

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: P332529-927

Luminaire Tested: **S124DIP-S350D1205U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332529-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S350D1205U927-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1205 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4951.9 lumens  
Efficiency: N/A  
Efficacy: 117.3 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: Semi-Indirect

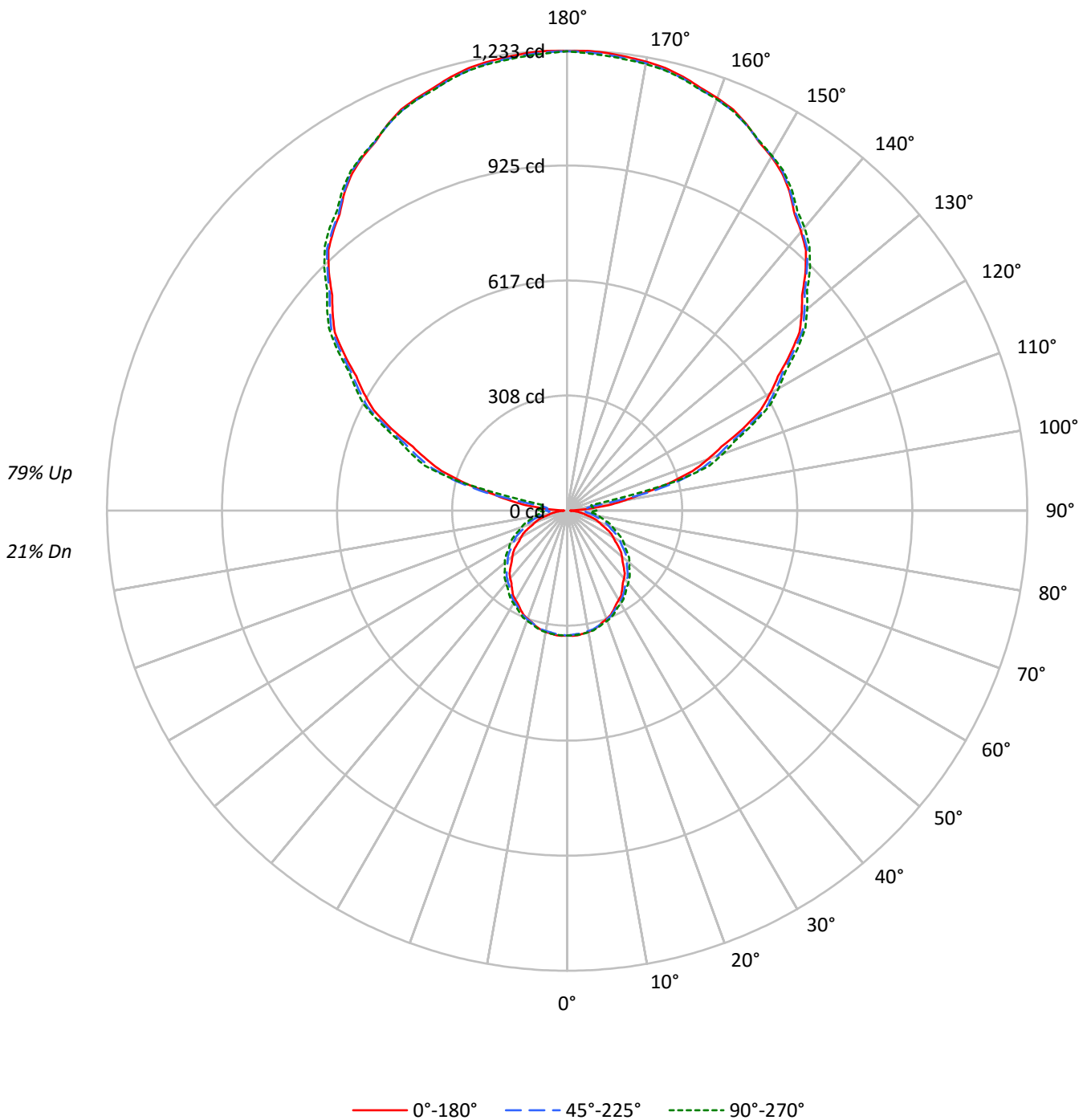
Input Watts (W): 42.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	100	100	100	100	89	89	89	89	67	67	67	48	48	48	30	30	30	21
1	91	87	83	79	80	77	73	71	58	56	54	41	40	39	26	25	24	17
2	83	75	69	64	73	67	62	57	51	47	44	36	34	32	22	21	20	14
3	75	66	59	53	66	59	53	48	45	40	37	32	29	27	20	18	17	12
4	69	58	50	45	60	52	45	40	39	35	31	28	25	23	17	16	14	10
5	63	51	44	38	55	46	39	34	35	30	27	25	22	19	16	14	12	8
6	58	46	38	33	51	41	34	29	31	27	23	22	19	17	14	12	11	7
7	53	41	34	28	47	37	30	25	28	24	20	20	17	15	13	11	9	6
8	49	37	30	25	43	33	27	22	26	21	18	18	15	13	12	10	8	6
9	46	34	27	22	40	30	24	20	23	19	16	17	14	12	11	9	8	5
10	42	31	24	19	37	28	22	17	21	17	14	15	12	10	10	8	7	5

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

	0°	45°	90°
0°	2704	2704	2704
5°	2712	2641	2650
10°	2694	2599	2596
15°	2670	2549	2535
20°	2635	2494	2475
25°	2594	2432	2408
30°	2549	2370	2340
35°	2498	2307	2280
40°	2458	2247	2218
45°	2398	2191	2164
50°	2348	2128	2108
55°	2296	2068	2042
60°	2214	1991	1982
65°	2125	1909	1908
70°	2018	1816	1820
75°	1867	1712	1743
80°	1701	1613	1665
85°	1489	1525	1621



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	31.7	0.6
10°-20°	90.8	1.8
20°-30°	137.4	2.8
30°-40°	166.2	3.4
40°-50°	175.7	3.5
50°-60°	165.4	3.3
60°-70°	137.2	2.8
70°-80°	96.4	1.9
80°-90°	58.0	1.2
90°-100°	74.4	1.5
100°-110°	292.3	5.9
110°-120°	529.5	10.7
120°-130°	660.8	13.3
130°-140°	701.2	14.2
140°-150°	652.9	13.2
150°-160°	525.8	10.6
160°-170°	339.2	6.8
170°-180°	116.9	2.4
0°-30°	259.9	5.2
0°-40°	426.1	8.6
0°-60°	767.2	15.5
0°-90°	1058.8	21.4
90°-120°	896.2	18.1
90°-150°	2911.1	58.8
90°-180°	3893.0	78.6
0°-180°	4951.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	335	335	335	335	335	
5°	335	334	331	334	334	32
15°	321	322	321	324	324	90
25°	294	296	297	301	302	135
35°	257	262	266	270	272	161
45°	214	222	229	235	237	166
55°	168	176	187	194	197	150
65°	116	128	141	150	153	115
75°	64	78	94	104	108	69
85°	20	36	52	63	68	21
90°	9	34	57	73	79	6
95°	56	39	53	68	73	69
105°	280	294	312	327	299	294
115°	520	526	537	546	550	511
125°	729	732	740	749	753	650
135°	903	902	908	916	920	695
145°	1040	1043	1043	1046	1049	650
155°	1140	1141	1139	1142	1140	526
165°	1203	1199	1198	1205	1198	340
175°	1231	1226	1226	1233	1223	117
180°	1231	1231	1231	1231	1231	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9
2.5°	336.0	335.8	335.6	335.4	335.3	334.9	334.4	333.8	333.3	332.7	333.2
5°	335.3	334.9	334.7	334.5	334.2	333.8	333.2	332.6	332.1	331.4	332.2
7.5°	332.4	332.2	332.1	331.9	331.8	331.4	331.0	330.5	330.0	329.5	330.3
10°	329.9	329.9	329.8	329.7	329.6	329.4	329.0	328.5	328.1	327.7	328.4
12.5°	326.7	326.6	326.6	326.6	326.6	326.5	326.1	325.9	325.6	325.3	326.0
15°	321.3	321.5	321.5	321.6	321.7	321.6	321.3	321.1	320.8	320.6	321.3
17.5°	314.1	314.3	314.6	314.8	315.1	315.2	315.1	315.1	315.1	315.0	315.8
20°	309.0	309.2	309.5	309.7	310.0	310.1	310.2	310.3	310.4	310.5	311.3
22.5°	303.2	303.6	303.9	304.2	304.5	304.8	304.9	305.1	305.2	305.4	306.2
25°	294.0	294.5	295.0	295.5	296.0	296.4	296.6	296.8	297.1	297.4	298.3
27.5°	283.6	284.4	285.1	285.8	286.5	287.1	287.5	287.9	288.3	288.7	289.5
30°	276.7	277.4	278.1	278.7	279.4	280.0	280.6	281.1	281.8	282.3	283.3
32.5°	269.3	270.1	270.8	271.6	272.4	273.1	273.8	274.4	275.1	275.8	276.8
35°	257.2	258.3	259.2	260.2	261.3	262.1	263.0	263.8	264.7	265.5	266.6
37.5°	245.2	246.3	247.5	248.6	249.8	250.8	251.9	252.9	254.0	255.0	256.2
40°	237.3	238.4	239.6	240.6	241.7	242.8	244.0	245.2	246.3	247.5	248.7
42.5°	228.4	229.6	230.8	232.0	233.2	234.5	235.9	237.3	238.6	240.0	241.4
45°	214.4	216.0	217.6	219.2	220.8	222.4	223.9	225.5	227.1	228.7	230.1
47.5°	201.2	202.9	204.5	206.1	207.7	209.5	211.3	213.2	215.0	216.8	218.2
50°	191.6	193.5	195.3	197.1	198.9	200.7	202.6	204.5	206.3	208.1	209.8
52.5°	182.0	183.9	185.7	187.5	189.3	191.3	193.4	195.5	197.6	199.7	201.4
55°	168.0	169.8	171.5	173.3	175.0	177.1	179.6	182.1	184.6	187.1	188.8
57.5°	152.3	154.5	156.6	158.8	161.0	163.3	165.8	168.3	170.7	173.3	175.2
60°	142.1	144.3	146.5	148.6	150.8	153.2	156.0	158.8	161.4	164.2	166.1
62.5°	132.2	134.6	137.0	139.3	141.6	144.3	146.9	149.7	152.5	155.3	157.2
65°	116.2	118.9	121.6	124.2	126.9	129.7	132.5	135.3	138.2	141.0	143.1
67.5°	100.8	103.7	106.5	109.4	112.2	115.1	118.2	121.2	124.2	127.2	129.4
70°	90.4	93.2	96.0	98.9	101.7	104.7	107.9	111.1	114.2	117.4	119.6
72.5°	80.2	83.1	86.0	88.9	91.7	94.9	98.2	101.6	105.0	108.4	110.5
75°	64.5	67.6	70.7	73.8	76.8	80.1	83.7	87.1	90.6	94.1	96.5
77.5°	49.9	53.2	56.4	59.7	62.9	66.4	70.0	73.8	77.4	81.0	83.4
80°	40.9	44.2	47.5	50.9	54.2	57.7	61.4	65.0	68.7	72.4	74.9
82.5°	31.8	35.3	38.8	42.3	45.7	49.3	53.0	56.6	60.3	64.0	66.5
85°	19.9	23.4	26.9	30.3	33.9	37.5	41.3	45.0	48.7	52.5	55.0
87.5°	11.6	15.5	19.3	23.2	27.0	31.0	34.9	38.9	42.9	46.9	49.5
90°	8.8	14.3	20.0	25.5	31.1	36.5	41.7	46.9	52.1	57.4	61.0
92.5°	17.3	20.4	23.5	26.7	29.8	34.0	39.2	44.4	49.6	54.8	58.4
95°	55.5	51.3	47.1	42.9	38.7	38.4	42.0	45.6	49.3	52.8	56.3
97.5°	111.9	118.7	125.3	132.1	138.7	132.4	113.0	93.5	74.1	54.6	56.9
100°	155.1	160.9	166.8	172.6	178.5	168.9	143.9	119.0	94.0	69.0	67.7
102.5°	203.7	208.3	212.9	217.5	222.0	224.1	223.6	223.2	222.6	222.1	186.8
105°	280.4	283.4	286.2	289.1	292.0	295.5	299.6	303.7	307.8	312.0	315.8
107.5°	352.4	354.3	356.3	358.3	360.3	363.4	367.7	372.0	376.4	380.6	383.6
110°	400.7	402.4	404.2	406.0	407.7	410.7	414.9	419.0	423.2	427.3	429.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	447.5	449.6	451.8	453.9	456.1	458.8	462.2	465.5	468.8	472.2	474.0
115°	519.6	520.9	522.3	523.6	525.0	527.0	529.4	531.9	534.3	536.8	539.0
117.5°	584.9	586.1	587.4	588.7	589.9	592.0	594.9	597.9	600.8	603.7	605.4
120°	628.8	629.8	630.9	631.9	633.0	634.6	636.8	639.1	641.3	643.5	645.5
122.5°	669.9	670.5	671.1	671.6	672.1	673.7	676.3	678.8	681.4	684.0	685.9
125°	728.6	729.4	730.2	730.9	731.6	732.8	734.5	736.2	737.8	739.5	741.7
127.5°	784.6	784.7	784.8	784.9	785.1	786.4	788.9	791.5	794.0	796.5	797.9
130°	820.4	820.5	820.6	820.7	820.9	821.9	823.8	825.8	827.7	829.7	831.4
132.5°	853.5	853.7	854.1	854.4	854.6	855.7	857.5	859.4	861.3	863.1	864.7
135°	902.9	902.6	902.4	902.2	902.0	902.6	904.0	905.4	906.8	908.2	910.0
137.5°	946.8	946.8	946.8	946.8	946.8	947.4	948.6	949.7	950.9	952.1	953.8
140°	975.6	975.9	976.2	976.5	976.8	977.2	977.7	978.3	978.7	979.2	980.9
142.5°	1001.0	1001.7	1002.4	1003.1	1003.9	1004.3	1004.6	1004.7	1005.0	1005.1	1006.5
145°	1040.5	1041.0	1041.6	1042.1	1042.7	1042.9	1042.9	1042.9	1042.9	1042.9	1043.6
147.5°	1072.0	1073.1	1074.1	1075.1	1076.3	1076.7	1076.5	1076.3	1076.0	1075.9	1076.1
150°	1094.8	1095.6	1096.3	1097.0	1097.7	1098.0	1097.8	1097.6	1097.4	1097.2	1097.2
152.5°	1113.6	1114.3	1114.9	1115.6	1116.2	1116.3	1116.0	1115.6	1115.2	1114.9	1115.2
155°	1140.5	1140.7	1140.9	1141.1	1141.3	1141.1	1140.5	1139.9	1139.2	1138.6	1139.5
157.5°	1163.1	1163.0	1162.8	1162.8	1162.6	1162.2	1161.5	1160.9	1160.2	1159.4	1160.5
160°	1176.4	1175.8	1175.1	1174.6	1173.9	1173.5	1173.3	1173.1	1172.9	1172.7	1173.9
162.5°	1188.1	1187.4	1186.6	1185.8	1185.0	1184.6	1184.3	1184.2	1183.9	1183.8	1184.9
165°	1203.1	1202.1	1201.0	1200.0	1199.0	1198.5	1198.5	1198.5	1198.5	1198.5	1200.1
167.5°	1214.8	1213.8	1212.8	1211.6	1210.6	1210.0	1209.9	1209.7	1209.7	1209.5	1211.3
170°	1221.5	1220.3	1219.0	1217.8	1216.6	1216.1	1216.2	1216.5	1216.6	1216.9	1218.5
172.5°	1225.9	1224.6	1223.4	1222.2	1221.0	1220.4	1220.7	1220.9	1221.1	1221.3	1222.9
175°	1230.7	1229.5	1228.2	1227.0	1225.7	1225.3	1225.4	1225.7	1225.9	1226.1	1227.9
177.5°	1232.9	1231.8	1230.6	1229.5	1228.3	1227.9	1228.2	1228.5	1228.9	1229.2	1230.5
180°	1230.7	1230.7	1230.7	1230.7	1230.7	1230.7	1230.7	1230.7	1230.7	1230.7	1230.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9
2.5°	333.7	334.1	334.6	334.8	334.8	334.7	334.6	334.5
5°	332.8	333.4	334.1	334.5	334.4	334.2	334.1	334.1
7.5°	331.1	331.8	332.6	332.9	332.8	332.7	332.6	332.6
10°	329.2	329.9	330.7	331.1	331.0	330.9	330.8	330.7
12.5°	326.7	327.4	328.0	328.4	328.4	328.4	328.4	328.3
15°	322.1	322.8	323.6	323.9	323.8	323.8	323.7	323.6
17.5°	316.5	317.3	318.1	318.4	318.3	318.2	318.2	318.1
20°	312.1	313.0	313.8	314.3	314.3	314.3	314.3	314.3
22.5°	307.0	307.8	308.7	309.2	309.3	309.4	309.6	309.7
25°	299.2	300.1	301.0	301.5	301.6	301.7	301.7	301.8
27.5°	290.3	291.2	292.1	292.6	292.6	292.7	292.8	292.9
30°	284.2	285.1	286.0	286.5	286.7	286.9	287.1	287.2
32.5°	277.8	278.9	280.0	280.6	280.7	280.9	281.1	281.2
35°	267.8	268.9	270.1	270.8	271.1	271.3	271.6	271.9
37.5°	257.4	258.5	259.7	260.5	260.7	260.9	261.3	261.5
40°	250.0	251.2	252.5	253.3	253.6	254.0	254.3	254.6
42.5°	242.7	244.2	245.5	246.4	246.6	246.8	247.2	247.4
45°	231.6	233.0	234.4	235.3	235.8	236.1	236.5	236.9
47.5°	219.8	221.2	222.7	223.6	224.2	224.7	225.1	225.7
50°	211.4	213.1	214.8	215.9	216.3	216.8	217.4	217.9
52.5°	203.0	204.7	206.4	207.5	207.9	208.4	209.0	209.5
55°	190.4	192.1	193.8	194.9	195.4	195.8	196.4	196.9
57.5°	177.2	179.2	181.2	182.4	182.8	183.3	183.8	184.3
60°	168.1	170.0	171.9	173.2	173.9	174.5	175.2	175.9
62.5°	159.1	161.0	162.9	164.2	164.9	165.5	166.2	166.8
65°	145.1	147.3	149.3	150.7	151.4	152.0	152.7	153.4
67.5°	131.5	133.6	135.7	137.1	137.8	138.4	139.0	139.7
70°	121.8	124.1	126.4	127.8	128.3	129.0	129.5	130.1
72.5°	112.7	114.9	117.1	118.5	119.1	119.8	120.5	121.1
75°	98.8	101.1	103.5	105.0	105.8	106.5	107.3	108.0
77.5°	85.8	88.2	90.5	92.1	92.9	93.7	94.5	95.3
80°	77.4	79.9	82.4	84.0	84.6	85.3	86.0	86.6
82.5°	69.1	71.7	74.2	75.9	76.6	77.3	78.1	78.8
85°	57.5	60.0	62.5	64.2	65.0	65.8	66.6	67.5
87.5°	52.2	54.8	57.5	59.3	60.0	60.9	61.7	62.5
90°	64.6	68.3	71.9	74.3	75.4	76.4	77.6	78.6
92.5°	62.0	65.6	69.2	71.3	72.1	72.8	73.5	74.3
95°	59.8	63.3	66.8	69.0	69.9	70.9	71.9	72.8
97.5°	59.2	61.6	63.8	65.4	66.4	67.3	68.2	69.2
100°	66.5	65.4	64.1	63.8	64.6	65.4	66.2	67.0
102.5°	151.5	116.1	80.8	63.5	64.2	64.9	65.6	66.2
105°	319.8	323.7	327.6	326.2	319.6	312.8	306.2	299.4
107.5°	386.5	389.5	392.4	394.6	396.0	397.4	398.7	400.1
110°	432.0	434.3	436.6	438.4	439.7	441.0	442.3	443.5





TEST NUMBER: P332529-927

CATALOG NUMBER: S124DIP-S350D1205U927-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	475.7	477.5	479.3	480.9	482.3	483.8	485.2	486.6
115°	541.2	543.5	545.7	547.2	547.7	548.3	548.9	549.5
117.5°	607.0	608.7	610.4	611.5	612.0	612.7	613.2	613.8
120°	647.6	649.7	651.8	652.9	653.2	653.5	653.7	653.9
122.5°	687.8	689.7	691.6	692.7	692.8	693.0	693.2	693.4
125°	743.9	746.1	748.3	749.7	750.4	751.1	751.9	752.6
127.5°	799.3	800.7	802.1	803.0	803.4	803.7	804.1	804.5
130°	833.1	834.8	836.5	837.6	838.0	838.6	839.1	839.6
132.5°	866.3	868.0	869.7	870.6	870.9	871.2	871.6	872.0
135°	911.7	913.5	915.2	916.5	917.4	918.3	919.2	920.1
137.5°	955.5	957.1	958.8	959.8	960.0	960.4	960.7	961.0
140°	982.6	984.3	986.0	987.1	987.8	988.4	989.0	989.7
142.5°	1007.9	1009.3	1010.7	1011.6	1012.0	1012.4	1012.8	1013.2
145°	1044.3	1045.0	1045.8	1046.5	1047.2	1047.9	1048.7	1049.4
147.5°	1076.3	1076.6	1076.8	1077.1	1077.6	1078.1	1078.6	1079.0
150°	1097.2	1097.2	1097.2	1097.3	1097.5	1097.7	1098.0	1098.1
152.5°	1115.6	1115.9	1116.2	1116.3	1116.2	1116.0	1115.9	1115.8
155°	1140.3	1141.1	1141.9	1142.0	1141.4	1140.7	1140.2	1139.6
157.5°	1161.6	1162.6	1163.7	1163.7	1162.6	1161.6	1160.5	1159.4
160°	1175.1	1176.4	1177.6	1177.6	1176.4	1175.1	1173.9	1172.7
162.5°	1186.2	1187.4	1188.7	1188.6	1187.2	1185.8	1184.4	1183.0
165°	1201.7	1203.4	1205.0	1204.9	1203.1	1201.2	1199.4	1197.5
167.5°	1213.1	1214.9	1216.7	1216.6	1214.6	1212.5	1210.5	1208.4
170°	1220.1	1221.8	1223.4	1223.2	1221.1	1219.1	1217.1	1215.0
172.5°	1224.6	1226.2	1227.8	1227.6	1225.3	1223.1	1220.9	1218.7
175°	1229.8	1231.6	1233.4	1233.1	1230.7	1228.2	1225.7	1223.3
177.5°	1231.8	1233.1	1234.5	1234.1	1232.2	1230.2	1228.2	1226.3
180°	1230.7	1230.7	1230.7	1230.7	1230.7	1230.7	1230.7	1230.7

(END OF REPORT)