

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: P388728

Luminaire Tested: **24CZ2-45VHE-SQR-UNV-L930-CD1-SDWPD1-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: P388728  
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-SDWPD1-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: 3524.6 lumens  
Efficiency: N/A  
Efficacy: 119.1 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

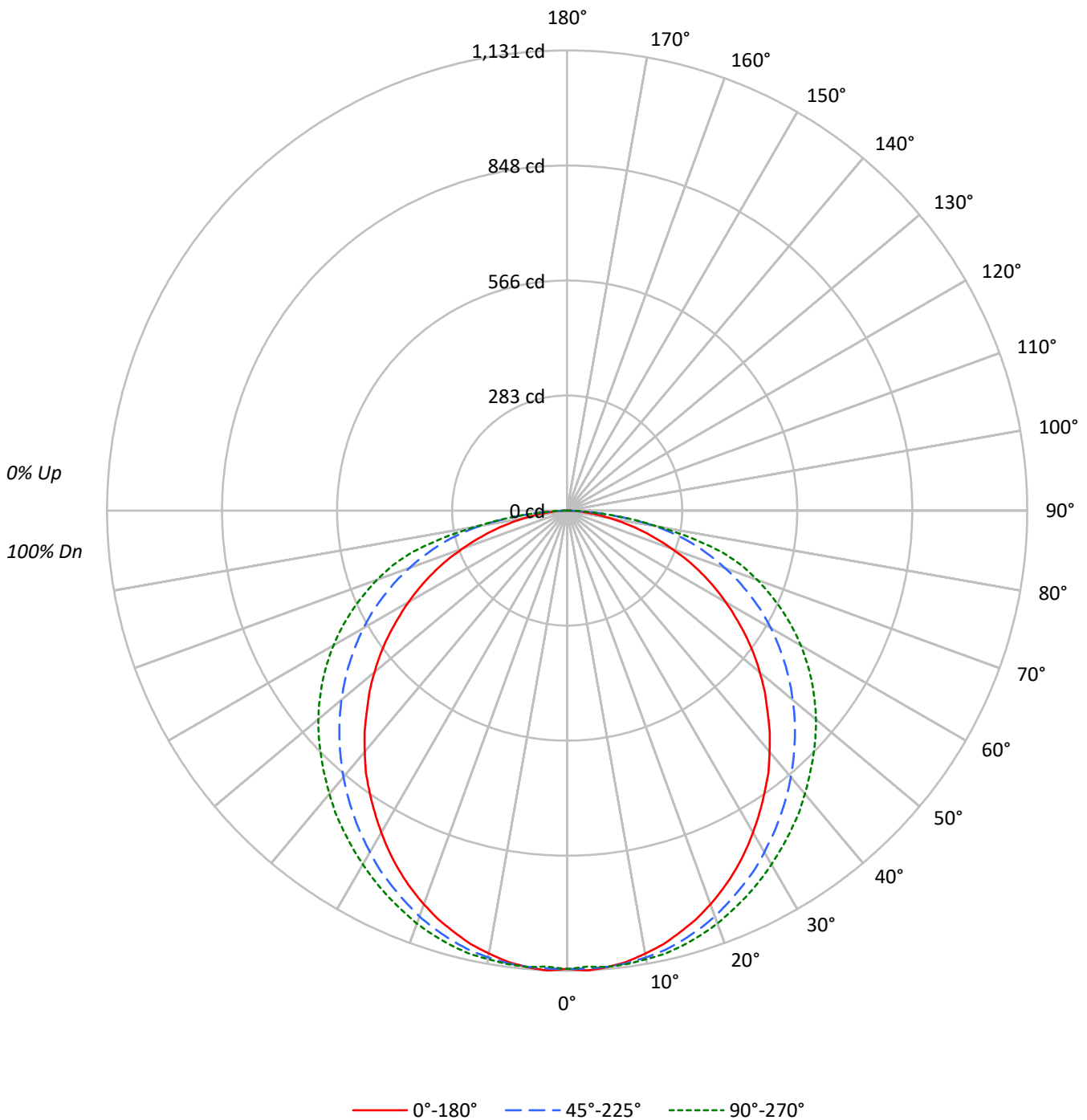
Input Watts (W): 29.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1516	1516	1516
5°	1522	1520	1520
10°	1511	1523	1530
15°	1495	1524	1540
20°	1475	1520	1547
25°	1450	1512	1552
30°	1419	1506	1560
35°	1390	1503	1575
40°	1359	1503	1597
45°	1324	1506	1628
50°	1294	1515	1671
55°	1256	1532	1723
60°	1212	1556	1785
65°	1160	1586	1860
70°	1076	1626	1955
75°	974	1682	2045
80°	821	1686	1759
85°	628	1275	1275



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	106.9	3.0
10°-20°	307.7	8.7
20°-30°	467.4	13.3
30°-40°	568.5	16.1
40°-50°	605.2	17.2
50°-60°	576.5	16.4
60°-70°	482.1	13.7
70°-80°	321.4	9.1
80°-90°	88.9	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°	882.0	25.0
0°-40°	1450.5	41.2
0°-60°	2632.2	74.7
0°-90°	3524.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3524.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1127	1127	1127	1127	1127	
5°	1127	1120	1126	1126	1126	107
15°	1073	1075	1094	1102	1106	303
25°	976	989	1018	1036	1045	450
35°	846	871	915	945	959	529
45°	696	733	791	836	856	538
55°	535	582	653	710	734	479
65°	364	418	498	560	584	360
75°	187	247	324	378	393	198
85°	41	76	83	82	83	49
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1126.6	1126.6	1126.6	1126.6	1126.6
2.5°	1131.3	1123.1	1126.6	1126.6	1122.0
5°	1126.6	1119.7	1125.5	1125.5	1125.5
7.5°	1118.5	1112.7	1122.0	1124.3	1124.3
10°	1105.7	1103.4	1115.0	1118.5	1119.7
12.5°	1091.7	1090.6	1106.8	1111.5	1115.0
15°	1073.1	1075.4	1094.0	1102.2	1105.7
17.5°	1053.3	1058.0	1078.9	1090.6	1094.0
20°	1030.0	1037.0	1061.5	1073.1	1080.1
22.5°	1004.4	1014.9	1040.5	1054.5	1062.6
25°	976.5	989.3	1018.4	1035.9	1045.2
27.5°	946.2	962.5	996.3	1016.1	1025.4
30°	913.6	932.3	969.5	992.8	1004.4
32.5°	879.9	902.0	942.7	968.3	982.3
35°	846.1	870.6	914.8	945.1	959.0
37.5°	812.4	836.8	885.7	918.3	935.8
40°	774.0	803.1	855.5	891.5	909.0
42.5°	736.7	768.2	824.0	863.6	882.2
45°	696.0	733.2	791.4	835.7	855.5
47.5°	658.8	696.0	758.8	805.4	827.5
50°	618.0	657.6	723.9	775.1	798.4
52.5°	578.4	619.2	689.0	743.7	767.0
55°	535.4	581.9	652.9	710.0	734.4
57.5°	492.3	542.4	615.7	675.0	699.5
60°	450.4	501.6	578.4	637.8	663.4
62.5°	408.5	459.7	540.0	600.6	625.0
65°	364.3	417.8	498.1	559.8	584.3
67.5°	320.1	375.9	456.2	517.9	541.2
70°	273.5	332.9	413.2	473.7	497.0
72.5°	230.4	289.8	368.9	428.3	450.4
75°	187.4	246.7	323.6	378.3	393.4
77.5°	145.5	204.8	273.5	309.6	313.1
80°	105.9	161.8	217.6	228.1	227.0
82.5°	71.0	121.0	150.1	151.3	154.8
85°	40.7	75.7	82.6	81.5	82.6
87.5°	16.3	26.8	23.3	17.5	17.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)