

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: P388804

Luminaire Tested: **24CZ2-50VHE-SQR-UNV-L935-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: P388804  
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: 24CZ2-50VHE-SQR-UNV-L935-CD1-SWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3500K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4060.9 lumens  
Efficiency: N/A  
Efficacy: 124.2 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

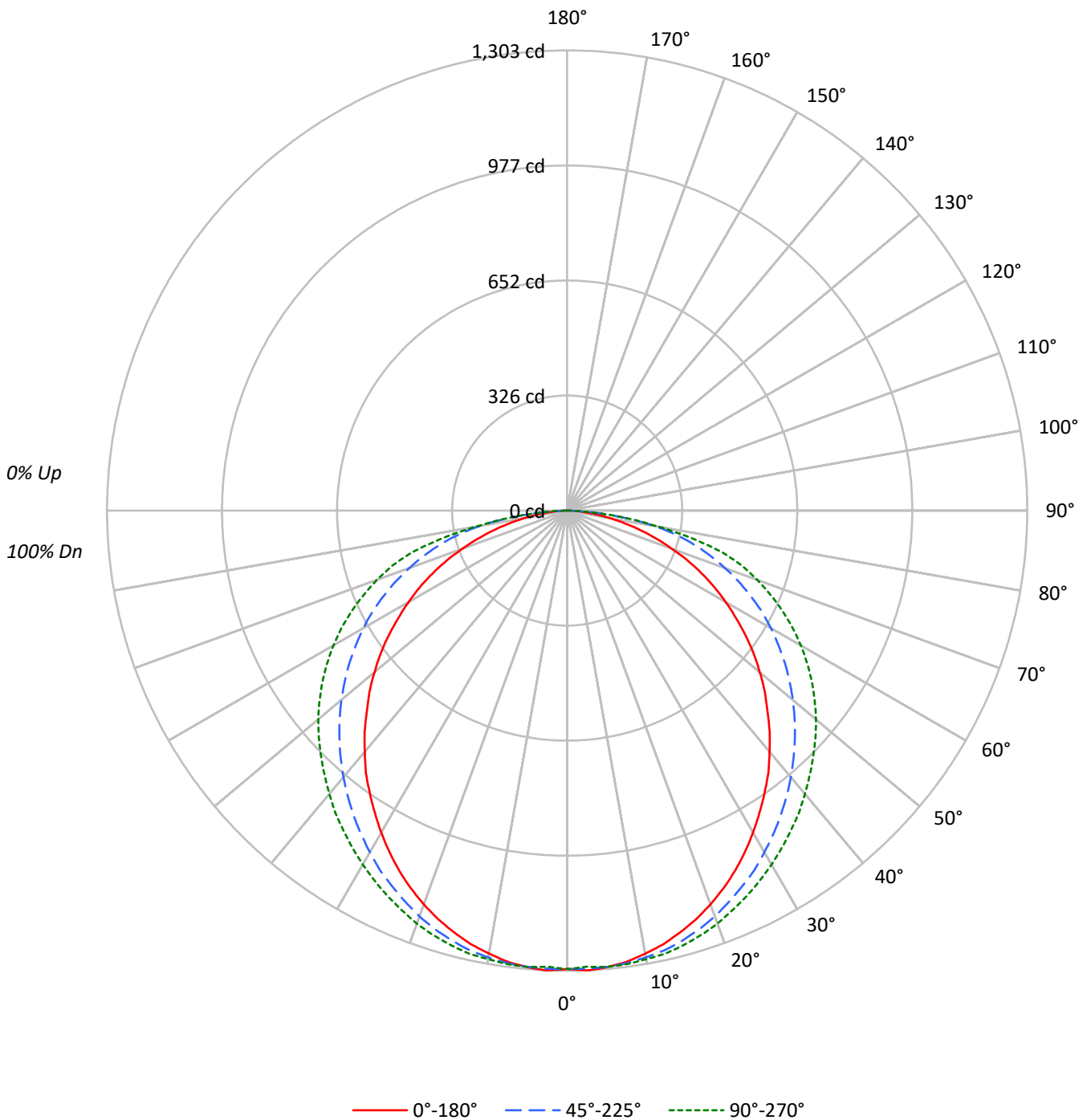
Input Watts (W): 32.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1747	1747	1747
5°	1753	1751	1751
10°	1740	1755	1762
15°	1722	1756	1774
20°	1699	1751	1782
25°	1670	1742	1788
30°	1636	1735	1798
35°	1601	1731	1815
40°	1566	1731	1839
45°	1526	1735	1875
50°	1491	1746	1926
55°	1447	1765	1985
60°	1397	1794	2057
65°	1336	1827	2143
70°	1240	1873	2253
75°	1122	1938	2356
80°	945	1943	2026
85°	724	1470	1470



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	123.2	3.0
10°-20°	354.5	8.7
20°-30°	538.5	13.3
30°-40°	655.0	16.1
40°-50°	697.3	17.2
50°-60°	664.2	16.4
60°-70°	555.4	13.7
70°-80°	370.3	9.1
80°-90°	102.5	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°	1016.2	25.0
0°-40°	1671.2	41.2
0°-60°	3032.7	74.7
0°-90°	4060.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4060.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1298	1298	1298	1298	1298	
5°	1298	1290	1297	1297	1297	123
15°	1236	1239	1260	1270	1274	349
25°	1125	1140	1173	1194	1204	518
35°	975	1003	1054	1089	1105	610
45°	802	845	912	963	986	620
55°	617	670	752	818	846	551
65°	420	481	574	645	673	415
75°	216	284	373	436	453	229
85°	47	87	95	94	95	57
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1298.1	1298.1	1298.1	1298.1	1298.1
2.5°	1303.4	1294.0	1298.1	1298.1	1292.7
5°	1298.1	1290.0	1296.7	1296.7	1296.7
7.5°	1288.7	1282.0	1292.7	1295.4	1295.4
10°	1273.9	1271.2	1284.7	1288.7	1290.0
12.5°	1257.8	1256.5	1275.3	1280.6	1284.7
15°	1236.4	1239.1	1260.5	1269.9	1273.9
17.5°	1213.6	1218.9	1243.1	1256.5	1260.5
20°	1186.8	1194.8	1223.0	1236.4	1244.4
22.5°	1157.3	1169.3	1198.8	1214.9	1224.3
25°	1125.1	1139.8	1173.4	1193.5	1204.2
27.5°	1090.2	1109.0	1147.9	1170.7	1181.4
30°	1052.7	1074.1	1117.0	1143.8	1157.3
32.5°	1013.8	1039.3	1086.2	1115.7	1131.8
35°	974.9	1003.0	1054.0	1088.9	1105.0
37.5°	936.0	964.2	1020.5	1058.0	1078.1
40°	891.7	925.3	985.6	1027.2	1047.3
42.5°	848.8	885.0	949.4	995.0	1016.5
45°	801.9	844.8	911.9	962.8	985.6
47.5°	759.0	801.9	874.3	928.0	953.4
50°	712.1	757.6	834.1	893.1	919.9
52.5°	666.5	713.4	793.9	856.9	883.7
55°	616.8	670.5	752.3	818.0	846.2
57.5°	567.2	624.9	709.4	777.8	805.9
60°	519.0	578.0	666.5	734.9	764.4
62.5°	470.7	529.7	622.2	691.9	720.1
65°	419.7	481.4	573.9	645.0	673.2
67.5°	368.8	433.1	525.7	596.7	623.6
70°	315.1	383.5	476.0	545.8	572.6
72.5°	265.5	333.9	425.1	493.5	519.0
75°	215.9	284.3	372.8	435.8	453.2
77.5°	167.6	236.0	315.1	356.7	360.7
80°	122.0	186.4	250.8	262.8	261.5
82.5°	81.8	139.5	173.0	174.3	178.3
85°	46.9	87.2	95.2	93.9	95.2
87.5°	18.8	30.8	26.8	20.1	20.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)