

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: P390119

Luminaire Tested: **22CZ2-20VHE-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: P390119  
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: 22CZ2-20VHE-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: 1406.3 lumens  
Efficiency: N/A  
Efficacy: 99.0 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

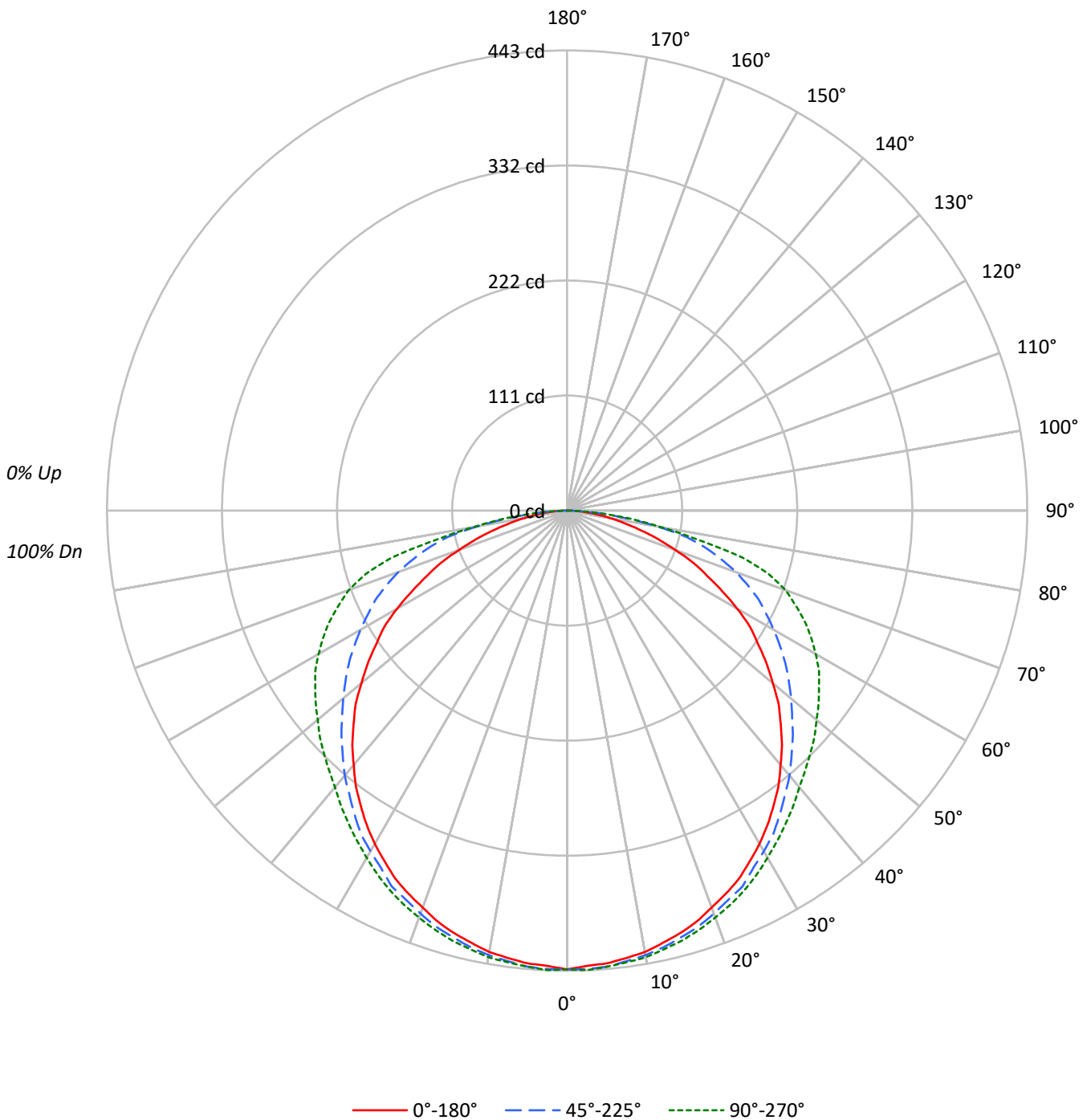
Input Watts (W): 14.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1189	1189	1189
5°	1182	1190	1190
10°	1179	1187	1193
15°	1173	1185	1193
20°	1164	1182	1194
25°	1161	1186	1198
30°	1151	1176	1199
35°	1139	1172	1207
40°	1123	1170	1221
45°	1106	1169	1260
50°	1083	1178	1312
55°	1053	1204	1388
60°	1019	1236	1486
65°	949	1298	1607
70°	871	1360	1758
75°	764	1431	1817
80°	657	1362	1427
85°	574	991	1087



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	41.8	3.0
10°-20°	120.0	8.5
20°-30°	183.0	13.0
30°-40°	223.5	15.9
40°-50°	239.0	17.0
50°-60°	230.7	16.4
60°-70°	198.6	14.1
70°-80°	134.3	9.6
80°-90°	35.5	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°	344.8	24.5
0°-40°	568.3	40.4
0°-60°	1038.0	73.8
0°-90°	1406.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1406.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	442	442	442	442	442	
5°	438	439	441	441	441	42
15°	421	422	425	427	428	119
25°	391	393	399	401	404	180
35°	347	350	357	364	367	217
45°	291	296	307	323	331	224
55°	224	232	257	282	296	201
65°	149	164	204	236	252	148
75°	74	97	138	166	175	79
85°	19	26	32	33	35	21
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	441.7	441.7	441.7	441.7	441.7
2.5°	438.6	439.7	441.7	441.7	442.8
5°	437.6	438.6	440.7	440.7	440.7
7.5°	434.5	435.5	437.6	438.6	438.6
10°	431.4	432.4	434.5	435.5	436.6
12.5°	426.2	427.3	430.4	432.4	432.4
15°	421.1	422.1	425.2	427.3	428.3
17.5°	414.8	416.9	420.0	422.1	423.1
20°	406.6	408.6	412.8	415.9	416.9
22.5°	399.3	401.4	405.5	408.6	410.7
25°	391.1	393.1	399.3	401.4	403.5
27.5°	380.7	382.8	387.9	392.1	395.2
30°	370.4	372.4	378.6	383.8	385.9
32.5°	359.0	362.1	369.3	373.5	376.6
35°	346.6	349.7	356.9	364.2	367.3
37.5°	334.2	337.3	344.5	353.8	357.9
40°	319.7	323.8	333.1	345.5	347.6
42.5°	306.2	311.4	319.7	334.2	339.3
45°	290.7	295.9	307.3	322.8	331.0
47.5°	276.2	281.4	293.8	312.4	322.8
50°	258.6	265.9	281.4	303.1	313.5
52.5°	242.1	248.3	269.0	292.8	305.2
55°	224.5	231.7	256.6	282.4	295.9
57.5°	209.0	215.2	243.1	272.1	287.6
60°	189.3	197.6	229.7	260.7	276.2
62.5°	168.6	181.0	216.2	248.3	264.8
65°	149.0	163.5	203.8	235.9	252.4
67.5°	131.4	146.9	188.3	222.4	237.9
70°	110.7	130.4	172.8	205.9	223.5
72.5°	92.1	113.8	155.2	188.3	203.8
75°	73.5	97.2	137.6	165.5	174.8
77.5°	56.9	79.7	117.9	126.2	127.2
80°	42.4	63.1	87.9	89.0	92.1
82.5°	29.0	44.5	56.9	62.1	63.1
85°	18.6	25.9	32.1	33.1	35.2
87.5°	8.3	9.3	11.4	10.3	10.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)