

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: P332057-840

Luminaire Tested: **S123DIP-S1165D585U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332057-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D585U840-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 585 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7263.4 lumens
Efficiency: N/A
Efficacy: 131.8 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: Semi-Direct

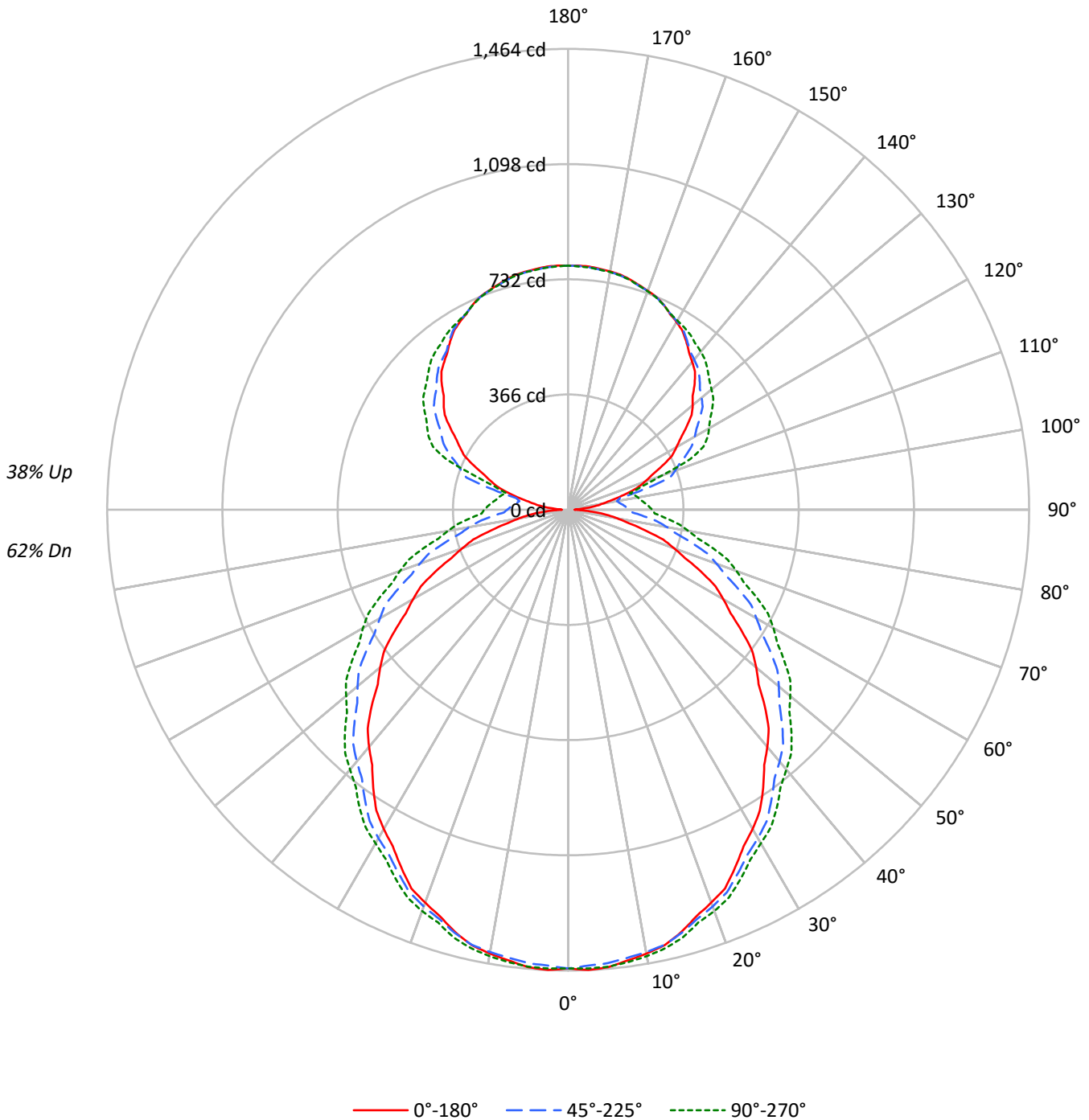
Input Watts (W): 55.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332057-840

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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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	62
1	99	94	90	86	92	88	84	81	77	74	71	67	64	62	57	55	54	49
2	90	82	75	69	84	76	70	65	67	62	58	58	54	51	50	47	44	40
3	82	71	63	57	76	67	60	54	58	53	48	51	46	43	43	40	37	34
4	74	63	54	48	69	59	51	45	52	46	41	45	40	36	39	35	32	28
5	68	56	47	41	64	53	45	39	46	40	35	40	35	31	35	31	28	24
6	63	50	41	35	59	47	39	34	42	35	30	36	31	27	31	27	24	21
7	58	45	37	31	54	43	35	30	38	31	27	33	28	24	29	24	21	19
8	54	41	33	27	50	39	31	26	34	28	24	30	25	21	26	22	19	17
9	50	37	30	24	47	35	28	23	31	25	21	28	23	19	24	20	17	15
10	47	34	27	22	44	33	26	21	29	23	19	26	21	17	22	18	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15685	15685	15685
5°	15735	15290	15299
10°	15593	14937	14863
15°	15393	14539	14387
20°	15105	14082	13865
25°	14751	13556	13315
30°	14388	13084	12757
35°	13980	12583	12311
40°	13592	12128	11834
45°	13161	11692	11453
50°	12735	11259	11034
55°	12267	10818	10657
60°	11808	10368	10270
65°	11339	9889	9809
70°	10633	9352	9336
75°	9740	8736	8855
80°	8709	8132	8306
85°	7760	7716	7988



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.1	1.9
10°-20°	393.8	5.4
20°-30°	589.0	8.1
30°-40°	703.4	9.7
40°-50°	735.9	10.1
50°-60°	690.6	9.5
60°-70°	576.8	7.9
70°-80°	412.7	5.7
80°-90°	248.3	3.4
90°-100°	182.6	2.5
100°-110°	247.8	3.4
110°-120°	398.5	5.5
120°-130°	454.2	6.3
130°-140°	458.5	6.3
140°-150°	414.7	5.7
150°-160°	331.2	4.6
160°-170°	213.7	2.9
170°-180°	73.7	1.0
0°-30°	1120.9	15.4
0°-40°	1824.3	25.1
0°-60°	3250.8	44.8
0°-90°	4488.6	61.8
90°-120°	828.9	11.4
90°-150°	2156.2	29.7
90°-180°	2775.0	38.2
0°-180°	7263.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1457	1457	1457	1457	1457	
5°	1459	1455	1446	1458	1457	138
15°	1389	1393	1392	1407	1406	391
25°	1254	1269	1275	1294	1295	578
35°	1079	1105	1126	1148	1156	675
45°	883	921	960	990	1003	680
55°	673	726	783	824	838	602
65°	465	528	597	643	660	459
75°	252	327	406	457	478	270
85°	78	157	241	293	311	82
90°	21	105	193	247	266	16
95°	53	93	175	226	244	57
105°	184	227	245	192	203	195
115°	330	355	415	457	474	326
125°	459	466	512	545	558	410
135°	568	571	590	619	626	437
145°	654	656	657	671	677	409
155°	718	717	718	720	717	331
165°	757	756	755	759	756	214
175°	775	773	773	777	772	74
180°	775	775	775	775	775	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2
2.5°	1463.6	1462.8	1461.9	1461.1	1460.2	1458.6	1456.4	1454.1	1451.9	1449.7	1451.9
5°	1458.9	1458.1	1457.4	1456.7	1456.0	1454.6	1452.5	1450.4	1448.2	1446.1	1449.0
7.5°	1444.5	1444.7	1444.8	1445.0	1445.1	1444.2	1442.1	1440.1	1438.0	1435.9	1439.5
10°	1431.9	1432.6	1433.3	1434.0	1434.7	1434.1	1432.4	1430.6	1428.9	1427.0	1430.6
12.5°	1416.6	1417.5	1418.6	1419.6	1420.6	1420.5	1419.3	1418.1	1416.8	1415.6	1418.9
15°	1389.0	1390.1	1391.1	1392.2	1393.2	1393.6	1393.2	1392.9	1392.5	1392.2	1395.7
17.5°	1354.0	1356.1	1358.3	1360.4	1362.5	1363.5	1363.4	1363.2	1363.1	1362.9	1366.1
20°	1328.7	1330.8	1332.9	1335.0	1337.2	1338.6	1339.3	1340.0	1340.7	1341.4	1344.5
22.5°	1302.0	1304.1	1306.3	1308.4	1310.5	1312.0	1313.0	1314.0	1314.9	1316.0	1320.0
25°	1254.1	1257.6	1261.1	1264.7	1268.2	1270.4	1271.5	1272.5	1273.6	1274.7	1279.3
27.5°	1205.8	1209.8	1213.9	1217.9	1221.8	1225.1	1227.3	1229.5	1231.8	1234.1	1238.0
30°	1171.5	1176.1	1180.6	1185.3	1189.8	1193.6	1196.4	1199.2	1202.0	1204.9	1209.1
32.5°	1133.4	1138.5	1143.7	1148.8	1154.0	1158.4	1162.1	1165.8	1169.4	1173.1	1177.6
35°	1079.4	1085.1	1090.8	1096.4	1102.1	1107.1	1111.8	1116.3	1120.8	1125.5	1130.7
37.5°	1022.3	1028.6	1035.0	1041.4	1047.7	1053.7	1059.3	1065.0	1070.7	1076.3	1082.3
40°	984.2	990.6	996.9	1003.2	1009.6	1016.3	1023.4	1030.4	1037.4	1044.5	1050.6
42.5°	942.3	950.1	957.9	965.5	973.3	980.9	988.3	995.5	1002.9	1010.3	1016.8
45°	882.6	891.1	899.5	908.0	916.5	925.1	933.9	942.7	951.6	960.4	967.0
47.5°	820.0	829.6	839.2	848.9	858.5	868.3	878.4	888.5	898.6	908.7	916.1
50°	779.4	789.3	799.2	809.0	818.9	829.3	840.3	851.2	862.1	873.0	881.2
52.5°	736.3	746.7	757.1	767.6	778.0	789.3	801.3	813.3	825.5	837.5	846.0
55°	673.1	684.7	696.3	708.0	719.6	731.7	744.5	757.2	769.9	782.6	792.1
57.5°	611.5	623.6	635.7	647.8	660.0	673.1	686.9	700.8	714.7	728.6	738.2
60°	568.3	581.0	593.7	606.4	619.0	632.7	647.1	661.6	676.1	690.5	700.4
62.5°	527.7	540.7	553.6	566.6	579.6	593.7	609.0	624.3	639.6	655.0	664.8
65°	465.1	478.9	492.6	506.3	520.2	534.8	550.3	565.8	581.4	596.8	607.4
67.5°	401.6	416.3	430.8	445.5	460.0	475.2	491.0	506.9	522.6	538.5	550.0
70°	357.2	372.3	387.5	402.6	417.9	433.9	450.8	467.8	484.7	501.6	512.9
72.5°	316.5	331.7	346.9	362.0	377.2	393.5	411.0	428.5	446.1	463.5	475.1
75°	252.4	269.0	285.6	302.2	318.7	335.8	353.5	371.1	388.7	406.4	418.0
77.5°	196.5	213.3	229.9	246.7	263.4	280.6	298.4	316.2	334.0	351.7	364.1
80°	157.1	174.4	191.8	209.0	226.3	244.1	262.5	280.8	299.1	317.5	329.5
82.5°	122.9	140.5	158.0	175.6	193.1	211.3	229.8	248.5	267.1	285.7	297.7
85°	77.8	95.4	113.1	130.7	148.3	166.5	185.2	203.9	222.6	241.3	253.3
87.5°	42.3	60.2	78.0	95.8	113.6	131.7	150.1	168.3	186.7	205.0	217.1
90°	21.2	39.8	58.4	77.0	95.4	114.6	134.2	153.9	173.6	193.2	205.7
92.5°	30.1	45.3	60.6	75.7	91.0	108.2	127.0	146.0	165.0	184.0	196.5
95°	52.6	61.1	69.6	78.2	86.6	100.3	119.0	137.6	156.3	175.0	186.8
97.5°	86.1	96.2	106.3	116.3	126.4	135.1	142.4	149.7	156.9	164.3	175.8
100°	111.6	125.5	139.4	153.2	167.0	172.1	168.3	164.6	160.9	157.1	168.3
102.5°	140.8	152.8	164.8	176.8	188.7	191.9	186.0	180.2	174.2	168.3	175.1
105°	184.3	194.2	204.1	214.0	223.9	230.6	234.3	237.9	241.6	245.2	232.4
107.5°	228.7	237.1	245.4	253.7	262.1	274.3	290.5	306.7	323.0	339.1	331.9
110°	258.3	265.7	273.1	280.4	287.8	299.3	314.8	330.3	345.9	361.3	366.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	287.8	294.0	300.1	306.3	312.5	323.0	337.9	352.8	367.8	382.7	391.7
115°	329.9	334.9	339.9	344.9	349.9	359.3	373.1	387.1	400.9	414.8	424.4
117.5°	371.8	375.5	379.0	382.5	386.1	394.2	406.7	419.2	431.7	444.1	453.6
120°	396.9	399.8	402.7	405.7	408.5	416.0	428.0	440.1	452.1	464.1	473.2
122.5°	423.6	425.5	427.3	429.2	431.0	437.8	449.3	460.9	472.4	484.0	492.6
125°	458.7	459.7	460.7	461.7	462.7	468.6	479.4	490.1	500.8	511.6	519.3
127.5°	494.1	494.8	495.4	496.1	496.8	501.7	510.8	519.9	529.0	538.0	545.4
130°	516.2	516.9	517.6	518.3	519.0	523.0	530.6	538.2	545.7	553.3	560.5
132.5°	536.1	537.1	538.1	539.1	540.0	543.5	549.6	555.6	561.7	567.6	574.6
135°	568.3	568.7	569.1	569.5	569.9	572.3	576.6	581.1	585.4	589.9	596.6
137.5°	595.5	596.2	596.9	597.6	598.3	599.9	602.4	604.8	607.3	609.8	615.9
140°	612.7	613.5	614.2	615.0	615.8	616.9	618.3	619.8	621.2	622.7	628.4
142.5°	629.8	630.3	630.8	631.2	631.7	632.3	632.9	633.4	634.0	634.6	639.7
145°	653.6	654.2	654.7	655.2	655.8	656.2	656.4	656.7	656.9	657.2	660.2
147.5°	674.5	675.1	675.7	676.2	676.8	677.2	677.5	677.7	678.0	678.3	679.3
150°	688.3	688.7	689.0	689.4	689.8	690.1	690.4	690.6	690.9	691.2	691.5
152.5°	700.7	700.9	701.0	701.3	701.5	701.7	701.8	702.0	702.1	702.3	702.7
155°	718.2	718.0	717.7	717.5	717.2	717.2	717.3	717.4	717.5	717.7	718.3
157.5°	731.8	731.8	731.7	731.7	731.7	731.6	731.5	731.4	731.2	731.1	732.0
160°	740.1	740.0	739.9	739.7	739.6	739.5	739.3	739.2	739.1	739.0	739.7
162.5°	748.0	747.6	747.3	747.0	746.6	746.4	746.3	746.2	746.0	745.9	746.8
165°	757.4	757.0	756.7	756.3	755.9	755.6	755.5	755.4	755.3	755.1	756.2
167.5°	764.8	764.3	763.8	763.3	762.8	762.4	762.4	762.4	762.4	762.4	763.6
170°	768.9	768.4	767.9	767.4	766.9	766.6	766.6	766.6	766.6	766.6	767.7
172.5°	771.7	771.1	770.4	769.8	769.2	769.0	769.1	769.2	769.3	769.4	770.4
175°	775.3	774.7	774.0	773.4	772.7	772.4	772.5	772.7	772.8	773.0	773.9
177.5°	776.2	775.7	775.2	774.7	774.2	774.0	774.1	774.2	774.3	774.4	775.2
180°	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2
2.5°	1454.1	1456.4	1458.6	1459.7	1459.4	1459.1	1458.8	1458.5
5°	1451.8	1454.6	1457.4	1458.6	1458.3	1457.9	1457.6	1457.2
7.5°	1443.0	1446.5	1450.1	1451.7	1451.2	1450.8	1450.4	1450.0
10°	1434.1	1437.6	1441.2	1442.6	1441.9	1441.2	1440.5	1439.8
12.5°	1422.2	1425.4	1428.7	1429.9	1429.2	1428.5	1427.7	1427.0
15°	1399.2	1402.7	1406.2	1407.9	1407.5	1407.1	1406.8	1406.4
17.5°	1369.3	1372.5	1375.6	1377.0	1376.5	1376.0	1375.5	1375.0
20°	1347.7	1350.9	1354.0	1355.8	1356.1	1356.6	1356.9	1357.3
22.5°	1324.0	1328.1	1332.0	1333.9	1333.7	1333.5	1333.3	1333.1
25°	1283.8	1288.5	1293.0	1295.4	1295.4	1295.4	1295.4	1295.4
27.5°	1241.9	1245.9	1249.8	1251.9	1252.2	1252.5	1252.8	1253.1
30°	1213.4	1217.6	1221.7	1223.9	1223.9	1223.9	1223.9	1223.9
32.5°	1182.1	1186.7	1191.1	1193.9	1194.7	1195.6	1196.4	1197.2
35°	1136.1	1141.3	1146.6	1150.0	1151.4	1152.9	1154.3	1155.6
37.5°	1088.2	1094.3	1100.2	1103.8	1105.0	1106.1	1107.2	1108.3
40°	1056.5	1062.5	1068.5	1072.2	1073.6	1075.0	1076.4	1077.8
42.5°	1023.4	1030.0	1036.5	1040.8	1042.7	1044.7	1046.6	1048.6
45°	973.8	980.5	987.2	992.0	994.8	997.6	1000.5	1003.2
47.5°	923.7	931.3	938.9	943.7	945.8	948.1	950.3	952.4
50°	889.3	897.5	905.5	910.8	913.3	915.7	918.3	920.7
52.5°	854.3	862.7	871.1	876.9	879.9	882.9	886.0	889.0
55°	801.6	811.1	820.7	826.9	829.7	832.5	835.4	838.2
57.5°	747.8	757.4	767.0	773.5	776.8	780.1	783.5	786.7
60°	710.2	720.1	730.0	736.9	740.8	744.7	748.5	752.5
62.5°	674.7	684.6	694.5	701.3	704.8	708.4	712.1	715.6
65°	618.0	628.6	639.2	646.2	649.7	653.3	656.8	660.4
67.5°	561.6	573.2	584.7	592.0	595.0	597.9	600.9	603.9
70°	524.2	535.5	546.7	554.2	557.7	561.3	564.7	568.3
72.5°	486.7	498.3	509.8	517.4	520.9	524.4	528.0	531.5
75°	429.7	441.3	452.9	460.9	465.1	469.4	473.6	477.8
77.5°	376.3	388.6	400.9	408.6	411.9	415.2	418.4	421.6
80°	341.4	353.5	365.5	373.2	376.8	380.3	383.8	387.3
82.5°	309.7	321.7	333.7	341.4	345.0	348.5	352.0	355.6
85°	265.3	277.3	289.2	297.0	300.5	304.1	307.6	311.1
87.5°	229.2	241.3	253.4	261.3	264.8	268.4	272.0	275.5
90°	218.2	230.8	243.2	251.4	255.2	258.9	262.8	266.5
92.5°	209.0	221.6	234.1	242.1	245.5	248.8	252.3	255.6
95°	198.6	210.5	222.4	230.0	233.6	237.1	240.5	244.1
97.5°	187.3	198.8	210.5	218.0	221.7	225.3	228.9	232.7
100°	179.7	190.9	202.2	209.5	213.3	216.9	220.6	224.2
102.5°	182.0	188.7	195.5	200.8	204.5	208.2	212.0	215.8
105°	219.6	206.8	194.1	189.5	192.9	196.3	199.8	203.1
107.5°	324.9	317.7	310.5	299.9	286.0	272.0	258.0	244.1
110°	371.2	376.2	381.1	375.9	360.4	345.0	329.4	314.0



TEST NUMBER: P332057-840

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	400.7	409.7	418.6	422.7	422.0	421.2	420.4	419.7
115°	434.2	443.9	453.7	460.3	463.6	467.0	470.3	473.6
117.5°	463.0	472.4	481.9	488.0	490.9	493.7	496.6	499.4
120°	482.4	491.5	500.7	506.4	508.9	511.4	513.8	516.3
122.5°	501.1	509.7	518.2	523.7	526.3	528.9	531.5	534.0
125°	526.9	534.6	542.2	547.4	550.2	552.9	555.6	558.4
127.5°	552.8	560.2	567.5	572.4	574.5	576.6	578.8	580.9
130°	567.7	574.9	582.2	586.7	588.5	590.5	592.3	594.1
132.5°	581.6	588.4	595.4	599.9	602.0	604.0	606.0	608.0
135°	603.3	610.1	616.8	620.9	622.2	623.6	625.0	626.3
137.5°	622.2	628.3	634.5	638.3	639.9	641.4	642.9	644.4
140°	634.3	640.1	645.9	649.5	651.1	652.6	654.1	655.5
142.5°	644.9	650.1	655.2	658.4	659.8	661.3	662.7	664.1
145°	663.4	666.4	669.5	671.8	673.2	674.6	676.0	677.4
147.5°	680.4	681.6	682.7	683.6	684.3	685.0	685.6	686.3
150°	691.7	692.0	692.2	692.5	692.8	693.2	693.5	693.8
152.5°	703.2	703.6	704.1	704.1	703.7	703.2	702.8	702.3
155°	718.9	719.6	720.2	720.1	719.4	718.6	717.9	717.1
157.5°	732.7	733.5	734.3	734.1	733.1	732.2	731.1	730.1
160°	740.5	741.2	742.0	741.9	741.1	740.2	739.3	738.4
162.5°	747.6	748.5	749.4	749.4	748.6	747.8	747.0	746.3
165°	757.2	758.2	759.2	759.3	758.4	757.5	756.6	755.7
167.5°	764.6	765.6	766.6	766.6	765.6	764.6	763.6	762.4
170°	768.7	769.7	770.7	770.7	769.7	768.7	767.7	766.6
172.5°	771.4	772.4	773.5	773.5	772.3	771.2	770.0	768.9
175°	774.8	775.7	776.6	776.5	775.5	774.5	773.5	772.3
177.5°	776.0	776.8	777.6	777.5	776.5	775.5	774.5	773.5
180°	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3

(END OF REPORT)