

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: P388705

Luminaire Tested: **24CZ2-45HE-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: P388705  
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: 24CZ2-45HE-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: 3585.7 lumens  
Efficiency: N/A  
Efficacy: 101.6 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

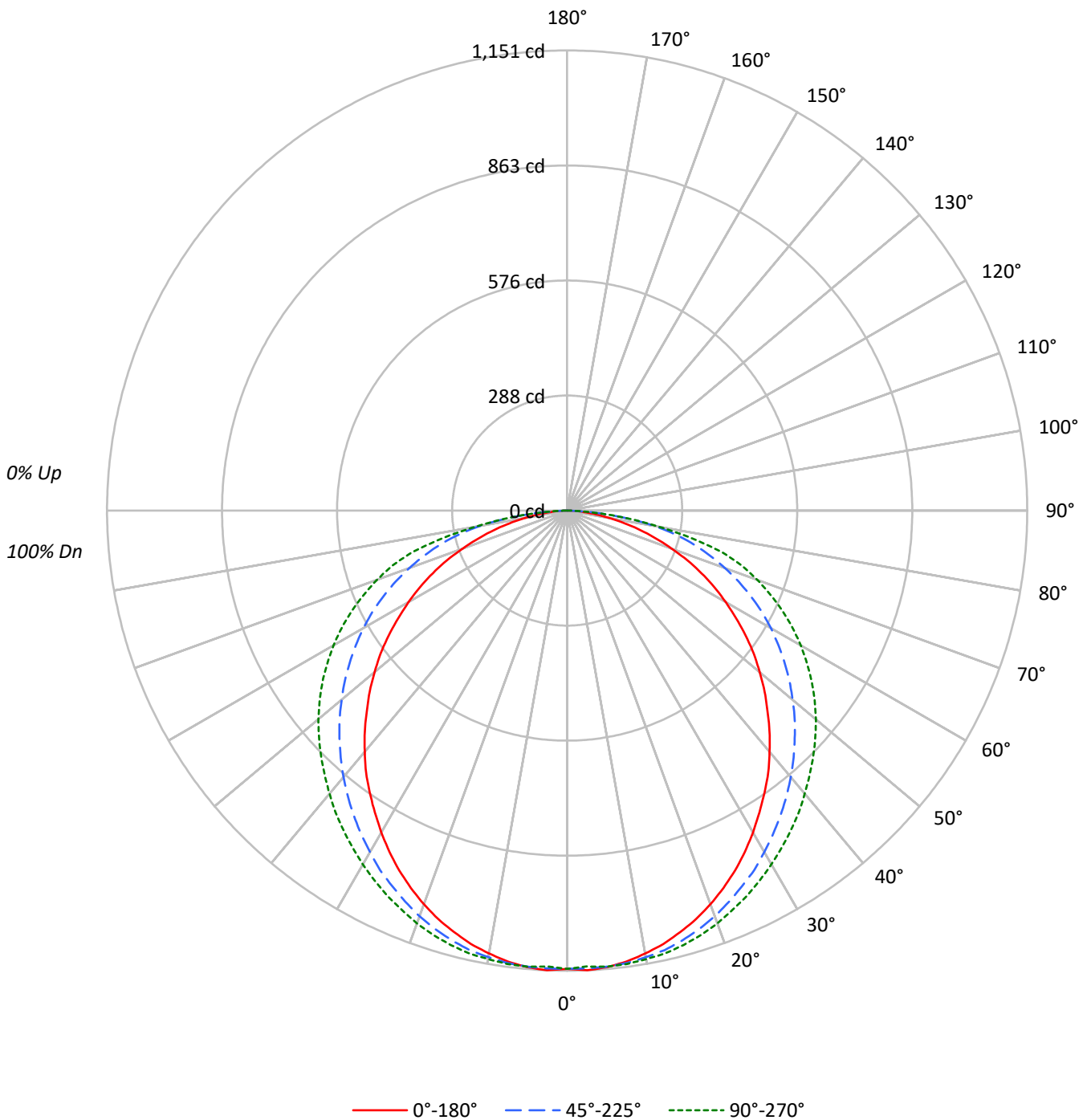
Input Watts (W): 35.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1542	1542	1542
5°	1548	1546	1546
10°	1537	1550	1556
15°	1521	1550	1567
20°	1500	1546	1573
25°	1475	1538	1579
30°	1444	1532	1588
35°	1414	1529	1603
40°	1383	1529	1624
45°	1347	1532	1656
50°	1316	1542	1700
55°	1278	1558	1753
60°	1233	1584	1816
65°	1180	1613	1892
70°	1095	1653	1989
75°	991	1711	2080
80°	834	1715	1789
85°	639	1298	1298



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.8	3.0
10°-20°	313.0	8.7
20°-30°	475.5	13.3
30°-40°	578.3	16.1
40°-50°	615.8	17.2
50°-60°	586.5	16.4
60°-70°	490.4	13.7
70°-80°	327.0	9.1
80°-90°	90.5	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°	897.3	25.0
0°-40°	1475.6	41.2
0°-60°	2677.8	74.7
0°-90°	3585.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3585.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1146	1146	1146	1146	1146	
5°	1146	1139	1145	1145	1145	109
15°	1092	1094	1113	1121	1125	308
25°	993	1006	1036	1054	1063	457
35°	861	886	931	962	976	539
45°	708	746	805	850	870	547
55°	545	592	664	722	747	487
65°	371	425	507	570	594	366
75°	191	251	329	385	400	202
85°	41	77	84	83	84	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1146.2	1146.2	1146.2	1146.2	1146.2
2.5°	1150.9	1142.6	1146.2	1146.2	1141.4
5°	1146.2	1139.1	1145.0	1145.0	1145.0
7.5°	1137.9	1132.0	1141.4	1143.8	1143.8
10°	1124.9	1122.5	1134.3	1137.9	1139.1
12.5°	1110.6	1109.5	1126.0	1130.8	1134.3
15°	1091.7	1094.1	1113.0	1121.3	1124.9
17.5°	1071.6	1076.3	1097.6	1109.5	1113.0
20°	1047.9	1055.0	1079.9	1091.7	1098.8
22.5°	1021.8	1032.5	1058.5	1072.8	1081.0
25°	993.4	1006.4	1036.0	1053.8	1063.3
27.5°	962.6	979.2	1013.6	1033.7	1043.2
30°	929.5	948.4	986.3	1010.0	1021.8
32.5°	895.1	917.6	959.1	985.1	999.3
35°	860.8	885.7	930.7	961.5	975.7
37.5°	826.5	851.3	901.1	934.2	952.0
40°	787.4	817.0	870.3	907.0	924.7
42.5°	749.5	781.5	838.3	878.6	897.5
45°	708.1	746.0	805.2	850.2	870.3
47.5°	670.2	708.1	772.0	819.4	841.9
50°	628.7	669.0	736.5	788.6	812.3
52.5°	588.5	629.9	701.0	756.6	780.3
55°	544.7	592.0	664.3	722.3	747.1
57.5°	500.9	551.8	626.4	686.8	711.6
60°	458.2	510.3	588.5	648.9	674.9
62.5°	415.6	467.7	549.4	611.0	635.8
65°	370.6	425.1	506.8	569.5	594.4
67.5°	325.6	382.4	464.1	526.9	550.6
70°	278.3	338.6	420.3	481.9	505.6
72.5°	234.4	294.8	375.3	435.7	458.2
75°	190.6	251.0	329.2	384.8	400.2
77.5°	148.0	208.4	278.3	315.0	318.5
80°	107.7	164.6	221.4	232.1	230.9
82.5°	72.2	123.1	152.7	153.9	157.5
85°	41.4	77.0	84.1	82.9	84.1
87.5°	16.6	27.2	23.7	17.8	17.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)