

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: P295059

Luminaire Tested: **24CZ2-60HE-HRP-UNV-L930-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: P295059
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-L930-CD1-U
Description: 2'x4' TROFFER LED MODULE, HIGH EFFICIENCY ROUND PERF. LENS
Light Source: (392) 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3852.6 lumens
Efficiency: N/A
Efficacy: 87.4 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

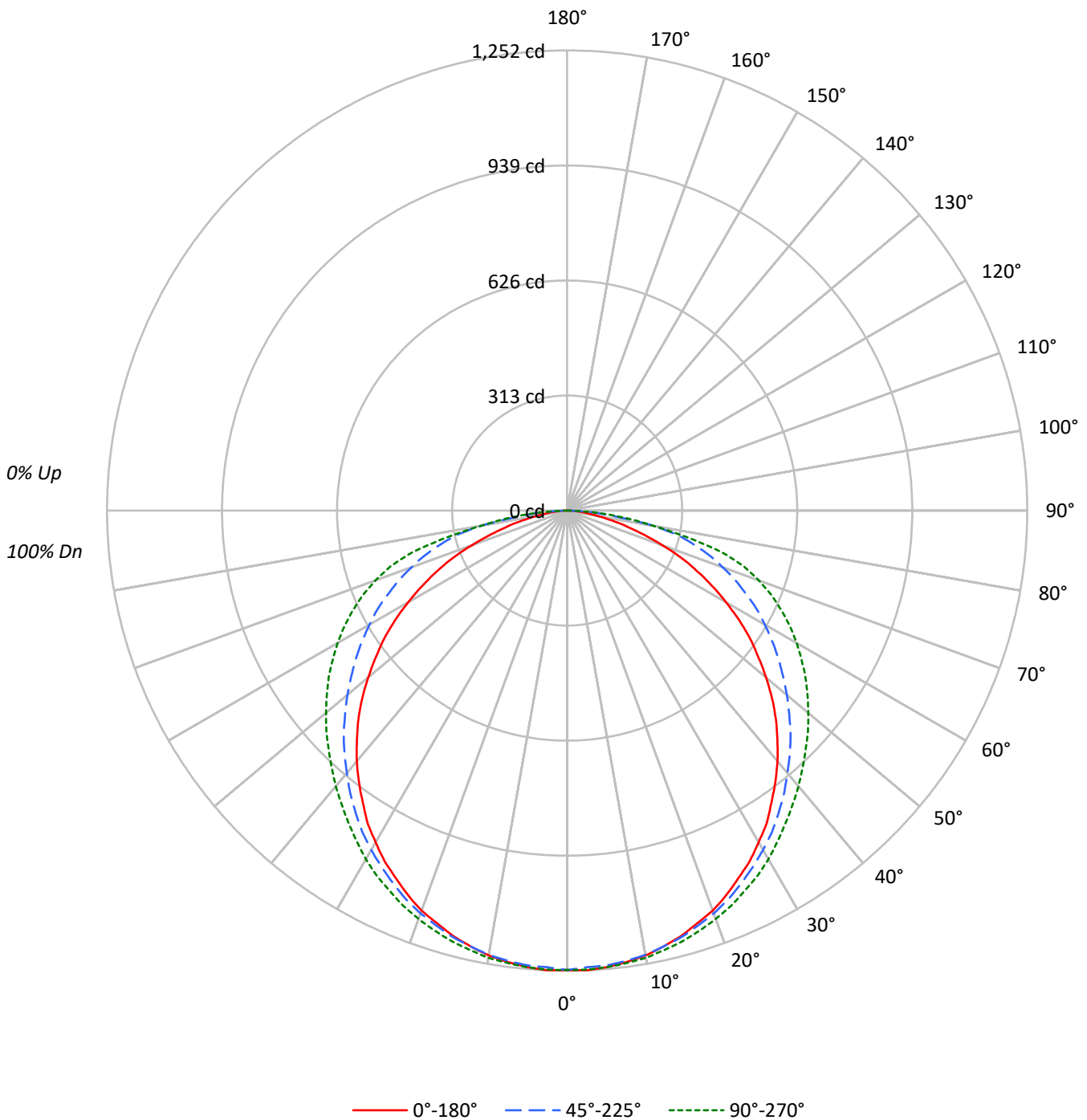
Input Watts (W): 44.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P295059

CATALOG NUMBER: 24CZ2-60HE-HRP-UNV-L930-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P295059

CATALOG NUMBER: 24CZ2-60HE-HRP-UNV-L930-CD1-U

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°	1682	1682	1682
5°	1684	1677	1684
10°	1679	1677	1688
15°	1669	1674	1690
20°	1658	1670	1693
25°	1638	1662	1695
30°	1619	1656	1702
35°	1592	1648	1703
40°	1564	1638	1720
45°	1528	1636	1746
50°	1479	1634	1793
55°	1426	1646	1858
60°	1345	1671	1940
65°	1243	1710	2049
70°	1085	1770	2183
75°	881	1862	2256
80°	650	1825	1825
85°	499	1345	1519



TEST NUMBER: P295059

CATALOG NUMBER: 24CZ2-60HE-HRP-UNV-L930-CD1-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.4	3.1
10°-20°	340.0	8.8
20°-30°	517.7	13.4
30°-40°	628.6	16.3
40°-50°	664.1	17.2
50°-60°	626.6	16.3
60°-70°	521.0	13.5
70°-80°	342.8	8.9
80°-90°	93.4	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°	976.1	25.3
0°-40°	1604.7	41.7
0°-60°	2895.4	75.2
0°-90°	3852.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3852.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1250	1250	1250	1250	1250	
5°	1247	1247	1242	1247	1247	118
15°	1198	1200	1202	1213	1213	338
25°	1103	1110	1119	1139	1142	509
35°	969	981	1003	1029	1037	607
45°	803	819	860	902	918	619
55°	608	634	702	768	792	542
65°	390	436	537	616	644	386
75°	169	247	358	424	434	183
85°	32	71	87	97	98	39
90°	0	0	0	0	0	



TEST NUMBER: P295059

CATALOG NUMBER: 24CZ2-60HE-HRP-UNV-L930-CD1-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1250.0	1250.0	1250.0	1250.0	1250.0
2.5°	1251.6	1250.0	1243.5	1250.0	1250.0
5°	1246.8	1246.8	1241.9	1246.8	1246.8
7.5°	1238.7	1238.7	1235.5	1241.9	1241.9
10°	1229.0	1229.0	1227.4	1235.5	1235.5
12.5°	1214.5	1216.1	1214.5	1224.2	1224.2
15°	1198.4	1200.0	1201.6	1212.9	1212.9
17.5°	1177.4	1180.6	1183.9	1196.8	1198.4
20°	1158.1	1159.7	1166.1	1180.6	1182.2
22.5°	1132.2	1137.1	1145.2	1159.7	1164.5
25°	1103.2	1109.7	1119.3	1138.7	1141.9
27.5°	1075.8	1080.6	1093.5	1114.5	1121.0
30°	1041.9	1050.0	1066.1	1087.1	1095.2
32.5°	1009.7	1017.7	1037.1	1059.7	1066.1
35°	969.3	980.6	1003.2	1029.0	1037.1
37.5°	930.6	941.9	969.3	998.4	1008.1
40°	890.3	903.2	932.3	966.1	979.0
42.5°	846.8	864.5	896.8	933.9	948.4
45°	803.2	819.3	859.7	901.6	917.7
47.5°	756.4	775.8	819.3	869.3	888.7
50°	706.4	730.6	780.6	835.5	856.4
52.5°	656.4	683.9	740.3	801.6	824.2
55°	608.1	633.9	701.6	767.7	791.9
57.5°	554.8	587.1	661.3	732.3	756.4
60°	500.0	535.5	621.0	695.2	721.0
62.5°	445.2	485.5	582.3	656.4	683.9
65°	390.3	435.5	537.1	616.1	643.5
67.5°	337.1	387.1	495.2	574.2	601.6
70°	275.8	338.7	450.0	527.4	554.8
72.5°	219.4	291.9	406.4	479.0	503.2
75°	169.4	246.8	358.1	424.2	433.9
77.5°	124.2	201.6	308.1	330.6	332.3
80°	83.9	161.3	235.5	232.3	235.5
82.5°	54.8	121.0	148.4	166.1	167.7
85°	32.3	71.0	87.1	96.8	98.4
87.5°	16.1	24.2	30.6	32.3	35.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)