

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: P332711-840

Luminaire Tested: **S124DIP-S1195D1205U840-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332711-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S1195D1205U840-4F0-1E-UDD-D4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1205 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9256.2 lumens  
Efficiency: N/A  
Efficacy: 129.1 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

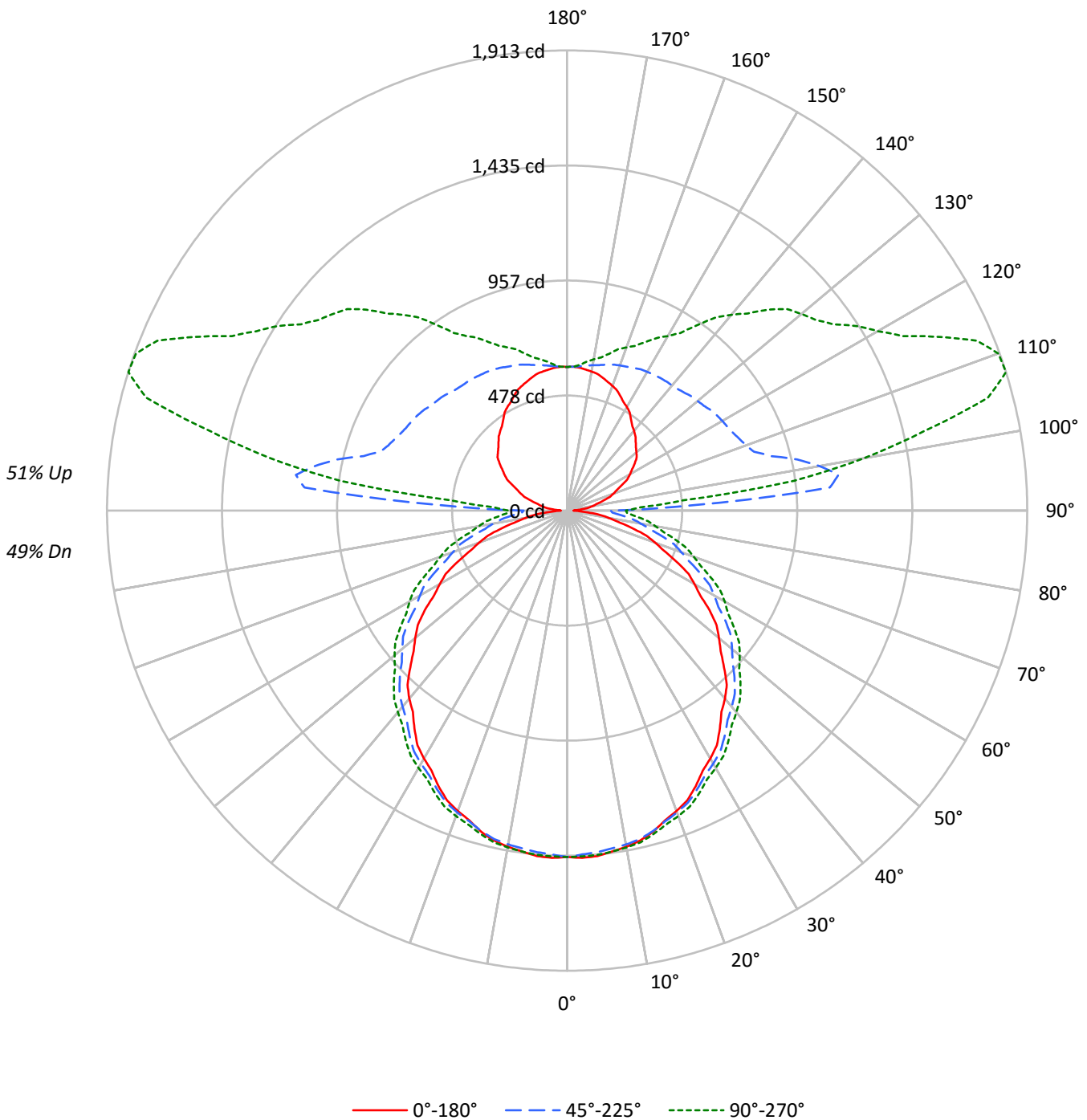
Input Watts (W): 71.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	107	107	107	107	99	99	99	99	83	83	83	68	68	68	55	55	55	49
1	97	92	88	84	89	85	81	78	71	68	66	59	57	55	47	46	45	39
2	88	80	73	68	80	73	68	63	62	57	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	57	52	54	49	45	45	41	38	36	33	31	27
4	73	61	53	47	66	57	49	44	48	42	38	40	35	32	32	29	26	23
5	67	54	46	40	61	50	43	37	43	37	32	35	31	27	29	25	23	19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	26	23	20	17
7	57	44	36	30	52	41	33	28	35	29	25	29	24	21	24	20	18	15
8	52	40	32	26	48	37	30	25	32	26	22	26	22	19	22	18	16	13
9	49	36	29	23	45	34	27	22	29	23	19	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	17	22	18	15	18	15	13	11

**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	1.5
10°-20°	390.7	4.2
20°-30°	590.8	6.4
30°-40°	714.8	7.7
40°-50°	755.7	8.2
50°-60°	711.2	7.7
60°-70°	590.1	6.4
70°-80°	414.5	4.5
80°-90°	237.6	2.6
90°-100°	570.5	6.2
100°-110°	1000.9	10.8
110°-120°	873.3	9.4
120°-130°	715.5	7.7
130°-140°	580.9	6.3
140°-150°	434.3	4.7
150°-160°	302.9	3.3
160°-170°	178.2	1.9
170°-180°	58.0	0.6
0°-30°	1117.8	12.1
0°-40°	1832.6	19.8
0°-60°	3299.5	35.6
0°-90°	4541.6	49.1
90°-120°	2444.8	26.4
90°-150°	4175.5	45.1
90°-180°	4715.0	50.9
0°-180°	9256.2	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°	27	100	181	228	244	19
95°	60	197	1097	656	485	60
105°	152	247	876	1803	1811	163
115°	252	330	762	1429	1708	250
125°	343	407	728	1197	1350	306
135°	403	480	692	1036	1181	312
145°	463	528	674	850	940	291
155°	524	566	655	742	773	242
165°	572	589	628	665	675	161
175°	596	597	602	610	608	57
180°	597	597	597	597	597	



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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°	48.0	63.0	78.4	93.2	108.1	123.2	140.4	156.0	172.2	188.3	198.5
90°	27.0	43.6	61.5	77.1	92.5	107.3	129.9	145.2	163.0	180.8	190.0
92.5°	37.9	56.9	80.8	108.1	138.0	176.6	251.7	358.1	462.2	524.1	472.0
95°	59.7	75.0	98.6	125.6	165.6	228.2	345.0	552.1	847.3	1096.7	1133.4
97.5°	88.5	98.7	119.0	143.2	177.5	231.3	324.4	497.9	791.2	1137.6	1375.1
100°	106.9	116.2	133.8	157.1	188.7	238.0	321.2	467.8	721.1	1066.0	1376.1
102.5°	125.7	135.7	151.2	172.5	202.1	248.6	325.0	455.3	672.7	979.8	1299.0
105°	151.8	162.5	175.5	196.8	225.1	269.3	338.9	449.6	627.1	876.3	1160.9
107.5°	183.9	192.1	203.9	224.7	250.7	293.6	357.7	459.0	611.9	814.3	1048.1
110°	204.2	211.6	222.5	241.6	267.6	308.1	372.3	467.0	608.6	791.3	990.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	223.6	230.4	241.6	259.1	284.7	324.6	386.4	475.7	608.3	776.4	954.9
115°	251.5	258.1	269.6	284.6	310.0	349.1	407.5	489.4	610.0	762.2	918.0
117.5°	282.1	287.3	296.5	311.3	334.2	373.3	428.6	504.0	612.6	751.4	895.6
120°	301.4	304.9	314.2	328.1	349.1	387.7	442.7	514.1	614.9	745.0	882.4
122.5°	320.2	322.8	331.2	343.4	365.5	402.3	456.8	523.8	617.4	737.6	868.4
125°	343.3	347.6	354.3	366.8	388.7	425.9	477.1	540.1	622.9	728.1	847.6
127.5°	364.8	368.1	376.3	390.6	413.5	449.9	497.6	554.0	625.4	715.9	820.9
130°	375.7	380.0	389.0	406.3	428.2	464.9	510.6	562.1	627.6	708.4	804.1
132.5°	387.9	391.2	403.1	419.4	443.2	477.5	522.0	571.4	630.2	702.4	789.3
135°	403.3	408.1	419.8	439.8	464.4	496.1	537.3	582.2	632.8	691.6	765.4
137.5°	420.5	424.6	437.2	455.9	481.0	510.6	548.0	588.5	632.5	684.0	745.3
140°	432.7	435.9	448.4	468.0	492.3	520.5	556.0	593.9	634.2	679.1	734.3
142.5°	444.5	448.0	459.9	478.9	502.5	529.6	563.6	598.1	635.9	676.6	725.5
145°	462.8	466.0	477.4	493.4	515.3	541.0	571.5	603.2	637.2	673.6	713.3
147.5°	483.6	484.5	494.4	511.0	529.2	552.2	580.9	608.5	638.3	669.3	702.8
150°	496.9	497.7	506.6	520.4	537.7	559.8	585.5	611.4	638.3	666.5	695.9
152.5°	507.8	507.9	517.3	530.3	545.9	566.3	589.4	613.3	636.5	661.9	688.3
155°	524.5	525.7	532.7	544.5	557.4	575.0	594.9	614.9	633.7	654.8	677.1
157.5°	541.2	541.2	547.8	556.9	568.2	582.1	599.0	614.9	630.7	647.5	665.6
160°	551.5	551.5	556.2	564.4	573.8	586.7	600.8	614.9	627.8	641.9	657.1
162.5°	560.9	560.0	563.7	571.0	579.5	589.6	602.7	614.9	625.0	636.2	649.6
165°	571.5	571.5	573.8	579.7	585.5	592.6	603.2	612.6	619.6	627.8	637.2
167.5°	582.1	580.9	582.1	586.5	589.8	595.2	602.9	609.8	614.0	619.4	625.9
170°	586.7	585.5	586.7	590.3	592.6	596.1	602.0	607.8	610.2	613.7	618.4
172.5°	591.4	590.3	590.5	593.1	594.5	597.0	601.1	606.0	606.4	608.0	611.9
175°	596.1	594.9	594.9	596.1	597.3	597.3	599.7	603.2	602.0	602.0	604.3
177.5°	598.2	597.3	596.3	597.3	597.3	597.3	598.2	600.1	598.2	598.2	599.2
180°	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3



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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°	209.1	219.7	230.5	237.2	240.5	244.0	246.9	250.0
90°	201.6	213.1	224.7	231.4	235.4	239.4	241.1	244.0
92.5°	402.5	355.7	330.3	313.4	302.4	298.9	297.8	300.6
95°	1029.2	857.0	709.4	602.0	547.8	514.6	496.7	484.6
97.5°	1433.8	1375.5	1270.2	1154.0	1072.8	1005.2	973.1	951.7
100°	1557.1	1590.2	1542.5	1461.7	1362.1	1293.0	1260.3	1253.4
102.5°	1543.5	1669.3	1695.4	1665.3	1605.5	1556.4	1522.1	1517.3
105°	1438.7	1650.6	1775.7	1829.8	1834.9	1828.5	1814.9	1810.7
107.5°	1294.9	1519.9	1692.3	1802.7	1863.3	1892.6	1906.9	1912.6
110°	1207.9	1419.2	1597.6	1732.2	1818.4	1870.6	1894.5	1907.9





TEST NUMBER: P332711-840

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1141.8	1329.3	1498.0	1632.4	1729.9	1792.4	1824.8	1844.8
115°	1072.6	1224.8	1370.0	1487.8	1583.1	1656.0	1696.0	1707.9
117.5°	1032.9	1159.8	1275.3	1375.9	1457.9	1519.9	1560.7	1570.9
120°	1012.8	1129.0	1230.1	1318.5	1388.2	1442.7	1476.1	1491.9
122.5°	995.0	1107.6	1200.2	1278.1	1337.2	1383.9	1412.3	1427.7
125°	967.0	1074.8	1162.6	1231.5	1280.6	1316.9	1341.3	1350.5
127.5°	933.2	1036.1	1123.3	1188.9	1238.6	1271.3	1292.5	1302.0
130°	908.0	1007.1	1093.4	1159.8	1210.1	1241.6	1262.5	1271.7
132.5°	882.5	975.7	1059.9	1126.2	1175.5	1210.7	1230.7	1239.9
135°	845.1	927.1	1004.4	1067.0	1116.1	1151.0	1172.0	1181.2
137.5°	812.0	881.8	947.4	1003.9	1049.6	1083.7	1101.1	1111.3
140°	792.8	852.7	910.2	962.7	1005.5	1033.2	1051.4	1062.6
142.5°	776.0	828.7	878.1	923.6	961.5	986.9	1003.0	1011.1
145°	753.0	795.1	832.3	867.1	897.8	919.2	932.3	939.7
147.5°	734.0	766.0	794.4	820.9	843.6	861.9	872.0	875.3
150°	724.1	751.0	774.5	795.6	814.4	829.6	836.7	837.9
152.5°	713.7	736.9	758.5	775.9	791.8	804.3	808.5	809.7
155°	698.2	717.0	734.6	748.7	760.4	769.8	773.4	773.4
157.5°	681.6	697.3	712.1	723.4	732.3	739.3	741.4	741.4
160°	671.3	684.1	697.0	706.4	713.5	720.5	721.6	721.6
162.5°	660.9	672.0	682.1	690.4	695.6	702.7	703.9	702.9
165°	646.6	653.6	661.9	667.7	672.4	677.1	675.9	674.8
167.5°	632.8	638.1	644.7	648.2	650.6	653.6	653.4	652.5
170°	624.3	627.8	632.5	636.0	638.3	639.5	638.3	638.3
172.5°	616.7	619.4	622.2	624.7	626.1	627.3	626.1	624.3
175°	606.7	607.8	610.2	610.2	610.2	612.6	610.2	607.8
177.5°	600.1	601.1	601.1	602.0	601.1	602.0	600.1	598.2
180°	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3

(END OF REPORT)