

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: P388615

Luminaire Tested: **24CZ2-40-SQR-UNV-L940-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: P388615  
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: 24CZ2-40-SQR-UNV-L940-CD1-SWPD1-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: 3399.6 lumens  
Efficiency: N/A  
Efficacy: 93.9 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

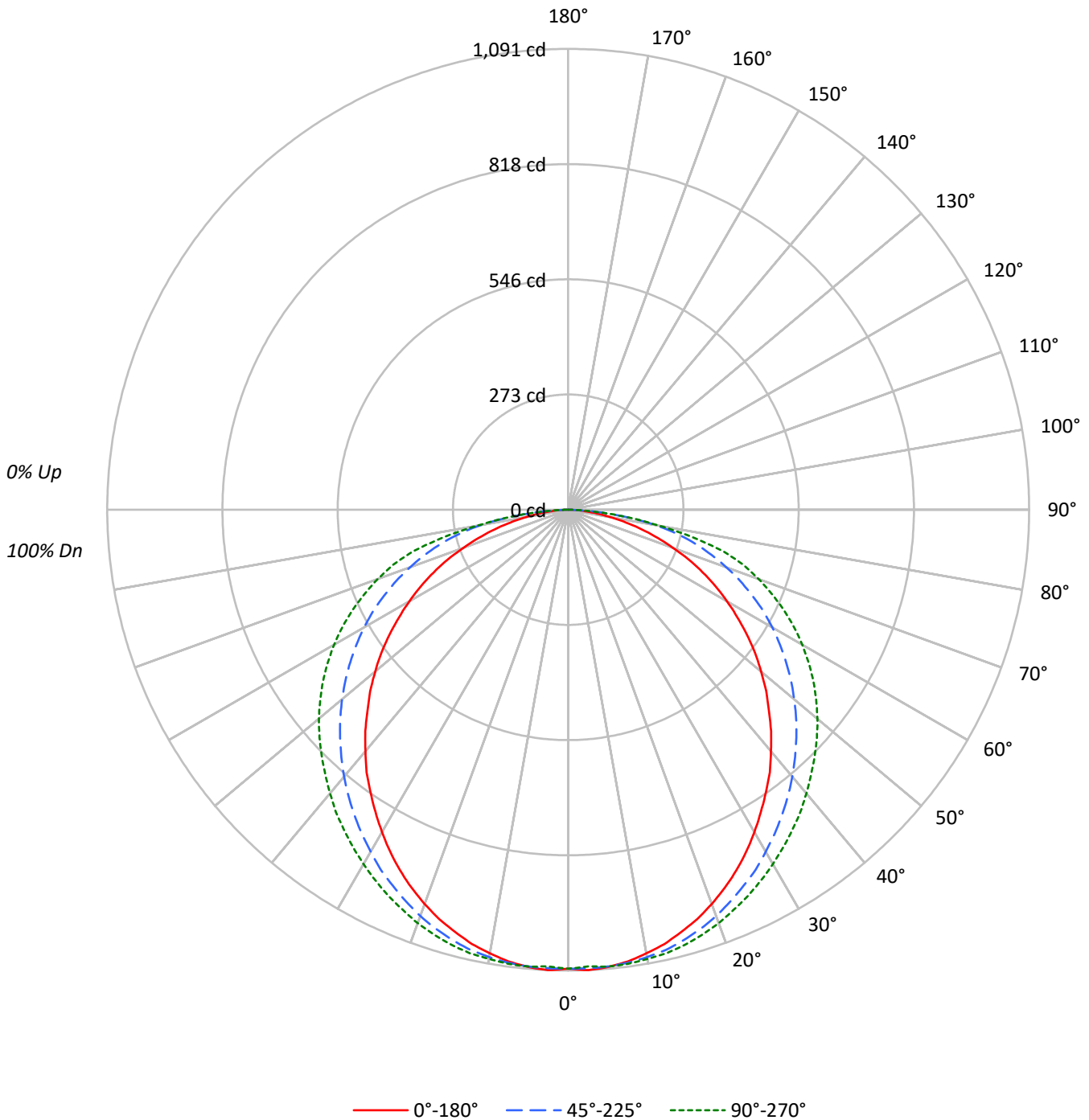
Input Watts (W): 36.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1462	1462	1462
5°	1468	1466	1466
10°	1457	1469	1475
15°	1442	1470	1486
20°	1423	1466	1492
25°	1398	1458	1497
30°	1369	1453	1505
35°	1340	1449	1519
40°	1311	1449	1540
45°	1277	1453	1570
50°	1248	1462	1612
55°	1211	1477	1662
60°	1169	1501	1722
65°	1119	1530	1794
70°	1038	1568	1886
75°	939	1622	1972
80°	792	1626	1696
85°	607	1230	1230



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	103.2	3.0
10°-20°	296.8	8.7
20°-30°	450.8	13.3
30°-40°	548.3	16.1
40°-50°	583.8	17.2
50°-60°	556.0	16.4
60°-70°	465.0	13.7
70°-80°	310.0	9.1
80°-90°	85.8	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°	850.7	25.0
0°-40°	1399.0	41.2
0°-60°	2538.8	74.7
0°-90°	3399.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3399.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1087	1087	1087	1087	1087	
5°	1087	1080	1086	1086	1086	103
15°	1035	1037	1055	1063	1066	292
25°	942	954	982	999	1008	434
35°	816	840	882	912	925	511
45°	671	707	763	806	825	519
55°	516	561	630	685	708	462
65°	351	403	480	540	564	347
75°	181	238	312	365	379	191
85°	39	73	80	79	80	47
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1086.7	1086.7	1086.7	1086.7	1086.7
2.5°	1091.2	1083.3	1086.7	1086.7	1082.2
5°	1086.7	1079.9	1085.6	1085.6	1085.6
7.5°	1078.8	1073.2	1082.2	1084.4	1084.4
10°	1066.5	1064.2	1075.5	1078.8	1079.9
12.5°	1053.0	1051.9	1067.6	1072.1	1075.5
15°	1035.0	1037.3	1055.2	1063.1	1066.5
17.5°	1016.0	1020.4	1040.7	1051.9	1055.2
20°	993.5	1000.2	1023.8	1035.0	1041.8
22.5°	968.8	978.9	1003.6	1017.1	1024.9
25°	941.9	954.2	982.3	999.1	1008.1
27.5°	912.7	928.4	960.9	980.0	989.0
30°	881.2	899.2	935.1	957.6	968.8
32.5°	848.7	870.0	909.3	934.0	947.5
35°	816.1	839.7	882.4	911.6	925.0
37.5°	783.6	807.1	854.3	885.7	902.6
40°	746.5	774.6	825.1	859.9	876.8
42.5°	710.6	740.9	794.8	833.0	850.9
45°	671.3	707.2	763.4	806.0	825.1
47.5°	635.4	671.3	731.9	776.8	798.2
50°	596.1	634.3	698.3	747.7	770.1
52.5°	557.9	597.2	664.6	717.3	739.8
55°	516.4	561.3	629.8	684.8	708.4
57.5°	474.9	523.1	593.9	651.1	674.7
60°	434.4	483.8	557.9	615.2	639.9
62.5°	394.0	443.4	520.9	579.3	602.8
65°	351.4	403.0	480.5	540.0	563.5
67.5°	308.7	362.6	440.1	499.6	522.0
70°	263.8	321.1	398.5	456.9	479.4
72.5°	222.3	279.5	355.9	413.1	434.4
75°	180.7	238.0	312.1	364.8	379.4
77.5°	140.3	197.6	263.8	298.6	302.0
80°	102.2	156.0	209.9	220.0	218.9
82.5°	68.5	116.8	144.8	145.9	149.3
85°	39.3	73.0	79.7	78.6	79.7
87.5°	15.7	25.8	22.5	16.8	16.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)