

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: P390605

Luminaire Tested: **22CZ2-70VHE-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: P390605  
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-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: 5088.0 lumens  
Efficiency: N/A  
Efficacy: 101.2 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

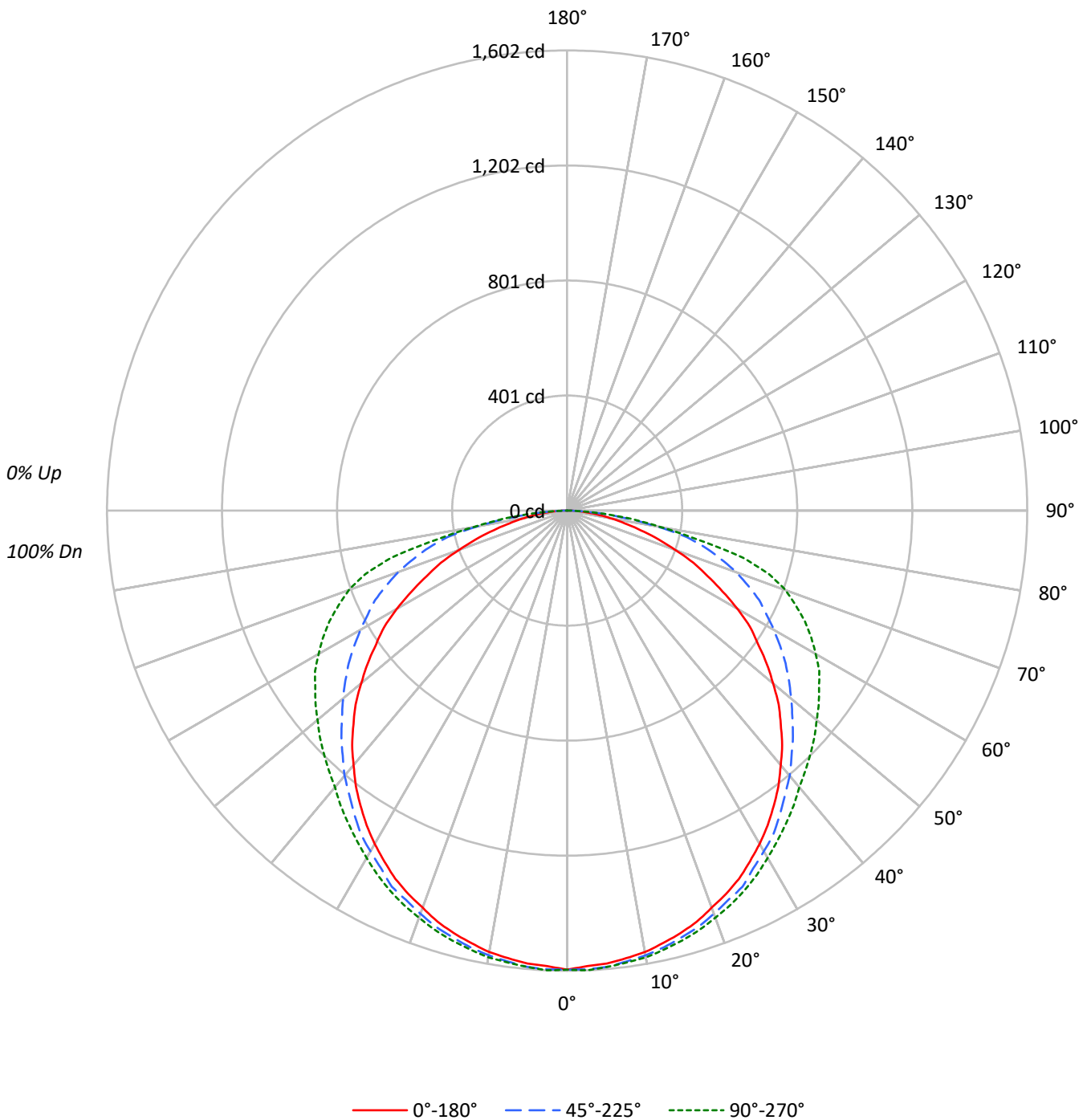
Input Watts (W): 50.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	4301	4301	4301
5°	4277	4307	4307
10°	4265	4295	4316
15°	4244	4286	4317
20°	4212	4277	4320
25°	4201	4290	4334
30°	4164	4257	4338
35°	4119	4242	4365
40°	4063	4234	4418
45°	4003	4230	4558
50°	3917	4262	4748
55°	3810	4355	5022
60°	3687	4472	5379
65°	3432	4695	5815
70°	3151	4918	6361
75°	2763	5176	6577
80°	2379	4930	5162
85°	2081	3582	3930



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	151.2	3.0
10°-20°	434.1	8.5
20°-30°	662.3	13.0
30°-40°	808.6	15.9
40°-50°	864.6	17.0
50°-60°	834.5	16.4
60°-70°	718.4	14.1
70°-80°	486.0	9.6
80°-90°	128.3	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°	1247.5	24.5
0°-40°	2056.1	40.4
0°-60°	3755.3	73.8
0°-90°	5088.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5088.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1598	1598	1598	1598	1598	
5°	1583	1587	1594	1594	1594	150
15°	1523	1527	1538	1546	1550	430
25°	1415	1422	1445	1452	1460	651
35°	1254	1265	1291	1318	1329	785
45°	1052	1070	1112	1168	1198	812
55°	812	838	928	1022	1070	728
65°	539	591	737	853	913	536
75°	266	352	498	599	633	285
85°	67	94	116	120	127	76
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1598.2	1598.2	1598.2	1598.2	1598.2
2.5°	1587.0	1590.7	1598.2	1598.2	1602.0
5°	1583.3	1587.0	1594.5	1594.5	1594.5
7.5°	1572.0	1575.8	1583.3	1587.0	1587.0
10°	1560.8	1564.5	1572.0	1575.8	1579.5
12.5°	1542.1	1545.8	1557.1	1564.5	1564.5
15°	1523.4	1527.1	1538.3	1545.8	1549.6
17.5°	1500.9	1508.4	1519.6	1527.1	1530.9
20°	1471.0	1478.5	1493.4	1504.7	1508.4
22.5°	1444.8	1452.3	1467.2	1478.5	1485.9
25°	1414.8	1422.3	1444.8	1452.3	1459.7
27.5°	1377.4	1384.9	1403.6	1418.6	1429.8
30°	1340.0	1347.5	1369.9	1388.6	1396.1
32.5°	1298.8	1310.0	1336.2	1351.2	1362.4
35°	1253.9	1265.1	1291.3	1317.5	1328.7
37.5°	1209.0	1220.2	1246.4	1280.1	1295.1
40°	1156.6	1171.5	1205.2	1250.1	1257.6
42.5°	1107.9	1126.6	1156.6	1209.0	1227.7
45°	1051.8	1070.5	1111.6	1167.8	1197.7
47.5°	999.4	1018.1	1063.0	1130.4	1167.8
50°	935.7	961.9	1018.1	1096.7	1134.1
52.5°	875.8	898.3	973.2	1059.2	1104.2
55°	812.2	838.4	928.2	1021.8	1070.5
57.5°	756.1	778.5	879.6	984.4	1040.5
60°	685.0	714.9	830.9	943.2	999.4
62.5°	610.1	655.0	782.3	898.3	958.2
65°	539.0	591.4	737.4	853.4	913.3
67.5°	475.4	531.5	681.2	804.7	860.9
70°	400.5	471.6	625.1	744.8	808.5
72.5°	333.1	411.7	561.4	681.2	737.4
75°	265.7	351.8	497.8	598.9	632.6
77.5°	205.9	288.2	426.7	456.6	460.4
80°	153.5	228.3	318.1	321.9	333.1
82.5°	104.8	160.9	205.9	224.6	228.3
85°	67.4	93.6	116.0	119.8	127.3
87.5°	29.9	33.7	41.2	37.4	37.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)