

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: P332692-840

Luminaire Tested: **S124DIP-S1195D810U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332692-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S1195D810U840-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7744.1 lumens
Efficiency: N/A
Efficacy: 127.6 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: General Diffuse

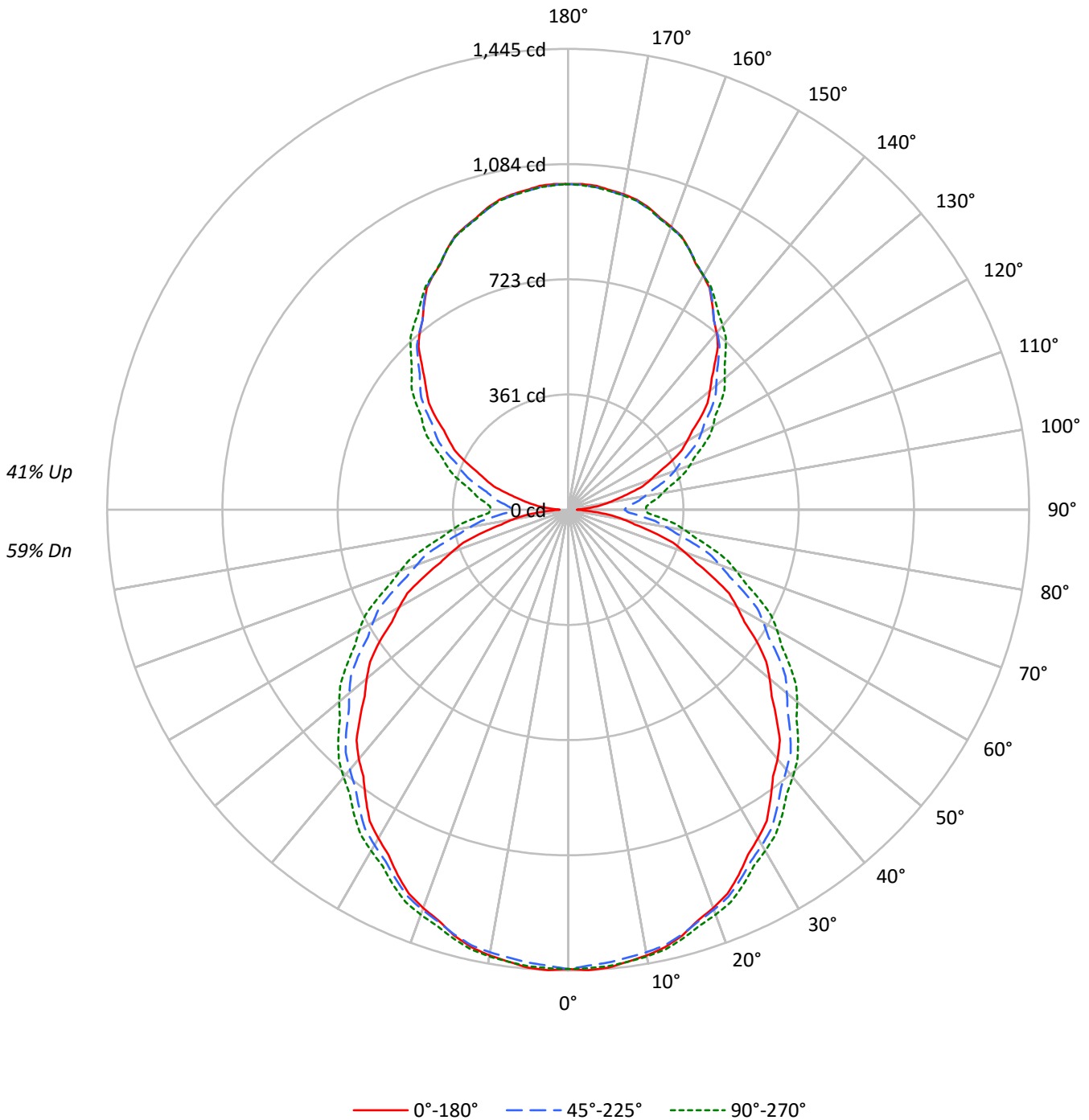
Input Watts (W): 60.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	109	109	109	109	102	102	102	102	88	88	88	76	76	76	64	64	64
1	99	94	89	85	92	87	83	80	76	73	70	65	63	61	55	53	52
2	89	81	74	69	83	76	70	65	65	61	57	56	53	50	47	45	43
3	81	71	63	57	75	66	59	53	57	52	47	49	45	41	42	38	36
4	74	62	54	48	69	58	51	45	51	45	40	44	39	35	37	33	30
5	68	56	47	41	63	52	44	38	45	39	34	39	34	30	33	29	26
6	62	50	41	35	58	47	39	33	41	34	30	35	30	26	30	26	23
7	58	45	36	31	54	42	35	29	37	31	26	32	27	23	27	23	20
8	54	41	33	27	50	38	31	26	34	27	23	29	24	21	25	21	18
9	50	37	29	24	46	35	28	23	31	25	21	27	22	19	23	19	16
10	47	34	27	22	43	32	25	21	28	23	19	25	20	17	21	18	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11626	11626	11626
5°	11661	11362	11394
10°	11590	11176	11167
15°	11486	10961	10900
20°	11330	10723	10641
25°	11153	10457	10356
30°	10961	10193	10063
35°	10745	9921	9805
40°	10573	9663	9538
45°	10316	9426	9309
50°	10098	9151	9066
55°	9875	8894	8781
60°	9525	8563	8521
65°	9141	8210	8201
70°	8676	7806	7830
75°	8028	7363	7494
80°	7309	6935	7163
85°	6389	6559	6968



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.4	1.8
10°-20°	390.7	5.0
20°-30°	590.8	7.6
30°-40°	714.8	9.2
40°-50°	755.7	9.8
50°-60°	711.2	9.2
60°-70°	590.1	7.6
70°-80°	414.5	5.4
80°-90°	237.4	3.1
90°-100°	206.5	2.7
100°-110°	302.5	3.9
110°-120°	407.7	5.3
120°-130°	485.4	6.3
130°-140°	518.2	6.7
140°-150°	496.0	6.4
150°-160°	414.4	5.4
160°-170°	275.7	3.6
170°-180°	96.5	1.2
0°-30°	1117.8	14.4
0°-40°	1832.6	23.7
0°-60°	3299.5	42.6
0°-90°	4541.4	58.6
90°-120°	916.6	11.8
90°-150°	2416.2	31.2
90°-180°	3203.0	41.4
0°-180°	7744.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1440	1440	1440	1440	1440	
5°	1442	1436	1426	1438	1437	137
15°	1382	1383	1379	1392	1392	389
25°	1264	1274	1279	1296	1298	582
35°	1106	1125	1142	1163	1169	692
45°	922	953	984	1010	1019	713
55°	722	757	805	836	847	643
65°	500	552	606	645	660	495
75°	277	338	405	448	464	295
85°	85	153	226	272	290	91
90°	28	102	177	226	243	20
95°	68	129	200	244	261	69
105°	198	233	294	335	352	212
115°	354	370	418	452	464	350
125°	508	508	546	574	583	453
135°	650	655	666	689	697	503
145°	787	789	790	798	802	493
155°	900	900	899	902	899	414
165°	980	977	976	980	977	276
175°	1019	1015	1014	1020	1014	97
180°	1021	1021	1021	1021	1021	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1
2.5°	1445.2	1444.3	1443.5	1442.6	1441.8	1440.2	1437.8	1435.6	1433.3	1431.0	1433.0
5°	1441.6	1440.6	1439.5	1438.5	1437.3	1435.5	1433.0	1430.5	1428.1	1425.5	1428.4
7.5°	1429.4	1428.8	1428.1	1427.4	1426.8	1425.4	1423.4	1421.3	1419.2	1417.1	1420.4
10°	1419.1	1418.7	1418.4	1418.0	1417.6	1416.5	1414.7	1413.0	1411.2	1409.4	1412.6
12.5°	1404.8	1404.8	1404.7	1404.6	1404.6	1403.9	1402.7	1401.5	1400.3	1399.1	1402.0
15°	1382.0	1382.3	1382.7	1383.0	1383.4	1383.0	1382.0	1380.9	1379.8	1378.8	1382.0
17.5°	1350.7	1351.8	1352.8	1353.9	1354.9	1355.4	1355.2	1354.9	1354.7	1354.5	1357.9
20°	1328.8	1329.8	1330.9	1332.0	1333.0	1333.7	1334.1	1334.5	1334.8	1335.2	1338.8
22.5°	1304.2	1305.6	1307.0	1308.3	1309.7	1310.7	1311.3	1312.0	1312.6	1313.2	1316.9
25°	1264.3	1266.4	1268.6	1270.7	1272.8	1274.4	1275.6	1276.6	1277.7	1278.8	1282.7
27.5°	1219.7	1222.9	1226.1	1229.2	1232.3	1234.8	1236.4	1238.1	1239.7	1241.3	1245.0
30°	1190.0	1193.0	1195.8	1198.7	1201.5	1204.3	1206.7	1209.2	1211.7	1214.3	1218.2
32.5°	1157.8	1161.2	1164.7	1168.1	1171.5	1174.7	1177.5	1180.3	1183.1	1185.9	1190.4
35°	1106.2	1110.5	1114.8	1119.1	1123.4	1127.3	1130.9	1134.5	1138.1	1141.7	1146.7
37.5°	1054.3	1059.2	1064.2	1069.1	1074.1	1078.7	1083.2	1087.6	1092.1	1096.5	1101.7
40°	1020.8	1025.4	1030.1	1034.7	1039.4	1044.2	1049.2	1054.3	1059.2	1064.3	1069.6
42.5°	982.1	987.2	992.5	997.7	1003.0	1008.6	1014.4	1020.3	1026.1	1032.1	1038.0
45°	922.4	929.2	936.0	942.8	949.6	956.4	963.2	970.1	976.8	983.7	989.8
47.5°	865.3	872.3	879.4	886.4	893.4	900.9	908.8	916.7	924.5	932.4	938.7
50°	824.0	831.9	839.8	847.7	855.6	863.4	871.3	879.2	887.1	894.9	902.1
52.5°	782.7	790.6	798.5	806.4	814.3	822.7	831.7	840.8	849.8	858.9	866.1
55°	722.5	729.9	737.5	745.0	752.6	761.6	772.4	783.2	794.0	804.7	811.8
57.5°	655.0	664.4	673.7	683.0	692.3	702.3	713.0	723.7	734.4	745.0	753.6
60°	611.2	620.5	629.8	639.1	648.4	659.0	670.9	682.7	694.5	706.3	714.6
62.5°	568.6	578.8	589.0	599.2	609.3	620.3	632.2	644.0	655.8	667.6	675.8
65°	499.9	511.4	522.8	534.3	545.7	557.5	569.8	582.0	594.1	606.3	615.3
67.5°	433.7	446.0	458.2	470.3	482.5	495.1	508.2	521.2	534.2	547.3	556.4
70°	388.6	400.8	413.0	425.2	437.4	450.3	463.8	477.5	491.1	504.7	514.4
72.5°	344.8	357.2	369.7	382.1	394.7	408.1	422.6	437.1	451.5	466.1	475.4
75°	277.4	290.6	303.9	317.1	330.4	344.6	359.6	374.7	389.7	404.8	414.8
77.5°	214.5	228.5	242.6	256.6	270.6	285.6	301.3	317.1	332.9	348.6	358.8
80°	175.8	190.1	204.4	218.7	233.1	248.1	263.9	279.7	295.5	311.2	321.9
82.5°	137.0	152.0	166.9	181.8	196.7	212.1	227.8	243.6	259.3	275.1	286.1
85°	85.4	100.5	115.5	130.6	145.6	161.3	177.3	193.5	209.6	225.8	236.5
87.5°	48.2	63.2	78.3	93.2	108.3	123.7	139.7	155.7	171.7	187.6	198.2
90°	28.2	44.4	60.7	77.0	93.2	109.8	126.5	143.4	160.2	177.0	188.4
92.5°	41.4	56.6	71.6	86.7	101.9	117.6	134.0	150.4	166.7	183.2	193.9
95°	68.4	81.7	95.1	108.6	122.0	136.6	152.5	168.4	184.4	200.3	210.5
97.5°	101.8	113.2	124.6	136.1	147.5	161.3	177.2	193.2	209.2	225.2	235.2
100°	128.3	138.3	148.3	158.3	168.3	181.2	196.7	212.3	227.8	243.4	253.4
102.5°	157.3	165.8	174.2	182.7	191.2	202.9	218.0	233.2	248.3	263.5	273.3
105°	198.4	205.8	213.2	220.5	227.8	238.5	252.5	266.4	280.3	294.4	303.8
107.5°	244.7	250.9	256.9	263.0	269.0	278.4	291.0	303.8	316.4	329.0	338.3
110°	275.0	280.3	285.8	291.1	296.5	305.4	317.7	330.1	342.4	354.9	362.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	306.6	311.0	315.6	320.1	324.7	332.8	344.4	356.0	367.7	379.3	387.2
115°	353.9	357.1	360.3	363.6	366.8	374.0	385.1	396.2	407.3	418.4	426.2
117.5°	400.0	402.0	404.1	406.3	408.3	414.5	425.0	435.5	445.9	456.3	463.1
120°	429.7	431.4	433.2	434.9	436.8	442.6	452.4	462.3	472.2	482.0	488.4
122.5°	461.9	462.3	462.8	463.3	463.8	468.9	478.5	488.1	497.6	507.2	513.7
125°	507.8	507.5	507.1	506.8	506.3	510.6	519.4	528.2	536.9	545.7	552.2
127.5°	550.6	550.8	550.9	551.1	551.3	554.6	561.2	567.8	574.4	581.0	587.1
130°	579.6	579.8	580.0	580.1	580.3	583.2	589.0	594.7	600.5	606.1	612.3
132.5°	610.6	610.6	610.6	610.7	610.7	612.9	617.3	621.8	626.2	630.7	636.5
135°	649.8	650.9	652.0	653.0	654.0	655.8	658.3	660.9	663.4	665.8	671.3
137.5°	694.4	694.5	694.6	694.8	694.9	695.7	697.2	698.7	700.2	701.7	706.5
140°	724.1	724.1	724.0	724.0	724.0	724.2	724.6	724.9	725.3	725.6	730.1
142.5°	749.9	750.2	750.4	750.7	751.0	750.9	750.6	750.2	749.9	749.5	753.7
145°	787.2	787.5	787.9	788.2	788.5	788.8	789.0	789.1	789.3	789.5	791.4
147.5°	824.5	825.0	825.4	825.9	826.4	826.6	826.4	826.3	826.1	826.0	826.1
150°	847.2	847.5	847.9	848.2	848.6	848.7	848.7	848.7	848.7	848.7	848.7
152.5°	867.4	867.7	868.1	868.4	868.8	869.0	869.1	869.3	869.4	869.6	870.0
155°	900.0	900.0	900.0	900.0	900.0	899.9	899.8	899.6	899.4	899.3	899.9
157.5°	927.9	927.5	927.2	926.9	926.6	926.3	926.3	926.3	926.2	926.2	926.8
160°	944.2	944.0	943.9	943.7	943.5	943.3	943.2	943.0	942.8	942.7	943.2
162.5°	959.4	959.0	958.5	958.1	957.6	957.3	957.0	956.9	956.7	956.5	957.6
165°	979.8	979.3	978.8	978.2	977.7	977.2	976.8	976.5	976.1	975.8	976.8
167.5°	995.4	994.6	993.9	993.2	992.5	992.1	992.1	992.2	992.2	992.2	993.3
170°	1004.2	1003.4	1002.5	1001.6	1000.8	1000.4	1000.6	1000.8	1000.9	1001.1	1002.1
172.5°	1010.6	1009.9	1009.1	1008.4	1007.6	1007.2	1007.3	1007.3	1007.3	1007.4	1008.6
175°	1019.3	1018.3	1017.4	1016.6	1015.7	1015.2	1015.0	1014.8	1014.7	1014.5	1015.7
177.5°	1022.1	1021.4	1020.7	1020.0	1019.3	1019.0	1019.0	1019.0	1019.0	1019.0	1019.9
180°	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1
2.5°	1435.0	1437.0	1439.1	1439.9	1439.6	1439.3	1439.1	1438.8
5°	1431.3	1434.1	1436.9	1438.2	1437.8	1437.5	1437.1	1436.8
7.5°	1423.6	1426.8	1430.1	1431.5	1431.1	1430.8	1430.4	1430.1
10°	1415.8	1419.1	1422.3	1423.7	1423.4	1423.0	1422.6	1422.3
12.5°	1404.9	1407.9	1410.8	1412.3	1412.2	1412.1	1412.0	1412.0
15°	1385.2	1388.5	1391.6	1393.1	1392.7	1392.4	1392.0	1391.6
17.5°	1361.2	1364.4	1367.8	1369.3	1369.0	1368.7	1368.4	1368.1
20°	1342.4	1345.9	1349.6	1351.3	1351.3	1351.3	1351.3	1351.3
22.5°	1320.4	1324.0	1327.6	1329.7	1330.3	1330.8	1331.4	1332.0
25°	1286.7	1290.6	1294.5	1296.7	1297.1	1297.4	1297.8	1298.1
27.5°	1248.7	1252.3	1256.0	1258.0	1258.5	1258.9	1259.3	1259.7
30°	1222.1	1226.1	1230.0	1232.3	1233.0	1233.8	1234.5	1235.3
32.5°	1194.9	1199.4	1204.0	1206.6	1207.3	1208.0	1208.7	1209.4
35°	1151.8	1156.7	1161.7	1164.8	1165.9	1167.0	1168.0	1169.1
37.5°	1106.7	1111.8	1116.9	1120.0	1121.2	1122.3	1123.5	1124.6
40°	1075.0	1080.5	1085.8	1089.2	1090.7	1092.1	1093.5	1094.9
42.5°	1043.9	1049.9	1055.8	1059.3	1060.6	1061.7	1062.8	1064.0
45°	995.8	1002.0	1008.0	1012.0	1013.8	1015.5	1017.3	1019.2
47.5°	945.0	951.3	957.7	961.8	964.0	966.1	968.3	970.5
50°	909.3	916.5	923.6	928.3	930.5	932.6	934.7	936.9
52.5°	873.2	880.4	887.5	892.2	894.3	896.5	898.6	900.8
55°	819.0	826.2	833.3	838.0	840.1	842.3	844.4	846.6
57.5°	762.0	770.6	779.1	784.4	786.4	788.4	790.4	792.4
60°	722.8	731.0	739.2	744.8	747.7	750.5	753.5	756.3
62.5°	684.1	692.4	700.5	706.1	709.0	711.9	714.7	717.6
65°	624.2	633.2	642.2	648.0	651.0	653.8	656.7	659.5
67.5°	565.5	574.6	583.7	589.7	592.5	595.2	598.0	600.9
70°	524.1	533.7	543.4	549.6	552.0	554.5	557.0	559.6
72.5°	484.8	494.2	503.6	509.7	512.5	515.2	518.1	520.9
75°	424.9	434.8	444.8	451.5	454.7	458.0	461.2	464.4
77.5°	369.0	379.2	389.3	396.2	399.6	403.0	406.5	409.9
80°	332.8	343.5	354.3	361.0	363.9	366.8	369.6	372.5
82.5°	297.2	308.2	319.2	326.4	329.5	332.6	335.8	338.9
85°	247.2	258.0	268.7	275.9	279.5	283.1	286.7	290.2
87.5°	208.8	219.4	230.0	236.9	240.1	243.4	246.6	249.8
90°	199.9	211.4	222.8	230.1	233.4	236.5	239.7	243.0
92.5°	204.6	215.4	226.1	233.0	236.1	239.1	242.3	245.3
95°	220.7	230.9	241.1	247.8	251.1	254.3	257.5	260.7
97.5°	245.2	255.3	265.3	271.9	274.9	278.0	281.0	284.2
100°	263.4	273.5	283.5	289.7	292.3	294.8	297.2	299.7
102.5°	283.2	293.1	303.0	309.3	312.3	315.2	318.2	321.1
105°	313.3	322.8	332.2	338.7	342.1	345.5	348.9	352.2
107.5°	347.6	357.0	366.3	372.1	374.8	377.3	379.8	382.3
110°	370.6	378.5	386.4	392.0	395.5	398.8	402.2	405.6



TEST NUMBER: P332692-840

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	395.1	402.9	410.8	416.3	419.3	422.2	425.2	428.2
115°	433.8	441.5	449.3	454.2	456.7	459.0	461.3	463.6
117.5°	470.0	476.9	483.7	488.4	490.9	493.4	495.9	498.5
120°	494.6	500.9	507.3	512.0	515.1	518.4	521.6	524.8
122.5°	520.3	526.8	533.4	537.8	539.7	541.6	543.6	545.5
125°	558.7	565.0	571.5	575.6	577.4	579.3	581.1	582.9
127.5°	593.2	599.4	605.4	609.6	611.7	613.9	616.0	618.1
130°	618.3	624.4	630.6	634.3	635.8	637.2	638.6	640.2
132.5°	642.3	648.1	653.9	657.7	659.6	661.5	663.4	665.2
135°	676.6	682.0	687.4	690.8	692.5	694.2	695.8	697.4
137.5°	711.2	716.0	720.8	724.2	726.0	727.9	729.8	731.7
140°	734.6	739.0	743.6	746.6	748.2	749.8	751.4	753.1
142.5°	757.7	761.7	765.8	768.5	770.0	771.4	773.0	774.4
145°	793.5	795.5	797.4	798.8	799.7	800.6	801.5	802.4
147.5°	826.3	826.4	826.6	827.1	828.1	829.1	830.0	831.0
150°	848.7	848.7	848.7	848.6	848.5	848.3	848.1	847.9
152.5°	870.4	870.8	871.2	871.2	870.8	870.3	869.9	869.4
155°	900.6	901.3	902.0	902.0	901.3	900.6	899.9	899.3
157.5°	927.3	927.9	928.4	928.3	927.8	927.2	926.6	925.9
160°	943.7	944.2	944.7	944.6	943.7	942.8	942.0	941.1
162.5°	958.5	959.4	960.4	960.4	959.5	958.7	957.8	956.8
165°	978.0	979.0	980.1	980.2	979.5	978.8	978.1	977.4
167.5°	994.3	995.4	996.4	996.4	995.3	994.2	993.2	992.1
170°	1003.2	1004.2	1005.3	1005.2	1004.0	1002.8	1001.5	1000.3
172.5°	1009.8	1011.0	1012.2	1012.2	1011.0	1009.7	1008.5	1007.2
175°	1016.9	1018.1	1019.5	1019.5	1018.1	1016.9	1015.7	1014.5
177.5°	1020.9	1021.9	1022.9	1022.8	1021.7	1020.6	1019.5	1018.2
180°	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8

(END OF REPORT)