

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: P389021

Luminaire Tested: **24CZ2-65VHE-SQR-UNV-L935-CD1-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: P389021  
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: 24CZ2-65VHE-SQR-UNV-L935-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3500K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5330.7 lumens  
Efficiency: N/A  
Efficacy: 126.3 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

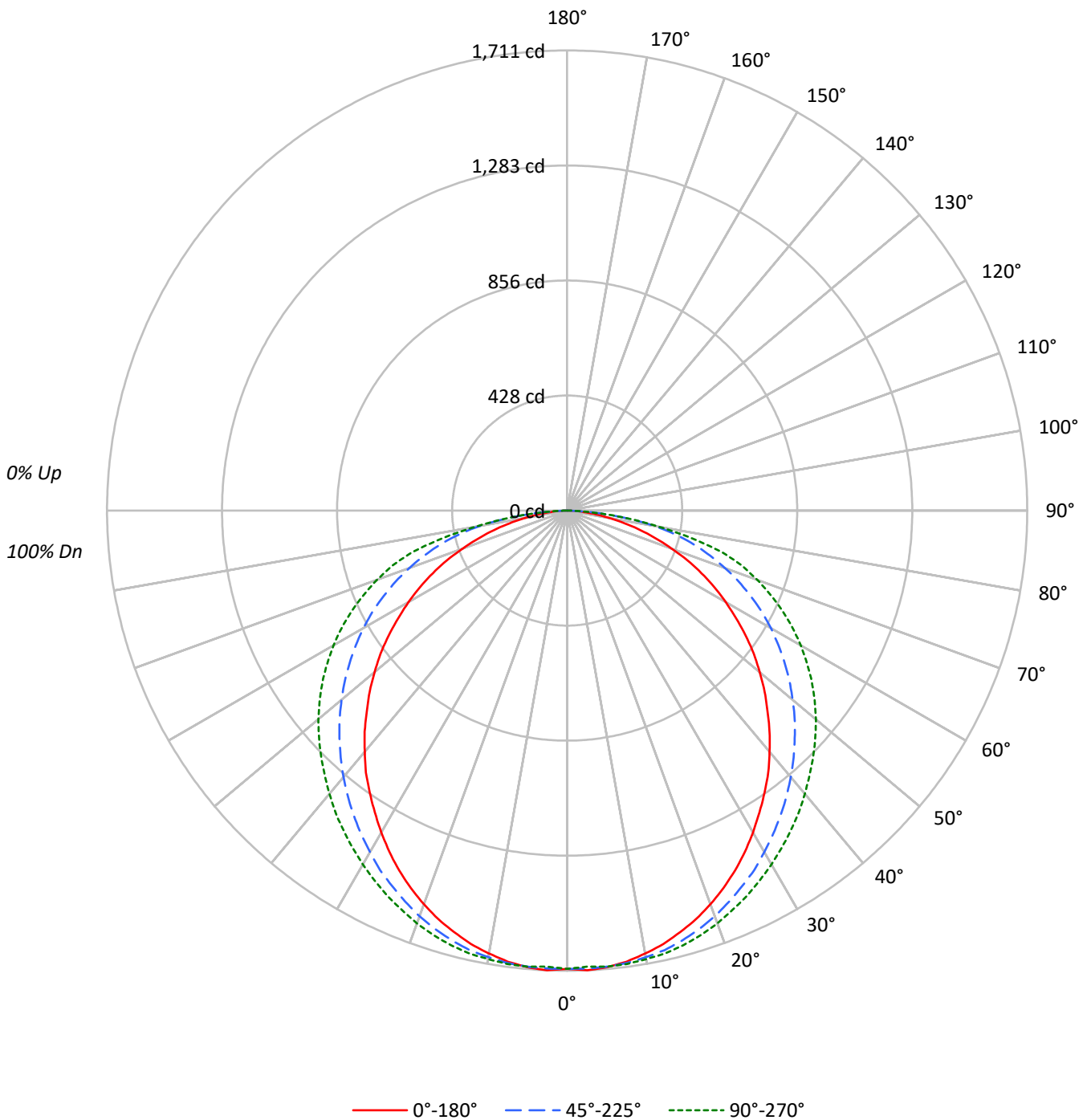
Input Watts (W): 42.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2293	2293	2293
5°	2301	2299	2299
10°	2285	2304	2314
15°	2261	2305	2329
20°	2231	2299	2339
25°	2193	2287	2347
30°	2147	2278	2360
35°	2102	2273	2383
40°	2056	2272	2415
45°	2003	2278	2462
50°	1957	2292	2528
55°	1899	2316	2605
60°	1833	2354	2700
65°	1754	2399	2813
70°	1627	2458	2957
75°	1473	2544	3093
80°	1241	2551	2660
85°	951	1930	1930



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	161.7	3.0
10°-20°	465.4	8.7
20°-30°	706.8	13.3
30°-40°	859.8	16.1
40°-50°	915.4	17.2
50°-60°	871.9	16.4
60°-70°	729.1	13.7
70°-80°	486.1	9.1
80°-90°	134.5	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°	1333.9	25.0
0°-40°	2193.7	41.2
0°-60°	3981.0	74.7
0°-90°	5330.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5330.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1704	1704	1704	1704	1704	
5°	1704	1693	1702	1702	1702	162
15°	1623	1626	1655	1667	1672	458
25°	1477	1496	1540	1567	1581	680
35°	1280	1317	1384	1429	1450	801
45°	1053	1109	1197	1264	1294	814
55°	810	880	988	1074	1111	724
65°	551	632	753	847	884	544
75°	283	373	489	572	595	300
85°	62	114	125	123	125	74
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1704.0	1704.0	1704.0	1704.0	1704.0
2.5°	1711.0	1698.7	1704.0	1704.0	1696.9
5°	1704.0	1693.4	1702.2	1702.2	1702.2
7.5°	1691.6	1682.8	1696.9	1700.4	1700.4
10°	1672.3	1668.7	1686.3	1691.6	1693.4
12.5°	1651.1	1649.4	1674.0	1681.1	1686.3
15°	1623.0	1626.5	1654.7	1667.0	1672.3
17.5°	1593.1	1600.1	1631.8	1649.4	1654.7
20°	1557.8	1568.4	1605.4	1623.0	1633.5
22.5°	1519.1	1535.0	1573.7	1594.8	1607.1
25°	1476.9	1496.2	1540.2	1566.6	1580.7
27.5°	1431.1	1455.8	1506.8	1536.7	1550.8
30°	1381.8	1410.0	1466.3	1501.5	1519.1
32.5°	1330.8	1364.2	1425.8	1464.6	1485.7
35°	1279.7	1316.7	1383.6	1429.3	1450.5
37.5°	1228.7	1265.6	1339.6	1388.9	1415.3
40°	1170.6	1214.6	1293.8	1348.4	1374.8
42.5°	1114.3	1161.8	1246.3	1306.1	1334.3
45°	1052.6	1109.0	1197.0	1263.9	1293.8
47.5°	996.3	1052.6	1147.7	1218.1	1251.6
50°	934.7	994.6	1094.9	1172.3	1207.6
52.5°	874.9	936.5	1042.1	1124.8	1160.0
55°	809.7	880.1	987.5	1073.8	1110.7
57.5°	744.6	820.3	931.2	1021.0	1057.9
60°	681.2	758.7	874.9	964.6	1003.4
62.5°	617.9	695.3	816.8	908.3	945.3
65°	551.0	631.9	753.4	846.7	883.7
67.5°	484.1	568.6	690.0	783.3	818.5
70°	413.7	503.4	624.9	716.4	751.6
72.5°	348.5	438.3	558.0	647.8	681.2
75°	283.4	373.2	489.4	572.1	595.0
77.5°	220.0	309.8	413.7	468.2	473.5
80°	160.2	244.7	329.2	345.0	343.3
82.5°	107.4	183.1	227.1	228.8	234.1
85°	61.6	114.4	125.0	123.2	125.0
87.5°	24.6	40.5	35.2	26.4	26.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)