

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: P332022-830

Luminaire Tested: **S123DIP-S1000D805U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332022-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S1000D805U830-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 805 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6559.3 lumens  
Efficiency: N/A  
Efficacy: 120.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

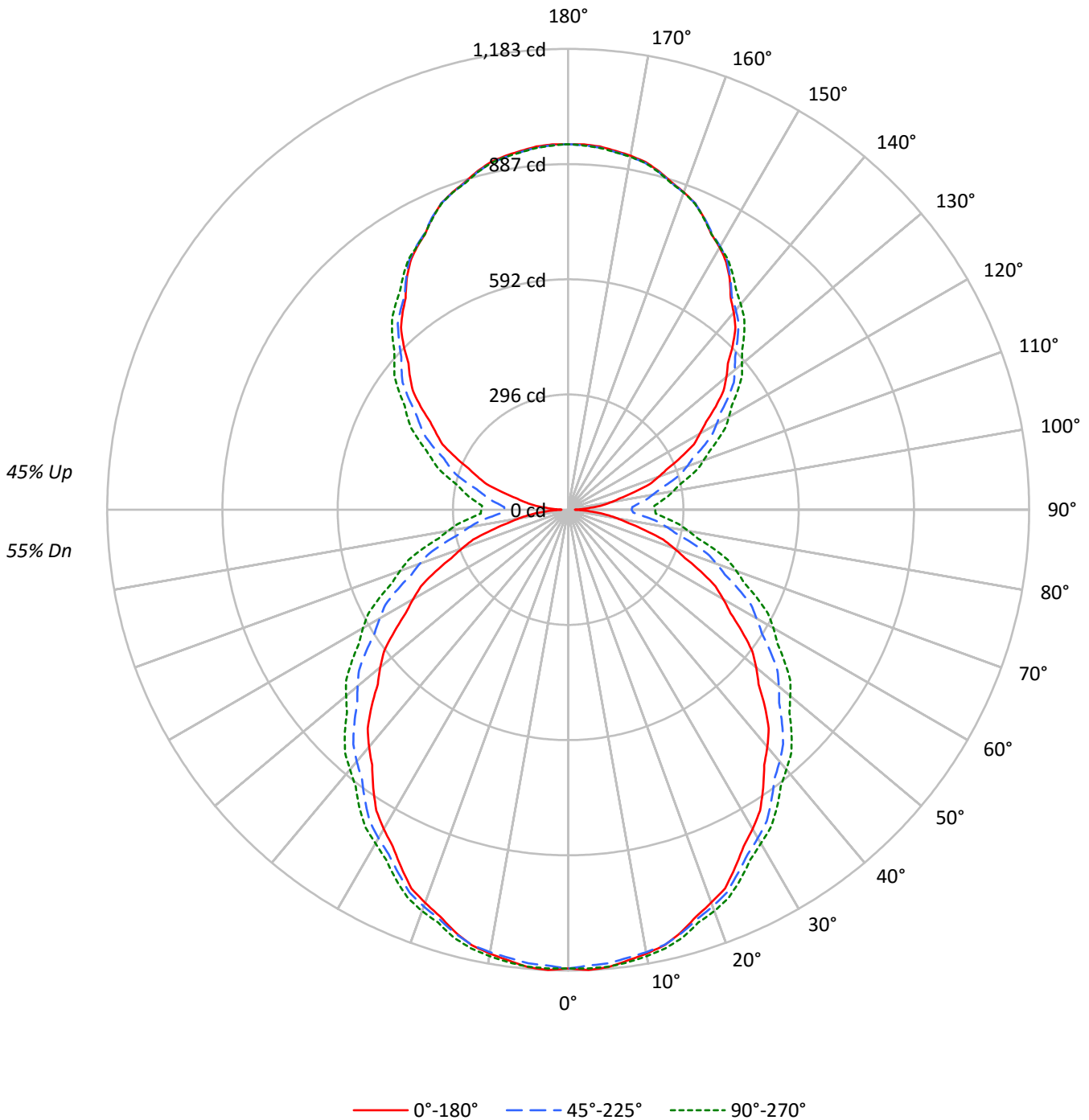
Input Watts (W): 54.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	98	93	89	85	91	86	83	79	74	71	68	63	60	59	52	51	49	44
2	89	81	74	68	82	75	69	64	64	60	56	54	51	48	45	43	41	36
3	81	70	63	56	74	65	59	53	56	51	46	48	44	40	40	37	34	30
4	74	62	54	47	68	58	50	45	50	44	39	42	38	34	35	32	29	25
5	67	55	47	40	62	51	44	38	44	38	34	38	33	29	32	28	25	22
6	62	49	41	35	57	46	39	33	40	34	29	34	29	26	29	25	22	19
7	57	45	36	30	53	42	34	29	36	30	26	31	26	23	26	22	19	17
8	53	40	32	27	49	38	31	26	33	27	23	28	24	20	24	20	17	15
9	50	37	29	24	46	35	28	23	30	24	20	26	21	18	22	18	16	13
10	46	34	26	21	43	32	25	20	28	22	18	24	19	16	20	17	14	12

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	12676	12676	12676
5°	12715	12357	12363
10°	12602	12072	12012
15°	12439	11748	11627
20°	12206	11380	11204
25°	11920	10955	10760
30°	11627	10572	10310
35°	11297	10169	9950
40°	10983	9801	9564
45°	10635	9448	9257
50°	10293	9100	8917
55°	9912	8741	8611
60°	9543	8380	8298
65°	9165	7994	7927
70°	8591	7558	7545
75°	7872	7060	7157
80°	7040	6572	6712
85°	6274	6235	6458



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.6	1.7
10°-20°	318.2	4.9
20°-30°	476.0	7.3
30°-40°	568.4	8.7
40°-50°	594.7	9.1
50°-60°	558.1	8.5
60°-70°	466.1	7.1
70°-80°	333.5	5.1
80°-90°	201.7	3.1
90°-100°	185.9	2.8
100°-110°	274.6	4.2
110°-120°	372.3	5.7
120°-130°	444.2	6.8
130°-140°	475.6	7.3
140°-150°	455.5	6.9
150°-160°	380.6	5.8
160°-170°	253.4	3.9
170°-180°	88.7	1.4
0°-30°	905.9	13.8
0°-40°	1474.3	22.5
0°-60°	2627.1	40.1
0°-90°	3628.4	55.3
90°-120°	832.9	12.7
90°-150°	2208.2	33.7
90°-180°	2931.0	44.7
0°-180°	6559.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1178	1178	1178	1178	1178	
5°	1179	1176	1169	1178	1178	112
15°	1122	1126	1125	1137	1137	316
25°	1013	1026	1030	1046	1047	467
35°	872	893	910	928	934	545
45°	713	744	776	800	811	550
55°	544	586	632	666	677	487
65°	376	426	482	519	534	371
75°	204	264	328	369	386	218
85°	63	127	195	237	252	66
90°	17	88	163	207	224	14
95°	58	114	182	223	237	60
105°	176	210	270	305	319	188
115°	320	339	382	412	423	316
125°	462	466	500	523	530	412
135°	597	601	614	633	639	460
145°	723	723	725	734	737	451
155°	826	826	827	829	825	380
165°	900	898	898	901	897	254
175°	936	933	933	937	932	89
180°	938	938	938	938	938	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6
2.5°	1182.8	1182.1	1181.4	1180.7	1180.1	1178.7	1177.0	1175.2	1173.3	1171.5	1173.3
5°	1178.9	1178.4	1177.8	1177.2	1176.7	1175.5	1173.8	1172.1	1170.4	1168.7	1170.9
7.5°	1167.3	1167.5	1167.6	1167.7	1167.8	1167.1	1165.5	1163.8	1162.1	1160.5	1163.3
10°	1157.2	1157.7	1158.3	1158.9	1159.4	1159.0	1157.5	1156.1	1154.7	1153.3	1156.1
12.5°	1144.8	1145.6	1146.4	1147.2	1148.0	1147.9	1147.0	1145.9	1145.0	1144.1	1146.7
15°	1122.5	1123.3	1124.2	1125.0	1125.9	1126.1	1125.9	1125.6	1125.3	1125.0	1127.9
17.5°	1094.3	1096.0	1097.7	1099.4	1101.1	1101.9	1101.8	1101.6	1101.5	1101.5	1104.0
20°	1073.7	1075.4	1077.1	1078.8	1080.5	1081.8	1082.3	1082.9	1083.5	1084.0	1086.6
22.5°	1052.2	1053.9	1055.6	1057.3	1059.0	1060.3	1061.1	1061.9	1062.7	1063.5	1066.7
25°	1013.4	1016.2	1019.2	1022.0	1024.8	1026.7	1027.6	1028.4	1029.3	1030.1	1033.8
27.5°	974.4	977.7	980.9	984.2	987.4	990.0	991.8	993.6	995.4	997.3	1000.5
30°	946.7	950.5	954.1	957.8	961.6	964.5	966.9	969.1	971.4	973.6	977.1
32.5°	916.0	920.1	924.3	928.4	932.6	936.1	939.1	942.1	945.1	948.0	951.7
35°	872.3	876.8	881.5	886.0	890.6	894.7	898.4	902.1	905.8	909.6	913.8
37.5°	826.1	831.3	836.4	841.5	846.7	851.5	856.1	860.6	865.2	869.8	874.6
40°	795.3	800.5	805.6	810.8	815.9	821.3	827.0	832.7	838.4	844.1	848.9
42.5°	761.5	767.8	774.0	780.3	786.6	792.7	798.6	804.6	810.5	816.4	821.7
45°	713.2	720.1	727.0	733.8	740.6	747.6	754.7	761.9	769.0	776.1	781.6
47.5°	662.7	670.4	678.3	686.0	693.7	701.7	709.8	718.0	726.1	734.3	740.4
50°	629.9	637.8	645.8	653.8	661.8	670.2	679.0	687.9	696.7	705.6	712.1
52.5°	594.9	603.4	611.9	620.3	628.8	637.8	647.6	657.3	667.0	676.8	683.6
55°	543.9	553.4	562.7	572.1	581.5	591.4	601.6	611.9	622.2	632.4	640.2
57.5°	494.2	504.0	513.8	523.6	533.4	543.9	555.2	566.4	577.6	588.8	596.5
60°	459.3	469.5	479.8	490.0	500.3	511.2	522.9	534.7	546.4	558.1	566.0
62.5°	426.4	436.9	447.4	457.9	468.3	479.8	492.2	504.5	516.9	529.3	537.2
65°	375.9	387.0	398.1	409.3	420.4	432.2	444.7	457.2	469.8	482.4	490.9
67.5°	324.5	336.4	348.2	360.0	371.7	384.1	396.8	409.6	422.4	435.2	444.5
70°	288.6	300.9	313.1	325.5	337.7	350.6	364.3	378.1	391.7	405.4	414.5
72.5°	255.8	268.1	280.3	292.6	304.8	318.0	332.2	346.3	360.4	374.6	383.9
75°	204.0	217.4	230.7	244.2	257.6	271.4	285.7	299.9	314.1	328.4	337.8
77.5°	158.8	172.3	185.9	199.3	212.8	226.8	241.2	255.5	269.9	284.3	294.2
80°	127.0	141.0	155.0	168.9	182.9	197.3	212.1	227.0	241.8	256.6	266.3
82.5°	99.2	113.5	127.7	141.9	156.1	170.7	185.8	200.8	215.8	230.9	240.6
85°	62.9	77.1	91.3	105.7	119.9	134.6	149.7	164.8	179.8	195.0	204.7
87.5°	34.3	48.8	63.3	77.9	92.4	107.1	122.1	137.0	152.0	166.9	176.8
90°	17.4	33.0	48.6	64.2	79.8	96.0	112.6	129.3	146.0	162.7	173.0
92.5°	33.5	47.2	60.9	74.6	88.3	102.9	118.5	134.0	149.5	165.0	175.0
95°	57.6	69.8	82.1	94.3	106.6	120.5	135.7	151.0	166.3	181.5	191.1
97.5°	89.8	100.7	111.6	122.4	133.4	145.9	160.2	174.6	188.8	203.1	212.4
100°	111.8	121.9	132.0	142.0	152.2	164.2	178.1	192.1	206.0	219.9	228.7
102.5°	137.2	146.1	154.9	163.6	172.5	183.9	197.8	211.8	225.7	239.7	248.3
105°	176.1	183.2	190.4	197.6	204.7	215.2	228.9	242.7	256.4	270.1	278.1
107.5°	219.9	225.9	232.0	238.0	243.9	253.1	265.3	277.5	289.7	302.0	310.1
110°	247.2	252.7	258.1	263.5	269.0	277.7	289.4	301.0	312.8	324.5	332.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	276.6	281.1	285.5	289.9	294.4	302.1	313.0	324.0	335.1	346.1	354.1
115°	319.6	323.5	327.4	331.3	335.3	342.1	352.1	362.0	372.0	381.9	388.9
117.5°	363.8	366.3	368.7	371.2	373.6	379.5	388.6	397.8	407.1	416.2	423.0
120°	390.5	392.9	395.4	397.8	400.2	405.7	414.2	422.8	431.4	440.0	446.4
122.5°	419.4	420.8	422.4	423.8	425.3	430.3	438.8	447.3	455.8	464.4	470.2
125°	462.2	462.7	463.2	463.7	464.2	468.3	476.4	484.3	492.2	500.1	505.5
127.5°	502.8	503.7	504.4	505.2	506.0	509.5	516.0	522.5	529.0	535.5	540.3
130°	530.0	531.0	532.1	533.1	534.1	537.2	542.4	547.6	552.9	558.1	562.8
132.5°	556.1	557.3	558.6	559.9	561.1	563.8	568.1	572.2	576.5	580.6	585.0
135°	597.3	597.9	598.6	599.4	600.0	601.9	604.8	607.8	610.8	613.8	618.2
137.5°	635.4	635.9	636.5	637.1	637.7	639.0	641.3	643.5	645.6	647.8	651.7
140°	660.8	661.7	662.4	663.3	664.1	665.1	666.0	667.0	668.1	669.1	673.2
142.5°	685.0	685.6	686.2	686.7	687.4	687.9	688.3	688.8	689.3	689.8	693.4
145°	722.7	722.7	722.8	722.8	722.9	723.1	723.7	724.2	724.6	725.1	727.3
147.5°	754.5	755.1	755.6	756.2	756.9	757.3	757.8	758.3	758.7	759.2	759.9
150°	777.4	777.8	778.1	778.4	778.7	779.1	779.4	779.8	780.0	780.4	780.4
152.5°	796.4	796.7	797.2	797.7	798.1	798.5	798.7	798.9	799.1	799.3	799.6
155°	826.0	826.0	826.0	826.0	826.0	826.1	826.3	826.5	826.7	826.8	827.5
157.5°	851.4	851.2	851.0	850.8	850.6	850.6	850.7	850.9	851.0	851.1	851.9
160°	867.3	867.0	866.7	866.4	866.0	865.9	865.9	865.9	865.9	865.9	866.7
162.5°	881.5	881.1	880.6	880.1	879.7	879.5	879.7	879.8	879.9	880.1	880.8
165°	899.8	899.3	898.8	898.3	897.8	897.6	897.6	897.6	897.6	897.6	898.5
167.5°	914.4	913.7	913.0	912.4	911.7	911.5	911.6	911.7	911.9	912.0	913.0
170°	922.7	922.0	921.3	920.7	920.0	919.6	919.6	919.6	919.6	919.6	920.9
172.5°	929.1	928.5	927.8	927.2	926.5	926.1	926.1	926.1	926.1	926.1	927.2
175°	935.9	935.2	934.6	934.0	933.3	932.9	932.9	932.9	932.9	932.9	934.0
177.5°	938.7	938.2	937.6	937.1	936.6	936.3	936.3	936.3	936.3	936.3	937.1
180°	938.1	938.1	938.1	938.1	938.1	938.1	938.1	938.1	938.1	938.1	938.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6
2.5°	1175.2	1177.0	1178.7	1179.6	1179.3	1179.1	1178.9	1178.6
5°	1173.2	1175.5	1177.8	1178.7	1178.5	1178.2	1177.9	1177.6
7.5°	1166.1	1169.0	1171.9	1173.1	1172.8	1172.4	1172.1	1171.8
10°	1159.0	1161.8	1164.7	1165.8	1165.3	1164.7	1164.1	1163.6
12.5°	1149.2	1151.9	1154.5	1155.6	1155.0	1154.4	1153.9	1153.3
15°	1130.8	1133.6	1136.4	1137.7	1137.5	1137.2	1136.9	1136.6
17.5°	1106.5	1109.2	1111.7	1112.8	1112.4	1112.0	1111.6	1111.2
20°	1089.1	1091.7	1094.3	1095.7	1096.0	1096.3	1096.6	1096.8
22.5°	1070.0	1073.2	1076.5	1078.0	1077.8	1077.7	1077.5	1077.3
25°	1037.6	1041.2	1044.9	1046.8	1046.8	1046.8	1046.8	1046.8
27.5°	1003.6	1006.8	1010.0	1011.7	1012.0	1012.2	1012.5	1012.7
30°	980.5	983.9	987.3	989.1	989.1	989.1	989.1	989.1
32.5°	955.4	958.9	962.6	964.8	965.4	966.1	966.9	967.5
35°	918.0	922.4	926.6	929.3	930.5	931.6	932.7	933.9
37.5°	879.5	884.3	889.2	892.0	893.0	893.8	894.8	895.7
40°	853.8	858.7	863.5	866.5	867.6	868.7	869.9	871.0
42.5°	827.0	832.3	837.6	841.0	842.6	844.2	845.8	847.4
45°	786.9	792.4	797.8	801.6	803.9	806.2	808.5	810.8
47.5°	746.5	752.6	758.7	762.6	764.4	766.2	767.9	769.7
50°	718.7	725.2	731.8	736.0	738.1	740.1	742.1	744.0
52.5°	690.4	697.2	704.0	708.6	711.1	713.5	716.0	718.4
55°	647.8	655.5	663.3	668.2	670.5	672.8	675.0	677.3
57.5°	604.4	612.1	619.8	625.1	627.7	630.4	633.1	635.7
60°	574.0	582.0	589.9	595.5	598.7	601.8	604.9	608.0
62.5°	545.3	553.3	561.2	566.7	569.6	572.5	575.4	578.3
65°	499.5	508.0	516.5	522.3	525.1	527.9	530.8	533.7
67.5°	453.8	463.2	472.5	478.4	480.8	483.2	485.6	488.0
70°	423.6	432.7	441.9	447.9	450.7	453.6	456.4	459.3
72.5°	393.3	402.7	412.0	418.1	420.9	423.8	426.7	429.5
75°	347.2	356.7	366.0	372.5	375.9	379.3	382.7	386.2
77.5°	304.2	314.1	324.0	330.3	332.8	335.5	338.1	340.7
80°	276.0	285.7	295.3	301.6	304.4	307.3	310.2	313.0
82.5°	250.3	260.0	269.7	276.0	278.8	281.6	284.5	287.4
85°	214.3	224.0	233.8	240.1	242.9	245.7	248.5	251.5
87.5°	186.6	196.4	206.2	212.6	215.6	218.5	221.4	224.3
90°	183.3	193.7	204.1	210.8	214.0	217.2	220.4	223.5
92.5°	185.0	195.0	205.0	211.2	213.7	216.0	218.5	220.9
95°	200.5	210.0	219.5	225.6	228.6	231.4	234.2	237.0
97.5°	221.6	230.8	240.1	246.1	248.9	251.7	254.5	257.2
100°	237.4	246.2	255.0	260.9	264.1	267.3	270.5	273.6
102.5°	256.7	265.3	273.8	279.5	282.3	285.0	287.9	290.7
105°	286.1	294.1	302.1	307.5	310.4	313.3	316.1	319.1
107.5°	318.3	326.5	334.6	339.9	342.1	344.5	346.8	349.1
110°	340.7	348.7	356.8	361.8	363.8	365.7	367.7	369.7





TEST NUMBER: P332022-830

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	362.0	370.0	378.0	383.1	385.6	388.0	390.5	392.9
115°	396.0	402.9	409.9	414.5	416.6	418.8	420.8	423.0
117.5°	429.8	436.5	443.3	447.5	449.3	451.1	452.8	454.6
120°	452.8	459.2	465.6	469.7	471.3	473.0	474.7	476.3
122.5°	476.2	482.1	488.0	491.7	493.2	494.7	496.3	497.9
125°	510.9	516.1	521.5	524.8	526.1	527.5	528.9	530.2
127.5°	545.0	549.7	554.4	557.3	558.6	559.7	560.9	562.1
130°	567.6	572.3	577.1	579.8	580.3	580.9	581.5	582.0
132.5°	589.5	593.9	598.2	601.0	602.0	603.1	604.2	605.2
135°	622.7	627.2	631.7	634.4	635.6	636.7	637.7	638.9
137.5°	655.4	659.3	663.1	665.4	666.2	667.0	667.8	668.6
140°	677.3	681.5	685.5	687.8	688.1	688.3	688.6	688.9
142.5°	697.1	700.7	704.4	706.4	707.0	707.6	708.1	708.6
145°	729.3	731.5	733.6	734.9	735.4	735.8	736.3	736.9
147.5°	760.5	761.2	762.0	762.2	762.3	762.3	762.4	762.4
150°	780.4	780.4	780.4	780.2	779.8	779.4	778.9	778.5
152.5°	799.7	800.0	800.3	800.0	799.4	798.6	797.9	797.1
155°	828.1	828.8	829.4	829.2	828.0	826.9	825.8	824.6
157.5°	852.5	853.2	853.8	853.8	852.9	852.0	851.0	850.1
160°	867.5	868.4	869.1	869.2	868.6	867.9	867.2	866.6
162.5°	881.7	882.5	883.4	883.2	882.1	881.1	880.1	879.0
165°	899.6	900.5	901.5	901.4	900.3	899.1	898.0	896.8
167.5°	914.1	915.0	916.1	916.1	915.0	914.1	913.0	912.0
170°	922.0	923.1	924.3	924.3	923.1	922.0	920.9	919.6
172.5°	928.2	929.3	930.2	930.2	929.0	927.8	926.7	925.6
175°	934.9	935.9	936.9	936.8	935.7	934.5	933.3	932.2
177.5°	937.9	938.7	939.4	939.4	938.5	937.5	936.7	935.8
180°	938.1	938.1	938.1	938.1	938.1	938.1	938.1	938.1

(END OF REPORT)