

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: P388633

Luminaire Tested: **24CZ2-40HE-SQR-UNV-L930-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: P388633  
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-L930-CD1-SWPD1-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: 3152.9 lumens  
Efficiency: N/A  
Efficacy: 103.0 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

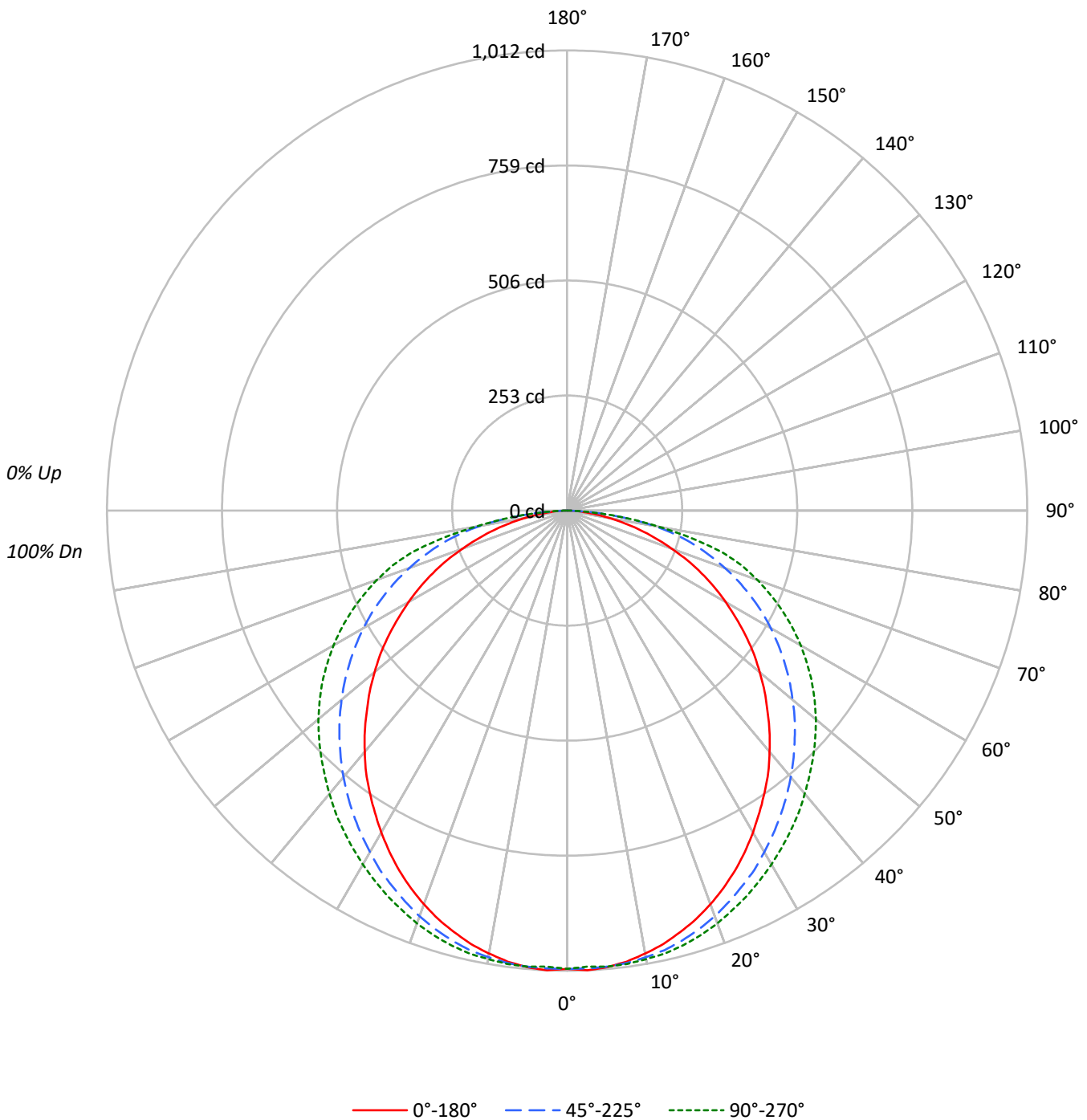
Input Watts (W): 30.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1356	1356	1356
5°	1361	1360	1360
10°	1351	1363	1368
15°	1337	1363	1378
20°	1319	1360	1383
25°	1297	1352	1388
30°	1270	1347	1396
35°	1243	1344	1409
40°	1216	1344	1428
45°	1185	1347	1456
50°	1157	1356	1495
55°	1123	1370	1541
60°	1084	1392	1597
65°	1038	1419	1664
70°	963	1454	1749
75°	871	1504	1829
80°	734	1509	1573
85°	562	1141	1141



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	95.7	3.0
10°-20°	275.2	8.7
20°-30°	418.1	13.3
30°-40°	508.5	16.1
40°-50°	541.4	17.2
50°-60°	515.7	16.4
60°-70°	431.2	13.7
70°-80°	287.5	9.1
80°-90°	79.5	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°	789.0	25.0
0°-40°	1297.5	41.2
0°-60°	2354.6	74.7
0°-90°	3152.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3152.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1008	1008	1008	1008	1008	
5°	1008	1002	1007	1007	1007	96
15°	960	962	979	986	989	271
25°	874	885	911	927	935	402
35°	757	779	818	845	858	474
45°	623	656	708	748	765	481
55°	479	521	584	635	657	428
65°	326	374	446	501	523	322
75°	168	221	289	338	352	178
85°	36	68	74	73	74	44
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1007.8	1007.8	1007.8	1007.8	1007.8
2.5°	1012.0	1004.7	1007.8	1007.8	1003.7
5°	1007.8	1001.6	1006.8	1006.8	1006.8
7.5°	1000.5	995.3	1003.7	1005.7	1005.7
10°	989.1	987.0	997.4	1000.5	1001.6
12.5°	976.6	975.5	990.1	994.3	997.4
15°	959.9	962.0	978.7	986.0	989.1
17.5°	942.2	946.4	965.1	975.5	978.7
20°	921.4	927.7	949.5	959.9	966.2
22.5°	898.5	907.9	930.8	943.3	950.6
25°	873.5	885.0	911.0	926.6	934.9
27.5°	846.4	861.0	891.2	908.9	917.2
30°	817.3	834.0	867.3	888.1	898.5
32.5°	787.1	806.9	843.3	866.2	878.7
35°	756.9	778.8	818.3	845.4	857.9
37.5°	726.7	748.6	792.3	821.5	837.1
40°	692.4	718.4	765.2	797.5	813.1
42.5°	659.0	687.2	737.1	772.5	789.2
45°	622.6	655.9	708.0	747.5	765.2
47.5°	589.3	622.6	678.8	720.5	740.2
50°	552.8	588.2	647.6	693.4	714.2
52.5°	517.4	553.9	616.4	665.3	686.1
55°	478.9	520.6	584.1	635.1	657.0
57.5°	440.4	485.2	550.8	603.9	625.7
60°	402.9	448.7	517.4	570.5	593.4
62.5°	365.4	411.2	483.1	537.2	559.1
65°	325.9	373.8	445.6	500.8	522.7
67.5°	286.3	336.3	408.1	463.3	484.1
70°	244.7	297.8	369.6	423.7	444.6
72.5°	206.1	259.2	330.0	383.1	402.9
75°	167.6	220.7	289.4	338.4	351.9
77.5°	130.1	183.2	244.7	276.9	280.1
80°	94.7	144.7	194.7	204.1	203.0
82.5°	63.5	108.3	134.3	135.3	138.5
85°	36.4	67.7	73.9	72.9	73.9
87.5°	14.6	23.9	20.8	15.6	15.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)