

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: P388953

Luminaire Tested: **24CZ2-60VHE-SQR-UNV-L950-CD1-SDWPD1-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: P388953  
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: 24CZ2-60VHE-SQR-UNV-L950-CD1-SDWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 5000K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5144.4 lumens  
Efficiency: N/A  
Efficacy: 132.9 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

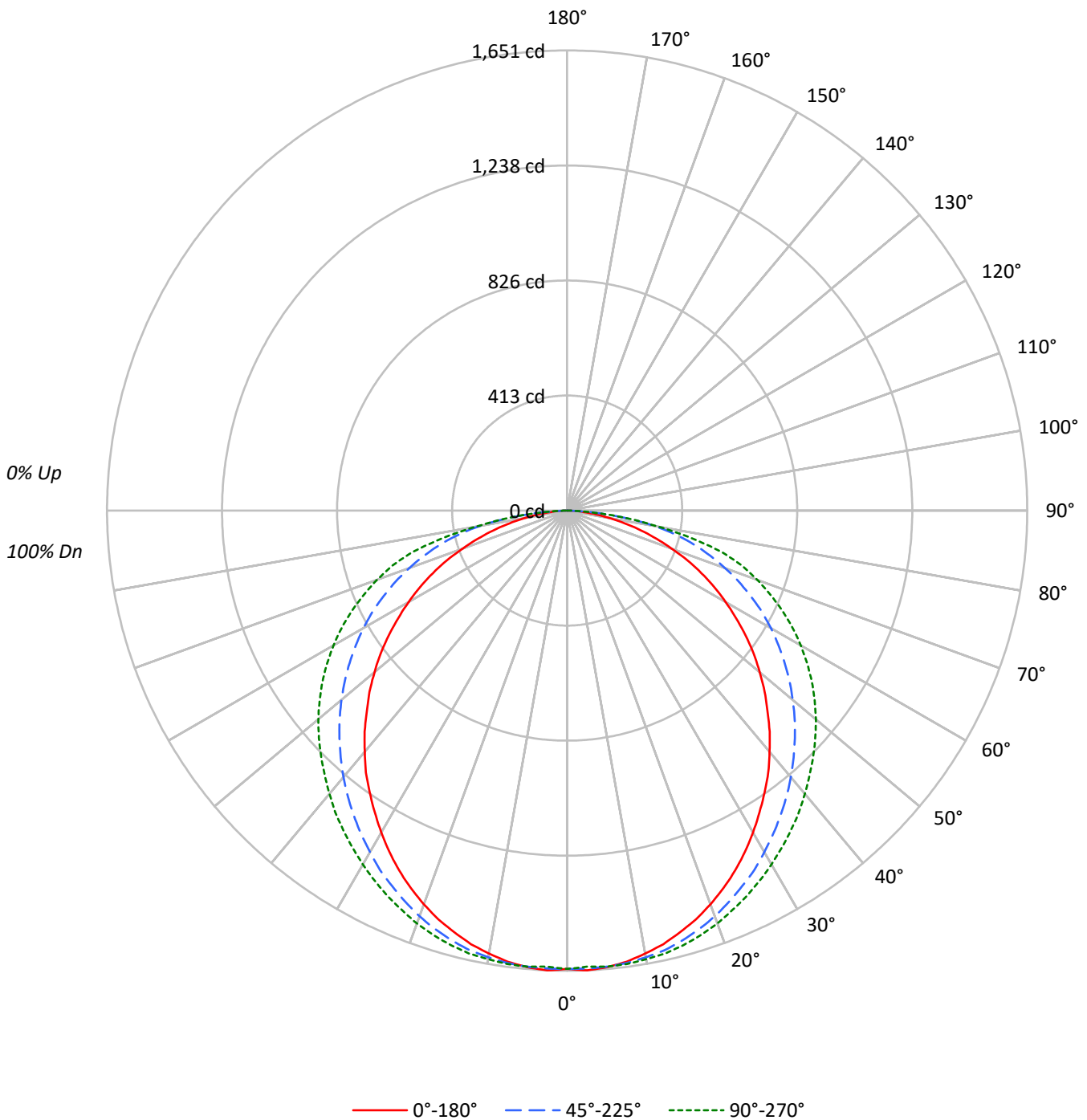
Input Watts (W): 38.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2213	2213	2213
5°	2221	2219	2219
10°	2205	2223	2233
15°	2182	2224	2248
20°	2153	2218	2257
25°	2116	2207	2265
30°	2072	2199	2278
35°	2029	2193	2299
40°	1984	2193	2330
45°	1933	2198	2376
50°	1888	2212	2439
55°	1833	2236	2514
60°	1769	2272	2606
65°	1693	2315	2715
70°	1570	2373	2854
75°	1422	2455	2985
80°	1198	2462	2567
85°	919	1862	1862



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	156.1	3.0
10°-20°	449.1	8.7
20°-30°	682.1	13.3
30°-40°	829.7	16.1
40°-50°	883.4	17.2
50°-60°	841.4	16.4
60°-70°	703.6	13.7
70°-80°	469.1	9.1
80°-90°	129.8	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°	1287.3	25.0
0°-40°	2117.0	41.2
0°-60°	3841.8	74.7
0°-90°	5144.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5144.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1644	1644	1644	1644	1644	
5°	1644	1634	1643	1643	1643	156
15°	1566	1570	1597	1609	1614	442
25°	1425	1444	1486	1512	1526	656
35°	1235	1271	1335	1379	1400	773
45°	1016	1070	1155	1220	1249	785
55°	781	849	953	1036	1072	699
65°	532	610	727	817	853	525
75°	274	360	472	552	574	290
85°	60	110	121	119	121	72
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1644.4	1644.4	1644.4	1644.4	1644.4
2.5°	1651.2	1639.3	1644.4	1644.4	1637.6
5°	1644.4	1634.2	1642.7	1642.7	1642.7
7.5°	1632.5	1624.0	1637.6	1641.0	1641.0
10°	1613.8	1610.4	1627.4	1632.5	1634.2
12.5°	1593.4	1591.7	1615.5	1622.3	1627.4
15°	1566.3	1569.7	1596.8	1608.7	1613.8
17.5°	1537.4	1544.2	1574.8	1591.7	1596.8
20°	1503.4	1513.6	1549.3	1566.3	1576.5
22.5°	1466.0	1481.3	1518.7	1539.1	1551.0
25°	1425.3	1443.9	1486.4	1511.9	1525.5
27.5°	1381.1	1404.9	1454.1	1483.0	1496.6
30°	1333.5	1360.7	1415.1	1449.0	1466.0
32.5°	1284.3	1316.5	1376.0	1413.4	1433.8
35°	1235.0	1270.7	1335.2	1379.4	1399.8
37.5°	1185.7	1221.4	1292.8	1340.3	1365.8
40°	1129.7	1172.1	1248.6	1301.3	1326.7
42.5°	1075.3	1121.2	1202.7	1260.5	1287.7
45°	1015.9	1070.2	1155.2	1219.7	1248.6
47.5°	961.5	1015.9	1107.6	1175.5	1207.8
50°	902.0	959.8	1056.6	1131.4	1165.3
52.5°	844.3	903.7	1005.7	1085.5	1119.5
55°	781.4	849.4	953.0	1036.2	1071.9
57.5°	718.6	791.6	898.6	985.3	1021.0
60°	657.4	732.2	844.3	930.9	968.3
62.5°	596.3	671.0	788.2	876.6	912.2
65°	531.7	609.9	727.1	817.1	852.8
67.5°	467.2	548.7	665.9	755.9	789.9
70°	399.2	485.8	603.1	691.4	725.4
72.5°	336.4	423.0	538.5	625.1	657.4
75°	273.5	360.1	472.3	552.1	574.2
77.5°	212.3	299.0	399.2	451.9	457.0
80°	154.6	236.1	317.7	333.0	331.3
82.5°	103.6	176.7	219.1	220.8	225.9
85°	59.5	110.4	120.6	118.9	120.6
87.5°	23.8	39.1	34.0	25.5	25.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)