

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: P332084-930

Luminaire Tested: **S123DIP-S1165D1195U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332084-930  
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: S123DIP-S1165D1195U930-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1195 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

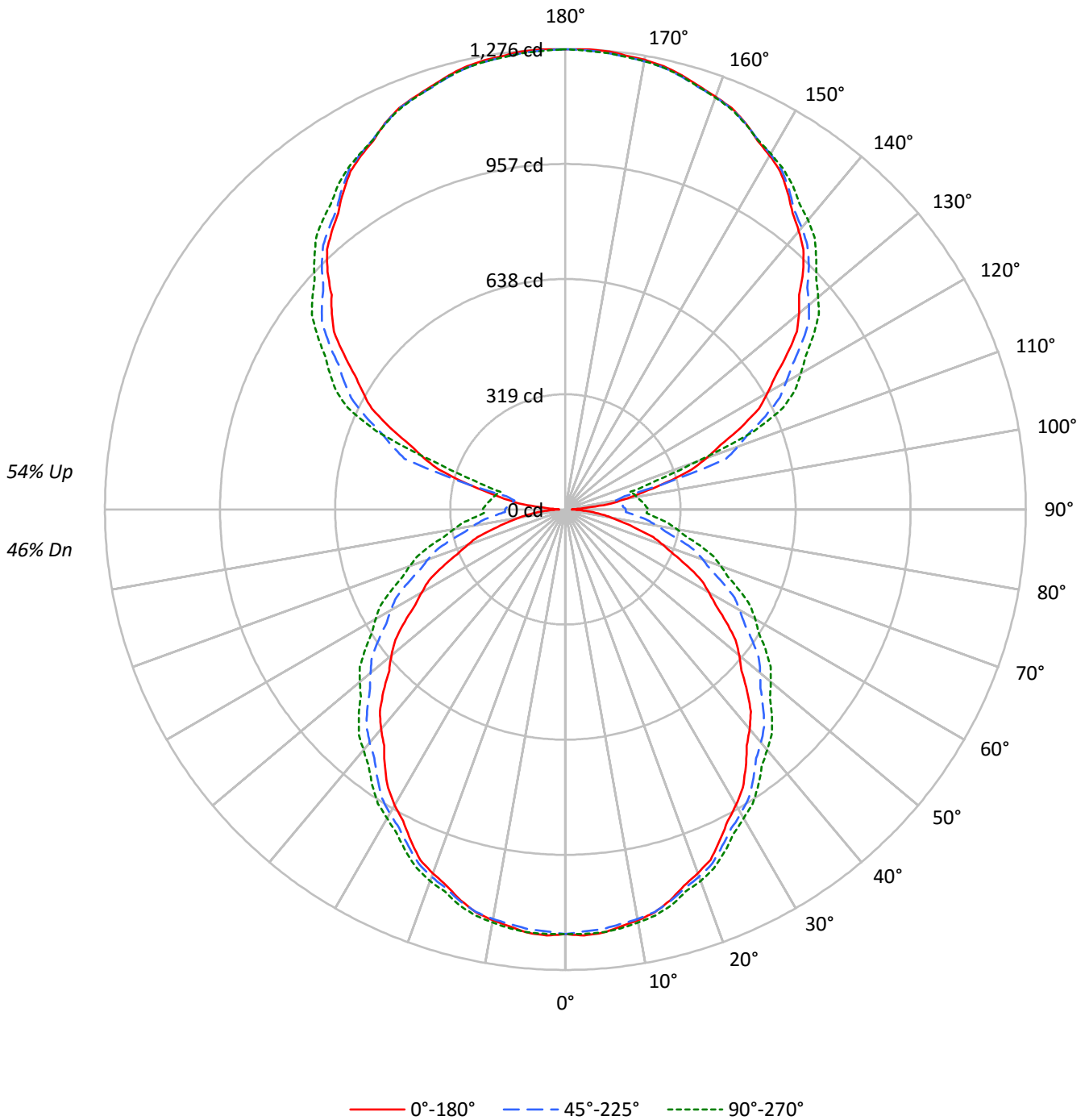
Lumens per Lamp: N/A  
Luminaire Lumens: 7845.1 lumens  
Efficiency: N/A  
Efficacy: 109.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: General Diffuse  
  
Input Watts (W): 71.7  
Input Voltage (V): 120  
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



TEST NUMBER: P332084-930

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### Luminous Intensity Polar Plot





TEST NUMBER: P332084-930

CATALOG NUMBER: S123DIP-S1165D1195U930-4F0-1E-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	50	30	10	0	
RCR																						
0	106	106	106	106	98	98	98	98	81	81	81	66	66	66	53	53	53	46				
1	96	91	87	83	88	84	80	77	70	67	65	57	55	53	45	44	42	37				
2	87	79	73	67	79	73	67	62	61	56	53	49	46	44	39	37	35	30				
3	79	69	62	55	72	64	57	52	53	48	44	43	40	37	34	32	29	25				
4	72	61	53	47	66	56	49	43	47	41	37	38	34	31	30	27	25	21				
5	66	54	46	40	60	50	43	37	42	36	32	34	30	27	27	24	22	18				
6	61	48	40	34	56	45	37	32	38	32	28	31	27	23	25	21	19	16				
7	56	44	36	30	51	40	33	28	34	28	24	28	24	20	23	19	17	14				
8	52	40	32	26	48	37	30	25	31	25	21	26	21	18	21	17	15	13				
9	48	36	28	23	44	33	27	22	28	23	19	24	19	16	19	16	13	11				
10	45	33	26	21	41	31	24	20	26	21	17	22	18	15	18	14	12	10				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	12664	12664	12664
5°	12703	12344	12352
10°	12589	12060	12000
15°	12427	11738	11616
20°	12195	11369	11194
25°	11908	10944	10750
30°	11616	10563	10299
35°	11287	10159	9939
40°	10973	9792	9555
45°	10626	9438	9247
50°	10281	9090	8908
55°	9903	8734	8603
60°	9533	8371	8291
65°	9155	7984	7918
70°	8585	7551	7537
75°	7860	7053	7148
80°	7035	6564	6706
85°	6264	6229	6450



TEST NUMBER: P332084-930

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.5	1.4
10°-20°	317.9	4.1
20°-30°	475.5	6.1
30°-40°	567.9	7.2
40°-50°	594.1	7.6
50°-60°	557.5	7.1
60°-70°	465.7	5.9
70°-80°	333.2	4.2
80°-90°	202.3	2.6
90°-100°	171.0	2.2
100°-110°	312.5	4.0
110°-120°	591.8	7.5
120°-130°	710.7	9.1
130°-140°	737.7	9.4
140°-150°	678.5	8.6
150°-160°	544.6	6.9
160°-170°	351.5	4.5
170°-180°	121.1	1.5
0°-30°	905.0	11.5
0°-40°	1472.8	18.8
0°-60°	2624.5	33.5
0°-90°	3625.6	46.2
90°-120°	1075.4	13.7
90°-150°	3202.3	40.8
90°-180°	4220.0	53.8
0°-180°	7845.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1176	1176	1176	1176	1176	
5°	1178	1175	1168	1177	1176	112
15°	1121	1125	1124	1136	1136	316
25°	1012	1025	1029	1045	1046	466
35°	872	892	909	927	933	545
45°	713	743	775	799	810	549
55°	543	586	632	665	677	486
65°	376	426	482	519	533	371
75°	204	264	328	369	386	218
85°	63	127	195	237	251	66
90°	18	90	168	213	230	14
95°	72	86	156	201	215	82
105°	292	330	304	180	185	310
115°	536	559	612	650	666	529
125°	750	760	799	827	838	670
135°	932	937	954	979	984	717
145°	1074	1079	1081	1093	1098	671
155°	1181	1179	1180	1184	1179	544
165°	1246	1243	1242	1249	1243	352
175°	1275	1270	1271	1277	1270	121
180°	1275	1275	1275	1275	1275	



TEST NUMBER: P332084-930

CATALOG NUMBER: S123DIP-S1165D1195U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5
2.5°	1181.6	1181.0	1180.2	1179.6	1178.8	1177.6	1175.8	1173.9	1172.2	1170.4	1172.2
5°	1177.8	1177.2	1176.6	1176.1	1175.5	1174.4	1172.6	1170.9	1169.2	1167.5	1169.8
7.5°	1166.2	1166.4	1166.4	1166.6	1166.7	1166.0	1164.2	1162.6	1161.0	1159.3	1162.1
10°	1156.0	1156.6	1157.2	1157.7	1158.3	1157.8	1156.4	1155.0	1153.6	1152.1	1155.0
12.5°	1143.7	1144.4	1145.3	1146.1	1146.9	1146.8	1145.8	1144.8	1143.9	1142.9	1145.5
15°	1121.4	1122.3	1123.1	1124.0	1124.8	1125.1	1124.8	1124.5	1124.2	1124.0	1126.8
17.5°	1093.2	1094.9	1096.6	1098.3	1100.0	1100.8	1100.7	1100.6	1100.5	1100.3	1102.9
20°	1072.7	1074.4	1076.1	1077.8	1079.5	1080.7	1081.2	1081.8	1082.4	1083.0	1085.5
22.5°	1051.2	1052.9	1054.6	1056.3	1058.0	1059.2	1060.1	1060.9	1061.6	1062.4	1065.7
25°	1012.4	1015.3	1018.1	1021.0	1023.9	1025.6	1026.5	1027.4	1028.3	1029.1	1032.8
27.5°	973.5	976.7	980.0	983.3	986.4	989.0	990.8	992.6	994.5	996.3	999.5
30°	945.8	949.5	953.2	956.9	960.6	963.6	965.9	968.2	970.5	972.7	976.2
32.5°	915.0	919.2	923.3	927.5	931.6	935.2	938.2	941.2	944.1	947.1	950.7
35°	871.5	876.0	880.6	885.2	889.7	893.8	897.6	901.2	904.9	908.7	912.9
37.5°	825.3	830.5	835.6	840.7	845.9	850.7	855.2	859.8	864.4	868.9	873.8
40°	794.6	799.7	804.9	809.9	815.1	820.5	826.2	831.8	837.6	843.3	848.2
42.5°	760.8	767.0	773.3	779.5	785.8	791.9	797.9	803.7	809.7	815.6	820.9
45°	712.6	719.4	726.2	733.0	739.9	746.9	754.0	761.1	768.3	775.3	780.7
47.5°	662.0	669.8	677.5	685.3	693.1	701.0	709.1	717.3	725.5	733.6	739.6
50°	629.2	637.2	645.2	653.1	661.1	669.5	678.4	687.2	696.0	704.8	711.4
52.5°	594.4	602.8	611.2	619.7	628.1	637.2	646.9	656.6	666.4	676.1	683.0
55°	543.4	552.8	562.1	571.6	581.0	590.8	601.0	611.3	621.6	631.9	639.5
57.5°	493.7	503.4	513.2	523.0	532.9	543.4	554.6	565.8	577.0	588.2	596.0
60°	458.8	469.0	479.3	489.6	499.8	510.8	522.4	534.1	545.8	557.5	565.5
62.5°	426.0	436.5	446.9	457.5	467.9	479.3	491.7	504.0	516.4	528.8	536.7
65°	375.5	386.6	397.7	408.8	420.0	431.8	444.3	456.8	469.4	481.8	490.4
67.5°	324.2	336.1	347.8	359.6	371.4	383.7	396.4	409.2	421.9	434.7	444.0
70°	288.4	300.6	312.8	325.1	337.4	350.3	363.9	377.6	391.3	405.0	414.1
72.5°	255.5	267.8	280.1	292.3	304.5	317.7	331.8	345.9	360.1	374.2	383.6
75°	203.7	217.2	230.6	243.9	257.3	271.1	285.4	299.6	313.8	328.1	337.5
77.5°	158.7	172.2	185.6	199.2	212.6	226.6	240.9	255.3	269.6	284.0	293.9
80°	126.9	140.8	154.8	168.8	182.7	197.1	211.9	226.7	241.5	256.3	266.0
82.5°	99.2	113.4	127.6	141.8	155.9	170.6	185.6	200.6	215.6	230.6	240.4
85°	62.8	77.0	91.3	105.5	119.8	134.4	149.5	164.6	179.7	194.8	204.5
87.5°	34.2	48.9	63.5	78.1	92.7	107.5	122.6	137.7	152.8	167.8	177.7
90°	17.6	33.7	49.7	65.8	81.9	98.5	115.8	133.1	150.3	167.5	178.1
92.5°	33.3	45.2	57.2	69.2	81.3	95.4	111.8	128.2	144.5	160.9	171.7
95°	71.9	74.4	76.8	79.3	81.8	91.2	107.5	123.7	140.0	156.2	166.6
97.5°	128.7	134.9	141.0	147.2	153.3	155.5	153.6	151.8	150.0	148.1	158.3
100°	171.6	184.9	198.3	211.6	224.9	221.7	201.9	182.2	162.5	142.8	152.7
102.5°	220.6	231.9	243.0	254.3	265.5	259.7	236.7	213.7	190.7	167.7	170.5
105°	292.5	301.7	310.8	320.0	329.1	330.4	323.7	317.0	310.2	303.5	274.3
107.5°	367.1	374.8	382.5	390.1	397.8	409.0	423.5	438.1	452.7	467.3	447.7
110°	416.9	423.7	430.5	437.3	444.1	454.4	468.1	481.8	495.5	509.2	509.6



TEST NUMBER: P332084-930

CATALOG NUMBER: S123DIP-S1165D1195U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	465.4	471.1	476.9	482.6	488.3	497.8	511.0	524.3	537.5	550.8	558.1
115°	535.9	540.6	545.3	549.9	554.6	563.0	575.2	587.3	599.5	611.6	620.6
117.5°	605.2	608.9	612.5	616.2	619.9	627.0	637.6	648.2	658.8	669.4	677.8
120°	647.3	650.7	654.0	657.3	660.6	667.3	677.4	687.4	697.4	707.4	715.7
122.5°	691.3	693.6	695.9	698.2	700.5	706.5	716.2	726.0	735.7	745.5	753.0
125°	750.2	752.0	753.7	755.3	757.0	762.4	771.5	780.6	789.7	798.7	805.2
127.5°	808.6	810.0	811.4	812.8	814.2	818.8	826.6	834.5	842.4	850.2	856.6
130°	845.0	846.4	847.7	849.2	850.6	854.5	861.1	867.6	874.2	880.7	887.0
132.5°	878.8	880.4	882.1	883.7	885.3	888.8	894.0	899.2	904.4	909.6	915.7
135°	931.8	932.8	933.8	934.7	935.7	938.2	942.2	946.2	950.1	954.1	959.9
137.5°	977.0	978.4	979.7	981.1	982.5	984.3	986.5	988.7	991.0	993.2	998.7
140°	1006.3	1007.5	1008.9	1010.1	1011.3	1012.7	1014.2	1015.7	1017.2	1018.6	1023.8
142.5°	1034.3	1035.3	1036.4	1037.5	1038.4	1039.3	1040.2	1041.0	1041.8	1042.6	1047.1
145°	1073.5	1074.7	1076.0	1077.1	1078.3	1079.1	1079.5	1079.9	1080.4	1080.8	1083.5
147.5°	1109.2	1110.2	1111.2	1112.1	1113.0	1113.8	1114.2	1114.6	1115.0	1115.4	1116.6
150°	1132.0	1132.5	1133.2	1133.8	1134.5	1135.0	1135.4	1135.8	1136.3	1136.7	1137.1
152.5°	1152.4	1152.7	1153.0	1153.2	1153.6	1153.8	1154.1	1154.4	1154.6	1154.9	1155.6
155°	1181.2	1180.8	1180.3	1179.9	1179.5	1179.4	1179.6	1179.8	1180.1	1180.2	1181.3
157.5°	1203.5	1203.5	1203.5	1203.4	1203.4	1203.2	1203.1	1202.8	1202.6	1202.4	1203.7
160°	1217.2	1217.0	1216.8	1216.6	1216.3	1216.1	1215.9	1215.7	1215.5	1215.3	1216.6
162.5°	1230.0	1229.6	1229.0	1228.4	1227.8	1227.5	1227.3	1227.1	1226.9	1226.6	1228.1
165°	1245.6	1245.0	1244.3	1243.7	1243.1	1242.7	1242.4	1242.2	1242.0	1241.8	1243.5
167.5°	1257.8	1256.9	1256.1	1255.2	1254.3	1253.9	1253.9	1253.9	1253.9	1253.9	1255.6
170°	1264.5	1263.7	1262.9	1262.0	1261.2	1260.8	1260.8	1260.8	1260.8	1260.8	1262.4
172.5°	1269.1	1268.1	1267.1	1266.1	1265.0	1264.6	1264.8	1264.9	1265.1	1265.3	1267.0
175°	1275.0	1273.9	1272.8	1271.8	1270.7	1270.3	1270.6	1270.7	1271.0	1271.1	1272.7
177.5°	1276.5	1275.6	1274.8	1274.0	1273.1	1272.8	1272.9	1273.1	1273.3	1273.4	1274.8
180°	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0



TEST NUMBER: P332084-930

CATALOG NUMBER: S123DIP-S1165D1195U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5
2.5°	1173.9	1175.8	1177.6	1178.4	1178.2	1177.9	1177.7	1177.5
5°	1172.1	1174.4	1176.6	1177.6	1177.4	1177.0	1176.8	1176.5
7.5°	1165.0	1167.8	1170.7	1172.0	1171.6	1171.3	1170.9	1170.6
10°	1157.8	1160.7	1163.5	1164.7	1164.1	1163.5	1162.9	1162.4
12.5°	1148.2	1150.8	1153.4	1154.4	1153.8	1153.2	1152.7	1152.1
15°	1129.6	1132.5	1135.3	1136.6	1136.4	1136.0	1135.8	1135.5
17.5°	1105.5	1108.1	1110.6	1111.7	1111.3	1110.9	1110.5	1110.1
20°	1088.0	1090.6	1093.2	1094.6	1094.9	1095.2	1095.4	1095.8
22.5°	1068.9	1072.2	1075.4	1076.9	1076.8	1076.6	1076.4	1076.3
25°	1036.5	1040.2	1043.9	1045.8	1045.8	1045.8	1045.8	1045.8
27.5°	1002.7	1005.8	1009.0	1010.7	1011.0	1011.2	1011.5	1011.7
30°	979.6	983.0	986.3	988.1	988.1	988.1	988.1	988.1
32.5°	954.4	958.1	961.6	963.8	964.5	965.2	965.9	966.5
35°	917.2	921.5	925.7	928.5	929.6	930.7	931.9	932.9
37.5°	878.6	883.5	888.3	891.1	892.1	893.0	893.9	894.8
40°	853.0	857.8	862.7	865.6	866.7	867.9	869.0	870.2
42.5°	826.2	831.5	836.8	840.2	841.8	843.4	845.0	846.6
45°	786.2	791.6	797.0	800.9	803.2	805.4	807.7	809.9
47.5°	745.8	751.9	758.0	761.9	763.6	765.4	767.2	768.9
50°	718.0	724.6	731.1	735.3	737.4	739.3	741.4	743.3
52.5°	689.7	696.5	703.3	707.9	710.4	712.8	715.3	717.7
55°	647.2	654.8	662.6	667.6	669.8	672.1	674.4	676.7
57.5°	603.7	611.5	619.2	624.4	627.1	629.8	632.5	635.1
60°	573.4	581.4	589.4	594.9	598.1	601.2	604.3	607.5
62.5°	544.7	552.7	560.7	566.1	569.0	571.9	574.9	577.7
65°	499.0	507.5	516.1	521.7	524.6	527.4	530.3	533.1
67.5°	453.4	462.8	472.1	477.9	480.4	482.7	485.1	487.5
70°	423.2	432.4	441.4	447.4	450.3	453.1	455.9	458.8
72.5°	392.9	402.3	411.6	417.7	420.5	423.4	426.2	429.1
75°	346.9	356.3	365.7	372.1	375.5	379.0	382.4	385.7
77.5°	303.8	313.7	323.7	329.9	332.6	335.2	337.8	340.4
80°	275.7	285.4	295.1	301.3	304.2	307.0	309.9	312.7
82.5°	250.1	259.8	269.4	275.7	278.5	281.4	284.2	287.1
85°	214.2	223.9	233.5	239.8	242.6	245.5	248.3	251.2
87.5°	187.5	197.4	207.2	213.6	216.5	219.5	222.4	225.3
90°	188.6	199.1	209.6	216.5	219.8	223.1	226.3	229.6
92.5°	182.5	193.3	204.1	210.9	213.8	216.6	219.6	222.4
95°	176.8	187.1	197.5	204.0	206.8	209.7	212.5	215.4
97.5°	168.5	178.6	188.8	195.4	198.5	201.5	204.6	207.7
100°	162.7	172.6	182.5	189.1	192.1	195.2	198.2	201.3
102.5°	173.3	176.1	178.9	182.0	185.2	188.4	191.6	194.9
105°	245.0	215.7	186.5	173.3	176.3	179.3	182.2	185.2
107.5°	428.0	408.3	388.6	366.0	340.4	314.8	289.3	263.7
110°	510.1	510.6	511.0	497.3	469.5	441.7	413.9	386.0





TEST NUMBER: P332084-930

CATALOG NUMBER: S123DIP-S1165D1195U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	565.4	572.7	580.0	581.7	577.9	574.1	570.2	566.3
115°	629.5	638.5	647.4	653.4	656.6	659.7	662.8	665.9
117.5°	686.2	694.7	703.2	708.6	711.0	713.4	715.8	718.2
120°	723.9	732.1	740.4	745.4	747.5	749.4	751.5	753.4
122.5°	760.5	768.0	775.5	780.3	782.4	784.6	786.8	789.0
125°	811.6	818.0	824.4	828.8	831.2	833.6	836.0	838.5
127.5°	862.8	869.1	875.5	879.4	880.8	882.4	883.9	885.4
130°	893.2	899.4	905.7	909.5	910.8	912.1	913.4	914.6
132.5°	921.7	927.7	933.8	937.4	938.8	940.1	941.5	942.8
135°	965.6	971.3	977.1	980.4	981.2	981.9	982.8	983.6
137.5°	1004.2	1009.7	1015.2	1018.5	1019.5	1020.5	1021.5	1022.5
140°	1028.9	1034.0	1039.1	1042.2	1043.2	1044.2	1045.2	1046.2
142.5°	1051.6	1056.1	1060.5	1063.2	1064.0	1064.9	1065.7	1066.6
145°	1086.1	1088.9	1091.6	1093.5	1094.6	1095.8	1096.9	1098.0
147.5°	1117.7	1118.8	1119.9	1120.5	1120.5	1120.5	1120.6	1120.7
150°	1137.5	1137.9	1138.3	1138.6	1138.5	1138.4	1138.3	1138.3
152.5°	1156.3	1157.2	1157.9	1157.8	1157.0	1156.1	1155.3	1154.4
155°	1182.3	1183.4	1184.5	1184.3	1183.1	1181.9	1180.6	1179.3
157.5°	1204.9	1206.2	1207.5	1207.3	1205.7	1204.0	1202.3	1200.7
160°	1217.8	1219.0	1220.3	1220.3	1218.8	1217.3	1215.8	1214.3
162.5°	1229.6	1230.9	1232.4	1232.4	1231.1	1229.8	1228.5	1227.2
165°	1245.2	1246.8	1248.5	1248.6	1247.2	1245.7	1244.2	1242.8
167.5°	1257.3	1259.0	1260.7	1260.7	1259.0	1257.3	1255.6	1253.9
170°	1264.1	1265.8	1267.5	1267.5	1265.8	1264.1	1262.4	1260.8
172.5°	1268.7	1270.3	1272.0	1271.9	1270.1	1268.3	1266.4	1264.5
175°	1274.1	1275.6	1277.1	1276.9	1275.3	1273.6	1271.9	1270.2
177.5°	1276.1	1277.5	1278.8	1278.6	1277.0	1275.3	1273.6	1271.9
180°	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0

(END OF REPORT)