

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: P331720-930

Luminaire Tested: **SA2XXRDIP-C865D725U930-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331720-930  
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-C865D725U930-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 725 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4822.7 lumens  
Efficiency: N/A  
Efficacy: 88.7 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

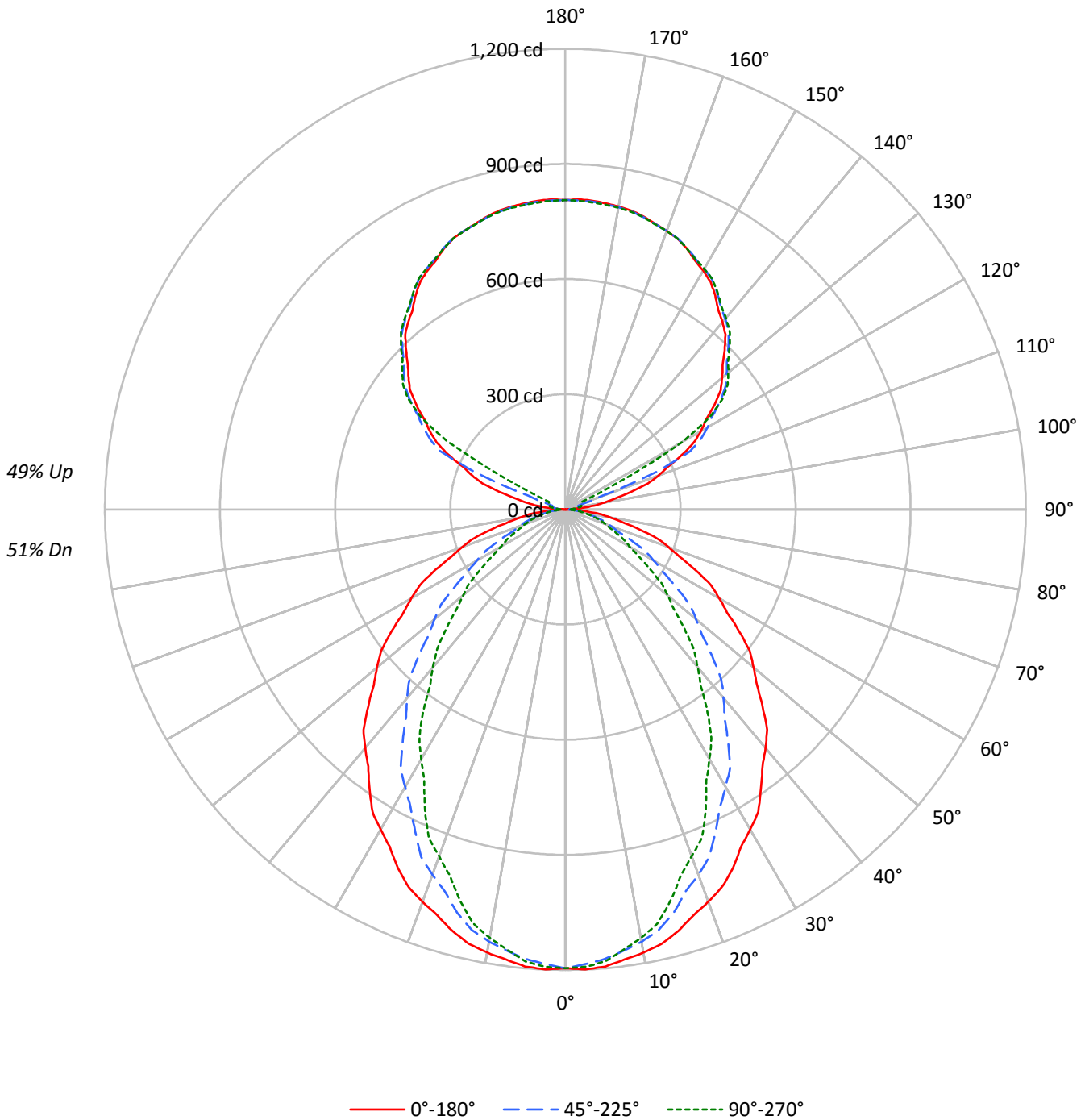
Input Watts (W): 54.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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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	84	84	84	70	70	70	57	57	57	51
1	98	94	91	87	91	87	84	81	74	72	70	62	61	59	51	50	49	44
2	90	83	77	72	83	77	72	68	66	62	59	55	53	50	46	44	42	38
3	82	73	66	61	76	68	62	57	58	54	50	49	46	43	41	38	36	32
4	76	65	58	52	70	61	54	49	52	47	43	44	40	37	37	34	32	28
5	70	58	50	45	64	54	47	42	47	42	37	40	36	33	33	30	28	25
6	64	53	45	39	59	49	42	37	42	37	33	36	32	29	31	27	25	22
7	60	48	40	34	55	45	38	33	39	33	29	33	29	26	28	25	22	20
8	55	43	36	31	51	41	34	29	35	30	26	30	26	23	26	23	20	18
9	52	40	32	27	48	37	31	26	33	27	23	28	24	21	24	21	18	16
10	48	37	29	25	45	34	28	24	30	25	21	26	22	19	22	19	17	15

**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	2.3
10°-20°	307.2	6.4
20°-30°	431.5	8.9
30°-40°	470.5	9.8
40°-50°	432.6	9.0
50°-60°	339.7	7.0
60°-70°	221.5	4.6
70°-80°	114.2	2.4
80°-90°	31.6	0.7
90°-100°	26.9	0.6
100°-110°	98.6	2.0
110°-120°	263.5	5.5
120°-130°	435.0	9.0
130°-140°	462.7	9.6
140°-150°	430.0	8.9
150°-160°	345.7	7.2
160°-170°	222.8	4.6
170°-180°	76.7	1.6
0°-30°	850.6	17.6
0°-40°	1321.1	27.4
0°-60°	2093.4	43.4
0°-90°	2460.7	51.0
90°-120°	389.0	8.1
90°-150°	1716.8	35.6
90°-180°	2362.0	49.0
0°-180°	4822.7	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	7	12	14	16	4
95°	38	20	23	26	25	46
105°	177	185	36	42	44	189
115°	335	346	360	102	48	330
125°	474	482	493	497	499	423
135°	587	596	601	607	606	453
145°	681	681	690	694	691	426
155°	749	745	751	754	750	345
165°	790	786	788	792	788	223
175°	808	804	805	808	803	77
180°	806	806	806	806	806	



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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°	13.9	12.7	11.5	10.2	9.0	8.4	8.6	8.8	9.0	9.3	9.2
90°	0.6	2.0	3.4	4.9	6.3	7.5	8.6	9.6	10.6	11.7	12.3
92.5°	11.7	11.7	11.5	11.4	11.3	11.5	12.0	12.5	13.0	13.5	13.9
95°	37.9	33.7	29.4	25.1	20.8	19.1	20.1	21.0	21.9	22.7	23.4
97.5°	75.3	63.2	51.1	39.1	27.0	22.0	24.1	26.3	28.4	30.4	31.0
100°	103.2	85.4	67.8	50.0	32.2	24.5	26.7	28.9	31.1	33.3	34.2
102.5°	134.0	130.3	126.5	122.8	119.0	107.9	89.4	71.0	52.6	34.2	35.5
105°	177.3	181.2	185.1	189.0	192.8	177.1	141.7	106.3	70.9	35.5	37.0
107.5°	226.7	229.8	232.9	236.0	239.2	219.6	177.1	134.7	92.2	49.8	48.3
110°	258.4	261.1	263.8	266.5	269.2	251.8	214.4	177.0	139.5	102.1	89.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	288.2	290.7	293.0	295.5	297.8	294.4	285.2	275.9	266.7	257.4	210.2
115°	335.3	337.5	339.7	341.9	344.1	346.9	350.1	353.4	356.6	359.9	299.9
117.5°	377.5	379.9	382.4	384.8	387.3	389.6	391.9	394.1	396.3	398.6	384.1
120°	408.2	410.2	412.1	414.1	416.0	418.2	420.5	422.8	425.2	427.5	429.0
122.5°	434.4	436.4	438.5	440.5	442.5	444.8	447.4	450.0	452.5	455.0	455.9
125°	474.2	475.8	477.5	479.2	480.9	483.0	485.4	487.9	490.3	492.8	493.7
127.5°	510.2	512.1	514.0	515.8	517.6	519.5	521.4	523.2	525.1	526.8	528.2
130°	533.0	535.2	537.2	539.2	541.4	543.1	544.5	545.9	547.4	548.8	550.2
132.5°	556.4	558.2	559.9	561.7	563.5	565.0	566.5	567.9	569.3	570.7	571.9
135°	586.7	588.8	590.8	593.0	595.0	596.6	597.8	598.9	600.1	601.3	602.6
137.5°	617.4	618.8	620.3	621.7	623.2	624.6	625.9	627.2	628.5	629.9	631.1
140°	637.5	638.5	639.5	640.6	641.6	642.9	644.2	645.7	647.1	648.6	649.7
142.5°	654.3	655.2	656.2	657.0	657.9	659.3	660.9	662.5	664.1	665.8	666.8
145°	680.6	680.4	680.4	680.2	680.1	681.1	683.3	685.5	687.7	689.9	690.9
147.5°	703.6	703.1	702.6	702.1	701.6	702.5	704.7	706.8	709.0	711.2	711.8
150°	718.5	717.6	716.7	715.8	714.9	715.5	717.5	719.6	721.7	723.7	724.6
152.5°	731.1	730.1	729.1	728.1	727.1	727.6	729.5	731.5	733.4	735.4	736.2
155°	749.4	748.3	747.1	745.9	744.8	744.9	746.5	748.0	749.6	751.1	752.0
157.5°	763.8	762.8	761.8	760.8	759.9	759.9	761.0	762.1	763.1	764.3	765.2
160°	772.2	771.4	770.6	769.8	769.1	769.1	769.8	770.6	771.4	772.2	773.0
162.5°	779.7	778.9	778.1	777.3	776.5	776.5	777.1	777.8	778.5	779.2	780.1
165°	789.7	788.9	788.1	787.3	786.5	786.4	786.8	787.2	787.5	787.9	788.8
167.5°	797.1	796.4	795.6	794.8	794.0	793.8	794.2	794.5	794.9	795.2	796.1
170°	801.4	800.5	799.8	799.0	798.3	797.9	798.3	798.5	798.7	799.0	799.9
172.5°	804.1	803.3	802.6	801.8	801.0	800.8	801.0	801.3	801.5	801.8	802.7
175°	807.7	806.8	805.9	805.0	804.1	803.8	804.0	804.3	804.5	804.9	805.8
177.5°	808.4	807.6	806.9	806.2	805.4	805.1	805.2	805.4	805.4	805.5	806.2
180°	806.0	806.0	806.0	806.0	806.0	806.0	806.0	806.0	806.0	806.0	806.0



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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°	9.1	9.0	9.0	9.0	9.0	9.1	9.1	9.2
90°	13.0	13.6	14.3	14.7	15.0	15.2	15.5	15.7
92.5°	14.2	14.5	14.8	15.2	15.2	15.4	15.6	15.7
95°	24.1	24.7	25.4	25.6	25.4	25.4	25.2	25.1
97.5°	31.5	32.0	32.5	32.9	33.0	33.2	33.3	33.5
100°	35.3	36.4	37.4	38.1	38.3	38.6	38.8	39.1
102.5°	36.9	38.2	39.5	40.4	40.8	41.2	41.5	41.9
105°	38.4	39.9	41.3	42.2	42.8	43.3	43.8	44.4
107.5°	46.9	45.4	44.0	43.5	44.0	44.6	45.1	45.6
110°	76.1	63.2	50.2	44.0	44.5	45.0	45.6	46.1





TEST NUMBER: P331720-930

CATALOG NUMBER: SA2XXRDIP-C865D725U930-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	162.9	115.6	68.3	44.8	45.3	45.7	46.1	46.6
115°	239.9	179.9	119.8	85.1	75.8	66.4	57.2	47.9
117.5°	369.6	355.0	340.5	317.9	287.2	256.6	225.9	195.3
120°	430.6	432.2	433.7	425.7	408.2	390.8	373.2	355.8
122.5°	456.9	457.8	458.8	457.5	454.1	450.7	447.4	443.9
125°	494.6	495.5	496.4	497.1	497.5	497.9	498.2	498.6
127.5°	529.5	530.8	532.1	532.9	533.0	533.0	533.1	533.2
130°	551.6	553.1	554.5	555.1	555.1	554.9	554.7	554.6
132.5°	573.2	574.4	575.6	576.2	576.0	575.9	575.8	575.6
135°	603.9	605.2	606.5	607.0	606.7	606.5	606.2	605.9
137.5°	632.4	633.7	635.0	635.4	635.0	634.5	634.1	633.6
140°	650.9	652.0	653.2	653.5	652.8	652.2	651.5	650.9
142.5°	667.9	669.0	670.0	670.3	669.6	669.0	668.3	667.6
145°	691.8	692.7	693.6	693.7	693.1	692.4	691.8	691.1
147.5°	712.5	713.2	713.9	714.0	713.4	712.8	712.3	711.8
150°	725.3	726.1	726.8	726.9	726.3	725.6	725.0	724.3
152.5°	736.9	737.8	738.6	738.5	737.7	736.8	736.0	735.1
155°	752.8	753.5	754.3	754.2	753.1	752.1	751.1	750.0
157.5°	766.0	766.9	767.8	767.7	766.7	765.6	764.7	763.7
160°	773.7	774.5	775.3	775.2	774.3	773.4	772.5	771.6
162.5°	780.9	781.8	782.7	782.6	781.5	780.3	779.3	778.1
165°	789.7	790.7	791.6	791.6	790.7	789.7	788.8	787.9
167.5°	797.1	798.0	798.9	798.7	797.6	796.5	795.2	794.1
170°	800.8	801.7	802.7	802.5	801.4	800.1	799.0	797.9
172.5°	803.6	804.5	805.4	805.3	804.1	803.0	801.8	800.6
175°	806.7	807.6	808.5	808.3	807.0	805.7	804.4	803.1
177.5°	807.0	807.7	808.5	808.4	807.4	806.5	805.5	804.6
180°	806.0	806.0	806.0	806.0	806.0	806.0	806.0	806.0

(END OF REPORT)