

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: P391517

Luminaire Tested: **24CZ2-60VHE-HRP-UNV-L940-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: P391517
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-L940-CD1-U
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND HRP LENS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4390.4 lumens
Efficiency: N/A
Efficacy: 113.4 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

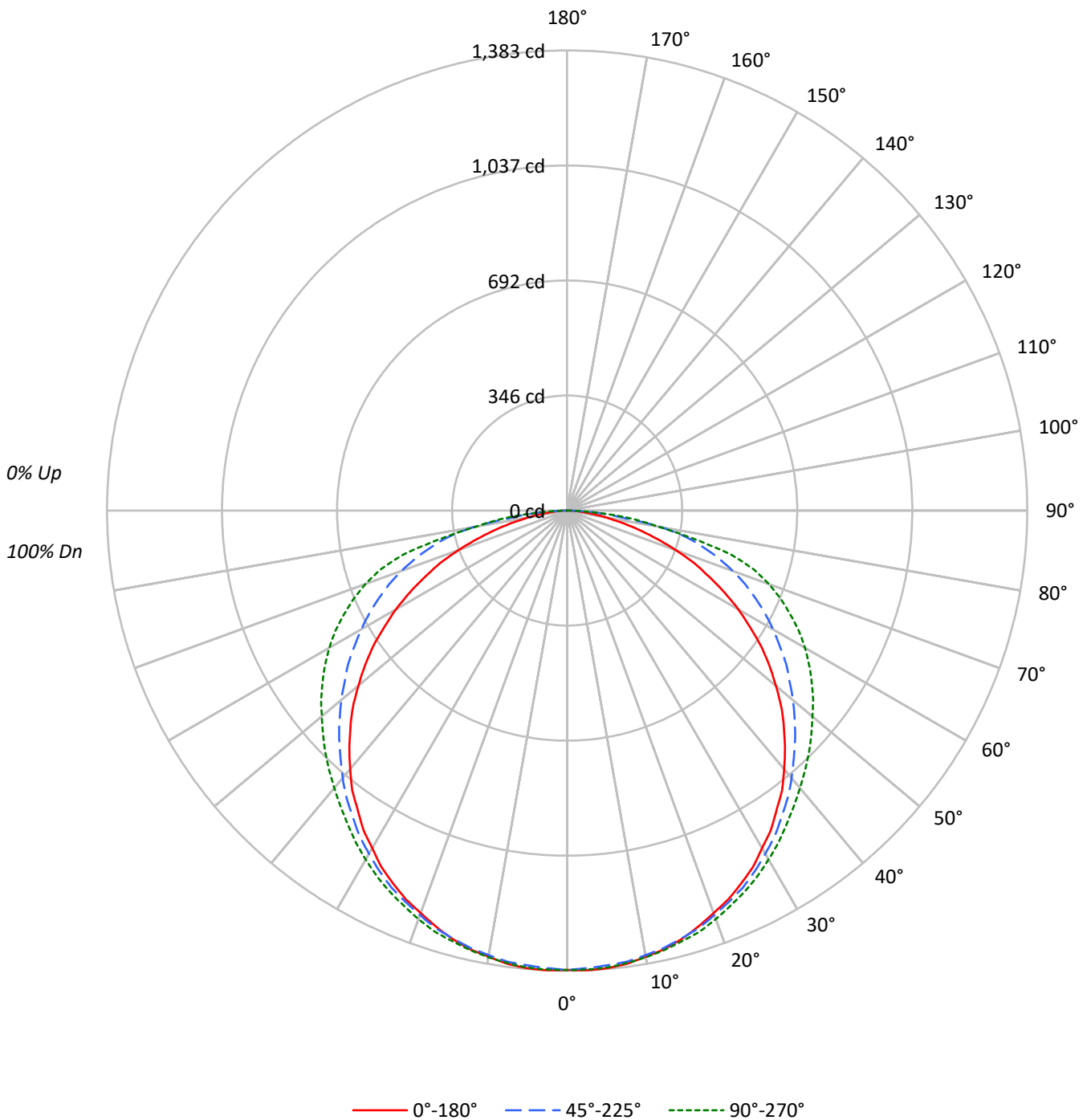
Input Watts (W): 38.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1858	1858	1858
5°	1865	1853	1862
10°	1860	1854	1862
15°	1856	1853	1866
20°	1843	1852	1871
25°	1836	1856	1875
30°	1820	1851	1881
35°	1803	1846	1889
40°	1782	1844	1912
45°	1753	1844	1956
50°	1714	1855	2015
55°	1670	1885	2105
60°	1600	1922	2221
65°	1498	1990	2357
70°	1362	2082	2536
75°	1155	2196	2649
80°	911	2211	2143
85°	673	1681	1883



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.0	3.0
10°-20°	376.9	8.6
20°-30°	576.4	13.1
30°-40°	704.6	16.0
40°-50°	751.0	17.1
50°-60°	718.1	16.4
60°-70°	608.3	13.9
70°-80°	408.8	9.3
80°-90°	115.3	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°	1084.3	24.7
0°-40°	1788.9	40.7
0°-60°	3258.0	74.2
0°-90°	4390.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4390.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1381	1381	1381	1381	1381	
5°	1381	1378	1372	1378	1378	131
15°	1333	1333	1331	1342	1339	376
25°	1237	1241	1250	1261	1263	570
35°	1098	1106	1124	1146	1150	688
45°	921	936	969	1010	1028	711
55°	712	738	804	867	897	634
65°	470	518	625	708	740	467
75°	222	303	422	494	510	238
85°	44	89	109	118	122	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1380.7	1380.7	1380.7	1380.7	1380.7
2.5°	1382.8	1382.8	1376.3	1380.7	1380.7
5°	1380.7	1378.5	1371.9	1378.5	1378.5
7.5°	1374.1	1371.9	1367.6	1374.1	1371.9
10°	1361.1	1361.1	1356.7	1363.2	1363.2
12.5°	1350.2	1348.0	1345.8	1354.5	1352.3
15°	1332.7	1332.7	1330.6	1341.5	1339.3
17.5°	1311.0	1313.1	1315.3	1324.0	1326.2
20°	1287.0	1291.4	1293.5	1306.6	1306.6
22.5°	1265.2	1267.4	1271.8	1284.8	1284.8
25°	1236.9	1241.3	1250.0	1260.9	1263.1
27.5°	1208.6	1210.8	1221.7	1236.9	1239.1
30°	1171.6	1178.1	1191.2	1208.6	1210.8
32.5°	1138.9	1145.5	1160.7	1178.1	1182.5
35°	1097.6	1106.3	1123.7	1145.5	1149.8
37.5°	1060.5	1067.1	1088.8	1112.8	1119.3
40°	1014.8	1027.9	1049.6	1078.0	1088.8
42.5°	969.1	982.1	1008.3	1045.3	1058.4
45°	921.2	936.4	969.1	1010.4	1027.9
47.5°	873.3	890.7	927.7	975.6	995.2
50°	818.8	840.6	886.3	940.8	962.5
52.5°	766.5	792.7	842.8	903.7	932.1
55°	712.1	738.2	803.6	866.7	897.2
57.5°	651.1	686.0	757.8	829.7	862.4
60°	594.5	627.2	714.3	792.7	825.3
62.5°	533.5	577.1	670.7	753.5	786.1
65°	470.4	518.3	625.0	707.7	740.4
67.5°	413.8	466.0	579.3	662.0	694.7
70°	346.3	411.6	529.2	611.9	644.6
72.5°	283.1	355.0	476.9	557.5	588.0
75°	222.1	302.7	422.5	494.3	509.6
77.5°	165.5	250.4	365.9	396.3	385.5
80°	117.6	200.3	285.3	270.0	276.6
82.5°	76.2	152.4	176.4	200.3	206.9
85°	43.6	89.3	108.9	117.6	122.0
87.5°	19.6	32.7	43.6	43.6	41.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)