

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: NEO-RAY

Report Number: P331583-830

Luminaire Tested: **S122DIW-S865D1440U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331583-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S865D1440U830-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1440 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8742.9 lumens
Efficiency: N/A
Efficacy: 114.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

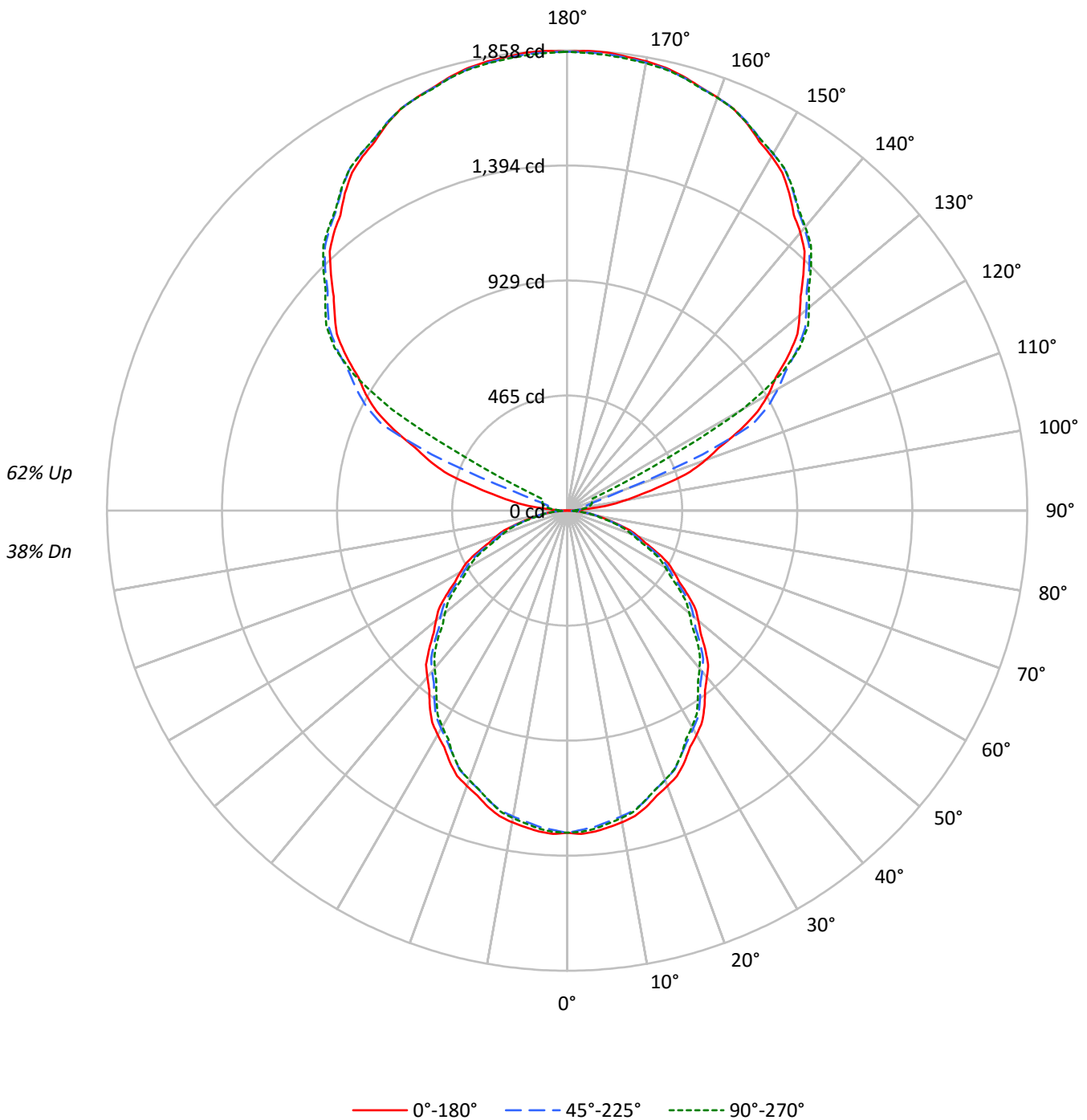
Input Watts (W): 76.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	95	95	95	95	77	77	77		60	60	60		45	45	45	38
1	95	91	87	84	86	83	79	76	67	65	63		53	51	50		40	39	38	32
2	87	79	73	68	78	72	67	63	59	55	52		46	44	42		35	33	32	27
3	79	70	62	57	71	63	57	52	52	47	44		41	38	35		31	29	27	23
4	72	62	54	48	65	56	49	44	46	41	37		36	33	30		28	25	23	19
5	66	55	47	41	60	50	43	38	41	36	32		33	29	26		25	22	20	17
6	61	49	41	35	55	45	38	33	37	32	28		30	26	23		23	20	18	15
7	56	44	36	31	51	40	34	29	33	28	24		27	23	20		21	18	16	13
8	52	40	32	27	47	37	30	25	30	25	22		25	21	18		19	16	14	12
9	48	37	29	24	44	34	27	23	28	23	19		23	19	16		17	15	13	11
10	45	33	26	22	41	31	24	20	26	21	17		21	17	14		16	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	21001	21001	21001
5°	21081	20778	20900
10°	20956	20566	20669
15°	20697	20301	20277
20°	20330	19900	19878
25°	19963	19408	19408
30°	19494	18957	18793
35°	19056	18413	18143
40°	18506	17873	17530
45°	17961	17335	16908
50°	17372	16777	16179
55°	16757	16124	15527
60°	16075	15345	14783
65°	15339	14571	13903
70°	14408	13638	12987
75°	13107	12558	12246
80°	11632	11278	10702
85°	9503	9040	8096



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.3	1.4
10°-20°	344.2	3.9
20°-30°	505.9	5.8
30°-40°	587.6	6.7
40°-50°	587.0	6.7
50°-60°	511.9	5.9
60°-70°	378.5	4.3
70°-80°	214.4	2.5
80°-90°	62.2	0.7
90°-100°	61.8	0.7
100°-110°	226.6	2.6
110°-120°	605.8	6.9
120°-130°	1000.0	11.4
130°-140°	1063.4	12.2
140°-150°	988.4	11.3
150°-160°	794.7	9.1
160°-170°	512.1	5.9
170°-180°	176.3	2.0
0°-30°	972.3	11.1
0°-40°	1559.9	17.8
0°-60°	2658.7	30.4
0°-90°	3313.8	37.9
90°-120°	894.2	10.2
90°-150°	3946.0	45.1
90°-180°	5429.0	62.1
0°-180°	8742.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1301	1301	1301	1301	1301	
5°	1301	1295	1282	1291	1290	123
15°	1238	1230	1214	1219	1213	348
25°	1121	1110	1089	1092	1089	515
35°	967	954	934	927	920	603
45°	787	777	759	746	740	607
55°	595	587	573	558	552	532
65°	402	394	381	370	364	397
75°	210	207	201	194	196	224
85°	51	50	49	45	44	59
90°	1	16	27	33	36	7
95°	87	46	52	58	58	107
105°	408	425	82	96	102	435
115°	771	794	827	236	110	759
125°	1090	1108	1133	1142	1146	971
135°	1349	1369	1382	1395	1393	1041
145°	1564	1564	1586	1594	1589	978
155°	1723	1712	1726	1734	1724	793
165°	1815	1808	1811	1819	1811	513
175°	1857	1848	1850	1858	1846	177
180°	1853	1853	1853	1853	1853	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7
2.5°	1306.7	1305.6	1304.5	1303.4	1302.3	1300.5	1298.1	1295.6	1293.2	1290.7	1293.0
5°	1300.7	1299.6	1298.5	1297.4	1296.3	1294.2	1291.2	1288.1	1285.1	1282.0	1284.2
7.5°	1289.2	1287.5	1285.8	1284.0	1282.3	1279.9	1276.8	1273.7	1270.5	1267.4	1269.7
10°	1278.2	1276.3	1274.3	1272.3	1270.5	1267.8	1264.4	1261.1	1257.8	1254.4	1256.7
12.5°	1263.2	1261.5	1259.8	1258.0	1256.3	1253.8	1250.5	1247.1	1243.8	1240.5	1242.0
15°	1238.2	1236.5	1234.8	1233.2	1231.5	1228.9	1225.3	1221.6	1218.0	1214.5	1215.5
17.5°	1206.2	1204.5	1202.9	1201.2	1199.5	1196.8	1193.2	1189.5	1185.8	1182.1	1183.5
20°	1183.2	1181.5	1179.9	1178.2	1176.5	1173.7	1169.8	1165.9	1162.1	1158.2	1159.0
22.5°	1160.2	1157.8	1155.5	1153.1	1150.8	1147.8	1144.2	1140.5	1136.8	1133.1	1133.3
25°	1120.6	1118.4	1116.2	1114.0	1111.7	1108.2	1103.5	1098.8	1094.1	1089.4	1090.0
27.5°	1075.6	1073.7	1071.6	1069.6	1067.6	1064.7	1061.0	1057.2	1053.6	1049.8	1049.0
30°	1045.6	1043.4	1041.1	1039.0	1036.7	1033.5	1029.4	1025.2	1021.0	1016.8	1016.0
32.5°	1013.6	1011.8	1010.0	1008.2	1006.4	1003.3	999.0	994.6	990.2	985.8	984.3
35°	966.8	964.0	961.2	958.5	955.6	952.1	947.6	943.2	938.7	934.2	932.6
37.5°	914.0	911.5	909.1	906.6	904.3	900.8	896.4	891.9	887.4	883.0	880.9
40°	878.0	875.8	873.5	871.3	869.1	865.7	861.3	856.9	852.4	848.0	845.5
42.5°	843.0	840.7	838.5	836.3	834.1	830.8	826.3	821.9	817.4	812.9	810.2
45°	786.6	784.8	782.8	780.9	778.9	775.8	771.7	767.5	763.4	759.2	756.1
47.5°	730.7	728.9	727.0	725.2	723.3	720.2	715.9	711.5	707.2	702.9	699.6
50°	691.6	690.2	688.9	687.5	686.1	683.4	679.6	675.6	671.8	667.9	664.0
52.5°	653.7	651.8	650.0	648.1	646.3	643.6	639.9	636.2	632.5	628.9	625.7
55°	595.3	593.7	592.0	590.3	588.6	586.2	582.9	579.5	576.2	572.8	569.5
57.5°	536.8	535.5	534.1	532.8	531.5	529.0	525.3	521.6	517.9	514.3	511.0
60°	497.8	496.6	495.6	494.5	493.3	490.9	486.9	483.1	479.2	475.2	472.2
62.5°	459.8	458.0	456.2	454.4	452.6	450.3	447.2	444.2	441.2	438.3	435.5
65°	401.5	399.8	398.1	396.4	394.8	392.6	389.8	387.0	384.3	381.4	379.0
67.5°	342.2	340.8	339.5	338.2	336.9	335.0	332.4	329.9	327.4	324.9	323.0
70°	305.2	304.1	302.9	301.8	300.8	298.9	296.4	293.9	291.4	288.9	287.0
72.5°	267.1	266.1	264.9	263.8	262.7	261.4	259.8	258.2	256.5	254.9	253.0
75°	210.1	209.5	209.0	208.5	207.9	206.9	205.6	204.2	202.7	201.3	199.7
77.5°	159.1	158.2	157.2	156.3	155.3	154.6	154.0	153.4	152.9	152.3	151.5
80°	125.1	124.8	124.5	124.2	123.9	123.6	123.0	122.4	121.9	121.3	120.5
82.5°	93.0	93.0	92.9	92.8	92.8	92.7	92.3	92.0	91.6	91.3	90.2
85°	51.3	51.0	50.7	50.4	50.1	49.9	49.6	49.3	49.0	48.8	48.0
87.5°	18.3	18.5	18.7	18.9	19.1	19.2	19.2	19.3	19.3	19.4	19.0
90°	1.3	4.6	7.9	11.2	14.4	17.2	19.7	22.1	24.4	26.8	28.3
92.5°	27.1	26.8	26.5	26.2	25.9	26.3	27.5	28.7	29.9	31.1	31.9
95°	87.1	77.3	67.5	57.7	47.8	43.9	46.0	48.1	50.2	52.3	53.7
97.5°	173.0	145.2	117.5	89.8	62.1	50.7	55.5	60.3	65.1	69.9	71.2
100°	237.2	196.4	155.6	114.8	74.0	56.2	61.2	66.3	71.4	76.4	78.8
102.5°	308.0	299.4	290.8	282.1	273.5	248.0	205.7	163.2	120.9	78.5	81.6
105°	407.6	416.4	425.4	434.3	443.3	407.1	325.7	244.4	163.1	81.8	85.0
107.5°	520.9	528.1	535.4	542.5	549.8	504.6	407.1	309.5	212.0	114.5	111.1
110°	593.9	600.1	606.3	612.7	618.9	578.9	492.9	406.8	320.7	234.6	204.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	662.5	668.0	673.5	679.1	684.7	676.7	655.5	634.2	612.9	591.7	483.1
115°	770.8	775.9	780.9	786.0	791.1	797.3	804.7	812.2	819.6	827.1	689.2
117.5°	867.6	873.3	878.9	884.6	890.2	895.6	900.7	905.9	911.0	916.2	882.8
120°	938.4	942.8	947.3	951.8	956.2	961.1	966.5	971.9	977.2	982.6	986.2
122.5°	998.4	1003.1	1007.9	1012.6	1017.3	1022.6	1028.3	1034.2	1040.0	1045.8	1048.0
125°	1089.9	1093.7	1097.6	1101.5	1105.3	1110.1	1115.8	1121.4	1127.1	1132.7	1134.8
127.5°	1172.7	1177.0	1181.3	1185.5	1189.9	1194.1	1198.3	1202.6	1206.8	1211.1	1214.1
130°	1225.2	1230.0	1234.7	1239.5	1244.3	1248.3	1251.6	1254.9	1258.1	1261.4	1264.7
132.5°	1278.8	1282.9	1286.9	1291.0	1295.1	1298.7	1302.0	1305.2	1308.5	1311.8	1314.7
135°	1348.6	1353.3	1358.1	1362.8	1367.6	1371.3	1374.0	1376.7	1379.4	1382.1	1385.1
137.5°	1419.1	1422.4	1425.8	1429.1	1432.4	1435.6	1438.6	1441.7	1444.7	1447.7	1450.7
140°	1465.2	1467.5	1470.0	1472.3	1474.7	1477.5	1480.8	1484.1	1487.4	1490.6	1493.4
142.5°	1503.8	1505.9	1508.1	1510.2	1512.4	1515.3	1519.1	1522.9	1526.5	1530.3	1532.8
145°	1564.4	1564.1	1563.8	1563.5	1563.2	1565.6	1570.7	1575.7	1580.7	1585.8	1587.9
147.5°	1617.2	1616.1	1615.0	1613.8	1612.7	1614.6	1619.6	1624.7	1629.7	1634.7	1636.2
150°	1651.5	1649.4	1647.4	1645.3	1643.1	1644.5	1649.3	1654.1	1658.8	1663.6	1665.4
152.5°	1680.5	1678.2	1675.8	1673.5	1671.2	1672.3	1676.8	1681.3	1685.8	1690.4	1692.1
155°	1722.6	1719.9	1717.2	1714.5	1711.8	1712.3	1715.9	1719.5	1723.1	1726.5	1728.3
157.5°	1755.6	1753.3	1751.1	1748.8	1746.5	1746.6	1749.1	1751.6	1754.1	1756.6	1758.7
160°	1774.8	1773.0	1771.3	1769.5	1767.7	1767.7	1769.5	1771.3	1773.0	1774.8	1776.6
162.5°	1792.0	1790.3	1788.5	1786.7	1784.9	1784.7	1786.3	1787.8	1789.4	1790.9	1793.0
165°	1815.1	1813.3	1811.5	1809.7	1807.9	1807.5	1808.4	1809.2	1810.2	1811.0	1813.2
167.5°	1832.2	1830.4	1828.6	1826.8	1825.0	1824.6	1825.4	1826.3	1827.1	1828.0	1830.0
170°	1841.9	1840.1	1838.3	1836.5	1834.8	1834.1	1834.8	1835.3	1835.9	1836.5	1838.6
172.5°	1848.3	1846.5	1844.7	1843.0	1841.2	1840.6	1841.2	1841.7	1842.4	1843.0	1845.0
175°	1856.6	1854.5	1852.5	1850.4	1848.3	1847.6	1848.1	1848.7	1849.4	1849.9	1852.0
177.5°	1857.9	1856.3	1854.6	1852.9	1851.2	1850.6	1850.8	1851.1	1851.2	1851.5	1853.2
180°	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7
2.5°	1295.1	1297.4	1299.6	1300.5	1300.0	1299.6	1299.2	1298.7
5°	1286.4	1288.6	1290.9	1291.7	1291.2	1290.6	1290.1	1289.5
7.5°	1271.9	1274.1	1276.4	1277.1	1276.6	1275.9	1275.4	1274.7
10°	1258.9	1261.1	1263.4	1264.0	1263.2	1262.3	1261.5	1260.7
12.5°	1243.6	1245.1	1246.7	1247.2	1246.5	1245.9	1245.3	1244.7
15°	1216.6	1217.8	1218.9	1218.7	1217.4	1216.0	1214.6	1213.1
17.5°	1184.7	1186.0	1187.3	1187.2	1185.9	1184.6	1183.3	1181.9
20°	1159.8	1160.6	1161.5	1161.3	1160.3	1159.1	1158.0	1156.9
22.5°	1133.5	1133.6	1133.8	1133.6	1132.8	1132.2	1131.5	1130.9
25°	1090.5	1091.0	1091.6	1091.6	1091.0	1090.5	1090.0	1089.4
27.5°	1048.2	1047.4	1046.5	1045.5	1044.1	1042.7	1041.4	1040.1
30°	1015.1	1014.4	1013.5	1012.5	1011.4	1010.3	1009.2	1008.0
32.5°	982.8	981.3	979.8	978.5	977.4	976.3	975.2	974.0
35°	930.9	929.3	927.7	926.0	924.7	923.3	921.9	920.5
37.5°	878.9	876.8	874.8	873.1	871.8	870.4	869.1	867.7
40°	843.0	840.5	838.0	836.1	835.1	834.0	832.8	831.7
42.5°	807.5	804.7	802.1	799.9	798.3	796.8	795.2	793.7
45°	753.1	750.0	747.0	744.9	743.8	742.6	741.5	740.5
47.5°	696.4	693.2	690.0	687.6	686.0	684.4	682.8	681.2
50°	660.1	656.2	652.3	649.7	648.3	646.9	645.5	644.1
52.5°	622.4	619.2	616.0	613.4	611.6	609.7	607.9	606.1
55°	566.2	562.8	559.5	557.1	555.7	554.3	553.0	551.6
57.5°	507.7	504.4	501.1	499.0	497.9	496.9	495.9	494.7
60°	469.2	466.1	463.1	461.1	460.2	459.4	458.5	457.8
62.5°	432.5	429.7	426.9	425.0	423.9	422.8	421.8	420.8
65°	376.5	374.0	371.5	369.5	368.2	366.7	365.3	363.9
67.5°	321.0	319.1	317.2	315.7	314.5	313.4	312.3	311.1
70°	285.0	283.0	281.2	279.6	278.5	277.4	276.3	275.1
72.5°	251.0	249.0	247.1	245.7	244.8	243.9	243.0	242.1
75°	198.0	196.3	194.7	194.2	194.7	195.3	195.8	196.3
77.5°	150.7	149.9	149.0	148.2	147.4	146.7	145.9	145.1
80°	119.6	118.9	118.0	117.3	116.7	116.2	115.6	115.1
82.5°	89.2	88.1	87.1	86.5	86.3	86.2	86.1	86.1
85°	47.1	46.3	45.4	44.9	44.6	44.3	44.0	43.7
87.5°	18.7	18.3	17.9	17.6	17.5	17.4	17.3	17.2
90°	29.8	31.3	32.8	33.8	34.4	35.0	35.6	36.2
92.5°	32.6	33.5	34.2	34.8	35.2	35.4	35.8	36.2
95°	55.2	56.7	58.2	58.8	58.5	58.2	58.0	57.7
97.5°	72.4	73.5	74.7	75.5	75.9	76.3	76.6	76.9
100°	81.2	83.6	86.0	87.5	88.0	88.6	89.3	89.8
102.5°	84.7	87.8	91.0	92.9	93.8	94.5	95.4	96.2
105°	88.3	91.6	94.9	97.1	98.3	99.5	100.7	101.9
107.5°	107.8	104.4	101.1	100.1	101.2	102.5	103.7	104.8
110°	175.0	145.2	115.5	101.1	102.4	103.5	104.7	105.9



TEST NUMBER: P331583-830

CATALOG NUMBER: S122DIW-S865D1440U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	374.4	265.7	157.0	103.1	104.2	105.1	106.0	107.0
115°	551.3	413.3	275.4	195.7	174.3	152.8	131.4	109.9
117.5°	849.4	816.1	782.7	730.8	660.3	589.7	519.2	448.8
120°	989.8	993.3	996.9	978.5	938.4	898.1	857.9	817.7
122.5°	1050.2	1052.3	1054.4	1051.6	1043.8	1036.0	1028.2	1020.4
125°	1136.9	1139.0	1141.0	1142.6	1143.5	1144.3	1145.3	1146.1
127.5°	1217.1	1220.1	1223.1	1224.8	1224.9	1225.1	1225.3	1225.5
130°	1268.0	1271.3	1274.5	1276.0	1275.7	1275.4	1275.2	1274.8
132.5°	1317.4	1320.2	1323.0	1324.3	1324.0	1323.7	1323.4	1323.0
135°	1388.0	1391.0	1394.0	1395.2	1394.6	1394.0	1393.4	1392.8
137.5°	1453.6	1456.5	1459.4	1460.4	1459.3	1458.4	1457.4	1456.3
140°	1496.0	1498.7	1501.4	1501.9	1500.5	1499.0	1497.5	1496.0
142.5°	1535.2	1537.7	1540.1	1540.6	1539.1	1537.6	1536.2	1534.6
145°	1590.0	1592.0	1594.2	1594.5	1593.0	1591.5	1590.0	1588.6
147.5°	1637.8	1639.3	1640.9	1641.0	1639.7	1638.5	1637.2	1636.0
150°	1667.2	1669.0	1670.8	1670.8	1669.4	1667.9	1666.4	1664.9
152.5°	1693.9	1695.7	1697.5	1697.4	1695.4	1693.6	1691.6	1689.6
155°	1730.1	1731.9	1733.7	1733.4	1731.1	1728.7	1726.3	1723.9
157.5°	1760.7	1762.6	1764.7	1764.5	1762.3	1759.9	1757.6	1755.3
160°	1778.4	1780.2	1782.0	1781.9	1779.8	1777.6	1775.6	1773.5
162.5°	1795.0	1797.1	1799.0	1798.7	1796.2	1793.7	1791.1	1788.6
165°	1815.2	1817.3	1819.4	1819.4	1817.3	1815.2	1813.2	1811.0
167.5°	1832.1	1834.2	1836.3	1836.0	1833.3	1830.6	1828.0	1825.2
170°	1840.7	1842.8	1844.8	1844.6	1841.9	1839.2	1836.5	1833.8
172.5°	1847.1	1849.2	1851.2	1851.0	1848.3	1845.6	1843.0	1840.2
175°	1854.1	1856.1	1858.2	1857.8	1854.8	1851.8	1848.9	1845.9
177.5°	1854.8	1856.5	1858.2	1857.9	1855.8	1853.7	1851.5	1849.4
180°	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6

(END OF REPORT)