

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: P388955

Luminaire Tested: **24CZ2-60VHE-SQR-UNV-L950-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: P388955  
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-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: 5272.6 lumens  
Efficiency: N/A  
Efficacy: 136.2 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

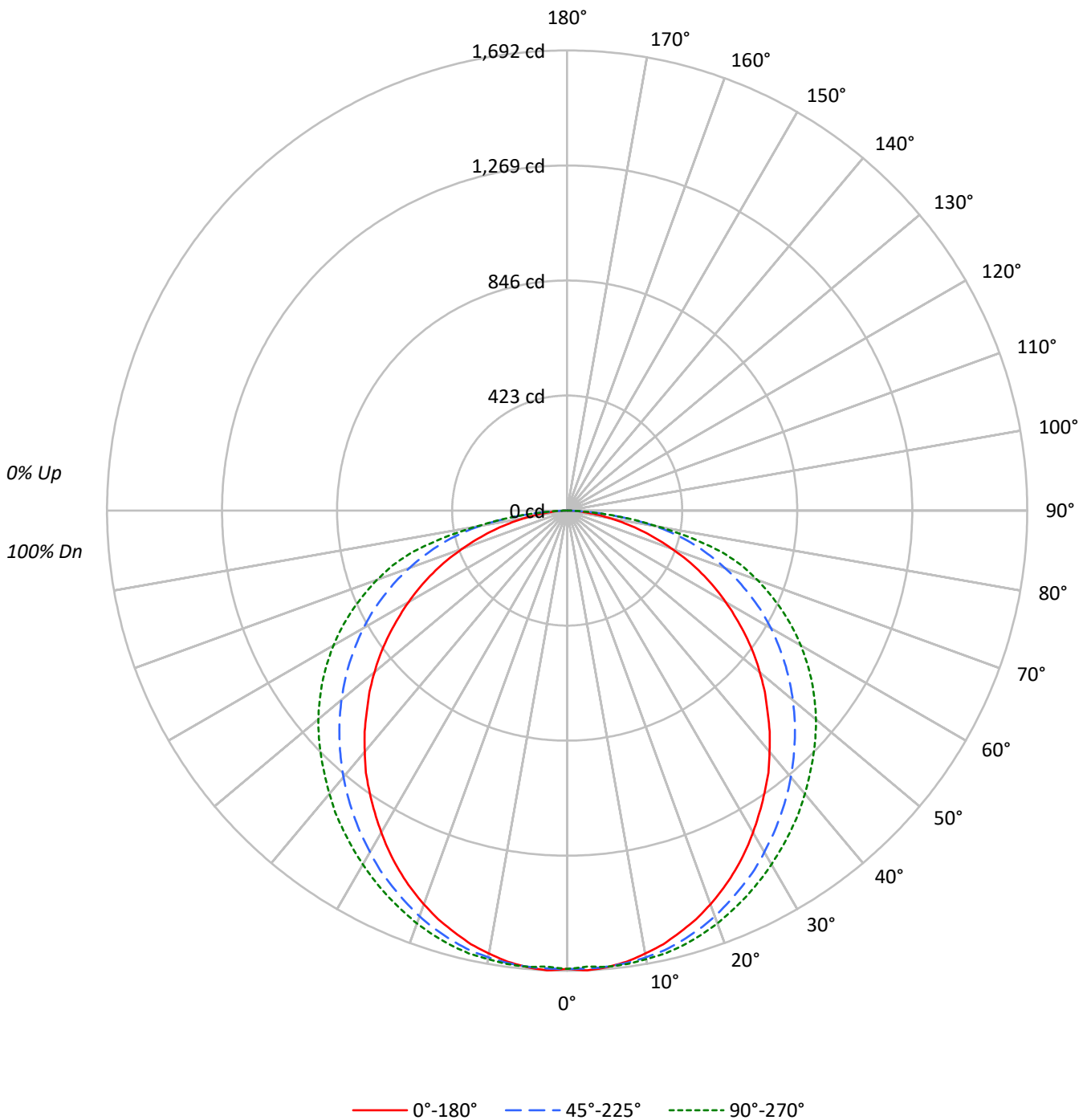
Input Watts (W): 38.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2268	2268	2268
5°	2276	2274	2274
10°	2260	2279	2288
15°	2236	2280	2304
20°	2206	2274	2313
25°	2169	2262	2321
30°	2124	2253	2334
35°	2079	2248	2357
40°	2034	2248	2388
45°	1981	2253	2435
50°	1935	2267	2500
55°	1879	2291	2577
60°	1813	2329	2671
65°	1735	2372	2783
70°	1610	2432	2924
75°	1457	2516	3059
80°	1227	2523	2631
85°	940	1908	1908



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	160.0	3.0
10°-20°	460.3	8.7
20°-30°	699.1	13.3
30°-40°	850.4	16.1
40°-50°	905.4	17.2
50°-60°	862.4	16.4
60°-70°	721.2	13.7
70°-80°	480.8	9.1
80°-90°	133.0	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°	1319.4	25.0
0°-40°	2169.8	41.2
0°-60°	3937.6	74.7
0°-90°	5272.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5272.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1685	1685	1685	1685	1685	
5°	1685	1675	1684	1684	1684	160
15°	1605	1609	1637	1649	1654	453
25°	1461	1480	1524	1550	1564	673
35°	1266	1302	1368	1414	1435	792
45°	1041	1097	1184	1250	1280	805
55°	801	870	977	1062	1099	716
65°	545	625	745	838	874	538
75°	280	369	484	566	588	297
85°	61	113	124	122	124	74
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1685.4	1685.4	1685.4	1685.4	1685.4
2.5°	1692.3	1680.2	1685.4	1685.4	1678.4
5°	1685.4	1674.9	1683.6	1683.6	1683.6
7.5°	1673.2	1664.5	1678.4	1681.9	1681.9
10°	1654.0	1650.6	1668.0	1673.2	1674.9
12.5°	1633.1	1631.4	1655.8	1662.7	1668.0
15°	1605.3	1608.8	1636.6	1648.8	1654.0
17.5°	1575.7	1582.7	1614.0	1631.4	1636.6
20°	1540.9	1551.3	1587.9	1605.3	1615.7
22.5°	1502.6	1518.2	1556.5	1577.4	1589.6
25°	1460.8	1479.9	1523.5	1549.6	1563.5
27.5°	1415.5	1439.9	1490.4	1520.0	1533.9
30°	1366.8	1394.6	1450.3	1485.2	1502.6
32.5°	1316.3	1349.3	1410.3	1448.6	1469.5
35°	1265.8	1302.3	1368.5	1413.8	1434.7
37.5°	1215.3	1251.8	1325.0	1373.7	1399.8
40°	1157.8	1201.4	1279.7	1333.7	1359.8
42.5°	1102.1	1149.1	1232.7	1291.9	1319.7
45°	1041.2	1096.9	1183.9	1250.1	1279.7
47.5°	985.5	1041.2	1135.2	1204.8	1237.9
50°	924.5	983.7	1083.0	1159.6	1194.4
52.5°	865.3	926.3	1030.7	1112.6	1147.4
55°	800.9	870.5	976.8	1062.1	1098.6
57.5°	736.5	811.4	921.0	1009.8	1046.4
60°	673.8	750.4	865.3	954.1	992.4
62.5°	611.1	687.7	807.9	898.4	935.0
65°	545.0	625.1	745.2	837.5	874.0
67.5°	478.8	562.4	682.5	774.8	809.6
70°	409.2	498.0	618.1	708.6	743.4
72.5°	344.7	433.5	551.9	640.7	673.8
75°	280.3	369.1	484.0	565.9	588.5
77.5°	217.6	306.4	409.2	463.1	468.4
80°	158.4	242.0	325.6	341.3	339.5
82.5°	106.2	181.1	224.6	226.3	231.6
85°	60.9	113.2	123.6	121.9	123.6
87.5°	24.4	40.0	34.8	26.1	26.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)