

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: P331464-927

Luminaire Tested: **SA2XXDIP-C1005D1080U927-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331464-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C1005D1080U927-4F0-1E-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

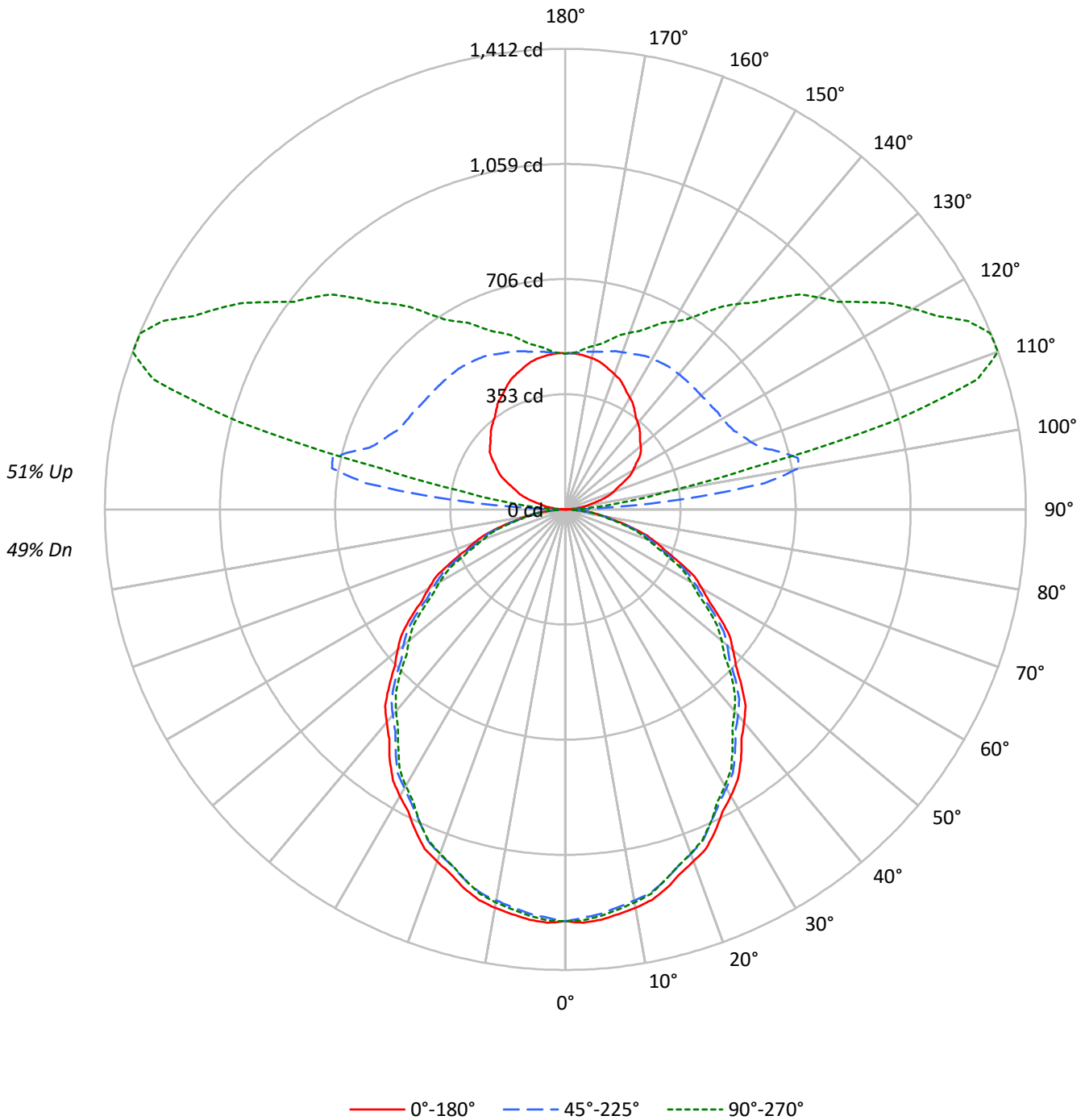
Lumens per Lamp: N/A
Luminaire Lumens: 6546.5 lumens
Efficiency: N/A
Efficacy: 91.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

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°	20386	20386	20386
5°	20464	20169	20285
10°	20341	19964	20064
15°	20090	19704	19686
20°	19734	19316	19295
25°	19379	18838	18838
30°	18921	18401	18243
35°	18496	17875	17611
40°	17962	17351	17015
45°	17438	16826	16411
50°	16865	16284	15707
55°	16268	15651	15071
60°	15603	14899	14347
65°	14888	14147	13498
70°	13983	13237	12609
75°	12726	12190	11890
80°	11288	10953	10386
85°	9207	8781	7873



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.7	1.8
10°-20°	334.1	5.1
20°-30°	491.0	7.5
30°-40°	570.4	8.7
40°-50°	569.8	8.7
50°-60°	496.9	7.6
60°-70°	367.4	5.6
70°-80°	208.1	3.2
80°-90°	60.3	0.9
90°-100°	191.3	2.9
100°-110°	649.3	9.9
110°-120°	689.8	10.5
120°-130°	567.8	8.7
130°-140°	456.0	7.0
140°-150°	344.6	5.3
150°-160°	242.2	3.7
160°-170°	142.6	2.2
170°-180°	46.4	0.7
0°-30°	943.8	14.4
0°-40°	1514.2	23.1
0°-60°	2580.8	39.4
0°-90°	3216.6	49.1
90°-120°	1530.4	23.4
90°-150°	2898.8	44.3
90°-180°	3330.0	50.9
0°-180°	6546.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1263	1263	1263	1263	1263	
5°	1263	1257	1244	1253	1252	120
15°	1202	1194	1179	1183	1178	338
25°	1088	1078	1057	1060	1057	500
35°	938	926	907	900	894	586
45°	764	755	737	724	719	589
55°	578	570	556	542	535	517
65°	390	382	370	360	353	385
75°	204	201	195	189	191	218
85°	50	49	47	44	42	57
90°	1	12	31	30	30	4
95°	32	79	361	136	105	34
105°	112	169	682	1219	1037	119
115°	198	250	570	1177	1365	196
125°	276	327	548	954	1107	245
135°	324	386	542	802	918	250
145°	370	425	539	670	732	232
155°	421	454	524	592	616	193
165°	458	472	502	532	540	129
175°	478	478	482	488	487	45
180°	479	479	479	479	479	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6
2.5°	1268.4	1267.3	1266.3	1265.2	1264.1	1262.4	1260.0	1257.7	1255.3	1252.9	1255.1
5°	1262.6	1261.6	1260.4	1259.3	1258.3	1256.2	1253.3	1250.3	1247.4	1244.4	1246.6
7.5°	1251.4	1249.7	1248.1	1246.4	1244.8	1242.4	1239.4	1236.4	1233.3	1230.3	1232.5
10°	1240.7	1238.9	1237.0	1235.1	1233.2	1230.7	1227.4	1224.2	1220.9	1217.7	1219.9
12.5°	1226.2	1224.5	1222.8	1221.1	1219.5	1217.0	1213.8	1210.5	1207.4	1204.1	1205.6
15°	1201.9	1200.3	1198.7	1197.1	1195.4	1192.9	1189.4	1185.8	1182.3	1178.8	1180.0
17.5°	1170.8	1169.2	1167.6	1165.9	1164.3	1161.7	1158.2	1154.6	1151.0	1147.6	1148.7
20°	1148.5	1146.8	1145.3	1143.6	1142.0	1139.3	1135.5	1131.8	1128.0	1124.2	1125.0
22.5°	1126.2	1123.9	1121.7	1119.4	1117.1	1114.2	1110.6	1107.1	1103.5	1099.9	1100.1
25°	1087.8	1085.6	1083.5	1081.3	1079.2	1075.8	1071.2	1066.6	1062.0	1057.4	1058.0
27.5°	1044.1	1042.1	1040.2	1038.2	1036.3	1033.6	1029.9	1026.3	1022.7	1019.1	1018.3
30°	1014.9	1012.8	1010.6	1008.4	1006.3	1003.2	999.2	995.1	991.1	987.0	986.2
32.5°	983.9	982.1	980.4	978.7	976.9	974.0	969.7	965.4	961.2	956.9	955.5
35°	938.4	935.7	933.0	930.3	927.6	924.2	919.8	915.5	911.2	906.9	905.3
37.5°	887.2	884.9	882.5	880.1	877.7	874.4	870.1	865.8	861.4	857.1	855.1
40°	852.2	850.1	848.0	845.8	843.6	840.4	836.1	831.8	827.4	823.2	820.7
42.5°	818.2	816.1	814.0	811.8	809.6	806.4	802.1	797.7	793.4	789.1	786.5
45°	763.7	761.8	759.9	758.0	756.1	753.1	749.1	745.0	741.0	736.9	734.0
47.5°	709.2	707.5	705.7	703.9	702.1	699.1	694.9	690.7	686.5	682.3	679.1
50°	671.4	670.0	668.7	667.3	666.0	663.4	659.7	655.8	652.0	648.3	644.5
52.5°	634.5	632.7	630.9	629.2	627.3	624.6	621.1	617.5	614.0	610.5	607.3
55°	577.9	576.2	574.6	573.1	571.4	568.9	565.8	562.5	559.3	556.0	552.8
57.5°	521.1	519.8	518.5	517.2	515.9	513.5	509.9	506.4	502.8	499.2	496.1
60°	483.2	482.1	481.0	480.0	478.9	476.4	472.7	468.9	465.1	461.4	458.4
62.5°	446.3	444.6	442.8	441.1	439.3	437.0	434.1	431.3	428.3	425.4	422.6
65°	389.7	388.1	386.5	384.8	383.3	381.0	378.3	375.7	373.0	370.3	367.9
67.5°	332.2	330.9	329.5	328.3	327.0	325.1	322.7	320.3	317.8	315.4	313.5
70°	296.2	295.2	294.1	293.0	291.9	290.2	287.7	285.3	282.9	280.4	278.5
72.5°	259.3	258.3	257.1	256.1	255.0	253.7	252.2	250.6	249.0	247.4	245.5
75°	204.0	203.4	202.9	202.3	201.8	200.8	199.5	198.1	196.8	195.4	193.8
77.5°	154.4	153.5	152.6	151.7	150.8	150.0	149.5	148.9	148.4	147.9	147.0
80°	121.4	121.1	120.9	120.6	120.3	119.9	119.4	118.8	118.3	117.8	116.9
82.5°	90.3	90.3	90.2	90.2	90.1	89.9	89.6	89.3	89.0	88.6	87.6
85°	49.7	49.5	49.3	49.0	48.7	48.4	48.2	47.8	47.6	47.4	46.5
87.5°	17.7	17.8	18.1	18.1	18.0	18.1	18.5	19.4	20.1	19.9	19.0
90°	1.0	3.6	7.4	9.2	11.0	13.8	18.4	24.9	30.3	31.3	30.3
92.5°	11.2	16.2	22.8	26.9	33.1	41.7	62.6	91.8	118.0	119.6	101.1
95°	32.2	35.9	45.1	53.4	68.1	90.2	132.5	212.5	319.3	360.8	315.7
97.5°	52.4	57.4	67.2	79.7	96.6	121.7	174.8	286.4	463.8	615.8	646.0
100°	70.8	73.6	81.9	96.6	115.0	140.8	189.6	301.8	500.6	727.0	859.5
102.5°	87.8	89.8	98.1	112.8	132.0	157.7	202.8	302.6	486.6	730.7	939.1
105°	112.3	116.0	122.4	136.2	156.5	182.2	225.5	307.4	459.2	681.9	926.7
107.5°	138.8	141.7	148.0	160.7	180.8	206.7	248.7	320.0	445.6	629.6	845.9
110°	156.5	160.1	165.6	177.6	196.9	223.6	264.1	330.3	442.7	604.6	795.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	172.6	176.3	182.6	193.8	212.4	239.8	278.8	341.4	443.4	588.4	759.8
115°	197.9	202.5	207.9	219.0	237.4	262.3	301.8	358.0	447.3	570.5	716.0
117.5°	224.0	227.7	233.2	243.0	260.6	286.4	323.0	375.7	453.8	561.9	688.3
120°	240.2	243.8	249.4	257.7	276.1	301.8	337.7	387.5	458.3	556.7	673.6
122.5°	255.6	258.6	264.1	273.1	291.5	318.1	351.7	397.8	463.4	553.8	661.1
125°	276.1	278.8	284.4	295.4	313.8	339.6	372.7	414.2	471.2	548.5	643.3
127.5°	292.2	296.0	303.7	315.8	333.5	360.0	392.2	429.4	479.1	545.3	626.7
130°	301.8	305.5	314.7	327.6	346.0	371.8	404.0	438.9	485.0	543.8	615.7
132.5°	310.7	315.1	325.0	338.7	357.8	383.6	414.3	448.5	490.8	543.1	606.8
135°	323.9	327.6	338.7	352.4	373.6	399.4	428.8	461.1	497.9	542.0	594.5
137.5°	336.4	340.9	351.9	366.6	387.6	411.5	440.6	470.6	504.1	541.9	585.8
140°	346.0	349.7	360.8	375.5	395.7	419.6	447.3	475.8	507.1	541.1	580.7
142.5°	355.6	358.5	368.8	383.6	403.1	425.6	452.4	480.2	509.3	541.1	575.5
145°	369.9	373.6	382.9	396.6	415.0	435.3	460.1	485.9	511.7	539.2	568.7
147.5°	385.4	388.2	397.0	409.7	425.0	443.0	466.4	489.0	512.4	536.0	561.7
150°	395.7	398.5	405.8	417.8	431.6	448.1	469.4	490.5	511.7	533.8	555.8
152.5°	406.0	407.3	414.6	425.2	438.2	453.3	472.3	491.2	510.2	530.0	550.6
155°	420.6	421.4	427.0	437.1	447.3	461.1	476.7	492.3	507.9	523.6	541.1
157.5°	432.7	433.6	438.1	446.9	455.0	466.6	479.8	492.3	503.7	517.0	532.1
160°	440.8	441.7	445.4	452.7	460.1	470.2	481.3	492.3	501.5	512.6	525.5
162.5°	448.9	448.4	452.0	457.9	464.5	472.5	482.0	491.6	499.3	508.9	519.6
165°	458.3	457.4	459.2	464.7	469.4	474.8	483.2	489.6	495.1	501.5	509.8
167.5°	466.0	464.9	466.6	470.1	473.4	476.9	482.9	488.3	490.8	495.1	500.3
170°	471.2	469.4	470.2	473.0	474.8	477.6	482.2	486.8	488.6	491.4	495.1
172.5°	474.1	473.0	472.5	475.2	476.3	478.3	481.5	484.6	485.7	487.0	490.0
175°	477.6	476.7	475.8	477.6	477.6	478.6	480.4	482.2	481.3	482.2	483.2
177.5°	479.3	477.8	477.1	478.6	478.6	478.6	479.3	480.8	479.3	478.6	479.3
180°	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6
2.5°	1257.2	1259.3	1261.6	1262.4	1261.9	1261.6	1261.1	1260.7
5°	1248.7	1250.9	1253.0	1253.9	1253.3	1252.8	1252.2	1251.6
7.5°	1234.6	1236.8	1239.0	1239.8	1239.1	1238.6	1237.9	1237.4
10°	1222.0	1224.2	1226.3	1227.0	1226.2	1225.3	1224.6	1223.8
12.5°	1207.1	1208.6	1210.1	1210.6	1210.0	1209.4	1208.8	1208.2
15°	1181.0	1182.1	1183.1	1183.0	1181.7	1180.4	1179.0	1177.7
17.5°	1150.0	1151.3	1152.5	1152.5	1151.1	1149.9	1148.6	1147.2
20°	1125.8	1126.6	1127.4	1127.3	1126.2	1125.1	1124.1	1123.0
22.5°	1100.3	1100.4	1100.6	1100.3	1099.7	1099.1	1098.4	1097.7
25°	1058.5	1059.1	1059.6	1059.6	1059.1	1058.5	1058.0	1057.4
27.5°	1017.5	1016.6	1015.8	1014.8	1013.5	1012.2	1010.9	1009.6
30°	985.4	984.6	983.8	982.9	981.8	980.6	979.6	978.5
32.5°	954.0	952.5	951.1	949.8	948.7	947.7	946.6	945.5
35°	903.6	902.1	900.4	899.0	897.6	896.3	894.8	893.5
37.5°	853.1	851.1	849.1	847.5	846.2	844.9	843.6	842.3
40°	818.2	815.9	813.4	811.7	810.6	809.5	808.4	807.3
42.5°	783.9	781.2	778.6	776.5	775.0	773.5	772.0	770.4
45°	731.0	728.0	725.1	723.0	721.9	720.9	719.8	718.7
47.5°	676.0	672.9	669.8	667.4	665.8	664.3	662.7	661.2
50°	640.7	637.0	633.2	630.7	629.3	628.0	626.6	625.3
52.5°	604.2	601.0	597.9	595.5	593.7	591.9	590.1	588.4
55°	549.5	546.3	543.1	540.8	539.5	538.1	536.8	535.4
57.5°	492.8	489.6	486.5	484.3	483.4	482.4	481.3	480.3
60°	455.4	452.4	449.5	447.6	446.8	446.0	445.1	444.3
62.5°	419.9	417.2	414.4	412.5	411.5	410.4	409.4	408.4
65°	365.4	363.0	360.6	358.7	357.4	356.0	354.7	353.3
67.5°	311.6	309.7	307.8	306.3	305.3	304.2	303.2	302.1
70°	276.6	274.8	272.9	271.4	270.3	269.3	268.2	267.1
72.5°	243.7	241.8	239.9	238.5	237.7	236.8	235.9	235.0
75°	192.3	190.6	189.0	188.5	189.0	189.5	190.0	190.6
77.5°	146.2	145.4	144.7	143.9	143.1	142.4	141.6	140.9
80°	116.1	115.3	114.5	113.8	113.3	112.8	112.3	111.7
82.5°	86.6	85.6	84.5	84.0	83.8	83.7	83.7	83.5
85°	45.7	44.9	44.1	43.6	43.3	43.0	42.8	42.5
87.5°	18.2	17.2	16.9	16.6	16.4	16.2	16.0	15.8
90°	29.5	27.6	29.5	30.3	30.3	30.3	30.3	30.3
92.5°	80.2	68.8	61.1	55.4	54.7	51.7	52.4	51.0
95°	241.1	185.0	146.3	126.0	114.1	106.8	104.0	104.9
97.5°	562.6	460.3	360.8	294.3	250.3	227.7	214.2	206.5
100°	840.2	726.1	600.0	488.6	412.3	372.7	346.0	329.5
102.5°	1022.1	996.2	904.0	786.1	703.1	635.6	602.2	579.8
105°	1118.1	1222.1	1234.1	1203.7	1146.6	1089.6	1050.0	1037.1
107.5°	1048.9	1205.5	1301.2	1345.8	1353.0	1349.8	1341.9	1324.8
110°	989.3	1154.0	1271.8	1347.3	1386.8	1404.3	1412.6	1411.7



TEST NUMBER: P331464-927

CATALOG NUMBER: SA2XXDIP-C1005D1080U927-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	934.8	1092.9	1218.8	1305.3	1360.3	1389.6	1405.3	1410.2
115°	867.8	1009.6	1130.0	1224.9	1290.2	1332.5	1356.5	1364.8
117.5°	817.4	941.8	1051.1	1140.0	1206.7	1251.3	1276.6	1283.6
120°	792.3	906.4	1004.0	1087.7	1152.1	1195.4	1222.1	1231.3
122.5°	772.5	877.0	969.4	1045.0	1102.8	1145.3	1169.1	1176.8
125°	743.5	838.4	919.3	988.3	1041.7	1076.7	1099.7	1107.1
127.5°	715.0	800.8	877.2	940.9	987.5	1020.2	1040.1	1046.0
130°	696.6	775.8	848.5	909.2	954.3	985.6	1004.0	1011.4
132.5°	679.0	752.3	819.0	876.1	920.4	951.7	968.7	975.3
135°	654.3	715.0	775.8	827.3	866.9	897.2	913.8	917.5
137.5°	634.6	685.4	733.6	778.6	814.6	840.7	855.3	860.8
140°	622.1	666.3	708.6	749.1	778.6	802.5	816.3	821.8
142.5°	611.8	649.4	685.8	719.6	747.6	769.4	781.6	782.8
145°	597.2	627.6	656.2	682.9	704.9	720.6	729.8	732.5
147.5°	586.1	610.0	632.2	651.7	669.9	682.5	688.7	690.4
150°	577.9	598.2	617.5	634.1	647.8	658.9	664.4	665.4
152.5°	569.8	588.6	605.0	619.3	630.2	639.8	643.8	644.0
155°	558.6	573.3	587.1	597.2	607.4	613.8	617.5	615.7
157.5°	545.5	557.9	569.4	577.3	584.6	589.9	591.5	591.5
160°	537.4	547.6	557.7	564.1	570.5	575.1	576.1	576.1
162.5°	529.3	538.0	546.6	551.6	558.0	561.2	562.1	561.3
165°	517.2	523.6	530.0	533.8	537.4	541.1	541.1	540.2
167.5°	505.6	510.6	515.0	518.3	519.9	522.0	521.8	520.7
170°	499.7	502.5	506.1	507.9	508.9	511.7	510.7	508.9
172.5°	493.1	495.1	498.0	499.2	500.1	501.4	500.4	499.3
175°	485.9	486.8	487.7	488.6	488.6	489.6	488.6	486.8
177.5°	480.8	480.8	481.5	481.5	481.5	481.5	480.8	479.3
180°	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6

(END OF REPORT)