

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: P388734

Luminaire Tested: **24CZ2-45VHE-SQR-UNV-L940-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: P388734  
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-L940-CD1-SDWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

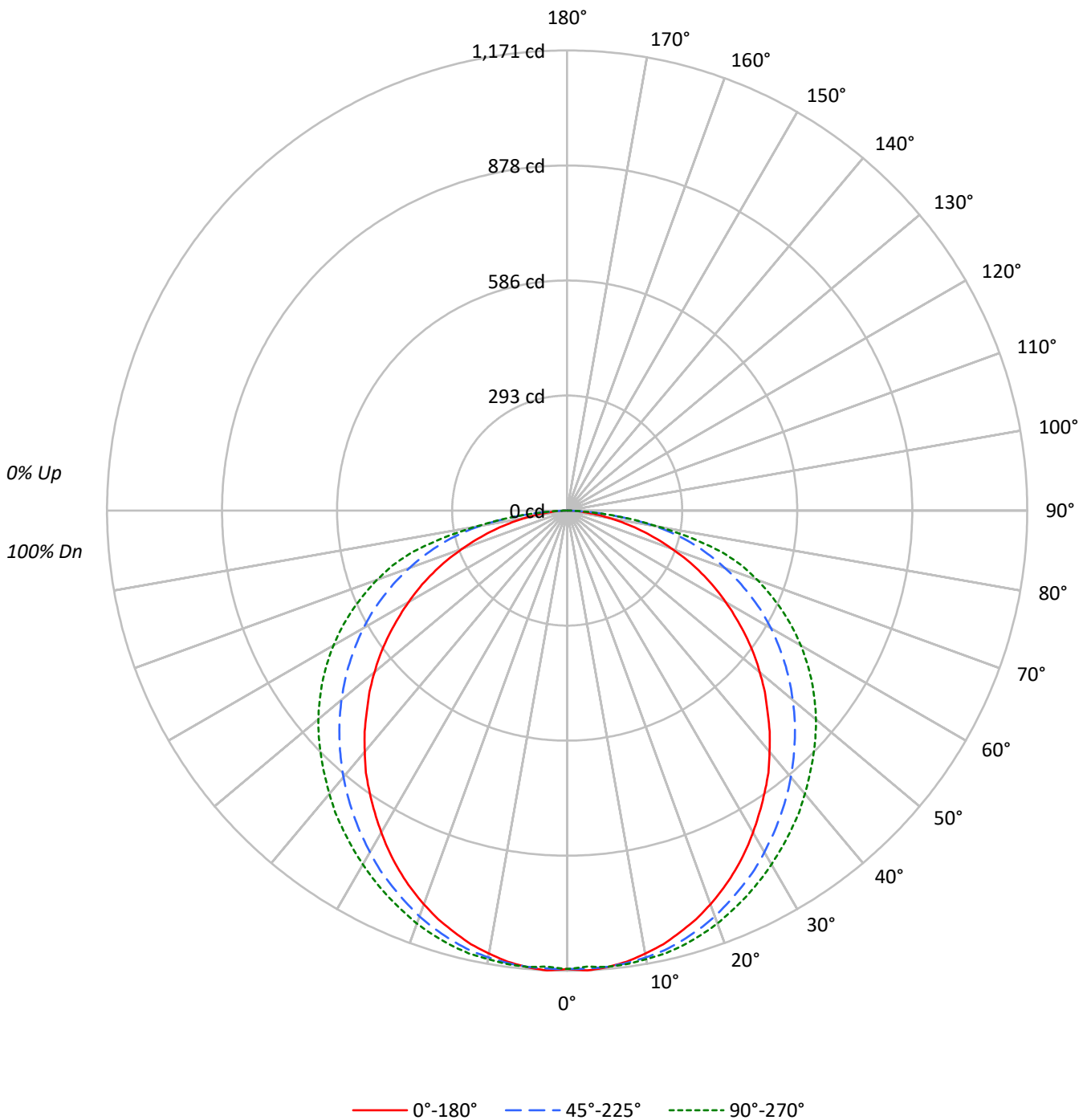
Lumens per Lamp: N/A  
Luminaire Lumens: 3649.2 lumens  
Efficiency: N/A  
Efficacy: 123.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.33 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 29.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
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°	1570	1570	1570
5°	1576	1574	1574
10°	1564	1577	1584
15°	1548	1578	1595
20°	1527	1574	1601
25°	1501	1565	1606
30°	1470	1560	1616
35°	1439	1556	1631
40°	1407	1556	1653
45°	1371	1559	1685
50°	1339	1569	1730
55°	1300	1586	1784
60°	1255	1612	1848
65°	1201	1642	1926
70°	1114	1683	2024
75°	1009	1742	2117
80°	850	1746	1821
85°	651	1321	1321



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	110.7	3.0
10°-20°	318.6	8.7
20°-30°	483.9	13.3
30°-40°	588.6	16.1
40°-50°	626.6	17.2
50°-60°	596.8	16.4
60°-70°	499.1	13.7
70°-80°	332.8	9.1
80°-90°	92.1	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°	913.2	25.0
0°-40°	1501.7	41.2
0°-60°	2725.2	74.7
0°-90°	3649.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3649.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1166	1166	1166	1166	1166	
5°	1166	1159	1165	1165	1165	111
15°	1111	1113	1133	1141	1145	313
25°	1011	1024	1054	1072	1082	465
35°	876	901	947	978	993	548
45°	721	759	819	865	886	557
55°	554	602	676	735	760	496
65°	377	433	516	580	605	373
75°	194	256	335	392	407	206
85°	42	78	86	84	86	51
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1166.5	1166.5	1166.5	1166.5	1166.5
2.5°	1171.3	1162.8	1166.5	1166.5	1161.6
5°	1166.5	1159.2	1165.3	1165.3	1165.3
7.5°	1158.0	1152.0	1161.6	1164.1	1164.1
10°	1144.8	1142.4	1154.4	1158.0	1159.2
12.5°	1130.3	1129.1	1146.0	1150.8	1154.4
15°	1111.0	1113.4	1132.7	1141.2	1144.8
17.5°	1090.5	1095.4	1117.1	1129.1	1132.7
20°	1066.4	1073.7	1099.0	1111.0	1118.3
22.5°	1039.9	1050.8	1077.3	1091.8	1100.2
25°	1011.0	1024.3	1054.4	1072.5	1082.1
27.5°	979.7	996.6	1031.5	1052.0	1061.6
30°	945.9	965.2	1003.8	1027.9	1039.9
32.5°	911.0	933.9	976.1	1002.6	1017.0
35°	876.1	901.4	947.1	978.5	992.9
37.5°	841.1	866.4	917.0	950.8	968.8
40°	801.3	831.5	885.7	923.0	941.1
42.5°	762.8	795.3	853.2	894.1	913.4
45°	720.6	759.2	819.4	865.2	885.7
47.5°	682.0	720.6	785.7	833.9	856.8
50°	639.9	680.8	749.5	802.5	826.6
52.5°	598.9	641.1	713.4	770.0	794.1
55°	554.3	602.5	676.0	735.1	760.4
57.5°	509.7	561.5	637.5	698.9	724.2
60°	466.3	519.4	598.9	660.4	686.9
62.5°	423.0	476.0	559.1	621.8	647.1
65°	377.2	432.6	515.7	579.6	604.9
67.5°	331.4	389.2	472.4	536.2	560.3
70°	283.2	344.6	427.8	490.4	514.5
72.5°	238.6	300.1	382.0	443.4	466.3
75°	194.0	255.5	335.0	391.6	407.3
77.5°	150.6	212.1	283.2	320.5	324.2
80°	109.7	167.5	225.3	236.2	235.0
82.5°	73.5	125.3	155.4	156.7	160.3
85°	42.2	78.3	85.6	84.4	85.6
87.5°	16.9	27.7	24.1	18.1	18.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)