

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: P391609

Luminaire Tested: **24CZ2-70VHE-HRP-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: P391609  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-70VHE-HRP-UNV-L935-CD1-SWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3500K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5003.1 lumens  
Efficiency: N/A  
Efficacy: 109.5 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

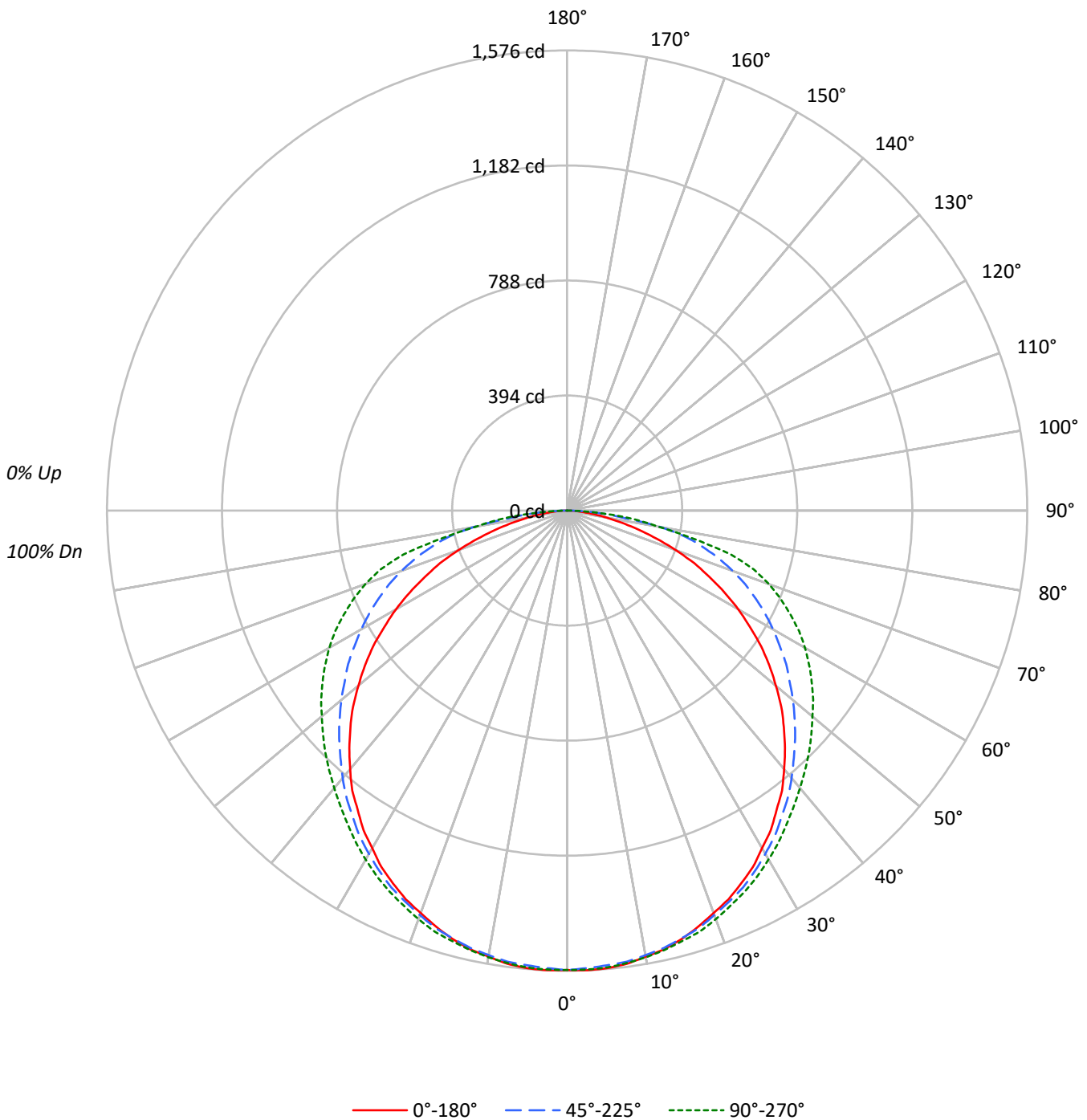
Input Watts (W): 45.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	68	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

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

	0°	45°	90°
0°	2117	2117	2117
5°	2125	2112	2122
10°	2119	2112	2122
15°	2116	2112	2126
20°	2100	2111	2132
25°	2093	2115	2137
30°	2074	2109	2144
35°	2054	2103	2152
40°	2031	2101	2179
45°	1997	2101	2229
50°	1953	2114	2296
55°	1904	2148	2398
60°	1823	2190	2531
65°	1706	2267	2686
70°	1552	2372	2890
75°	1316	2503	3019
80°	1038	2519	2442
85°	766	1916	2146



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	149.2	3.0
10°-20°	429.5	8.6
20°-30°	656.9	13.1
30°-40°	803.0	16.0
40°-50°	855.8	17.1
50°-60°	818.3	16.4
60°-70°	693.2	13.9
70°-80°	465.9	9.3
80°-90°	131.4	2.6
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°	1235.6	24.7
0°-40°	2038.6	40.7
0°-60°	3712.7	74.2
0°-90°	5003.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5003.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1573	1573	1573	1573	1573	
5°	1573	1571	1563	1571	1571	149
15°	1519	1519	1516	1529	1526	428
25°	1410	1414	1424	1437	1439	650
35°	1251	1261	1280	1305	1310	784
45°	1050	1067	1104	1152	1171	810
55°	812	841	916	988	1022	723
65°	536	591	712	806	844	532
75°	253	345	481	563	581	271
85°	50	102	124	134	139	61
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1573.4	1573.4	1573.4	1573.4	1573.4
2.5°	1575.8	1575.8	1568.4	1573.4	1573.4
5°	1573.4	1570.9	1563.4	1570.9	1570.9
7.5°	1565.9	1563.4	1558.5	1565.9	1563.4
10°	1551.0	1551.0	1546.1	1553.5	1553.5
12.5°	1538.6	1536.1	1533.7	1543.6	1541.1
15°	1518.8	1518.8	1516.3	1528.7	1526.2
17.5°	1494.0	1496.4	1498.9	1508.8	1511.3
20°	1466.7	1471.6	1474.1	1489.0	1489.0
22.5°	1441.8	1444.3	1449.3	1464.2	1464.2
25°	1409.6	1414.5	1424.5	1436.9	1439.4
27.5°	1377.3	1379.8	1392.2	1409.6	1412.1
30°	1335.1	1342.6	1357.5	1377.3	1379.8
32.5°	1297.9	1305.3	1322.7	1342.6	1347.5
35°	1250.7	1260.7	1280.5	1305.3	1310.3
37.5°	1208.6	1216.0	1240.8	1268.1	1275.6
40°	1156.4	1171.3	1196.2	1228.4	1240.8
42.5°	1104.3	1119.2	1149.0	1191.2	1206.1
45°	1049.7	1067.1	1104.3	1151.5	1171.3
47.5°	995.1	1015.0	1057.2	1111.8	1134.1
50°	933.1	957.9	1010.0	1072.1	1096.9
52.5°	873.5	903.3	960.4	1029.9	1062.1
55°	811.5	841.3	915.7	987.7	1022.4
57.5°	742.0	781.7	863.6	945.5	982.7
60°	677.5	714.7	814.0	903.3	940.5
62.5°	608.0	657.6	764.3	858.6	895.9
65°	536.0	590.6	712.2	806.5	843.8
67.5°	471.5	531.1	660.1	754.4	791.6
70°	394.6	469.0	603.0	697.3	734.6
72.5°	322.6	404.5	543.5	635.3	670.0
75°	253.1	344.9	481.4	563.3	580.7
77.5°	188.6	285.4	416.9	451.7	439.3
80°	134.0	228.3	325.1	307.7	315.2
82.5°	86.9	173.7	201.0	228.3	235.8
85°	49.6	101.7	124.1	134.0	139.0
87.5°	22.3	37.2	49.6	49.6	47.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)