

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: P276454

Luminaire Tested: **24CZ2-45-S-UNV-L93050-W2A1-U-4000K**

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: P276454  
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: 24CZ2-45-S-UNV-L93050-W2A1-U-4000K  
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER WITH SMOOTH LENS  
Light Source: (168) 90 CRI LEDS TUNED TO 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4135.4 lumens  
Efficiency: N/A  
Efficacy: 115.3 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

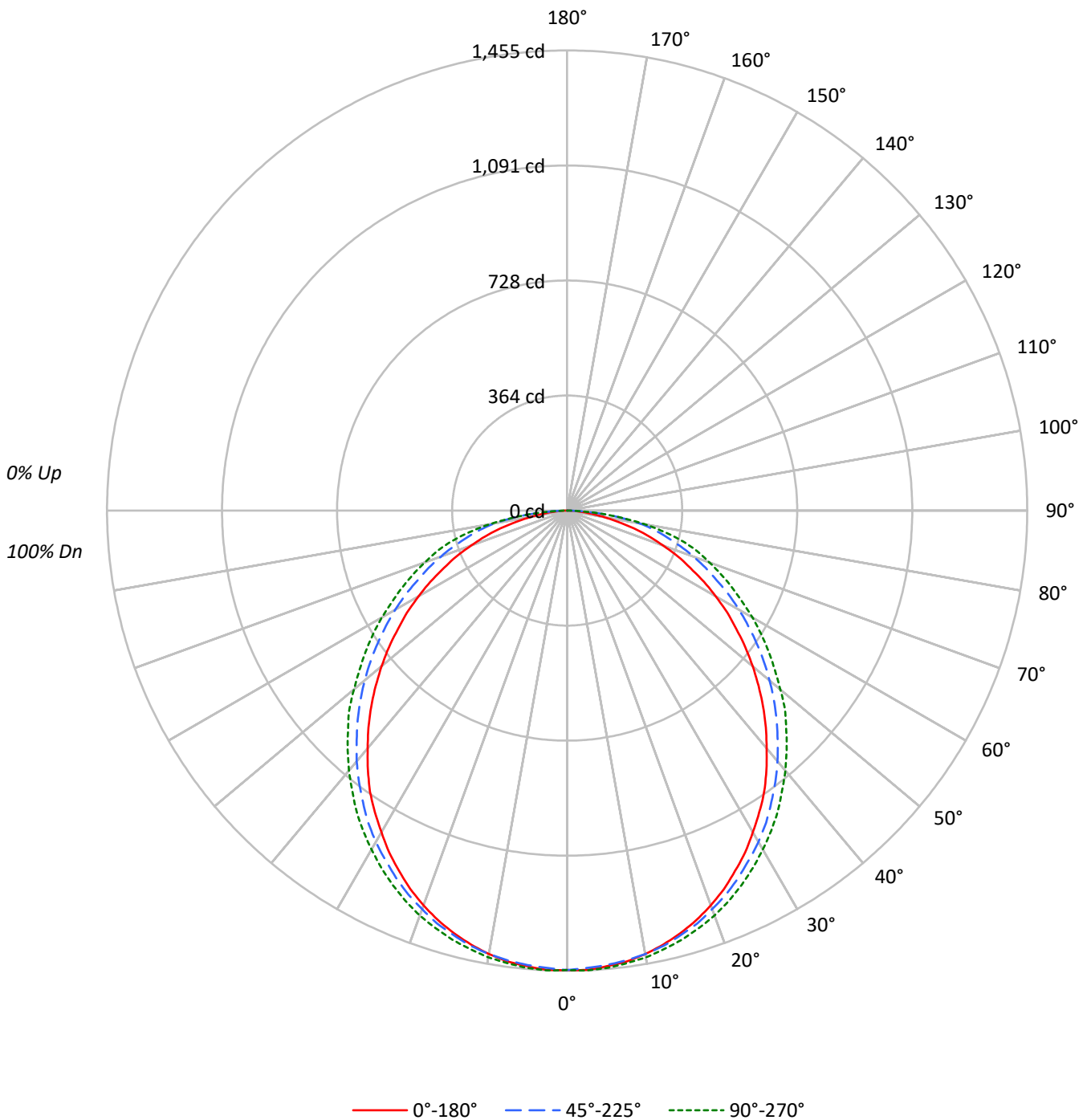
Input Watts (W): 35.877168  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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					100			
1	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83					83			
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69					69			
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58					58			
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49					49			
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42					42			
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37					37			
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33					33			
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29					29			
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26					26			
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24					24			

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

	0°	45°	90°
0°	1955	1955	1955
5°	1953	1948	1960
10°	1945	1945	1960
15°	1927	1936	1956
20°	1901	1920	1950
25°	1866	1901	1938
30°	1824	1880	1922
35°	1784	1849	1907
40°	1723	1818	1885
45°	1667	1782	1865
50°	1603	1749	1842
55°	1531	1716	1824
60°	1460	1690	1820
65°	1367	1660	1832
70°	1266	1669	1881
75°	1133	1700	1987
80°	916	1801	1944
85°	690	1582	1541



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	137.5	3.3
10°-20°	393.0	9.5
20°-30°	590.8	14.3
30°-40°	703.7	17.0
40°-50°	720.2	17.4
50°-60°	648.4	15.7
60°-70°	509.2	12.3
70°-80°	330.5	8.0
80°-90°	102.2	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°	1121.3	27.1
0°-40°	1825.0	44.1
0°-60°	3193.5	77.2
0°-90°	4135.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4135.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1453	1453	1453	1453	1453	
5°	1446	1449	1442	1450	1452	137
15°	1383	1387	1390	1402	1404	390
25°	1257	1268	1281	1302	1306	579
35°	1086	1099	1126	1153	1161	678
45°	876	897	937	972	980	675
55°	653	682	732	770	778	585
65°	430	462	522	565	575	428
75°	218	260	327	372	382	231
85°	45	83	102	100	100	54
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1452.8	1452.8	1452.8	1452.8	1452.8
2.5°	1454.1	1454.1	1447.5	1454.1	1455.4
5°	1446.2	1448.8	1442.3	1450.2	1451.5
7.5°	1438.3	1438.3	1434.4	1442.3	1443.6
10°	1423.9	1425.2	1423.9	1433.1	1434.4
12.5°	1405.5	1408.1	1409.4	1418.6	1420.0
15°	1383.2	1387.1	1389.7	1401.6	1404.2
17.5°	1358.2	1362.2	1368.7	1381.9	1384.5
20°	1328.0	1333.3	1341.1	1358.2	1362.2
22.5°	1295.2	1300.4	1313.6	1329.3	1335.9
25°	1257.1	1267.6	1280.7	1301.7	1305.7
27.5°	1219.0	1228.2	1245.2	1267.6	1272.8
30°	1174.3	1188.8	1209.8	1232.1	1237.4
32.5°	1131.0	1145.4	1170.4	1194.0	1200.6
35°	1086.3	1099.4	1125.7	1153.3	1161.2
37.5°	1035.1	1052.2	1081.1	1108.6	1116.5
40°	981.2	1002.2	1035.1	1064.0	1073.2
42.5°	930.0	952.3	985.2	1016.7	1027.2
45°	876.1	897.2	936.6	972.0	979.9
47.5°	821.0	844.6	886.6	922.1	935.2
50°	765.8	790.8	835.4	872.2	880.1
52.5°	710.6	736.9	784.2	823.6	827.5
55°	652.8	681.7	731.6	769.7	777.6
57.5°	600.3	625.3	679.1	718.5	727.7
60°	542.5	570.1	627.9	664.7	676.5
62.5°	487.3	516.2	576.6	613.4	623.9
65°	429.5	462.4	521.5	564.8	575.3
67.5°	379.6	411.1	474.2	516.2	526.7
70°	321.8	357.3	424.3	467.6	478.1
72.5°	271.9	308.7	375.7	417.7	433.5
75°	218.0	260.1	327.1	371.7	382.2
77.5°	165.5	214.1	282.4	316.6	316.6
80°	118.2	169.4	232.5	248.3	250.9
82.5°	77.5	127.4	172.1	170.8	170.8
85°	44.7	82.8	102.5	99.8	99.8
87.5°	17.1	34.2	36.8	36.8	35.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)