

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: P391511

Luminaire Tested: **24CZ2-60VHE-HRP-UNV-L930-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: P391511
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-L930-CD1-U
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND HRP LENS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4240.6 lumens
Efficiency: N/A
Efficacy: 109.6 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

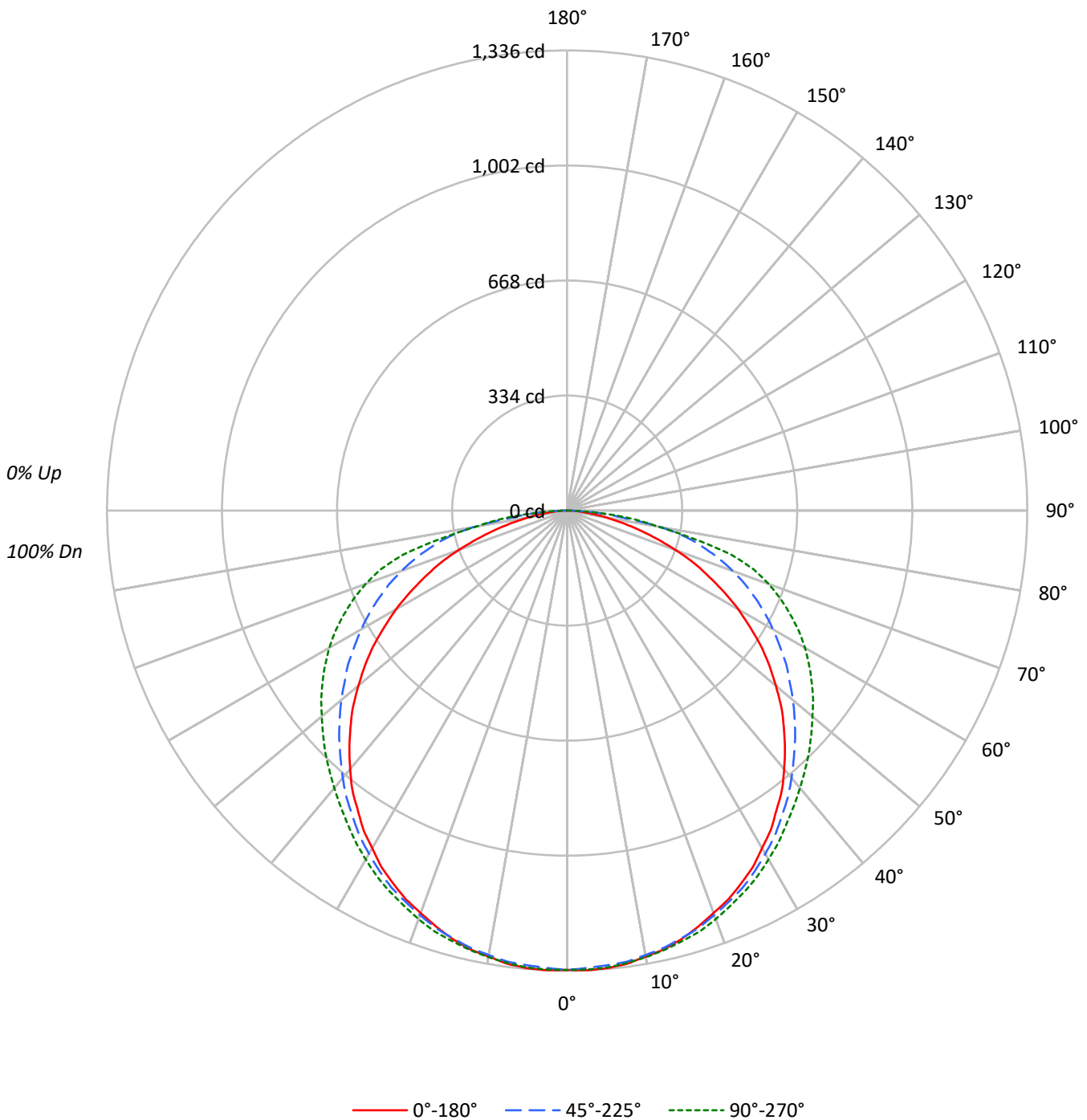
Input Watts (W): 38.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1794	1794	1794
5°	1801	1790	1798
10°	1796	1790	1799
15°	1793	1790	1802
20°	1780	1789	1807
25°	1774	1792	1811
30°	1758	1788	1817
35°	1741	1783	1824
40°	1722	1781	1847
45°	1693	1781	1889
50°	1656	1792	1946
55°	1613	1821	2033
60°	1545	1857	2145
65°	1446	1922	2277
70°	1316	2011	2449
75°	1115	2122	2559
80°	880	2135	2070
85°	650	1624	1819



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.5	3.0
10°-20°	364.1	8.6
20°-30°	556.7	13.1
30°-40°	680.6	16.0
40°-50°	725.4	17.1
50°-60°	693.5	16.4
60°-70°	587.5	13.9
70°-80°	394.9	9.3
80°-90°	111.4	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°	1047.3	24.7
0°-40°	1727.9	40.7
0°-60°	3146.8	74.2
0°-90°	4240.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4240.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1334	1334	1334	1334	1334	
5°	1334	1331	1325	1331	1331	127
15°	1287	1287	1285	1296	1294	363
25°	1195	1199	1207	1218	1220	551
35°	1060	1068	1085	1106	1111	664
45°	890	904	936	976	993	686
55°	688	713	776	837	867	613
65°	454	501	604	684	715	451
75°	214	292	408	478	492	230
85°	42	86	105	114	118	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1333.5	1333.5	1333.5	1333.5	1333.5
2.5°	1335.7	1335.7	1329.3	1333.5	1333.5
5°	1333.5	1331.4	1325.1	1331.4	1331.4
7.5°	1327.2	1325.1	1320.9	1327.2	1325.1
10°	1314.6	1314.6	1310.4	1316.7	1316.7
12.5°	1304.1	1302.0	1299.9	1308.3	1306.2
15°	1287.3	1287.3	1285.2	1295.7	1293.6
17.5°	1266.2	1268.3	1270.4	1278.9	1281.0
20°	1243.1	1247.3	1249.4	1262.0	1262.0
22.5°	1222.1	1224.2	1228.4	1241.0	1241.0
25°	1194.7	1198.9	1207.3	1217.9	1220.0
27.5°	1167.4	1169.5	1180.0	1194.7	1196.8
30°	1131.6	1137.9	1150.6	1167.4	1169.5
32.5°	1100.1	1106.4	1121.1	1137.9	1142.1
35°	1060.1	1068.5	1085.3	1106.4	1110.6
37.5°	1024.3	1030.7	1051.7	1074.8	1081.1
40°	980.2	992.8	1013.8	1041.2	1051.7
42.5°	936.0	948.6	973.9	1009.6	1022.2
45°	889.7	904.5	936.0	976.0	992.8
47.5°	843.5	860.3	896.0	942.3	961.2
50°	790.9	811.9	856.1	908.7	929.7
52.5°	740.4	765.6	814.0	872.9	900.2
55°	687.8	713.0	776.1	837.1	866.6
57.5°	628.9	662.6	732.0	801.4	832.9
60°	574.2	605.8	689.9	765.6	797.2
62.5°	515.3	557.4	647.8	727.8	759.3
65°	454.3	500.6	603.7	683.6	715.2
67.5°	399.6	450.1	559.5	639.4	671.0
70°	334.4	397.5	511.1	591.1	622.6
72.5°	273.4	342.9	460.6	538.5	567.9
75°	214.5	292.4	408.1	477.5	492.2
77.5°	159.9	241.9	353.4	382.8	372.3
80°	113.6	193.5	275.5	260.8	267.1
82.5°	73.6	147.2	170.4	193.5	199.8
85°	42.1	86.2	105.2	113.6	117.8
87.5°	18.9	31.6	42.1	42.1	40.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)