

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: P331721-927

Luminaire Tested: **SA2XXRDIP-C865D725U927-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331721-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C865D725U927-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 725 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

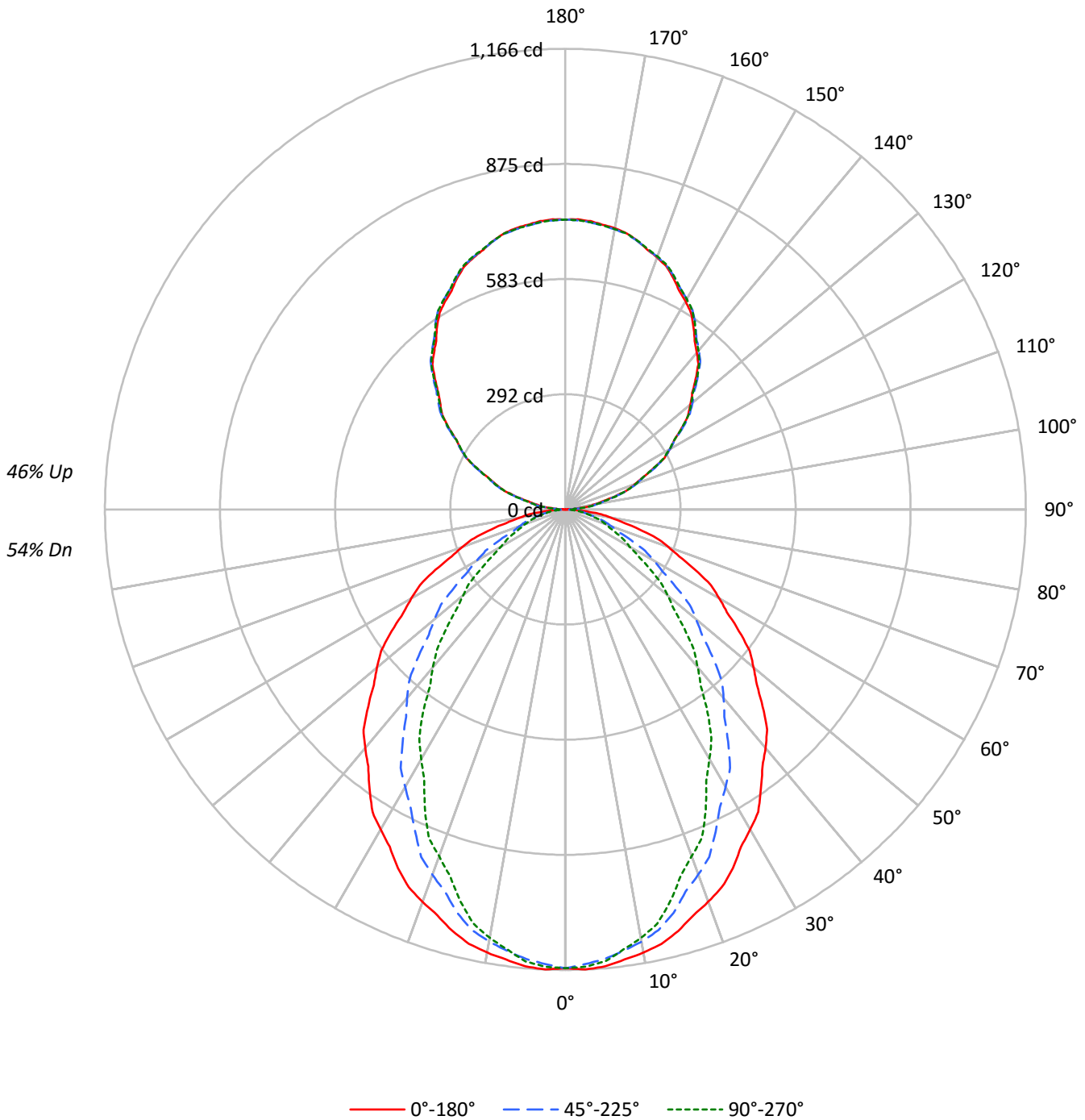
Lumens per Lamp: N/A
Luminaire Lumens: 4443.7 lumens
Efficiency: N/A
Efficacy: 81.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

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	50	30	10	0	
RCR																						
0	108	108	108	108	100	100	100	100	85	85	85	72	72	72	60	60	60	54				
1	99	95	91	88	92	88	85	82	76	73	71	64	62	61	53	52	51	46				
2	91	84	78	73	84	78	73	68	67	63	60	57	54	52	48	46	44	40				
3	83	74	67	61	77	69	63	58	60	55	51	51	47	44	43	40	38	34				
4	76	66	58	52	71	61	55	49	53	48	44	46	42	38	39	36	33	30				
5	70	59	51	45	65	55	48	43	48	42	38	41	37	34	35	32	29	26				
6	65	53	45	39	60	50	43	37	43	38	34	37	33	30	32	29	26	23				
7	60	48	40	35	56	45	38	33	40	34	30	34	30	27	29	26	23	21				
8	56	44	36	31	52	41	34	30	36	31	27	31	27	24	27	24	21	19				
9	52	40	33	28	48	38	31	27	33	28	24	29	25	22	25	22	19	17				
10	49	37	30	25	45	35	28	24	31	25	22	27	23	20	23	20	18	16				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	18755	18755	18755
5°	18827	18519	18621
10°	18682	18216	18061
15°	18467	17677	17167
20°	18170	16905	16057
25°	17865	16030	14982
30°	17443	15129	13601
35°	17030	14152	12390
40°	16617	13139	10989
45°	16130	12001	9720
50°	15631	10854	8475
55°	15122	9619	7279
60°	14528	8315	6042
65°	13857	6988	5501
70°	13053	5755	5061
75°	12071	5246	4722
80°	10646	4695	4305
85°	8373	3705	3705



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.7	2.4
10°-20°	298.5	6.7
20°-30°	419.2	9.4
30°-40°	457.1	10.3
40°-50°	420.3	9.5
50°-60°	330.1	7.4
60°-70°	215.2	4.8
70°-80°	111.0	2.5
80°-90°	31.7	0.7
90°-100°	46.5	1.0
100°-110°	144.4	3.2
110°-120°	246.8	5.6
120°-130°	324.6	7.3
130°-140°	364.3	8.2
140°-150°	357.2	8.0
150°-160°	299.6	6.7
160°-170°	198.7	4.5
170°-180°	69.5	1.6
0°-30°	826.5	18.6
0°-40°	1283.6	28.9
0°-60°	2034.0	45.8
0°-90°	2392.0	53.8
90°-120°	437.7	9.9
90°-150°	1483.9	33.4
90°-180°	2052.0	46.2
0°-180°	4443.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1162	1162	1162	1162	1162	
5°	1162	1156	1143	1151	1149	110
15°	1105	1092	1058	1038	1027	311
25°	1003	967	900	858	841	461
35°	864	808	718	654	629	541
45°	706	634	526	454	426	545
55°	537	453	342	281	259	480
65°	363	277	183	149	144	359
75°	194	122	84	77	76	205
85°	45	24	20	20	20	53
90°	1	8	22	21	21	4
95°	32	38	40	40	38	37
105°	133	135	136	137	137	141
115°	248	251	250	249	248	245
125°	360	366	364	362	362	322
135°	466	473	474	474	472	360
145°	566	570	574	574	572	353
155°	647	649	651	654	652	298
165°	704	703	703	707	705	198
175°	732	731	729	733	730	70
180°	734	734	734	734	734	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6
2.5°	1165.8	1164.8	1163.9	1162.9	1162.1	1160.5	1158.5	1156.4	1154.4	1152.3	1154.2
5°	1161.6	1160.4	1159.2	1158.0	1156.9	1154.8	1151.8	1148.7	1145.7	1142.6	1144.7
7.5°	1149.5	1148.1	1146.7	1145.3	1143.8	1141.3	1137.7	1134.2	1130.6	1127.0	1127.7
10°	1139.5	1137.8	1136.2	1134.6	1132.9	1129.8	1125.1	1120.5	1115.8	1111.1	1110.4
12.5°	1126.9	1124.8	1122.8	1120.9	1118.8	1114.8	1108.8	1102.9	1096.9	1090.9	1089.6
15°	1104.8	1102.2	1099.6	1097.1	1094.5	1089.3	1081.3	1073.4	1065.4	1057.5	1053.0
17.5°	1077.7	1073.7	1069.8	1065.9	1062.0	1054.9	1044.7	1034.5	1024.4	1014.2	1008.9
20°	1057.5	1052.8	1048.1	1043.5	1038.8	1030.6	1018.9	1007.3	995.6	983.9	978.0
22.5°	1035.6	1030.4	1025.2	1019.9	1014.7	1005.5	992.3	979.1	966.0	952.8	945.2
25°	1002.8	995.4	987.9	980.4	973.0	961.5	946.0	930.7	915.2	899.8	890.3
27.5°	963.3	955.1	947.1	938.9	930.8	918.1	900.6	883.3	865.9	848.5	837.3
30°	935.6	926.7	917.8	908.9	900.1	886.3	867.6	848.9	830.2	811.5	799.6
32.5°	908.6	898.3	887.9	877.5	867.1	852.5	833.4	814.3	795.3	776.2	762.6
35°	864.0	852.2	840.3	828.3	816.4	800.2	779.6	759.1	738.6	718.0	703.2
37.5°	819.5	806.4	793.4	780.2	767.1	749.6	727.8	705.8	684.0	662.0	645.8
40°	788.4	774.4	760.3	746.3	732.3	714.0	691.3	668.7	646.0	623.4	606.7
42.5°	756.5	741.6	726.9	712.2	697.4	678.3	654.9	631.4	608.1	584.6	567.5
45°	706.4	690.7	675.1	659.4	643.8	623.7	599.2	574.6	550.1	525.6	509.0
47.5°	657.6	641.0	624.5	607.8	591.3	570.3	545.0	519.7	494.3	469.1	452.6
50°	622.3	605.7	589.1	572.5	556.0	534.8	509.1	483.4	457.7	432.1	415.9
52.5°	587.8	570.5	553.2	535.8	518.5	497.3	472.1	446.9	421.8	396.7	381.1
55°	537.2	519.0	500.7	482.5	464.3	442.5	417.3	392.1	366.9	341.7	327.6
57.5°	485.2	466.5	447.8	429.1	410.5	389.0	364.7	340.5	316.2	292.0	279.2
60°	449.9	431.2	412.6	393.9	375.2	353.8	329.7	305.6	281.6	257.5	245.7
62.5°	415.4	396.7	378.0	359.3	340.6	319.9	296.9	274.0	251.0	228.1	216.7
65°	362.7	343.7	324.8	305.9	287.0	267.0	246.0	225.0	203.9	182.9	175.0
67.5°	311.8	293.0	274.3	255.4	236.6	217.8	198.9	180.0	161.1	142.1	138.5
70°	276.5	258.3	240.0	221.8	203.6	186.4	170.3	154.2	138.1	121.9	119.6
72.5°	242.8	225.4	207.9	190.4	172.9	157.7	144.8	131.8	118.9	106.0	104.0
75°	193.5	177.1	160.7	144.3	128.0	115.9	107.9	100.0	92.1	84.1	82.5
77.5°	144.9	130.5	116.1	101.8	87.5	78.4	74.5	70.7	66.9	63.1	62.1
80°	114.5	102.7	90.8	78.8	66.9	59.8	57.4	55.1	52.8	50.5	49.5
82.5°	86.8	77.6	68.2	58.9	49.7	44.2	42.6	41.0	39.5	37.9	37.3
85°	45.2	40.3	35.4	30.5	25.6	22.8	22.1	21.4	20.7	20.0	20.0
87.5°	13.5	12.4	11.2	10.1	9.0	8.6	9.3	9.8	10.5	11.1	10.9
90°	0.6	2.3	4.0	5.5	7.2	9.6	12.6	15.6	18.6	21.7	21.4
92.5°	11.0	12.2	13.5	14.7	15.8	16.8	17.5	18.2	19.0	19.7	19.7
95°	32.2	33.6	34.9	36.4	37.7	38.5	38.8	39.1	39.4	39.6	39.6
97.5°	58.9	60.0	61.2	62.4	63.7	64.6	65.0	65.6	66.1	66.6	66.6
100°	78.7	79.8	80.8	81.9	83.0	83.8	84.2	84.6	85.0	85.5	85.5
102.5°	99.4	100.3	101.2	102.1	103.0	103.7	104.2	104.7	105.2	105.8	105.8
105°	133.2	133.6	134.0	134.4	134.8	135.1	135.4	135.7	135.9	136.3	136.5
107.5°	167.1	167.7	168.3	168.9	169.4	169.8	169.8	169.8	169.8	169.8	169.9
110°	188.9	189.6	190.5	191.3	192.2	192.6	192.6	192.6	192.6	192.6	192.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	212.6	213.5	214.3	215.1	215.9	216.3	216.2	216.1	215.9	215.9	215.6
115°	247.7	248.5	249.3	250.2	251.0	251.3	251.0	250.7	250.4	250.2	250.0
117.5°	282.6	283.7	284.8	285.9	287.0	287.2	286.4	285.7	284.9	284.1	283.8
120°	305.9	307.0	308.1	309.2	310.3	310.3	309.2	308.1	307.0	305.9	305.9
122.5°	327.2	328.5	329.9	331.1	332.5	332.7	332.0	331.2	330.4	329.6	329.3
125°	360.4	361.6	362.8	364.1	365.4	365.8	365.4	364.9	364.5	364.1	363.7
127.5°	392.7	394.3	395.9	397.4	398.9	399.5	399.0	398.5	398.0	397.5	397.0
130°	413.0	414.8	416.6	418.4	420.2	420.9	420.6	420.3	420.1	419.9	419.5
132.5°	435.8	437.3	438.7	440.1	441.6	442.4	442.4	442.5	442.5	442.6	442.0
135°	466.3	467.8	469.3	470.8	472.3	473.2	473.5	473.7	474.0	474.3	474.2
137.5°	498.4	499.6	500.8	502.1	503.3	504.1	504.5	504.8	505.2	505.5	505.4
140°	517.7	518.9	520.1	521.3	522.6	523.6	524.3	525.0	525.6	526.3	526.3
142.5°	537.5	538.7	540.0	541.2	542.4	543.3	543.8	544.2	544.7	545.2	545.3
145°	565.9	566.9	567.9	568.9	569.8	570.7	571.6	572.4	573.1	574.0	574.2
147.5°	591.4	592.5	593.7	594.8	596.0	596.8	597.4	597.9	598.5	599.0	599.3
150°	608.7	609.5	610.3	611.2	612.0	612.7	613.2	613.8	614.3	614.9	615.3
152.5°	624.0	624.9	625.7	626.5	627.3	628.0	628.8	629.4	630.0	630.7	631.2
155°	647.1	647.5	647.9	648.3	648.7	649.1	649.5	650.0	650.4	650.8	651.5
157.5°	666.8	667.0	667.3	667.6	667.9	668.1	668.4	668.6	668.8	669.1	670.0
160°	678.7	678.9	679.2	679.5	679.8	679.9	680.1	680.2	680.4	680.5	681.4
162.5°	689.5	689.6	689.7	689.7	689.8	689.8	690.0	690.1	690.3	690.4	691.3
165°	704.0	703.9	703.8	703.6	703.5	703.4	703.4	703.4	703.4	703.4	704.4
167.5°	716.1	715.7	715.3	714.9	714.5	714.3	714.3	714.2	714.2	714.2	715.2
170°	722.6	722.2	721.8	721.4	721.0	720.6	720.6	720.4	720.3	720.1	721.1
172.5°	727.1	726.7	726.3	725.8	725.4	725.2	725.0	724.8	724.8	724.6	725.6
175°	732.5	732.1	731.7	731.3	730.9	730.6	730.2	730.0	729.7	729.4	730.4
177.5°	734.7	734.4	734.1	733.7	733.4	733.2	732.9	732.7	732.5	732.3	732.9
180°	733.7	733.7	733.7	733.7	733.7	733.7	733.7	733.7	733.7	733.7	733.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6
2.5°	1156.0	1157.9	1159.8	1160.5	1160.2	1159.8	1159.4	1159.0
5°	1146.8	1148.9	1151.0	1151.8	1151.0	1150.3	1149.6	1148.9
7.5°	1128.3	1128.9	1129.5	1129.2	1128.0	1126.8	1125.5	1124.3
10°	1109.7	1109.0	1108.3	1107.2	1105.8	1104.5	1103.0	1101.6
12.5°	1088.4	1087.1	1085.8	1084.1	1081.7	1079.4	1077.1	1074.8
15°	1048.6	1044.2	1039.7	1036.3	1034.0	1031.7	1029.4	1027.0
17.5°	1003.6	998.3	993.1	988.4	984.4	980.4	976.4	972.3
20°	972.2	966.4	960.5	955.1	949.9	944.8	939.6	934.5
22.5°	937.8	930.3	922.7	917.0	913.2	909.3	905.5	901.7
25°	880.7	871.1	861.5	854.9	851.4	848.0	844.5	841.0
27.5°	826.2	815.0	803.8	795.5	790.0	784.3	778.8	773.2
30°	787.7	775.8	763.8	754.7	748.5	742.1	735.9	729.5
32.5°	749.0	735.4	721.8	712.0	706.2	700.2	694.3	688.3
35°	688.5	673.8	659.1	649.2	644.0	638.9	633.7	628.6
37.5°	629.6	613.4	597.2	586.1	580.3	574.3	568.5	562.6
40°	590.2	573.6	557.0	545.7	539.6	533.5	527.4	521.4
42.5°	550.4	533.2	516.1	504.5	498.7	492.8	486.9	481.0
45°	492.4	475.9	459.2	448.1	442.5	437.0	431.3	425.7
47.5°	436.0	419.5	403.1	392.3	387.2	382.1	377.0	371.9
50°	399.8	383.7	367.6	357.0	352.1	347.2	342.3	337.4
52.5°	365.6	350.1	334.5	324.5	319.9	315.4	310.9	306.3
55°	313.6	299.6	285.6	276.3	271.9	267.4	263.0	258.6
57.5°	266.3	253.5	240.7	232.3	228.6	224.8	221.1	217.4
60°	233.7	221.8	209.8	202.1	198.3	194.6	190.8	187.1
62.5°	205.4	194.1	182.7	175.9	173.6	171.4	169.1	166.9
65°	167.0	159.1	151.1	146.8	146.1	145.4	144.7	144.0
67.5°	134.8	131.2	127.5	125.3	124.6	123.8	123.1	122.4
70°	117.2	114.9	112.6	111.0	110.0	109.1	108.1	107.2
72.5°	102.0	100.1	98.1	96.9	96.3	95.7	95.1	94.6
75°	80.8	79.2	77.6	76.6	76.4	76.1	75.9	75.7
77.5°	61.2	60.3	59.3	58.7	58.3	57.9	57.6	57.2
80°	48.6	47.7	46.7	46.3	46.3	46.3	46.3	46.3
82.5°	36.8	36.1	35.6	35.3	35.3	35.3	35.3	35.3
85°	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
87.5°	10.6	10.3	10.1	10.0	10.0	10.1	10.1	10.1
90°	21.2	20.8	20.6	20.5	20.7	20.8	20.9	21.1
92.5°	19.8	19.9	19.9	20.0	20.0	20.0	20.0	20.0
95°	39.6	39.6	39.6	39.5	39.2	39.0	38.7	38.4
97.5°	66.6	66.6	66.6	66.6	66.6	66.5	66.5	66.5
100°	85.5	85.5	85.5	85.4	85.2	85.1	85.0	84.8
102.5°	106.0	106.1	106.2	106.2	106.1	105.9	105.8	105.6
105°	136.8	137.0	137.4	137.4	137.4	137.4	137.4	137.4
107.5°	170.0	170.1	170.2	170.0	169.4	168.7	168.1	167.5
110°	192.6	192.6	192.6	192.3	191.9	191.5	191.2	190.7



TEST NUMBER: P331721-927

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	215.2	214.8	214.5	214.2	213.9	213.6	213.3	213.0
115°	249.9	249.8	249.6	249.3	248.9	248.5	248.1	247.7
117.5°	283.4	283.1	282.7	282.4	282.0	281.5	281.1	280.7
120°	305.9	305.9	305.9	305.7	305.2	304.8	304.4	304.0
122.5°	329.0	328.7	328.4	328.0	327.7	327.4	327.1	326.9
125°	363.3	362.8	362.4	362.2	362.0	361.9	361.8	361.6
127.5°	396.6	396.0	395.5	395.1	394.7	394.2	393.8	393.3
130°	419.3	419.0	418.7	418.3	417.7	417.2	416.7	416.1
132.5°	441.4	440.8	440.2	439.7	439.2	438.8	438.3	437.9
135°	474.0	473.9	473.7	473.5	473.1	472.7	472.2	471.8
137.5°	505.3	505.2	505.1	504.8	504.2	503.7	503.1	502.6
140°	526.3	526.3	526.3	526.0	525.5	525.0	524.4	523.9
142.5°	545.3	545.5	545.6	545.3	544.8	544.2	543.8	543.2
145°	574.3	574.4	574.6	574.3	573.8	573.2	572.7	572.1
147.5°	599.6	599.9	600.2	600.2	599.6	599.0	598.6	598.0
150°	615.7	616.1	616.6	616.6	616.1	615.7	615.3	614.9
152.5°	631.8	632.3	632.8	632.8	632.3	631.8	631.2	630.7
155°	652.1	652.8	653.6	653.7	653.2	652.8	652.4	652.0
157.5°	671.0	671.9	672.9	673.0	672.3	671.7	671.0	670.3
160°	682.1	683.0	683.8	684.0	683.4	682.9	682.3	681.8
162.5°	692.3	693.2	694.2	694.3	693.6	693.0	692.3	691.7
165°	705.4	706.3	707.3	707.4	706.7	706.0	705.4	704.6
167.5°	716.1	717.1	718.0	718.2	717.5	716.8	716.1	715.3
170°	722.1	723.0	724.0	724.1	723.3	722.4	721.6	720.7
172.5°	726.5	727.5	728.4	728.5	727.7	726.8	726.0	725.2
175°	731.3	732.3	733.2	733.3	732.5	731.7	730.9	730.1
177.5°	733.6	734.3	734.9	734.9	734.3	733.6	732.9	732.3
180°	733.7	733.7	733.7	733.7	733.7	733.7	733.7	733.7

(END OF REPORT)