

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: P331605-830

Luminaire Tested: **S122DIW-S1005D1240U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331605-830
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-S1005D1240U830-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1240 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8475.9 lumens
Efficiency: N/A
Efficacy: 111.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

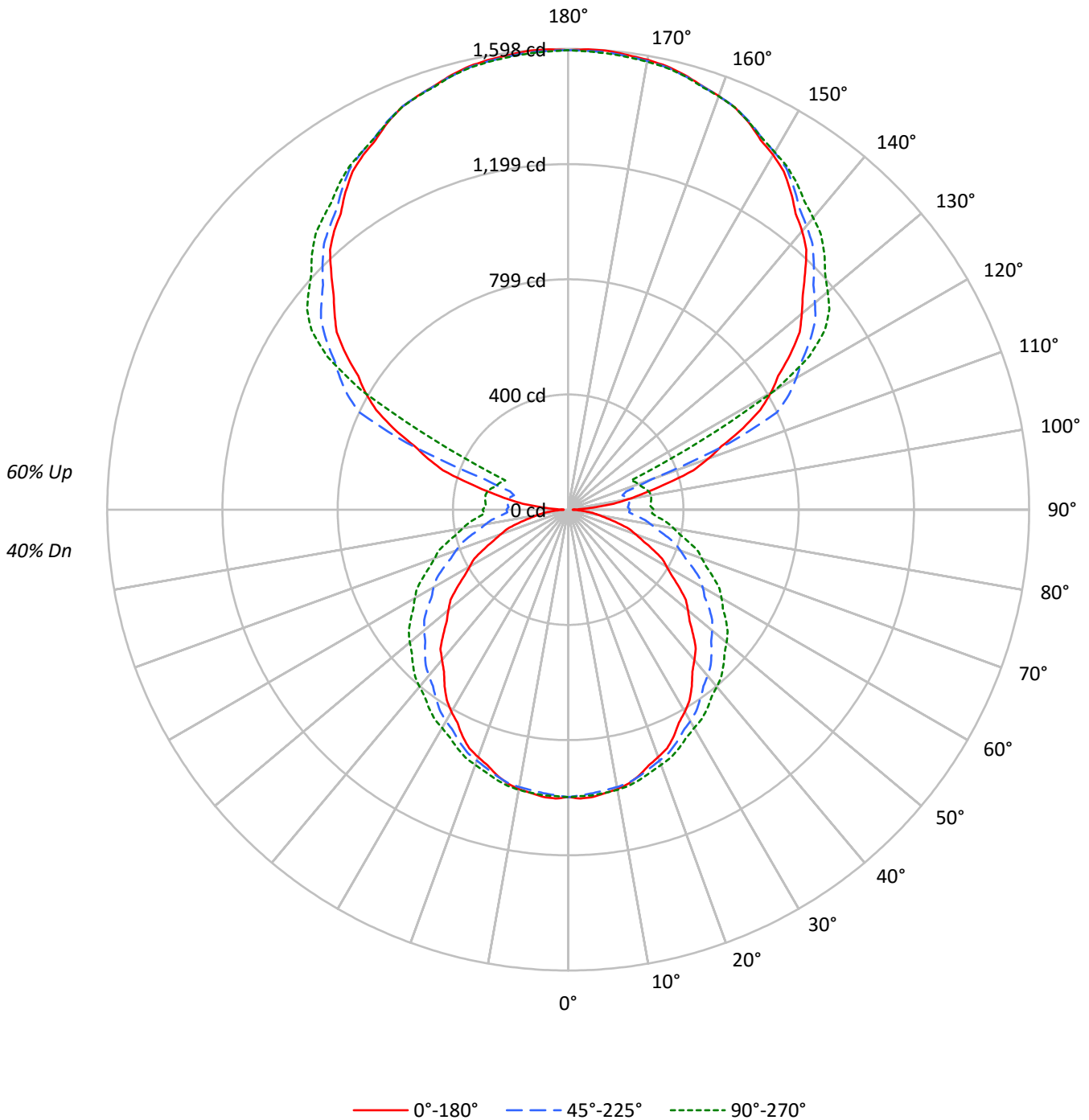
Input Watts (W): 76.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331605-830

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Luminous Intensity Polar Plot





TEST NUMBER: P331605-830

CATALOG NUMBER: S122DIW-S1005D1240U830-4F0-1E-UDD-D

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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	94	90	85	81	86	81	78	74	66	64	61	52	50	49	39	38	37	31
2	85	77	71	65	77	70	65	60	57	53	50	45	42	40	34	32	30	25
3	78	68	60	54	70	62	55	50	50	45	41	40	36	33	30	27	25	21
4	71	60	51	45	64	54	47	42	44	39	35	35	31	28	26	24	21	17
5	65	53	45	38	58	48	41	35	39	34	30	31	27	24	24	21	18	15
6	60	47	39	33	54	43	36	31	35	30	26	28	24	21	21	18	16	13
7	55	42	34	29	50	39	32	27	32	26	22	25	21	18	19	16	14	11
8	51	38	31	25	46	35	28	23	29	24	20	23	19	16	18	15	13	10
9	47	35	27	22	43	32	25	21	27	21	18	21	17	14	16	13	11	9
10	44	32	25	20	40	29	23	18	24	19	16	20	16	13	15	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16091	16091	16091
5°	16172	15491	15432
10°	16069	15033	14865
15°	15848	14548	14266
20°	15567	14030	13691
25°	15292	13528	13167
30°	14902	13015	12643
35°	14508	12517	12274
40°	14092	12094	11903
45°	13700	11715	11587
50°	13277	11373	11276
55°	12834	11004	10959
60°	12292	10623	10624
65°	11728	10173	10227
70°	11096	9693	9797
75°	10286	9222	9401
80°	9006	8739	9001
85°	7780	8321	8687



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.4	1.1
10°-20°	270.8	3.2
20°-30°	410.4	4.8
30°-40°	499.9	5.9
40°-50°	537.8	6.3
50°-60°	522.2	6.2
60°-70°	456.0	5.4
70°-80°	351.0	4.1
80°-90°	239.5	2.8
90°-100°	215.5	2.5
100°-110°	313.4	3.7
110°-120°	599.3	7.1
120°-130°	903.8	10.7
130°-140°	933.0	11.0
140°-150°	853.3	10.1
150°-160°	683.5	8.1
160°-170°	440.5	5.2
170°-180°	151.6	1.8
0°-30°	775.7	9.2
0°-40°	1275.5	15.0
0°-60°	2335.5	27.6
0°-90°	3382.1	39.9
90°-120°	1128.2	13.3
90°-150°	3818.3	45.0
90°-180°	5094.0	60.1
0°-180°	8475.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	997	997	997	997	997	
5°	1000	995	987	995	994	95
15°	953	956	956	968	968	268
25°	867	877	890	906	911	398
35°	747	772	799	829	841	467
45°	612	652	702	745	761	473
55°	470	523	596	647	667	420
65°	321	392	477	534	555	318
75°	178	259	351	411	432	188
85°	52	142	234	292	315	56
90°	16	112	214	275	297	13
95°	86	120	211	269	288	101
105°	358	417	194	255	278	383
115°	669	707	798	331	240	658
125°	940	958	1023	1069	1087	839
135°	1161	1180	1205	1245	1256	897
145°	1346	1346	1364	1380	1382	842
155°	1482	1472	1485	1491	1483	682
165°	1561	1555	1558	1565	1558	441
175°	1597	1589	1591	1598	1588	152
180°	1593	1593	1593	1593	1593	



TEST NUMBER: P331605-830

CATALOG NUMBER: S122DIW-S1005D1240U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	996.6	996.6	996.6	996.6	996.6	996.6	996.6	996.6	996.6	996.6	996.6
2.5°	1002.5	1001.7	1000.9	1000.1	999.4	998.1	996.3	994.5	992.7	990.9	992.2
5°	999.6	998.6	997.7	996.6	995.7	994.3	992.4	990.4	988.5	986.6	988.5
7.5°	990.6	990.0	989.3	988.7	988.1	987.0	985.5	984.0	982.6	981.1	983.4
10°	983.7	983.1	982.4	981.8	981.1	980.3	979.4	978.4	977.4	976.5	979.0
12.5°	972.1	972.2	972.4	972.5	972.6	972.3	971.7	970.9	970.3	969.5	972.1
15°	953.4	954.0	954.6	955.3	955.9	956.2	956.2	956.2	956.2	956.2	959.1
17.5°	929.1	930.5	931.8	933.1	934.4	935.7	936.7	937.7	938.8	939.8	942.8
20°	912.9	914.5	916.2	917.8	919.4	920.8	922.1	923.3	924.6	926.0	929.4
22.5°	895.6	897.4	899.3	901.2	903.1	904.8	906.6	908.4	910.2	912.0	915.6
25°	866.7	868.9	871.2	873.5	875.7	878.3	881.1	884.0	886.9	889.8	893.6
27.5°	832.0	835.7	839.3	843.0	846.7	850.2	853.6	857.0	860.4	863.8	868.6
30°	808.9	813.0	817.3	821.4	825.6	829.8	834.0	838.1	842.3	846.5	851.6
32.5°	783.4	788.2	792.9	797.6	802.2	807.0	812.0	816.9	821.9	826.8	832.7
35°	746.8	752.2	757.7	763.2	768.6	774.4	780.5	786.6	792.7	798.8	805.9
37.5°	706.9	713.2	719.5	725.8	732.1	739.1	747.1	755.0	762.9	770.8	778.6
40°	680.3	687.4	694.5	701.5	708.6	716.4	725.1	733.8	742.4	751.1	759.5
42.5°	655.0	661.9	669.0	676.1	683.2	691.6	701.6	711.6	721.5	731.5	740.6
45°	612.5	621.1	629.8	638.5	647.1	657.0	668.4	679.6	690.8	702.0	712.0
47.5°	570.6	580.0	589.5	598.9	608.3	619.6	632.8	645.9	659.1	672.2	682.7
50°	541.7	551.7	561.6	571.6	581.5	593.7	608.1	622.5	637.0	651.5	662.4
52.5°	514.0	524.4	534.9	545.4	555.8	568.6	583.8	599.1	614.3	629.5	640.6
55°	469.5	481.0	492.6	504.2	515.7	529.8	546.5	563.2	579.9	596.5	608.1
57.5°	425.6	438.6	451.6	464.7	477.7	492.7	509.7	526.7	543.8	560.7	573.2
60°	394.4	408.1	422.0	435.7	449.6	465.6	483.9	502.2	520.5	538.8	551.0
62.5°	366.6	380.9	395.2	409.5	423.9	440.2	458.5	476.7	495.1	513.4	526.3
65°	320.7	336.4	352.1	367.9	383.6	401.0	419.9	438.8	457.7	476.6	489.8
67.5°	278.5	294.9	311.3	327.8	344.2	362.1	381.5	401.0	420.3	439.7	453.0
70°	248.5	265.1	281.8	298.5	315.2	333.5	353.5	373.3	393.2	413.1	426.9
72.5°	220.7	237.9	255.1	272.3	289.5	308.2	328.4	348.6	368.7	388.9	402.4
75°	177.7	195.7	213.6	231.6	249.6	268.8	289.4	309.9	330.5	351.0	364.8
77.5°	136.1	154.9	173.7	192.5	211.3	231.1	252.0	272.9	293.7	314.6	328.4
80°	108.3	127.9	147.5	167.1	186.6	206.9	227.7	248.6	269.5	290.3	303.8
82.5°	85.2	104.5	123.9	143.2	162.5	182.8	203.9	225.0	246.1	267.2	280.7
85°	52.0	71.9	91.8	111.7	131.6	151.8	172.4	192.9	213.5	234.0	247.5
87.5°	28.6	48.3	68.0	87.7	107.4	127.6	148.6	169.6	190.5	211.5	224.8
90°	15.6	37.0	58.4	79.9	101.3	123.4	145.9	168.5	191.1	213.8	227.8
92.5°	36.6	53.6	70.7	87.8	104.9	123.9	144.6	165.4	186.2	207.0	220.3
95°	86.5	93.1	99.7	106.4	113.0	126.9	147.9	169.0	190.0	211.0	224.5
97.5°	158.8	148.5	138.0	127.6	117.2	123.3	146.0	168.6	191.2	213.9	226.8
100°	214.1	191.0	167.8	144.5	121.3	120.8	143.2	165.5	187.8	210.2	224.1
102.5°	273.9	277.3	280.8	284.2	287.6	279.8	260.8	241.9	222.9	204.0	218.2
105°	357.7	374.8	391.7	408.7	425.7	407.6	354.3	301.0	247.8	194.5	208.6
107.5°	455.0	468.6	482.3	496.0	509.5	482.5	414.5	346.7	278.7	210.8	218.8
110°	516.5	528.4	540.2	552.0	563.7	540.5	482.2	423.9	365.5	307.2	291.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	575.6	585.7	595.9	606.1	616.2	619.6	616.3	612.9	609.6	606.2	523.1
115°	668.7	676.7	684.5	692.4	700.3	714.6	735.5	756.4	777.2	798.1	689.1
117.5°	750.5	757.7	764.9	772.0	779.3	791.7	809.5	827.3	845.0	862.8	843.6
120°	811.4	816.5	821.7	826.8	831.9	843.2	860.6	878.1	895.6	913.0	925.1
122.5°	863.1	867.6	872.2	876.8	881.3	892.1	909.3	926.3	943.4	960.5	971.1
125°	940.3	943.6	946.9	950.3	953.6	962.8	978.0	993.1	1008.2	1023.4	1033.9
127.5°	1011.5	1014.8	1018.2	1021.6	1025.0	1032.6	1044.5	1056.5	1068.4	1080.3	1090.9
130°	1056.7	1060.5	1064.2	1068.1	1071.9	1078.5	1088.1	1097.6	1107.2	1116.7	1127.3
132.5°	1102.9	1106.0	1109.2	1112.3	1115.5	1121.1	1129.1	1137.1	1145.1	1153.1	1163.0
135°	1161.3	1165.5	1169.5	1173.7	1177.7	1182.5	1188.1	1193.5	1199.1	1204.6	1213.9
137.5°	1222.0	1224.8	1227.6	1230.4	1233.2	1236.6	1240.7	1244.6	1248.7	1252.7	1261.1
140°	1261.7	1263.4	1265.1	1266.9	1268.6	1271.1	1274.6	1278.1	1281.6	1285.0	1292.4
142.5°	1294.9	1296.4	1297.9	1299.4	1301.0	1303.3	1306.7	1310.1	1313.4	1316.8	1323.0
145°	1345.5	1345.3	1345.0	1344.7	1344.5	1346.5	1350.9	1355.3	1359.6	1364.0	1367.7
147.5°	1390.9	1390.0	1389.0	1388.0	1387.0	1388.7	1393.0	1397.3	1401.7	1405.9	1407.5
150°	1420.5	1418.7	1416.9	1415.0	1413.2	1414.5	1418.5	1422.7	1426.7	1430.9	1432.4
152.5°	1445.4	1443.4	1441.3	1439.4	1437.4	1438.3	1442.2	1446.1	1450.0	1453.9	1455.5
155°	1481.6	1479.2	1477.0	1474.6	1472.3	1472.7	1475.8	1478.8	1482.0	1485.1	1486.6
157.5°	1510.0	1508.0	1506.0	1504.1	1502.1	1502.2	1504.4	1506.6	1508.7	1510.9	1512.6
160°	1526.5	1525.0	1523.4	1521.9	1520.4	1520.4	1521.9	1523.4	1525.0	1526.5	1528.0
162.5°	1541.3	1539.7	1538.2	1536.7	1535.1	1535.0	1536.3	1537.7	1539.1	1540.4	1542.1
165°	1561.1	1559.6	1558.0	1556.5	1555.0	1554.6	1555.4	1556.1	1556.9	1557.6	1559.4
167.5°	1575.9	1574.3	1572.8	1571.3	1569.7	1569.3	1570.1	1570.7	1571.5	1572.2	1574.0
170°	1584.2	1582.6	1581.1	1579.6	1578.0	1577.5	1578.0	1578.6	1579.0	1579.6	1581.4
172.5°	1589.7	1588.2	1586.7	1585.1	1583.6	1583.1	1583.6	1584.0	1584.6	1585.1	1586.9
175°	1596.9	1595.1	1593.3	1591.5	1589.7	1589.0	1589.6	1590.1	1590.6	1591.1	1592.9
177.5°	1598.0	1596.6	1595.2	1593.7	1592.2	1591.7	1591.9	1592.0	1592.2	1592.5	1593.9
180°	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	996.6	996.6	996.6	996.6	996.6	996.6	996.6	996.6
2.5°	993.4	994.8	996.1	996.5	995.9	995.4	994.9	994.4
5°	990.4	992.4	994.3	995.0	994.8	994.5	994.1	993.8
7.5°	985.7	988.1	990.3	991.4	991.0	990.7	990.3	990.0
10°	981.6	984.2	986.7	987.9	987.5	987.2	986.9	986.6
12.5°	974.7	977.2	979.8	980.9	980.6	980.2	980.0	979.7
15°	962.1	964.9	967.8	969.1	968.7	968.5	968.1	967.8
17.5°	945.8	948.9	951.9	953.4	953.4	953.4	953.4	953.4
20°	932.9	936.5	940.0	941.8	941.8	941.8	941.8	941.8
22.5°	919.1	922.7	926.1	928.2	928.7	929.3	929.7	930.3
25°	897.5	901.4	905.2	907.6	908.6	909.6	910.5	911.4
27.5°	873.5	878.4	883.4	886.1	886.8	887.5	888.3	888.9
30°	856.8	861.9	867.0	870.1	871.0	871.9	873.0	873.9
32.5°	838.7	844.5	850.5	854.2	856.0	857.7	859.5	861.2
35°	812.9	820.0	827.1	831.7	834.0	836.2	838.5	840.7
37.5°	786.5	794.3	802.1	807.2	809.5	812.0	814.4	816.7
40°	767.8	776.2	784.5	790.1	793.1	795.9	798.8	801.7
42.5°	749.7	758.8	768.0	773.9	776.8	779.8	782.6	785.5
45°	721.9	731.9	741.8	748.4	751.6	754.8	758.0	761.2
47.5°	693.1	703.4	713.9	720.9	724.3	727.9	731.4	735.0
50°	673.3	684.2	695.1	702.4	705.9	709.4	712.9	716.4
52.5°	651.9	663.0	674.2	681.6	685.4	689.3	693.1	696.8
55°	619.7	631.2	642.8	650.6	654.8	659.0	663.2	667.3
57.5°	585.7	598.1	610.6	618.9	623.1	627.4	631.6	635.8
60°	563.2	575.4	587.6	596.0	600.4	604.9	609.4	613.9
62.5°	539.3	552.2	565.2	573.8	578.1	582.3	586.5	590.8
65°	503.0	516.1	529.3	538.0	542.2	546.3	550.5	554.7
67.5°	466.3	479.6	492.9	501.7	506.1	510.4	514.8	519.2
70°	440.7	454.5	468.3	477.1	481.0	484.8	488.7	492.6
72.5°	415.9	429.5	443.0	452.1	456.8	461.4	466.0	470.6
75°	378.6	392.4	406.2	415.2	419.3	423.6	427.7	431.9
77.5°	342.0	355.8	369.6	378.7	383.1	387.7	392.2	396.6
80°	317.3	330.8	344.3	353.3	357.8	362.2	366.7	371.3
82.5°	294.2	307.6	321.1	330.0	334.2	338.5	342.7	346.9
85°	261.0	274.5	287.9	296.9	301.4	305.9	310.4	314.9
87.5°	238.2	251.6	264.9	273.6	277.9	282.1	286.3	290.5
90°	242.0	256.1	270.2	279.5	283.8	288.2	292.6	296.9
92.5°	233.6	246.8	260.0	268.7	272.9	277.0	281.2	285.4
95°	238.0	251.6	265.0	273.5	277.1	280.7	284.4	287.9
97.5°	239.7	252.6	265.5	274.0	278.1	282.2	286.3	290.4
100°	238.0	251.9	265.9	274.8	278.9	283.0	287.0	291.1
102.5°	232.5	246.8	261.1	270.3	274.6	278.8	283.0	287.3
105°	222.6	236.7	250.8	260.0	264.7	269.2	273.7	278.3
107.5°	226.7	234.6	242.5	248.7	253.3	257.9	262.4	266.9
110°	276.5	261.2	245.8	240.4	245.0	249.5	254.1	258.6



TEST NUMBER: P331605-830

CATALOG NUMBER: S122DIW-S1005D1240U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	439.9	356.7	273.5	234.0	238.5	242.8	247.1	251.5
115°	580.0	471.1	362.0	300.1	285.2	270.2	255.3	240.4
117.5°	824.3	805.2	786.0	747.7	690.4	633.0	575.7	518.3
120°	937.2	949.2	961.3	951.8	920.7	889.7	858.6	827.6
122.5°	981.7	992.2	1002.8	1006.3	1002.6	998.9	995.1	991.5
125°	1044.3	1054.8	1065.3	1072.2	1075.9	1079.6	1083.3	1086.9
127.5°	1101.5	1112.0	1122.6	1129.4	1132.4	1135.3	1138.3	1141.3
130°	1137.7	1148.3	1158.9	1165.3	1167.5	1169.9	1172.1	1174.5
132.5°	1172.9	1182.7	1192.6	1198.6	1201.0	1203.2	1205.6	1207.9
135°	1223.2	1232.5	1241.8	1247.5	1249.5	1251.6	1253.7	1255.7
137.5°	1269.6	1278.0	1286.4	1291.3	1292.6	1293.9	1295.1	1296.5
140°	1299.9	1307.3	1314.8	1318.8	1319.5	1320.1	1320.8	1321.4
142.5°	1329.3	1335.5	1341.6	1344.9	1345.4	1345.8	1346.1	1346.5
145°	1371.4	1375.2	1378.8	1380.8	1381.2	1381.5	1381.9	1382.1
147.5°	1409.1	1410.7	1412.3	1413.0	1412.6	1412.3	1412.0	1411.7
150°	1433.9	1435.5	1437.0	1437.1	1435.9	1434.5	1433.2	1432.0
152.5°	1457.0	1458.5	1460.1	1460.0	1458.3	1456.6	1454.9	1453.2
155°	1488.1	1489.7	1491.2	1490.9	1488.8	1486.9	1484.8	1482.7
157.5°	1514.4	1516.1	1517.9	1517.7	1515.7	1513.7	1511.7	1509.7
160°	1529.7	1531.2	1532.7	1532.6	1530.8	1529.0	1527.2	1525.4
162.5°	1543.9	1545.6	1547.4	1547.1	1544.9	1542.7	1540.5	1538.3
165°	1561.2	1563.0	1564.8	1564.8	1563.0	1561.2	1559.4	1557.6
167.5°	1575.7	1577.5	1579.3	1579.1	1576.8	1574.5	1572.2	1569.9
170°	1583.2	1585.0	1586.8	1586.5	1584.2	1581.9	1579.6	1577.3
172.5°	1588.7	1590.4	1592.2	1592.0	1589.7	1587.4	1585.1	1582.8
175°	1594.7	1596.5	1598.3	1597.9	1595.3	1592.8	1590.2	1587.6
177.5°	1595.3	1596.8	1598.3	1598.0	1596.2	1594.3	1592.5	1590.6
180°	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4

(END OF REPORT)