

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: P332172-830

Luminaire Tested: **S123DIW-S775D1320U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332172-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S775D1320U830-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1320 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7965.9 lumens
Efficiency: N/A
Efficacy: 129.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

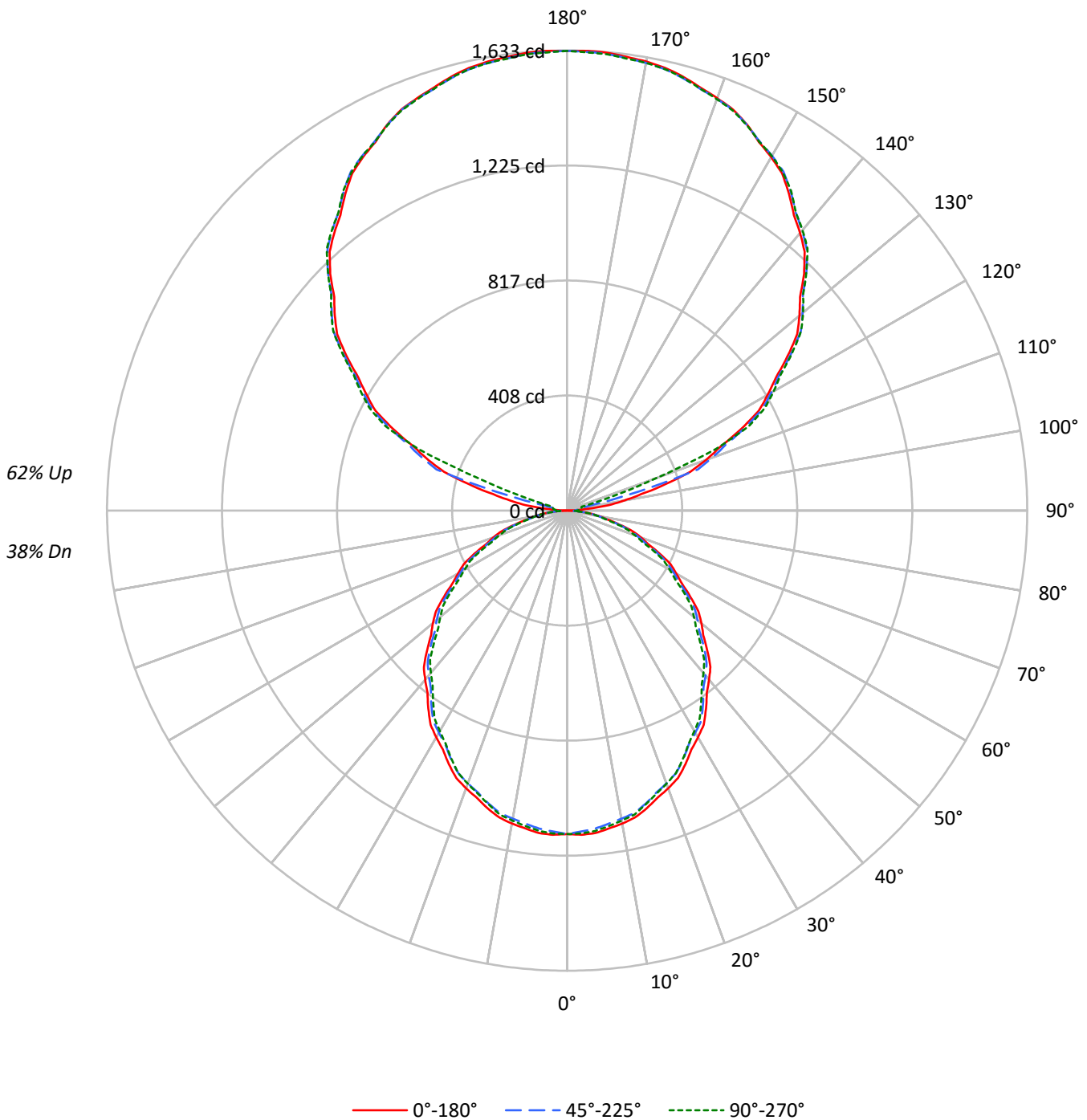
Input Watts (W): 61.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0	
RCR																						
0	104	104	104	104	94	94	94	94	76	76	76	60	60	60	45	45	45	38				
1	95	91	87	83	86	82	79	76	67	65	63	53	51	50	39	38	38	32				
2	86	79	73	68	78	72	67	62	58	55	52	46	44	41	35	33	32	26				
3	79	69	62	57	71	63	57	52	52	47	43	41	38	35	31	29	27	22				
4	72	61	54	48	65	56	49	44	46	41	37	36	33	30	27	25	23	19				
5	66	55	47	41	60	50	43	38	41	36	32	32	29	26	25	22	20	17				
6	61	49	41	35	55	45	38	33	37	31	28	29	25	23	22	20	18	15				
7	56	44	36	31	51	40	33	29	33	28	24	27	23	20	20	18	16	13				
8	52	40	32	27	47	37	30	25	30	25	21	24	20	18	19	16	14	12				
9	48	36	29	24	44	33	27	22	28	23	19	22	19	16	17	15	13	10				
10	45	33	26	21	41	31	24	20	25	21	17	21	17	14	16	13	11	9				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12355	12355	12355
5°	12413	12241	12327
10°	12329	12136	12211
15°	12186	11999	12021
20°	12016	11802	11813
25°	11792	11569	11545
30°	11543	11309	11225
35°	11284	11037	10893
40°	11011	10732	10568
45°	10712	10456	10201
50°	10412	10114	9833
55°	10021	9760	9466
60°	9623	9347	9052
65°	9276	8899	8621
70°	8759	8387	8013
75°	8006	7719	7390
80°	7221	6912	6856
85°	6336	6101	5854



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.1	1.4
10°-20°	305.3	3.8
20°-30°	451.0	5.7
30°-40°	526.8	6.6
40°-50°	529.6	6.6
50°-60°	465.2	5.8
60°-70°	346.6	4.4
70°-80°	197.5	2.5
80°-90°	61.2	0.8
90°-100°	59.3	0.7
100°-110°	282.7	3.5
110°-120°	679.0	8.5
120°-130°	864.6	10.9
130°-140°	923.8	11.6
140°-150°	863.8	10.8
150°-160°	696.8	8.7
160°-170°	449.7	5.6
170°-180°	155.0	1.9
0°-30°	864.4	10.9
0°-40°	1391.1	17.5
0°-60°	2385.9	30.0
0°-90°	2991.2	37.6
90°-120°	1020.9	12.8
90°-150°	3673.1	46.1
90°-180°	4975.0	62.5
0°-180°	7965.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1148	1148	1148	1148	1148	
5°	1149	1143	1133	1142	1141	109
15°	1094	1089	1077	1084	1079	308
25°	993	987	974	975	972	457
35°	859	852	840	834	829	537
45°	704	699	687	675	670	543
55°	534	532	520	510	504	478
65°	364	359	349	342	338	359
75°	192	189	186	181	178	206
85°	51	50	49	48	47	56
90°	1	14	29	34	36	6
95°	74	28	38	46	46	91
105°	361	368	265	63	53	383
115°	678	685	696	707	713	669
125°	955	964	970	972	974	853
135°	1189	1196	1201	1204	1201	915
145°	1372	1380	1383	1385	1385	858
155°	1511	1509	1510	1515	1509	696
165°	1594	1590	1589	1598	1590	450
175°	1631	1626	1626	1634	1625	155
180°	1631	1631	1631	1631	1631	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8
2.5°	1151.7	1151.0	1150.4	1149.6	1149.0	1147.6	1145.7	1143.8	1141.8	1139.9	1141.6
5°	1148.8	1147.6	1146.6	1145.5	1144.3	1142.6	1140.2	1137.8	1135.4	1132.9	1135.2
7.5°	1137.6	1136.4	1135.3	1134.3	1133.1	1131.3	1128.8	1126.3	1123.8	1121.3	1123.3
10°	1128.0	1126.9	1125.9	1124.7	1123.7	1121.7	1118.8	1116.0	1113.1	1110.3	1112.3
12.5°	1115.4	1114.5	1113.6	1112.7	1111.7	1109.9	1107.3	1104.6	1101.9	1099.2	1100.7
15°	1093.5	1092.6	1091.7	1090.9	1090.0	1088.2	1085.2	1082.4	1079.6	1076.8	1078.5
17.5°	1068.0	1066.9	1065.7	1064.6	1063.5	1061.5	1058.7	1055.7	1052.9	1050.1	1051.3
20°	1049.0	1047.7	1046.5	1045.2	1043.9	1041.7	1038.9	1036.0	1033.2	1030.3	1031.2
22.5°	1027.7	1026.4	1025.1	1023.8	1022.5	1020.4	1017.6	1014.7	1011.9	1009.0	1009.7
25°	992.9	991.6	990.2	988.9	987.6	985.5	982.6	979.8	976.9	974.1	974.3
27.5°	955.5	954.2	953.0	951.7	950.5	948.3	945.2	942.2	939.1	935.9	936.1
30°	928.7	927.6	926.5	925.4	924.3	922.2	919.2	916.1	913.0	909.9	909.9
32.5°	901.8	900.4	898.9	897.5	896.1	894.2	891.7	889.4	887.0	884.7	883.4
35°	858.7	857.3	856.0	854.7	853.4	851.3	848.4	845.6	842.7	839.9	838.6
37.5°	814.4	812.8	811.1	809.4	807.8	805.5	802.6	799.7	796.7	793.9	792.3
40°	783.6	782.3	781.0	779.7	778.4	776.2	773.1	770.1	766.9	763.8	762.1
42.5°	752.8	751.3	749.8	748.4	746.9	744.6	741.5	738.4	735.4	732.3	730.6
45°	703.7	702.8	701.9	701.1	700.1	698.3	695.4	692.6	689.8	686.9	684.3
47.5°	654.9	653.7	652.3	651.1	649.8	647.8	645.2	642.5	639.8	637.2	634.5
50°	621.8	620.7	619.5	618.5	617.4	615.4	612.6	609.7	606.8	604.0	601.6
52.5°	587.0	586.3	585.5	584.8	584.0	582.1	579.1	576.1	573.1	570.0	568.0
55°	534.0	533.7	533.5	533.3	533.0	531.5	528.7	525.8	522.9	520.1	517.7
57.5°	483.4	482.7	481.9	481.2	480.4	478.9	476.6	474.3	472.0	469.8	467.6
60°	447.0	446.9	446.7	446.4	446.2	444.8	442.1	439.5	436.9	434.2	432.3
62.5°	414.7	414.2	413.6	413.0	412.5	410.9	408.2	405.6	402.9	400.3	398.3
65°	364.2	363.1	361.9	360.9	359.8	358.2	355.9	353.7	351.6	349.4	347.6
67.5°	310.7	309.7	308.8	307.7	306.8	305.5	303.9	302.2	300.5	298.9	297.3
70°	278.3	277.0	275.7	274.4	273.1	271.7	270.4	269.1	267.8	266.5	264.9
72.5°	244.4	243.4	242.4	241.5	240.5	239.3	237.8	236.3	234.8	233.3	232.0
75°	192.5	191.5	190.7	189.8	189.0	188.1	187.5	186.8	186.2	185.6	184.5
77.5°	146.5	146.0	145.5	145.1	144.5	143.9	143.1	142.3	141.6	140.7	140.0
80°	116.5	115.8	115.2	114.5	113.9	113.3	112.8	112.4	112.0	111.5	111.3
82.5°	87.3	87.1	87.0	86.8	86.7	86.6	86.5	86.4	86.3	86.2	85.9
85°	51.3	50.9	50.4	50.0	49.6	49.4	49.4	49.4	49.4	49.4	48.9
87.5°	20.7	20.7	20.8	20.8	20.8	21.1	21.6	22.1	22.6	23.2	23.2
90°	1.2	3.9	6.6	9.3	12.0	15.1	18.6	22.1	25.5	29.1	30.2
92.5°	22.5	21.8	21.0	20.3	19.5	20.5	23.1	25.7	28.4	31.0	32.7
95°	73.9	62.9	51.8	40.8	29.8	25.7	28.7	31.7	34.6	37.6	39.5
97.5°	148.5	143.6	138.6	133.7	128.8	116.6	97.2	77.9	58.4	39.0	41.2
100°	204.8	210.2	215.6	220.9	226.4	208.0	166.1	124.0	82.0	40.0	42.1
102.5°	268.8	272.7	276.5	280.4	284.4	263.3	217.4	171.5	125.6	79.7	73.0
105°	361.2	364.1	367.1	370.0	373.0	362.4	338.1	313.9	289.6	265.4	217.7
107.5°	458.6	461.0	463.4	465.7	468.1	471.2	475.0	478.8	482.7	486.4	451.5
110°	523.6	525.8	527.8	530.0	532.2	534.7	537.7	540.6	543.7	546.6	537.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	585.6	587.6	589.5	591.4	593.3	595.8	598.8	601.7	604.7	607.7	607.8
115°	677.5	679.1	680.7	682.3	683.9	686.0	688.3	690.8	693.2	695.7	698.3
117.5°	766.5	768.5	770.4	772.4	774.4	776.0	777.2	778.5	779.8	781.0	783.2
120°	821.7	824.2	826.5	829.0	831.4	833.0	833.8	834.6	835.5	836.2	838.4
122.5°	878.0	880.0	881.9	883.9	885.9	887.4	888.4	889.5	890.5	891.6	893.1
125°	955.0	957.2	959.3	961.5	963.7	965.3	966.3	967.4	968.5	969.6	970.1
127.5°	1029.6	1031.8	1034.0	1036.1	1038.3	1040.0	1041.3	1042.6	1043.9	1045.2	1046.0
130°	1076.2	1078.4	1080.5	1082.7	1084.9	1086.5	1087.5	1088.6	1089.7	1090.7	1091.8
132.5°	1120.8	1122.9	1125.1	1127.3	1129.4	1131.0	1131.8	1132.7	1133.5	1134.3	1135.5
135°	1188.9	1190.5	1192.1	1193.7	1195.4	1196.7	1197.8	1198.9	1200.0	1201.1	1201.8
137.5°	1247.1	1249.2	1251.2	1253.2	1255.3	1256.6	1257.2	1257.8	1258.4	1259.0	1260.3
140°	1285.9	1287.5	1289.1	1290.7	1292.3	1293.5	1294.4	1295.1	1296.0	1296.8	1297.9
142.5°	1321.7	1323.3	1325.0	1326.6	1328.2	1329.5	1330.2	1331.1	1331.8	1332.7	1333.5
145°	1372.0	1373.9	1375.7	1377.6	1379.5	1380.6	1381.2	1381.8	1382.3	1382.8	1383.4
147.5°	1419.2	1420.4	1421.6	1422.9	1424.2	1425.0	1425.6	1426.1	1426.6	1427.2	1427.8
150°	1448.3	1449.1	1449.9	1450.7	1451.5	1452.2	1452.7	1453.2	1453.8	1454.3	1454.9
152.5°	1474.4	1474.8	1475.2	1475.6	1475.9	1476.3	1476.7	1477.0	1477.2	1477.6	1478.6
155°	1511.3	1510.8	1510.2	1509.7	1509.1	1509.0	1509.3	1509.6	1509.9	1510.0	1511.5
157.5°	1539.9	1539.8	1539.8	1539.7	1539.6	1539.5	1539.3	1539.0	1538.7	1538.4	1540.0
160°	1557.4	1557.1	1556.8	1556.5	1556.2	1556.0	1555.8	1555.5	1555.2	1554.9	1556.5
162.5°	1573.9	1573.1	1572.4	1571.7	1571.0	1570.6	1570.3	1570.0	1569.7	1569.4	1571.3
165°	1593.7	1592.9	1592.0	1591.3	1590.4	1590.0	1589.7	1589.4	1589.1	1588.8	1591.0
167.5°	1609.2	1608.2	1607.0	1606.0	1604.9	1604.4	1604.4	1604.4	1604.4	1604.4	1606.6
170°	1618.0	1616.8	1615.8	1614.8	1613.6	1613.1	1613.1	1613.1	1613.1	1613.1	1615.2
172.5°	1623.8	1622.5	1621.2	1619.9	1618.6	1618.1	1618.3	1618.5	1618.7	1618.9	1621.1
175°	1631.3	1629.9	1628.6	1627.2	1625.9	1625.3	1625.6	1625.9	1626.2	1626.5	1628.3
177.5°	1633.2	1632.1	1631.1	1630.0	1628.9	1628.5	1628.7	1628.9	1629.1	1629.4	1631.1
180°	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8
2.5°	1143.4	1145.2	1146.9	1147.7	1147.5	1147.4	1147.2	1147.0
5°	1137.4	1139.5	1141.8	1142.6	1142.2	1141.8	1141.3	1140.9
7.5°	1125.3	1127.3	1129.3	1130.1	1129.8	1129.5	1129.3	1129.1
10°	1114.3	1116.2	1118.1	1119.0	1118.5	1118.0	1117.7	1117.2
12.5°	1102.1	1103.5	1105.0	1105.6	1105.3	1105.0	1104.8	1104.6
15°	1080.2	1081.9	1083.7	1083.9	1082.6	1081.3	1080.1	1078.7
17.5°	1052.5	1053.8	1055.0	1055.4	1054.9	1054.4	1054.0	1053.5
20°	1032.1	1032.9	1033.9	1034.0	1033.3	1032.6	1032.0	1031.3
22.5°	1010.4	1011.2	1011.8	1011.7	1011.0	1010.1	1009.3	1008.4
25°	974.5	974.8	975.0	974.8	974.1	973.5	972.8	972.1
27.5°	936.3	936.5	936.7	936.3	935.6	934.7	933.9	933.0
30°	909.9	909.9	909.9	909.2	907.7	906.1	904.6	903.1
32.5°	882.2	881.0	879.8	878.7	877.9	877.0	876.2	875.4
35°	837.3	835.9	834.6	833.4	832.3	831.2	830.1	829.0
37.5°	790.7	789.1	787.6	786.5	785.7	785.0	784.3	783.6
40°	760.3	758.7	756.9	755.5	754.7	753.8	752.9	752.1
42.5°	728.8	727.0	725.3	724.0	723.1	722.2	721.3	720.5
45°	681.6	679.0	676.4	674.5	673.4	672.3	671.2	670.1
47.5°	632.0	629.4	626.8	625.0	624.1	623.1	622.2	621.1
50°	599.2	596.7	594.4	592.5	591.2	589.8	588.5	587.2
52.5°	565.9	563.8	561.8	560.2	558.8	557.5	556.2	554.9
55°	515.3	512.8	510.5	508.7	507.6	506.5	505.4	504.4
57.5°	465.4	463.4	461.2	459.5	458.2	456.9	455.6	454.4
60°	430.3	428.3	426.3	424.8	423.7	422.6	421.5	420.5
62.5°	396.3	394.4	392.4	391.1	390.3	389.6	388.8	388.0
65°	345.8	344.1	342.3	341.1	340.4	339.8	339.1	338.5
67.5°	295.8	294.3	292.7	291.4	290.6	289.6	288.7	287.8
70°	263.4	261.8	260.3	259.0	257.9	256.8	255.7	254.6
72.5°	230.5	229.2	227.9	226.9	226.3	225.7	225.2	224.6
75°	183.3	182.3	181.2	180.3	179.6	179.0	178.3	177.7
77.5°	139.2	138.5	137.7	137.4	137.4	137.4	137.4	137.4
80°	111.1	110.8	110.7	110.6	110.6	110.6	110.6	110.6
82.5°	85.5	85.1	84.6	84.4	84.3	84.1	83.9	83.7
85°	48.4	48.1	47.6	47.4	47.4	47.4	47.4	47.4
87.5°	23.3	23.3	23.4	23.4	23.6	23.7	23.8	23.8
90°	31.2	32.3	33.4	34.2	34.8	35.3	35.8	36.4
92.5°	34.5	36.2	37.9	38.9	39.3	39.6	39.9	40.2
95°	41.4	43.3	45.1	46.1	46.1	46.1	46.1	46.1
97.5°	43.4	45.5	47.6	48.8	49.1	49.4	49.7	50.0
100°	44.3	46.5	48.6	49.9	50.0	50.3	50.6	50.9
102.5°	66.4	59.7	53.1	50.0	50.4	50.9	51.4	51.8
105°	170.0	122.4	74.7	51.2	51.7	52.2	52.8	53.3
107.5°	416.6	381.6	346.7	311.2	275.3	239.3	203.4	167.5
110°	528.8	519.9	511.0	487.3	448.8	410.3	371.8	333.3



TEST NUMBER: P332172-830

CATALOG NUMBER: S123DIW-S775D1320U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	608.0	608.1	608.3	604.4	596.2	588.1	579.9	571.8
115°	701.1	703.7	706.4	708.3	709.4	710.5	711.5	712.7
117.5°	785.3	787.4	789.6	790.8	791.0	791.2	791.5	791.6
120°	840.6	842.7	844.9	845.9	845.9	845.9	845.9	845.9
122.5°	894.6	896.1	897.6	898.4	898.6	898.8	899.1	899.3
125°	970.6	971.2	971.7	972.2	972.8	973.4	973.8	974.4
127.5°	1046.9	1047.7	1048.7	1048.8	1048.3	1047.7	1047.2	1046.6
130°	1092.9	1094.0	1095.0	1095.3	1094.8	1094.3	1093.7	1093.2
132.5°	1136.5	1137.6	1138.7	1138.9	1138.1	1137.4	1136.6	1135.9
135°	1202.7	1203.4	1204.3	1204.3	1203.4	1202.7	1201.8	1201.1
137.5°	1261.6	1262.8	1264.1	1264.5	1263.9	1263.5	1262.9	1262.3
140°	1298.9	1300.0	1301.1	1301.4	1300.8	1300.2	1299.8	1299.2
142.5°	1334.4	1335.2	1336.1	1336.1	1335.4	1334.6	1333.9	1333.1
145°	1383.9	1384.4	1385.0	1385.3	1385.3	1385.3	1385.3	1385.3
147.5°	1428.2	1428.8	1429.4	1429.0	1427.8	1426.5	1425.3	1424.0
150°	1455.4	1455.9	1456.5	1456.3	1455.6	1454.7	1454.0	1453.1
152.5°	1479.5	1480.5	1481.5	1481.4	1480.1	1478.8	1477.6	1476.4
155°	1512.8	1514.1	1515.5	1515.3	1513.7	1512.1	1510.5	1508.9
157.5°	1541.7	1543.3	1544.9	1544.6	1542.6	1540.5	1538.3	1536.3
160°	1558.1	1559.8	1561.4	1561.2	1559.3	1557.5	1555.6	1553.7
162.5°	1573.1	1575.0	1576.8	1576.9	1575.2	1573.6	1571.9	1570.2
165°	1593.2	1595.3	1597.5	1597.6	1595.7	1593.8	1592.0	1590.1
167.5°	1608.7	1610.8	1613.0	1613.0	1610.8	1608.7	1606.6	1604.4
170°	1617.4	1619.6	1621.7	1621.7	1619.6	1617.4	1615.2	1613.1
172.5°	1623.2	1625.4	1627.6	1627.4	1625.0	1622.7	1620.3	1618.0
175°	1630.2	1632.1	1634.0	1633.8	1631.7	1629.6	1627.4	1625.2
177.5°	1632.8	1634.6	1636.3	1636.1	1633.9	1631.7	1629.6	1627.4
180°	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3

(END OF REPORT)