

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: P331325-840

Luminaire Tested: **SA2XXDIP-C485D1080U840-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331325-840  
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: SA2XXDIP-C485D1080U840-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

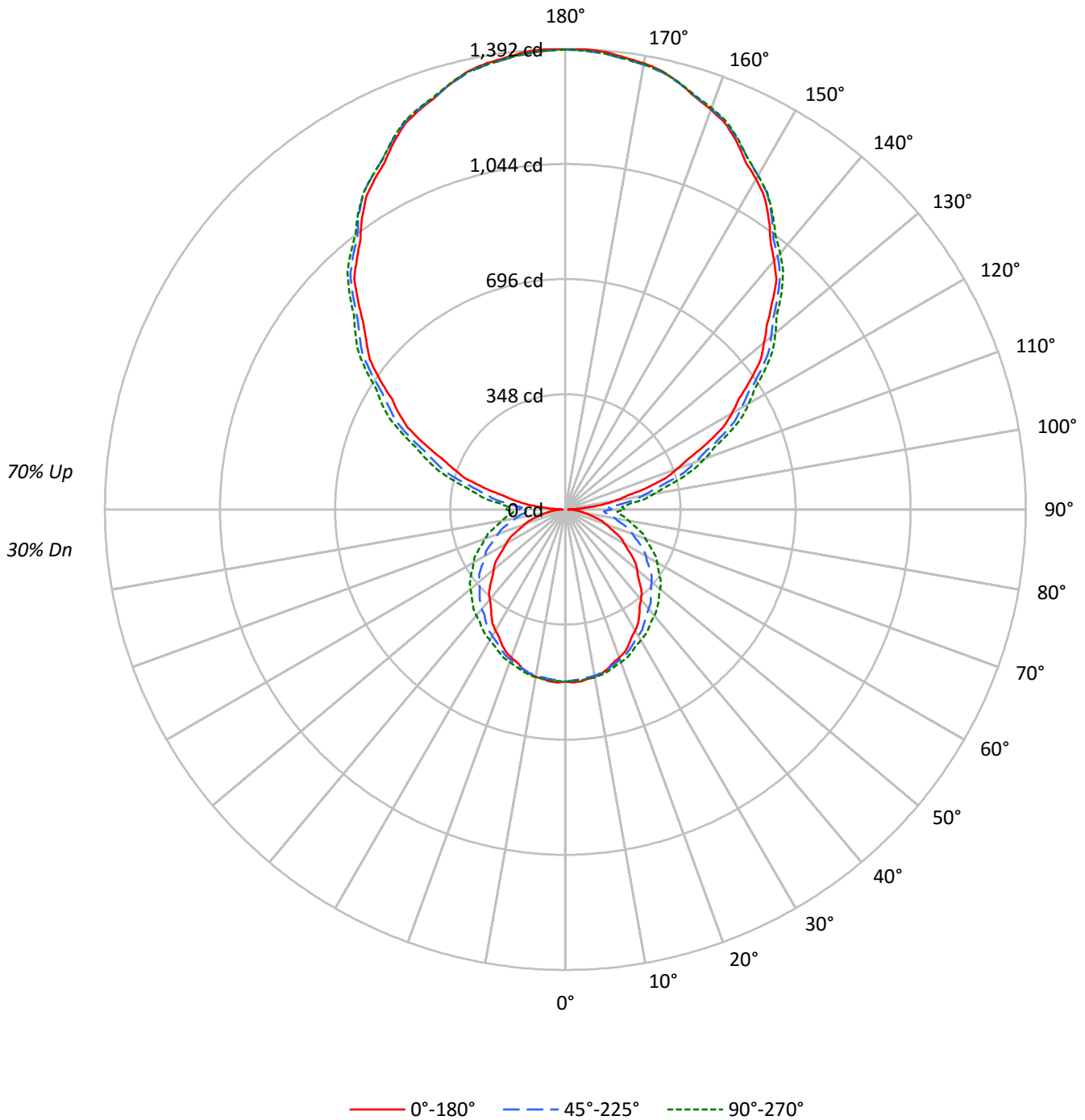
Lumens per Lamp: N/A  
Luminaire Lumens: 5877.8 lumens  
Efficiency: N/A  
Efficacy: 119.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

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





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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	102	102	102	102	92	92	92	92	72	72	72	54	54	54	38	38	38	30
1	92	88	84	80	83	79	75	72	62	59	57	46	45	43	32	31	30	23
2	84	76	70	65	75	68	63	58	54	50	47	40	38	35	28	26	25	19
3	76	67	59	53	68	60	53	48	47	42	39	35	32	29	24	22	21	16
4	69	59	51	45	62	53	46	41	41	37	33	31	28	25	21	19	17	13
5	64	52	44	38	57	47	40	34	37	32	28	28	24	21	19	17	15	11
6	58	46	38	33	52	42	35	30	33	28	24	25	21	18	17	15	13	10
7	54	42	34	28	48	38	31	26	30	25	21	23	19	16	16	13	11	9
8	50	38	30	25	44	34	27	23	27	22	18	20	17	14	14	12	10	8
9	46	34	27	22	41	31	24	20	25	20	16	19	15	13	13	11	9	7
10	43	31	24	19	39	28	22	18	23	18	15	17	14	11	12	10	8	6

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

	0°	45°	90°
0°	8402	8402	8402
5°	8443	8088	8058
10°	8390	7850	7761
15°	8275	7596	7448
20°	8129	7324	7148
25°	7984	7062	6875
30°	7780	6794	6601
35°	7575	6536	6409
40°	7360	6315	6215
45°	7153	6118	6051
50°	6934	5937	5888
55°	6700	5744	5722
60°	6417	5546	5546
65°	6122	5313	5339
70°	5796	5061	5115
75°	5371	4816	4908
80°	4707	4564	4698
85°	4070	4346	4535



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	49.3	0.8
10°-20°	141.4	2.4
20°-30°	214.3	3.6
30°-40°	261.0	4.4
40°-50°	280.8	4.8
50°-60°	272.7	4.6
60°-70°	238.1	4.1
70°-80°	183.3	3.1
80°-90°	128.6	2.2
90°-100°	172.8	2.9
100°-110°	335.5	5.7
110°-120°	508.5	8.7
120°-130°	637.8	10.9
130°-140°	699.8	11.9
140°-150°	678.4	11.5
150°-160°	567.6	9.7
160°-170°	376.5	6.4
170°-180°	131.6	2.2
0°-30°	405.0	6.9
0°-40°	666.0	11.3
0°-60°	1219.4	20.7
0°-90°	1769.4	30.1
90°-120°	1016.8	17.3
90°-150°	3032.7	51.6
90°-180°	4108.0	69.9
0°-180°	5877.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	520	520	520	520	520	
5°	522	520	515	519	519	49
15°	498	499	499	506	505	140
25°	452	458	464	473	476	208
35°	390	403	417	433	439	244
45°	320	340	367	389	398	247
55°	245	273	311	338	348	219
65°	167	205	249	279	290	166
75°	93	135	183	214	226	98
85°	27	74	122	153	164	29
90°	9	67	141	167	179	8
95°	67	114	162	189	197	75
105°	256	282	323	351	360	271
115°	472	488	519	540	545	467
125°	684	695	715	732	738	611
135°	884	897	907	921	924	683
145°	1072	1080	1087	1093	1092	670
155°	1226	1229	1233	1238	1235	564
165°	1334	1333	1333	1340	1335	376
175°	1388	1384	1382	1389	1383	132
180°	1390	1390	1390	1390	1390	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4
2.5°	523.4	523.0	522.6	522.2	521.8	521.1	520.2	519.3	518.4	517.4	518.1
5°	521.9	521.4	520.9	520.4	519.9	519.2	518.2	517.2	516.1	515.1	516.1
7.5°	517.3	516.8	516.5	516.2	515.9	515.3	514.5	513.8	513.0	512.2	513.4
10°	513.6	513.3	512.9	512.6	512.3	511.9	511.4	510.9	510.4	509.9	511.2
12.5°	507.6	507.7	507.8	507.8	507.9	507.7	507.4	507.0	506.5	506.2	507.6
15°	497.8	498.1	498.5	498.8	499.1	499.3	499.3	499.3	499.3	499.3	500.8
17.5°	485.1	485.8	486.6	487.3	488.0	488.6	489.1	489.6	490.2	490.7	492.2
20°	476.7	477.5	478.4	479.2	480.0	480.8	481.4	482.1	482.8	483.4	485.2
22.5°	467.6	468.6	469.6	470.5	471.5	472.4	473.4	474.3	475.2	476.3	478.1
25°	452.5	453.7	454.8	456.1	457.2	458.6	460.1	461.6	463.1	464.5	466.6
27.5°	434.4	436.4	438.3	440.2	442.0	443.9	445.7	447.5	449.2	451.0	453.5
30°	422.3	424.5	426.7	428.9	431.1	433.2	435.5	437.6	439.8	441.9	444.6
32.5°	409.1	411.5	413.9	416.5	418.9	421.4	423.9	426.6	429.1	431.7	434.7
35°	389.9	392.7	395.7	398.5	401.3	404.3	407.5	410.7	413.8	417.1	420.7
37.5°	369.1	372.4	375.7	379.0	382.2	386.0	390.1	394.2	398.3	402.4	406.6
40°	355.3	358.9	362.6	366.3	370.0	374.1	378.6	383.1	387.7	392.2	396.6
42.5°	341.9	345.7	349.3	353.0	356.7	361.1	366.4	371.5	376.8	381.9	386.7
45°	319.8	324.3	328.8	333.4	337.9	343.1	348.9	354.8	360.7	366.6	371.7
47.5°	297.9	302.9	307.8	312.7	317.6	323.6	330.4	337.3	344.2	351.0	356.5
50°	282.9	288.0	293.3	298.4	303.6	309.9	317.5	325.1	332.6	340.1	345.9
52.5°	268.3	273.8	279.2	284.8	290.2	296.9	304.9	312.8	320.7	328.7	334.5
55°	245.1	251.2	257.2	263.2	269.2	276.6	285.4	294.1	302.8	311.4	317.5
57.5°	222.2	229.0	235.8	242.6	249.4	257.2	266.1	275.0	283.9	292.8	299.3
60°	205.9	213.1	220.4	227.5	234.7	243.1	252.7	262.2	271.8	281.3	287.7
62.5°	191.4	198.8	206.4	213.9	221.4	229.8	239.3	248.9	258.5	268.0	274.8
65°	167.4	175.6	183.9	192.1	200.3	209.3	219.2	229.1	239.0	248.9	255.8
67.5°	145.4	154.0	162.6	171.2	179.8	189.0	199.2	209.3	219.4	229.5	236.5
70°	129.8	138.5	147.1	155.8	164.6	174.1	184.5	194.9	205.3	215.7	222.9
72.5°	115.2	124.2	133.2	142.2	151.2	161.0	171.5	182.0	192.5	203.0	210.2
75°	92.8	102.2	111.5	120.9	130.3	140.4	151.1	161.8	172.6	183.3	190.5
77.5°	71.1	80.9	90.7	100.5	110.4	120.7	131.6	142.5	153.4	164.3	171.5
80°	56.6	66.8	77.1	87.3	97.5	108.1	119.0	129.8	140.7	151.6	158.6
82.5°	44.5	54.6	64.6	74.7	84.8	95.4	106.4	117.4	128.5	139.6	146.5
85°	27.2	37.6	48.0	58.4	68.7	79.3	90.0	100.7	111.5	122.2	129.3
87.5°	15.0	25.7	36.3	46.9	57.5	68.7	80.6	92.5	104.3	116.2	122.9
90°	8.7	21.6	34.4	47.3	60.1	74.7	91.2	107.7	124.1	140.6	146.8
92.5°	27.8	39.2	50.5	61.8	73.2	84.7	96.3	108.1	119.8	131.4	138.1
95°	67.1	77.6	88.0	98.5	109.0	119.5	130.1	140.7	151.3	161.8	168.1
97.5°	116.7	126.0	135.3	144.6	153.9	163.9	174.5	185.2	195.8	206.4	212.7
100°	154.2	162.6	170.9	179.2	187.4	196.6	206.8	216.9	227.1	237.3	243.5
102.5°	193.1	200.4	207.7	215.1	222.4	231.2	241.3	251.4	261.5	271.6	277.8
105°	256.0	261.7	267.2	272.9	278.5	286.0	295.2	304.5	313.7	323.0	329.3
107.5°	320.1	325.2	330.2	335.2	340.2	347.0	355.3	363.7	371.9	380.3	386.2
110°	360.8	365.7	370.6	375.6	380.4	387.0	395.3	403.4	411.6	419.9	425.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	405.9	410.2	414.5	419.0	423.3	429.4	437.0	444.5	452.1	459.8	464.5
115°	472.2	475.6	479.1	482.4	485.8	491.1	498.1	505.1	512.1	519.2	523.9
117.5°	537.7	540.9	544.2	547.5	550.8	555.2	560.7	566.2	571.8	577.2	581.6
120°	581.8	584.5	587.2	590.0	592.8	596.4	601.1	605.7	610.4	614.9	619.7
122.5°	622.1	624.9	627.6	630.5	633.2	637.0	641.9	646.7	651.5	656.3	660.2
125°	684.2	686.6	688.9	691.3	693.6	697.1	701.7	706.2	710.8	715.4	719.1
127.5°	745.5	748.2	751.0	753.9	756.7	759.7	763.2	766.5	769.9	773.4	776.5
130°	784.0	787.2	790.3	793.6	796.8	799.9	802.9	805.9	808.9	811.9	815.5
132.5°	827.1	829.7	832.3	834.9	837.5	840.2	843.0	845.9	848.7	851.4	854.2
135°	884.0	887.0	889.8	892.6	895.5	898.1	900.3	902.4	904.6	906.9	910.1
137.5°	944.8	947.2	949.5	951.8	954.0	955.9	957.4	958.8	960.2	961.6	964.4
140°	981.4	983.6	985.7	988.0	990.2	992.0	993.7	995.3	996.9	998.6	1001.3
142.5°	1019.0	1021.2	1023.3	1025.5	1027.6	1029.3	1030.2	1031.2	1032.1	1033.1	1035.4
145°	1072.2	1074.0	1075.8	1077.6	1079.4	1081.2	1082.7	1084.3	1085.8	1087.4	1088.6
147.5°	1120.2	1122.5	1124.6	1126.8	1129.0	1130.6	1131.7	1132.8	1133.8	1134.8	1135.5
150°	1153.1	1154.7	1156.2	1157.8	1159.3	1160.6	1161.7	1162.8	1163.8	1164.9	1165.6
152.5°	1182.1	1183.8	1185.3	1186.9	1188.4	1189.8	1191.1	1192.3	1193.7	1194.9	1195.9
155°	1225.9	1226.6	1227.4	1228.2	1229.0	1229.7	1230.5	1231.3	1232.1	1232.8	1234.2
157.5°	1263.1	1263.6	1264.1	1264.7	1265.3	1265.7	1266.2	1266.7	1267.1	1267.6	1269.4
160°	1285.7	1286.2	1286.7	1287.2	1287.8	1288.1	1288.4	1288.7	1288.9	1289.2	1290.7
162.5°	1306.3	1306.4	1306.5	1306.6	1306.8	1306.9	1307.2	1307.4	1307.7	1308.0	1309.7
165°	1333.7	1333.5	1333.2	1332.9	1332.7	1332.6	1332.6	1332.6	1332.6	1332.6	1334.4
167.5°	1356.8	1355.9	1355.1	1354.4	1353.6	1353.2	1353.1	1353.1	1353.0	1353.0	1354.8
170°	1369.0	1368.2	1367.4	1366.5	1365.8	1365.3	1365.0	1364.7	1364.5	1364.2	1366.0
172.5°	1377.4	1376.6	1375.8	1375.0	1374.2	1373.7	1373.5	1373.2	1372.9	1372.7	1374.5
175°	1387.8	1386.9	1386.1	1385.3	1384.6	1383.9	1383.4	1382.9	1382.4	1381.8	1383.7
177.5°	1391.9	1391.3	1390.7	1390.1	1389.5	1388.9	1388.5	1388.1	1387.7	1387.3	1388.5
180°	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4
2.5°	518.8	519.4	520.1	520.3	520.0	519.8	519.5	519.2
5°	517.2	518.2	519.2	519.6	519.4	519.3	519.1	518.9
7.5°	514.6	515.8	517.1	517.6	517.5	517.3	517.1	516.9
10°	512.5	513.8	515.2	515.8	515.6	515.4	515.3	515.1
12.5°	508.9	510.3	511.6	512.2	512.0	511.8	511.7	511.5
15°	502.3	503.8	505.3	505.9	505.8	505.6	505.4	505.3
17.5°	493.8	495.4	497.0	497.8	497.8	497.8	497.8	497.8
20°	487.2	489.0	490.8	491.7	491.7	491.7	491.7	491.7
22.5°	479.9	481.7	483.6	484.6	484.9	485.1	485.4	485.7
25°	468.6	470.6	472.6	473.9	474.4	474.9	475.4	475.9
27.5°	456.2	458.7	461.2	462.6	463.0	463.4	463.7	464.1
30°	447.4	450.0	452.7	454.2	454.7	455.2	455.8	456.3
32.5°	437.9	440.9	444.0	446.1	447.0	447.9	448.8	449.7
35°	424.4	428.2	431.8	434.2	435.5	436.6	437.8	439.0
37.5°	410.6	414.8	418.8	421.4	422.7	423.9	425.2	426.5
40°	400.9	405.3	409.6	412.5	414.0	415.6	417.1	418.6
42.5°	391.4	396.2	400.9	404.1	405.6	407.1	408.6	410.1
45°	377.0	382.1	387.3	390.7	392.4	394.2	395.8	397.5
47.5°	361.8	367.3	372.7	376.4	378.2	380.0	381.9	383.7
50°	351.5	357.2	362.9	366.7	368.6	370.4	372.2	374.1
52.5°	340.3	346.2	352.0	355.9	357.9	359.9	361.8	363.9
55°	323.6	329.6	335.6	339.7	341.9	344.1	346.3	348.4
57.5°	305.8	312.3	318.8	323.2	325.4	327.6	329.8	332.0
60°	294.1	300.4	306.8	311.1	313.5	315.9	318.2	320.5
62.5°	281.6	288.3	295.1	299.6	301.8	304.1	306.3	308.5
65°	262.7	269.5	276.4	280.9	283.1	285.3	287.4	289.6
67.5°	243.5	250.3	257.3	262.0	264.2	266.5	268.8	271.0
70°	230.1	237.3	244.5	249.1	251.2	253.2	255.2	257.2
72.5°	217.2	224.3	231.4	236.1	238.4	240.9	243.3	245.7
75°	197.7	204.9	212.1	216.8	218.9	221.2	223.3	225.5
77.5°	178.6	185.8	193.0	197.7	200.1	202.4	204.8	207.1
80°	165.7	172.7	179.8	184.4	186.8	189.1	191.5	193.8
82.5°	153.6	160.7	167.6	172.3	174.5	176.7	178.9	181.2
85°	136.2	143.3	150.4	155.0	157.3	159.8	162.1	164.4
87.5°	129.7	136.4	143.1	147.6	149.8	152.0	154.2	156.4
90°	153.0	159.2	165.3	169.6	171.9	174.1	176.4	178.6
92.5°	144.8	151.5	158.1	162.5	164.5	166.6	168.6	170.8
95°	174.5	180.9	187.3	191.2	192.7	194.2	195.7	197.1
97.5°	218.8	225.1	231.3	235.3	237.2	239.1	241.2	243.1
100°	249.7	255.9	262.1	266.0	267.6	269.1	270.7	272.4
102.5°	284.1	290.3	296.7	300.5	302.2	303.8	305.4	306.9
105°	335.7	342.1	348.5	352.6	354.5	356.3	358.1	360.0
107.5°	392.0	397.9	403.6	407.0	407.6	408.2	408.9	409.5
110°	430.6	436.0	441.3	444.5	445.6	446.7	447.7	448.8





TEST NUMBER: P331325-840

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	469.2	473.9	478.7	481.7	483.0	484.2	485.5	486.8
115°	528.7	533.5	538.3	541.2	542.2	543.3	544.3	545.4
117.5°	585.9	590.3	594.6	597.2	598.1	599.1	600.1	601.0
120°	624.3	629.0	633.7	636.6	637.6	638.7	639.7	640.9
122.5°	664.2	668.1	672.1	674.6	675.6	676.5	677.5	678.5
125°	722.9	726.6	730.3	732.9	734.1	735.4	736.6	737.8
127.5°	779.7	782.9	786.2	788.1	788.7	789.4	790.0	790.6
130°	818.9	822.4	826.0	827.8	828.1	828.4	828.7	829.0
132.5°	857.0	859.7	862.4	864.0	864.5	865.1	865.6	866.1
135°	913.3	916.7	919.9	921.8	922.3	922.9	923.4	924.0
137.5°	967.3	970.2	973.1	974.6	974.7	974.8	974.8	974.9
140°	1004.0	1006.6	1009.4	1010.7	1010.6	1010.6	1010.6	1010.5
142.5°	1037.7	1040.1	1042.5	1043.6	1043.4	1043.2	1043.1	1042.9
145°	1089.9	1091.2	1092.5	1093.0	1092.8	1092.6	1092.4	1092.2
147.5°	1136.2	1136.9	1137.6	1137.7	1137.1	1136.5	1135.9	1135.3
150°	1166.4	1167.2	1168.0	1168.0	1167.2	1166.4	1165.6	1164.9
152.5°	1196.9	1197.8	1198.8	1198.8	1197.8	1196.9	1195.9	1194.9
155°	1235.5	1236.8	1238.1	1238.3	1237.6	1236.8	1236.0	1235.2
157.5°	1271.1	1272.9	1274.7	1275.0	1273.6	1272.4	1271.2	1269.9
160°	1292.3	1293.8	1295.5	1295.7	1294.6	1293.6	1292.5	1291.5
162.5°	1311.5	1313.2	1315.0	1315.2	1314.0	1312.8	1311.5	1310.3
165°	1336.3	1338.1	1339.9	1340.1	1338.9	1337.6	1336.3	1334.9
167.5°	1356.7	1358.5	1360.3	1360.5	1359.2	1357.8	1356.5	1355.1
170°	1367.9	1369.7	1371.5	1371.7	1370.1	1368.6	1367.0	1365.4
172.5°	1376.3	1378.2	1380.0	1380.1	1378.6	1377.0	1375.4	1373.8
175°	1385.5	1387.4	1389.2	1389.3	1387.8	1386.1	1384.6	1383.0
177.5°	1389.8	1391.0	1392.2	1392.2	1391.0	1389.8	1388.5	1387.3
180°	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1

(END OF REPORT)