

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: P333000-830

Luminaire Tested: **SA4XXRDIP-C1195D810U830-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P333000-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C1195D810U830-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 810 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

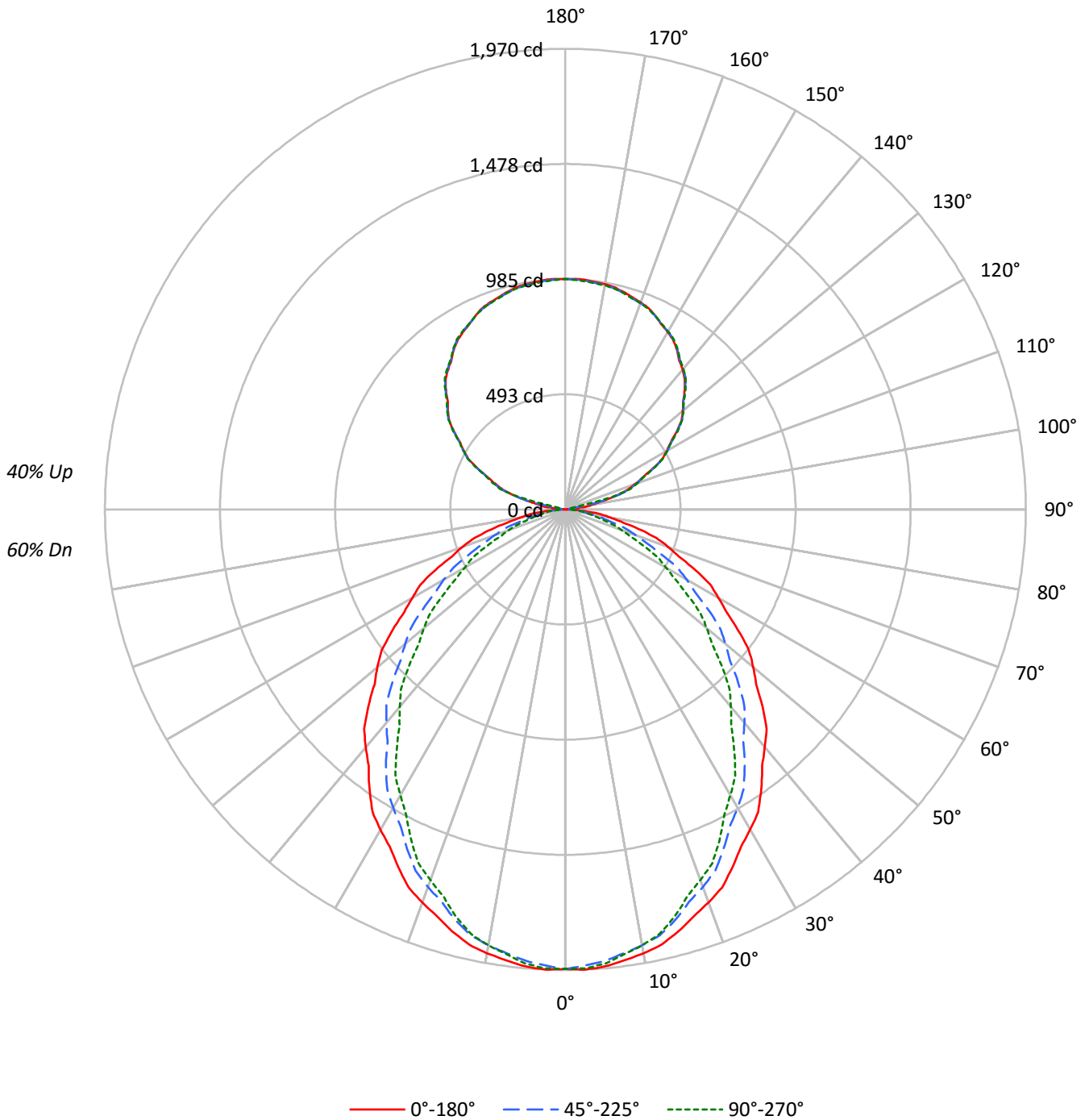
Lumens per Lamp: N/A
Luminaire Lumens: 7592.1 lumens
Efficiency: N/A
Efficacy: 125.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

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	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	109	109	109	109	102	102	102	102	89	89	89	76	76	76	65	65	65	60
1	100	96	92	89	94	90	87	84	78	76	74	68	66	64	58	57	56	51
2	92	84	78	73	85	79	74	69	69	65	62	60	57	54	52	49	47	43
3	84	74	67	61	78	70	63	58	61	56	52	53	49	46	46	43	41	37
4	77	66	58	52	72	62	55	50	55	49	45	48	43	40	41	38	35	32
5	71	59	51	45	66	56	48	43	49	43	39	43	38	35	37	34	31	28
6	65	53	45	39	61	50	43	37	44	38	34	39	34	31	34	30	27	25
7	60	48	40	35	56	45	38	33	40	34	30	36	31	27	31	27	24	22
8	56	44	36	31	52	41	34	29	37	31	27	33	28	24	29	25	22	20
9	52	40	33	27	49	38	31	26	34	28	24	30	25	22	26	23	20	18
10	49	37	30	25	46	35	28	24	31	26	22	28	23	20	25	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15868	15868	15868
5°	15904	15709	15807
10°	15805	15521	15521
15°	15623	15195	15082
20°	15374	14766	14495
25°	15055	14264	13903
30°	14746	13736	13160
35°	14402	13186	12415
40°	13990	12562	11610
45°	13609	11942	10791
50°	13175	11228	9923
55°	12711	10486	8981
60°	12198	9671	8018
65°	11731	8653	7072
70°	11049	7532	6005
75°	10187	6245	4885
80°	8884	4761	4477
85°	7521	4326	4039



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.6	2.4
10°-20°	514.9	6.8
20°-30°	743.5	9.8
30°-40°	842.8	11.1
40°-50°	813.8	10.7
50°-60°	676.7	8.9
60°-70°	467.3	6.2
70°-80°	236.9	3.1
80°-90°	63.6	0.8
90°-100°	33.7	0.4
100°-110°	214.9	2.8
110°-120°	411.0	5.4
120°-130°	521.8	6.9
130°-140°	558.3	7.4
140°-150°	522.1	6.9
150°-160°	421.0	5.5
160°-170°	271.5	3.6
170°-180°	93.6	1.2
0°-30°	1443.1	19.0
0°-40°	2285.8	30.1
0°-60°	3776.4	49.7
0°-90°	4544.2	59.9
90°-120°	659.6	8.7
90°-150°	2261.8	29.8
90°-180°	3048.0	40.1
0°-180°	7592.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1966	1966	1966	1966	1966	
5°	1963	1956	1938	1953	1951	186
15°	1869	1854	1818	1815	1805	526
25°	1690	1661	1601	1576	1561	778
35°	1461	1412	1338	1288	1260	913
45°	1192	1134	1046	975	945	919
55°	903	841	745	669	638	807
65°	614	548	453	391	370	606
75°	327	270	200	167	157	345
85°	81	53	47	44	44	91
90°	2	10	16	20	22	6
95°	40	17	16	20	21	52
105°	222	226	230	235	210	232
115°	414	416	416	417	417	407
125°	582	585	584	586	587	520
135°	722	722	724	726	727	556
145°	833	835	835	836	837	520
155°	913	914	912	914	912	421
165°	963	960	960	965	959	272
175°	985	981	982	987	979	94
180°	985	985	985	985	985	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6
2.5°	1970.4	1969.3	1968.3	1967.2	1966.1	1964.2	1961.2	1958.2	1955.3	1952.4	1955.3
5°	1962.6	1961.2	1959.9	1958.6	1957.3	1954.6	1950.6	1946.5	1942.6	1938.5	1941.8
7.5°	1944.8	1943.4	1942.0	1940.6	1939.2	1935.9	1930.7	1925.5	1920.2	1915.1	1917.2
10°	1928.0	1926.3	1924.7	1923.0	1921.3	1917.4	1911.5	1905.4	1899.4	1893.4	1894.7
12.5°	1906.3	1904.4	1902.4	1900.4	1898.6	1894.0	1887.0	1879.9	1872.7	1865.7	1866.5
15°	1869.3	1866.2	1863.3	1860.3	1857.3	1851.5	1843.2	1834.8	1826.5	1818.1	1817.4
17.5°	1824.5	1820.0	1815.7	1811.4	1807.0	1799.9	1789.8	1779.8	1769.7	1759.7	1757.8
20°	1789.5	1785.2	1780.8	1776.5	1772.2	1764.3	1752.9	1741.5	1730.1	1718.8	1716.1
22.5°	1751.0	1746.2	1741.3	1736.4	1731.5	1723.0	1710.7	1698.6	1686.4	1674.2	1670.2
25°	1690.2	1684.1	1678.1	1672.2	1666.1	1656.2	1642.6	1628.8	1615.1	1601.4	1595.7
27.5°	1626.4	1618.8	1611.3	1603.7	1596.1	1585.1	1570.4	1555.8	1541.1	1526.4	1519.4
30°	1581.9	1573.5	1565.1	1556.7	1548.4	1536.3	1520.6	1504.9	1489.2	1473.5	1465.1
32.5°	1534.8	1525.4	1516.0	1506.6	1497.1	1484.3	1468.0	1451.8	1435.5	1419.3	1409.6
35°	1461.4	1450.7	1440.0	1429.3	1418.6	1404.9	1388.2	1371.5	1354.7	1338.0	1326.6
37.5°	1382.9	1371.8	1360.7	1349.7	1338.7	1323.9	1305.4	1286.9	1268.4	1249.8	1237.1
40°	1327.5	1316.4	1305.4	1294.4	1283.3	1268.3	1249.2	1230.1	1211.1	1192.0	1178.0
42.5°	1274.5	1262.9	1251.3	1239.7	1228.2	1212.5	1192.6	1172.7	1152.9	1133.0	1118.7
45°	1192.0	1179.6	1167.2	1154.9	1142.6	1126.2	1106.3	1086.2	1066.1	1046.0	1029.6
47.5°	1106.8	1094.0	1081.3	1068.5	1055.7	1038.9	1018.0	997.1	976.3	955.5	938.4
50°	1049.0	1035.9	1022.9	1009.9	996.8	979.6	958.2	936.8	915.4	894.0	877.3
52.5°	990.0	977.2	964.5	951.7	939.0	921.5	899.7	877.7	855.7	833.8	816.8
55°	903.1	889.7	876.3	862.9	849.5	832.0	810.2	788.5	766.8	745.0	727.6
57.5°	816.9	803.0	789.1	775.2	761.3	743.7	722.3	700.8	679.4	658.0	640.4
60°	755.5	742.2	728.8	715.4	702.0	684.7	663.3	641.9	620.4	599.0	581.6
62.5°	700.1	686.3	672.3	658.5	644.5	626.6	604.6	582.7	560.7	538.9	522.7
65°	614.1	599.6	585.3	570.9	556.6	538.7	517.3	495.9	474.5	453.0	438.7
67.5°	524.6	510.9	497.1	483.3	469.6	452.7	432.8	413.0	393.1	373.2	360.9
70°	468.1	454.0	440.0	425.9	411.9	395.3	376.3	357.2	338.2	319.1	308.0
72.5°	407.8	395.2	382.5	369.8	357.0	341.7	323.7	305.7	287.7	269.7	260.2
75°	326.6	314.2	301.8	289.5	277.1	263.1	247.3	231.6	215.9	200.2	192.5
77.5°	244.1	233.7	223.1	212.6	202.1	190.5	177.8	165.1	152.4	139.7	135.2
80°	191.1	181.4	171.7	162.0	152.3	142.5	132.4	122.4	112.4	102.4	101.3
82.5°	145.4	136.5	127.6	118.7	109.8	102.5	96.7	91.0	85.2	79.5	78.7
85°	81.2	74.6	67.9	61.2	54.5	50.7	49.7	48.6	47.7	46.7	46.0
87.5°	28.2	26.4	24.6	22.8	21.0	20.1	20.1	20.1	20.1	20.1	20.0
90°	2.2	4.1	5.8	7.6	9.4	10.9	12.3	13.6	14.9	16.2	17.2
92.5°	9.3	9.4	9.5	9.6	9.7	10.4	11.7	13.0	14.3	15.6	16.6
95°	40.5	35.0	29.4	23.8	18.3	15.6	15.7	15.9	16.0	16.2	17.2
97.5°	86.1	89.5	93.0	96.5	100.0	92.6	74.3	56.0	37.7	19.4	19.5
100°	120.8	123.9	126.8	129.7	132.6	122.8	100.2	77.7	55.0	32.4	29.6
102.5°	159.8	161.9	164.1	166.3	168.4	168.1	165.0	162.1	159.2	156.3	126.2
105°	221.8	222.8	223.8	224.8	225.7	226.7	227.4	228.3	229.1	229.9	231.4
107.5°	279.5	279.9	280.4	281.0	281.4	282.2	283.3	284.5	285.6	286.7	287.4
110°	318.4	318.9	319.3	319.8	320.4	321.0	322.1	323.0	324.0	325.0	325.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	356.1	356.9	357.9	358.7	359.7	360.3	360.8	361.2	361.7	362.1	362.1
115°	414.2	414.6	415.2	415.7	416.1	416.3	416.1	415.9	415.8	415.7	415.9
117.5°	466.5	467.1	467.8	468.4	469.1	469.7	470.0	470.3	470.7	471.1	471.0
120°	501.9	502.6	503.2	503.9	504.4	504.7	504.5	504.4	504.3	504.1	504.4
122.5°	534.9	535.3	535.6	536.0	536.5	536.8	537.0	537.2	537.4	537.7	537.9
125°	582.2	582.9	583.5	584.2	584.8	584.9	584.7	584.4	584.0	583.7	584.2
127.5°	627.0	627.2	627.4	627.5	627.6	628.1	628.9	629.6	630.4	631.1	631.0
130°	655.9	656.1	656.2	656.4	656.6	656.9	657.3	657.9	658.4	658.8	659.0
132.5°	682.4	682.7	683.1	683.3	683.6	684.1	684.7	685.3	685.9	686.5	686.7
135°	722.3	722.1	721.9	721.7	721.6	721.8	722.5	723.1	723.8	724.4	724.7
137.5°	757.4	757.5	757.6	757.6	757.7	758.1	758.8	759.6	760.3	761.0	761.4
140°	780.4	780.8	781.1	781.5	781.7	782.1	782.4	782.8	783.1	783.3	783.9
142.5°	801.1	801.6	802.3	802.9	803.4	803.8	804.0	804.3	804.5	804.6	805.0
145°	832.7	833.3	833.8	834.2	834.7	835.0	835.0	835.0	835.0	835.0	835.2
147.5°	858.0	858.9	859.8	860.7	861.7	862.0	861.9	861.7	861.5	861.4	861.5
150°	876.3	876.9	877.6	878.3	878.8	879.1	878.9	878.8	878.6	878.4	878.4
152.5°	891.6	892.1	892.6	893.2	893.7	893.8	893.5	893.2	892.9	892.6	892.9
155°	913.1	913.2	913.4	913.6	913.8	913.6	913.1	912.6	912.1	911.6	912.3
157.5°	931.2	931.1	931.0	930.9	930.9	930.5	929.9	929.4	928.9	928.3	929.2
160°	941.9	941.3	940.8	940.4	939.9	939.5	939.4	939.2	939.1	938.9	939.9
162.5°	951.3	950.6	950.0	949.4	948.8	948.4	948.2	948.1	947.9	947.7	948.8
165°	963.2	962.4	961.6	960.7	960.0	959.5	959.5	959.5	959.5	959.5	960.8
167.5°	972.6	971.8	970.9	970.1	969.2	968.7	968.7	968.6	968.5	968.4	969.8
170°	978.0	976.9	976.0	975.0	974.0	973.6	973.7	973.9	974.1	974.3	975.5
172.5°	981.5	980.5	979.5	978.5	977.6	977.1	977.3	977.5	977.6	977.8	979.1
175°	985.3	984.3	983.4	982.4	981.4	981.0	981.2	981.3	981.5	981.7	983.1
177.5°	987.1	986.2	985.2	984.3	983.4	983.1	983.4	983.6	983.9	984.1	985.1
180°	985.3	985.3	985.3	985.3	985.3	985.3	985.3	985.3	985.3	985.3	985.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6
2.5°	1958.2	1961.2	1964.2	1965.5	1965.2	1964.9	1964.6	1964.4
5°	1945.2	1948.5	1951.9	1953.2	1952.6	1951.9	1951.3	1950.6
7.5°	1919.3	1921.5	1923.6	1924.1	1923.1	1922.0	1920.9	1919.9
10°	1896.0	1897.3	1898.8	1898.8	1897.3	1896.0	1894.7	1893.4
12.5°	1867.3	1868.1	1868.9	1868.3	1866.5	1864.6	1862.7	1860.9
15°	1816.8	1816.1	1815.4	1813.9	1811.6	1809.2	1806.9	1804.6
17.5°	1756.0	1754.1	1752.2	1749.5	1746.0	1742.4	1738.9	1735.3
20°	1713.4	1710.7	1708.1	1704.6	1700.3	1695.9	1691.5	1687.2
22.5°	1666.2	1662.2	1658.2	1654.4	1650.9	1647.3	1643.8	1640.2
25°	1590.0	1584.3	1578.7	1574.1	1570.7	1567.4	1564.1	1560.8
27.5°	1512.4	1505.3	1498.4	1492.4	1487.6	1482.8	1478.0	1473.2
30°	1456.7	1448.4	1440.0	1433.1	1427.8	1422.5	1417.1	1411.7
32.5°	1399.9	1390.2	1380.4	1373.1	1368.0	1362.9	1357.8	1352.7
35°	1315.2	1303.9	1292.5	1283.8	1277.8	1271.8	1265.7	1259.7
37.5°	1224.4	1211.6	1199.0	1189.6	1183.6	1177.5	1171.6	1165.5
40°	1163.9	1149.9	1135.9	1125.8	1119.7	1113.7	1107.8	1101.7
42.5°	1104.4	1090.1	1075.7	1065.5	1059.1	1052.9	1046.6	1040.3
45°	1013.2	996.8	980.4	969.2	963.3	957.2	951.2	945.2
47.5°	921.4	904.5	887.5	875.6	869.0	862.4	855.7	849.1
50°	860.5	843.9	827.1	815.6	809.3	802.9	796.5	790.1
52.5°	799.8	782.9	765.8	754.0	747.4	740.8	734.1	727.5
55°	710.2	692.9	675.4	663.5	657.2	650.8	644.5	638.1
57.5°	622.7	605.0	587.4	576.2	571.4	566.5	561.7	556.9
60°	564.2	546.9	529.4	518.1	512.7	507.4	502.0	496.6
62.5°	506.7	490.7	474.6	464.4	460.1	455.9	451.6	447.3
65°	424.2	409.9	395.5	386.3	382.3	378.2	374.3	370.2
67.5°	348.6	336.1	323.8	315.4	310.9	306.5	302.1	297.7
70°	297.0	286.0	274.9	267.8	264.4	261.1	257.7	254.4
72.5°	250.8	241.4	232.0	225.7	222.6	219.6	216.5	213.4
75°	184.8	177.1	169.4	164.6	162.6	160.5	158.5	156.6
77.5°	130.7	126.2	121.8	119.2	118.6	118.0	117.4	116.8
80°	100.4	99.3	98.3	97.6	97.4	97.0	96.7	96.3
82.5°	78.0	77.3	76.5	76.0	75.7	75.3	75.0	74.6
85°	45.3	44.7	44.0	43.6	43.6	43.6	43.6	43.6
87.5°	20.0	19.9	19.8	20.0	20.3	20.6	20.9	21.3
90°	18.2	19.1	20.2	20.8	21.1	21.5	21.8	22.1
92.5°	17.6	18.6	19.5	20.1	20.2	20.2	20.3	20.4
95°	18.2	19.1	20.2	20.7	20.9	21.0	21.2	21.4
97.5°	19.7	19.8	19.9	20.0	20.2	20.3	20.5	20.6
100°	26.9	24.0	21.3	20.0	20.2	20.3	20.5	20.6
102.5°	96.1	66.2	36.1	21.1	21.1	21.1	21.2	21.2
105°	232.9	234.3	235.8	233.7	227.7	221.8	215.9	210.0
107.5°	288.1	288.8	289.5	290.2	290.9	291.4	292.1	292.8
110°	325.6	326.0	326.3	326.7	327.3	327.7	328.2	328.7



TEST NUMBER: P333000-830

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	362.0	361.9	361.8	362.1	362.8	363.4	364.0	364.7
115°	416.3	416.6	417.0	417.2	417.2	417.2	417.2	417.2
117.5°	470.9	470.9	470.8	470.7	470.7	470.6	470.5	470.5
120°	504.7	505.1	505.4	505.4	505.1	504.7	504.4	504.1
122.5°	538.1	538.3	538.5	538.4	538.1	537.7	537.4	537.1
125°	584.7	585.1	585.6	586.0	586.2	586.3	586.4	586.6
127.5°	630.9	630.8	630.7	630.7	630.5	630.4	630.3	630.1
130°	659.2	659.3	659.5	659.6	659.6	659.6	659.6	659.6
132.5°	686.9	687.0	687.2	687.2	687.1	686.9	686.8	686.7
135°	725.1	725.4	725.8	726.0	726.4	726.7	727.1	727.4
137.5°	761.7	762.0	762.4	762.5	762.4	762.3	762.2	762.1
140°	784.4	784.9	785.3	785.7	785.9	786.0	786.2	786.4
142.5°	805.3	805.7	806.1	806.3	806.3	806.3	806.3	806.3
145°	835.3	835.5	835.7	835.8	836.2	836.5	836.9	837.2
147.5°	861.7	861.8	861.9	862.0	862.2	862.3	862.5	862.7
150°	878.4	878.4	878.4	878.5	878.7	878.8	879.0	879.2
152.5°	893.2	893.4	893.6	893.7	893.6	893.5	893.4	893.3
155°	912.9	913.6	914.3	914.4	913.8	913.3	912.9	912.4
157.5°	930.0	930.9	931.7	931.7	930.9	930.0	929.2	928.3
160°	940.8	941.9	942.8	942.8	941.9	940.8	939.9	938.9
162.5°	949.7	950.6	951.7	951.6	950.5	949.3	948.3	947.2
165°	962.1	963.5	964.8	964.7	963.2	961.8	960.3	958.8
167.5°	971.3	972.7	974.1	974.0	972.4	970.7	969.1	967.5
170°	976.9	978.2	979.5	979.3	977.7	976.1	974.4	972.8
172.5°	980.4	981.8	983.1	982.8	981.1	979.3	977.5	975.7
175°	984.6	986.1	987.5	987.3	985.3	983.4	981.4	979.4
177.5°	986.3	987.3	988.4	988.1	986.5	985.0	983.4	981.8
180°	985.3	985.3	985.3	985.3	985.3	985.3	985.3	985.3

(END OF REPORT)