

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: P295061

Luminaire Tested: **24CZ2-60HE-HRP-UNV-L940-CD1-U**

Issue Date: 12/2/2019

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: P295061
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATIONS CENTER(G3)
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-60HE-HRP-UNV-L940-CD1-U
Description: 2'x4' TROFFER LED MODULE, HIGH EFFICIENCY ROUND PERF. LENS
Light Source: (392) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3988.8 lumens
Efficiency: N/A
Efficacy: 90.4 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

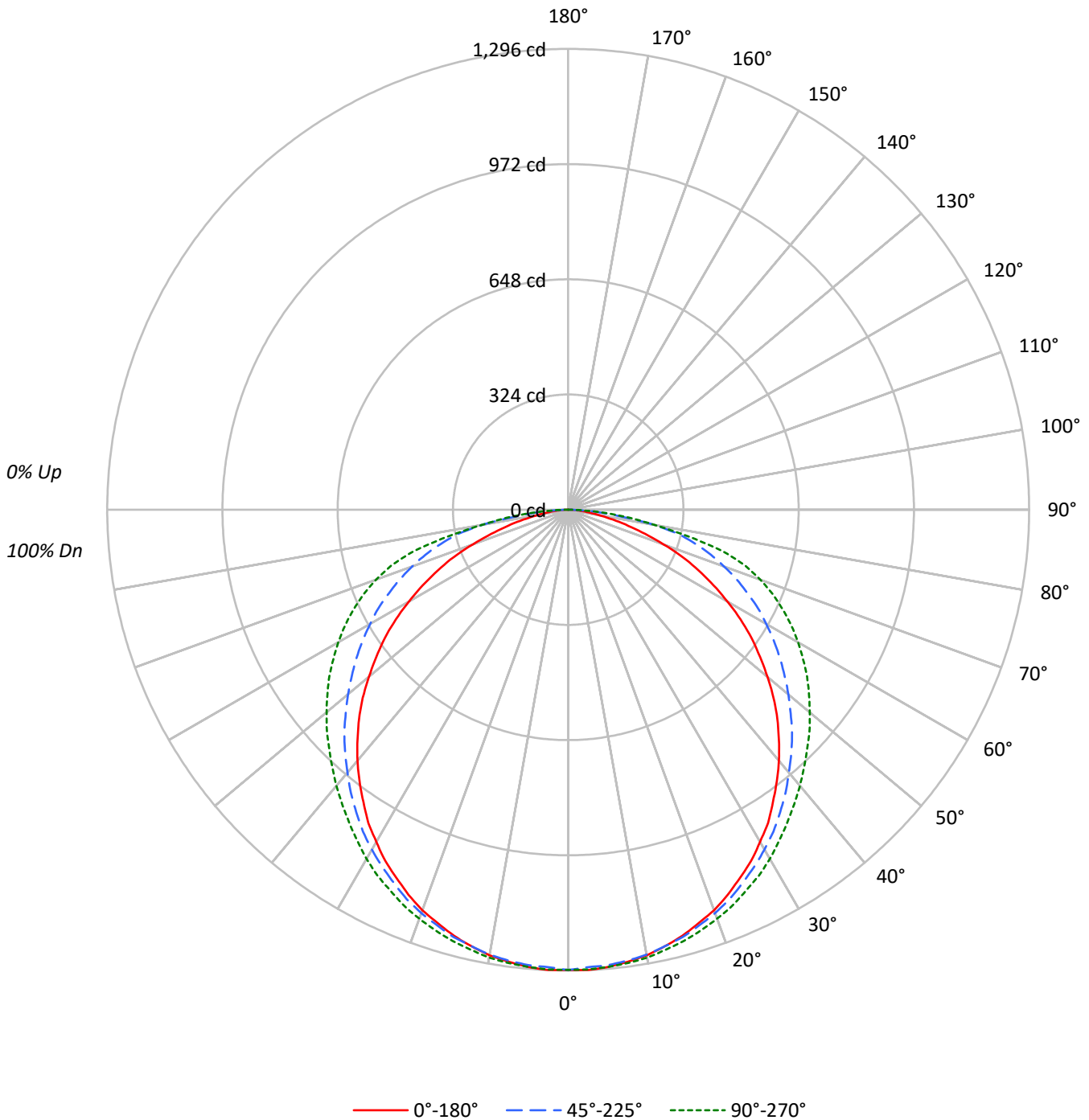
Input Watts (W): 44.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1741	1741	1741
5°	1743	1737	1743
10°	1739	1736	1748
15°	1728	1733	1749
20°	1717	1729	1753
25°	1696	1720	1755
30°	1676	1715	1762
35°	1648	1706	1764
40°	1619	1695	1780
45°	1582	1694	1808
50°	1531	1692	1856
55°	1477	1704	1923
60°	1393	1730	2009
65°	1287	1770	2121
70°	1124	1833	2260
75°	911	1927	2335
80°	673	1889	1889
85°	516	1392	1573



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.6	3.1
10°-20°	352.1	8.8
20°-30°	536.0	13.4
30°-40°	650.8	16.3
40°-50°	687.6	17.2
50°-60°	648.8	16.3
60°-70°	539.4	13.5
70°-80°	354.9	8.9
80°-90°	96.7	2.4
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°	1010.6	25.3
0°-40°	1661.4	41.7
0°-60°	2997.7	75.2
0°-90°	3988.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3988.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1294	1294	1294	1294	1294	
5°	1291	1291	1286	1291	1291	123
15°	1241	1242	1244	1256	1256	350
25°	1142	1149	1159	1179	1182	527
35°	1004	1015	1039	1065	1074	628
45°	832	848	890	934	950	640
55°	630	656	726	795	820	561
65°	404	451	556	638	666	399
75°	175	256	371	439	449	189
85°	33	74	90	100	102	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1294.2	1294.2	1294.2	1294.2	1294.2
2.5°	1295.8	1294.2	1287.5	1294.2	1294.2
5°	1290.8	1290.8	1285.8	1290.8	1290.8
7.5°	1282.5	1282.5	1279.1	1285.8	1285.8
10°	1272.5	1272.5	1270.8	1279.1	1279.1
12.5°	1257.4	1259.1	1257.4	1267.4	1267.4
15°	1240.7	1242.4	1244.1	1255.8	1255.8
17.5°	1219.0	1222.4	1225.7	1239.1	1240.7
20°	1199.0	1200.6	1207.3	1222.4	1224.0
22.5°	1172.3	1177.3	1185.6	1200.6	1205.7
25°	1142.2	1148.9	1158.9	1178.9	1182.3
27.5°	1113.8	1118.8	1132.2	1153.9	1160.6
30°	1078.7	1087.1	1103.8	1125.5	1133.9
32.5°	1045.3	1053.7	1073.7	1097.1	1103.8
35°	1003.6	1015.3	1038.7	1065.4	1073.7
37.5°	963.5	975.2	1003.6	1033.7	1043.7
40°	921.8	935.1	965.2	1000.3	1013.6
42.5°	876.7	895.1	928.5	966.9	981.9
45°	831.6	848.3	890.0	933.5	950.2
47.5°	783.2	803.2	848.3	900.1	920.1
50°	731.4	756.5	808.2	865.0	886.7
52.5°	679.6	708.0	766.5	829.9	853.3
55°	629.5	656.3	726.4	794.9	819.9
57.5°	574.4	607.8	684.7	758.1	783.2
60°	517.7	554.4	642.9	719.7	746.4
62.5°	460.9	502.6	602.8	679.6	708.0
65°	404.1	450.9	556.1	637.9	666.3
67.5°	349.0	400.8	512.7	594.5	622.9
70°	285.6	350.7	465.9	546.1	574.4
72.5°	227.1	302.2	420.8	496.0	521.0
75°	175.3	255.5	370.7	439.2	449.2
77.5°	128.6	208.7	318.9	342.3	344.0
80°	86.8	167.0	243.8	240.5	243.8
82.5°	56.8	125.2	153.6	172.0	173.7
85°	33.4	73.5	90.2	100.2	101.9
87.5°	16.7	25.0	31.7	33.4	36.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)