

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: P389042

Luminaire Tested: **24CZ2-70HE-SQR-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: P389042  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2002-678-2)  
Test Lab: INNOVATION CENTER (G2)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-70HE-SQR-UNV-L930-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5561.0 lumens  
Efficiency: N/A  
Efficacy: 109.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.33 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

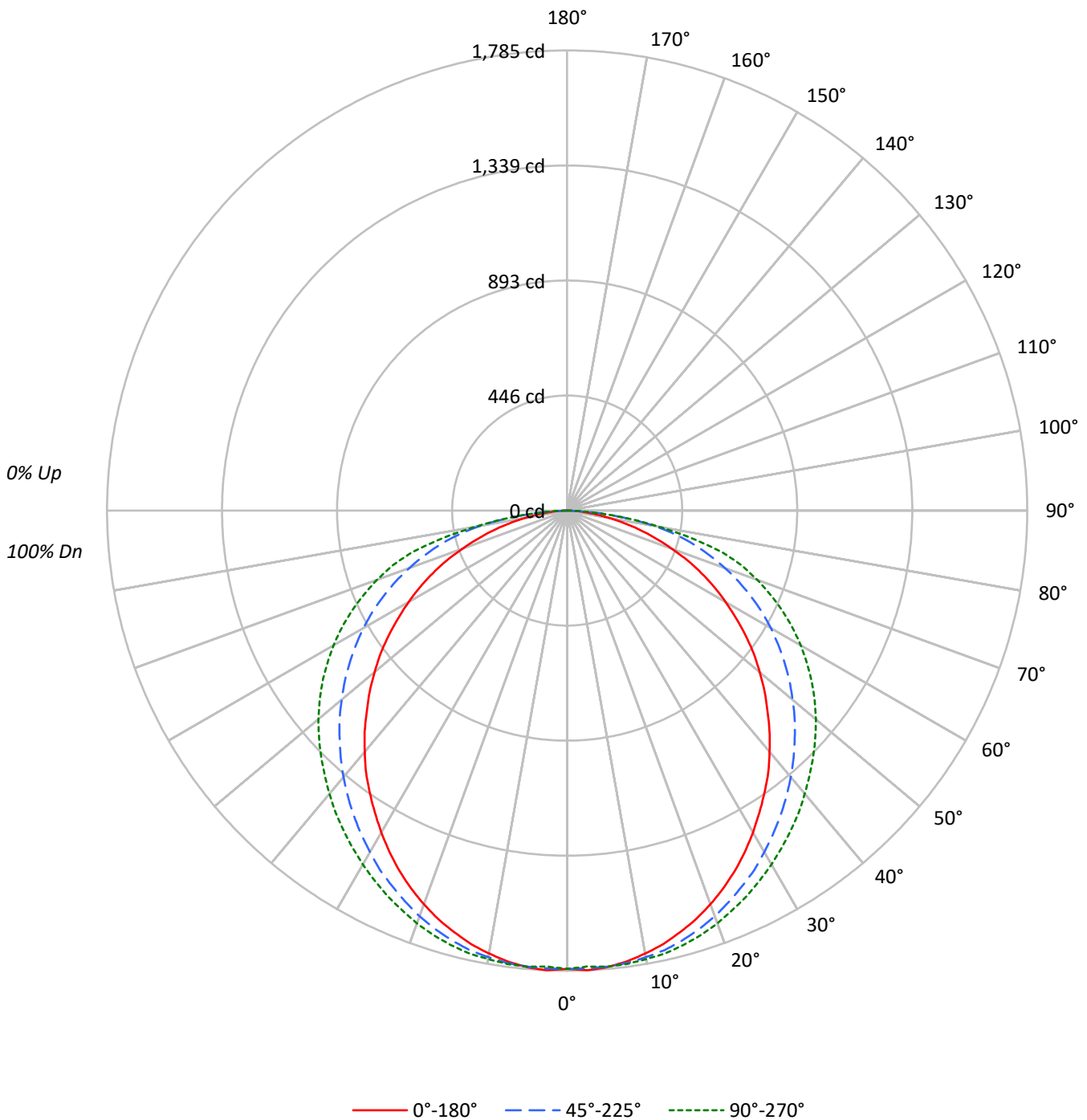
Input Watts (W): 51  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	93	89	92	89	87	89	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	52	64	57	51	62	55	50	60	54	49	47
5	74	61	51	44	72	60	51	44	57	50	44	55	49	43	54	48	43	41
6	68	55	45	39	66	54	45	38	52	44	38	50	43	38	48	42	37	35
7	63	49	40	34	62	49	40	34	47	39	34	45	39	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	42	35	30	40	34	30	28
9	55	41	33	27	54	41	33	27	39	32	27	38	32	27	37	31	27	25
10	52	38	30	25	50	37	30	24	36	29	24	36	29	24	35	29	24	22

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

	0°	45°	90°
0°	2392	2392	2392
5°	2401	2398	2398
10°	2383	2403	2413
15°	2358	2404	2430
20°	2327	2398	2440
25°	2287	2385	2448
30°	2240	2377	2462
35°	2193	2371	2485
40°	2145	2371	2519
45°	2089	2376	2568
50°	2041	2391	2637
55°	1981	2417	2718
60°	1912	2456	2817
65°	1830	2502	2935
70°	1697	2565	3085
75°	1537	2654	3227
80°	1295	2661	2775
85°	993	2013	2013



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	168.7	3.0
10°-20°	485.5	8.7
20°-30°	737.4	13.3
30°-40°	896.9	16.1
40°-50°	954.9	17.2
50°-60°	909.5	16.4
60°-70°	760.6	13.7
70°-80°	507.1	9.1
80°-90°	140.3	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°	1391.6	25.0
0°-40°	2288.5	41.2
0°-60°	4153.0	74.7
0°-90°	5561.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5561.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1778	1778	1778	1778	1778	
5°	1778	1766	1776	1776	1776	169
15°	1693	1697	1726	1739	1744	477
25°	1541	1561	1607	1634	1649	709
35°	1335	1374	1443	1491	1513	835
45°	1098	1157	1249	1318	1350	849
55°	845	918	1030	1120	1159	755
65°	575	659	786	883	922	568
75°	296	389	510	597	621	313
85°	64	119	130	128	130	78
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1777.6	1777.6	1777.6	1777.6	1777.6
2.5°	1784.9	1772.1	1777.6	1777.6	1770.2
5°	1777.6	1766.5	1775.7	1775.7	1775.7
7.5°	1764.7	1755.5	1770.2	1773.9	1773.9
10°	1744.5	1740.8	1759.2	1764.7	1766.5
12.5°	1722.5	1720.6	1746.3	1753.7	1759.2
15°	1693.1	1696.8	1726.1	1739.0	1744.5
17.5°	1661.9	1669.2	1702.3	1720.6	1726.1
20°	1625.2	1636.2	1674.7	1693.1	1704.1
22.5°	1584.8	1601.3	1641.7	1663.7	1676.6
25°	1540.7	1560.9	1606.8	1634.3	1649.0
27.5°	1492.9	1518.6	1571.9	1603.1	1617.8
30°	1441.5	1470.9	1529.7	1566.4	1584.8
32.5°	1388.3	1423.2	1487.4	1527.8	1549.9
35°	1335.0	1373.6	1443.4	1491.1	1513.1
37.5°	1281.8	1320.3	1397.4	1448.9	1476.4
40°	1221.2	1267.1	1349.7	1406.6	1434.2
42.5°	1162.4	1212.0	1300.1	1362.6	1391.9
45°	1098.1	1156.9	1248.7	1318.5	1349.7
47.5°	1039.4	1098.1	1197.3	1270.7	1305.6
50°	975.1	1037.5	1142.2	1223.0	1259.7
52.5°	912.7	976.9	1087.1	1173.4	1210.1
55°	844.7	918.2	1030.2	1120.2	1158.7
57.5°	776.8	855.7	971.4	1065.1	1103.6
60°	710.7	791.5	912.7	1006.3	1046.7
62.5°	644.6	725.3	852.1	947.5	986.1
65°	574.8	659.2	785.9	883.3	921.8
67.5°	505.0	593.1	719.8	817.2	853.9
70°	431.5	525.2	651.9	747.4	784.1
72.5°	363.6	457.2	582.1	675.8	710.7
75°	295.6	389.3	510.5	596.8	620.7
77.5°	229.5	323.2	431.5	488.5	494.0
80°	167.1	255.2	343.4	359.9	358.1
82.5°	112.0	191.0	236.9	238.7	244.2
85°	64.3	119.4	130.4	128.5	130.4
87.5°	25.7	42.2	36.7	27.5	27.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)