

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: P389832

Luminaire Tested: **24CZ2-60VHE-S-UNV-L935-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: P389832  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-60VHE-S-UNV-L935-CD1-SDWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3500K, 90 LEDS, AND SMOOTH LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5248.3 lumens  
Efficiency: N/A  
Efficacy: 135.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

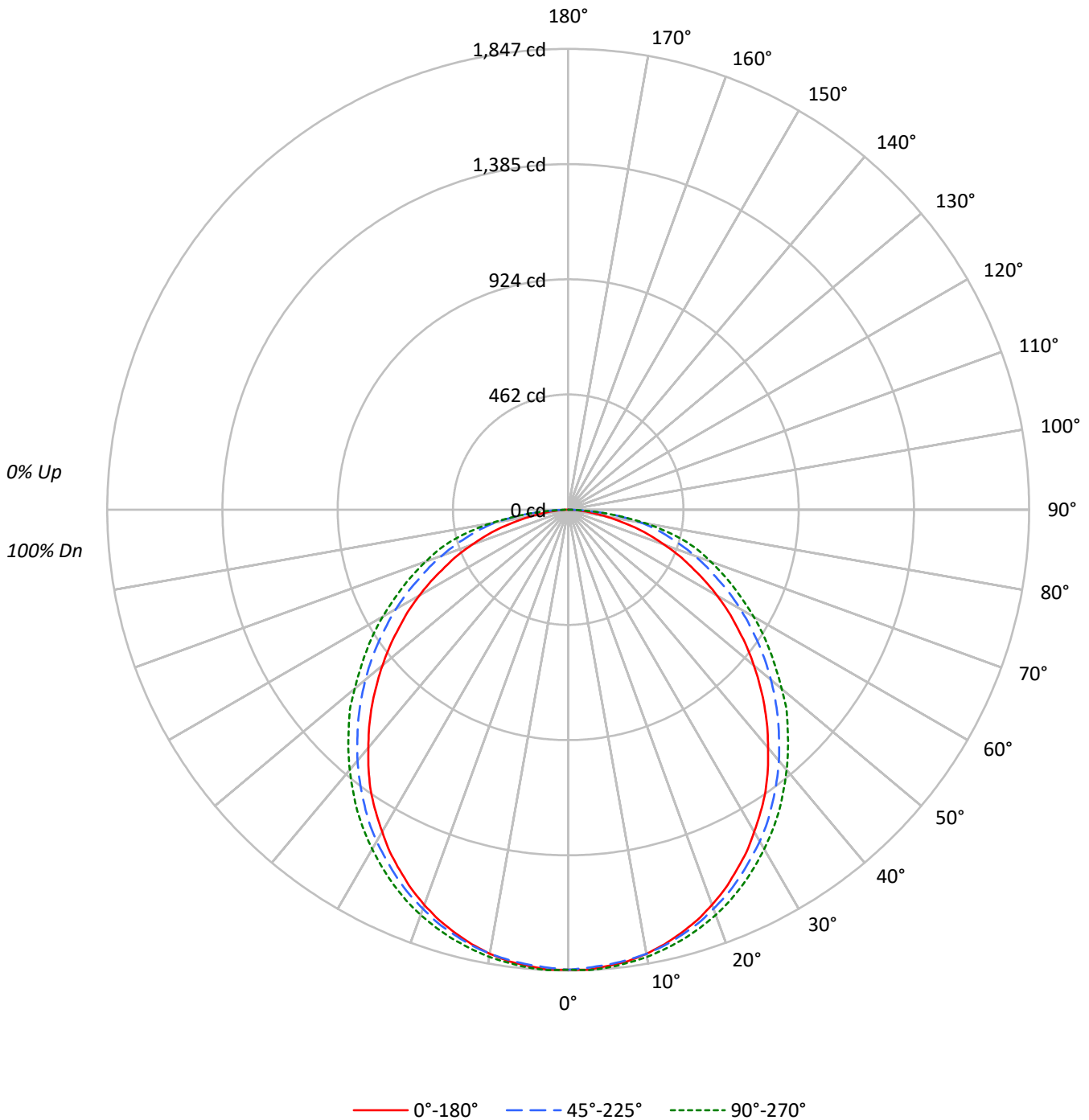
Input Watts (W): 38.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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					100			
1	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83					83			
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69					69			
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58					58			
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49					49			
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42					42			
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37					37			
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33					33			
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29					29			
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26					26			
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24					24			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2481	2481	2481
5°	2479	2472	2488
10°	2469	2469	2487
15°	2445	2457	2482
20°	2413	2437	2475
25°	2369	2413	2460
30°	2315	2385	2440
35°	2265	2347	2421
40°	2187	2307	2392
45°	2116	2262	2366
50°	2034	2219	2338
55°	1943	2178	2315
60°	1853	2144	2310
65°	1735	2107	2325
70°	1607	2118	2387
75°	1438	2158	2522
80°	1162	2287	2467
85°	875	2007	1956



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	174.5	3.3
10°-20°	498.7	9.5
20°-30°	749.7	14.3
30°-40°	893.1	17.0
40°-50°	914.0	17.4
50°-60°	822.9	15.7
60°-70°	646.2	12.3
70°-80°	419.4	8.0
80°-90°	129.7	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°	1423.0	27.1
0°-40°	2316.1	44.1
0°-60°	4053.0	77.2
0°-90°	5248.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5248.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1844	1844	1844	1844	1844	
5°	1835	1839	1830	1840	1842	174
15°	1755	1760	1764	1779	1782	495
25°	1595	1609	1625	1652	1657	735
35°	1379	1395	1429	1464	1474	860
45°	1112	1139	1189	1234	1244	857
55°	828	865	928	977	987	743
65°	545	587	662	717	730	543
75°	277	330	415	472	485	293
85°	57	105	130	127	127	68
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1843.8	1843.8	1843.8	1843.8	1843.8
2.5°	1845.4	1845.4	1837.1	1845.4	1847.1
5°	1835.4	1838.8	1830.4	1840.4	1842.1
7.5°	1825.4	1825.4	1820.4	1830.4	1832.1
10°	1807.1	1808.8	1807.1	1818.8	1820.4
12.5°	1783.7	1787.1	1788.7	1800.4	1802.1
15°	1755.4	1760.4	1763.7	1778.7	1782.1
17.5°	1723.7	1728.7	1737.1	1753.7	1757.1
20°	1685.4	1692.1	1702.1	1723.7	1728.7
22.5°	1643.7	1650.4	1667.1	1687.1	1695.4
25°	1595.4	1608.7	1625.4	1652.1	1657.1
27.5°	1547.0	1558.7	1580.4	1608.7	1615.4
30°	1490.3	1508.7	1535.4	1563.7	1570.4
32.5°	1435.3	1453.7	1485.3	1515.4	1523.7
35°	1378.7	1395.3	1428.7	1463.7	1473.7
37.5°	1313.6	1335.3	1372.0	1407.0	1417.0
40°	1245.3	1272.0	1313.6	1350.3	1362.0
42.5°	1180.3	1208.6	1250.3	1290.3	1303.6
45°	1111.9	1138.6	1188.6	1233.6	1243.6
47.5°	1041.9	1071.9	1125.3	1170.3	1186.9
50°	971.9	1003.6	1060.2	1106.9	1116.9
52.5°	901.9	935.2	995.2	1045.2	1050.2
55°	828.5	865.2	928.5	976.9	986.9
57.5°	761.8	793.5	861.9	911.9	923.5
60°	688.5	723.5	796.9	843.5	858.5
62.5°	618.5	655.2	731.8	778.5	791.9
65°	545.1	586.8	661.8	716.8	730.2
67.5°	481.8	521.8	601.8	655.2	668.5
70°	408.4	453.4	538.5	593.5	606.8
72.5°	345.1	391.8	476.8	530.1	550.1
75°	276.7	330.1	415.1	471.8	485.1
77.5°	210.0	271.7	358.4	401.8	401.8
80°	150.0	215.1	295.1	315.1	318.4
82.5°	98.4	161.7	218.4	216.7	216.7
85°	56.7	105.0	130.0	126.7	126.7
87.5°	21.7	43.3	46.7	46.7	45.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)