

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: P332702

Luminaire Tested: **S124DIP-S1195D1035U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332702  
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-S1195D1035U835-4F0-1E-UDD-D4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1035 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

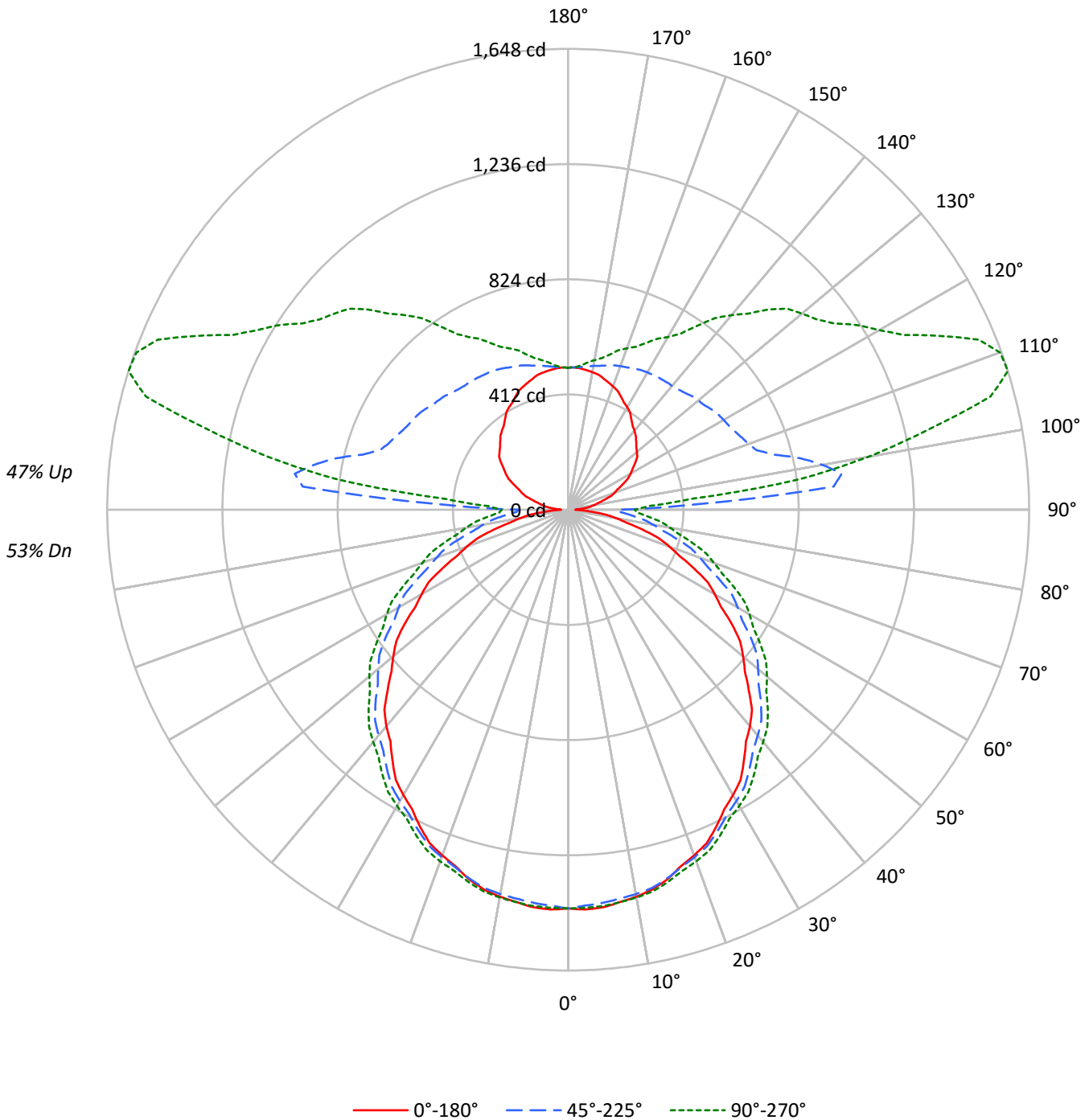
Lumens per Lamp: N/A  
Luminaire Lumens: 8559.3 lumens  
Efficiency: N/A  
Efficacy: 128.1 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse  
  
Input Watts (W): 66.8  
Input Voltage (V): 120  
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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	53
1	97	92	88	84	90	86	82	78	73	70	67	61	59	57	50	49	47	42
2	88	80	74	68	81	74	68	64	63	59	55	53	50	47	43	41	39	34
3	80	70	62	56	74	65	58	53	55	50	46	46	42	39	38	35	33	29
4	73	62	53	47	67	57	50	44	49	43	39	41	37	33	34	31	28	24
5	67	55	46	40	62	51	43	38	44	38	33	37	32	28	30	27	24	21
6	62	49	41	35	57	46	38	33	39	33	29	33	28	25	27	24	21	18
7	57	44	36	30	52	41	34	29	35	29	25	30	25	22	25	21	19	16
8	53	40	32	27	49	37	30	25	32	26	22	27	23	19	23	19	17	14
9	49	37	29	24	45	34	27	22	30	24	20	25	21	17	21	18	15	13
10	46	34	26	21	42	31	25	20	27	22	18	23	19	16	20	16	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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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	135.0	1.6
10°-20°	386.9	4.5
20°-30°	585.0	6.8
30°-40°	707.8	8.3
40°-50°	748.3	8.7
50°-60°	704.2	8.2
60°-70°	584.3	6.8
70°-80°	410.4	4.8
80°-90°	234.8	2.7
90°-100°	504.8	5.9
100°-110°	865.8	10.1
110°-120°	752.6	8.8
120°-130°	614.1	7.2
130°-140°	496.6	5.8
140°-150°	370.0	4.3
150°-160°	257.7	3.0
160°-170°	151.6	1.8
170°-180°	49.3	0.6
0°-30°	1106.9	12.9
0°-40°	1814.7	21.2
0°-60°	3267.3	38.2
0°-90°	4496.8	52.5
90°-120°	2123.3	24.8
90°-150°	3603.9	42.1
90°-180°	4063.0	47.5
0°-180°	8559.3	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°	26	98	176	222	238	19
95°	54	178	952	583	440	53
105°	131	217	760	1554	1563	141
115°	215	284	659	1231	1470	214
125°	293	348	626	1029	1161	261
135°	344	409	590	887	1012	266
145°	394	449	573	724	802	247
155°	446	482	557	631	658	206
165°	486	501	534	566	574	137
175°	507	508	512	519	517	48
180°	508	508	508	508	508	



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**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°	47.5	62.3	77.4	92.1	106.8	121.8	138.5	154.1	170.0	185.9	196.0
90°	26.5	42.7	59.9	75.1	90.3	105.0	126.3	141.5	158.8	176.1	185.3
92.5°	35.7	53.6	75.8	100.7	128.1	162.9	228.8	321.6	412.3	467.1	424.2
95°	53.7	68.4	90.1	114.8	150.5	205.5	306.9	485.2	738.3	952.5	985.1
97.5°	77.9	88.0	106.7	128.7	159.4	206.8	288.1	437.6	689.2	986.0	1189.3
100°	93.4	102.7	118.9	140.1	168.3	211.8	284.5	411.1	628.6	924.0	1189.1
102.5°	109.4	119.1	133.4	152.6	178.9	220.1	286.9	399.7	586.6	849.7	1122.6
105°	131.2	141.3	153.4	172.4	197.5	236.6	297.6	393.6	546.5	760.3	1003.8
107.5°	158.4	166.2	177.0	195.6	218.6	256.3	312.6	400.5	532.3	706.3	906.5
110°	175.5	182.5	192.4	209.4	232.3	268.0	324.3	406.6	528.8	686.0	856.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	191.8	198.2	208.4	224.0	246.3	281.4	335.6	413.3	527.8	672.4	825.5
115°	215.2	221.4	231.6	244.8	266.9	301.2	352.5	423.7	527.9	659.1	792.7
117.5°	241.3	246.0	254.1	267.0	286.7	320.9	369.4	435.1	528.9	648.5	772.3
120°	257.6	260.6	268.7	280.7	298.8	332.4	380.6	442.8	530.0	642.1	760.0
122.5°	273.5	275.7	282.9	293.3	312.1	344.2	391.9	450.3	531.3	634.9	747.2
125°	292.9	296.5	302.2	312.8	331.4	363.6	408.4	463.2	535.0	625.7	728.3
127.5°	311.2	314.0	320.8	333.0	352.5	383.8	425.4	474.3	536.1	614.0	704.2
130°	320.3	323.9	331.5	346.1	364.8	396.4	436.0	480.6	537.2	606.8	689.0
132.5°	330.6	333.5	343.5	357.3	377.5	407.0	445.5	488.1	538.8	600.9	675.6
135°	343.6	347.6	357.6	374.6	395.5	422.7	458.2	496.6	540.0	590.4	654.0
137.5°	358.2	361.6	372.3	388.1	409.5	434.7	466.6	501.4	538.9	582.9	635.8
140°	368.6	371.2	381.8	398.5	419.1	443.0	473.3	505.6	539.9	578.2	625.8
142.5°	378.5	381.4	391.5	407.6	427.7	450.7	479.7	509.0	541.1	575.7	617.8
145°	393.9	396.6	406.2	419.8	438.4	460.2	486.2	513.1	542.1	573.0	607.1
147.5°	411.7	412.3	420.8	434.8	450.2	469.8	494.2	517.7	543.1	569.4	597.9
150°	422.9	423.5	431.2	442.8	457.4	476.2	498.2	520.1	543.1	567.0	592.0
152.5°	432.0	432.1	440.0	451.1	464.4	481.8	501.4	521.7	541.5	563.0	585.6
155°	446.2	447.2	453.2	463.2	474.2	489.2	506.1	523.1	539.1	557.1	576.0
157.5°	460.4	460.4	466.0	473.8	483.4	495.2	509.5	523.1	536.5	550.9	566.2
160°	469.2	469.2	473.2	480.2	488.2	499.2	511.1	523.1	534.1	546.1	559.1
162.5°	477.2	476.4	479.6	485.8	493.0	501.6	512.7	523.1	531.7	541.3	552.7
165°	486.2	486.2	488.2	493.2	498.2	504.1	513.1	521.1	527.1	534.1	542.1
167.5°	495.2	494.2	495.2	499.0	501.8	506.3	512.9	518.7	522.3	526.9	532.5
170°	499.2	498.2	499.2	502.2	504.1	507.1	512.1	517.1	519.1	522.1	526.1
172.5°	503.1	502.2	502.3	504.5	505.7	507.9	511.3	515.5	515.9	517.3	520.5
175°	507.1	506.1	506.1	507.1	508.1	508.1	510.1	513.1	512.1	512.1	514.1
177.5°	508.9	508.1	507.3	508.1	508.1	508.1	508.9	510.5	508.9	508.9	509.7
180°	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1



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**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°	206.5	217.0	227.5	234.2	237.5	240.9	243.8	246.9
90°	196.6	207.9	219.2	225.8	229.6	233.5	235.3	238.1
92.5°	366.5	328.0	307.8	294.3	285.4	282.8	282.3	285.1
95°	897.8	752.7	628.5	538.0	492.3	464.6	449.8	440.0
97.5°	1240.6	1192.4	1104.0	1006.0	937.3	880.3	853.4	835.7
100°	1344.5	1374.0	1334.7	1266.8	1182.5	1124.1	1096.6	1091.1
102.5°	1331.9	1440.3	1463.7	1439.0	1388.5	1347.1	1318.3	1314.7
105°	1241.2	1422.8	1530.5	1577.3	1582.1	1577.0	1565.9	1562.7
107.5°	1117.7	1310.3	1458.2	1552.9	1604.8	1630.1	1642.6	1647.8
110°	1042.8	1223.6	1376.5	1491.9	1565.6	1610.3	1631.2	1643.0





TEST NUMBER: P332702

CATALOG NUMBER: S124DIP-S1195D1035U835-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	985.5	1146.1	1290.8	1405.9	1489.2	1542.8	1570.8	1588.2
115°	925.3	1055.8	1180.5	1281.4	1362.8	1425.2	1459.6	1470.1
117.5°	890.1	999.1	1098.3	1184.7	1254.8	1307.9	1343.1	1352.2
120°	871.9	971.9	1058.8	1134.7	1194.4	1241.2	1270.0	1283.8
122.5°	856.0	952.7	1032.5	1099.4	1150.1	1190.2	1214.7	1228.2
125°	830.9	923.5	999.1	1058.5	1100.5	1131.6	1152.7	1160.8
127.5°	800.6	889.1	964.1	1020.7	1063.2	1091.4	1109.8	1118.2
130°	778.3	863.5	937.8	995.0	1038.0	1065.1	1083.2	1091.3
132.5°	755.8	836.0	908.4	965.4	1007.7	1038.0	1055.3	1063.4
135°	722.5	793.1	859.7	913.5	955.6	985.7	1003.8	1011.9
137.5°	693.2	753.3	809.8	858.4	897.5	926.9	941.8	950.8
140°	676.3	727.8	777.4	822.5	859.2	882.9	898.7	908.5
142.5°	661.4	706.8	749.4	788.5	820.9	842.8	856.6	863.7
145°	641.2	677.3	709.3	739.1	765.4	783.8	795.2	801.6
147.5°	624.5	651.7	676.0	698.7	718.2	733.9	742.6	745.5
150°	616.0	638.9	658.9	676.9	692.8	705.8	711.8	712.8
152.5°	607.2	626.9	645.3	660.1	673.7	684.2	687.8	688.8
155°	594.0	610.0	624.9	636.9	646.9	654.9	657.9	657.9
157.5°	579.8	593.2	605.8	615.4	622.9	628.9	630.7	630.7
160°	571.0	582.0	593.0	601.0	607.0	613.0	614.0	614.0
162.5°	562.2	571.6	580.2	587.4	591.8	597.8	598.8	598.0
165°	550.1	556.1	563.0	568.0	572.0	576.0	575.0	574.0
167.5°	538.3	542.9	548.5	551.5	553.5	556.1	555.9	555.1
170°	531.1	534.1	538.1	541.1	543.1	544.1	543.1	543.1
172.5°	524.7	526.9	529.3	531.5	532.7	533.7	532.7	531.1
175°	516.1	517.1	519.1	519.1	519.1	521.1	519.1	517.1
177.5°	510.5	511.3	511.3	512.1	511.3	512.1	510.5	508.9
180°	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1

(END OF REPORT)