

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: P332711-935

Luminaire Tested: **S124DIP-S1195D1205U935-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332711-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S1195D1205U935-4F0-1E-UDD-D4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1205 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7891.7 lumens  
Efficiency: N/A  
Efficacy: 110.1 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: General Diffuse

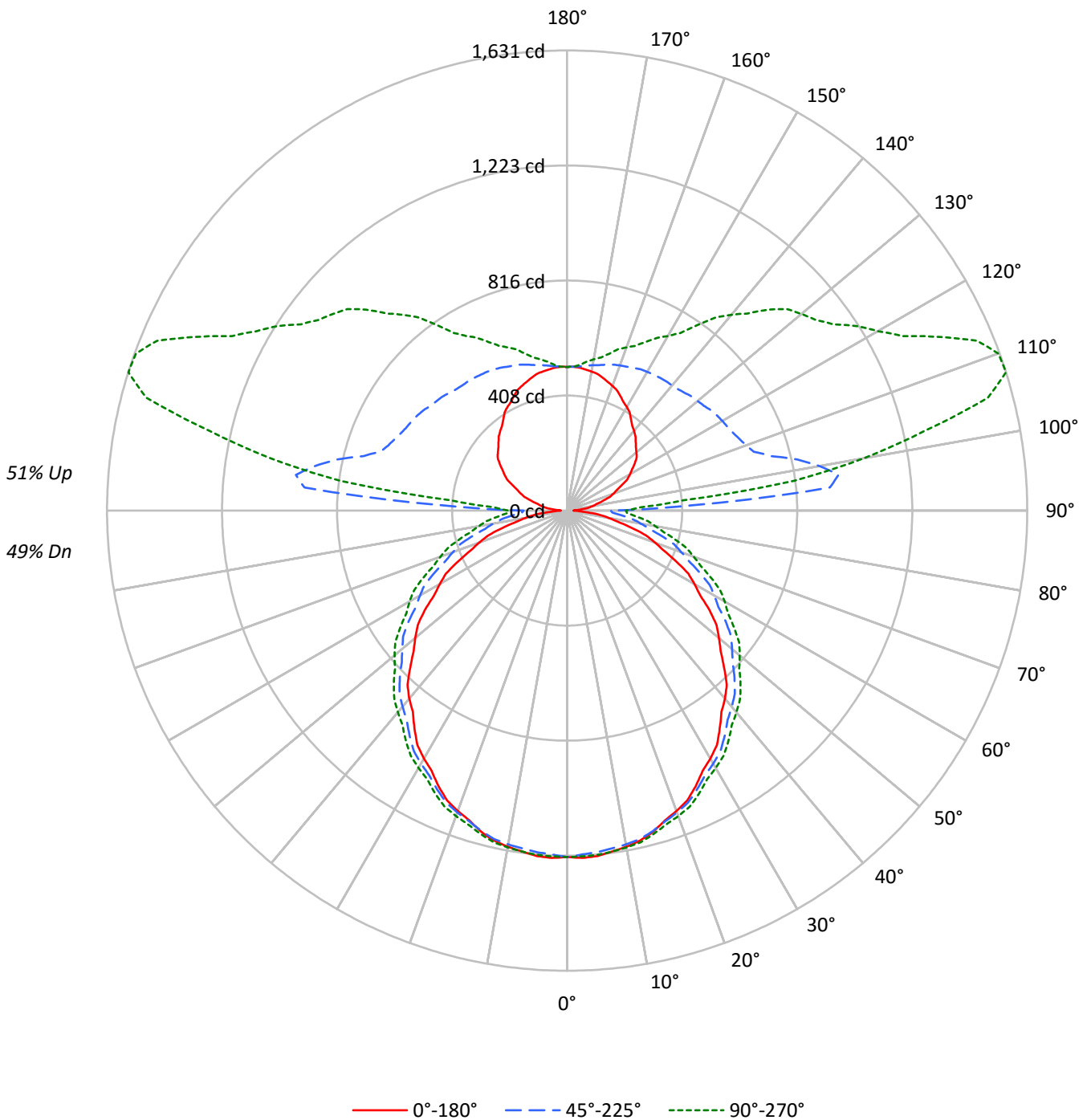
Input Watts (W): 71.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	83	83	83	68	68	68	55	55	55	49
1	97	92	88	84	89	85	81	78	71	68	66	59	57	55	47	46	45	39
2	88	80	73	68	80	73	68	63	62	57	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	57	52	54	49	45	45	41	38	36	33	31	27
4	73	61	53	47	66	57	49	44	48	42	38	40	35	32	32	29	26	23
5	67	54	46	40	61	50	43	37	43	37	32	35	31	27	29	25	23	19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	26	23	20	17
7	57	44	36	30	52	41	33	28	35	29	25	29	24	21	24	20	18	15
8	52	40	32	26	48	37	30	25	32	26	22	26	22	19	22	18	16	13
9	49	36	29	23	45	34	27	22	29	23	19	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	17	22	18	15	18	15	13	11

**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	1.5
10°-20°	333.1	4.2
20°-30°	503.7	6.4
30°-40°	609.4	7.7
40°-50°	644.3	8.2
50°-60°	606.4	7.7
60°-70°	503.1	6.4
70°-80°	353.4	4.5
80°-90°	202.6	2.6
90°-100°	486.4	6.2
100°-110°	853.3	10.8
110°-120°	744.6	9.4
120°-130°	610.0	7.7
130°-140°	495.3	6.3
140°-150°	370.3	4.7
150°-160°	258.3	3.3
160°-170°	151.9	1.9
170°-180°	49.4	0.6
0°-30°	953.1	12.1
0°-40°	1562.5	19.8
0°-60°	2813.1	35.6
0°-90°	3872.1	49.1
90°-120°	2084.4	26.4
90°-150°	3560.0	45.1
90°-180°	4020.0	50.9
0°-180°	7891.7	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°	23	85	154	194	208	16
95°	51	168	935	559	413	51
105°	129	211	747	1537	1544	139
115°	214	281	650	1218	1456	213
125°	293	347	621	1021	1151	261
135°	344	410	590	883	1007	266
145°	395	450	574	724	801	248
155°	447	483	558	632	659	206
165°	487	502	535	567	575	138
175°	508	509	513	520	518	48
180°	509	509	509	509	509	



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**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°	40.9	53.7	66.8	79.5	92.1	105.0	119.7	133.0	146.8	160.6	169.3
90°	23.0	37.2	52.4	65.7	78.9	91.5	110.7	123.8	139.0	154.1	162.0
92.5°	32.3	48.5	68.9	92.1	117.7	150.6	214.6	305.3	394.1	446.9	402.4
95°	50.9	64.0	84.0	107.1	141.2	194.6	294.1	470.7	722.4	935.0	966.3
97.5°	75.4	84.1	101.4	122.1	151.4	197.2	276.6	424.5	674.6	969.9	1172.4
100°	91.2	99.1	114.1	134.0	160.9	202.9	273.9	398.8	614.8	908.9	1173.3
102.5°	107.2	115.7	128.9	147.1	172.3	212.0	277.1	388.2	573.5	835.3	1107.5
105°	129.4	138.5	149.6	167.8	191.9	229.6	289.0	383.3	534.7	747.1	989.8
107.5°	156.8	163.8	173.8	191.6	213.8	250.3	305.0	391.3	521.7	694.2	893.6
110°	174.1	180.4	189.7	206.0	228.2	262.7	317.5	398.1	518.9	674.7	844.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	190.6	196.4	206.0	220.9	242.7	276.7	329.4	405.6	518.7	661.9	814.2
115°	214.4	220.1	229.9	242.6	264.3	297.6	347.4	417.2	520.0	649.9	782.6
117.5°	240.5	245.0	252.8	265.4	284.9	318.3	365.4	429.7	522.3	640.7	763.6
120°	257.0	259.9	267.9	279.7	297.6	330.5	377.5	438.3	524.3	635.2	752.3
122.5°	273.0	275.2	282.4	292.7	311.6	343.0	389.4	446.6	526.4	628.9	740.4
125°	292.7	296.4	302.0	312.7	331.4	363.1	406.7	460.5	531.1	620.8	722.6
127.5°	311.0	313.8	320.8	333.0	352.6	383.6	424.2	472.3	533.2	610.4	699.9
130°	320.3	324.0	331.7	346.4	365.1	396.4	435.3	479.2	535.1	604.0	685.5
132.5°	330.7	333.6	343.7	357.6	377.9	407.1	445.1	487.2	537.3	598.8	673.0
135°	343.9	347.9	357.9	375.0	396.0	423.0	458.1	496.4	539.5	589.6	652.6
137.5°	358.5	362.1	372.7	388.7	410.1	435.3	467.2	501.8	539.2	583.2	635.4
140°	368.9	371.6	382.3	399.0	419.7	443.8	474.1	506.4	540.7	579.0	626.0
142.5°	379.0	381.9	392.1	408.3	428.4	451.5	480.5	510.0	542.2	576.9	618.5
145°	394.6	397.3	407.0	420.7	439.4	461.2	487.2	514.3	543.3	574.3	608.1
147.5°	412.3	413.1	421.5	435.7	451.2	470.8	495.2	518.8	544.2	570.7	599.2
150°	423.6	424.3	432.0	443.7	458.4	477.3	499.2	521.2	544.2	568.3	593.3
152.5°	432.9	433.0	441.0	452.1	465.5	482.8	502.5	522.9	542.7	564.3	586.9
155°	447.2	448.2	454.2	464.3	475.3	490.3	507.2	524.3	540.3	558.3	577.3
157.5°	461.4	461.4	467.0	474.8	484.4	496.3	510.7	524.3	537.7	552.1	567.5
160°	470.2	470.2	474.2	481.2	489.2	500.2	512.2	524.3	535.3	547.3	560.3
162.5°	478.2	477.4	480.6	486.8	494.0	502.7	513.8	524.3	532.9	542.4	553.9
165°	487.2	487.2	489.2	494.2	499.2	505.2	514.3	522.3	528.2	535.3	543.3
167.5°	496.3	495.2	496.3	500.1	502.8	507.5	514.0	519.9	523.5	528.1	533.6
170°	500.2	499.2	500.2	503.3	505.2	508.2	513.2	518.2	520.2	523.2	527.3
172.5°	504.2	503.3	503.4	505.7	506.9	509.0	512.5	516.7	517.0	518.4	521.7
175°	508.2	507.2	507.2	508.2	509.3	509.3	511.3	514.3	513.2	513.2	515.2
177.5°	510.1	509.3	508.4	509.3	509.3	509.3	510.1	511.6	510.1	510.1	510.8
180°	509.3	509.3	509.3	509.3	509.3	509.3	509.3	509.3	509.3	509.3	509.3



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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°	178.3	187.4	196.5	202.2	205.1	208.0	210.5	213.2
90°	171.9	181.7	191.6	197.3	200.7	204.1	205.5	208.0
92.5°	343.2	303.2	281.6	267.2	257.8	254.9	253.9	256.3
95°	877.4	730.6	604.9	513.2	467.0	438.8	423.4	413.2
97.5°	1222.4	1172.8	1083.0	983.9	914.6	857.0	829.7	811.4
100°	1327.6	1355.8	1315.1	1246.2	1161.3	1102.4	1074.5	1068.7
102.5°	1316.0	1423.2	1445.4	1419.8	1368.8	1327.0	1297.7	1293.7
105°	1226.6	1407.3	1514.0	1560.0	1564.4	1558.9	1547.4	1543.8
107.5°	1104.1	1295.9	1442.9	1537.0	1588.6	1613.6	1625.8	1630.6
110°	1029.8	1210.0	1362.1	1476.9	1550.3	1594.8	1615.2	1626.7





TEST NUMBER: P332711-935

CATALOG NUMBER: S124DIP-S1195D1205U935-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	973.4	1133.3	1277.2	1391.8	1474.9	1528.2	1555.8	1572.9
115°	914.5	1044.2	1168.0	1268.5	1349.7	1411.9	1446.0	1456.1
117.5°	880.6	988.9	1087.3	1173.1	1243.0	1295.9	1330.7	1339.4
120°	863.5	962.6	1048.8	1124.1	1183.5	1230.0	1258.5	1272.0
122.5°	848.3	944.3	1023.3	1089.7	1140.1	1179.9	1204.1	1217.3
125°	824.5	916.4	991.2	1050.0	1091.8	1122.7	1143.6	1151.4
127.5°	795.7	883.4	957.7	1013.7	1056.0	1083.9	1102.0	1110.1
130°	774.1	858.7	932.2	988.9	1031.7	1058.6	1076.4	1084.3
132.5°	752.4	831.9	903.6	960.2	1002.2	1032.3	1049.3	1057.1
135°	720.5	790.4	856.4	909.7	951.6	981.4	999.3	1007.1
137.5°	692.3	751.8	807.7	855.9	894.8	923.9	938.7	947.4
140°	676.0	727.0	776.0	820.8	857.3	880.9	896.4	905.9
142.5°	661.6	706.5	748.6	787.5	819.8	841.5	855.1	862.0
145°	642.0	677.9	709.6	739.3	765.4	783.7	794.9	801.2
147.5°	625.8	653.1	677.3	699.9	719.3	734.9	743.5	746.2
150°	617.3	640.3	660.3	678.3	694.3	707.3	713.3	714.4
152.5°	608.5	628.3	646.7	661.5	675.1	685.7	689.3	690.3
155°	595.3	611.3	626.3	638.3	648.3	656.3	659.4	659.4
157.5°	581.1	594.5	607.1	616.7	624.3	630.3	632.1	632.1
160°	572.3	583.2	594.3	602.3	608.3	614.3	615.3	615.3
162.5°	563.4	572.9	581.5	588.7	593.1	599.1	600.1	599.3
165°	551.3	557.2	564.3	569.3	573.3	577.3	576.3	575.3
167.5°	539.5	544.1	549.7	552.7	554.7	557.2	557.1	556.3
170°	532.3	535.3	539.2	542.3	544.2	545.3	544.2	544.2
172.5°	525.8	528.1	530.5	532.6	533.8	534.9	533.8	532.3
175°	517.3	518.2	520.2	520.2	520.2	522.3	520.2	518.2
177.5°	511.6	512.5	512.5	513.2	512.5	513.2	511.6	510.1
180°	509.3	509.3	509.3	509.3	509.3	509.3	509.3	509.3

(END OF REPORT)