

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: P391516

Luminaire Tested: **24CZ2-60VHE-HRP-UNV-L940-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: P391516
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-SWPD1-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: 4336.0 lumens
Efficiency: N/A
Efficacy: 112.0 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

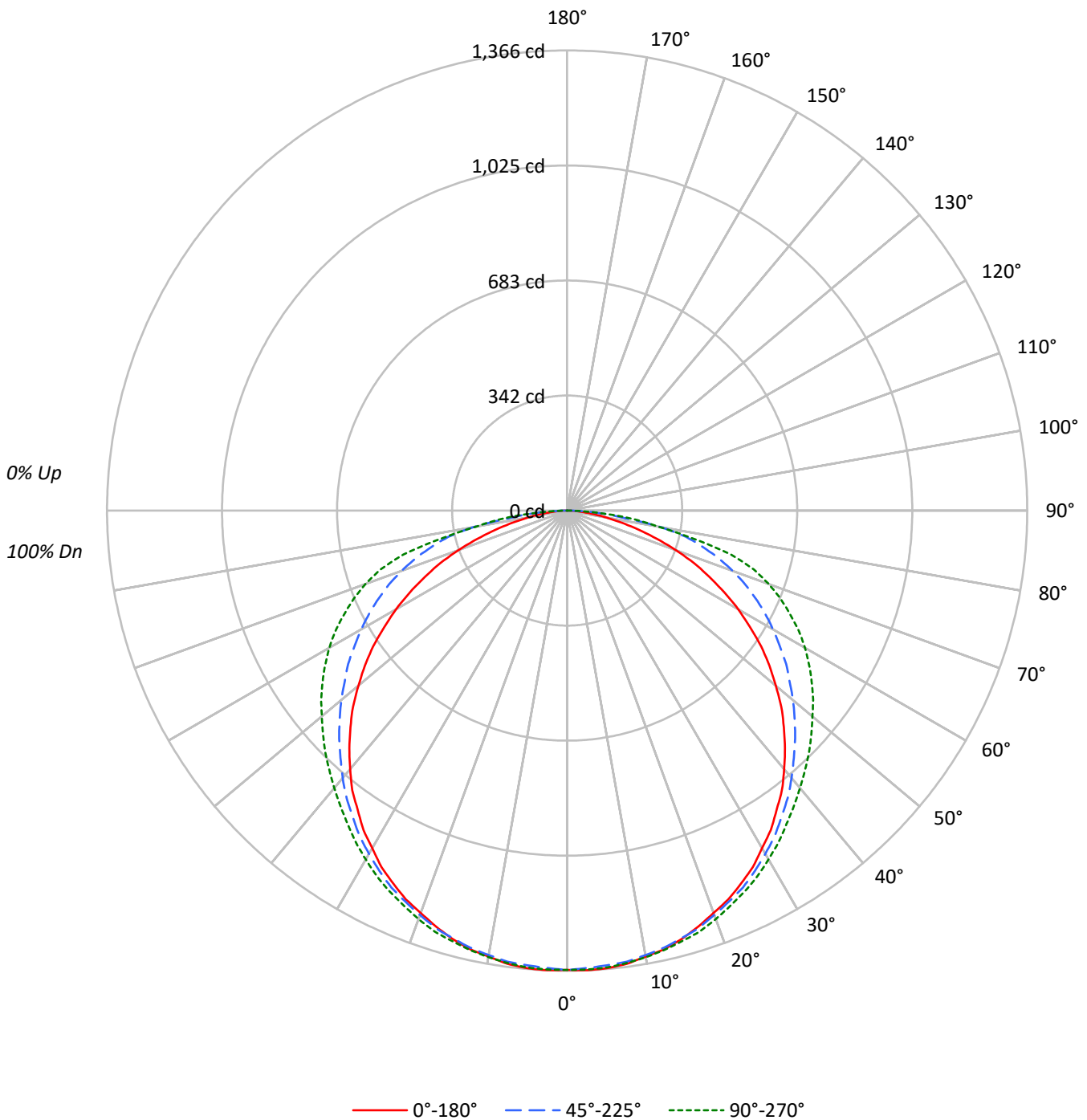
Input Watts (W): 38.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82					82			
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67					67			
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56					56			
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47					47			
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40					40			
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35					35			
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31					31			
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27					27			
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24					24			
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22					22			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1835	1835	1835
5°	1842	1830	1839
10°	1837	1831	1839
15°	1833	1830	1842
20°	1820	1829	1848
25°	1814	1833	1852
30°	1798	1828	1858
35°	1781	1823	1865
40°	1760	1821	1889
45°	1731	1821	1932
50°	1693	1832	1990
55°	1650	1862	2079
60°	1580	1898	2193
65°	1479	1965	2328
70°	1345	2056	2504
75°	1141	2169	2616
80°	900	2183	2116
85°	664	1660	1859



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.3	3.0
10°-20°	372.3	8.6
20°-30°	569.3	13.1
30°-40°	695.9	16.0
40°-50°	741.7	17.1
50°-60°	709.2	16.4
60°-70°	600.7	13.9
70°-80°	403.7	9.3
80°-90°	113.9	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°	1070.8	24.7
0°-40°	1766.8	40.7
0°-60°	3217.6	74.2
0°-90°	4336.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4336.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1364	1364	1364	1364	1364	
5°	1364	1361	1355	1361	1361	130
15°	1316	1316	1314	1325	1323	371
25°	1222	1226	1234	1245	1247	563
35°	1084	1093	1110	1131	1136	679
45°	910	925	957	998	1015	702
55°	703	729	794	856	886	626
65°	465	512	617	699	731	461
75°	219	299	417	488	503	235
85°	43	88	108	116	120	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1363.5	1363.5	1363.5	1363.5	1363.5
2.5°	1365.7	1365.7	1359.2	1363.5	1363.5
5°	1363.5	1361.4	1354.9	1361.4	1361.4
7.5°	1357.1	1354.9	1350.6	1357.1	1354.9
10°	1344.2	1344.2	1339.9	1346.3	1346.3
12.5°	1333.4	1331.3	1329.1	1337.7	1335.6
15°	1316.2	1316.2	1314.1	1324.8	1322.7
17.5°	1294.7	1296.9	1299.0	1307.6	1309.8
20°	1271.1	1275.4	1277.5	1290.4	1290.4
22.5°	1249.6	1251.7	1256.0	1268.9	1268.9
25°	1221.6	1225.9	1234.5	1245.3	1247.4
27.5°	1193.6	1195.8	1206.5	1221.6	1223.8
30°	1157.1	1163.5	1176.4	1193.6	1195.8
32.5°	1124.8	1131.3	1146.3	1163.5	1167.8
35°	1084.0	1092.6	1109.8	1131.3	1135.6
37.5°	1047.4	1053.8	1075.4	1099.0	1105.5
40°	1002.2	1015.1	1036.6	1064.6	1075.4
42.5°	957.1	970.0	995.8	1032.3	1045.2
45°	909.7	924.8	957.1	997.9	1015.1
47.5°	862.4	879.6	916.2	963.5	982.9
50°	808.7	830.2	875.3	929.1	950.6
52.5°	757.0	782.9	832.3	892.5	920.5
55°	703.3	729.1	793.6	856.0	886.1
57.5°	643.1	677.5	748.4	819.4	851.7
60°	587.1	619.4	705.4	782.9	815.1
62.5°	526.9	569.9	662.4	744.1	776.4
65°	464.6	511.9	617.3	699.0	731.2
67.5°	408.6	460.3	572.1	653.8	686.1
70°	342.0	406.5	522.6	604.3	636.6
72.5°	279.6	350.6	471.0	550.6	580.7
75°	219.4	298.9	417.2	488.2	503.3
77.5°	163.5	247.3	361.3	391.4	380.7
80°	116.1	197.9	281.7	266.7	273.1
82.5°	75.3	150.5	174.2	197.9	204.3
85°	43.0	88.2	107.5	116.1	120.4
87.5°	19.4	32.3	43.0	43.0	40.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)