

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: P332710

Luminaire Tested: **S124DIP-S1195D1205U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332710  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S1195D1205U835-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1205 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9033.1 lumens  
Efficiency: N/A  
Efficacy: 126.0 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

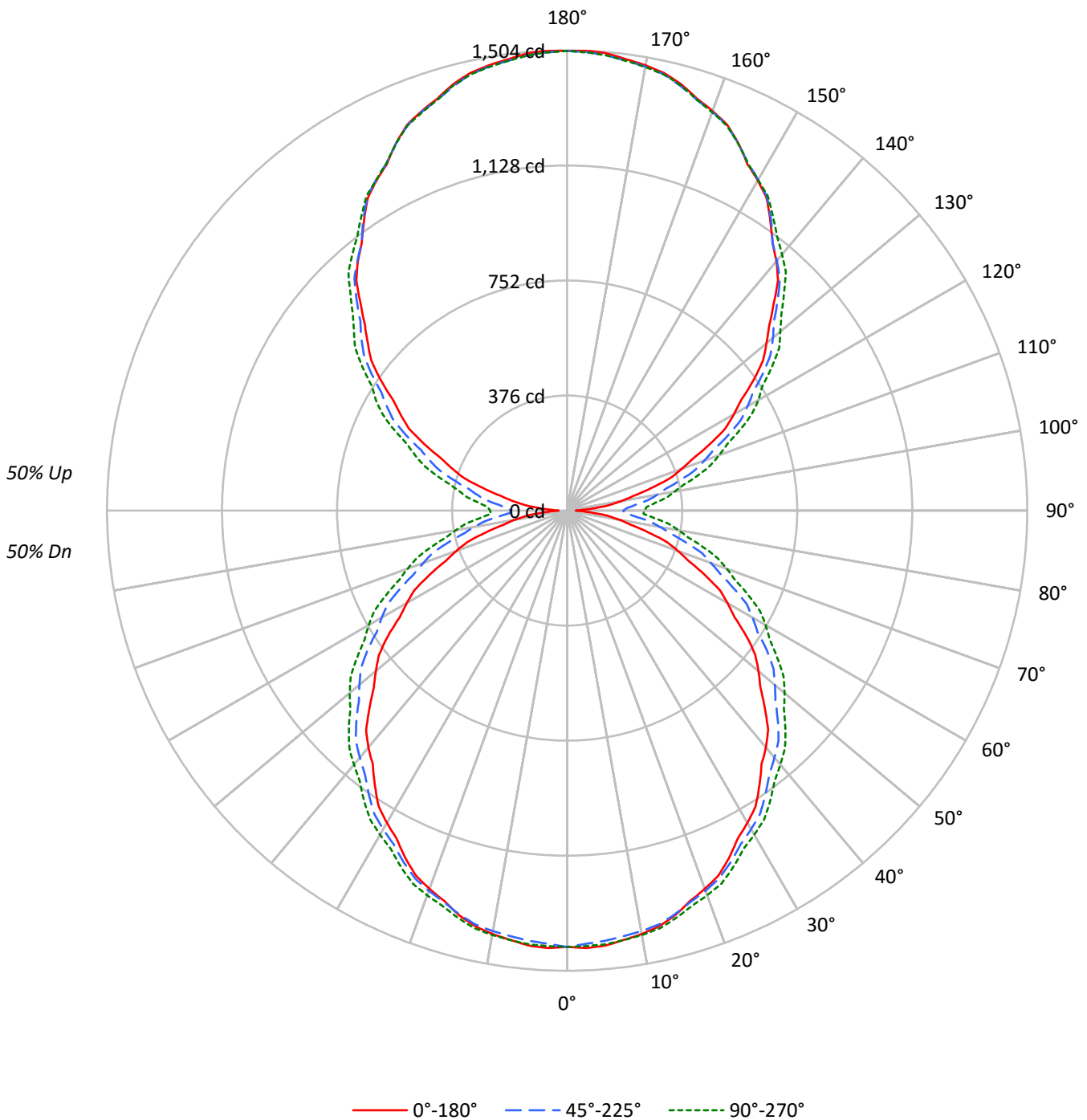
Input Watts (W): 71.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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		69	69	69		56	56	56	50
1	97	92	88	84	89	85	81	78	71	69	66		59	57	55		48	46	45	40
2	88	80	73	68	80	74	68	63	62	58	54		51	48	45		41	39	37	33
3	80	70	62	56	73	64	58	52	54	49	45		45	41	38		36	34	31	27
4	73	61	53	47	67	57	49	44	48	42	38		40	36	32		32	29	27	23
5	67	55	46	40	61	51	43	37	43	37	32		36	31	28		29	26	23	20
6	61	49	40	34	56	45	38	32	38	33	28		32	28	24		26	23	20	17
7	57	44	36	30	52	41	33	28	35	29	25		29	25	21		24	20	18	15
8	52	40	32	26	48	37	30	25	32	26	22		27	22	19		22	18	16	13
9	49	36	29	24	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		23	18	15		19	15	13	11

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

	0°	45°	90°
0°	11512	11512	11512
5°	11547	11251	11283
10°	11477	11067	11058
15°	11374	10854	10794
20°	11219	10619	10537
25°	11044	10355	10254
30°	10854	10093	9964
35°	10640	9824	9710
40°	10469	9569	9445
45°	10215	9334	9218
50°	10000	9062	8977
55°	9778	8806	8695
60°	9431	8480	8438
65°	9051	8130	8122
70°	8591	7730	7753
75°	7950	7291	7421
80°	7239	6868	7093
85°	6329	6495	6901



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CATALOG NUMBER: S124DIP-S1195D1205U835-4F0-1E-UDD-D1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	135.0	1.5
10°-20°	386.9	4.3
20°-30°	585.0	6.5
30°-40°	707.8	7.8
40°-50°	748.3	8.3
50°-60°	704.2	7.8
60°-70°	584.3	6.5
70°-80°	410.4	4.5
80°-90°	236.5	2.6
90°-100°	236.8	2.6
100°-110°	395.5	4.4
110°-120°	566.6	6.3
120°-130°	695.5	7.7
130°-140°	754.4	8.4
140°-150°	728.3	8.1
150°-160°	609.7	6.8
160°-170°	405.7	4.5
170°-180°	142.1	1.6
0°-30°	1106.9	12.3
0°-40°	1814.7	20.1
0°-60°	3267.3	36.2
0°-90°	4498.5	49.8
90°-120°	1199.0	13.3
90°-150°	3377.2	37.4
90°-180°	4535.0	50.2
0°-180°	9033.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1426	1426	1426	1426	1426	
5°	1428	1422	1412	1424	1423	135
15°	1368	1370	1365	1379	1378	385
25°	1252	1261	1266	1283	1285	576
35°	1095	1114	1130	1152	1158	686
45°	913	944	974	1000	1009	706
55°	715	750	797	828	838	637
65°	495	546	600	639	653	490
75°	275	334	401	444	460	292
85°	85	152	224	270	287	90
90°	29	106	184	235	252	21
95°	90	154	227	272	288	94
105°	285	320	382	424	442	303
115°	516	532	579	612	623	509
125°	744	745	781	808	817	663
135°	955	962	973	995	1002	739
145°	1158	1161	1162	1170	1173	724
155°	1324	1324	1323	1327	1323	609
165°	1442	1438	1436	1442	1438	406
175°	1500	1494	1493	1500	1493	142
180°	1502	1502	1502	1502	1502	



TEST NUMBER: P332710

CATALOG NUMBER: S124DIP-S1195D1205U835-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0
2.5°	1431.1	1430.2	1429.4	1428.5	1427.7	1426.1	1423.8	1421.6	1419.3	1417.0	1419.0
5°	1427.5	1426.5	1425.4	1424.4	1423.3	1421.5	1419.0	1416.5	1414.1	1411.6	1414.4
7.5°	1415.4	1414.8	1414.1	1413.5	1412.9	1411.5	1409.5	1407.4	1405.3	1403.3	1406.5
10°	1405.2	1404.8	1404.5	1404.1	1403.8	1402.7	1400.9	1399.2	1397.4	1395.6	1398.8
12.5°	1391.1	1391.1	1391.0	1390.9	1390.9	1390.2	1389.0	1387.8	1386.6	1385.4	1388.3
15°	1368.5	1368.8	1369.2	1369.5	1369.9	1369.5	1368.5	1367.4	1366.3	1365.3	1368.5
17.5°	1337.5	1338.6	1339.6	1340.7	1341.7	1342.2	1342.0	1341.7	1341.5	1341.3	1344.6
20°	1315.8	1316.8	1317.9	1319.0	1320.0	1320.7	1321.1	1321.5	1321.8	1322.2	1325.7
22.5°	1291.5	1292.8	1294.2	1295.5	1296.9	1297.9	1298.5	1299.2	1299.8	1300.4	1304.0
25°	1251.9	1254.0	1256.2	1258.3	1260.4	1262.0	1263.1	1264.1	1265.2	1266.3	1270.2
27.5°	1207.8	1211.0	1214.1	1217.2	1220.3	1222.7	1224.3	1226.0	1227.6	1229.2	1232.8
30°	1178.4	1181.3	1184.1	1187.0	1189.8	1192.5	1194.9	1197.4	1199.9	1202.4	1206.3
32.5°	1146.5	1149.9	1153.3	1156.7	1160.1	1163.2	1166.0	1168.8	1171.5	1174.3	1178.8
35°	1095.4	1099.7	1103.9	1108.2	1112.4	1116.3	1119.9	1123.4	1127.0	1130.5	1135.5
37.5°	1044.0	1048.9	1053.8	1058.7	1063.6	1068.2	1072.6	1077.0	1081.4	1085.8	1090.9
40°	1010.8	1015.4	1020.0	1024.6	1029.2	1034.0	1039.0	1044.0	1048.9	1053.9	1059.2
42.5°	972.5	977.6	982.8	988.0	993.2	998.7	1004.5	1010.3	1016.1	1022.0	1027.9
45°	913.4	920.1	926.9	933.6	940.3	947.1	953.8	960.6	967.3	974.1	980.1
47.5°	856.8	863.8	870.8	877.7	884.7	892.1	899.9	907.7	915.5	923.3	929.5
50°	816.0	823.8	831.6	839.4	847.2	855.0	862.8	870.6	878.4	886.2	893.3
52.5°	775.1	782.9	790.7	798.5	806.3	814.7	823.6	832.6	841.5	850.5	857.6
55°	715.4	722.8	730.3	737.7	745.2	754.2	764.9	775.5	786.2	796.8	803.9
57.5°	648.6	657.9	667.1	676.3	685.5	695.4	706.0	716.6	727.2	737.7	746.2
60°	605.2	614.4	623.6	632.9	642.1	652.6	664.3	676.0	687.7	699.4	707.6
62.5°	563.0	573.1	583.2	593.3	603.3	614.2	626.0	637.7	649.4	661.1	669.2
65°	495.0	506.4	517.7	529.1	540.4	552.1	564.2	576.3	588.3	600.4	609.3
67.5°	429.5	441.6	453.7	465.7	477.8	490.3	503.2	516.1	529.0	542.0	551.0
70°	384.8	396.9	409.0	421.0	433.1	445.9	459.3	472.8	486.3	499.8	509.4
72.5°	341.4	353.7	366.1	378.4	390.8	404.1	418.5	432.8	447.1	461.5	470.8
75°	274.7	287.8	300.9	314.0	327.2	341.2	356.1	371.0	385.9	400.8	410.7
77.5°	212.4	226.3	240.2	254.1	268.0	282.8	298.4	314.0	329.6	345.2	355.3
80°	174.1	188.2	202.4	216.6	230.8	245.7	261.3	277.0	292.6	308.2	318.8
82.5°	135.7	150.5	165.3	180.0	194.8	210.0	225.6	241.2	256.8	272.4	283.3
85°	84.6	99.5	114.4	129.3	144.2	159.7	175.6	191.6	207.6	223.6	234.2
87.5°	48.0	63.0	78.1	93.1	108.1	123.6	139.6	155.6	171.5	187.5	198.1
90°	29.0	46.1	63.1	80.1	97.2	114.3	131.7	149.0	166.3	183.6	195.5
92.5°	49.1	65.2	81.2	97.2	113.2	129.6	146.3	163.0	179.7	196.4	207.4
95°	90.5	104.5	118.5	132.6	146.6	161.8	178.2	194.5	210.9	227.2	237.6
97.5°	140.6	152.5	164.5	176.4	188.3	202.6	219.1	235.6	252.1	268.7	278.9
100°	180.2	190.5	200.7	211.0	221.3	234.5	250.6	266.8	283.0	299.1	309.2
102.5°	223.0	231.5	240.0	248.5	257.0	269.1	284.7	300.4	316.1	331.8	341.8
105°	285.1	292.4	299.8	307.1	314.5	325.2	339.4	353.6	367.7	381.9	391.5
107.5°	353.3	359.4	365.6	371.7	377.8	387.2	399.7	412.3	424.9	437.5	446.9
110°	398.5	404.0	409.5	414.9	420.4	429.3	441.4	453.6	465.7	477.9	485.5



TEST NUMBER: P332710

CATALOG NUMBER: S124DIP-S1195D1205U835-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	445.5	450.0	454.6	459.1	463.6	471.5	482.9	494.3	505.7	517.1	524.8
115°	516.1	519.3	522.5	525.7	528.9	535.9	546.8	557.6	568.4	579.3	586.8
117.5°	584.1	586.2	588.4	590.5	592.6	598.8	609.0	619.2	629.4	639.6	646.1
120°	628.4	630.5	632.6	634.7	636.8	642.6	652.1	661.6	671.1	680.6	686.4
122.5°	675.8	676.4	677.0	677.7	678.3	683.3	692.6	702.0	711.4	720.7	726.9
125°	744.1	743.8	743.4	743.1	742.7	746.8	755.5	764.1	772.7	781.3	787.5
127.5°	807.2	807.7	808.1	808.5	808.9	812.3	818.7	825.1	831.5	837.9	843.8
130°	850.6	851.0	851.4	851.8	852.3	855.3	861.0	866.7	872.3	878.0	883.9
132.5°	896.1	896.3	896.5	896.8	897.0	899.2	903.6	907.9	912.3	916.6	922.2
135°	954.7	956.3	957.8	959.4	960.9	962.9	965.4	967.9	970.4	972.9	978.0
137.5°	1020.2	1020.6	1021.0	1021.3	1021.7	1022.7	1024.3	1025.9	1027.6	1029.2	1033.7
140°	1063.9	1064.1	1064.2	1064.4	1064.6	1064.8	1065.2	1065.5	1065.9	1066.2	1070.6
142.5°	1102.6	1103.0	1103.5	1103.9	1104.4	1104.4	1104.0	1103.6	1103.1	1102.7	1106.7
145°	1157.6	1158.3	1158.9	1159.6	1160.3	1160.8	1161.0	1161.3	1161.5	1161.8	1163.7
147.5°	1212.4	1213.3	1214.2	1215.1	1216.0	1216.3	1216.1	1215.9	1215.7	1215.5	1215.6
150°	1245.9	1246.6	1247.2	1247.9	1248.6	1248.9	1248.9	1248.9	1248.9	1248.9	1248.9
152.5°	1276.2	1276.8	1277.3	1277.9	1278.4	1278.8	1279.0	1279.2	1279.4	1279.6	1280.2
155°	1324.4	1324.4	1324.4	1324.4	1324.4	1324.3	1324.1	1323.8	1323.5	1323.3	1324.3
157.5°	1365.3	1364.9	1364.4	1364.0	1363.5	1363.2	1363.2	1363.1	1363.1	1363.0	1363.8
160°	1389.5	1389.3	1389.0	1388.7	1388.5	1388.2	1388.0	1387.7	1387.4	1387.2	1388.0
162.5°	1411.8	1411.1	1410.5	1409.8	1409.1	1408.7	1408.4	1408.2	1407.9	1407.6	1409.0
165°	1441.8	1441.0	1440.2	1439.5	1438.7	1438.0	1437.5	1437.0	1436.5	1436.0	1437.5
167.5°	1464.8	1463.7	1462.6	1461.5	1460.5	1459.9	1460.0	1460.0	1460.1	1460.1	1461.7
170°	1477.8	1476.5	1475.2	1473.9	1472.6	1472.1	1472.4	1472.6	1472.9	1473.2	1474.7
172.5°	1487.1	1486.0	1484.9	1483.8	1482.8	1482.2	1482.3	1482.4	1482.4	1482.5	1484.2
175°	1499.9	1498.6	1497.3	1496.0	1494.7	1493.9	1493.7	1493.4	1493.2	1492.9	1494.7
177.5°	1504.1	1503.0	1502.0	1501.0	1499.9	1499.4	1499.4	1499.4	1499.4	1499.4	1500.9
180°	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2



TEST NUMBER: P332710

CATALOG NUMBER: S124DIP-S1195D1205U835-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0
2.5°	1421.0	1423.0	1425.0	1425.8	1425.5	1425.2	1425.0	1424.7
5°	1417.3	1420.1	1422.9	1424.2	1423.8	1423.5	1423.1	1422.8
7.5°	1409.7	1412.9	1416.1	1417.5	1417.1	1416.8	1416.4	1416.1
10°	1402.0	1405.2	1408.4	1409.8	1409.5	1409.1	1408.7	1408.4
12.5°	1391.2	1394.1	1397.0	1398.5	1398.4	1398.3	1398.2	1398.2
15°	1371.7	1374.9	1378.0	1379.5	1379.1	1378.8	1378.4	1378.0
17.5°	1347.9	1351.1	1354.4	1355.9	1355.6	1355.3	1355.0	1354.7
20°	1329.3	1332.8	1336.4	1338.1	1338.1	1338.1	1338.1	1338.1
22.5°	1307.5	1311.1	1314.6	1316.7	1317.3	1317.8	1318.4	1319.0
25°	1274.1	1278.0	1281.9	1284.0	1284.4	1284.7	1285.1	1285.4
27.5°	1236.5	1240.1	1243.7	1245.7	1246.2	1246.6	1247.0	1247.4
30°	1210.2	1214.1	1218.0	1220.3	1221.0	1221.7	1222.4	1223.2
32.5°	1183.2	1187.7	1192.2	1194.8	1195.5	1196.2	1196.9	1197.6
35°	1140.5	1145.4	1150.4	1153.4	1154.5	1155.6	1156.6	1157.7
37.5°	1095.9	1100.9	1106.0	1109.1	1110.2	1111.3	1112.5	1113.6
40°	1064.5	1069.9	1075.2	1078.6	1080.0	1081.4	1082.8	1084.2
42.5°	1033.7	1039.6	1045.5	1049.0	1050.2	1051.3	1052.4	1053.6
45°	986.1	992.2	998.2	1002.1	1003.9	1005.6	1007.4	1009.2
47.5°	935.8	942.0	948.3	952.4	954.6	956.7	958.8	961.0
50°	900.4	907.5	914.6	919.2	921.4	923.5	925.6	927.7
52.5°	864.7	871.8	878.8	883.5	885.6	887.7	889.8	892.0
55°	811.0	818.1	825.2	829.8	831.9	834.1	836.2	838.3
57.5°	754.6	763.1	771.5	776.7	778.7	780.7	782.7	784.7
60°	715.7	723.9	732.0	737.5	740.4	743.2	746.1	748.9
62.5°	677.4	685.6	693.7	699.2	702.1	704.9	707.7	710.6
65°	618.1	627.0	635.9	641.7	644.6	647.4	650.3	653.1
67.5°	560.0	569.0	578.0	583.9	586.7	589.4	592.2	595.0
70°	519.0	528.5	538.1	544.2	546.6	549.1	551.6	554.1
72.5°	480.1	489.4	498.7	504.7	507.5	510.2	513.0	515.8
75°	420.7	430.6	440.5	447.1	450.3	453.5	456.7	459.9
77.5°	365.4	375.5	385.5	392.3	395.7	399.1	402.5	405.9
80°	329.5	340.1	350.8	357.5	360.3	363.2	366.0	368.9
82.5°	294.3	305.2	316.1	323.2	326.3	329.4	332.5	335.6
85°	244.8	255.5	266.1	273.2	276.8	280.3	283.9	287.4
87.5°	208.7	219.3	229.9	236.8	240.0	243.2	246.5	249.7
90°	207.3	219.2	231.0	238.6	242.0	245.3	248.7	252.0
92.5°	218.3	229.2	240.2	247.2	250.4	253.5	256.7	259.8
95°	247.9	258.3	268.6	275.4	278.6	281.8	285.0	288.2
97.5°	289.1	299.3	309.6	316.2	319.3	322.3	325.4	328.4
100°	319.3	329.4	339.5	345.8	348.3	350.8	353.2	355.7
102.5°	351.8	361.8	371.8	378.3	381.3	384.3	387.3	390.2
105°	401.2	410.8	420.5	427.1	430.7	434.3	437.9	441.6
107.5°	456.4	465.8	475.3	481.3	483.8	486.3	488.8	491.3
110°	493.2	500.8	508.5	514.1	517.7	521.3	524.9	528.6





TEST NUMBER: P332710

CATALOG NUMBER: S124DIP-S1195D1205U835-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	532.6	540.4	548.1	553.5	556.5	559.5	562.5	565.5
115°	594.4	601.9	609.5	614.4	616.6	618.8	621.0	623.3
117.5°	652.6	659.1	665.6	670.1	672.4	674.7	677.0	679.3
120°	692.3	698.1	703.9	708.4	711.8	715.2	718.5	721.9
122.5°	733.2	739.4	745.6	749.5	751.2	752.8	754.4	756.0
125°	793.7	800.0	806.2	810.1	811.7	813.3	815.0	816.6
127.5°	849.7	855.5	861.4	865.4	867.4	869.4	871.4	873.4
130°	889.8	895.6	901.5	905.0	906.1	907.2	908.3	909.4
132.5°	927.8	933.4	938.9	942.6	944.3	946.0	947.7	949.5
135°	983.2	988.3	993.5	996.8	998.1	999.5	1000.8	1002.2
137.5°	1038.2	1042.7	1047.2	1050.4	1052.4	1054.3	1056.2	1058.1
140°	1074.9	1079.3	1083.7	1086.6	1088.1	1089.6	1091.1	1092.7
142.5°	1110.7	1114.7	1118.7	1121.4	1122.8	1124.3	1125.7	1127.2
145°	1165.5	1167.4	1169.3	1170.5	1171.2	1171.8	1172.5	1173.1
147.5°	1215.6	1215.7	1215.8	1216.3	1217.1	1218.0	1218.9	1219.8
150°	1248.9	1248.9	1248.9	1248.8	1248.5	1248.3	1248.0	1247.8
152.5°	1280.8	1281.5	1282.1	1282.1	1281.4	1280.7	1280.0	1279.4
155°	1325.4	1326.4	1327.4	1327.4	1326.4	1325.4	1324.3	1323.3
157.5°	1364.6	1365.3	1366.1	1366.1	1365.2	1364.3	1363.4	1362.6
160°	1388.7	1389.5	1390.3	1390.0	1388.7	1387.4	1386.2	1384.9
162.5°	1410.4	1411.8	1413.2	1413.3	1412.0	1410.7	1409.4	1408.1
165°	1439.1	1440.6	1442.2	1442.4	1441.4	1440.4	1439.3	1438.3
167.5°	1463.2	1464.8	1466.3	1466.3	1464.7	1463.1	1461.5	1459.9
170°	1476.3	1477.8	1479.4	1479.2	1477.4	1475.6	1473.8	1472.0
172.5°	1486.0	1487.7	1489.5	1489.5	1487.6	1485.8	1484.0	1482.2
175°	1496.5	1498.3	1500.1	1500.1	1498.3	1496.5	1494.7	1492.9
177.5°	1502.3	1503.8	1505.2	1505.1	1503.4	1501.8	1500.1	1498.5
180°	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2

(END OF REPORT)