

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: P331611-830

Luminaire Tested: **S122DIW-S1005D1440U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331611-830  
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-S1005D1440U830-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1440 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9236.1 lumens  
Efficiency: N/A  
Efficacy: 111.4 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

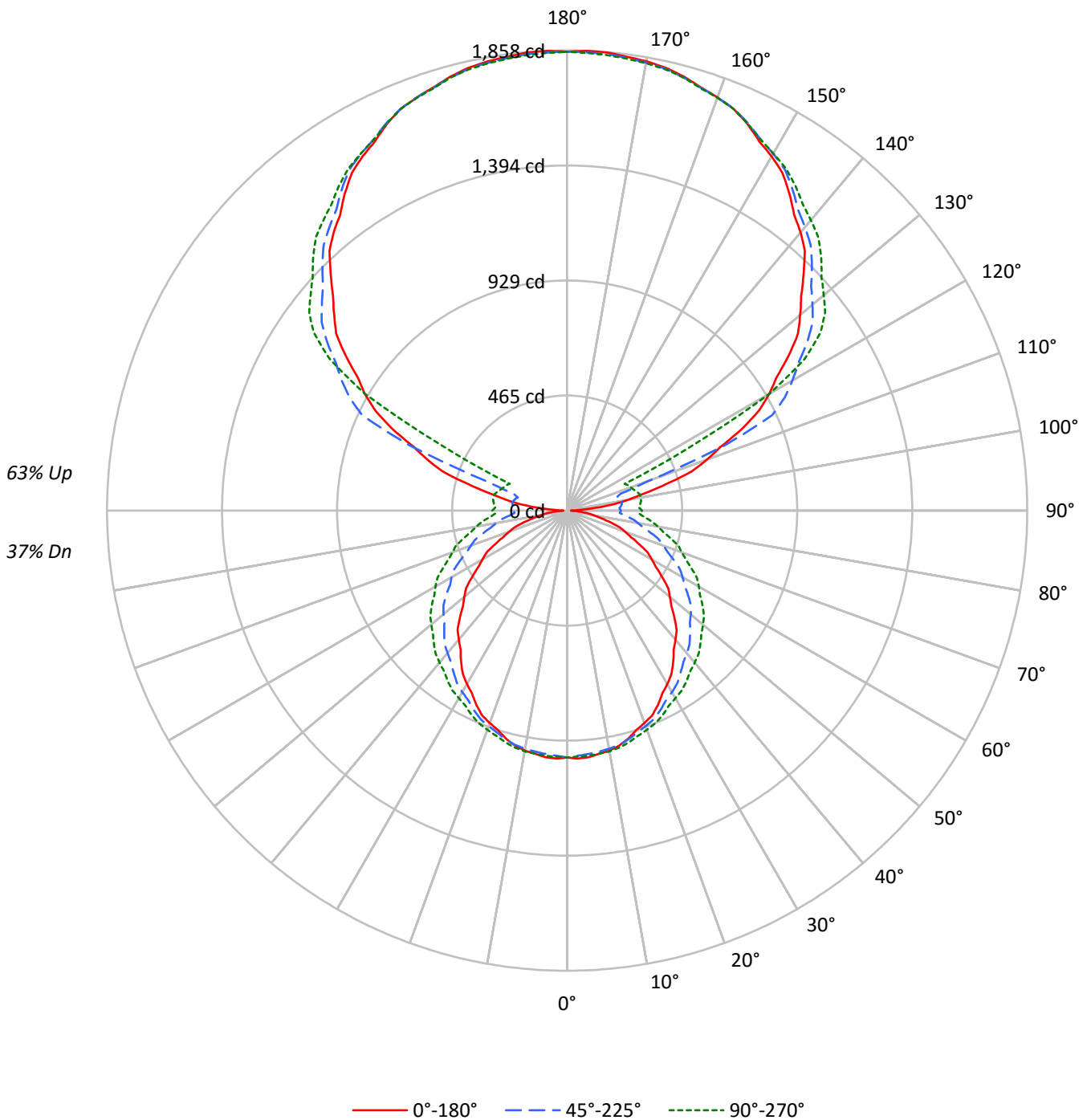
Input Watts (W): 82.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331611-830

CATALOG NUMBER: S122DIW-S1005D1440U830-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





TEST NUMBER: P331611-830

CATALOG NUMBER: S122DIW-S1005D1440U830-4F0-1E-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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37
1	94	89	85	81	85	81	77	74	65	62	60	50	49	47	37	36	35	29
2	85	77	71	65	76	70	64	60	56	52	49	44	41	38	32	30	28	23
3	77	67	60	54	69	61	54	49	49	44	40	38	35	32	28	26	24	19
4	70	59	51	45	63	54	47	41	43	38	34	34	30	27	25	22	20	16
5	64	53	44	38	58	48	41	35	39	33	29	30	26	23	22	19	17	14
6	59	47	39	33	53	43	35	30	35	29	25	27	23	20	20	17	15	12
7	55	42	34	29	49	38	31	26	31	26	22	24	21	18	18	15	13	10
8	50	38	30	25	45	35	28	23	28	23	19	22	18	16	17	14	12	9
9	47	35	27	22	42	32	25	20	26	21	17	20	17	14	15	13	11	8
10	44	32	25	20	39	29	23	18	24	19	15	19	15	12	14	11	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	1.0
10°-20°	270.8	2.9
20°-30°	410.4	4.4
30°-40°	499.9	5.4
40°-50°	537.8	5.8
50°-60°	522.2	5.7
60°-70°	456.0	4.9
70°-80°	351.0	3.8
80°-90°	240.1	2.6
90°-100°	224.1	2.4
100°-110°	345.1	3.7
110°-120°	684.1	7.4
120°-130°	1043.7	11.3
130°-140°	1081.8	11.7
140°-150°	991.6	10.7
150°-160°	794.7	8.6
160°-170°	512.1	5.5
170°-180°	176.3	1.9
0°-30°	775.7	8.4
0°-40°	1275.5	13.8
0°-60°	2335.5	25.3
0°-90°	3382.7	36.6
90°-120°	1253.3	13.6
90°-150°	4370.3	47.3
90°-180°	5853.0	63.4
0°-180°	9236.1	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	115	217	280	302	14
95°	99	126	218	277	296	116
105°	415	476	206	269	293	444
115°	777	819	914	364	256	764
125°	1093	1113	1182	1228	1247	974
135°	1350	1372	1398	1440	1451	1043
145°	1564	1564	1586	1603	1604	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	



TEST NUMBER: P331611-830

CATALOG NUMBER: S122DIW-S1005D1440U830-4F0-1E-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	48.4	68.1	87.9	107.7	128.1	149.1	170.1	191.1	212.2	225.6
90°	15.7	37.7	59.6	81.4	103.4	125.7	148.7	171.6	194.5	217.4	231.8
92.5°	40.3	57.4	74.5	91.5	108.5	127.5	148.5	169.5	190.4	211.4	224.7
95°	98.7	104.0	109.2	114.4	119.7	133.0	154.4	175.7	197.1	218.4	232.1
97.5°	183.0	168.7	154.5	140.2	125.9	130.4	153.7	177.0	200.4	223.7	236.8
100°	247.4	218.5	189.5	160.6	131.7	128.7	151.7	174.7	197.8	220.8	235.2
102.5°	317.0	319.2	321.4	323.7	325.8	314.5	289.6	264.7	239.8	214.9	229.6
105°	414.7	433.0	451.2	469.5	487.8	464.5	399.9	335.3	270.6	206.0	220.6
107.5°	527.8	542.5	557.1	571.8	586.4	553.1	471.5	389.9	308.4	226.9	234.3
110°	599.6	612.3	625.0	637.6	650.4	621.5	551.1	480.8	410.4	340.1	320.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	668.3	679.2	690.1	701.1	712.0	714.4	708.0	701.7	695.4	689.1	590.7
115°	776.6	785.1	793.8	802.4	811.0	826.2	848.1	870.0	891.8	913.8	785.5
117.5°	871.9	879.9	887.9	895.8	903.8	917.0	935.5	953.9	972.4	990.9	967.0
120°	942.7	948.5	954.2	960.0	965.7	977.7	995.9	1014.1	1032.3	1050.5	1063.1
122.5°	1002.8	1008.0	1013.2	1018.4	1023.6	1035.2	1053.1	1071.0	1088.9	1106.8	1117.7
125°	1092.7	1096.6	1100.5	1104.4	1108.2	1118.1	1134.1	1150.0	1165.9	1181.9	1192.6
127.5°	1175.5	1179.5	1183.6	1187.5	1191.5	1199.7	1212.2	1224.7	1237.2	1249.7	1260.7
130°	1228.1	1232.6	1237.0	1241.4	1245.9	1253.1	1263.2	1273.2	1283.2	1293.2	1304.2
132.5°	1281.8	1285.4	1289.2	1293.0	1296.7	1302.8	1311.3	1319.7	1328.2	1336.7	1346.9
135°	1350.0	1354.8	1359.5	1364.3	1369.0	1374.4	1380.3	1386.2	1392.0	1398.0	1407.7
137.5°	1420.5	1423.8	1427.1	1430.3	1433.6	1437.5	1441.9	1446.3	1450.9	1455.3	1464.1
140°	1466.6	1468.7	1470.7	1472.8	1474.9	1477.9	1481.8	1485.7	1489.6	1493.6	1501.4
142.5°	1505.2	1507.0	1508.9	1510.7	1512.5	1515.4	1519.3	1523.1	1527.0	1530.9	1537.5
145°	1564.4	1564.1	1563.8	1563.5	1563.2	1565.6	1570.7	1575.7	1580.7	1585.8	1589.9
147.5°	1617.2	1616.1	1615.0	1613.8	1612.7	1614.6	1619.6	1624.7	1629.7	1634.7	1636.4
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°	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°	239.0	252.4	265.8	274.6	278.8	283.0	287.3	291.5
90°	246.1	260.4	274.8	284.2	288.6	293.0	297.6	302.0
92.5°	238.1	251.5	264.8	273.6	277.8	282.0	286.3	290.4
95°	245.8	259.5	273.1	281.7	285.3	288.9	292.5	296.0
97.5°	249.8	262.9	276.0	284.6	288.7	292.8	297.0	301.1
100°	249.4	263.6	277.9	287.1	291.2	295.3	299.4	303.6
102.5°	244.3	259.1	273.8	283.3	287.7	292.1	296.4	300.8
105°	235.0	249.5	264.0	273.6	278.4	283.1	287.9	292.6
107.5°	241.8	249.2	256.7	262.8	267.5	272.2	276.9	281.6
110°	301.0	281.4	261.9	254.6	259.3	264.0	268.7	273.4





TEST NUMBER: P331611-830

CATALOG NUMBER: S122DIW-S1005D1440U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	492.3	393.9	295.5	248.5	253.0	257.5	261.9	266.5
115°	657.1	528.9	400.6	327.4	309.5	291.6	273.7	255.8
117.5°	943.2	919.4	895.5	850.0	782.8	715.6	648.3	581.1
120°	1075.6	1088.2	1100.7	1088.6	1052.0	1015.3	978.6	942.0
122.5°	1128.6	1139.4	1150.4	1153.4	1148.6	1143.8	1139.1	1134.3
125°	1203.3	1214.1	1224.8	1232.1	1236.0	1239.7	1243.5	1247.3
127.5°	1271.8	1282.7	1293.7	1300.7	1303.7	1306.7	1309.8	1312.8
130°	1315.1	1326.2	1337.1	1343.8	1346.0	1348.3	1350.6	1352.8
132.5°	1357.2	1367.4	1377.6	1383.9	1386.2	1388.5	1390.7	1393.0
135°	1417.4	1427.1	1436.8	1442.7	1444.6	1446.6	1448.6	1450.6
137.5°	1472.9	1481.8	1490.5	1495.5	1496.8	1497.9	1499.1	1500.2
140°	1509.2	1517.0	1524.8	1528.9	1529.4	1529.8	1530.2	1530.7
142.5°	1544.0	1550.6	1557.1	1560.5	1560.7	1560.9	1561.0	1561.2
145°	1593.8	1597.9	1601.9	1603.9	1604.0	1604.2	1604.3	1604.4
147.5°	1638.2	1640.0	1641.8	1642.5	1642.0	1641.5	1641.1	1640.6
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)