

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: P331464-930

Luminaire Tested: **S122DIP-S1005D1080U930-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331464-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIP-S1005D1080U930-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

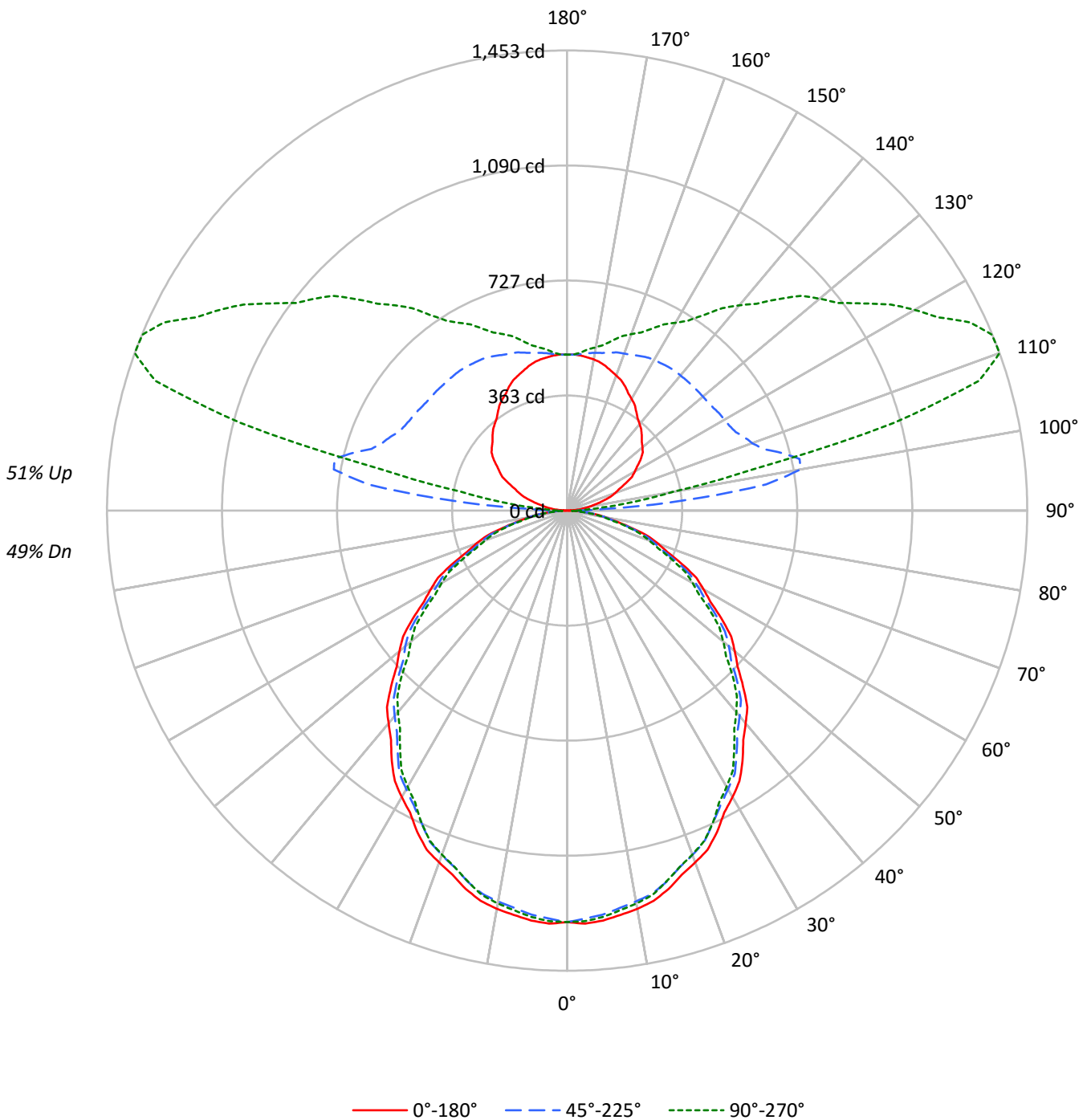
Lumens per Lamp: N/A  
Luminaire Lumens: 6737.5 lumens  
Efficiency: N/A  
Efficacy: 94.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse  
  
Input Watts (W): 71.7  
Input Voltage (V): 120  
Input Current (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		55	55	55	49
1	98	93	89	86	90	86	83	80	73	70	68		60	59	57		49	48	47	41
2	89	81	75	70	82	75	70	65	64	60	56		53	50	48		43	41	39	35
3	81	72	64	58	74	66	60	55	56	51	47		47	43	40		38	36	33	29
4	74	63	55	49	68	59	52	46	50	45	40		42	38	35		34	31	29	25
5	68	56	48	42	62	52	45	40	45	39	35		37	33	30		31	28	25	22
6	63	51	43	37	58	47	40	35	40	35	30		34	30	26		28	25	22	19
7	58	46	38	32	53	43	35	30	36	31	27		31	26	23		25	22	20	17
8	54	41	34	28	49	39	32	27	33	28	24		28	24	21		23	20	18	15
9	50	38	30	25	46	35	29	24	30	25	21		26	22	19		22	18	16	14
10	47	35	28	23	43	32	26	22	28	23	19		24	20	17		20	17	14	13

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

	0°	45°	90°
0°	20980	20980	20980
5°	21060	20757	20879
10°	20935	20546	20649
15°	20677	20279	20259
20°	20309	19880	19859
25°	19946	19388	19388
30°	19475	18938	18776
35°	19036	18398	18126
40°	18487	17856	17513
45°	17945	17317	16890
50°	17357	16759	16164
55°	16743	16110	15510
60°	16059	15332	14767
65°	15320	14560	13891
70°	14389	13624	12977
75°	13094	12545	12239
80°	11623	11269	10693
85°	9485	9040	8096



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.2	1.8
10°-20°	343.8	5.1
20°-30°	505.4	7.5
30°-40°	587.0	8.7
40°-50°	586.4	8.7
50°-60°	511.4	7.6
60°-70°	378.1	5.6
70°-80°	214.2	3.2
80°-90°	62.0	0.9
90°-100°	196.9	2.9
100°-110°	668.2	9.9
110°-120°	709.9	10.5
120°-130°	584.4	8.7
130°-140°	469.3	7.0
140°-150°	354.6	5.3
150°-160°	249.2	3.7
160°-170°	146.7	2.2
170°-180°	47.8	0.7
0°-30°	971.4	14.4
0°-40°	1558.4	23.1
0°-60°	2656.1	39.4
0°-90°	3310.4	49.1
90°-120°	1575.1	23.4
90°-150°	2983.4	44.3
90°-180°	3427.0	50.9
0°-180°	6737.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1299	1299	1299	1299	1299	
5°	1299	1294	1281	1290	1288	123
15°	1237	1229	1213	1218	1212	348
25°	1120	1109	1088	1090	1088	515
35°	966	953	933	926	920	603
45°	786	777	758	745	740	606
55°	595	587	572	558	551	532
65°	401	393	381	370	364	397
75°	210	207	201	194	196	224
85°	51	50	49	45	44	59
90°	1	13	32	31	31	4
95°	33	81	371	140	108	35
105°	116	174	702	1254	1067	123
115°	204	257	587	1212	1405	202
125°	284	336	564	982	1139	252
135°	333	398	558	825	944	258
145°	381	438	555	689	754	239
155°	433	467	539	609	634	199
165°	472	486	516	547	556	133
175°	492	492	496	502	501	47
180°	492	492	492	492	492	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4
2.5°	1305.5	1304.3	1303.3	1302.1	1301.0	1299.3	1296.8	1294.4	1291.9	1289.5	1291.7
5°	1299.4	1298.4	1297.2	1296.1	1295.0	1292.9	1289.9	1286.8	1283.8	1280.7	1283.0
7.5°	1287.9	1286.2	1284.5	1282.8	1281.1	1278.6	1275.5	1272.4	1269.3	1266.2	1268.4
10°	1276.9	1275.0	1273.1	1271.1	1269.2	1266.6	1263.2	1259.9	1256.5	1253.2	1255.5
12.5°	1262.0	1260.2	1258.5	1256.8	1255.1	1252.5	1249.2	1245.9	1242.6	1239.3	1240.8
15°	1237.0	1235.3	1233.6	1232.0	1230.3	1227.7	1224.1	1220.4	1216.8	1213.2	1214.4
17.5°	1205.0	1203.3	1201.7	1200.0	1198.3	1195.6	1192.0	1188.3	1184.6	1181.0	1182.3
20°	1182.0	1180.3	1178.7	1177.0	1175.3	1172.6	1168.7	1164.8	1160.9	1157.0	1157.8
22.5°	1159.0	1156.7	1154.4	1152.0	1149.7	1146.7	1143.0	1139.4	1135.7	1132.0	1132.2
25°	1119.6	1117.3	1115.1	1112.9	1110.7	1107.2	1102.4	1097.7	1093.0	1088.3	1088.8
27.5°	1074.6	1072.5	1070.6	1068.5	1066.6	1063.7	1060.0	1056.2	1052.6	1048.8	1048.0
30°	1044.6	1042.4	1040.1	1037.9	1035.7	1032.5	1028.3	1024.2	1020.0	1015.8	1015.0
32.5°	1012.6	1010.8	1009.0	1007.2	1005.4	1002.4	998.0	993.6	989.2	984.8	983.3
35°	965.8	963.0	960.3	957.5	954.7	951.1	946.6	942.2	937.8	933.4	931.7
37.5°	913.1	910.7	908.2	905.8	903.4	899.9	895.4	891.0	886.6	882.2	880.0
40°	877.1	874.9	872.7	870.5	868.2	865.0	860.5	856.1	851.6	847.2	844.7
42.5°	842.1	839.9	837.7	835.5	833.2	829.9	825.5	821.0	816.6	812.1	809.4
45°	785.9	784.0	782.0	780.1	778.1	775.1	770.9	766.8	762.6	758.4	755.4
47.5°	729.9	728.1	726.3	724.5	722.6	719.5	715.2	710.9	706.5	702.2	699.0
50°	691.0	689.6	688.2	686.8	685.4	682.7	678.9	675.0	671.1	667.2	663.3
52.5°	653.0	651.2	649.3	647.5	645.6	642.9	639.2	635.5	631.9	628.3	625.0
55°	594.8	593.0	591.4	589.8	588.1	585.5	582.3	578.9	575.6	572.3	568.9
57.5°	536.3	534.9	533.6	532.3	530.9	528.5	524.8	521.1	517.5	513.8	510.5
60°	497.3	496.2	495.0	494.0	492.8	490.3	486.5	482.6	478.7	474.8	471.7
62.5°	459.3	457.5	455.8	454.0	452.2	449.8	446.8	443.8	440.8	437.8	435.0
65°	401.0	399.4	397.8	396.1	394.4	392.2	389.4	386.6	383.8	381.1	378.6
67.5°	341.9	340.6	339.2	337.9	336.6	334.6	332.1	329.6	327.1	324.7	322.7
70°	304.8	303.8	302.6	301.6	300.4	298.6	296.1	293.6	291.1	288.6	286.7
72.5°	266.8	265.8	264.6	263.6	262.4	261.1	259.5	257.9	256.2	254.6	252.7
75°	209.9	209.4	208.8	208.2	207.7	206.7	205.3	203.9	202.5	201.1	199.5
77.5°	158.9	158.0	157.0	156.1	155.2	154.4	153.8	153.3	152.7	152.2	151.3
80°	125.0	124.7	124.4	124.1	123.8	123.4	122.9	122.3	121.7	121.2	120.3
82.5°	92.9	92.9	92.9	92.8	92.7	92.5	92.2	91.9	91.6	91.2	90.2
85°	51.2	51.0	50.7	50.4	50.1	49.8	49.6	49.2	49.0	48.8	47.9
87.5°	18.2	18.3	18.6	18.6	18.5	18.6	19.1	20.0	20.7	20.5	19.6
90°	1.0	3.8	7.6	9.5	11.3	14.2	18.9	25.6	31.2	32.2	31.2
92.5°	11.6	16.6	23.5	27.6	34.1	43.0	64.4	94.5	121.4	123.1	104.0
95°	33.2	36.9	46.4	55.0	70.1	92.8	136.4	218.7	328.6	371.3	324.9
97.5°	54.0	59.1	69.1	82.0	99.5	125.2	179.9	294.7	477.4	633.8	664.9
100°	72.9	75.7	84.3	99.5	118.4	144.9	195.1	310.6	515.2	748.2	884.6
102.5°	90.3	92.5	100.9	116.1	135.8	162.3	208.7	311.4	500.8	752.0	966.5
105°	115.5	119.4	126.0	140.1	161.0	187.5	232.0	316.3	472.6	701.8	953.7
107.5°	142.8	145.9	152.3	165.3	186.1	212.7	255.9	329.4	458.6	648.0	870.6
110°	161.0	164.8	170.5	182.8	202.7	230.2	271.8	340.0	455.6	622.2	818.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	177.7	181.5	187.9	199.4	218.6	246.8	287.0	351.4	456.3	605.6	782.0
115°	203.7	208.4	214.0	225.4	244.3	269.9	310.6	368.4	460.3	587.2	736.9
117.5°	230.6	234.3	240.0	250.1	268.2	294.7	332.4	386.6	467.1	578.3	708.4
120°	247.2	250.9	256.7	265.2	284.1	310.6	347.6	398.8	471.7	573.0	693.2
122.5°	263.1	266.1	271.8	281.1	300.0	327.3	362.0	409.4	477.0	570.0	680.4
125°	284.1	287.0	292.7	304.0	322.9	349.5	383.6	426.2	484.9	564.5	662.0
127.5°	300.8	304.6	312.6	325.1	343.2	370.5	403.7	441.9	493.1	561.3	645.0
130°	310.6	314.5	323.9	337.2	356.1	382.6	415.8	451.8	499.1	559.7	633.7
132.5°	319.8	324.3	334.5	348.5	368.3	394.8	426.4	461.6	505.2	559.0	624.5
135°	333.4	337.2	348.5	362.7	384.5	411.1	441.3	474.5	512.4	557.8	611.8
137.5°	346.3	350.8	362.2	377.3	398.9	423.5	453.5	484.4	518.9	557.7	602.9
140°	356.1	359.9	371.3	386.5	407.2	431.9	460.3	489.7	521.9	556.9	597.6
142.5°	366.0	369.0	379.6	394.8	414.8	438.0	465.6	494.2	524.2	556.9	592.3
145°	380.7	384.5	394.0	408.2	427.1	448.0	473.5	500.1	526.6	555.0	585.3
147.5°	396.6	399.5	408.5	421.7	437.4	455.9	480.0	503.3	527.3	551.6	578.1
150°	407.2	410.1	417.7	430.0	444.2	461.2	483.1	504.8	526.6	549.3	572.0
152.5°	417.8	419.2	426.7	437.6	451.0	466.5	486.1	505.6	525.1	545.5	566.7
155°	432.8	433.7	439.4	449.9	460.3	474.5	490.6	506.7	522.8	538.9	556.9
157.5°	445.3	446.3	450.9	459.9	468.2	480.2	493.8	506.7	518.4	532.1	547.6
160°	453.6	454.6	458.4	465.9	473.5	484.0	495.4	506.7	516.2	527.6	540.8
162.5°	462.0	461.5	465.2	471.2	478.1	486.2	496.1	506.0	513.9	523.7	534.8
165°	471.7	470.8	472.6	478.3	483.1	488.7	497.3	503.9	509.6	516.2	524.7
167.5°	479.6	478.5	480.2	483.8	487.2	490.8	497.0	502.6	505.2	509.6	514.9
170°	484.9	483.1	484.0	486.8	488.7	491.5	496.3	501.0	502.9	505.7	509.6
172.5°	488.0	486.8	486.2	489.1	490.2	492.3	495.5	498.7	499.9	501.2	504.3
175°	491.5	490.6	489.7	491.5	491.5	492.5	494.4	496.3	495.4	496.3	497.3
177.5°	493.3	491.7	491.0	492.5	492.5	492.5	493.3	494.8	493.3	492.5	493.3
180°	492.5	492.5	492.5	492.5	492.5	492.5	492.5	492.5	492.5	492.5	492.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4
2.5°	1293.9	1296.1	1298.4	1299.3	1298.8	1298.4	1297.9	1297.5
5°	1285.2	1287.4	1289.6	1290.5	1289.9	1289.3	1288.7	1288.2
7.5°	1270.6	1272.8	1275.1	1275.9	1275.3	1274.7	1274.1	1273.5
10°	1257.7	1259.9	1262.1	1262.8	1262.0	1261.1	1260.3	1259.5
12.5°	1242.4	1243.9	1245.5	1245.9	1245.3	1244.7	1244.1	1243.5
15°	1215.4	1216.6	1217.6	1217.6	1216.2	1214.8	1213.4	1212.0
17.5°	1183.6	1184.9	1186.1	1186.1	1184.7	1183.4	1182.1	1180.7
20°	1158.7	1159.5	1160.3	1160.2	1159.1	1158.0	1156.9	1155.8
22.5°	1132.4	1132.5	1132.7	1132.5	1131.8	1131.1	1130.4	1129.8
25°	1089.4	1090.0	1090.5	1090.5	1090.0	1089.4	1088.8	1088.3
27.5°	1047.2	1046.3	1045.5	1044.4	1043.1	1041.7	1040.4	1039.1
30°	1014.2	1013.3	1012.5	1011.5	1010.4	1009.3	1008.2	1007.1
32.5°	981.9	980.3	978.8	977.5	976.4	975.3	974.2	973.1
35°	930.0	928.4	926.7	925.2	923.8	922.4	921.0	919.6
37.5°	878.0	876.0	873.9	872.2	870.9	869.5	868.2	866.9
40°	842.1	839.7	837.1	835.4	834.2	833.2	832.0	830.9
42.5°	806.7	804.0	801.3	799.2	797.6	796.1	794.5	792.9
45°	752.4	749.3	746.2	744.1	743.0	741.9	740.8	739.7
47.5°	695.8	692.5	689.3	686.9	685.3	683.7	682.1	680.4
50°	659.4	655.6	651.7	649.1	647.7	646.3	644.9	643.5
52.5°	621.8	618.6	615.4	612.9	611.0	609.2	607.3	605.5
55°	565.6	562.2	559.0	556.6	555.2	553.8	552.4	551.0
57.5°	507.2	503.9	500.7	498.5	497.5	496.4	495.4	494.3
60°	468.7	465.6	462.6	460.6	459.8	459.0	458.1	457.3
62.5°	432.2	429.3	426.5	424.5	423.5	422.4	421.3	420.3
65°	376.1	373.6	371.1	369.2	367.8	366.4	365.0	363.6
67.5°	320.7	318.8	316.8	315.3	314.2	313.1	312.0	310.9
70°	284.7	282.8	280.9	279.3	278.2	277.1	276.0	274.9
72.5°	250.8	248.8	246.9	245.5	244.6	243.7	242.8	241.9
75°	197.9	196.2	194.5	194.0	194.5	195.0	195.6	196.2
77.5°	150.5	149.7	148.9	148.1	147.2	146.5	145.7	145.0
80°	119.5	118.7	117.9	117.2	116.6	116.1	115.5	115.0
82.5°	89.1	88.1	87.0	86.4	86.3	86.2	86.1	85.9
85°	47.0	46.2	45.4	44.8	44.6	44.3	44.0	43.7
87.5°	18.8	17.7	17.4	17.1	16.9	16.7	16.5	16.2
90°	30.3	28.5	30.3	31.2	31.2	31.2	31.2	31.2
92.5°	82.6	70.8	62.9	57.0	56.3	53.2	54.0	52.5
95°	248.2	190.4	150.6	129.7	117.4	109.9	107.0	107.9
97.5°	579.0	473.8	371.3	302.9	257.6	234.3	220.5	212.5
100°	864.7	747.3	617.5	502.9	424.3	383.6	356.1	339.1
102.5°	1051.9	1025.3	930.4	809.0	723.6	654.1	619.8	596.7
105°	1150.7	1257.8	1270.1	1238.8	1180.1	1121.4	1080.7	1067.4
107.5°	1079.5	1240.7	1339.2	1385.0	1392.4	1389.2	1381.0	1363.4
110°	1018.1	1187.6	1308.9	1386.6	1427.3	1445.3	1453.8	1452.9





TEST NUMBER: P331464-930

CATALOG NUMBER: S122DIP-S1005D1080U930-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	962.1	1124.8	1254.3	1343.4	1400.0	1430.1	1446.3	1451.3
115°	893.2	1039.0	1163.0	1260.6	1327.9	1371.4	1396.0	1404.6
117.5°	841.2	969.3	1081.8	1173.3	1241.9	1287.8	1313.9	1321.0
120°	815.5	932.9	1033.3	1119.5	1185.8	1230.3	1257.8	1267.2
122.5°	795.0	902.6	997.7	1075.5	1135.0	1178.8	1203.2	1211.1
125°	765.2	862.8	946.2	1017.2	1072.1	1108.2	1131.8	1139.4
127.5°	735.9	824.2	902.8	968.3	1016.3	1049.9	1070.4	1076.5
130°	717.0	798.4	873.3	935.7	982.2	1014.4	1033.3	1040.9
132.5°	698.8	774.2	842.9	901.6	947.3	979.5	996.9	1003.7
135°	673.4	735.9	798.4	851.4	892.2	923.4	940.4	944.3
137.5°	653.1	705.4	755.0	801.3	838.4	865.3	880.3	885.9
140°	640.3	685.7	729.3	770.9	801.3	825.9	840.1	845.8
142.5°	629.7	668.3	705.8	740.6	769.4	791.8	804.5	805.6
145°	614.7	646.0	675.3	702.8	725.5	741.6	751.1	753.9
147.5°	603.2	627.8	650.7	670.7	689.5	702.4	708.8	710.5
150°	594.8	615.6	635.5	652.6	666.8	678.2	683.8	684.8
152.5°	586.4	605.8	622.6	637.4	648.6	658.4	662.6	662.8
155°	574.9	590.0	604.2	614.7	625.1	631.7	635.5	633.7
157.5°	561.4	574.1	586.0	594.2	601.6	607.1	608.8	608.8
160°	553.1	563.5	574.0	580.6	587.2	591.9	592.9	592.9
162.5°	544.8	553.7	562.6	567.7	574.3	577.6	578.5	577.7
165°	532.3	538.9	545.5	549.3	553.1	556.9	556.9	556.0
167.5°	520.3	525.5	530.0	533.5	535.1	537.2	537.0	535.9
170°	514.3	517.1	520.9	522.8	523.7	526.6	525.6	523.7
172.5°	507.4	509.6	512.6	513.7	514.7	516.0	515.0	513.9
175°	500.1	501.0	502.0	502.9	502.9	503.9	502.9	501.0
177.5°	494.8	494.8	495.5	495.5	495.5	495.5	494.8	493.3
180°	492.5	492.5	492.5	492.5	492.5	492.5	492.5	492.5

(END OF REPORT)