

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: P331726-930

Luminaire Tested: **SA2XXRDIP-C865D925U930-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331726-930
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: SA2XXRDIP-C865D925U930-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 925 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

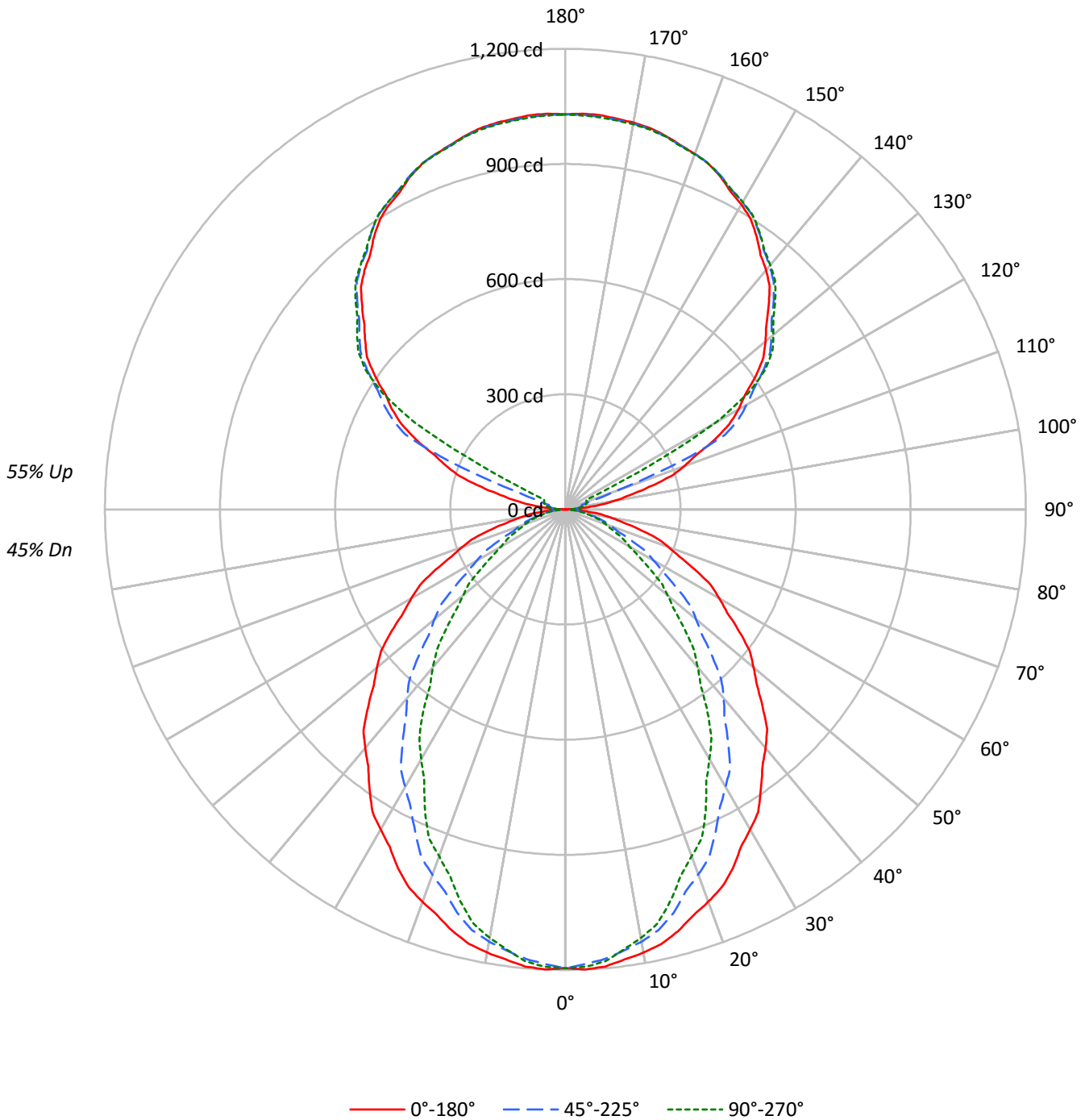
Lumens per Lamp: N/A
Luminaire Lumens: 5476.9 lumens
Efficiency: N/A
Efficacy: 90.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 60.5
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	106	106	106	106	97	97	97	97	81	81	81	65	65	65	51	51	51	45
1	97	93	89	86	89	85	82	79	71	69	67	58	57	55	46	45	44	39
2	89	82	76	71	81	75	70	66	63	59	56	52	49	47	41	39	38	33
3	81	72	65	60	74	66	60	55	56	51	48	46	43	40	37	35	33	29
4	74	64	56	51	68	59	53	47	50	45	41	41	38	35	33	31	29	25
5	68	57	49	44	63	53	46	41	45	40	36	37	33	30	30	27	25	22
6	63	52	44	38	58	48	41	36	41	35	31	34	30	27	27	25	22	19
7	59	47	39	34	54	43	36	32	37	32	28	31	27	24	25	22	20	17
8	54	42	35	30	50	39	33	28	34	28	25	28	24	21	23	20	18	16
9	51	39	31	27	47	36	30	25	31	26	22	26	22	19	22	19	16	14
10	47	36	29	24	44	33	27	23	29	24	20	24	20	18	20	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19302	19302	19302
5°	19376	19060	19164
10°	19226	18748	18589
15°	19005	18191	17668
20°	18699	17399	16526
25°	18387	16498	15419
30°	17952	15571	13998
35°	17527	14564	12751
40°	17102	13523	11310
45°	16600	12353	10003
50°	16088	11170	8721
55°	15564	9897	7491
60°	14951	8561	6219
65°	14258	7194	5662
70°	13430	5925	5207
75°	12420	5402	4860
80°	10962	4826	4426
85°	8633	3798	3798



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.9	2.0
10°-20°	307.2	5.6
20°-30°	431.5	7.9
30°-40°	470.5	8.6
40°-50°	432.6	7.9
50°-60°	339.7	6.2
60°-70°	221.5	4.0
70°-80°	114.2	2.1
80°-90°	32.2	0.6
90°-100°	34.3	0.6
100°-110°	125.9	2.3
110°-120°	336.5	6.1
120°-130°	555.4	10.1
130°-140°	590.7	10.8
140°-150°	549.0	10.0
150°-160°	441.4	8.1
160°-170°	284.5	5.2
170°-180°	97.9	1.8
0°-30°	850.6	15.5
0°-40°	1321.1	24.1
0°-60°	2093.4	38.2
0°-90°	2461.3	44.9
90°-120°	496.7	9.1
90°-150°	2191.9	40.0
90°-180°	3016.0	55.1
0°-180°	5476.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1196	1196	1196	1196	1196	
5°	1196	1190	1176	1185	1182	113
15°	1137	1124	1088	1068	1057	320
25°	1032	995	926	883	866	474
35°	889	832	739	673	647	556
45°	727	652	541	467	438	561
55°	553	467	352	289	266	494
65°	373	285	188	153	148	370
75°	199	126	87	79	78	211
85°	47	25	20	20	20	55
90°	1	9	15	18	20	4
95°	48	26	29	33	32	59
105°	226	236	45	53	57	242
115°	428	441	459	131	61	421
125°	605	615	629	634	637	540
135°	749	761	768	775	774	578
145°	869	869	881	886	882	543
155°	957	951	959	963	958	441
165°	1008	1004	1006	1011	1006	285
175°	1031	1026	1028	1032	1025	98
180°	1029	1029	1029	1029	1029	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5
2.5°	1199.8	1198.8	1197.8	1196.9	1196.0	1194.4	1192.3	1190.2	1188.1	1185.9	1187.9
5°	1195.5	1194.3	1193.0	1191.8	1190.7	1188.5	1185.4	1182.3	1179.1	1176.0	1178.1
7.5°	1183.1	1181.6	1180.1	1178.7	1177.1	1174.6	1170.9	1167.3	1163.6	1159.9	1160.6
10°	1172.7	1171.0	1169.4	1167.7	1166.0	1162.8	1158.0	1153.2	1148.3	1143.5	1142.8
12.5°	1159.8	1157.6	1155.6	1153.6	1151.4	1147.4	1141.2	1135.1	1128.9	1122.7	1121.4
15°	1137.0	1134.4	1131.7	1129.1	1126.4	1121.0	1112.9	1104.7	1096.5	1088.3	1083.8
17.5°	1109.1	1105.1	1101.1	1097.0	1093.0	1085.7	1075.2	1064.7	1054.3	1043.7	1038.4
20°	1088.3	1083.5	1078.7	1073.9	1069.1	1060.7	1048.6	1036.7	1024.7	1012.6	1006.6
22.5°	1065.8	1060.5	1055.1	1049.7	1044.3	1034.9	1021.2	1007.7	994.2	980.6	972.8
25°	1032.1	1024.4	1016.7	1009.0	1001.4	989.5	973.6	957.8	941.9	926.1	916.2
27.5°	991.4	983.0	974.7	966.3	958.0	944.9	926.9	909.1	891.1	873.3	861.8
30°	962.9	953.7	944.6	935.5	926.3	912.2	892.9	873.7	854.4	835.2	823.0
32.5°	935.1	924.5	913.8	903.1	892.4	877.3	857.7	838.0	818.5	798.8	784.9
35°	889.2	877.0	864.8	852.5	840.2	823.5	802.3	781.2	760.1	738.9	723.7
37.5°	843.4	830.0	816.5	803.0	789.5	771.5	749.0	726.4	703.9	681.3	664.6
40°	811.4	797.0	782.5	768.1	753.7	734.8	711.5	688.2	664.9	641.6	624.4
42.5°	778.5	763.3	748.1	733.0	717.7	698.1	674.0	649.9	625.8	601.7	584.1
45°	727.0	710.9	694.8	678.7	662.6	641.9	616.7	591.4	566.1	541.0	523.8
47.5°	676.8	659.7	642.7	625.6	608.5	586.9	560.9	534.8	508.7	482.7	465.8
50°	640.5	623.4	606.3	589.2	572.2	550.4	524.0	497.5	471.1	444.7	428.0
52.5°	605.0	587.1	569.3	551.5	533.6	511.8	485.9	460.0	434.1	408.3	392.2
55°	552.9	534.1	515.4	496.6	477.8	455.4	429.5	403.5	377.6	351.6	337.2
57.5°	499.4	480.1	460.9	441.6	422.5	400.4	375.4	350.4	325.5	300.5	287.3
60°	463.0	443.8	424.6	405.4	386.1	364.1	339.3	314.5	289.8	265.1	252.8
62.5°	427.5	408.3	389.1	369.8	350.6	329.2	305.6	282.0	258.4	234.7	223.1
65°	373.2	353.8	334.3	314.8	295.4	274.8	253.2	231.5	209.9	188.3	180.1
67.5°	320.9	301.6	282.3	262.9	243.5	224.1	204.7	185.2	165.8	146.3	142.5
70°	284.5	265.8	247.0	228.3	209.5	191.8	175.3	158.7	142.1	125.5	123.1
72.5°	249.9	232.0	213.9	196.0	178.0	162.3	149.0	135.7	122.4	109.1	107.0
75°	199.1	182.2	165.4	148.5	131.8	119.3	111.0	102.9	94.7	86.6	84.9
77.5°	149.1	134.3	119.5	104.8	90.0	80.7	76.7	72.8	68.9	64.9	63.9
80°	117.9	105.7	93.4	81.1	68.9	61.6	59.1	56.7	54.3	51.9	51.0
82.5°	89.4	79.8	70.2	60.7	51.1	45.5	43.9	42.2	40.6	39.0	38.4
85°	46.6	41.5	36.4	31.4	26.3	23.5	22.7	22.0	21.3	20.5	20.5
87.5°	14.0	12.8	11.7	10.4	9.3	8.8	9.1	9.4	9.6	9.9	9.9
90°	0.7	2.5	4.4	6.2	8.0	9.6	10.9	12.2	13.5	14.9	15.7
92.5°	15.0	14.8	14.7	14.5	14.3	14.6	15.3	16.0	16.6	17.3	17.7
95°	48.4	43.0	37.5	32.0	26.6	24.4	25.6	26.7	27.9	29.0	29.8
97.5°	96.0	80.6	65.3	49.9	34.5	28.1	30.8	33.5	36.2	38.9	39.5
100°	131.8	109.1	86.4	63.8	41.1	31.2	34.0	36.9	39.6	42.5	43.8
102.5°	171.1	166.3	161.5	156.7	151.9	137.8	114.2	90.7	67.2	43.6	45.3
105°	226.3	231.3	236.3	241.2	246.2	226.1	180.9	135.7	90.6	45.4	47.2
107.5°	289.3	293.3	297.3	301.3	305.4	280.3	226.1	171.9	117.7	63.6	61.7
110°	329.9	333.4	336.8	340.3	343.7	321.6	273.8	225.9	178.1	130.3	113.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	367.9	371.0	374.1	377.2	380.3	375.9	364.1	352.3	340.5	328.6	268.3
115°	428.1	431.0	433.7	436.6	439.4	442.9	447.0	451.2	455.3	459.4	382.8
117.5°	481.9	485.0	488.2	491.4	494.5	497.5	500.3	503.2	506.1	508.8	490.3
120°	521.2	523.7	526.2	528.6	531.2	533.9	536.9	539.8	542.8	545.8	547.8
122.5°	554.6	557.2	559.8	562.4	565.0	567.9	571.2	574.5	577.7	581.0	582.1
125°	605.4	607.5	609.7	611.8	614.0	616.6	619.8	622.9	626.1	629.2	630.4
127.5°	651.3	653.8	656.2	658.5	660.9	663.2	665.6	668.0	670.3	672.7	674.3
130°	680.6	683.2	685.8	688.5	691.1	693.4	695.2	697.0	698.9	700.7	702.5
132.5°	710.4	712.6	714.9	717.1	719.3	721.4	723.3	725.0	726.8	728.6	730.3
135°	749.1	751.7	754.4	757.0	759.7	761.7	763.2	764.8	766.2	767.7	769.3
137.5°	788.2	790.1	792.0	793.8	795.7	797.4	799.1	800.8	802.5	804.2	805.8
140°	813.8	815.2	816.5	817.8	819.1	820.8	822.6	824.3	826.2	828.0	829.5
142.5°	835.3	836.5	837.7	838.9	840.1	841.7	843.8	845.9	848.0	850.0	851.4
145°	868.9	868.8	868.6	868.5	868.3	869.6	872.5	875.2	878.1	880.8	882.0
147.5°	898.3	897.6	897.1	896.4	895.8	896.8	899.6	902.5	905.2	908.0	908.8
150°	917.4	916.2	915.0	913.9	912.7	913.5	916.2	918.8	921.5	924.1	925.0
152.5°	933.4	932.1	930.8	929.6	928.3	928.9	931.4	933.9	936.5	939.0	940.0
155°	956.8	955.4	953.8	952.4	950.9	951.1	953.1	955.1	957.1	959.0	960.0
157.5°	975.1	973.9	972.7	971.3	970.1	970.2	971.6	973.0	974.4	975.8	976.9
160°	985.9	984.9	983.9	982.8	981.9	981.9	982.8	983.9	984.9	985.9	986.8
162.5°	995.4	994.4	993.4	992.4	991.4	991.3	992.2	993.0	993.9	994.8	995.9
165°	1008.2	1007.2	1006.2	1005.2	1004.2	1004.0	1004.4	1004.9	1005.5	1006.0	1007.1
167.5°	1017.7	1016.8	1015.8	1014.7	1013.7	1013.5	1014.0	1014.4	1014.9	1015.4	1016.5
170°	1023.1	1022.1	1021.1	1020.1	1019.1	1018.8	1019.1	1019.5	1019.8	1020.1	1021.2
172.5°	1026.6	1025.6	1024.7	1023.7	1022.7	1022.4	1022.7	1023.0	1023.4	1023.7	1024.8
175°	1031.3	1030.1	1029.0	1027.8	1026.6	1026.2	1026.5	1026.9	1027.2	1027.5	1028.7
177.5°	1032.0	1031.1	1030.2	1029.2	1028.3	1027.9	1028.1	1028.2	1028.3	1028.4	1029.4
180°	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5
2.5°	1189.8	1191.7	1193.6	1194.4	1194.0	1193.6	1193.3	1192.9
5°	1180.3	1182.4	1184.6	1185.4	1184.6	1183.9	1183.2	1182.4
7.5°	1161.2	1161.8	1162.5	1162.1	1160.9	1159.7	1158.4	1157.2
10°	1142.1	1141.3	1140.6	1139.5	1138.1	1136.7	1135.2	1133.8
12.5°	1120.1	1118.8	1117.5	1115.7	1113.3	1110.9	1108.5	1106.1
15°	1079.2	1074.6	1070.1	1066.6	1064.2	1061.8	1059.4	1057.0
17.5°	1032.9	1027.4	1022.1	1017.2	1013.1	1009.0	1004.9	1000.7
20°	1000.6	994.6	988.6	982.9	977.6	972.3	967.0	961.8
22.5°	965.2	957.4	949.7	943.8	939.9	935.9	932.0	928.1
25°	906.4	896.5	886.6	879.9	876.3	872.7	869.1	865.5
27.5°	850.3	838.8	827.3	818.7	813.0	807.2	801.5	795.8
30°	810.7	798.4	786.1	776.7	770.3	763.8	757.3	750.8
32.5°	770.9	756.8	742.9	732.8	726.8	720.6	714.5	708.4
35°	708.6	693.5	678.3	668.1	662.8	657.5	652.2	646.9
37.5°	648.0	631.3	614.7	603.2	597.2	591.1	585.1	579.0
40°	607.4	590.4	573.2	561.6	555.4	549.1	542.8	536.6
42.5°	566.5	548.8	531.2	519.3	513.2	507.2	501.1	495.0
45°	506.8	489.8	472.6	461.2	455.4	449.7	443.9	438.1
47.5°	448.7	431.8	414.8	403.7	398.5	393.2	388.0	382.8
50°	411.5	394.8	378.3	367.5	362.4	357.3	352.3	347.2
52.5°	376.3	360.3	344.2	333.9	329.2	324.6	319.9	315.3
55°	322.8	308.3	293.9	284.4	279.8	275.2	270.7	266.1
57.5°	274.1	260.9	247.7	239.1	235.3	231.4	227.6	223.7
60°	240.5	228.3	216.0	208.0	204.1	200.2	196.4	192.6
62.5°	211.4	199.7	188.0	181.0	178.7	176.4	174.1	171.8
65°	171.9	163.7	155.6	151.1	150.3	149.7	149.0	148.2
67.5°	138.8	135.0	131.3	129.0	128.2	127.4	126.7	126.0
70°	120.7	118.3	115.9	114.2	113.2	112.3	111.3	110.3
72.5°	105.0	103.0	100.9	99.7	99.1	98.5	97.9	97.3
75°	83.2	81.5	79.8	78.8	78.6	78.4	78.1	77.9
77.5°	63.0	62.0	61.1	60.4	60.0	59.6	59.3	58.9
80°	50.0	49.1	48.1	47.6	47.6	47.6	47.6	47.6
82.5°	37.8	37.2	36.6	36.4	36.4	36.4	36.4	36.4
85°	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5
87.5°	9.9	9.8	9.8	9.8	9.9	9.9	10.0	10.1
90°	16.6	17.4	18.2	18.8	19.1	19.4	19.8	20.1
92.5°	18.1	18.6	19.0	19.3	19.5	19.7	19.9	20.1
95°	30.7	31.6	32.4	32.7	32.5	32.4	32.2	32.0
97.5°	40.2	40.8	41.5	41.9	42.2	42.3	42.6	42.7
100°	45.1	46.4	47.8	48.6	48.9	49.2	49.6	49.9
102.5°	47.0	48.8	50.5	51.6	52.1	52.5	53.0	53.5
105°	49.1	50.9	52.7	54.0	54.6	55.3	55.9	56.6
107.5°	59.8	58.0	56.2	55.6	56.3	56.9	57.6	58.2
110°	97.2	80.6	64.1	56.2	56.8	57.5	58.1	58.9



TEST NUMBER: P331726-930

CATALOG NUMBER: SA2XXRDIP-C865D925U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	208.0	147.6	87.2	57.3	57.8	58.4	58.9	59.4
115°	306.2	229.6	153.0	108.7	96.8	84.9	73.0	61.1
117.5°	471.8	453.3	434.7	405.9	366.7	327.6	288.5	249.3
120°	549.8	551.8	553.8	543.6	521.2	498.9	476.5	454.2
122.5°	583.3	584.5	585.7	584.2	579.8	575.4	571.1	566.8
125°	631.5	632.7	633.8	634.6	635.1	635.6	636.2	636.7
127.5°	676.0	677.8	679.5	680.3	680.4	680.5	680.6	680.7
130°	704.3	706.1	707.9	708.8	708.7	708.4	708.3	708.1
132.5°	731.8	733.4	734.9	735.6	735.4	735.2	735.1	734.9
135°	771.0	772.7	774.3	774.9	774.6	774.3	774.0	773.6
137.5°	807.4	809.0	810.7	811.2	810.7	810.1	809.5	808.9
140°	831.0	832.5	834.0	834.3	833.5	832.7	831.8	831.0
142.5°	852.7	854.1	855.5	855.7	854.9	854.1	853.3	852.4
145°	883.2	884.4	885.5	885.7	884.8	884.0	883.2	882.4
147.5°	909.7	910.5	911.4	911.5	910.8	910.1	909.4	908.7
150°	926.0	927.1	928.1	928.1	927.3	926.4	925.6	924.8
152.5°	940.9	941.9	942.9	942.9	941.8	940.7	939.6	938.5
155°	961.1	962.1	963.0	962.9	961.6	960.2	958.9	957.6
157.5°	978.0	979.1	980.2	980.2	978.8	977.5	976.2	975.0
160°	987.8	988.9	989.9	989.8	988.6	987.4	986.3	985.1
162.5°	997.0	998.2	999.3	999.1	997.8	996.3	994.9	993.4
165°	1008.3	1009.4	1010.6	1010.6	1009.4	1008.3	1007.1	1006.0
167.5°	1017.7	1018.8	1020.0	1019.8	1018.3	1016.8	1015.4	1013.8
170°	1022.5	1023.6	1024.7	1024.6	1023.1	1021.6	1020.1	1018.6
172.5°	1026.0	1027.2	1028.3	1028.2	1026.6	1025.2	1023.7	1022.2
175°	1029.9	1031.0	1032.2	1031.9	1030.3	1028.7	1027.0	1025.3
177.5°	1030.3	1031.3	1032.2	1032.0	1030.9	1029.6	1028.4	1027.3
180°	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1

(END OF REPORT)