

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: P390509

Luminaire Tested: **22CZ2-60VHE-HRP-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: P390509  
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: 22CZ2-60VHE-HRP-UNV-L940-CD1-U  
Description: 2x2 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4430.3 lumens  
Efficiency: N/A  
Efficacy: 100.5 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

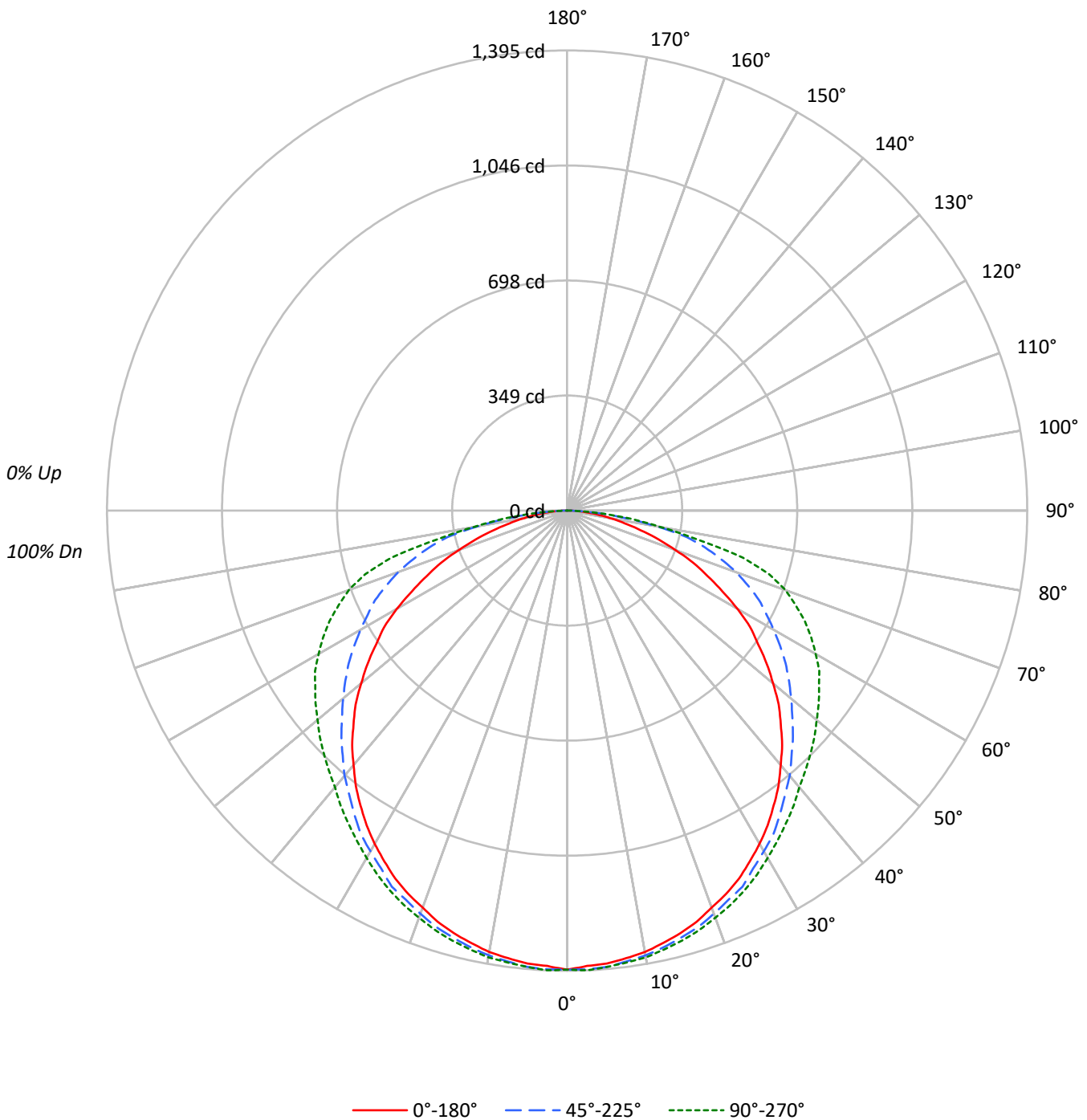
Input Watts (W): 44.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84
2	97	88	81	75	95	86	80	74	83	77	72	80	75	71	76	72	69
3	88	77	68	61	86	75	67	61	72	65	60	70	64	59	67	62	58
4	80	68	59	51	78	66	58	51	64	56	50	61	55	50	59	54	49
5	74	60	51	44	72	59	50	44	57	49	43	55	48	43	53	47	42
6	68	54	45	38	66	53	44	38	51	43	38	50	43	37	48	42	37
7	63	49	40	33	61	48	39	33	47	39	33	45	38	33	44	37	33
8	59	45	36	30	57	44	35	30	43	35	29	41	34	29	40	34	29
9	55	41	32	27	53	40	32	27	39	32	26	38	31	26	37	31	26
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24

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

	0°	45°	90°
0°	3745	3745	3745
5°	3724	3750	3750
10°	3713	3740	3758
15°	3696	3732	3759
20°	3668	3724	3761
25°	3658	3735	3774
30°	3626	3706	3777
35°	3587	3694	3801
40°	3538	3686	3847
45°	3485	3684	3969
50°	3411	3711	4134
55°	3318	3792	4373
60°	3210	3894	4683
65°	2988	4088	5063
70°	2744	4282	5539
75°	2406	4507	5727
80°	2070	4293	4496
85°	1812	3118	3421



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	131.6	3.0
10°-20°	378.0	8.5
20°-30°	576.7	13.0
30°-40°	704.1	15.9
40°-50°	752.9	17.0
50°-60°	726.7	16.4
60°-70°	625.5	14.1
70°-80°	423.2	9.6
80°-90°	111.7	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°	1086.3	24.5
0°-40°	1790.4	40.4
0°-60°	3269.9	73.8
0°-90°	4430.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4430.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1392	1392	1392	1392	1392	
5°	1379	1382	1388	1388	1388	131
15°	1326	1330	1340	1346	1349	374
25°	1232	1238	1258	1264	1271	567
35°	1092	1102	1124	1147	1157	683
45°	916	932	968	1017	1043	707
55°	707	730	808	890	932	634
65°	469	515	642	743	795	467
75°	231	306	434	522	551	248
85°	59	82	101	104	111	66
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1391.6	1391.6	1391.6	1391.6	1391.6
2.5°	1381.9	1385.1	1391.6	1391.6	1394.9
5°	1378.6	1381.9	1388.4	1388.4	1388.4
7.5°	1368.8	1372.1	1378.6	1381.9	1381.9
10°	1359.0	1362.3	1368.8	1372.1	1375.3
12.5°	1342.7	1346.0	1355.8	1362.3	1362.3
15°	1326.5	1329.7	1339.5	1346.0	1349.3
17.5°	1306.9	1313.4	1323.2	1329.7	1333.0
20°	1280.8	1287.3	1300.4	1310.2	1313.4
22.5°	1258.0	1264.5	1277.6	1287.3	1293.9
25°	1231.9	1238.5	1258.0	1264.5	1271.0
27.5°	1199.3	1205.9	1222.2	1235.2	1245.0
30°	1166.8	1173.3	1192.8	1209.1	1215.6
32.5°	1130.9	1140.7	1163.5	1176.5	1186.3
35°	1091.8	1101.6	1124.4	1147.2	1157.0
37.5°	1052.7	1062.5	1085.3	1114.6	1127.6
40°	1007.1	1020.1	1049.4	1088.5	1095.1
42.5°	964.7	981.0	1007.1	1052.7	1069.0
45°	915.8	932.1	968.0	1016.8	1042.9
47.5°	870.2	886.5	925.6	984.2	1016.8
50°	814.8	837.6	886.5	954.9	987.5
52.5°	762.6	782.2	847.4	922.3	961.4
55°	707.2	730.0	808.3	889.7	932.1
57.5°	658.3	677.9	765.9	857.1	906.0
60°	596.4	622.5	723.5	821.3	870.2
62.5°	531.2	570.3	681.2	782.2	834.3
65°	469.3	514.9	642.0	743.1	795.2
67.5°	413.9	462.8	593.2	700.7	749.6
70°	348.7	410.6	544.3	648.6	704.0
72.5°	290.1	358.5	488.9	593.2	642.0
75°	231.4	306.4	433.5	521.5	550.8
77.5°	179.3	251.0	371.5	397.6	400.9
80°	133.6	198.8	277.0	280.3	290.1
82.5°	91.3	140.1	179.3	195.5	198.8
85°	58.7	81.5	101.0	104.3	110.8
87.5°	26.1	29.3	35.9	32.6	32.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)