

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: P389785

Luminaire Tested: **24CZ2-50VHE-S-UNV-L935-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: P389785  
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: 24CZ2-50VHE-S-UNV-L935-CD1-SWPD1-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: 4442.9 lumens  
Efficiency: N/A  
Efficacy: 135.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

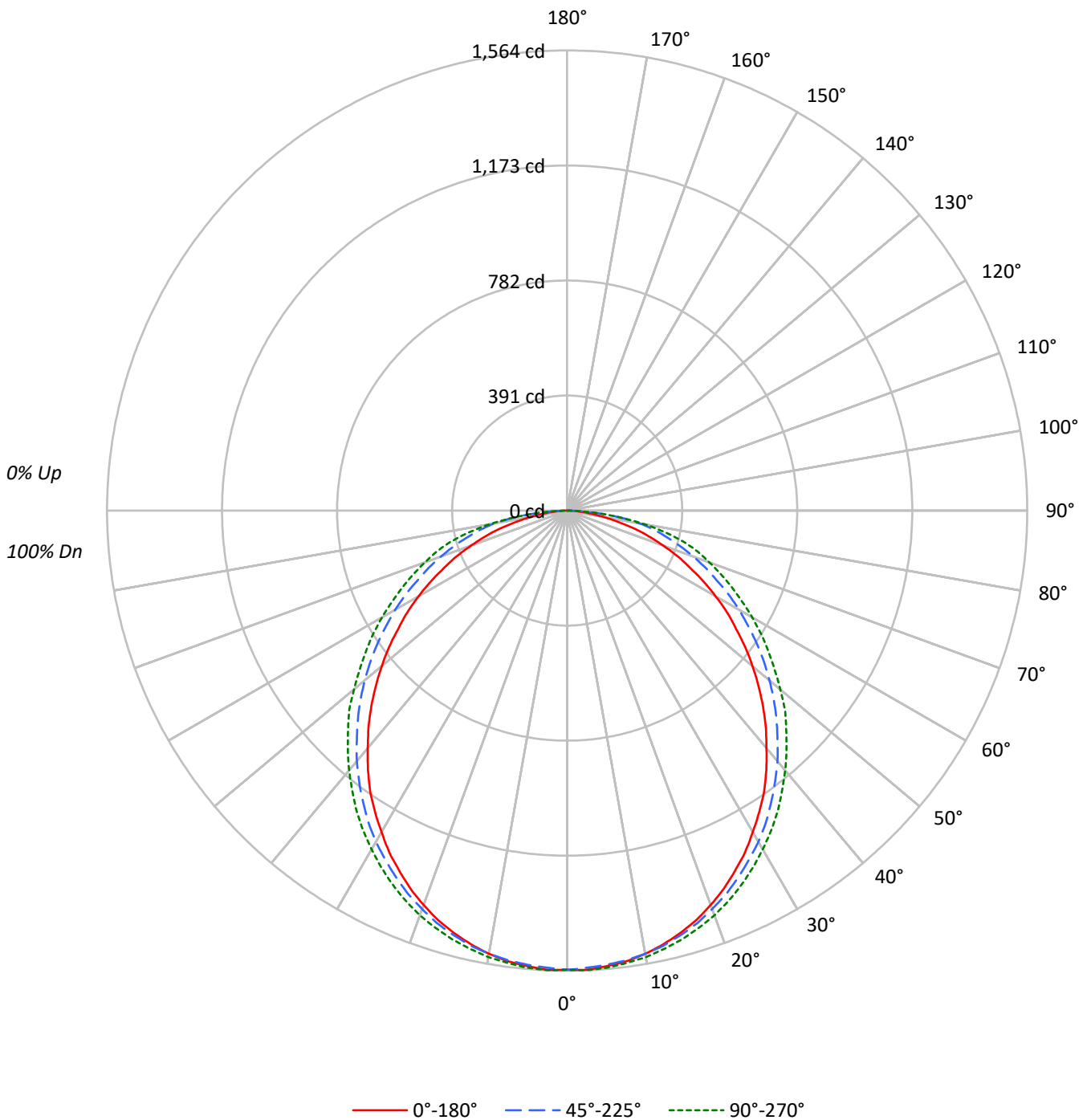
Input Watts (W): 32.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2100	2100	2100
5°	2099	2093	2106
10°	2090	2090	2106
15°	2070	2080	2101
20°	2043	2063	2095
25°	2005	2043	2083
30°	1960	2019	2065
35°	1917	1986	2049
40°	1852	1953	2025
45°	1791	1915	2003
50°	1722	1879	1979
55°	1645	1844	1960
60°	1568	1815	1956
65°	1469	1784	1968
70°	1360	1793	2021
75°	1218	1827	2135
80°	984	1936	2088
85°	741	1700	1656



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	147.8	3.3
10°-20°	422.2	9.5
20°-30°	634.7	14.3
30°-40°	756.0	17.0
40°-50°	773.7	17.4
50°-60°	696.6	15.7
60°-70°	547.1	12.3
70°-80°	355.0	8.0
80°-90°	109.8	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°	1204.7	27.1
0°-40°	1960.7	44.1
0°-60°	3431.0	77.2
0°-90°	4442.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4442.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1561	1561	1561	1561	1561	
5°	1554	1557	1550	1558	1559	148
15°	1486	1490	1493	1506	1509	419
25°	1350	1362	1376	1398	1403	622
35°	1167	1181	1209	1239	1248	728
45°	941	964	1006	1044	1053	726
55°	701	732	786	827	835	629
65°	462	497	560	607	618	459
75°	234	279	351	399	411	248
85°	48	89	110	107	107	58
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1560.8	1560.8	1560.8	1560.8	1560.8
2.5°	1562.2	1562.2	1555.2	1562.2	1563.6
5°	1553.8	1556.6	1549.5	1558.0	1559.4
7.5°	1545.3	1545.3	1541.1	1549.5	1550.9
10°	1529.8	1531.2	1529.8	1539.7	1541.1
12.5°	1510.0	1512.8	1514.2	1524.1	1525.5
15°	1486.0	1490.3	1493.1	1505.8	1508.6
17.5°	1459.2	1463.4	1470.5	1484.6	1487.4
20°	1426.8	1432.4	1440.9	1459.2	1463.4
22.5°	1391.5	1397.1	1411.2	1428.2	1435.2
25°	1350.5	1361.8	1375.9	1398.5	1402.8
27.5°	1309.6	1319.5	1337.8	1361.8	1367.5
30°	1261.6	1277.2	1299.7	1323.7	1329.4
32.5°	1215.1	1230.6	1257.4	1282.8	1289.9
35°	1167.1	1181.2	1209.4	1239.1	1247.5
37.5°	1112.0	1130.4	1161.4	1191.1	1199.5
40°	1054.2	1076.8	1112.0	1143.1	1153.0
42.5°	999.2	1023.1	1058.4	1092.3	1103.6
45°	941.3	963.9	1006.2	1044.3	1052.8
47.5°	882.0	907.4	952.6	990.7	1004.8
50°	822.7	849.6	897.5	937.1	945.5
52.5°	763.5	791.7	842.5	884.8	889.1
55°	701.4	732.4	786.1	827.0	835.4
57.5°	644.9	671.7	729.6	771.9	781.8
60°	582.8	612.5	674.6	714.1	726.8
62.5°	523.6	554.6	619.5	659.0	670.3
65°	461.5	496.8	560.3	606.8	618.1
67.5°	407.8	441.7	509.5	554.6	565.9
70°	345.8	383.9	455.8	502.4	513.7
72.5°	292.1	331.6	403.6	448.8	465.7
75°	234.3	279.4	351.4	399.4	410.7
77.5°	177.8	230.0	303.4	340.1	340.1
80°	127.0	182.0	249.8	266.7	269.5
82.5°	83.3	136.9	184.9	183.5	183.5
85°	48.0	88.9	110.1	107.3	107.3
87.5°	18.3	36.7	39.5	39.5	38.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)