

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: P331460-830

Luminaire Tested: **S122DIP-S1005D1080U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331460-830  
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: S122DIP-S1005D1080U830-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7435.3 lumens  
Efficiency: N/A  
Efficacy: 103.7 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: General Diffuse

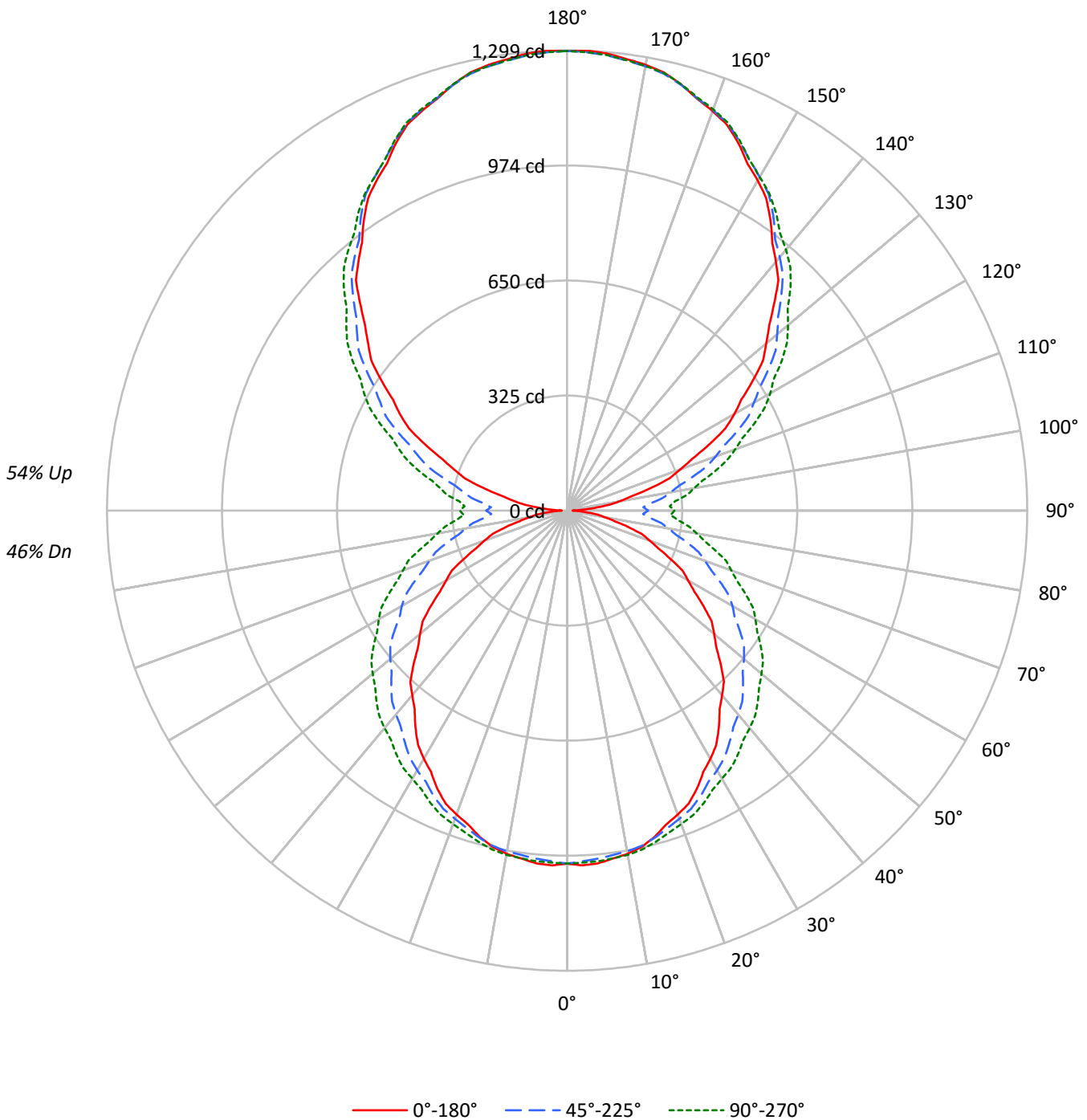
Input Watts (W): 71.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	46
1	95	91	86	82	87	83	79	76	69	66	63	56	54	52	44	42	41	35
2	86	78	72	66	79	72	66	61	59	55	51	48	45	42	38	36	34	29
3	78	68	61	54	71	63	56	50	52	47	43	42	38	35	33	30	28	24
4	71	60	52	45	65	55	48	42	46	40	36	37	33	30	29	26	24	20
5	65	53	45	39	60	49	42	36	41	35	31	33	29	25	26	23	20	17
6	60	48	39	33	55	44	36	31	37	31	27	30	26	22	24	20	18	15
7	56	43	35	29	51	40	32	27	33	27	23	27	23	19	21	18	16	13
8	51	39	31	25	47	36	29	24	30	24	20	25	20	17	20	16	14	12
9	48	35	28	23	44	33	26	21	28	22	18	23	18	15	18	15	13	10
10	45	32	25	20	41	30	23	19	25	20	16	21	17	14	17	14	11	9

**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	1.3
10°-20°	270.8	3.6
20°-30°	410.4	5.5
30°-40°	499.9	6.7
40°-50°	537.8	7.2
50°-60°	522.2	7.0
60°-70°	456.0	6.1
70°-80°	351.0	4.7
80°-90°	240.8	3.2
90°-100°	244.5	3.3
100°-110°	373.8	5.0
110°-120°	514.7	6.9
120°-130°	617.6	8.3
130°-140°	662.5	8.9
140°-150°	634.8	8.5
150°-160°	529.8	7.1
160°-170°	351.4	4.7
170°-180°	122.8	1.7
0°-30°	775.7	10.4
0°-40°	1275.5	17.2
0°-60°	2335.5	31.4
0°-90°	3383.3	45.5
90°-120°	1133.1	15.2
90°-150°	3048.0	41.0
90°-180°	4052.0	54.5
0°-180°	7435.3	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	114	229	282	303	13
95°	68	148	236	289	306	74
105°	243	290	365	416	434	257
115°	444	468	529	570	584	438
125°	640	652	693	727	740	572
135°	826	838	854	883	892	638
145°	1001	1008	1015	1024	1028	625
155°	1144	1147	1151	1156	1153	526
165°	1245	1244	1244	1251	1246	351
175°	1295	1292	1290	1297	1291	123
180°	1297	1297	1297	1297	1297	



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**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	128.1	149.7	171.3	192.9	214.5	227.5
90°	15.6	37.0	58.6	80.1	101.7	125.5	151.3	177.2	203.1	228.9	241.4
92.5°	32.8	52.2	71.7	91.2	110.7	130.9	151.9	173.1	194.1	215.1	227.8
95°	68.5	86.1	103.5	121.0	138.6	157.2	176.9	196.7	216.4	236.2	248.4
97.5°	114.1	129.7	145.2	160.8	176.3	193.9	213.3	232.7	252.1	271.5	283.3
100°	149.1	163.0	176.8	190.6	204.4	220.7	239.4	258.2	276.8	295.6	307.5
102.5°	184.8	197.2	209.6	222.0	234.4	249.8	268.2	286.6	305.0	323.4	335.2
105°	242.6	252.7	262.7	272.8	282.8	296.3	313.6	330.7	347.9	365.0	376.8
107.5°	302.4	310.9	319.3	327.9	336.4	348.6	364.7	380.6	396.6	412.6	423.6
110°	339.7	347.6	355.4	363.4	371.3	383.0	398.8	414.5	430.2	445.9	456.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	381.7	388.6	395.5	402.3	409.2	420.0	434.7	449.5	464.3	479.0	488.7
115°	443.7	448.7	453.7	458.6	463.6	473.2	487.1	501.1	515.0	529.0	538.4
117.5°	504.0	508.3	512.6	516.8	521.0	529.1	541.2	553.2	565.1	577.1	586.1
120°	545.2	548.4	551.7	554.9	558.1	565.1	576.1	586.9	597.9	608.8	617.7
122.5°	582.9	585.7	588.5	591.4	594.3	601.1	611.7	622.5	633.1	643.9	652.0
125°	640.1	642.2	644.5	646.7	648.8	654.7	664.2	673.8	683.3	692.9	700.8
127.5°	697.2	699.6	702.1	704.6	707.0	712.0	719.3	726.8	734.2	741.6	748.7
130°	733.1	736.0	738.9	741.7	744.5	749.0	755.4	761.6	767.8	774.1	781.3
132.5°	773.5	775.7	778.0	780.2	782.5	786.3	791.5	796.8	802.1	807.5	813.8
135°	825.9	828.5	831.2	833.9	836.6	839.7	843.5	847.2	850.8	854.5	861.0
137.5°	882.6	884.7	886.8	888.9	891.1	893.2	895.2	897.2	899.3	901.4	907.0
140°	916.7	918.6	920.5	922.4	924.2	926.0	927.9	929.8	931.6	933.5	938.7
142.5°	951.8	953.7	955.5	957.3	959.2	960.6	961.6	962.5	963.6	964.5	968.7
145°	1000.7	1002.4	1004.1	1005.8	1007.5	1009.1	1010.5	1012.0	1013.4	1014.9	1017.1
147.5°	1045.6	1047.6	1049.6	1051.7	1053.8	1055.3	1056.2	1057.2	1058.2	1059.1	1060.0
150°	1076.2	1077.7	1079.1	1080.6	1082.0	1083.3	1084.3	1085.2	1086.2	1087.2	1087.9
152.5°	1103.3	1104.8	1106.3	1107.8	1109.2	1110.5	1111.7	1112.9	1114.1	1115.2	1116.2
155°	1144.2	1144.8	1145.6	1146.3	1147.1	1147.7	1148.5	1149.2	1150.0	1150.7	1151.9
157.5°	1178.9	1179.4	1179.9	1180.3	1180.9	1181.3	1181.8	1182.2	1182.6	1183.1	1184.8
160°	1200.0	1200.4	1200.9	1201.4	1201.9	1202.2	1202.5	1202.8	1203.0	1203.2	1204.7
162.5°	1219.2	1219.3	1219.4	1219.5	1219.7	1219.7	1220.0	1220.2	1220.5	1220.8	1222.4
165°	1244.8	1244.6	1244.3	1244.1	1243.9	1243.8	1243.8	1243.8	1243.8	1243.8	1245.5
167.5°	1266.3	1265.6	1264.8	1264.1	1263.4	1263.0	1262.9	1262.9	1262.8	1262.8	1264.5
170°	1277.7	1277.0	1276.2	1275.4	1274.8	1274.3	1274.0	1273.8	1273.6	1273.3	1275.0
172.5°	1285.5	1284.9	1284.1	1283.4	1282.6	1282.1	1282.0	1281.7	1281.4	1281.2	1282.9
175°	1295.2	1294.5	1293.7	1293.0	1292.3	1291.7	1291.2	1290.7	1290.2	1289.7	1291.5
177.5°	1299.1	1298.5	1298.0	1297.4	1296.8	1296.3	1295.9	1295.5	1295.1	1294.8	1295.9
180°	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4



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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°	240.5	253.5	266.6	275.1	279.3	283.4	287.6	291.7
90°	253.7	266.1	278.4	286.6	290.7	294.8	298.9	303.0
92.5°	240.4	253.2	265.8	274.1	278.0	281.9	285.8	289.7
95°	260.6	272.8	284.9	292.8	296.1	299.4	302.8	306.2
97.5°	295.2	307.2	319.1	326.8	330.5	334.3	338.0	341.8
100°	319.3	331.2	343.1	350.6	353.9	357.2	360.5	363.8
102.5°	346.9	358.8	370.6	378.1	381.4	384.7	388.0	391.3
105°	388.5	400.3	412.0	419.6	423.1	426.7	430.2	433.8
107.5°	434.5	445.5	456.5	463.2	465.6	468.1	470.4	472.9
110°	466.5	476.7	487.0	493.6	496.3	499.2	502.0	504.7





TEST NUMBER: P331460-830

CATALOG NUMBER: S122DIP-S1005D1080U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	498.4	508.1	517.7	524.1	527.1	530.1	533.1	536.1
115°	547.7	557.1	566.6	572.6	575.4	578.2	581.0	583.8
117.5°	594.9	603.9	612.8	618.5	621.0	623.6	626.1	628.7
120°	626.7	635.7	644.7	650.5	653.4	656.2	659.0	661.8
122.5°	660.2	668.3	676.5	681.7	684.2	686.7	689.2	691.6
125°	708.8	716.7	724.6	729.9	732.5	735.2	737.8	740.5
127.5°	755.7	762.9	770.0	774.5	776.6	778.6	780.6	782.7
130°	788.5	795.7	803.0	807.4	809.0	810.6	812.1	813.7
132.5°	820.2	826.6	832.9	837.1	838.9	840.6	842.4	844.1
135°	867.5	874.0	880.5	884.7	886.6	888.3	890.2	892.0
137.5°	912.8	918.5	924.2	927.7	928.9	930.1	931.2	932.5
140°	943.8	949.0	954.0	957.1	958.0	959.0	960.0	960.9
142.5°	973.1	977.4	981.7	984.2	984.9	985.6	986.3	986.9
145°	1019.3	1021.4	1023.6	1025.0	1025.7	1026.2	1026.9	1027.6
147.5°	1060.7	1061.5	1062.3	1062.6	1062.5	1062.3	1062.2	1062.1
150°	1088.6	1089.4	1090.1	1090.1	1089.4	1088.6	1087.9	1087.2
152.5°	1117.1	1117.9	1118.9	1118.9	1117.9	1117.1	1116.2	1115.2
155°	1153.1	1154.3	1155.6	1155.7	1155.1	1154.3	1153.6	1152.8
157.5°	1186.4	1188.1	1189.7	1190.0	1188.7	1187.6	1186.5	1185.2
160°	1206.2	1207.6	1209.1	1209.3	1208.3	1207.4	1206.4	1205.4
162.5°	1224.1	1225.7	1227.4	1227.6	1226.4	1225.3	1224.1	1222.9
165°	1247.2	1248.9	1250.6	1250.8	1249.6	1248.4	1247.2	1245.9
167.5°	1266.2	1267.9	1269.6	1269.8	1268.6	1267.2	1266.0	1264.8
170°	1276.7	1278.4	1280.1	1280.3	1278.7	1277.3	1275.8	1274.4
172.5°	1284.6	1286.3	1288.0	1288.1	1286.7	1285.2	1283.7	1282.2
175°	1293.2	1294.9	1296.6	1296.7	1295.2	1293.7	1292.3	1290.8
177.5°	1297.1	1298.3	1299.4	1299.4	1298.3	1297.1	1295.9	1294.8
180°	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4

(END OF REPORT)