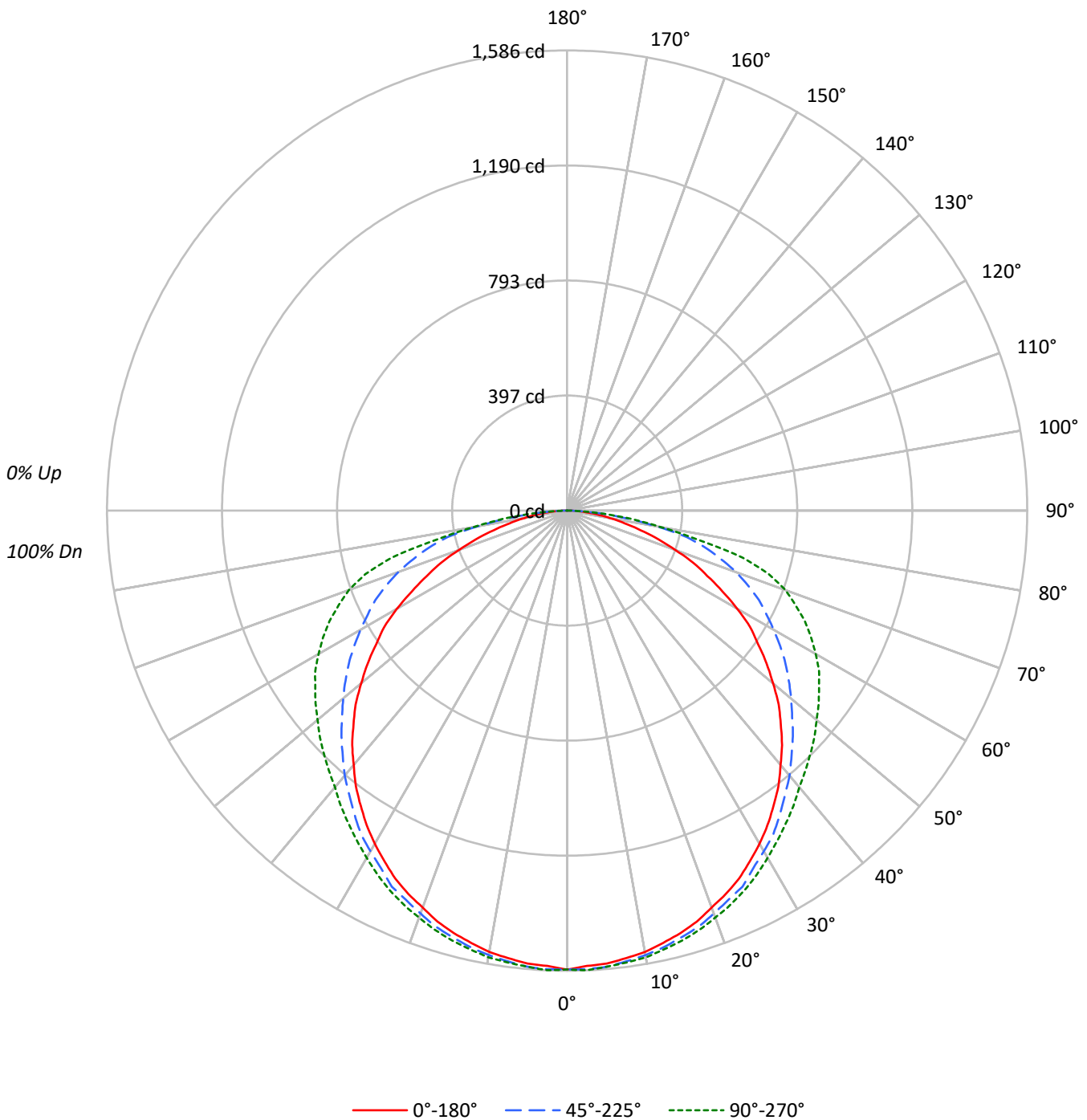
Input Watts (W): 50.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	4257	4257	4257
5°	4233	4263	4263
10°	4221	4251	4272
15°	4201	4242	4273
20°	4169	4233	4275
25°	4158	4246	4290
30°	4121	4213	4294
35°	4077	4199	4320
40°	4021	4190	4372
45°	3962	4187	4512
50°	3877	4219	4699
55°	3772	4310	4971
60°	3648	4426	5323
65°	3397	4647	5755
70°	3119	4868	6296
75°	2734	5123	6510
80°	2354	4880	5109
85°	2059	3545	3890



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	149.6	3.0
10°-20°	429.6	8.5
20°-30°	655.5	13.0
30°-40°	800.3	15.9
40°-50°	855.8	17.0
50°-60°	826.0	16.4
60°-70°	711.0	14.1
70°-80°	481.1	9.6
80°-90°	126.9	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°	1234.7	24.5
0°-40°	2035.1	40.4
0°-60°	3716.8	73.8
0°-90°	5035.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5035.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1582	1582	1582	1582	1582	
5°	1567	1571	1578	1578	1578	149
15°	1508	1512	1523	1530	1534	425
25°	1400	1408	1430	1437	1445	644
35°	1241	1252	1278	1304	1315	777
45°	1041	1060	1100	1156	1186	804
55°	804	830	919	1011	1060	720
65°	534	585	730	845	904	531
75°	263	348	493	593	626	282
85°	67	93	115	118	126	75
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1581.9	1581.9	1581.9	1581.9	1581.9
2.5°	1570.8	1574.5	1581.9	1581.9	1585.6
5°	1567.0	1570.8	1578.2	1578.2	1578.2
7.5°	1555.9	1559.6	1567.0	1570.8	1570.8
10°	1544.8	1548.5	1555.9	1559.6	1563.3
12.5°	1526.3	1530.0	1541.1	1548.5	1548.5
15°	1507.8	1511.5	1522.6	1530.0	1533.7
17.5°	1485.5	1493.0	1504.1	1511.5	1515.2
20°	1455.9	1463.3	1478.1	1489.2	1493.0
22.5°	1430.0	1437.4	1452.2	1463.3	1470.7
25°	1400.3	1407.7	1430.0	1437.4	1444.8
27.5°	1363.3	1370.7	1389.2	1404.0	1415.2
30°	1326.2	1333.7	1355.9	1374.4	1381.8
32.5°	1285.5	1296.6	1322.5	1337.4	1348.5
35°	1241.0	1252.2	1278.1	1304.0	1315.1
37.5°	1196.6	1207.7	1233.6	1267.0	1281.8
40°	1144.7	1159.5	1192.9	1237.3	1244.7
42.5°	1096.6	1115.1	1144.7	1196.6	1215.1
45°	1041.0	1059.5	1100.3	1155.8	1185.5
47.5°	989.1	1007.7	1052.1	1118.8	1155.8
50°	926.1	952.1	1007.7	1085.4	1122.5
52.5°	866.9	889.1	963.2	1048.4	1092.9
55°	803.9	829.8	918.7	1011.4	1059.5
57.5°	748.3	770.6	870.6	974.3	1029.9
60°	677.9	707.6	822.4	933.6	989.1
62.5°	603.8	648.3	774.3	889.1	948.4
65°	533.5	585.3	729.8	844.6	903.9
67.5°	470.5	526.1	674.2	796.5	852.1
70°	396.4	466.8	618.7	737.2	800.2
72.5°	329.7	407.5	555.7	674.2	729.8
75°	263.0	348.2	492.7	592.7	626.1
77.5°	203.8	285.3	422.3	452.0	455.7
80°	151.9	226.0	314.9	318.6	329.7
82.5°	103.7	159.3	203.8	222.3	226.0
85°	66.7	92.6	114.8	118.5	126.0
87.5°	29.6	33.3	40.8	37.0	37.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)