

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: P272141

Luminaire Tested: **24CZ2-40HE-S-UNV-L930-CD1-U**

Issue Date: 3/3/2020

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: P272141  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-40HE-S-UNV-L930-CD1-U  
Description: 2'x4' TROFFER LED MODULE,SMOOTH LENS, 90CRI  
Light Source: (168) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

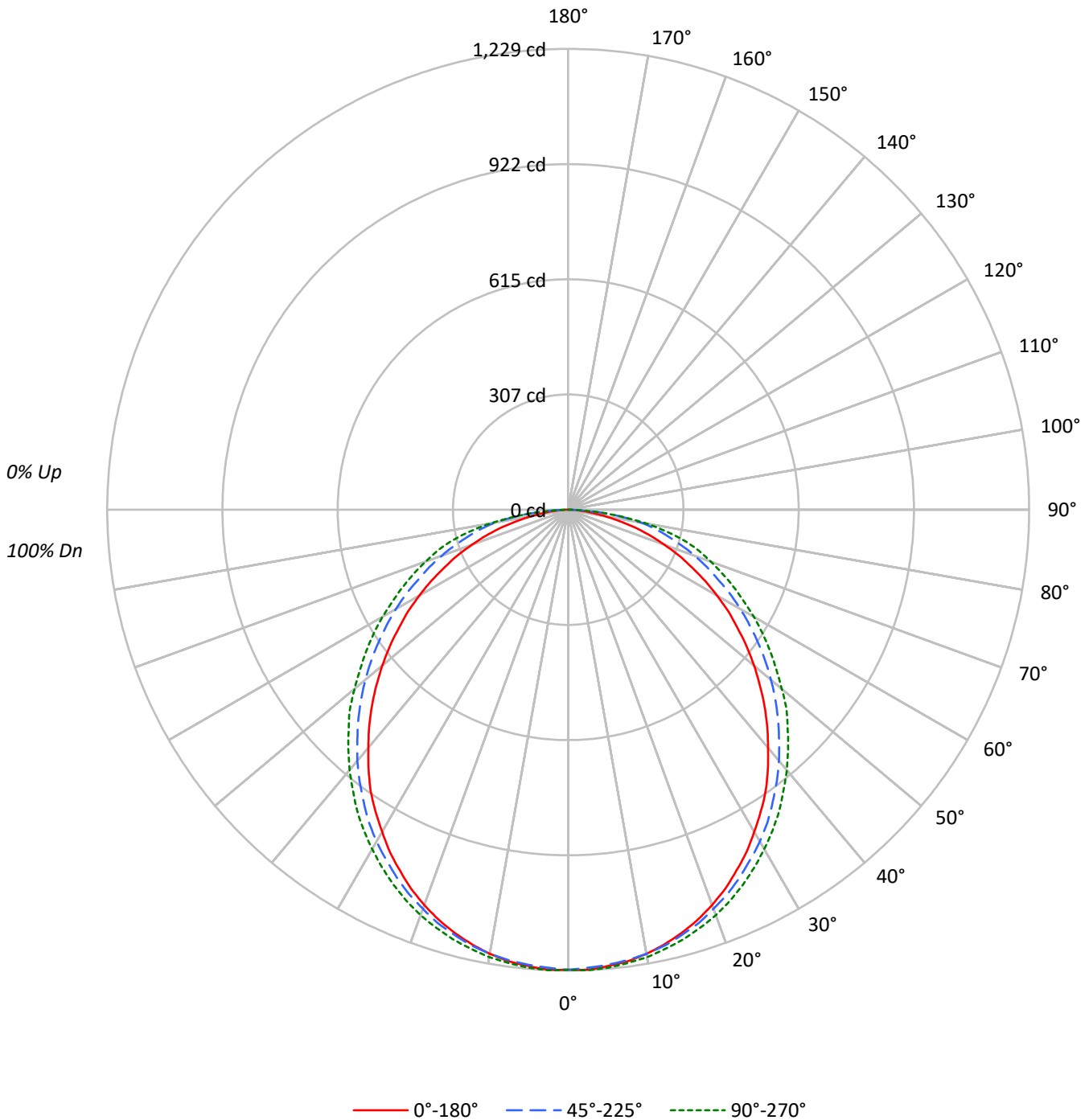
Lumens per Lamp: N/A  
Luminaire Lumens: 3493.0 lumens  
Efficiency: N/A  
Efficacy: 114.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1651	1651	1651
5°	1650	1645	1656
10°	1643	1643	1655
15°	1627	1635	1652
20°	1606	1622	1647
25°	1576	1606	1637
30°	1541	1588	1624
35°	1507	1562	1611
40°	1456	1536	1592
45°	1408	1505	1575
50°	1354	1477	1556
55°	1293	1450	1541
60°	1233	1427	1538
65°	1155	1402	1547
70°	1069	1410	1589
75°	958	1436	1679
80°	774	1522	1642
85°	582	1335	1301



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	116.2	3.3
10°-20°	331.9	9.5
20°-30°	499.0	14.3
30°-40°	594.4	17.0
40°-50°	608.3	17.4
50°-60°	547.7	15.7
60°-70°	430.1	12.3
70°-80°	279.1	8.0
80°-90°	86.3	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°	947.1	27.1
0°-40°	1541.5	44.1
0°-60°	2697.4	77.2
0°-90°	3493.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3493.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1227	1227	1227	1227	1227	
5°	1222	1224	1218	1225	1226	116
15°	1168	1172	1174	1184	1186	329
25°	1062	1071	1082	1100	1103	489
35°	918	929	951	974	981	572
45°	740	758	791	821	828	571
55°	551	576	618	650	657	494
65°	363	390	440	477	486	361
75°	184	220	276	314	323	195
85°	38	70	86	84	84	46
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1227.1	1227.1	1227.1	1227.1	1227.1
2.5°	1228.2	1228.2	1222.7	1228.2	1229.3
5°	1221.6	1223.8	1218.2	1224.9	1226.0
7.5°	1214.9	1214.9	1211.6	1218.2	1219.3
10°	1202.7	1203.8	1202.7	1210.5	1211.6
12.5°	1187.2	1189.4	1190.5	1198.3	1199.4
15°	1168.3	1171.6	1173.9	1183.8	1186.1
17.5°	1147.2	1150.6	1156.1	1167.2	1169.4
20°	1121.7	1126.1	1132.8	1147.2	1150.6
22.5°	1094.0	1098.4	1109.5	1122.8	1128.4
25°	1061.8	1070.7	1081.8	1099.5	1102.8
27.5°	1029.6	1037.4	1051.8	1070.7	1075.1
30°	991.9	1004.1	1021.9	1040.7	1045.2
32.5°	955.3	967.5	988.6	1008.5	1014.1
35°	917.6	928.7	950.8	974.1	980.8
37.5°	874.3	888.7	913.1	936.4	943.1
40°	828.8	846.6	874.3	898.7	906.5
42.5°	785.5	804.4	832.1	858.8	867.6
45°	740.0	757.8	791.1	821.0	827.7
47.5°	693.4	713.4	748.9	778.9	790.0
50°	646.8	667.9	705.6	736.7	743.4
52.5°	600.2	622.4	662.4	695.7	699.0
55°	551.4	575.8	618.0	650.2	656.8
57.5°	507.0	528.1	573.6	606.9	614.7
60°	458.2	481.5	530.3	561.4	571.4
62.5°	411.6	436.0	487.1	518.1	527.0
65°	362.8	390.5	440.5	477.1	486.0
67.5°	320.6	347.3	400.5	436.0	444.9
70°	271.8	301.8	358.4	395.0	403.9
72.5°	229.7	260.7	317.3	352.8	366.1
75°	184.2	219.7	276.3	314.0	322.9
77.5°	139.8	180.8	238.5	267.4	267.4
80°	99.9	143.1	196.4	209.7	211.9
82.5°	65.5	107.6	145.3	144.2	144.2
85°	37.7	69.9	86.5	84.3	84.3
87.5°	14.4	28.8	31.1	31.1	30.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)