

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: P331583

Luminaire Tested: **S122DIW-S865D1440U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331583  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIW-S865D1440U835-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1440 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9275.9 lumens  
Efficiency: N/A  
Efficacy: 121.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

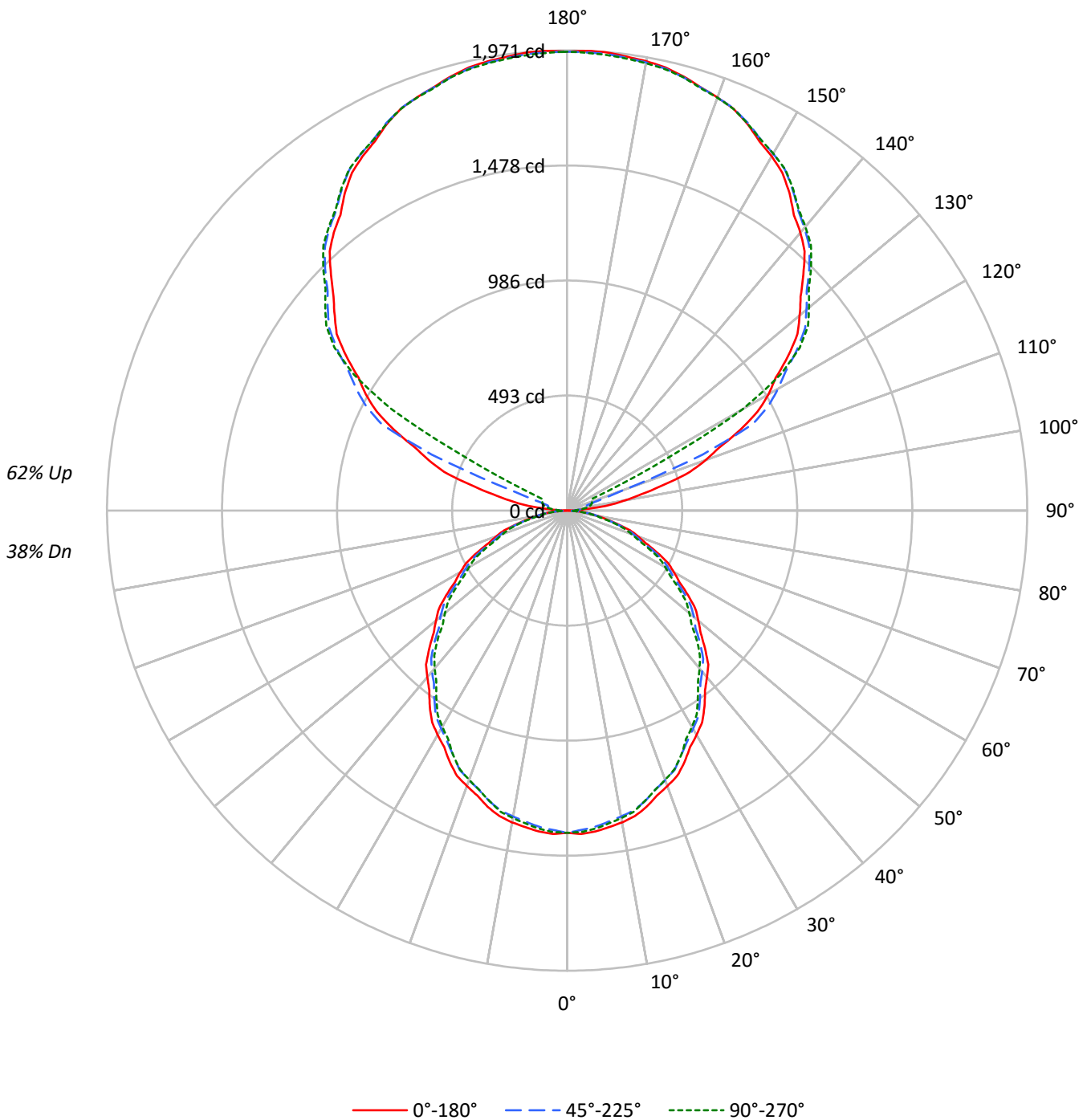
Input Watts (W): 76.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	50	30	10	0		
RCR																										
0	104	104	104	104	95	95	95	95	77	77	77	60	60	60	45	45	45	38					38			
1	95	91	87	84	86	83	79	76	67	65	63	53	51	50	40	39	38					32				
2	87	79	73	68	78	72	67	63	59	55	52	46	44	42	35	33	32					27				
3	79	70	62	57	71	63	57	52	52	47	44	41	38	35	31	29	27					23				
4	72	62	54	48	65	56	49	44	46	41	37	36	33	30	28	25	23					19				
5	66	55	47	41	60	50	43	38	41	36	32	33	29	26	25	22	20					17				
6	61	49	41	35	55	45	38	33	37	32	28	30	26	23	23	20	18					15				
7	56	44	36	31	51	40	34	29	33	28	24	27	23	20	21	18	16					13				
8	52	40	32	27	47	37	30	25	30	25	22	25	21	18	19	16	14					12				
9	48	36	29	24	44	34	27	23	28	23	19	23	19	16	17	15	13					11				
10	45	33	26	22	41	31	24	20	26	21	17	21	17	14	16	14	12					10				

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

	0°	45°	90°
0°	22281	22281	22281
5°	22366	22044	22174
10°	22233	21820	21930
15°	21959	21538	21514
20°	21569	21113	21089
25°	21180	20591	20591
30°	20681	20113	19939
35°	20217	19537	19249
40°	19633	18963	18598
45°	19057	18393	17938
50°	18432	17799	17166
55°	17779	17106	16473
60°	17053	16281	15684
65°	16275	15461	14751
70°	15286	14469	13780
75°	13905	13325	12994
80°	12338	11967	11353
85°	10078	9596	8596



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	129.8	1.4
10°-20°	365.1	3.9
20°-30°	536.7	5.8
30°-40°	623.4	6.7
40°-50°	622.7	6.7
50°-60°	543.1	5.9
60°-70°	401.6	4.3
70°-80°	227.4	2.5
80°-90°	66.0	0.7
90°-100°	65.6	0.7
100°-110°	240.4	2.6
110°-120°	642.7	6.9
120°-130°	1060.9	11.4
130°-140°	1128.3	12.2
140°-150°	1048.7	11.3
150°-160°	843.1	9.1
160°-170°	543.3	5.9
170°-180°	187.0	2.0
0°-30°	1031.6	11.1
0°-40°	1655.0	17.8
0°-60°	2820.8	30.4
0°-90°	3515.8	37.9
90°-120°	948.7	10.2
90°-150°	4186.6	45.1
90°-180°	5760.0	62.1
0°-180°	9275.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1380	1380	1380	1380	1380	
5°	1380	1374	1360	1370	1368	131
15°	1314	1305	1288	1293	1287	370
25°	1189	1178	1156	1158	1156	547
35°	1026	1012	991	983	977	640
45°	835	825	806	791	786	644
55°	632	623	608	592	585	565
65°	426	418	405	393	386	421
75°	223	220	214	206	208	238
85°	54	53	52	48	46	62
90°	1	17	28	35	38	7
95°	92	49	56	62	61	113
105°	432	451	87	102	108	462
115°	818	843	878	250	117	805
125°	1156	1175	1202	1211	1216	1031
135°	1431	1453	1466	1480	1478	1105
145°	1660	1660	1682	1692	1685	1038
155°	1828	1816	1832	1839	1829	842
165°	1926	1918	1921	1930	1921	544
175°	1970	1961	1963	1971	1958	187
180°	1966	1966	1966	1966	1966	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0
2.5°	1386.4	1385.2	1384.0	1382.9	1381.7	1379.8	1377.2	1374.6	1372.0	1369.4	1371.8
5°	1380.0	1378.8	1377.7	1376.5	1375.3	1373.1	1369.9	1366.6	1363.4	1360.1	1362.5
7.5°	1367.8	1366.0	1364.2	1362.3	1360.5	1357.9	1354.6	1351.3	1348.0	1344.7	1347.1
10°	1356.1	1354.1	1352.0	1349.9	1347.9	1345.1	1341.5	1338.0	1334.5	1330.9	1333.3
12.5°	1340.2	1338.4	1336.6	1334.7	1332.9	1330.2	1326.7	1323.1	1319.6	1316.1	1317.7
15°	1313.7	1311.9	1310.1	1308.4	1306.6	1303.8	1300.0	1296.1	1292.3	1288.5	1289.6
17.5°	1279.7	1277.9	1276.2	1274.4	1272.6	1269.8	1265.9	1262.0	1258.1	1254.2	1255.6
20°	1255.3	1253.5	1251.8	1250.0	1248.2	1245.3	1241.1	1237.0	1232.9	1228.8	1229.6
22.5°	1230.9	1228.4	1225.9	1223.4	1221.0	1217.8	1213.9	1210.0	1206.1	1202.2	1202.4
25°	1188.9	1186.6	1184.2	1181.9	1179.5	1175.8	1170.8	1165.8	1160.8	1155.8	1156.4
27.5°	1141.2	1139.1	1136.9	1134.8	1132.7	1129.6	1125.7	1121.7	1117.8	1113.8	1113.0
30°	1109.3	1107.0	1104.6	1102.3	1099.9	1096.5	1092.1	1087.7	1083.2	1078.8	1077.9
32.5°	1075.4	1073.5	1071.6	1069.7	1067.8	1064.5	1059.9	1055.2	1050.6	1045.9	1044.3
35°	1025.7	1022.8	1019.8	1016.9	1013.9	1010.1	1005.4	1000.7	995.9	991.2	989.5
37.5°	969.7	967.1	964.5	961.9	959.4	955.7	951.0	946.3	941.5	936.8	934.6
40°	931.5	929.2	926.8	924.4	922.1	918.5	913.8	909.1	904.4	899.7	897.0
42.5°	894.4	892.0	889.6	887.3	884.9	881.4	876.7	872.0	867.2	862.5	859.6
45°	834.6	832.6	830.5	828.5	826.4	823.1	818.7	814.3	809.9	805.5	802.2
47.5°	775.2	773.3	771.3	769.4	767.4	764.1	759.5	754.9	750.3	745.7	742.3
50°	733.8	732.3	730.9	729.4	727.9	725.1	721.0	716.8	712.7	708.6	704.5
52.5°	693.5	691.5	689.6	687.6	685.7	682.8	678.9	675.0	671.1	667.2	663.8
55°	631.6	629.9	628.1	626.3	624.5	621.9	618.4	614.8	611.3	607.7	604.2
57.5°	569.5	568.1	566.7	565.3	563.9	561.2	557.3	553.4	549.5	545.6	542.2
60°	528.1	526.9	525.8	524.6	523.4	520.8	516.6	512.5	508.4	504.2	501.0
62.5°	487.8	485.9	484.0	482.1	480.2	477.7	474.5	471.3	468.1	465.0	462.0
65°	426.0	424.2	422.4	420.6	418.9	416.5	413.6	410.6	407.7	404.7	402.1
67.5°	363.1	361.6	360.2	358.8	357.4	355.4	352.7	350.0	347.4	344.7	342.7
70°	323.8	322.6	321.4	320.2	319.1	317.1	314.5	311.8	309.2	306.5	304.5
72.5°	283.4	282.3	281.1	279.9	278.7	277.3	275.6	273.9	272.1	270.4	268.4
75°	222.9	222.3	221.7	221.2	220.6	219.5	218.1	216.6	215.1	213.6	211.9
77.5°	168.8	167.8	166.8	165.8	164.8	164.0	163.4	162.8	162.2	161.6	160.7
80°	132.7	132.4	132.1	131.8	131.5	131.1	130.5	129.9	129.3	128.7	127.8
82.5°	98.7	98.7	98.6	98.5	98.5	98.3	97.9	97.6	97.2	96.9	95.7
85°	54.4	54.1	53.8	53.5	53.2	52.9	52.6	52.3	52.0	51.8	50.9
87.5°	19.4	19.6	19.8	20.1	20.3	20.4	20.4	20.5	20.5	20.6	20.2
90°	1.4	4.9	8.4	11.9	15.3	18.3	20.9	23.4	25.9	28.4	30.0
92.5°	28.7	28.4	28.1	27.8	27.5	27.9	29.2	30.5	31.7	33.0	33.8
95°	92.4	82.0	71.6	61.2	50.7	46.6	48.8	51.0	53.3	55.5	57.0
97.5°	183.5	154.1	124.7	95.3	65.9	53.8	58.9	64.0	69.1	74.2	75.5
100°	251.7	208.4	165.1	121.8	78.5	59.6	64.9	70.3	75.7	81.1	83.6
102.5°	326.8	317.7	308.5	299.3	290.2	263.1	218.2	173.2	128.3	83.3	86.6
105°	432.4	441.8	451.3	460.8	470.3	431.9	345.6	259.3	173.0	86.8	90.2
107.5°	552.7	560.3	568.0	575.6	583.3	535.4	431.9	328.4	224.9	121.5	117.9
110°	630.1	636.7	643.3	650.0	656.6	614.2	522.9	431.6	340.2	248.9	217.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	702.9	708.7	714.6	720.5	726.4	718.0	695.5	672.9	650.3	627.8	512.5
115°	817.8	823.2	828.5	833.9	839.3	845.9	853.8	861.7	869.6	877.5	731.2
117.5°	920.5	926.5	932.5	938.5	944.5	950.2	955.6	961.1	966.5	972.0	936.6
120°	995.6	1000.3	1005.0	1009.8	1014.5	1019.7	1025.4	1031.1	1036.8	1042.5	1046.3
122.5°	1059.3	1064.3	1069.3	1074.3	1079.3	1084.9	1091.0	1097.2	1103.4	1109.6	1111.9
125°	1156.3	1160.4	1164.5	1168.6	1172.7	1177.8	1183.8	1189.8	1195.8	1201.8	1204.0
127.5°	1244.2	1248.7	1253.3	1257.8	1262.4	1266.9	1271.4	1275.9	1280.4	1284.9	1288.1
130°	1299.9	1305.0	1310.0	1315.1	1320.2	1324.4	1327.9	1331.4	1334.8	1338.3	1341.8
132.5°	1356.8	1361.1	1365.4	1369.7	1374.0	1377.9	1381.4	1384.8	1388.3	1391.8	1394.8
135°	1430.8	1435.8	1440.9	1445.9	1451.0	1454.9	1457.8	1460.6	1463.5	1466.3	1469.5
137.5°	1505.6	1509.1	1512.7	1516.2	1519.7	1523.1	1526.3	1529.6	1532.8	1536.0	1539.1
140°	1554.5	1557.0	1559.6	1562.1	1564.6	1567.6	1571.1	1574.6	1578.1	1581.5	1584.4
142.5°	1595.5	1597.7	1600.0	1602.3	1604.6	1607.7	1611.7	1615.7	1619.6	1623.6	1626.2
145°	1659.8	1659.4	1659.1	1658.8	1658.5	1661.0	1666.4	1671.8	1677.1	1682.5	1684.7
147.5°	1715.8	1714.6	1713.4	1712.2	1711.0	1713.0	1718.3	1723.7	1729.0	1734.3	1735.9
150°	1752.2	1750.0	1747.8	1745.6	1743.3	1744.8	1749.8	1754.9	1759.9	1765.0	1766.9
152.5°	1782.9	1780.5	1778.0	1775.5	1773.1	1774.2	1779.0	1783.8	1788.6	1793.4	1795.3
155°	1827.6	1824.7	1821.9	1819.0	1816.2	1816.7	1820.5	1824.3	1828.1	1831.8	1833.7
157.5°	1862.6	1860.2	1857.8	1855.4	1853.0	1853.1	1855.7	1858.4	1861.0	1863.7	1865.9
160°	1883.0	1881.1	1879.3	1877.4	1875.5	1875.5	1877.4	1879.3	1881.1	1883.0	1884.9
162.5°	1901.2	1899.4	1897.5	1895.6	1893.7	1893.5	1895.2	1896.8	1898.5	1900.1	1902.3
165°	1925.7	1923.8	1921.9	1920.0	1918.1	1917.7	1918.6	1919.5	1920.5	1921.4	1923.7
167.5°	1943.9	1942.0	1940.1	1938.2	1936.3	1935.8	1936.7	1937.6	1938.5	1939.4	1941.6
170°	1954.2	1952.3	1950.4	1948.5	1946.6	1945.9	1946.6	1947.2	1947.8	1948.5	1950.7
172.5°	1961.0	1959.1	1957.2	1955.3	1953.4	1952.8	1953.4	1954.0	1954.7	1955.3	1957.5
175°	1969.8	1967.6	1965.4	1963.2	1961.0	1960.2	1960.8	1961.4	1962.1	1962.7	1964.9
177.5°	1971.2	1969.5	1967.7	1965.9	1964.1	1963.4	1963.6	1963.9	1964.1	1964.4	1966.2
180°	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0
2.5°	1374.1	1376.5	1378.8	1379.8	1379.3	1378.8	1378.4	1377.9
5°	1364.8	1367.2	1369.6	1370.4	1369.9	1369.3	1368.7	1368.1
7.5°	1349.4	1351.8	1354.2	1355.0	1354.4	1353.7	1353.1	1352.4
10°	1335.6	1338.0	1340.4	1341.1	1340.2	1339.3	1338.4	1337.6
12.5°	1319.4	1321.0	1322.7	1323.2	1322.5	1321.9	1321.2	1320.6
15°	1290.8	1292.0	1293.2	1293.0	1291.6	1290.1	1288.6	1287.1
17.5°	1256.9	1258.3	1259.7	1259.6	1258.2	1256.8	1255.4	1254.0
20°	1230.5	1231.4	1232.3	1232.1	1231.0	1229.8	1228.6	1227.4
22.5°	1202.6	1202.7	1202.9	1202.7	1201.9	1201.2	1200.5	1199.8
25°	1157.0	1157.5	1158.1	1158.1	1157.5	1157.0	1156.4	1155.8
27.5°	1112.1	1111.2	1110.3	1109.2	1107.7	1106.3	1104.9	1103.5
30°	1077.0	1076.2	1075.3	1074.2	1073.1	1071.9	1070.7	1069.5
32.5°	1042.7	1041.1	1039.5	1038.1	1037.0	1035.8	1034.6	1033.4
35°	987.7	985.9	984.2	982.5	981.1	979.6	978.1	976.6
37.5°	932.5	930.3	928.1	926.3	924.9	923.5	922.1	920.6
40°	894.4	891.7	889.1	887.1	886.0	884.8	883.6	882.4
42.5°	856.7	853.8	851.0	848.7	847.0	845.4	843.7	842.1
45°	799.0	795.7	792.5	790.3	789.1	787.9	786.7	785.6
47.5°	738.9	735.5	732.1	729.5	727.8	726.1	724.4	722.7
50°	700.3	696.2	692.1	689.3	687.8	686.3	684.9	683.4
52.5°	660.3	656.9	653.5	650.8	648.9	646.9	645.0	643.0
55°	600.7	597.1	593.6	591.1	589.6	588.1	586.7	585.2
57.5°	538.7	535.2	531.7	529.4	528.3	527.2	526.1	524.9
60°	497.8	494.5	491.3	489.2	488.3	487.4	486.5	485.7
62.5°	458.9	455.9	452.9	450.9	449.7	448.6	447.5	446.4
65°	399.4	396.8	394.1	392.0	390.6	389.1	387.6	386.1
67.5°	340.6	338.5	336.5	334.9	333.7	332.5	331.3	330.1
70°	302.4	300.3	298.3	296.6	295.5	294.3	293.1	291.9
72.5°	266.3	264.2	262.2	260.7	259.7	258.8	257.8	256.9
75°	210.1	208.3	206.6	206.0	206.6	207.2	207.7	208.3
77.5°	159.9	159.0	158.1	157.2	156.4	155.6	154.8	153.9
80°	126.9	126.1	125.2	124.4	123.8	123.3	122.7	122.1
82.5°	94.6	93.5	92.4	91.8	91.6	91.5	91.4	91.3
85°	50.0	49.1	48.2	47.6	47.3	47.0	46.7	46.4
87.5°	19.8	19.4	19.0	18.7	18.6	18.5	18.4	18.3
90°	31.6	33.2	34.8	35.9	36.5	37.1	37.8	38.4
92.5°	34.6	35.5	36.3	36.9	37.3	37.6	38.0	38.4
95°	58.6	60.2	61.8	62.4	62.1	61.8	61.5	61.2
97.5°	76.8	78.0	79.3	80.1	80.5	80.9	81.3	81.6
100°	86.1	88.7	91.2	92.8	93.4	94.0	94.7	95.3
102.5°	89.9	93.2	96.5	98.6	99.5	100.3	101.2	102.1
105°	93.7	97.2	100.7	103.0	104.3	105.6	106.8	108.1
107.5°	114.4	110.8	107.3	106.2	107.4	108.7	110.0	111.2
110°	185.7	154.1	122.5	107.3	108.6	109.8	111.1	112.4





TEST NUMBER: P331583

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	397.2	281.9	166.6	109.4	110.5	111.5	112.5	113.5
115°	584.9	438.5	292.2	207.6	184.9	162.1	139.4	116.6
117.5°	901.2	865.8	830.4	775.3	700.5	625.7	550.9	476.2
120°	1050.1	1053.9	1057.7	1038.2	995.6	952.9	910.2	867.6
122.5°	1114.2	1116.5	1118.7	1115.7	1107.4	1099.2	1090.9	1082.6
125°	1206.2	1208.4	1210.6	1212.2	1213.2	1214.1	1215.1	1216.0
127.5°	1291.3	1294.5	1297.7	1299.5	1299.6	1299.8	1300.0	1300.2
130°	1345.3	1348.8	1352.2	1353.8	1353.5	1353.2	1352.9	1352.5
132.5°	1397.7	1400.7	1403.7	1405.0	1404.7	1404.4	1404.1	1403.7
135°	1472.6	1475.8	1479.0	1480.2	1479.6	1479.0	1478.3	1477.7
137.5°	1542.2	1545.3	1548.4	1549.4	1548.3	1547.3	1546.2	1545.1
140°	1587.2	1590.1	1592.9	1593.5	1592.0	1590.4	1588.8	1587.2
142.5°	1628.8	1631.4	1634.0	1634.5	1632.9	1631.3	1629.8	1628.2
145°	1686.9	1689.1	1691.4	1691.7	1690.1	1688.5	1686.9	1685.4
147.5°	1737.6	1739.2	1740.9	1741.0	1739.7	1738.4	1737.0	1735.7
150°	1768.8	1770.7	1772.6	1772.7	1771.2	1769.6	1768.0	1766.4
152.5°	1797.2	1799.1	1801.0	1800.9	1798.8	1796.8	1794.7	1792.6
155°	1835.6	1837.5	1839.4	1839.1	1836.6	1834.1	1831.5	1829.0
157.5°	1868.0	1870.1	1872.3	1872.1	1869.7	1867.2	1864.7	1862.3
160°	1886.8	1888.7	1890.6	1890.5	1888.3	1886.0	1883.8	1881.6
162.5°	1904.4	1906.6	1908.7	1908.4	1905.7	1903.0	1900.3	1897.6
165°	1925.9	1928.1	1930.3	1930.3	1928.1	1925.9	1923.7	1921.4
167.5°	1943.8	1946.0	1948.2	1947.9	1945.1	1942.2	1939.4	1936.5
170°	1952.9	1955.1	1957.3	1957.0	1954.2	1951.3	1948.5	1945.6
172.5°	1959.7	1961.9	1964.1	1963.8	1961.0	1958.1	1955.3	1952.4
175°	1967.1	1969.3	1971.5	1971.1	1967.9	1964.7	1961.6	1958.4
177.5°	1967.9	1969.7	1971.5	1971.2	1968.9	1966.7	1964.4	1962.1
180°	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5

(END OF REPORT)