

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: P388730

Luminaire Tested: **24CZ2-45VHE-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: P388730  
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: 24CZ2-45VHE-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: 3612.5 lumens  
Efficiency: N/A  
Efficacy: 122.0 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

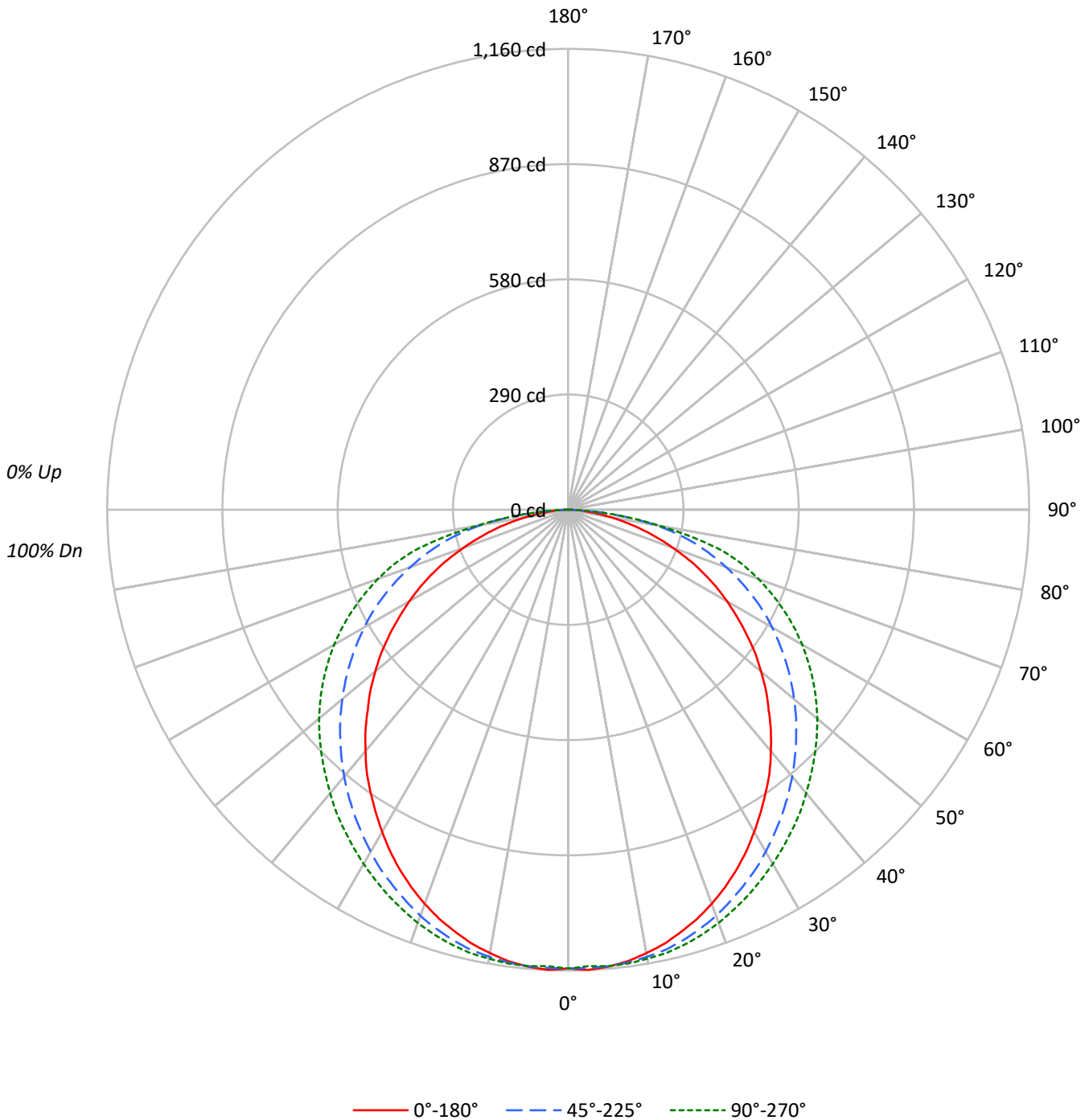
Input Watts (W): 29.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1554	1554	1554
5°	1560	1558	1558
10°	1548	1561	1568
15°	1532	1562	1579
20°	1512	1558	1585
25°	1486	1550	1590
30°	1455	1544	1599
35°	1424	1540	1615
40°	1393	1540	1636
45°	1357	1544	1668
50°	1326	1553	1713
55°	1287	1570	1766
60°	1242	1595	1830
65°	1189	1626	1906
70°	1103	1666	2004
75°	999	1724	2096
80°	841	1729	1802
85°	645	1308	1308



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	109.6	3.0
10°-20°	315.4	8.7
20°-30°	479.0	13.3
30°-40°	582.7	16.1
40°-50°	620.3	17.2
50°-60°	590.8	16.4
60°-70°	494.1	13.7
70°-80°	329.4	9.1
80°-90°	91.2	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°	904.0	25.0
0°-40°	1486.6	41.2
0°-60°	2697.8	74.7
0°-90°	3612.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3612.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1155	1155	1155	1155	1155	
5°	1155	1148	1154	1154	1154	110
15°	1100	1102	1121	1130	1133	310
25°	1001	1014	1044	1062	1071	461
35°	867	892	938	969	983	543
45°	713	752	811	856	877	551
55°	549	596	669	728	753	491
65°	373	428	511	574	599	369
75°	192	253	332	388	403	203
85°	42	78	85	84	85	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1154.7	1154.7	1154.7	1154.7	1154.7
2.5°	1159.5	1151.2	1154.7	1154.7	1150.0
5°	1154.7	1147.6	1153.5	1153.5	1153.5
7.5°	1146.4	1140.4	1150.0	1152.3	1152.3
10°	1133.3	1130.9	1142.8	1146.4	1147.6
12.5°	1118.9	1117.8	1134.5	1139.2	1142.8
15°	1099.9	1102.2	1121.3	1129.7	1133.3
17.5°	1079.6	1084.3	1105.8	1117.8	1121.3
20°	1055.7	1062.9	1087.9	1099.9	1107.0
22.5°	1029.5	1040.2	1066.5	1080.8	1089.1
25°	1000.8	1014.0	1043.8	1061.7	1071.2
27.5°	969.8	986.5	1021.1	1041.4	1050.9
30°	936.4	955.5	993.7	1017.5	1029.5
32.5°	901.8	924.5	966.3	992.5	1006.8
35°	867.2	892.3	937.6	968.6	983.0
37.5°	832.6	857.7	907.8	941.2	959.1
40°	793.3	823.1	876.8	913.8	931.7
42.5°	755.1	787.3	844.6	885.1	904.2
45°	713.4	751.5	811.2	856.5	876.8
47.5°	675.2	713.4	777.8	825.5	848.2
50°	633.4	674.0	742.0	794.5	818.3
52.5°	592.9	634.6	706.2	762.3	786.1
55°	548.7	596.5	669.2	727.7	752.7
57.5°	504.6	555.9	631.0	691.9	716.9
60°	461.7	514.1	592.9	653.7	680.0
62.5°	418.7	471.2	553.5	615.5	640.6
65°	373.4	428.3	510.6	573.8	598.8
67.5°	328.0	385.3	467.6	530.8	554.7
70°	280.3	341.2	423.5	485.5	509.4
72.5°	236.2	297.0	378.2	439.0	461.7
75°	192.1	252.9	331.6	387.7	403.2
77.5°	149.1	210.0	280.3	317.3	320.9
80°	108.6	165.8	223.1	233.8	232.6
82.5°	72.8	124.1	153.9	155.1	158.7
85°	41.8	77.5	84.7	83.5	84.7
87.5°	16.7	27.4	23.9	17.9	17.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)