

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: P331437-930

Luminaire Tested: **SA2XXDIP-C1005D530U930-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331437-930
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-C1005D530U930-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 530 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

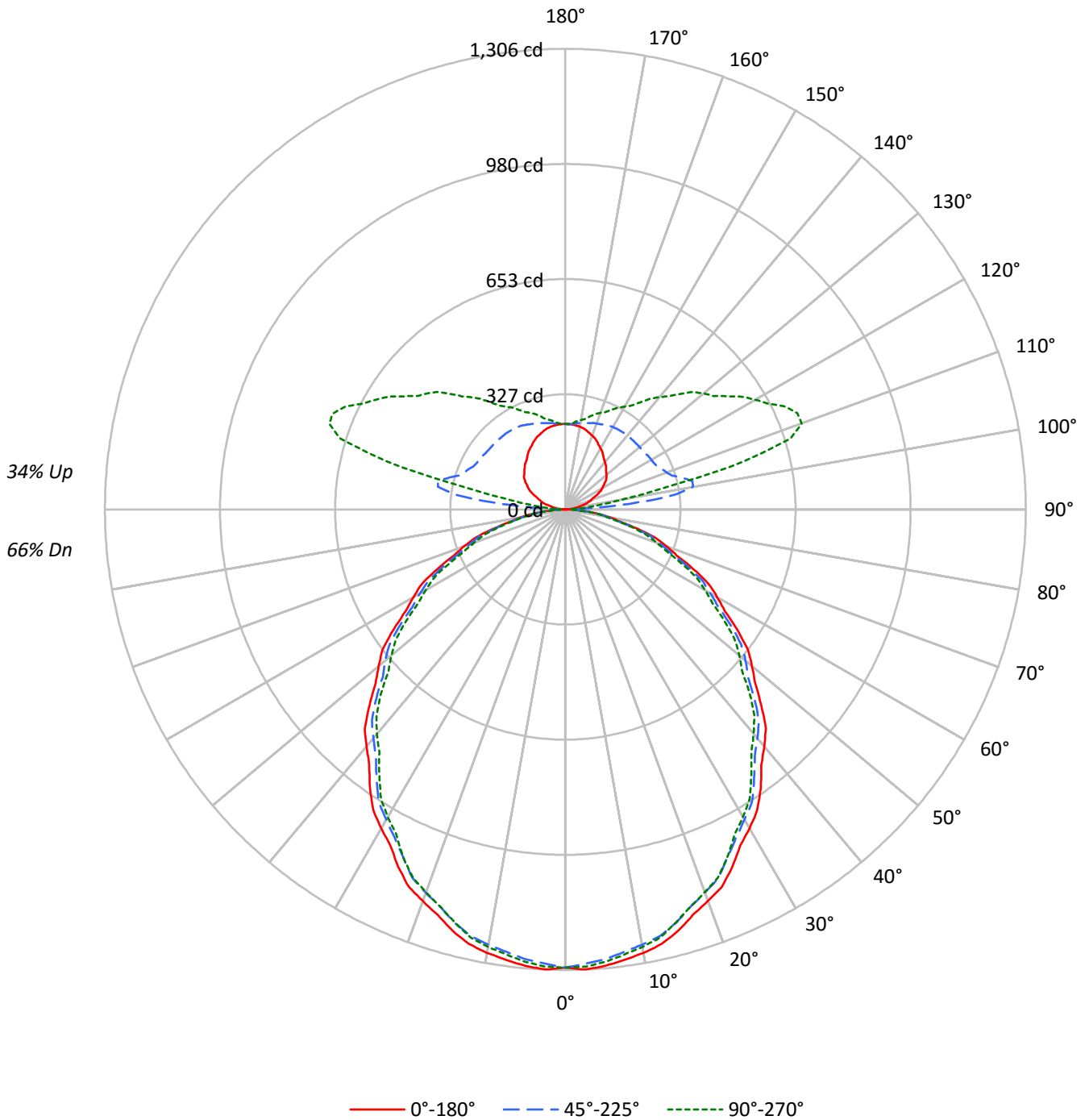
Lumens per Lamp: N/A
Luminaire Lumens: 4990.6 lumens
Efficiency: N/A
Efficacy: 90.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 55.1
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



TEST NUMBER: P331437-930
CATALOG NUMBER: SA2XXDIP-C1005D530U930-4F0-1E-UDD-F4

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	111	111	111	111	105	105	105	105	92	92	92	81	81	81	71	71	71	66
1	101	97	93	89	95	91	88	85	81	78	76	72	70	68	63	61	60	56
2	92	85	78	73	87	80	74	70	71	67	63	63	60	57	55	53	51	47
3	84	75	67	61	79	70	64	58	63	57	53	56	51	48	49	46	43	40
4	77	66	58	52	72	63	55	50	56	50	45	50	45	41	44	40	37	34
5	71	59	51	44	67	56	48	43	50	44	39	45	40	36	40	36	32	30
6	65	53	45	39	61	50	43	37	45	39	34	40	35	31	36	32	29	26
7	61	48	40	34	57	46	38	33	41	35	30	37	32	28	33	29	25	23
8	56	44	36	30	53	42	34	29	38	31	27	34	29	25	30	26	23	21
9	53	40	32	27	49	38	31	26	34	28	24	31	26	22	28	24	21	19
10	49	37	29	24	46	35	28	24	32	26	22	29	24	20	26	22	19	17

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



TEST NUMBER: P331437-930

CATALOG NUMBER: SA2XXDIP-C1005D530U930-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.2	2.4
10°-20°	343.8	6.9
20°-30°	505.4	10.1
30°-40°	587.0	11.8
40°-50°	586.4	11.7
50°-60°	511.4	10.2
60°-70°	378.1	7.6
70°-80°	214.2	4.3
80°-90°	59.8	1.2
90°-100°	96.7	1.9
100°-110°	328.1	6.6
110°-120°	348.5	7.0
120°-130°	286.9	5.7
130°-140°	230.4	4.6
140°-150°	174.1	3.5
150°-160°	122.4	2.5
160°-170°	72.0	1.4
170°-180°	23.4	0.5
0°-30°	971.4	19.5
0°-40°	1558.4	31.2
0°-60°	2656.1	53.2
0°-90°	3308.2	66.3
90°-120°	773.2	15.5
90°-150°	1464.6	29.3
90°-180°	1682.0	33.7
0°-180°	4990.6	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°	0	6	16	15	15	3
95°	16	40	182	69	53	17
105°	57	86	344	616	524	60
115°	100	126	288	595	690	99
125°	140	165	277	482	559	124
135°	164	195	274	405	464	126
145°	187	215	272	338	370	117
155°	212	229	265	299	311	98
165°	232	238	253	269	273	65
175°	241	242	244	247	246	23
180°	242	242	242	242	242	



TEST NUMBER: P331437-930

CATALOG NUMBER: SA2XXDIP-C1005D530U930-4F0-1E-UDD-F4

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°	18.1	17.9	17.9	17.6	17.4	17.2	17.2	17.4	17.5	17.1	16.4
90°	0.5	1.9	3.8	4.6	5.5	7.0	9.3	12.6	15.3	15.8	15.3
92.5°	5.7	8.2	11.5	13.6	16.7	21.1	31.6	46.4	59.6	60.4	51.0
95°	16.3	18.1	22.7	27.0	34.4	45.6	66.9	107.4	161.3	182.3	159.5
97.5°	26.5	29.0	33.9	40.3	48.8	61.5	88.4	144.7	234.3	311.1	326.4
100°	35.8	37.2	41.4	48.8	58.1	71.2	95.8	152.5	252.9	367.3	434.2
102.5°	44.4	45.4	49.6	57.0	66.7	79.7	102.5	152.9	245.9	369.2	474.4
105°	56.7	58.6	61.8	68.8	79.0	92.0	113.9	155.3	232.0	344.5	468.2
107.5°	70.1	71.6	74.8	81.2	91.3	104.4	125.6	161.7	225.1	318.1	427.4
110°	79.0	80.9	83.7	89.8	99.5	113.0	133.5	166.9	223.6	305.5	401.7



TEST NUMBER: P331437-930

CATALOG NUMBER: SA2XXDIP-C1005D530U930-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	87.2	89.1	92.2	97.9	107.3	121.2	140.9	172.5	224.0	297.3	383.8
115°	100.0	102.3	105.1	110.6	119.9	132.5	152.5	180.8	226.0	288.3	361.7
117.5°	113.2	115.0	117.8	122.8	131.7	144.7	163.2	189.8	229.3	283.9	347.8
120°	121.3	123.2	126.0	130.2	139.5	152.5	170.6	195.8	231.5	281.3	340.4
122.5°	129.1	130.7	133.5	138.0	147.3	160.7	177.7	201.0	234.2	279.8	334.0
125°	139.5	140.9	143.7	149.3	158.6	171.5	188.3	209.2	238.1	277.1	325.0
127.5°	147.7	149.5	153.4	159.6	168.5	181.9	198.2	217.0	242.1	275.6	316.7
130°	152.5	154.3	159.0	165.5	174.8	187.8	204.2	221.8	245.0	274.8	311.0
132.5°	156.9	159.2	164.2	171.1	180.8	193.8	209.3	226.7	248.0	274.4	306.6
135°	163.6	165.5	171.1	178.1	188.7	201.8	216.7	232.9	251.5	273.9	300.4
137.5°	170.0	172.2	177.8	185.2	195.8	207.9	222.7	237.7	254.7	273.8	296.0
140°	174.8	176.7	182.3	189.7	199.9	212.1	226.0	240.4	256.2	273.4	293.4
142.5°	179.7	181.2	186.4	193.8	203.7	215.0	228.6	242.6	257.3	273.4	290.8
145°	186.9	188.7	193.4	200.4	209.7	219.9	232.4	245.5	258.5	272.5	287.3
147.5°	194.7	196.1	200.6	207.0	214.7	223.8	235.6	247.1	258.9	270.8	283.8
150°	199.9	201.3	205.0	211.1	218.1	226.4	237.1	247.9	258.5	269.7	280.9
152.5°	205.1	205.8	209.5	214.8	221.4	229.0	238.6	248.2	257.8	267.8	278.3
155°	212.5	213.0	215.7	220.9	226.0	232.9	240.8	248.7	256.7	264.6	273.4
157.5°	218.6	219.1	221.4	225.8	229.9	235.7	242.4	248.7	254.5	261.2	268.8
160°	222.7	223.1	225.0	228.8	232.4	237.6	243.2	248.7	253.4	259.0	265.5
162.5°	226.8	226.5	228.4	231.4	234.7	238.7	243.5	248.3	252.3	257.1	262.5
165°	231.5	231.1	232.0	234.8	237.1	239.9	244.1	247.4	250.1	253.4	257.6
167.5°	235.5	234.9	235.7	237.5	239.2	240.9	244.0	246.7	248.0	250.1	252.7
170°	238.1	237.1	237.6	239.0	239.9	241.3	243.6	246.0	246.9	248.3	250.1
172.5°	239.5	239.0	238.7	240.1	240.7	241.7	243.3	244.8	245.4	246.1	247.5
175°	241.3	240.8	240.4	241.3	241.3	241.7	242.7	243.6	243.2	243.6	244.1
177.5°	242.1	241.4	241.0	241.7	241.7	241.7	242.1	242.9	242.1	241.7	242.1
180°	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7



TEST NUMBER: P331437-930

CATALOG NUMBER: SA2XXDIP-C1005D530U930-4F0-1E-UDD-F4

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°	15.7	14.8	14.3	13.9	13.7	13.5	13.3	13.0
90°	14.8	13.9	14.8	15.3	15.3	15.3	15.3	15.3
92.5°	40.5	34.8	30.9	28.0	27.6	26.2	26.5	25.8
95°	121.8	93.4	73.9	63.7	57.6	54.0	52.5	53.0
97.5°	284.3	232.6	182.3	148.7	126.5	115.0	108.3	104.4
100°	424.5	366.9	303.1	246.9	208.3	188.3	174.8	166.5
102.5°	516.4	503.4	456.8	397.1	355.2	321.1	304.3	292.9
105°	564.9	617.4	623.5	608.1	579.4	550.5	530.5	524.0
107.5°	529.9	609.1	657.5	680.0	683.5	682.0	678.0	669.4
110°	499.9	583.0	642.5	680.7	700.7	709.6	713.7	713.2



TEST NUMBER: P331437-930

CATALOG NUMBER: SA2XXDIP-C1005D530U930-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	472.3	552.2	615.8	659.5	687.3	702.1	710.0	712.5
115°	438.5	510.1	571.0	618.9	651.8	673.3	685.3	689.5
117.5°	412.9	475.8	531.1	576.0	609.7	632.3	645.0	648.5
120°	400.3	458.0	507.3	549.6	582.1	604.0	617.4	622.1
122.5°	390.3	443.1	489.8	528.0	557.2	578.7	590.7	594.6
125°	375.7	423.5	464.5	499.4	526.4	544.0	555.6	559.4
127.5°	361.3	404.6	443.2	475.4	498.9	515.4	525.5	528.5
130°	352.0	392.0	428.7	459.3	482.2	498.0	507.3	510.9
132.5°	343.1	380.1	413.8	442.6	465.0	480.9	489.4	492.8
135°	330.6	361.3	392.0	418.0	438.0	453.3	461.7	463.6
137.5°	320.7	346.3	370.6	393.4	411.6	424.8	432.1	434.9
140°	314.3	336.6	358.0	378.5	393.4	405.4	412.4	415.2
142.5°	309.1	328.1	346.5	363.6	377.7	388.7	394.9	395.5
145°	301.7	317.1	331.5	345.0	356.1	364.0	368.7	370.1
147.5°	296.1	308.2	319.4	329.3	338.5	344.8	348.0	348.8
150°	292.0	302.2	312.0	320.3	327.3	332.9	335.7	336.1
152.5°	287.9	297.4	305.7	312.9	318.4	323.3	325.3	325.4
155°	282.3	289.7	296.6	301.7	306.9	310.1	312.0	311.0
157.5°	275.7	281.8	287.7	291.7	295.3	298.1	298.9	298.9
160°	271.5	276.6	281.8	285.0	288.3	290.6	291.1	291.1
162.5°	267.4	271.8	276.2	278.7	281.9	283.6	284.0	283.6
165°	261.3	264.6	267.8	269.7	271.5	273.4	273.4	273.0
167.5°	255.4	258.0	260.2	261.9	262.7	263.7	263.7	263.1
170°	252.5	253.9	255.8	256.7	257.1	258.5	258.0	257.1
172.5°	249.2	250.1	251.6	252.2	252.7	253.3	252.8	252.3
175°	245.5	246.0	246.5	246.9	246.9	247.4	246.9	246.0
177.5°	242.9	242.9	243.3	243.3	243.3	243.3	242.9	242.1
180°	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7

(END OF REPORT)