

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: P331324-935

Luminaire Tested: **SA2XXDIP-C485D1080U935-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331324-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C485D1080U935-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5402.7 lumens
Efficiency: N/A
Efficacy: 109.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

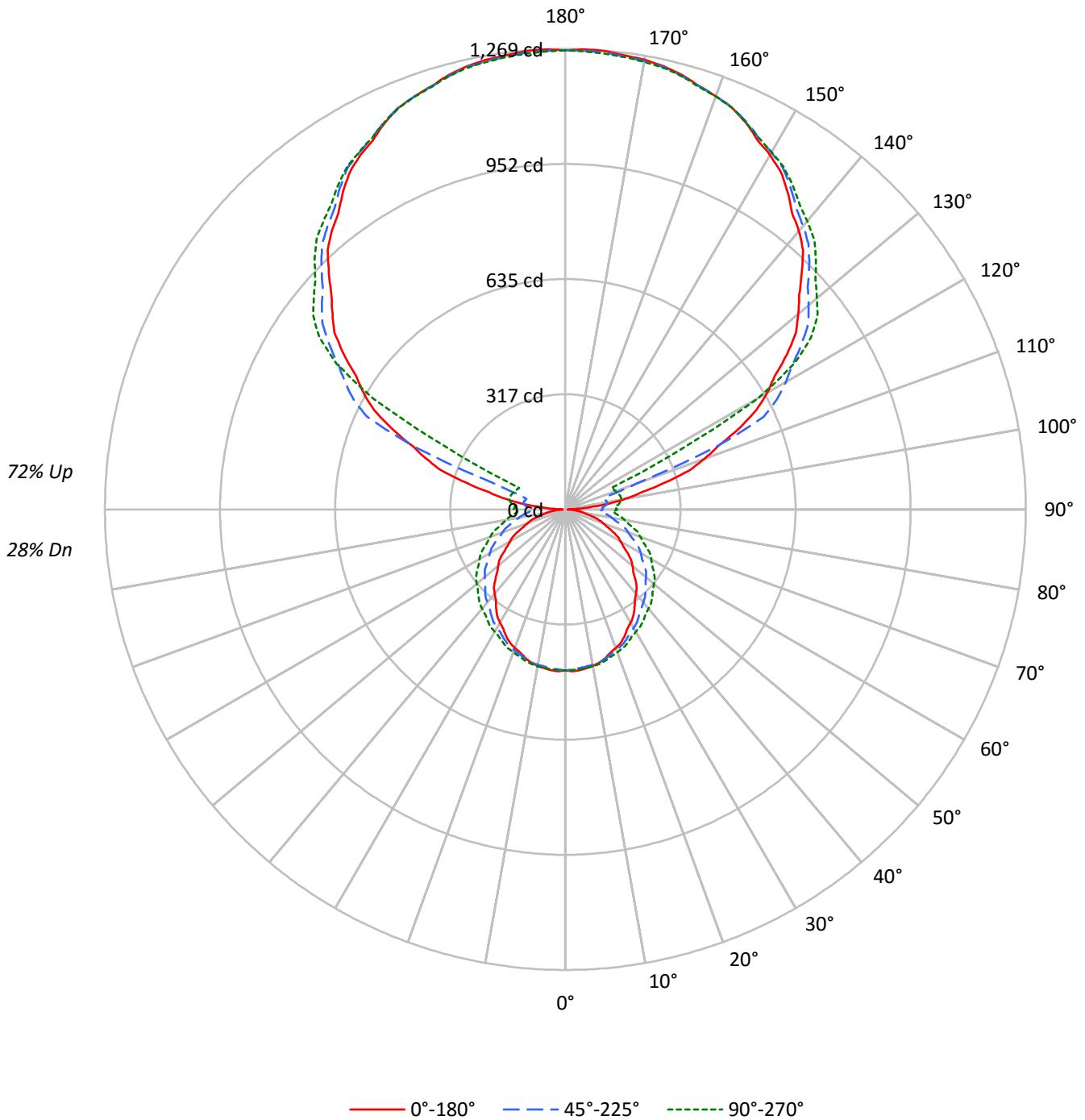
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P331324-935

CATALOG NUMBER: SA2XXDIP-C485D1080U935-4F0-1E-UDD-D

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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	50	30	10	50	30	10	0														
RCR																																						
0	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	28																				
1	92	87	83	80	82	78	75	72	61	59	56	45	43	42	30	29	28	22																				
2	83	76	70	64	74	68	63	58	53	49	46	39	37	34	26	25	23	18																				
3	76	66	59	53	67	59	53	48	46	42	38	34	31	29	23	21	19	14																				
4	69	58	51	45	61	52	46	40	41	36	32	30	27	24	20	18	17	12																				
5	63	52	44	38	56	46	39	34	36	31	27	27	23	21	18	16	14	10																				
6	58	46	38	32	52	41	35	29	33	27	24	24	21	18	16	14	12	9																				
7	54	41	34	28	48	37	30	26	29	24	21	22	18	16	15	13	11	8																				
8	50	37	30	25	44	34	27	22	27	22	18	20	16	14	14	11	10	7																				
9	46	34	27	22	41	31	24	20	24	19	16	18	15	12	13	10	9	6																				
10	43	31	24	19	38	28	22	18	22	18	14	17	13	11	12	9	8	6																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7164	7164	7164
5°	7199	6896	6870
10°	7153	6692	6617
15°	7055	6477	6350
20°	6930	6245	6094
25°	6807	6022	5862
30°	6634	5793	5628
35°	6458	5572	5464
40°	6275	5384	5299
45°	6100	5215	5159
50°	5912	5062	5019
55°	5713	4898	4878
60°	5473	4730	4729
65°	5222	4530	4552
70°	4938	4315	4361
75°	4578	4106	4186
80°	4008	3889	4005
85°	3471	3705	3868



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	42.0	0.8
10°-20°	120.6	2.2
20°-30°	182.7	3.4
30°-40°	222.5	4.1
40°-50°	239.4	4.4
50°-60°	232.5	4.3
60°-70°	203.0	3.8
70°-80°	156.3	2.9
80°-90°	108.0	2.0
90°-100°	114.4	2.1
100°-110°	207.5	3.8
110°-120°	448.5	8.3
120°-130°	702.2	13.0
130°-140°	734.3	13.6
140°-150°	676.3	12.5
150°-160°	542.6	10.0
160°-170°	349.7	6.5
170°-180°	120.4	2.2
0°-30°	345.3	6.4
0°-40°	567.8	10.5
0°-60°	1039.7	19.2
0°-90°	1506.9	27.9
90°-120°	770.4	14.3
90°-150°	2883.2	53.4
90°-180°	3896.0	72.1
0°-180°	5402.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	444	444	444	444	444	
5°	445	443	439	443	442	42
15°	424	426	426	431	431	119
25°	386	390	396	404	406	177
35°	332	343	356	369	374	208
45°	273	290	312	332	339	210
55°	209	233	266	288	297	187
65°	143	175	212	238	247	142
75°	79	115	156	183	192	84
85°	23	63	104	130	140	25
90°	7	55	103	132	143	7
95°	65	67	110	137	145	77
105°	282	313	111	142	154	301
115°	529	553	603	218	140	520
125°	745	759	795	818	828	665
135°	921	936	951	972	977	712
145°	1068	1068	1083	1092	1092	668
155°	1176	1169	1179	1184	1177	542
165°	1239	1234	1237	1242	1237	350
175°	1268	1262	1263	1269	1260	121
180°	1265	1265	1265	1265	1265	



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CATALOG NUMBER: SA2XXDIP-C485D1080U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7
2.5°	446.3	445.9	445.6	445.2	444.9	444.3	443.5	442.7	442.0	441.1	441.7
5°	445.0	444.5	444.1	443.7	443.2	442.6	441.8	440.9	440.1	439.2	440.1
7.5°	441.0	440.7	440.4	440.1	439.9	439.4	438.7	438.1	437.4	436.7	437.7
10°	437.9	437.6	437.3	437.0	436.8	436.4	436.0	435.6	435.1	434.7	435.8
12.5°	432.7	432.8	432.9	432.9	433.0	432.8	432.6	432.2	431.9	431.6	432.7
15°	424.4	424.6	425.0	425.2	425.5	425.7	425.7	425.7	425.7	425.7	427.0
17.5°	413.6	414.2	414.8	415.4	416.0	416.6	417.0	417.4	417.9	418.4	419.7
20°	406.4	407.1	407.9	408.5	409.2	409.9	410.4	411.0	411.6	412.2	413.7
22.5°	398.6	399.5	400.4	401.1	402.0	402.8	403.6	404.4	405.2	406.0	407.6
25°	385.8	386.8	387.8	388.8	389.8	391.0	392.3	393.6	394.9	396.1	397.8
27.5°	370.4	372.0	373.7	375.3	376.9	378.5	380.0	381.5	383.0	384.5	386.7
30°	360.1	362.0	363.8	365.7	367.6	369.4	371.3	373.1	375.0	376.8	379.1
32.5°	348.8	350.9	352.9	355.1	357.1	359.3	361.4	363.7	365.8	368.1	370.7
35°	332.4	334.8	337.3	339.8	342.2	344.7	347.4	350.2	352.8	355.6	358.7
37.5°	314.7	317.5	320.3	323.1	325.9	329.1	332.6	336.0	339.6	343.1	346.6
40°	302.9	306.0	309.2	312.3	315.5	318.9	322.8	326.7	330.5	334.4	338.1
42.5°	291.5	294.7	297.8	301.0	304.1	307.9	312.4	316.8	321.2	325.6	329.7
45°	272.7	276.5	280.3	284.2	288.1	292.5	297.5	302.5	307.5	312.5	316.9
47.5°	254.0	258.2	262.4	266.6	270.8	275.9	281.7	287.6	293.4	299.3	303.9
50°	241.2	245.6	250.0	254.4	258.8	264.2	270.7	277.2	283.6	290.0	294.9
52.5°	228.8	233.4	238.1	242.8	247.5	253.1	259.9	266.7	273.5	280.3	285.2
55°	209.0	214.1	219.3	224.4	229.5	235.8	243.3	250.7	258.1	265.5	270.7
57.5°	189.4	195.3	201.0	206.8	212.7	219.3	226.9	234.5	242.0	249.6	255.2
60°	175.6	181.7	187.9	194.0	200.1	207.2	215.4	223.5	231.7	239.9	245.3
62.5°	163.2	169.5	176.0	182.4	188.7	196.0	204.1	212.2	220.4	228.5	234.3
65°	142.8	149.7	156.8	163.8	170.7	178.5	186.9	195.4	203.8	212.2	218.1
67.5°	124.0	131.3	138.6	145.9	153.3	161.2	169.9	178.5	187.1	195.7	201.6
70°	110.6	118.0	125.4	132.9	140.3	148.4	157.3	166.2	175.0	183.9	190.0
72.5°	98.2	105.9	113.6	121.2	128.9	137.2	146.2	155.2	164.1	173.1	179.2
75°	79.1	87.1	95.1	103.1	111.1	119.7	128.8	137.9	147.1	156.3	162.4
77.5°	60.6	69.0	77.3	85.7	94.1	102.9	112.2	121.5	130.8	140.1	146.2
80°	48.2	56.9	65.7	74.4	83.1	92.1	101.4	110.6	119.9	129.2	135.3
82.5°	38.0	46.6	55.1	63.7	72.3	81.4	90.7	100.1	109.5	119.0	124.9
85°	23.2	32.0	40.9	49.8	58.5	67.6	76.7	85.8	95.1	104.2	110.2
87.5°	12.8	21.8	30.7	39.7	48.6	57.9	67.3	76.8	86.3	95.7	101.8
90°	7.3	17.9	28.4	38.9	49.4	60.1	70.9	81.6	92.4	103.1	109.9
92.5°	24.4	31.9	39.4	46.9	54.4	63.0	72.7	82.2	91.9	101.5	107.6
95°	64.7	64.7	64.7	64.7	64.7	69.7	79.6	89.6	99.6	109.6	116.1
97.5°	122.6	109.6	96.7	83.8	70.8	70.1	81.6	93.2	104.7	116.2	122.3
100°	166.5	144.0	121.3	98.8	76.2	70.6	82.1	93.6	105.0	116.5	123.4
102.5°	214.3	213.3	212.2	211.1	210.1	199.0	177.8	156.6	135.5	114.3	121.7
105°	281.5	291.7	302.0	312.2	322.4	303.5	255.5	207.3	159.2	111.2	118.4
107.5°	358.8	367.0	375.2	383.5	391.8	366.1	306.6	247.1	187.7	128.2	130.7
110°	408.0	415.2	422.3	429.5	436.5	414.2	362.5	310.6	258.9	207.2	191.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	454.9	461.1	467.3	473.5	479.7	478.8	471.0	463.0	455.2	447.4	377.7
115°	528.8	533.9	538.9	544.0	549.0	557.2	568.8	580.3	591.8	603.3	513.4
117.5°	594.3	599.2	604.1	609.0	613.9	621.0	630.5	639.9	649.4	658.8	640.2
120°	642.7	646.3	649.9	653.5	657.1	663.6	673.0	682.3	691.7	701.1	707.6
122.5°	683.6	687.1	690.5	694.0	697.4	703.8	713.2	722.6	731.8	741.2	746.6
125°	745.4	748.0	750.7	753.4	756.0	761.6	770.0	778.4	786.9	795.3	800.6
127.5°	801.9	804.8	807.5	810.4	813.1	817.8	824.4	831.0	837.5	844.1	849.7
130°	837.8	840.9	844.0	847.2	850.3	854.5	859.7	865.0	870.2	875.5	881.1
132.5°	874.4	877.1	879.7	882.4	884.9	888.6	893.1	897.7	902.2	906.7	912.0
135°	921.4	924.6	927.9	931.2	934.4	937.7	941.0	944.2	947.4	950.7	955.8
137.5°	969.6	971.8	974.0	976.3	978.5	981.0	983.8	986.4	989.1	991.9	996.4
140°	1001.1	1002.5	1004.0	1005.5	1006.9	1009.0	1011.5	1014.0	1016.6	1019.1	1023.2
142.5°	1027.4	1028.7	1030.0	1031.4	1032.7	1034.7	1037.2	1039.9	1042.5	1045.2	1048.6
145°	1068.2	1067.9	1067.7	1067.6	1067.3	1068.9	1072.4	1075.8	1079.3	1082.8	1085.0
147.5°	1104.2	1103.5	1102.7	1101.9	1101.1	1102.4	1105.9	1109.2	1112.7	1116.1	1117.2
150°	1127.7	1126.2	1124.8	1123.3	1122.0	1122.8	1126.1	1129.4	1132.6	1135.8	1137.1
152.5°	1147.4	1145.8	1144.2	1142.6	1141.1	1141.8	1144.9	1148.0	1151.1	1154.2	1155.4
155°	1176.1	1174.3	1172.5	1170.6	1168.8	1169.2	1171.6	1174.0	1176.5	1178.9	1180.1
157.5°	1198.7	1197.1	1195.6	1194.0	1192.5	1192.6	1194.3	1195.9	1197.7	1199.4	1200.8
160°	1211.9	1210.7	1209.4	1208.2	1206.9	1206.9	1208.2	1209.4	1210.7	1211.9	1213.1
162.5°	1223.6	1222.4	1221.1	1219.9	1218.7	1218.6	1219.6	1220.7	1221.8	1222.8	1224.2
165°	1239.3	1238.0	1236.8	1235.6	1234.4	1234.1	1234.7	1235.4	1236.0	1236.6	1237.9
167.5°	1251.0	1249.8	1248.5	1247.3	1246.1	1245.8	1246.4	1246.9	1247.5	1248.1	1249.5
170°	1257.6	1256.4	1255.2	1254.0	1252.8	1252.3	1252.8	1253.1	1253.5	1254.0	1255.3
172.5°	1262.0	1260.8	1259.6	1258.4	1257.1	1256.7	1257.1	1257.5	1257.9	1258.4	1259.7
175°	1267.7	1266.3	1264.8	1263.4	1262.0	1261.5	1261.9	1262.3	1262.7	1263.1	1264.6
177.5°	1268.6	1267.5	1266.3	1265.2	1264.0	1263.5	1263.7	1263.9	1264.0	1264.2	1265.3
180°	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7
2.5°	442.3	442.8	443.4	443.6	443.3	443.2	442.9	442.6
5°	440.9	441.8	442.6	443.0	442.8	442.7	442.6	442.4
7.5°	438.8	439.8	440.8	441.3	441.2	441.0	440.8	440.7
10°	437.0	438.1	439.3	439.8	439.6	439.5	439.4	439.2
12.5°	433.9	435.1	436.2	436.7	436.5	436.4	436.3	436.1
15°	428.3	429.6	430.8	431.4	431.3	431.1	430.9	430.8
17.5°	421.0	422.4	423.7	424.4	424.4	424.4	424.4	424.4
20°	415.3	416.9	418.4	419.2	419.2	419.2	419.2	419.2
22.5°	409.1	410.7	412.3	413.2	413.5	413.6	413.9	414.1
25°	399.5	401.2	402.9	404.1	404.5	404.9	405.4	405.8
27.5°	388.9	391.1	393.2	394.4	394.8	395.1	395.4	395.7
30°	381.4	383.7	386.0	387.3	387.7	388.1	388.6	389.0
32.5°	373.3	375.9	378.6	380.3	381.1	381.9	382.6	383.4
35°	361.9	365.1	368.2	370.2	371.3	372.2	373.2	374.3
37.5°	350.1	353.6	357.1	359.3	360.4	361.4	362.5	363.6
40°	341.8	345.5	349.2	351.7	353.0	354.3	355.6	356.9
42.5°	333.7	337.8	341.8	344.6	345.8	347.1	348.4	349.7
45°	321.4	325.8	330.2	333.1	334.6	336.0	337.4	338.9
47.5°	308.5	313.1	317.8	320.9	322.4	324.0	325.6	327.2
50°	299.7	304.5	309.4	312.6	314.3	315.8	317.4	318.9
52.5°	290.2	295.2	300.1	303.4	305.1	306.9	308.5	310.2
55°	275.9	281.0	286.1	289.6	291.5	293.3	295.2	297.0
57.5°	260.7	266.2	271.8	275.5	277.4	279.3	281.2	283.1
60°	250.7	256.1	261.6	265.3	267.3	269.3	271.3	273.3
62.5°	240.0	245.8	251.6	255.5	257.4	259.2	261.1	263.0
65°	223.9	229.8	235.7	239.5	241.3	243.2	245.0	246.9
67.5°	207.6	213.4	219.4	223.3	225.2	227.2	229.2	231.1
70°	196.2	202.3	208.4	212.4	214.1	215.9	217.6	219.3
72.5°	185.2	191.2	197.3	201.3	203.3	205.3	207.4	209.5
75°	168.6	174.7	180.8	184.9	186.7	188.6	190.4	192.3
77.5°	152.3	158.4	164.5	168.6	170.6	172.5	174.6	176.6
80°	141.3	147.2	153.3	157.2	159.3	161.3	163.2	165.2
82.5°	131.0	137.0	142.9	146.9	148.8	150.7	152.6	154.5
85°	116.1	122.2	128.2	132.2	134.1	136.2	138.2	140.2
87.5°	107.8	113.8	119.9	123.8	125.8	127.7	129.6	131.5
90°	116.7	123.4	130.1	134.6	136.6	138.8	140.9	143.0
92.5°	113.7	119.9	126.0	130.0	132.0	134.0	136.0	137.8
95°	122.5	129.0	135.4	139.4	140.9	142.4	144.0	145.4
97.5°	128.4	134.5	140.6	144.6	146.5	148.4	150.4	152.3
100°	130.3	137.2	144.1	148.6	150.6	152.6	154.5	156.5
102.5°	128.9	136.2	143.5	148.2	150.3	152.5	154.6	156.8
105°	125.6	132.9	140.1	144.9	147.3	149.6	152.1	154.5
107.5°	133.2	135.8	138.3	140.8	143.1	145.5	147.9	150.2
110°	175.6	159.8	144.0	137.3	139.7	142.2	144.5	146.9



TEST NUMBER: P331324-935

CATALOG NUMBER: SA2XXDIP-C485D1080U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	308.1	238.5	168.8	135.2	137.3	139.6	141.8	144.0
115°	423.5	333.6	243.7	192.3	179.2	166.2	153.1	140.0
117.5°	621.7	603.1	584.6	552.0	505.3	458.7	412.0	365.3
120°	714.0	720.5	726.9	717.1	691.3	665.4	639.6	613.6
122.5°	751.9	757.2	762.7	763.4	759.3	755.4	751.4	747.3
125°	805.8	811.1	816.4	820.0	821.9	823.8	825.7	827.6
127.5°	855.3	860.9	866.6	870.0	871.4	872.8	874.2	875.6
130°	886.7	892.4	898.1	901.4	902.3	903.3	904.2	905.2
132.5°	917.2	922.5	927.6	930.7	931.7	932.6	933.6	934.5
135°	960.8	965.9	970.9	973.8	974.5	975.3	975.9	976.7
137.5°	1001.1	1005.7	1010.3	1012.8	1013.1	1013.3	1013.7	1013.9
140°	1027.3	1031.4	1035.5	1037.5	1037.3	1037.2	1037.1	1036.9
142.5°	1052.1	1055.7	1059.1	1060.8	1060.5	1060.2	1059.9	1059.6
145°	1087.4	1089.6	1091.9	1092.9	1092.6	1092.3	1092.0	1091.7
147.5°	1118.4	1119.6	1120.8	1121.1	1120.6	1120.1	1119.6	1119.0
150°	1138.3	1139.5	1140.7	1140.8	1139.8	1138.8	1137.8	1136.8
152.5°	1156.6	1157.9	1159.1	1159.0	1157.6	1156.3	1154.9	1153.7
155°	1181.3	1182.6	1183.8	1183.5	1181.9	1180.3	1178.7	1177.1
157.5°	1202.1	1203.5	1204.9	1204.8	1203.2	1201.6	1200.1	1198.4
160°	1214.3	1215.5	1216.7	1216.6	1215.2	1213.8	1212.4	1210.9
162.5°	1225.5	1226.9	1228.4	1228.1	1226.4	1224.7	1222.9	1221.2
165°	1239.4	1240.8	1242.3	1242.3	1240.8	1239.4	1237.9	1236.6
167.5°	1250.9	1252.3	1253.8	1253.5	1251.7	1249.9	1248.1	1246.2
170°	1256.8	1258.2	1259.6	1259.4	1257.6	1255.8	1254.0	1252.1
172.5°	1261.2	1262.6	1264.0	1263.9	1262.0	1260.2	1258.4	1256.5
175°	1265.9	1267.4	1268.8	1268.5	1266.4	1264.4	1262.4	1260.3
177.5°	1266.4	1267.6	1268.8	1268.6	1267.1	1265.7	1264.2	1262.7
180°	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9

(END OF REPORT)