

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: P389065

Luminaire Tested: **24CZ2-70VHE-SQR-UNV-L930-CD1-SWPD1-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: P389065  
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: 24CZ2-70VHE-SQR-UNV-L930-CD1-SWPD1-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: 5524.0 lumens  
Efficiency: N/A  
Efficacy: 120.9 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

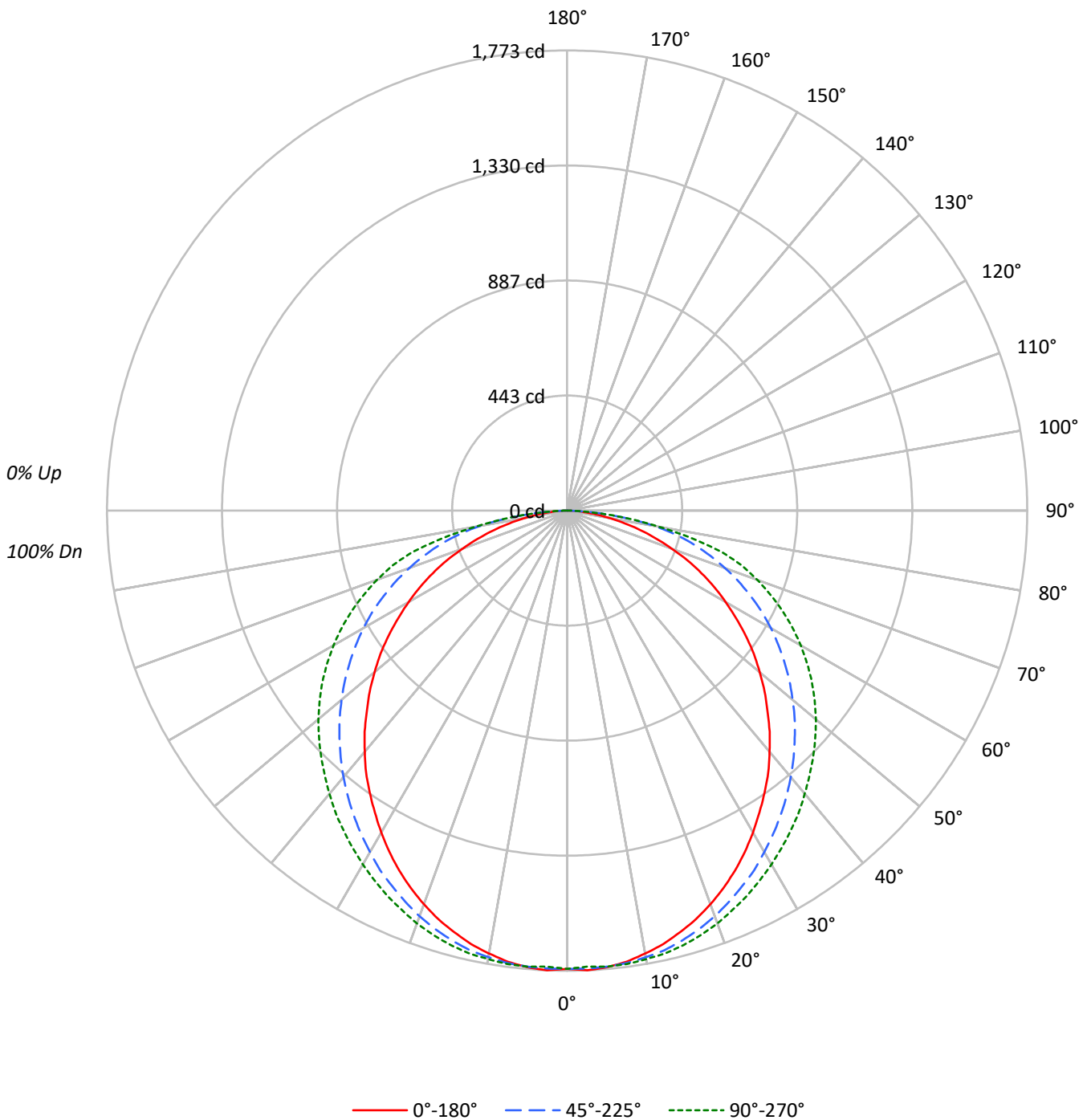
Input Watts (W): 45.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2376	2376	2376
5°	2385	2382	2382
10°	2368	2388	2397
15°	2343	2388	2414
20°	2311	2382	2424
25°	2272	2370	2432
30°	2225	2361	2446
35°	2178	2355	2469
40°	2131	2355	2502
45°	2076	2360	2551
50°	2027	2375	2619
55°	1968	2400	2700
60°	1900	2440	2798
65°	1818	2486	2915
70°	1686	2548	3064
75°	1527	2636	3205
80°	1286	2643	2756
85°	985	1999	1999



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	167.6	3.0
10°-20°	482.2	8.7
20°-30°	732.5	13.3
30°-40°	890.9	16.1
40°-50°	948.6	17.2
50°-60°	903.5	16.4
60°-70°	755.6	13.7
70°-80°	503.7	9.1
80°-90°	139.4	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°	1382.3	25.0
0°-40°	2273.3	41.2
0°-60°	4125.3	74.7
0°-90°	5524.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5524.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1766	1766	1766	1766	1766	
5°	1766	1755	1764	1764	1764	167
15°	1682	1686	1715	1727	1733	474
25°	1530	1550	1596	1624	1638	705
35°	1326	1364	1434	1481	1503	830
45°	1091	1149	1240	1310	1341	843
55°	839	912	1023	1113	1151	750
65°	571	655	781	877	916	564
75°	294	387	507	593	616	311
85°	64	119	130	128	130	77
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1765.7	1765.7	1765.7	1765.7	1765.7
2.5°	1773.0	1760.3	1765.7	1765.7	1758.4
5°	1765.7	1754.8	1763.9	1763.9	1763.9
7.5°	1753.0	1743.8	1758.4	1762.1	1762.1
10°	1732.9	1729.3	1747.5	1753.0	1754.8
12.5°	1711.0	1709.2	1734.7	1742.0	1747.5
15°	1681.8	1685.5	1714.7	1727.4	1732.9
17.5°	1650.8	1658.1	1691.0	1709.2	1714.7
20°	1614.3	1625.3	1663.6	1681.8	1692.8
22.5°	1574.2	1590.6	1630.8	1652.6	1665.4
25°	1530.4	1550.5	1596.1	1623.5	1638.1
27.5°	1483.0	1508.5	1561.4	1592.4	1607.0
30°	1431.9	1461.1	1519.5	1556.0	1574.2
32.5°	1379.0	1413.7	1477.5	1517.7	1539.5
35°	1326.1	1364.4	1433.8	1481.2	1503.1
37.5°	1273.2	1311.5	1388.1	1439.2	1466.6
40°	1213.0	1258.6	1340.7	1397.3	1424.6
42.5°	1154.7	1203.9	1291.5	1353.5	1382.7
45°	1090.8	1149.2	1240.4	1309.7	1340.7
47.5°	1032.4	1090.8	1189.3	1262.3	1296.9
50°	968.6	1030.6	1134.6	1214.9	1251.3
52.5°	906.6	970.4	1079.9	1165.6	1202.1
55°	839.1	912.1	1023.3	1112.7	1151.0
57.5°	771.6	850.0	965.0	1058.0	1096.3
60°	705.9	786.2	906.6	999.6	1039.7
62.5°	640.3	720.5	846.4	941.2	979.5
65°	570.9	654.9	780.7	877.4	915.7
67.5°	501.6	589.2	715.1	811.7	848.2
70°	428.7	521.7	647.6	742.4	778.9
72.5°	361.2	454.2	578.2	671.3	705.9
75°	293.7	386.7	507.1	592.8	616.5
77.5°	228.0	321.0	428.7	485.2	490.7
80°	166.0	253.6	341.1	357.5	355.7
82.5°	111.3	189.7	235.3	237.1	242.6
85°	63.8	118.6	129.5	127.7	129.5
87.5°	25.5	42.0	36.5	27.4	27.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)