

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: P388636

Luminaire Tested: **24CZ2-40HE-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: P388636  
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: 24CZ2-40HE-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: 3230.9 lumens  
Efficiency: N/A  
Efficacy: 105.6 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

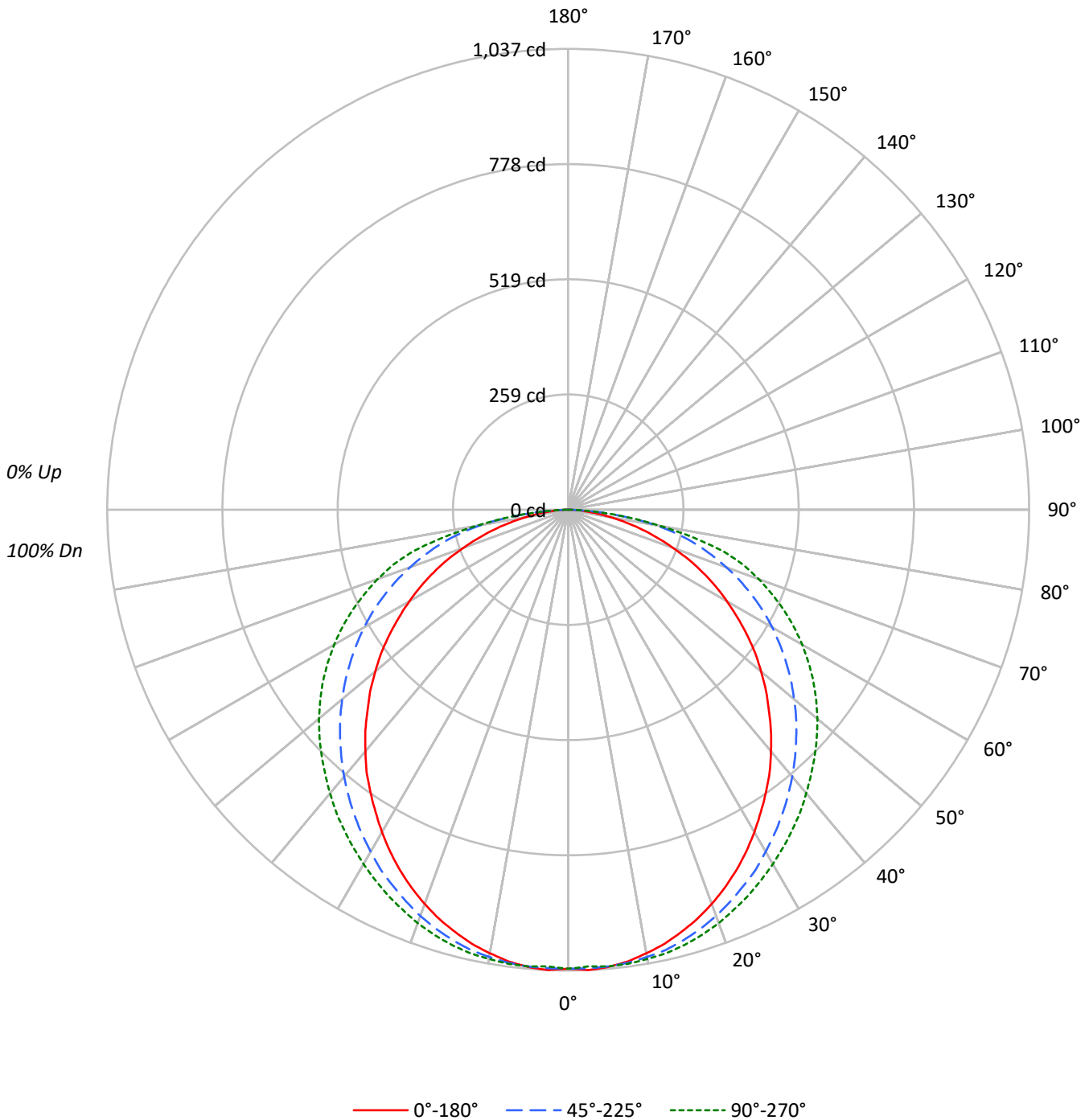
Input Watts (W): 30.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1390	1390	1390
5°	1395	1393	1393
10°	1385	1396	1402
15°	1370	1397	1412
20°	1352	1393	1418
25°	1329	1386	1422
30°	1301	1381	1430
35°	1274	1377	1444
40°	1246	1377	1463
45°	1214	1380	1492
50°	1186	1389	1532
55°	1151	1404	1579
60°	1111	1427	1636
65°	1063	1454	1705
70°	986	1490	1792
75°	893	1542	1875
80°	752	1546	1612
85°	576	1169	1169



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.0	3.0
10°-20°	282.0	8.7
20°-30°	428.4	13.3
30°-40°	521.1	16.1
40°-50°	554.8	17.2
50°-60°	528.4	16.4
60°-70°	441.9	13.7
70°-80°	294.6	9.1
80°-90°	81.5	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°	808.5	25.0
0°-40°	1329.6	41.2
0°-60°	2412.8	74.7
0°-90°	3230.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3230.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1033	1033	1033	1033	1033	
5°	1033	1026	1032	1032	1032	98
15°	984	986	1003	1010	1014	277
25°	895	907	934	950	958	412
35°	776	798	839	866	879	485
45°	638	672	726	766	784	493
55°	491	533	598	651	673	439
65°	334	383	457	513	536	330
75°	172	226	297	347	361	182
85°	37	69	76	75	76	45
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1032.8	1032.8	1032.8	1032.8	1032.8
2.5°	1037.0	1029.6	1032.8	1032.8	1028.5
5°	1032.8	1026.4	1031.7	1031.7	1031.7
7.5°	1025.3	1020.0	1028.5	1030.6	1030.6
10°	1013.5	1011.4	1022.1	1025.3	1026.4
12.5°	1000.7	999.7	1014.6	1018.9	1022.1
15°	983.7	985.8	1002.9	1010.3	1013.5
17.5°	965.5	969.8	989.0	999.7	1002.9
20°	944.2	950.6	973.0	983.7	990.1
22.5°	920.7	930.3	953.8	966.6	974.1
25°	895.1	906.9	933.5	949.5	958.1
27.5°	867.4	882.3	913.3	931.4	939.9
30°	837.5	854.6	888.7	910.1	920.7
32.5°	806.6	826.8	864.2	887.7	900.5
35°	775.6	798.0	838.6	866.3	879.1
37.5°	744.7	767.1	811.9	841.8	857.8
40°	709.5	736.2	784.2	817.2	833.2
42.5°	675.3	704.1	755.4	791.6	808.7
45°	638.0	672.1	725.5	766.0	784.2
47.5°	603.9	638.0	695.6	738.3	758.6
50°	566.5	602.8	663.6	710.6	731.9
52.5°	530.2	567.6	631.6	681.7	703.1
55°	490.8	533.4	598.5	650.8	673.2
57.5°	451.3	497.2	564.4	618.8	641.2
60°	412.9	459.8	530.2	584.7	608.1
62.5°	374.5	421.4	495.0	550.5	572.9
65°	333.9	383.0	456.6	513.2	535.6
67.5°	293.4	344.6	418.2	474.8	496.1
70°	250.7	305.1	378.7	434.2	455.6
72.5°	211.2	265.7	338.2	392.6	412.9
75°	171.8	226.2	296.6	346.7	360.6
77.5°	133.4	187.8	250.7	283.8	287.0
80°	97.1	148.3	199.5	209.1	208.0
82.5°	65.1	111.0	137.6	138.7	141.9
85°	37.3	69.3	75.7	74.7	75.7
87.5°	14.9	24.5	21.3	16.0	16.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)