

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: P276397

Luminaire Tested: **24CZ2-40HE-S-UNV-L93050-W2A1-U-3000K**

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: P276397
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-L93050-W2A1-U-3000K
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER WITH SMOOTH LENS
Light Source: (336) 90 CRI LEDS TUNED TO 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3149.8 lumens
Efficiency: N/A
Efficacy: 108.9 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

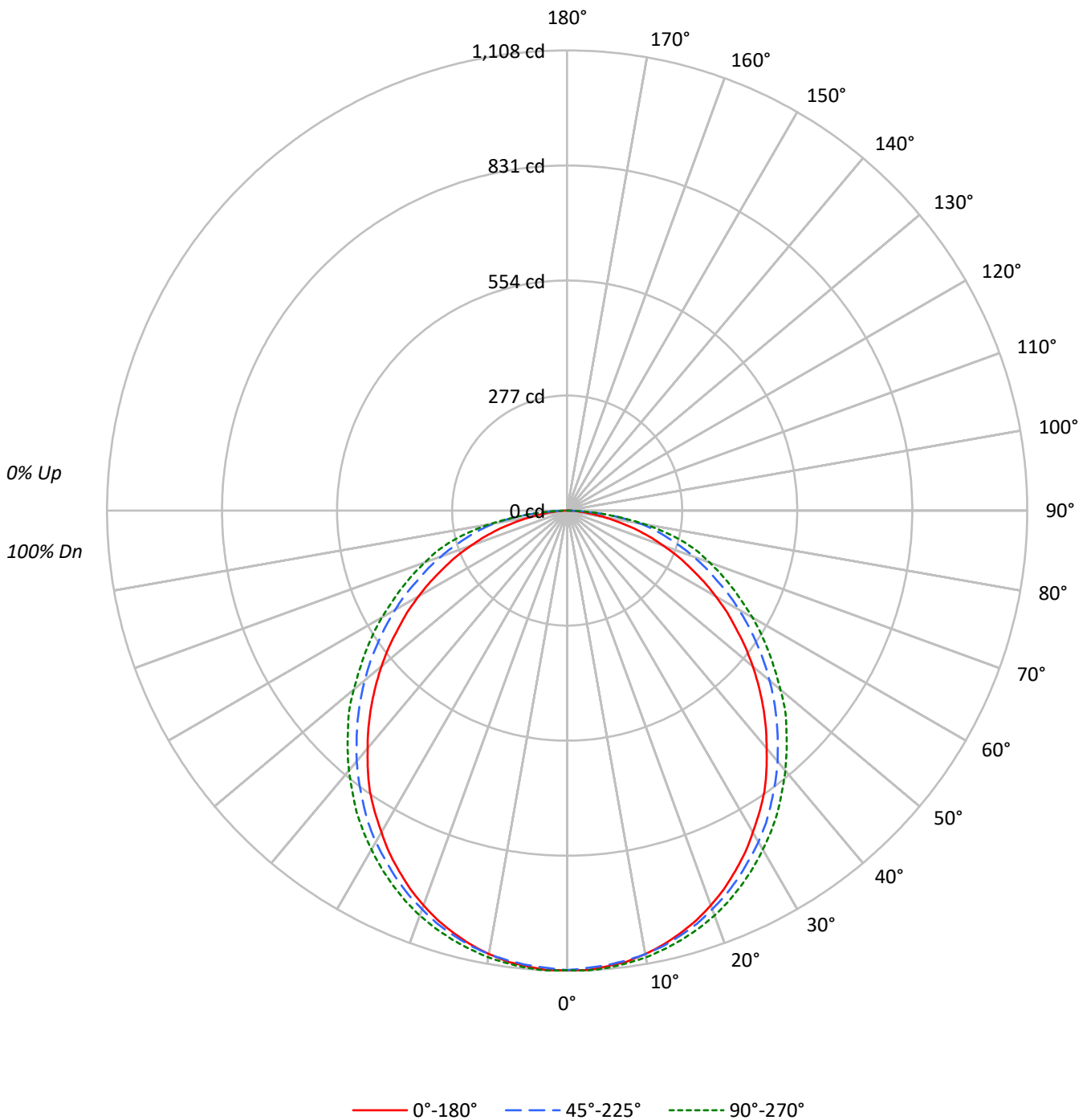
Input Watts (W): 28.922256
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1489	1489	1489
5°	1488	1484	1493
10°	1482	1482	1493
15°	1467	1474	1490
20°	1448	1463	1486
25°	1421	1448	1476
30°	1390	1432	1464
35°	1359	1408	1453
40°	1313	1385	1436
45°	1270	1357	1420
50°	1221	1332	1403
55°	1166	1307	1389
60°	1112	1287	1386
65°	1042	1265	1395
70°	964	1271	1433
75°	863	1295	1513
80°	697	1372	1481
85°	525	1204	1173



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.8	3.3
10°-20°	299.3	9.5
20°-30°	450.0	14.3
30°-40°	536.0	17.0
40°-50°	548.5	17.4
50°-60°	493.8	15.7
60°-70°	387.8	12.3
70°-80°	251.7	8.0
80°-90°	77.8	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°	854.0	27.1
0°-40°	1390.0	44.1
0°-60°	2432.4	77.2
0°-90°	3149.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3149.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1106	1106	1106	1106	1106	
5°	1102	1104	1098	1104	1106	105
15°	1054	1056	1058	1068	1070	297
25°	958	966	976	992	994	441
35°	827	837	857	878	884	516
45°	667	683	713	740	746	514
55°	497	519	557	586	592	446
65°	327	352	397	430	438	326
75°	166	198	249	283	291	176
85°	34	63	78	76	76	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1106.5	1106.5	1106.5	1106.5	<i>1106.5</i>
2.5°	<i>1107.5</i>	<i>1107.5</i>	<i>1102.5</i>	<i>1107.5</i>	<i>1108.5</i>
5°	1101.5	1103.5	1098.5	1104.5	<i>1105.5</i>
7.5°	1095.5	1095.5	1092.5	1098.5	<i>1099.5</i>
10°	1084.5	1085.5	1084.5	1091.5	<i>1092.5</i>
12.5°	1070.5	1072.5	1073.5	1080.5	<i>1081.5</i>
15°	1053.5	1056.5	1058.5	1067.5	<i>1069.5</i>
17.5°	1034.5	1037.5	1042.5	1052.5	<i>1054.5</i>
20°	1011.5	1015.5	1021.5	1034.5	<i>1037.5</i>
22.5°	986.5	990.5	1000.5	1012.5	<i>1017.5</i>
25°	957.5	965.5	975.5	991.5	<i>994.5</i>
27.5°	928.4	935.5	948.5	965.5	<i>969.5</i>
30°	894.4	905.4	921.4	938.5	<i>942.5</i>
32.5°	861.4	872.4	891.4	909.4	<i>914.4</i>
35°	827.4	837.4	857.4	878.4	<i>884.4</i>
37.5°	788.4	801.4	823.4	844.4	<i>850.4</i>
40°	747.4	763.4	788.4	810.4	<i>817.4</i>
42.5°	708.3	725.3	750.4	774.4	<i>782.4</i>
45°	667.3	683.3	713.3	740.4	<i>746.4</i>
47.5°	625.3	643.3	675.3	702.3	<i>712.3</i>
50°	583.3	602.3	636.3	664.3	<i>670.3</i>
52.5°	541.3	561.3	597.3	627.3	<i>630.3</i>
55°	497.2	519.2	557.3	586.3	<i>592.3</i>
57.5°	457.2	476.2	517.2	547.3	<i>554.3</i>
60°	413.2	434.2	478.2	506.2	<i>515.2</i>
62.5°	371.2	393.2	439.2	467.2	<i>475.2</i>
65°	327.2	352.2	397.2	430.2	<i>438.2</i>
67.5°	289.1	313.2	361.2	393.2	<i>401.2</i>
70°	245.1	272.1	323.2	356.2	<i>364.2</i>
72.5°	207.1	235.1	286.1	318.2	<i>330.2</i>
75°	166.1	198.1	249.1	283.1	<i>291.1</i>
77.5°	126.1	163.1	215.1	241.1	<i>241.1</i>
80°	90.0	129.1	177.1	189.1	<i>191.1</i>
82.5°	59.0	97.0	131.1	130.1	<i>130.1</i>
85°	34.0	63.0	78.0	76.0	<i>76.0</i>
87.5°	13.0	26.0	28.0	28.0	<i>27.0</i>
90°	0.0	0.0	0.0	0.0	<i>0.0</i>

(END OF REPORT)