

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: P389017

Luminaire Tested: **24CZ2-65VHE-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: P389017  
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-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: 5137.5 lumens  
Efficiency: N/A  
Efficacy: 121.7 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

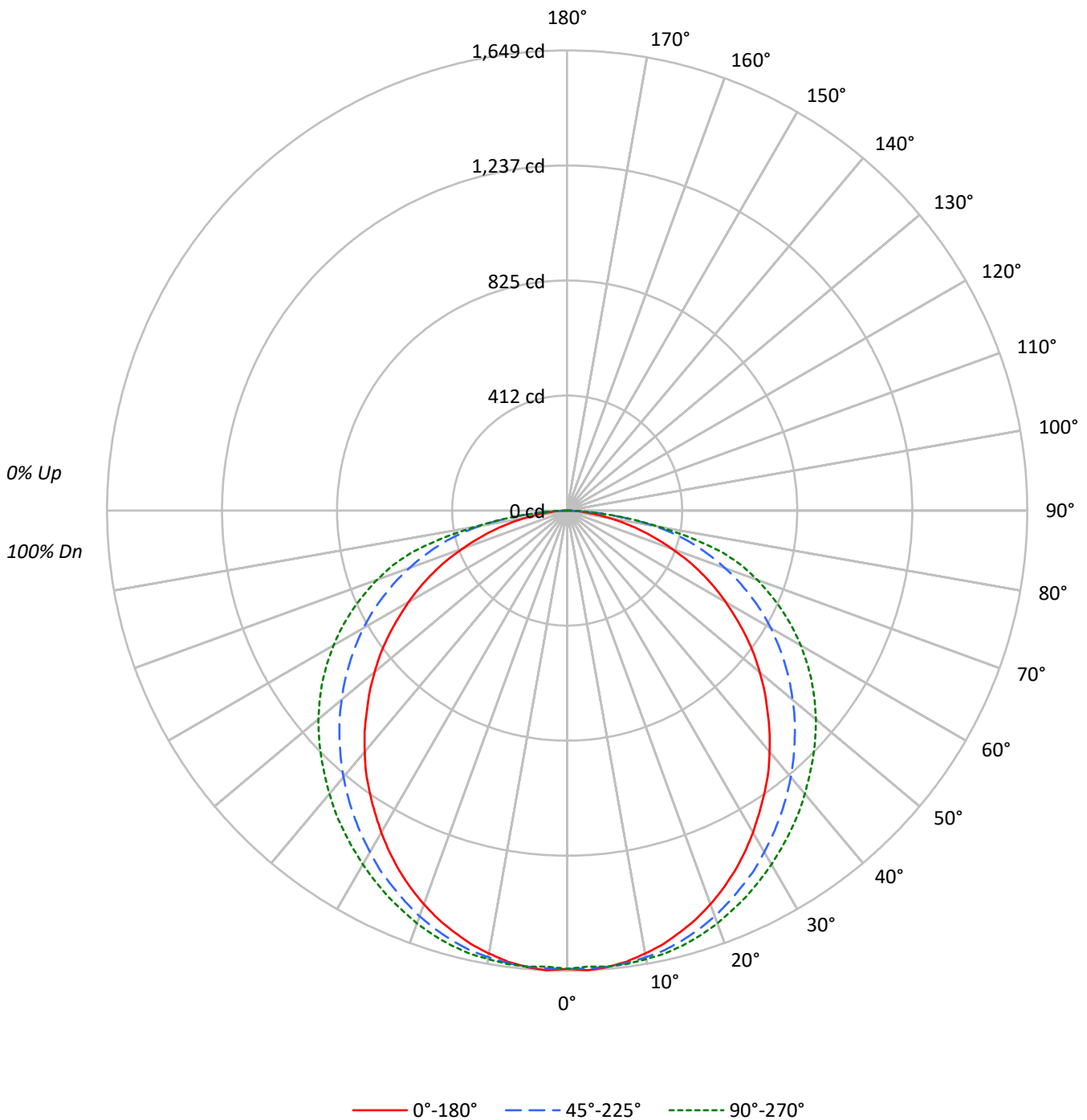
Input Watts (W): 42.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2210	2210	2210
5°	2218	2216	2216
10°	2202	2220	2230
15°	2179	2221	2245
20°	2150	2215	2254
25°	2113	2204	2262
30°	2069	2196	2275
35°	2026	2190	2296
40°	1982	2190	2327
45°	1930	2195	2373
50°	1886	2209	2436
55°	1831	2232	2511
60°	1767	2269	2602
65°	1691	2312	2711
70°	1568	2369	2850
75°	1420	2452	2981
80°	1196	2458	2563
85°	917	1860	1860



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	155.9	3.0
10°-20°	448.5	8.7
20°-30°	681.2	13.3
30°-40°	828.6	16.1
40°-50°	882.2	17.2
50°-60°	840.3	16.4
60°-70°	702.7	13.7
70°-80°	468.5	9.1
80°-90°	129.6	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°	1285.6	25.0
0°-40°	2114.2	41.2
0°-60°	3836.7	74.7
0°-90°	5137.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5137.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1642	1642	1642	1642	1642	
5°	1642	1632	1640	1640	1640	156
15°	1564	1568	1595	1607	1612	441
25°	1423	1442	1484	1510	1523	655
35°	1233	1269	1333	1378	1398	772
45°	1014	1069	1154	1218	1247	784
55°	780	848	952	1035	1070	698
65°	531	609	726	816	852	525
75°	273	360	472	551	573	289
85°	59	110	120	119	120	72
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1642.2	1642.2	1642.2	1642.2	1642.2
2.5°	1649.0	1637.1	1642.2	1642.2	1635.4
5°	1642.2	1632.0	1640.5	1640.5	1640.5
7.5°	1630.3	1621.8	1635.4	1638.8	1638.8
10°	1611.7	1608.3	1625.2	1630.3	1632.0
12.5°	1591.3	1589.6	1613.4	1620.1	1625.2
15°	1564.2	1567.5	1594.7	1606.6	1611.7
17.5°	1535.3	1542.1	1572.6	1589.6	1594.7
20°	1501.4	1511.6	1547.2	1564.2	1574.3
22.5°	1464.1	1479.3	1516.7	1537.0	1548.9
25°	1423.3	1442.0	1484.4	1509.9	1523.4
27.5°	1379.2	1403.0	1452.2	1481.0	1494.6
30°	1331.7	1358.9	1413.2	1447.1	1464.1
32.5°	1282.5	1314.8	1374.2	1411.5	1431.8
35°	1233.3	1269.0	1333.4	1377.5	1397.9
37.5°	1184.1	1219.8	1291.0	1338.5	1364.0
40°	1128.2	1170.6	1246.9	1299.5	1325.0
42.5°	1073.9	1119.7	1201.1	1258.8	1285.9
45°	1014.5	1068.8	1153.6	1218.1	1246.9
47.5°	960.2	1014.5	1106.1	1174.0	1206.2
50°	900.8	958.5	1055.2	1129.9	1163.8
52.5°	843.2	902.5	1004.3	1084.1	1118.0
55°	780.4	848.2	951.7	1034.9	1070.5
57.5°	717.6	790.6	897.4	984.0	1019.6
60°	656.5	731.2	843.2	929.7	967.0
62.5°	595.5	670.1	787.2	875.4	911.0
65°	531.0	609.0	726.1	816.0	851.6
67.5°	466.5	548.0	665.0	754.9	788.9
70°	398.7	485.2	602.3	690.5	724.4
72.5°	335.9	422.4	537.8	624.3	656.5
75°	273.1	359.7	471.6	551.4	573.4
77.5°	212.1	298.6	398.7	451.3	456.4
80°	154.4	235.8	317.2	332.5	330.8
82.5°	103.5	176.4	218.8	220.5	225.6
85°	59.4	110.3	120.5	118.8	120.5
87.5°	23.8	39.0	33.9	25.4	25.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)