

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: P332682-935

Luminaire Tested: **S124DIP-S1195D590U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332682-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S1195D590U935-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 590 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6218.3 lumens  
Efficiency: N/A  
Efficacy: 112.9 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: Semi-Direct

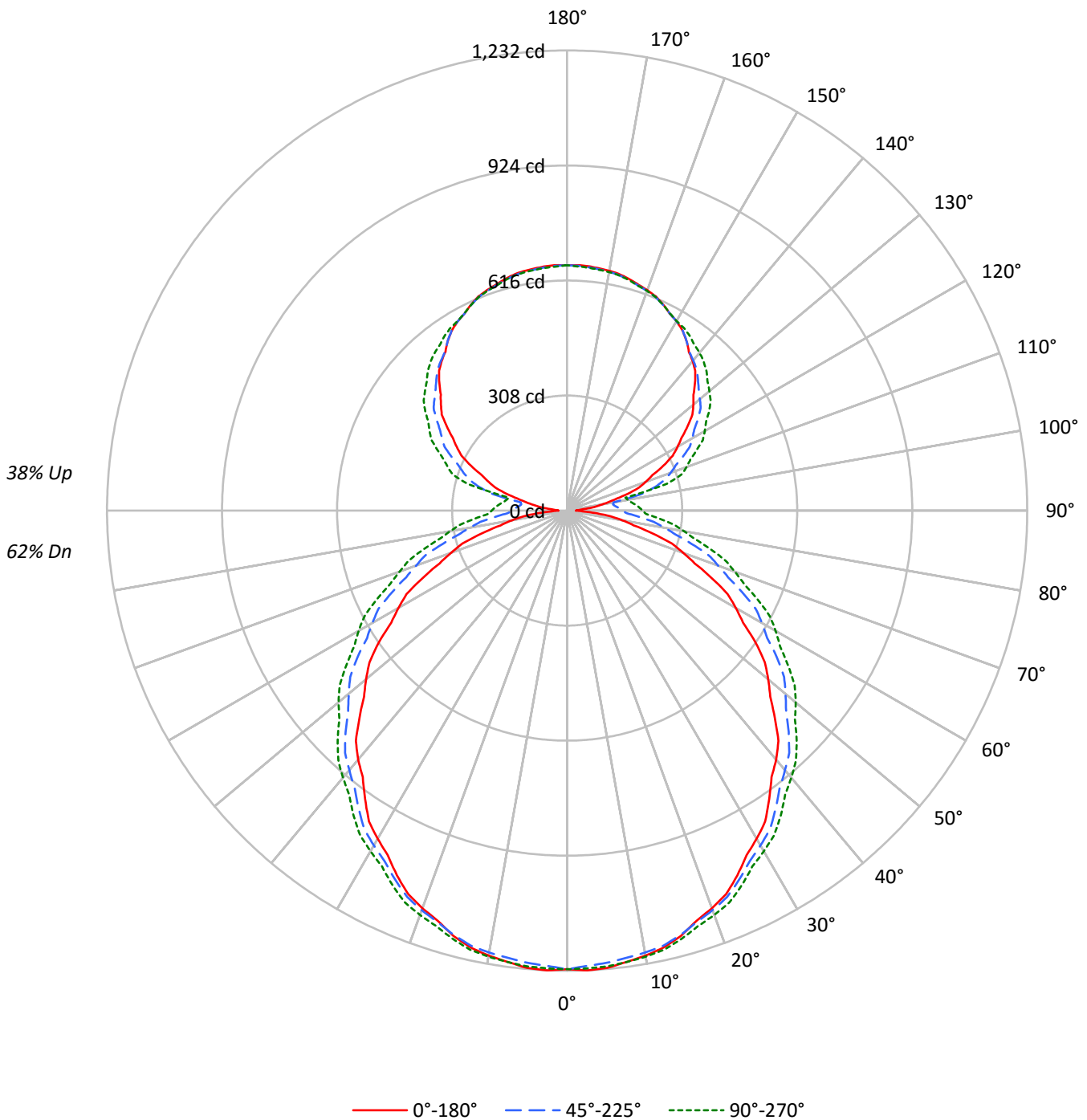
Input Watts (W): 55.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332682-935

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### Luminous Intensity Polar Plot





TEST NUMBER: P332682-935

CATALOG NUMBER: S124DIP-S1195D590U935-4F0-1E-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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	62
1	99	94	90	86	93	88	84	81	77	74	72	67	65	63	58	56	54	50
2	90	82	75	69	84	77	70	65	67	62	58	58	55	51	50	47	45	41
3	82	71	63	57	76	67	60	54	59	53	48	51	47	43	44	40	38	34
4	75	63	54	48	69	59	51	45	52	46	41	45	40	36	39	35	32	29
5	68	56	47	41	64	53	45	39	46	40	35	40	35	31	35	31	28	25
6	63	50	41	35	59	47	39	34	42	35	30	36	31	27	32	27	24	21
7	58	45	37	31	54	43	35	29	38	31	27	33	28	24	29	25	21	19
8	54	41	33	27	50	39	31	26	34	28	24	30	25	21	26	22	19	17
9	50	37	30	24	47	35	28	23	31	25	21	28	23	19	24	20	17	15
10	47	34	27	22	44	33	26	21	29	23	19	26	21	17	23	18	16	14

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

	0°	45°	90°
0°	9912	9912	9912
5°	9942	9687	9715
10°	9882	9528	9521
15°	9793	9345	9294
20°	9660	9143	9072
25°	9509	8916	8829
30°	9346	8690	8579
35°	9161	8459	8360
40°	9014	8239	8132
45°	8795	8036	7936
50°	8610	7802	7728
55°	8420	7582	7486
60°	8121	7301	7265
65°	7793	6999	6992
70°	7397	6655	6676
75°	6845	6278	6390
80°	6233	5915	6107
85°	5446	5591	5943



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	116.3	1.9
10°-20°	333.1	5.4
20°-30°	503.7	8.1
30°-40°	609.4	9.8
40°-50°	644.3	10.4
50°-60°	606.4	9.8
60°-70°	503.1	8.1
70°-80°	353.4	5.7
80°-90°	201.7	3.2
90°-100°	141.1	2.3
100°-110°	231.0	3.7
110°-120°	332.9	5.4
120°-130°	381.0	6.1
130°-140°	386.4	6.2
140°-150°	350.8	5.6
150°-160°	280.6	4.5
160°-170°	181.0	2.9
170°-180°	62.4	1.0
0°-30°	953.1	15.3
0°-40°	1562.5	25.1
0°-60°	2813.1	45.2
0°-90°	3871.2	62.3
90°-120°	704.9	11.3
90°-150°	1823.2	29.3
90°-180°	2347.0	37.7
0°-180°	6218.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1228	1228	1228	1228	1228	
5°	1229	1225	1215	1226	1225	117
15°	1178	1179	1176	1187	1186	332
25°	1078	1086	1090	1105	1107	496
35°	943	959	973	992	997	590
45°	786	813	839	861	869	608
55°	616	646	686	712	722	549
65°	426	470	517	550	562	422
75°	236	288	345	382	396	252
85°	73	131	192	232	248	78
90°	24	84	147	188	202	16
95°	45	75	130	169	183	49
105°	160	192	244	280	276	169
115°	284	300	342	372	382	280
125°	394	396	428	454	464	351
135°	484	484	495	517	527	373
145°	556	556	556	565	572	348
155°	609	609	608	609	608	281
165°	642	640	640	643	639	181
175°	657	654	654	658	653	63
180°	657	657	657	657	657	



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CATALOG NUMBER: S124DIP-S1195D590U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8
2.5°	1232.2	1231.4	1230.7	1229.9	1229.2	1227.9	1225.9	1224.0	1222.0	1220.0	1221.8
5°	1229.1	1228.2	1227.3	1226.4	1225.5	1223.9	1221.8	1219.6	1217.5	1215.4	1217.8
7.5°	1218.7	1218.1	1217.5	1217.0	1216.5	1215.3	1213.6	1211.8	1210.0	1208.2	1211.0
10°	1209.9	1209.5	1209.3	1208.9	1208.7	1207.7	1206.2	1204.7	1203.2	1201.6	1204.4
12.5°	1197.7	1197.7	1197.7	1197.6	1197.6	1197.0	1195.9	1194.9	1193.9	1192.8	1195.3
15°	1178.3	1178.5	1178.9	1179.1	1179.5	1179.1	1178.3	1177.3	1176.4	1175.5	1178.3
17.5°	1151.6	1152.5	1153.4	1154.3	1155.2	1155.6	1155.5	1155.2	1155.0	1154.9	1157.7
20°	1132.9	1133.8	1134.7	1135.7	1136.5	1137.1	1137.5	1137.8	1138.1	1138.4	1141.4
22.5°	1112.0	1113.1	1114.3	1115.4	1116.6	1117.5	1118.0	1118.6	1119.1	1119.6	1122.7
25°	1077.9	1079.7	1081.6	1083.4	1085.2	1086.6	1087.5	1088.4	1089.3	1090.3	1093.6
27.5°	1039.9	1042.7	1045.3	1048.0	1050.7	1052.7	1054.1	1055.6	1057.0	1058.3	1061.4
30°	1014.6	1017.1	1019.5	1022.0	1024.4	1026.7	1028.8	1031.0	1033.1	1035.3	1038.6
32.5°	987.1	990.1	993.0	995.9	998.8	1001.5	1003.9	1006.3	1008.7	1011.1	1014.9
35°	943.1	946.8	950.5	954.2	957.8	961.1	964.2	967.2	970.3	973.4	977.7
37.5°	898.9	903.1	907.3	911.5	915.8	919.7	923.5	927.3	931.1	934.9	939.3
40°	870.3	874.3	878.2	882.2	886.1	890.3	894.6	898.9	903.1	907.4	912.0
42.5°	837.3	841.7	846.2	850.7	855.1	859.9	864.9	869.9	874.9	879.9	885.0
45°	786.4	792.2	798.1	803.8	809.6	815.5	821.2	827.1	832.8	838.7	843.9
47.5°	737.7	743.7	749.8	755.7	761.7	768.1	774.8	781.5	788.2	795.0	800.3
50°	702.6	709.3	716.0	722.7	729.4	736.2	742.9	749.6	756.3	763.0	769.1
52.5°	667.4	674.1	680.8	687.5	694.2	701.5	709.1	716.9	724.5	732.3	738.4
55°	616.0	622.3	628.8	635.2	641.6	649.4	658.6	667.7	676.9	686.0	692.2
57.5°	558.4	566.5	574.4	582.3	590.2	598.7	607.9	617.0	626.1	635.2	642.5
60°	521.1	529.0	536.9	544.9	552.8	561.9	572.0	582.0	592.1	602.2	609.2
62.5°	484.7	493.4	502.1	510.8	519.4	528.8	539.0	549.1	559.1	569.2	576.2
65°	426.2	436.0	445.7	455.6	465.3	475.4	485.8	496.2	506.5	516.9	524.6
67.5°	369.8	380.2	390.6	401.0	411.4	422.1	433.3	444.4	455.5	466.7	474.4
70°	331.3	341.7	352.1	362.5	372.9	383.9	395.5	407.1	418.7	430.3	438.6
72.5°	293.9	304.5	315.2	325.8	336.5	347.9	360.3	372.6	385.0	397.4	405.4
75°	236.5	247.8	259.1	270.4	281.7	293.8	306.6	319.4	332.3	345.1	353.6
77.5°	182.9	194.8	206.8	218.8	230.7	243.5	256.9	270.4	283.8	297.2	305.9
80°	149.9	162.0	174.3	186.5	198.7	211.5	225.0	238.5	251.9	265.4	274.5
82.5°	116.8	129.6	142.3	155.0	167.7	180.8	194.2	207.7	221.1	234.5	243.9
85°	72.8	85.7	98.5	111.3	124.2	137.5	151.2	165.0	178.7	192.5	201.6
87.5°	41.0	53.7	66.4	79.1	91.8	105.0	118.5	132.1	145.6	159.2	168.2
90°	23.5	36.9	50.3	63.7	77.1	90.8	104.9	118.9	132.9	146.9	156.4
92.5°	27.1	38.1	49.2	60.3	71.4	83.9	97.9	111.9	125.9	139.9	149.2
95°	44.9	51.2	57.6	64.0	70.3	79.9	92.5	105.1	117.8	130.4	139.3
97.5°	73.6	84.6	95.6	106.6	117.5	123.1	123.4	123.6	123.8	124.1	132.2
100°	95.7	105.6	115.5	125.4	135.3	138.7	135.5	132.4	129.2	126.1	132.5
102.5°	121.6	130.0	138.4	146.8	155.2	164.3	174.0	183.7	193.4	203.1	191.1
105°	160.2	166.9	173.7	180.5	187.3	196.6	208.4	220.2	232.1	244.0	252.6
107.5°	198.4	203.7	209.1	214.4	219.7	228.1	239.5	251.0	262.3	273.8	281.8
110°	223.2	227.7	232.4	236.9	241.6	249.6	260.9	272.2	283.6	295.0	302.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	247.2	251.6	256.0	260.4	264.8	272.2	282.7	293.2	303.7	314.2	321.0
115°	284.3	287.3	290.4	293.5	296.6	303.0	312.6	322.3	331.9	341.6	348.5
117.5°	318.8	321.0	323.0	325.1	327.2	332.9	342.2	351.6	360.9	370.3	376.6
120°	341.3	342.7	344.1	345.4	346.7	351.8	360.6	369.3	378.1	386.8	393.1
122.5°	363.3	363.8	364.2	364.7	365.2	369.6	378.2	386.7	395.2	403.7	409.9
125°	393.5	393.6	393.7	393.9	394.0	397.8	405.2	412.7	420.1	427.5	433.6
127.5°	423.1	422.9	422.7	422.5	422.3	425.4	431.8	438.2	444.4	450.8	456.3
130°	441.3	441.0	440.8	440.7	440.5	443.0	448.2	453.4	458.6	463.8	469.4
132.5°	458.9	458.8	458.7	458.6	458.5	460.5	464.9	469.2	473.6	477.9	483.3
135°	484.1	484.0	483.9	483.7	483.6	484.8	487.4	490.0	492.6	495.2	500.2
137.5°	507.6	507.3	507.0	506.8	506.5	507.1	508.7	510.1	511.7	513.2	517.9
140°	522.9	522.8	522.7	522.6	522.5	522.7	523.2	523.7	524.3	524.9	529.1
142.5°	535.5	535.9	536.1	536.5	536.8	537.0	536.9	536.9	536.8	536.7	540.5
145°	556.4	556.4	556.4	556.5	556.5	556.5	556.5	556.5	556.5	556.5	558.4
147.5°	573.2	573.4	573.8	574.1	574.4	574.5	574.4	574.3	574.1	574.0	574.4
150°	585.3	585.5	585.6	585.7	585.8	585.9	585.7	585.7	585.6	585.4	585.4
152.5°	594.4	594.8	595.0	595.3	595.6	595.6	595.5	595.3	595.0	594.9	595.0
155°	608.6	608.6	608.7	608.8	609.0	608.8	608.6	608.2	607.9	607.5	608.0
157.5°	620.6	620.5	620.4	620.4	620.4	620.1	619.7	619.4	619.0	618.6	619.2
160°	627.7	627.3	627.0	626.7	626.4	626.1	626.0	625.9	625.8	625.7	626.4
162.5°	634.0	633.5	633.1	632.7	632.3	632.1	631.9	631.8	631.7	631.6	632.2
165°	641.9	641.4	640.8	640.2	639.7	639.5	639.5	639.5	639.5	639.5	640.3
167.5°	648.2	647.6	647.0	646.5	645.9	645.6	645.6	645.5	645.4	645.3	646.4
170°	651.8	651.1	650.4	649.8	649.1	648.8	648.9	649.0	649.2	649.3	650.1
172.5°	654.1	653.4	652.8	652.1	651.5	651.2	651.3	651.4	651.5	651.6	652.6
175°	656.7	656.0	655.3	654.7	654.0	653.8	653.8	654.0	654.1	654.2	655.1
177.5°	657.8	657.2	656.6	656.0	655.4	655.1	655.3	655.5	655.7	655.8	656.6
180°	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8
2.5°	1223.5	1225.2	1226.9	1227.6	1227.4	1227.1	1226.9	1226.7
5°	1220.3	1222.7	1225.1	1226.2	1225.9	1225.6	1225.3	1225.0
7.5°	1213.8	1216.5	1219.3	1220.5	1220.1	1219.9	1219.5	1219.3
10°	1207.1	1209.9	1212.6	1213.8	1213.6	1213.2	1212.9	1212.6
12.5°	1197.8	1200.3	1202.8	1204.1	1204.0	1203.9	1203.9	1203.9
15°	1181.0	1183.8	1186.5	1187.7	1187.4	1187.1	1186.8	1186.5
17.5°	1160.5	1163.3	1166.1	1167.4	1167.2	1166.9	1166.7	1166.4
20°	1144.5	1147.5	1150.6	1152.1	1152.1	1152.1	1152.1	1152.1
22.5°	1125.8	1128.9	1131.9	1133.7	1134.2	1134.6	1135.1	1135.7
25°	1097.0	1100.4	1103.7	1105.5	1105.9	1106.1	1106.5	1106.7
27.5°	1064.6	1067.7	1070.8	1072.5	1073.0	1073.3	1073.7	1074.0
30°	1042.0	1045.3	1048.7	1050.7	1051.3	1051.9	1052.5	1053.2
32.5°	1018.7	1022.6	1026.5	1028.7	1029.3	1029.9	1030.5	1031.1
35°	982.0	986.2	990.5	993.1	994.0	995.0	995.8	996.8
37.5°	943.6	947.9	952.3	954.9	955.9	956.8	957.9	958.8
40°	916.5	921.2	925.7	928.7	929.9	931.1	932.3	933.5
42.5°	890.0	895.1	900.2	903.2	904.2	905.2	906.1	907.1
45°	849.0	854.3	859.5	862.8	864.4	865.8	867.4	868.9
47.5°	805.7	811.1	816.5	820.0	821.9	823.7	825.5	827.4
50°	775.2	781.4	787.5	791.4	793.3	795.1	796.9	798.7
52.5°	744.5	750.6	756.6	760.7	762.5	764.3	766.1	768.0
55°	698.3	704.4	710.5	714.5	716.3	718.2	720.0	721.8
57.5°	649.7	657.0	664.3	668.7	670.5	672.2	673.9	675.6
60°	616.2	623.3	630.3	635.0	637.5	639.9	642.4	644.8
62.5°	583.2	590.3	597.3	602.0	604.5	606.9	609.3	611.8
65°	532.2	539.8	547.5	552.5	555.0	557.4	559.9	562.3
67.5°	482.2	489.9	497.7	502.7	505.1	507.5	509.9	512.3
70°	446.9	455.0	463.3	468.6	470.6	472.8	474.9	477.1
72.5°	413.4	421.4	429.4	434.5	437.0	439.3	441.7	444.1
75°	362.2	370.7	379.3	385.0	387.7	390.5	393.2	396.0
77.5°	314.6	323.3	331.9	337.8	340.7	343.6	346.6	349.5
80°	283.7	292.8	302.0	307.8	310.2	312.7	315.1	317.6
82.5°	253.4	262.8	272.2	278.3	280.9	283.6	286.3	289.0
85°	210.8	220.0	229.1	235.2	238.3	241.3	244.4	247.5
87.5°	177.2	186.1	195.1	201.0	203.7	206.5	209.2	211.9
90°	165.9	175.5	184.9	191.1	193.7	196.4	199.1	201.7
92.5°	158.4	167.7	177.0	182.9	185.4	187.9	190.4	192.9
95°	148.3	157.1	166.0	171.9	174.8	177.6	180.5	183.4
97.5°	140.2	148.3	156.4	161.7	164.5	167.2	170.0	172.7
100°	138.9	145.3	151.7	156.0	158.3	160.5	162.7	165.0
102.5°	179.1	167.0	155.1	150.2	152.7	155.1	157.5	159.9
105°	261.2	269.8	278.4	282.1	280.5	279.1	277.6	276.1
107.5°	289.8	297.8	305.8	311.1	313.7	316.3	318.9	321.6
110°	309.4	316.7	323.9	329.0	331.7	334.5	337.3	340.0





TEST NUMBER: P332682-935

CATALOG NUMBER: S124DIP-S1195D590U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	327.7	334.4	341.1	345.9	348.8	351.7	354.6	357.4
115°	355.5	362.5	369.4	373.9	376.1	378.2	380.3	382.5
117.5°	382.9	389.3	395.5	399.9	402.3	404.7	407.1	409.5
120°	399.5	405.8	412.2	416.4	418.6	420.9	423.1	425.3
122.5°	416.2	422.4	428.7	432.7	434.8	436.8	438.8	440.7
125°	439.7	445.9	452.0	456.1	458.0	459.9	461.8	463.8
127.5°	461.8	467.2	472.6	476.3	478.3	480.3	482.2	484.2
130°	475.0	480.6	486.3	490.0	491.8	493.6	495.5	497.3
132.5°	488.6	494.0	499.4	502.9	504.6	506.4	508.2	509.9
135°	505.4	510.5	515.6	519.2	521.2	523.2	525.3	527.4
137.5°	522.6	527.3	532.0	535.1	536.6	538.0	539.5	541.0
140°	533.4	537.7	542.0	545.0	546.6	548.3	549.9	551.6
142.5°	544.2	547.9	551.6	554.1	555.5	556.8	558.1	559.4
145°	560.3	562.3	564.2	565.9	567.4	568.8	570.2	571.7
147.5°	574.7	575.1	575.4	576.1	577.1	578.2	579.4	580.4
150°	585.4	585.4	585.4	585.5	585.6	585.7	585.8	585.9
152.5°	595.2	595.4	595.6	595.6	595.6	595.5	595.4	595.4
155°	608.4	608.8	609.2	609.3	609.0	608.6	608.4	608.0
157.5°	619.7	620.4	620.9	620.9	620.4	619.7	619.2	618.6
160°	627.0	627.7	628.4	628.4	627.7	627.0	626.4	625.7
162.5°	632.9	633.5	634.2	634.2	633.4	632.7	632.0	631.2
165°	641.2	642.0	643.0	642.9	641.9	640.9	640.0	638.9
167.5°	647.3	648.2	649.2	649.1	648.1	647.0	645.8	644.8
170°	651.0	651.9	652.8	652.6	651.6	650.5	649.4	648.3
172.5°	653.4	654.3	655.1	655.0	653.8	652.6	651.4	650.2
175°	656.2	657.1	658.1	658.0	656.7	655.3	654.0	652.7
177.5°	657.3	658.0	658.7	658.5	657.5	656.4	655.3	654.3
180°	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7

(END OF REPORT)