

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: P331844

Luminaire Tested: **S122RDIW-S865D1440U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331844
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDIW-S865D1440U835-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1440 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8018.1 lumens
Efficiency: N/A
Efficacy: 104.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

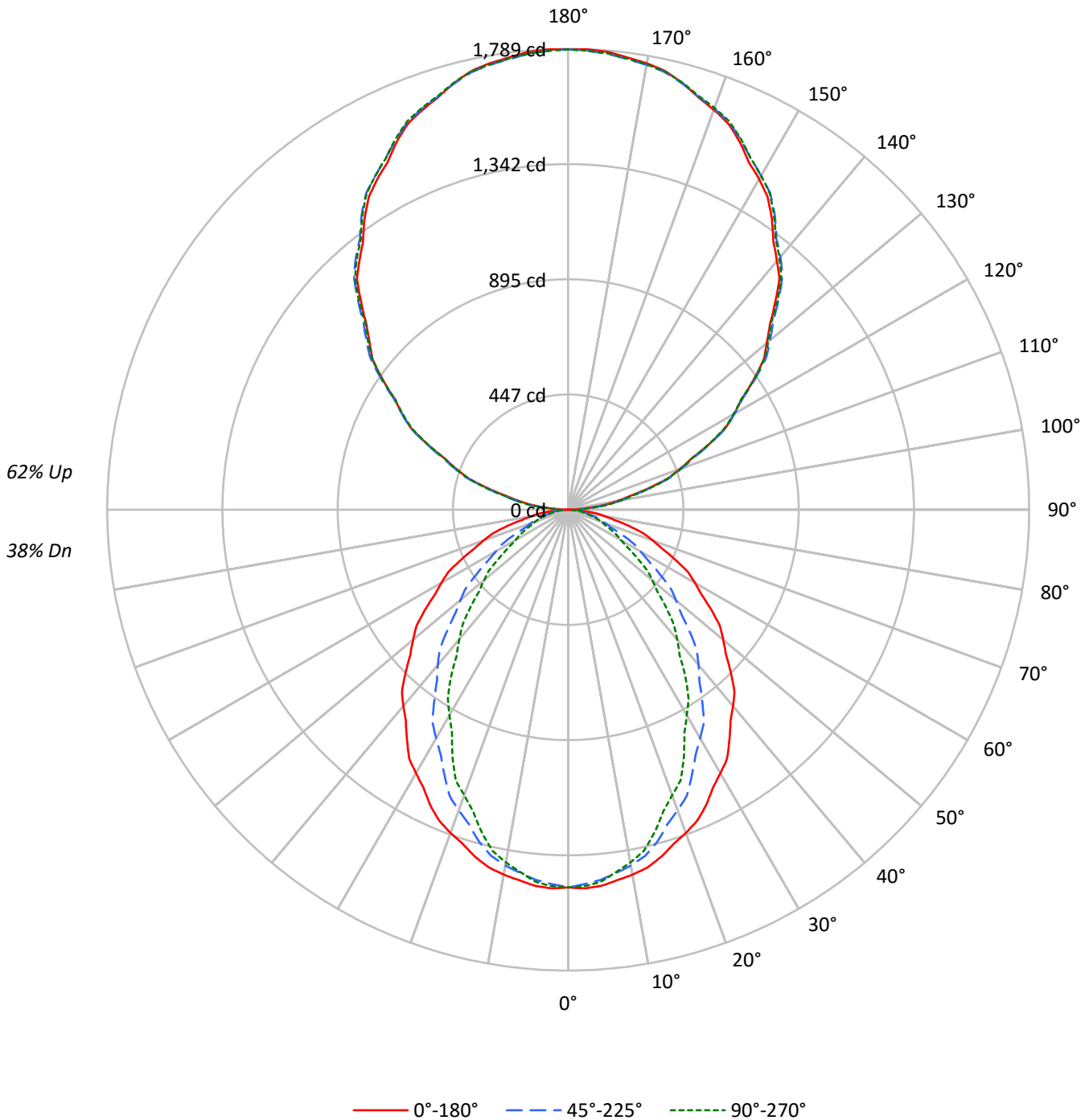
Input Watts (W): 76.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331844

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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	104	104	104	104	95	95	95	95	77	77	77	60	60	60	45	45	45	38					38			
1	95	91	88	84	86	83	80	77	67	65	63	53	52	51	40	39	38	32					32			
2	87	80	74	69	79	73	68	64	60	56	53	47	45	43	36	34	33	28					28			
3	80	71	64	58	72	64	58	54	53	48	45	42	39	37	32	30	28	24					24			
4	73	63	55	49	66	57	51	46	47	42	39	38	34	32	29	27	25	21					21			
5	67	56	48	42	61	51	44	39	42	37	33	34	30	28	26	24	22	18					18			
6	62	50	42	37	56	46	39	34	38	33	29	31	27	24	24	21	19	16					16			
7	57	45	38	32	52	42	35	30	35	30	26	28	24	22	22	19	17	15					15			
8	53	41	34	29	48	38	31	27	32	27	23	26	22	19	20	18	16	13					13			
9	49	38	30	26	45	35	28	24	29	24	21	24	20	17	19	16	14	12					12			
10	46	35	28	23	42	32	26	21	27	22	19	22	18	16	17	15	13	11					11			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	23675	23675	23675
5°	23765	23378	23506
10°	23582	22996	22799
15°	23311	22313	21670
20°	22936	21340	20270
25°	22552	20236	18912
30°	22018	19099	17169
35°	21498	17864	15640
40°	20976	16585	13873
45°	20361	15150	12271
50°	19733	13700	10698
55°	19088	12141	9188
60°	18338	10498	7627
65°	17490	8821	6946
70°	16475	7265	6387
75°	15234	6625	5958
80°	13445	5923	5430
85°	10578	4668	4668



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.2	1.7
10°-20°	376.8	4.7
20°-30°	529.2	6.6
30°-40°	577.1	7.2
40°-50°	530.6	6.6
50°-60°	416.7	5.2
60°-70°	271.7	3.4
70°-80°	140.1	1.7
80°-90°	43.5	0.5
90°-100°	113.2	1.4
100°-110°	351.6	4.4
110°-120°	601.0	7.5
120°-130°	790.3	9.9
130°-140°	887.0	11.1
140°-150°	869.7	10.8
150°-160°	729.5	9.1
160°-170°	483.8	6.0
170°-180°	169.1	2.1
0°-30°	1043.3	13.0
0°-40°	1620.3	20.2
0°-60°	2567.6	32.0
0°-90°	3022.9	37.7
90°-120°	1065.7	13.3
90°-150°	3612.8	45.1
90°-180°	4995.0	62.3
0°-180°	8018.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1466	1466	1466	1466	1466	
5°	1466	1459	1442	1453	1450	139
15°	1395	1378	1335	1310	1296	393
25°	1266	1221	1136	1083	1062	582
35°	1091	1020	906	826	794	682
45°	892	800	664	573	537	688
55°	678	572	431	355	326	606
65°	458	350	231	188	182	454
75°	244	154	106	97	96	258
85°	57	31	25	25	25	67
90°	2	20	53	50	51	6
95°	78	93	96	96	94	90
105°	324	329	332	334	335	342
115°	603	611	609	607	603	596
125°	877	890	886	882	880	784
135°	1135	1151	1155	1153	1149	877
145°	1378	1388	1398	1399	1393	860
155°	1575	1580	1584	1591	1588	725
165°	1714	1713	1713	1722	1716	483
175°	1783	1779	1776	1785	1777	169
180°	1786	1786	1786	1786	1786	



TEST NUMBER: P331844

CATALOG NUMBER: S122RDIW-S865D1440U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3
2.5°	1471.6	1470.4	1469.2	1468.0	1466.9	1465.0	1462.4	1459.8	1457.2	1454.6	1457.0
5°	1466.3	1464.8	1463.3	1461.8	1460.4	1457.7	1453.9	1450.1	1446.2	1442.4	1445.0
7.5°	1451.1	1449.3	1447.5	1445.7	1443.8	1440.7	1436.2	1431.7	1427.2	1422.7	1423.5
10°	1438.4	1436.3	1434.3	1432.2	1430.1	1426.2	1420.3	1414.4	1408.5	1402.6	1401.7
12.5°	1422.5	1419.9	1417.4	1414.9	1412.3	1407.3	1399.7	1392.2	1384.6	1377.1	1375.5
15°	1394.6	1391.4	1388.1	1384.9	1381.6	1375.0	1365.0	1355.0	1344.9	1334.9	1329.3
17.5°	1360.4	1355.4	1350.5	1345.5	1340.6	1331.7	1318.8	1305.9	1293.1	1280.2	1273.6
20°	1334.9	1329.0	1323.1	1317.2	1311.3	1301.0	1286.2	1271.5	1256.8	1242.0	1234.6
22.5°	1307.3	1300.7	1294.1	1287.5	1280.9	1269.3	1252.6	1236.0	1219.4	1202.7	1193.2
25°	1265.9	1256.5	1247.0	1237.6	1228.2	1213.7	1194.2	1174.8	1155.3	1135.9	1123.8
27.5°	1216.0	1205.7	1195.5	1185.2	1175.0	1158.9	1136.9	1115.0	1093.0	1071.1	1057.0
30°	1181.0	1169.8	1158.6	1147.4	1136.2	1118.8	1095.2	1071.6	1048.0	1024.4	1009.4
32.5°	1147.0	1133.9	1120.8	1107.7	1094.6	1076.1	1052.0	1027.9	1003.9	979.8	962.7
35°	1090.7	1075.7	1060.7	1045.6	1030.6	1010.1	984.1	958.2	932.3	906.3	887.7
37.5°	1034.5	1018.0	1001.5	984.9	968.4	946.3	918.7	891.0	863.4	835.7	815.2
40°	995.2	977.5	959.8	942.1	924.4	901.3	872.7	844.1	815.5	786.9	765.9
42.5°	954.9	936.2	917.6	899.0	880.3	856.2	826.7	797.1	767.6	738.0	716.4
45°	891.7	871.9	852.2	832.4	812.7	787.3	756.4	725.4	694.4	663.5	642.5
47.5°	830.1	809.2	788.3	767.3	746.4	719.9	688.0	656.0	624.0	592.1	571.3
50°	785.6	764.6	743.7	722.7	701.8	675.1	642.7	610.2	577.8	545.4	525.0
52.5°	742.0	720.1	698.3	676.4	654.5	627.7	596.0	564.2	532.5	500.8	481.1
55°	678.1	655.1	632.1	609.1	586.1	558.6	526.8	494.9	463.1	431.3	413.6
57.5°	612.5	588.9	565.3	541.7	518.2	491.1	460.4	429.8	399.2	368.6	352.4
60°	567.9	544.3	520.8	497.2	473.6	446.6	416.2	385.8	355.5	325.1	310.1
62.5°	524.4	500.8	477.2	453.6	430.0	403.8	374.8	345.9	316.9	287.9	273.6
65°	457.8	433.9	410.0	386.1	362.3	337.0	310.5	284.0	257.4	230.9	220.9
67.5°	393.6	369.9	346.2	322.4	298.7	274.9	251.1	227.2	203.3	179.4	174.8
70°	349.0	326.0	303.0	280.0	257.0	235.3	215.0	194.6	174.3	153.9	151.0
72.5°	306.5	284.5	262.4	240.4	218.3	199.1	182.8	166.4	150.1	133.8	131.3
75°	244.2	223.5	202.9	182.2	161.6	146.3	136.2	126.2	116.2	106.2	104.1
77.5°	182.9	164.7	146.6	128.5	110.4	99.0	94.1	89.3	84.5	79.6	78.4
80°	144.6	129.6	114.6	99.5	84.5	75.5	72.5	69.6	66.6	63.7	62.5
82.5°	109.6	97.9	86.1	74.4	62.7	55.8	53.8	51.8	49.8	47.8	47.1
85°	57.1	50.9	44.7	38.5	32.3	28.8	27.9	27.0	26.1	25.2	25.2
87.5°	17.3	16.2	15.1	14.0	13.0	13.1	14.6	16.1	17.6	19.0	18.7
90°	1.5	5.5	9.5	13.6	17.6	23.3	30.7	38.0	45.4	52.8	52.1
92.5°	26.8	29.8	32.7	35.7	38.6	41.0	42.7	44.5	46.2	47.9	48.1
95°	78.4	81.7	85.1	88.4	91.8	93.8	94.5	95.1	95.8	96.5	96.5
97.5°	143.2	146.2	149.1	152.1	155.0	157.1	158.4	159.7	160.9	162.2	162.2
100°	191.5	194.1	196.8	199.5	202.2	204.0	205.0	206.0	207.0	208.0	208.0
102.5°	242.1	244.3	246.4	248.5	250.7	252.4	253.7	254.9	256.2	257.5	257.8
105°	324.1	325.1	326.1	327.1	328.1	329.0	329.7	330.3	331.0	331.7	332.3
107.5°	406.7	408.2	409.7	411.2	412.6	413.4	413.4	413.4	413.4	413.4	413.6
110°	459.8	461.8	463.8	465.8	467.8	468.9	468.9	468.9	468.9	468.9	468.9



TEST NUMBER: P331844

CATALOG NUMBER: S122RDIW-S865D1440U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	517.7	519.7	521.7	523.7	525.7	526.6	526.3	526.1	525.8	525.5	524.7
115°	603.0	605.0	607.0	609.1	611.1	611.7	611.1	610.4	609.7	609.1	608.7
117.5°	688.1	690.7	693.4	696.1	698.8	699.2	697.3	695.4	693.5	691.7	690.9
120°	744.7	747.4	750.1	752.8	755.5	755.5	752.8	750.1	747.4	744.7	744.7
122.5°	796.6	799.8	803.0	806.2	809.5	810.1	808.3	806.4	804.5	802.6	801.8
125°	877.4	880.4	883.4	886.4	889.5	890.5	889.5	888.5	887.5	886.4	885.4
127.5°	956.1	959.9	963.7	967.6	971.4	972.7	971.5	970.3	969.1	967.9	966.6
130°	1005.5	1009.9	1014.3	1018.6	1023.0	1024.8	1024.1	1023.5	1022.8	1022.1	1021.5
132.5°	1061.0	1064.6	1068.1	1071.7	1075.2	1077.1	1077.2	1077.3	1077.5	1077.6	1076.1
135°	1135.2	1138.9	1142.6	1146.2	1149.9	1152.1	1152.8	1153.5	1154.1	1154.8	1154.5
137.5°	1213.3	1216.3	1219.3	1222.3	1225.3	1227.3	1228.2	1229.0	1229.9	1230.8	1230.5
140°	1260.3	1263.3	1266.4	1269.4	1272.4	1274.7	1276.4	1278.1	1279.8	1281.4	1281.4
142.5°	1308.6	1311.6	1314.6	1317.6	1320.6	1322.7	1323.8	1325.0	1326.1	1327.3	1327.5
145°	1377.9	1380.3	1382.6	1384.9	1387.3	1389.5	1391.5	1393.5	1395.5	1397.5	1397.8
147.5°	1439.7	1442.5	1445.3	1448.2	1451.0	1453.1	1454.4	1455.7	1457.1	1458.4	1459.2
150°	1481.9	1483.9	1486.0	1488.0	1490.0	1491.6	1493.0	1494.3	1495.7	1497.0	1498.0
152.5°	1519.3	1521.3	1523.3	1525.3	1527.4	1529.2	1530.8	1532.4	1534.0	1535.6	1536.9
155°	1575.4	1576.4	1577.4	1578.4	1579.4	1580.4	1581.4	1582.4	1583.4	1584.4	1586.1
157.5°	1623.3	1624.0	1624.7	1625.4	1626.0	1626.7	1627.3	1627.9	1628.5	1629.1	1631.3
160°	1652.3	1653.0	1653.6	1654.3	1655.0	1655.5	1655.8	1656.1	1656.5	1656.8	1658.8
162.5°	1678.8	1679.0	1679.1	1679.2	1679.4	1679.6	1679.9	1680.3	1680.6	1680.9	1683.2
165°	1714.1	1713.8	1713.4	1713.1	1712.8	1712.6	1712.6	1712.6	1712.6	1712.6	1714.9
167.5°	1743.6	1742.6	1741.6	1740.6	1739.6	1739.1	1739.0	1739.0	1738.9	1738.8	1741.2
170°	1759.3	1758.3	1757.3	1756.3	1755.3	1754.6	1754.3	1754.0	1753.6	1753.3	1755.6
172.5°	1770.2	1769.2	1768.2	1767.2	1766.2	1765.5	1765.2	1764.8	1764.5	1764.1	1766.5
175°	1783.4	1782.4	1781.4	1780.4	1779.4	1778.6	1777.9	1777.2	1776.6	1775.9	1778.3
177.5°	1788.9	1788.1	1787.3	1786.5	1785.7	1785.0	1784.4	1783.9	1783.4	1782.8	1784.4
180°	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5



TEST NUMBER: P331844

CATALOG NUMBER: S122RDIW-S865D1440U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3
2.5°	1459.3	1461.7	1464.0	1465.0	1464.5	1464.0	1463.6	1463.1
5°	1447.7	1450.3	1453.0	1453.9	1453.0	1452.1	1451.2	1450.3
7.5°	1424.3	1425.0	1425.8	1425.4	1423.9	1422.4	1420.8	1419.3
10°	1400.8	1399.9	1399.0	1397.7	1395.9	1394.2	1392.4	1390.6
12.5°	1373.9	1372.3	1370.7	1368.5	1365.5	1362.6	1359.6	1356.7
15°	1323.7	1318.1	1312.5	1308.2	1305.3	1302.3	1299.4	1296.4
17.5°	1266.9	1260.2	1253.6	1247.7	1242.6	1237.6	1232.5	1227.4
20°	1227.3	1219.9	1212.5	1205.6	1199.1	1192.6	1186.1	1179.7
22.5°	1183.8	1174.3	1164.8	1157.6	1152.8	1147.9	1143.1	1138.3
25°	1111.7	1099.6	1087.5	1079.2	1074.8	1070.4	1066.0	1061.6
27.5°	1042.9	1028.8	1014.7	1004.2	997.2	990.1	983.1	976.1
30°	994.3	979.3	964.2	952.7	944.8	936.8	928.9	920.9
32.5°	945.5	928.3	911.2	898.8	891.4	883.9	876.4	868.9
35°	869.1	850.6	832.0	819.5	813.0	806.5	800.0	793.5
37.5°	794.8	774.3	753.9	739.9	732.5	725.0	717.6	710.2
40°	745.0	724.1	703.1	688.8	681.2	673.5	665.8	658.2
42.5°	694.8	673.1	651.5	636.9	629.5	622.1	614.6	607.2
45°	621.6	600.7	579.7	565.7	558.6	551.6	544.5	537.4
47.5°	550.4	529.6	508.8	495.2	488.8	482.3	475.9	469.5
50°	504.7	484.3	464.0	450.7	444.5	438.3	432.1	425.9
52.5°	461.5	441.9	422.2	409.6	403.8	398.1	392.4	386.7
55°	395.9	378.2	360.5	348.8	343.2	337.6	332.0	326.4
57.5°	336.2	320.0	303.8	293.3	288.6	283.8	279.1	274.4
60°	295.0	280.0	264.9	255.1	250.3	245.6	240.9	236.2
62.5°	259.3	245.0	230.6	222.0	219.2	216.4	213.5	210.7
65°	210.8	200.8	190.8	185.3	184.4	183.6	182.7	181.8
67.5°	170.2	165.6	161.0	158.2	157.3	156.3	155.4	154.5
70°	148.0	145.1	142.1	140.1	138.9	137.7	136.5	135.3
72.5°	128.8	126.3	123.8	122.3	121.5	120.8	120.1	119.4
75°	102.0	100.0	97.9	96.7	96.4	96.1	95.8	95.5
77.5°	77.3	76.1	74.9	74.1	73.6	73.1	72.7	72.2
80°	61.3	60.2	59.0	58.4	58.4	58.4	58.4	58.4
82.5°	46.4	45.6	44.9	44.6	44.6	44.6	44.6	44.6
85°	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2
87.5°	18.3	17.9	17.6	17.4	17.5	17.5	17.6	17.7
90°	51.4	50.8	50.1	49.9	50.3	50.6	50.9	51.3
92.5°	48.2	48.3	48.5	48.6	48.6	48.7	48.8	48.8
95°	96.5	96.5	96.5	96.1	95.5	94.8	94.1	93.5
97.5°	162.2	162.2	162.2	162.2	162.1	162.0	162.0	161.9
100°	208.0	208.0	208.0	207.9	207.5	207.2	206.9	206.5
102.5°	258.0	258.3	258.6	258.5	258.2	257.9	257.5	257.2
105°	333.0	333.7	334.3	334.7	334.7	334.7	334.7	334.7
107.5°	413.9	414.2	414.4	413.8	412.3	410.7	409.2	407.6
110°	468.9	468.9	468.9	468.3	467.3	466.3	465.3	464.3



TEST NUMBER: P331844

CATALOG NUMBER: S122RDIW-S865D1440U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	523.9	523.1	522.3	521.5	520.8	520.1	519.3	518.6
115°	608.4	608.0	607.7	607.0	606.0	605.0	604.0	603.0
117.5°	690.1	689.3	688.5	687.5	686.5	685.5	684.5	683.5
120°	744.7	744.7	744.7	744.2	743.2	742.2	741.2	740.2
122.5°	801.0	800.2	799.4	798.6	797.9	797.2	796.4	795.7
125°	884.4	883.4	882.4	881.8	881.4	881.1	880.8	880.4
127.5°	965.4	964.2	963.0	961.9	960.8	959.7	958.7	957.6
130°	1020.8	1020.1	1019.4	1018.4	1017.1	1015.8	1014.4	1013.1
132.5°	1074.7	1073.2	1071.7	1070.4	1069.4	1068.3	1067.2	1066.1
135°	1154.1	1153.8	1153.5	1152.8	1151.8	1150.8	1149.8	1148.8
137.5°	1230.2	1230.0	1229.7	1228.9	1227.6	1226.2	1224.9	1223.5
140°	1281.4	1281.4	1281.4	1280.8	1279.4	1278.1	1276.7	1275.4
142.5°	1327.8	1328.1	1328.3	1327.8	1326.5	1325.1	1323.8	1322.4
145°	1398.2	1398.5	1398.8	1398.3	1397.0	1395.7	1394.3	1393.0
147.5°	1459.9	1460.6	1461.4	1461.1	1459.8	1458.5	1457.3	1456.0
150°	1499.0	1500.0	1501.0	1501.0	1500.0	1499.0	1498.0	1497.0
152.5°	1538.1	1539.4	1540.7	1540.7	1539.4	1538.1	1536.9	1535.6
155°	1587.8	1589.5	1591.1	1591.5	1590.5	1589.5	1588.5	1587.5
157.5°	1633.6	1635.9	1638.2	1638.5	1636.9	1635.3	1633.7	1632.1
160°	1660.8	1662.8	1664.8	1665.2	1663.8	1662.5	1661.2	1659.8
162.5°	1685.5	1687.8	1690.0	1690.4	1688.8	1687.2	1685.6	1683.9
165°	1717.3	1719.6	1722.0	1722.3	1720.6	1719.0	1717.3	1715.6
167.5°	1743.5	1745.9	1748.2	1748.5	1746.8	1745.0	1743.3	1741.5
170°	1758.0	1760.3	1762.7	1762.8	1760.8	1758.8	1756.8	1754.8
172.5°	1768.8	1771.2	1773.5	1773.7	1771.7	1769.7	1767.7	1765.7
175°	1780.6	1782.9	1785.3	1785.5	1783.4	1781.4	1779.4	1777.4
177.5°	1786.1	1787.7	1789.3	1789.3	1787.7	1786.1	1784.4	1782.8
180°	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5

(END OF REPORT)