

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: P391519

Luminaire Tested: **24CZ2-60VHE-HRP-UNV-L950-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: P391519  
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: 24CZ2-60VHE-HRP-UNV-L950-CD1-SWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 5000K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4602.3 lumens  
Efficiency: N/A  
Efficacy: 118.9 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

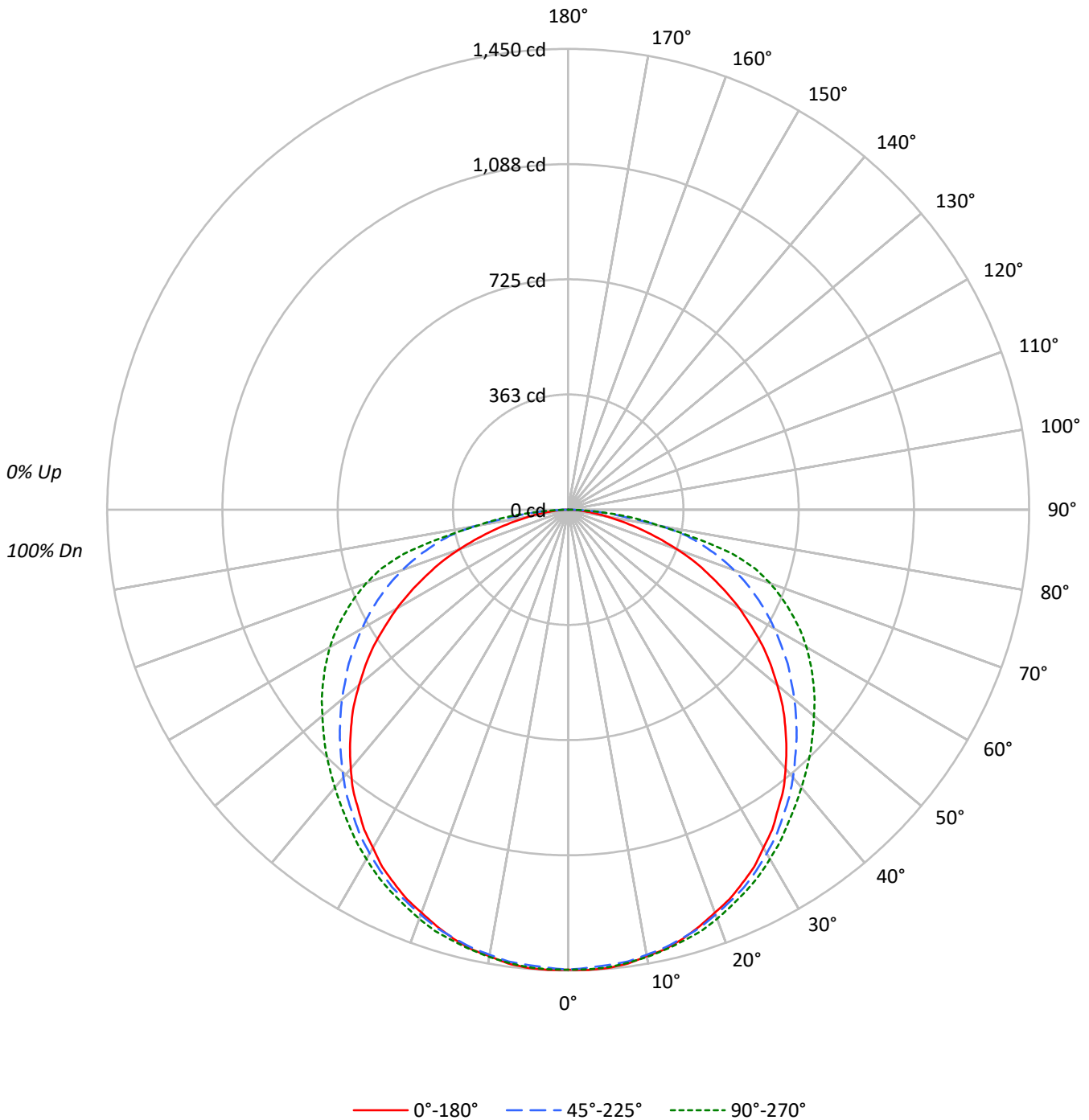
Input Watts (W): 38.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	67	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°	1947	1947	1947
5°	1955	1942	1952
10°	1949	1943	1952
15°	1946	1943	1956
20°	1932	1942	1961
25°	1925	1945	1966
30°	1908	1940	1972
35°	1890	1935	1980
40°	1868	1933	2005
45°	1837	1933	2050
50°	1797	1945	2112
55°	1751	1976	2206
60°	1677	2015	2328
65°	1570	2086	2471
70°	1428	2182	2658
75°	1210	2302	2777
80°	955	2317	2246
85°	706	1761	1973



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	137.3	3.0
10°-20°	395.1	8.6
20°-30°	604.2	13.1
30°-40°	738.7	16.0
40°-50°	787.2	17.1
50°-60°	752.7	16.4
60°-70°	637.6	13.9
70°-80°	428.6	9.3
80°-90°	120.9	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°	1136.6	24.7
0°-40°	1875.3	40.7
0°-60°	3415.2	74.2
0°-90°	4602.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4602.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1447	1447	1447	1447	1447	
5°	1447	1445	1438	1445	1445	138
15°	1397	1397	1395	1406	1404	394
25°	1297	1301	1310	1322	1324	598
35°	1150	1160	1178	1201	1205	721
45°	966	982	1016	1059	1078	745
55°	746	774	842	909	940	665
65°	493	543	655	742	776	490
75°	233	317	443	518	534	249
85°	46	94	114	123	128	57
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1447.3	1447.3	1447.3	1447.3	1447.3
2.5°	1449.6	1449.6	1442.7	1447.3	1447.3
5°	1447.3	1445.0	1438.2	1445.0	1445.0
7.5°	1440.4	1438.2	1433.6	1440.4	1438.2
10°	1426.7	1426.7	1422.2	1429.0	1429.0
12.5°	1415.3	1413.0	1410.8	1419.9	1417.6
15°	1397.1	1397.1	1394.8	1406.2	1403.9
17.5°	1374.2	1376.5	1378.8	1387.9	1390.2
20°	1349.1	1353.7	1356.0	1369.7	1369.7
22.5°	1326.3	1328.6	1333.2	1346.8	1346.8
25°	1296.6	1301.2	1310.3	1321.7	1324.0
27.5°	1267.0	1269.2	1280.6	1296.6	1298.9
30°	1228.1	1235.0	1248.7	1267.0	1269.2
32.5°	1193.9	1200.8	1216.7	1235.0	1239.6
35°	1150.5	1159.7	1177.9	1200.8	1205.3
37.5°	1111.7	1118.6	1141.4	1166.5	1173.4
40°	1063.8	1077.5	1100.3	1130.0	1141.4
42.5°	1015.8	1029.5	1056.9	1095.7	1109.4
45°	965.6	981.6	1015.8	1059.2	1077.5
47.5°	915.4	933.7	972.5	1022.7	1043.2
50°	858.3	881.2	929.1	986.2	1009.0
52.5°	803.5	830.9	883.4	947.4	977.0
55°	746.5	773.9	842.4	908.6	940.5
57.5°	682.6	719.1	794.4	869.7	904.0
60°	623.2	657.4	748.8	830.9	865.2
62.5°	559.3	604.9	703.1	789.8	824.1
65°	493.1	543.3	655.2	741.9	776.2
67.5°	433.7	488.5	607.2	694.0	728.2
70°	363.0	431.4	554.7	641.5	675.7
72.5°	296.8	372.1	499.9	584.4	616.4
75°	232.8	317.3	442.9	518.2	534.2
77.5°	173.5	262.5	383.5	415.5	404.1
80°	123.3	210.0	299.0	283.1	289.9
82.5°	79.9	159.8	184.9	210.0	216.9
85°	45.7	93.6	114.1	123.3	127.8
87.5°	20.5	34.2	45.7	45.7	43.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)