

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

Luminaire Tested: **S124DIP-S1195D1205U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332711  
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-S1195D1205U835-4F0-1E-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: 9165.7 lumens  
Efficiency: N/A  
Efficacy: 127.8 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

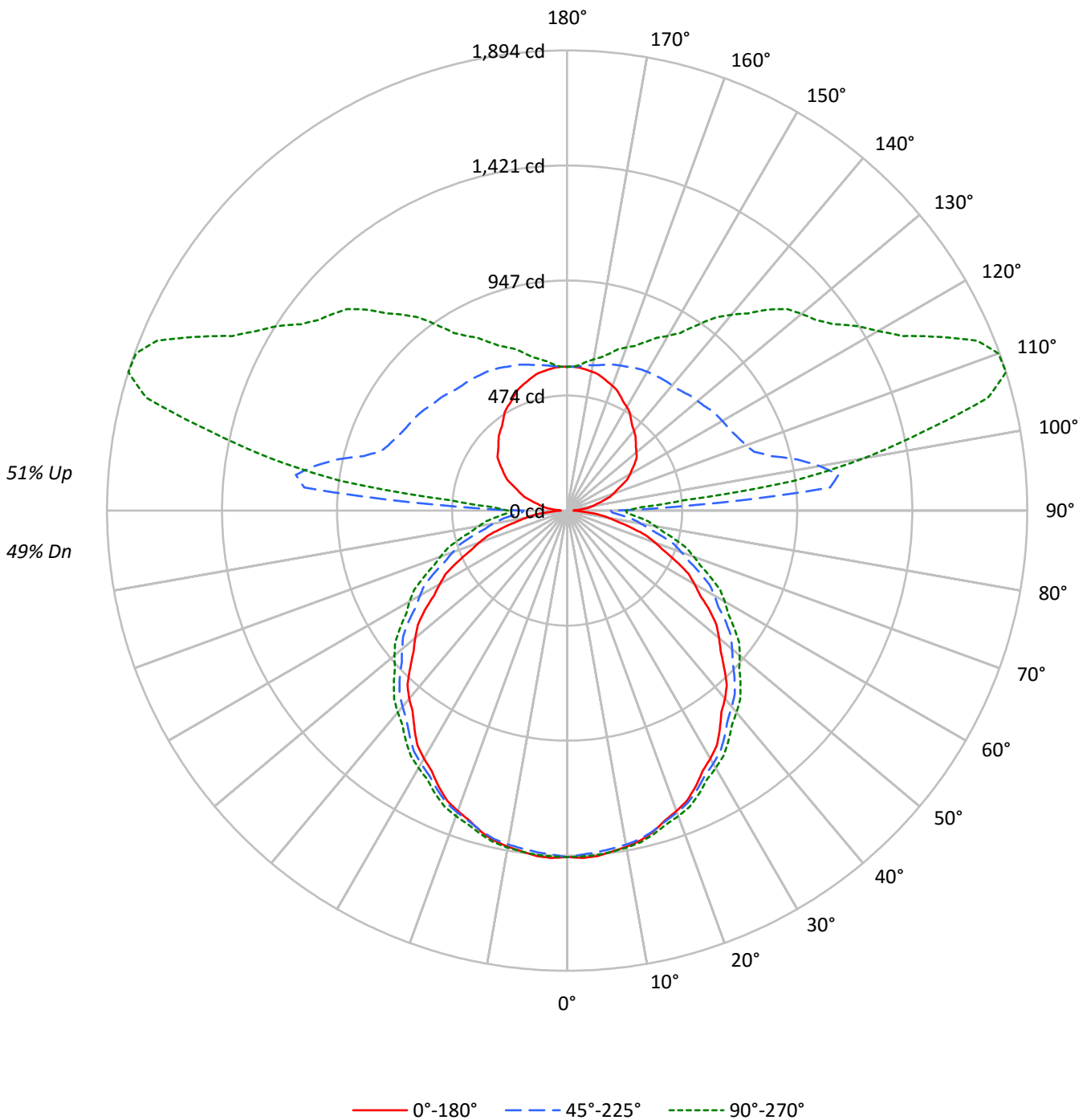
Input Watts (W): 71.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	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	1.5
10°-20°	386.9	4.2
20°-30°	585.0	6.4
30°-40°	707.8	7.7
40°-50°	748.3	8.2
50°-60°	704.2	7.7
60°-70°	584.3	6.4
70°-80°	410.4	4.5
80°-90°	235.3	2.6
90°-100°	565.0	6.2
100°-110°	991.1	10.8
110°-120°	864.8	9.4
120°-130°	708.5	7.7
130°-140°	575.2	6.3
140°-150°	430.1	4.7
150°-160°	300.0	3.3
160°-170°	176.4	1.9
170°-180°	57.4	0.6
0°-30°	1106.9	12.1
0°-40°	1814.7	19.8
0°-60°	3267.3	35.6
0°-90°	4497.2	49.1
90°-120°	2420.9	26.4
90°-150°	4134.7	45.1
90°-180°	4668.0	50.9
0°-180°	9165.7	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°	27	99	179	226	242	19
95°	59	195	1086	649	480	59
105°	150	245	868	1785	1793	161
115°	249	326	755	1415	1691	248
125°	340	403	721	1185	1337	303
135°	399	476	685	1026	1170	309
145°	458	523	667	841	930	288
155°	519	561	648	734	766	240
165°	566	583	622	658	668	160
175°	590	592	596	604	602	56
180°	592	592	592	592	592	



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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	62.4	77.6	92.3	107.0	122.0	139.0	154.5	170.5	186.5	196.6
90°	26.7	43.2	60.9	76.3	91.6	106.3	128.6	143.8	161.4	179.0	188.1
92.5°	37.5	56.3	80.0	107.0	136.7	174.9	249.2	354.6	457.7	519.0	467.4
95°	59.1	74.3	97.6	124.4	164.0	226.0	341.6	546.7	839.0	1086.0	1122.3
97.5°	87.6	97.7	117.8	141.8	175.8	229.0	321.2	493.0	783.5	1126.5	1361.7
100°	105.9	115.1	132.5	155.6	186.9	235.7	318.1	463.2	714.1	1055.6	1362.7
102.5°	124.5	134.4	149.7	170.8	200.1	246.2	321.8	450.9	666.1	970.2	1286.3
105°	150.3	160.9	173.8	194.9	222.9	266.7	335.6	445.2	621.0	867.7	1149.6
107.5°	182.1	190.2	201.9	222.5	248.3	290.7	354.2	454.5	605.9	806.3	1037.9
110°	202.2	209.5	220.3	239.2	265.0	305.1	368.7	462.4	602.7	783.6	981.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	221.4	228.1	239.2	256.6	281.9	321.4	382.6	471.1	602.4	768.8	945.6
115°	249.0	255.6	267.0	281.8	307.0	345.7	403.5	484.6	604.0	754.8	909.0
117.5°	279.3	284.5	293.6	308.3	330.9	369.7	424.4	499.1	606.6	744.1	886.9
120°	298.5	301.9	311.1	324.9	345.7	383.9	438.4	509.1	608.9	737.7	873.8
122.5°	317.1	319.6	328.0	340.0	361.9	398.4	452.3	518.7	611.4	730.4	859.9
125°	339.9	344.2	350.8	363.2	384.9	421.7	472.4	534.8	616.8	721.0	839.3
127.5°	361.2	364.5	372.6	386.8	409.5	445.5	492.7	548.6	619.3	708.9	812.9
130°	372.0	376.3	385.2	402.3	424.0	460.4	505.6	556.6	621.5	701.5	796.2
132.5°	384.1	387.4	399.2	415.3	438.9	472.8	516.9	565.8	624.0	695.5	781.6
135°	399.4	404.1	415.7	435.5	459.9	491.3	532.1	576.5	626.6	684.8	757.9
137.5°	416.4	420.5	432.9	451.4	476.3	505.6	542.6	582.8	626.3	677.3	738.0
140°	428.5	431.6	444.0	463.4	487.5	515.4	550.6	588.1	628.0	672.5	727.1
142.5°	440.2	443.6	455.4	474.2	497.6	524.4	558.1	592.3	629.7	670.0	718.4
145°	458.3	461.4	472.7	488.6	510.3	535.7	565.9	597.3	631.0	667.0	706.3
147.5°	478.9	479.8	489.6	506.0	524.0	546.8	575.2	602.6	632.1	662.8	695.9
150°	492.0	492.8	501.7	515.3	532.4	554.3	579.8	605.4	632.1	660.0	689.1
152.5°	502.8	502.9	512.2	525.1	540.6	560.8	583.6	607.3	630.3	655.4	681.6
155°	519.4	520.6	527.5	539.2	552.0	569.4	589.1	608.9	627.5	648.4	670.5
157.5°	535.9	535.9	542.4	551.5	562.6	576.4	593.1	608.9	624.5	641.2	659.1
160°	546.1	546.1	550.8	558.9	568.2	581.0	594.9	608.9	621.7	635.6	650.7
162.5°	555.4	554.5	558.2	565.4	573.8	583.8	596.8	608.9	618.9	630.0	643.3
165°	565.9	565.9	568.2	574.0	579.8	586.8	597.3	606.6	613.5	621.7	631.0
167.5°	576.4	575.2	576.4	580.8	584.0	589.4	597.0	603.8	608.0	613.3	619.8
170°	581.0	579.8	581.0	584.5	586.8	590.3	596.1	601.9	604.2	607.7	612.4
172.5°	585.6	584.5	584.7	587.3	588.7	591.2	595.2	600.1	600.5	602.1	605.9
175°	590.3	589.1	589.1	590.3	591.5	591.5	593.8	597.3	596.1	596.1	598.4
177.5°	592.4	591.5	590.5	591.5	591.5	591.5	592.4	594.2	592.4	592.4	593.3
180°	591.5	591.5	591.5	591.5	591.5	591.5	591.5	591.5	591.5	591.5	591.5



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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°	207.1	217.6	228.2	234.9	238.2	241.6	244.5	247.6
90°	199.6	211.0	222.5	229.1	233.1	237.1	238.7	241.6
92.5°	398.6	352.2	327.1	310.3	299.4	296.0	294.9	297.7
95°	1019.1	848.6	702.5	596.1	542.4	509.6	491.8	479.9
97.5°	1419.8	1362.1	1257.8	1142.7	1062.3	995.4	963.6	942.4
100°	1541.9	1574.7	1527.4	1447.4	1348.8	1280.4	1248.0	1241.2
102.5°	1528.4	1653.0	1678.8	1649.0	1589.8	1541.2	1507.2	1502.5
105°	1424.6	1634.5	1758.4	1811.9	1817.0	1810.6	1797.2	1793.0
107.5°	1282.3	1505.1	1675.8	1785.1	1845.1	1874.1	1888.3	1893.9
110°	1196.1	1405.3	1582.0	1715.3	1800.6	1852.3	1876.0	1889.3





TEST NUMBER: P332711

CATALOG NUMBER: S124DIP-S1195D1205U835-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1130.6	1316.3	1483.4	1616.5	1713.0	1774.9	1807.0	1826.8
115°	1062.1	1212.8	1356.6	1473.3	1567.6	1639.8	1679.4	1691.2
117.5°	1022.8	1148.5	1262.8	1362.5	1443.7	1505.1	1545.5	1555.6
120°	1002.9	1118.0	1218.1	1305.6	1374.6	1428.6	1461.7	1477.3
122.5°	985.3	1096.8	1188.5	1265.6	1324.1	1370.4	1398.5	1413.8
125°	957.6	1064.3	1151.2	1219.5	1268.1	1304.0	1328.2	1337.3
127.5°	924.1	1026.0	1112.3	1177.3	1226.5	1258.9	1279.9	1289.3
130°	899.1	997.3	1082.7	1148.5	1198.3	1229.5	1250.2	1259.3
132.5°	873.9	966.2	1049.5	1115.2	1164.0	1198.9	1218.7	1227.8
135°	836.8	918.0	994.6	1056.6	1105.2	1139.8	1160.6	1169.7
137.5°	804.1	873.2	938.1	994.1	1039.3	1073.1	1090.3	1100.4
140°	785.1	844.4	901.3	953.3	995.7	1023.1	1041.1	1052.2
142.5°	768.4	820.6	869.5	914.6	952.1	977.3	993.2	1001.2
145°	745.6	787.3	824.2	858.6	889.0	910.2	923.2	930.5
147.5°	726.8	758.5	786.6	812.9	835.4	853.5	863.5	866.7
150°	717.0	743.7	766.9	787.8	806.4	821.5	828.5	829.7
152.5°	706.7	729.7	751.1	768.3	784.1	796.4	800.6	801.8
155°	691.4	710.0	727.4	741.4	753.0	762.3	765.8	765.8
157.5°	674.9	690.5	705.1	716.3	725.1	732.1	734.2	734.2
160°	664.7	677.4	690.2	699.5	706.5	713.5	714.6	714.6
162.5°	654.4	665.4	675.4	683.7	688.8	695.8	697.0	696.0
165°	640.3	647.2	655.4	661.2	665.8	670.5	669.3	668.2
167.5°	626.6	631.9	638.4	641.9	644.2	647.2	647.0	646.1
170°	618.2	621.7	626.3	629.8	632.1	633.3	632.1	632.1
172.5°	610.7	613.3	616.1	618.6	620.0	621.2	620.0	618.2
175°	600.8	601.9	604.2	604.2	604.2	606.6	604.2	601.9
177.5°	594.2	595.2	595.2	596.1	595.2	596.1	594.2	592.4
180°	591.5	591.5	591.5	591.5	591.5	591.5	591.5	591.5

(END OF REPORT)