

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: P332989-840

Luminaire Tested: **SA4XXRDIP-C1195D365U840-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332989-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXRDIP-C1195D365U840-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

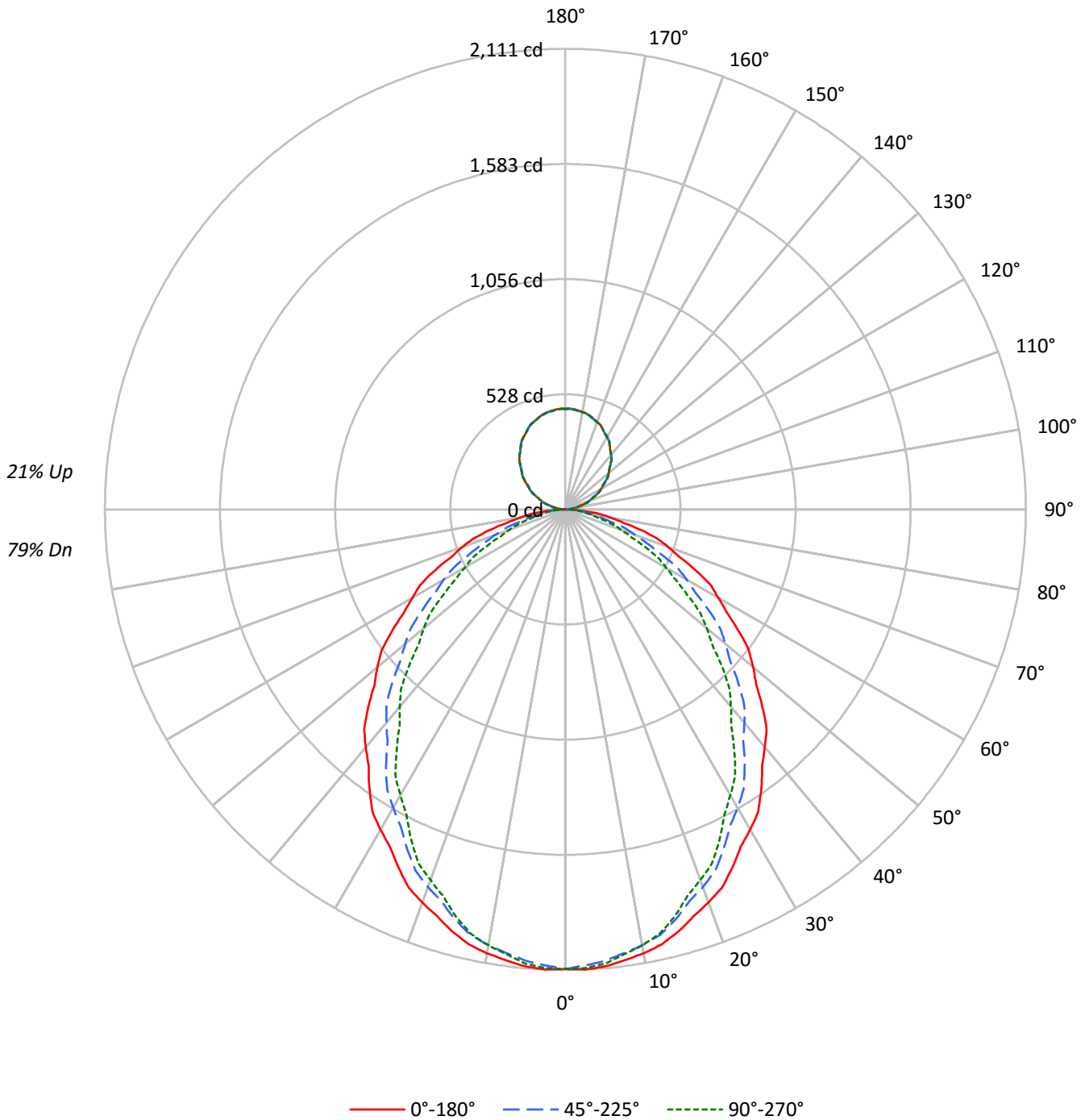
Lumens per Lamp: N/A  
Luminaire Lumens: 6147.3 lumens  
Efficiency: N/A  
Efficacy: 123.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Semi-Direct

Input Watts (W): 49.8  
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	0	
RCR																						
0	114	114	114	114	109	109	109	109	100	100	100	91	91	91	83	83	83	79				
1	105	100	97	93	100	96	93	90	88	85	83	81	79	77	74	72	71	68				
2	96	88	82	77	91	85	79	74	78	73	69	71	68	65	66	63	60	57				
3	88	78	70	64	84	75	68	63	69	63	59	64	59	55	59	55	52	49				
4	80	69	61	55	77	67	59	54	62	56	51	57	52	48	53	48	45	42				
5	74	62	54	48	71	60	52	46	55	49	44	51	46	42	48	43	40	37				
6	69	56	48	42	65	54	46	41	50	44	39	47	41	37	43	39	35	33				
7	64	51	43	37	61	49	42	36	46	39	35	43	37	33	40	35	31	29				
8	59	47	39	33	57	45	38	32	42	36	31	39	34	30	37	32	28	26				
9	55	43	35	30	53	41	34	29	39	32	28	36	31	27	34	29	26	24				
10	52	39	32	27	50	38	31	26	36	30	25	34	28	24	31	27	23	22				

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

	0°	45°	90°
0°	17002	17002	17002
5°	17040	16832	16936
10°	16934	16629	16629
15°	16739	16280	16160
20°	16472	15821	15530
25°	16131	15284	14895
30°	15800	14716	14100
35°	15431	14128	13302
40°	14989	13460	12440
45°	14582	12795	11562
50°	14117	12031	10633
55°	13619	11234	9623
60°	13070	10362	8591
65°	12567	9270	7578
70°	11837	8068	6434
75°	10914	6691	5231
80°	9521	5100	4798
85°	8068	4631	4335



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	197.8	3.2
10°-20°	551.7	9.0
20°-30°	796.6	13.0
30°-40°	903.0	14.7
40°-50°	872.0	14.2
50°-60°	725.1	11.8
60°-70°	500.7	8.1
70°-80°	253.8	4.1
80°-90°	66.5	1.1
90°-100°	30.4	0.5
100°-110°	90.2	1.5
110°-120°	153.0	2.5
120°-130°	201.8	3.3
130°-140°	226.6	3.7
140°-150°	222.7	3.6
150°-160°	187.3	3.0
160°-170°	124.6	2.0
170°-180°	43.6	0.7
0°-30°	1546.1	25.2
0°-40°	2449.1	39.8
0°-60°	4046.2	65.8
0°-90°	4867.2	79.2
90°-120°	273.6	4.5
90°-150°	924.6	15.0
90°-180°	1280.0	20.8
0°-180°	6147.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2106	2106	2106	2106	2106	
5°	2103	2096	2077	2092	2090	199
15°	2003	1987	1948	1944	1934	564
25°	1811	1780	1716	1689	1672	834
35°	1566	1513	1434	1380	1350	978
45°	1277	1215	1121	1044	1013	984
55°	968	901	798	717	684	865
65°	658	587	485	419	397	649
75°	350	289	214	179	168	369
85°	87	56	50	47	47	98
90°	1	5	8	10	11	5
95°	21	25	27	28	28	24
105°	83	84	85	86	87	88
115°	156	156	155	154	154	153
125°	227	227	226	226	225	202
135°	292	294	294	294	293	226
145°	355	356	357	356	356	222
155°	407	407	406	408	406	187
165°	443	442	441	443	442	125
175°	461	459	459	461	459	44
180°	461	461	461	461	461	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0
2.5°	2111.1	2110.0	2108.9	2107.7	2106.6	2104.5	2101.3	2098.1	2095.0	2091.8	2095.0
5°	2102.7	2101.3	2099.9	2098.5	2097.1	2094.2	2089.9	2085.6	2081.3	2077.0	2080.5
7.5°	2083.8	2082.2	2080.7	2079.2	2077.7	2074.2	2068.6	2063.1	2057.4	2051.8	2054.2
10°	2065.7	2063.9	2062.1	2060.3	2058.5	2054.4	2048.0	2041.5	2035.1	2028.6	2030.0
12.5°	2042.5	2040.4	2038.3	2036.2	2034.2	2029.3	2021.7	2014.2	2006.5	1998.9	1999.8
15°	2002.8	1999.5	1996.4	1993.2	1989.9	1983.8	1974.9	1965.9	1956.9	1947.9	1947.2
17.5°	1954.8	1950.0	1945.4	1940.8	1936.1	1928.4	1917.6	1906.9	1896.1	1885.4	1883.4
20°	1917.3	1912.7	1908.0	1903.4	1898.7	1890.3	1878.1	1865.9	1853.7	1841.6	1838.7
22.5°	1876.0	1870.9	1865.6	1860.4	1855.1	1846.0	1832.9	1819.9	1806.9	1793.8	1789.5
25°	1810.9	1804.4	1798.0	1791.6	1785.1	1774.5	1759.9	1745.1	1730.5	1715.8	1709.7
27.5°	1742.5	1734.4	1726.4	1718.3	1710.1	1698.3	1682.5	1666.9	1651.1	1635.5	1627.9
30°	1694.9	1685.9	1676.9	1667.9	1659.0	1646.1	1629.2	1612.4	1595.6	1578.7	1569.7
32.5°	1644.5	1634.4	1624.3	1614.2	1604.1	1590.3	1572.9	1555.5	1538.0	1520.7	1510.3
35°	1565.8	1554.3	1542.9	1531.4	1519.9	1505.2	1487.3	1469.5	1451.5	1433.6	1421.4
37.5°	1481.7	1469.8	1457.9	1446.1	1434.3	1418.5	1398.7	1378.8	1359.0	1339.1	1325.4
40°	1422.3	1410.5	1398.7	1386.8	1374.9	1358.9	1338.5	1318.0	1297.6	1277.2	1262.1
42.5°	1365.5	1353.1	1340.7	1328.3	1316.0	1299.1	1277.8	1256.5	1235.3	1214.0	1198.6
45°	1277.2	1263.8	1250.6	1237.4	1224.2	1206.7	1185.3	1163.8	1142.3	1120.7	1103.2
47.5°	1185.9	1172.2	1158.5	1144.8	1131.1	1113.1	1090.8	1068.3	1046.0	1023.7	1005.4
50°	1124.0	1109.9	1096.0	1082.1	1068.0	1049.6	1026.6	1003.7	980.8	957.9	940.0
52.5°	1060.8	1047.0	1033.4	1019.7	1006.0	987.3	963.9	940.4	916.9	893.3	875.1
55°	967.6	953.2	938.9	924.5	910.2	891.4	868.1	844.9	821.5	798.2	779.6
57.5°	875.3	860.4	845.5	830.6	815.7	796.8	773.9	750.8	727.9	705.0	686.1
60°	809.5	795.2	780.8	766.5	752.1	733.6	710.6	687.7	664.7	641.8	623.2
62.5°	750.1	735.3	720.3	705.5	690.5	671.4	647.8	624.3	600.8	577.3	560.1
65°	657.9	642.5	627.1	611.7	596.3	577.1	554.2	531.3	508.4	485.3	470.0
67.5°	562.1	547.3	532.6	517.9	503.1	485.0	463.7	442.5	421.2	399.9	386.7
70°	501.5	486.5	471.4	456.4	441.3	423.5	403.1	382.7	362.3	341.8	330.0
72.5°	437.0	423.4	409.8	396.2	382.5	366.1	346.8	327.5	308.2	288.9	278.8
75°	349.9	336.7	323.4	310.1	296.9	281.9	265.0	248.1	231.4	214.5	206.2
77.5°	261.6	250.3	239.0	227.8	216.5	204.1	190.5	176.9	163.3	149.7	144.8
80°	204.8	194.4	184.0	173.6	163.2	152.7	141.9	131.2	120.4	109.7	108.6
82.5°	155.8	146.2	136.7	127.1	117.6	109.8	103.6	97.5	91.3	85.1	84.3
85°	87.1	79.9	72.7	65.5	58.4	54.3	53.2	52.1	51.1	50.0	49.3
87.5°	29.9	27.8	25.7	23.5	21.4	20.3	20.1	20.0	19.8	19.6	19.4
90°	1.1	1.9	2.8	3.7	4.5	5.4	6.0	6.6	7.2	7.9	8.3
92.5°	7.7	8.7	9.6	10.6	11.6	12.3	12.8	13.2	13.7	14.1	14.4
95°	21.4	22.1	22.8	23.5	24.2	24.9	25.4	26.1	26.6	27.2	27.4
97.5°	37.4	38.0	38.6	39.1	39.7	40.3	40.9	41.6	42.2	42.9	43.2
100°	50.0	50.3	50.6	50.9	51.2	51.7	52.4	53.2	53.9	54.6	54.7
102.5°	63.1	63.2	63.3	63.5	63.6	64.0	64.6	65.3	65.9	66.6	66.9
105°	83.1	83.2	83.3	83.4	83.4	83.6	84.0	84.3	84.6	84.9	85.1
107.5°	104.2	104.3	104.4	104.5	104.6	104.6	104.7	104.7	104.8	104.8	105.0
110°	118.5	118.7	118.8	119.0	119.1	119.2	119.1	119.0	118.9	118.9	118.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	133.3	133.3	133.4	133.4	133.4	133.4	133.2	133.1	133.0	132.8	132.8
115°	155.6	155.6	155.6	155.6	155.6	155.5	155.3	155.2	155.0	154.9	154.8
117.5°	176.5	176.6	176.7	176.7	176.8	176.8	176.7	176.6	176.4	176.3	176.1
120°	190.6	190.9	191.2	191.5	191.9	191.9	191.7	191.4	191.2	191.0	190.6
122.5°	205.1	205.2	205.4	205.5	205.6	205.6	205.5	205.4	205.3	205.2	204.9
125°	226.6	226.6	226.6	226.6	226.6	226.5	226.5	226.4	226.3	226.2	226.1
127.5°	246.1	246.3	246.6	246.8	247.0	247.1	247.0	246.8	246.7	246.6	246.4
130°	259.8	260.0	260.2	260.5	260.7	260.8	260.8	260.8	260.8	260.8	260.7
132.5°	273.8	274.0	274.1	274.3	274.5	274.5	274.5	274.4	274.4	274.3	274.1
135°	292.3	292.8	293.2	293.7	294.2	294.4	294.4	294.4	294.4	294.4	294.3
137.5°	312.4	312.7	312.9	313.1	313.3	313.5	313.6	313.7	313.9	314.0	313.8
140°	325.8	326.0	326.1	326.3	326.5	326.5	326.5	326.5	326.5	326.5	326.5
142.5°	338.1	338.2	338.4	338.5	338.7	338.8	338.7	338.6	338.6	338.5	338.5
145°	355.1	355.4	355.7	356.0	356.4	356.6	356.6	356.7	356.8	356.9	356.8
147.5°	371.9	372.3	372.6	373.0	373.4	373.5	373.5	373.4	373.4	373.3	373.2
150°	382.2	382.5	382.8	383.1	383.4	383.6	383.6	383.6	383.6	383.6	383.6
152.5°	391.9	392.1	392.2	392.4	392.6	392.7	392.8	392.9	392.9	393.0	393.2
155°	406.8	406.8	406.8	406.8	406.8	406.8	406.7	406.6	406.6	406.5	406.8
157.5°	419.4	419.2	419.1	419.0	418.8	418.7	418.7	418.7	418.7	418.7	418.9
160°	426.8	426.7	426.7	426.6	426.5	426.4	426.4	426.3	426.2	426.1	426.4
162.5°	433.6	433.4	433.2	433.0	432.8	432.7	432.6	432.5	432.4	432.3	432.8
165°	442.8	442.6	442.4	442.1	441.9	441.7	441.5	441.4	441.2	441.1	441.5
167.5°	449.9	449.6	449.3	448.9	448.6	448.4	448.5	448.5	448.5	448.5	449.0
170°	453.9	453.5	453.1	452.7	452.3	452.2	452.2	452.3	452.4	452.5	452.9
172.5°	456.8	456.5	456.1	455.8	455.4	455.2	455.2	455.3	455.3	455.3	455.9
175°	460.7	460.3	459.9	459.5	459.1	458.9	458.8	458.7	458.7	458.6	459.1
177.5°	462.0	461.7	461.3	461.0	460.7	460.6	460.6	460.6	460.6	460.6	461.0
180°	461.4	461.4	461.4	461.4	461.4	461.4	461.4	461.4	461.4	461.4	461.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0
2.5°	2098.1	2101.3	2104.5	2105.9	2105.6	2105.3	2105.0	2104.8
5°	2084.2	2087.7	2091.3	2092.7	2092.0	2091.3	2090.6	2089.9
7.5°	2056.4	2058.7	2061.0	2061.5	2060.4	2059.3	2058.1	2057.0
10°	2031.4	2032.9	2034.4	2034.4	2032.9	2031.4	2030.0	2028.6
12.5°	2000.6	2001.6	2002.4	2001.8	1999.8	1997.8	1995.8	1993.8
15°	1946.5	1945.8	1945.1	1943.5	1941.0	1938.4	1936.0	1933.5
17.5°	1881.4	1879.4	1877.3	1874.5	1870.7	1866.8	1863.1	1859.3
20°	1835.8	1832.9	1830.1	1826.3	1821.7	1817.1	1812.3	1807.7
22.5°	1785.2	1780.9	1776.7	1772.6	1768.8	1764.9	1761.2	1757.4
25°	1703.5	1697.5	1691.4	1686.6	1682.9	1679.4	1675.8	1672.2
27.5°	1620.4	1612.9	1605.4	1599.0	1593.9	1588.7	1583.6	1578.4
30°	1560.7	1551.9	1542.9	1535.5	1529.7	1524.1	1518.3	1512.6
32.5°	1499.9	1489.4	1479.0	1471.2	1465.7	1460.3	1454.8	1449.4
35°	1409.2	1397.0	1384.8	1375.5	1369.1	1362.6	1356.1	1349.7
37.5°	1311.8	1298.2	1284.6	1274.6	1268.1	1261.6	1255.3	1248.8
40°	1247.1	1232.0	1217.0	1206.2	1199.7	1193.3	1186.9	1180.4
42.5°	1183.3	1167.9	1152.6	1141.6	1134.8	1128.1	1121.4	1114.6
45°	1085.6	1068.0	1050.5	1038.4	1032.1	1025.6	1019.2	1012.7
47.5°	987.2	969.1	950.9	938.2	931.1	924.0	916.9	909.8
50°	922.0	904.1	886.2	873.8	867.1	860.2	853.4	846.6
52.5°	857.0	838.8	820.5	807.9	800.8	793.8	786.6	779.5
55°	760.9	742.4	723.7	710.9	704.2	697.3	690.5	683.7
57.5°	667.2	648.2	629.3	617.3	612.2	606.9	601.8	596.6
60°	604.5	585.9	567.2	555.1	549.4	543.6	537.9	532.1
62.5°	542.9	525.7	508.5	497.6	493.0	488.5	483.8	479.3
65°	454.5	439.2	423.7	413.8	409.6	405.3	401.0	396.7
67.5°	373.4	360.1	346.9	337.9	333.2	328.4	323.7	318.9
70°	318.2	306.4	294.6	286.9	283.3	279.7	276.1	272.6
72.5°	268.7	258.6	248.5	241.9	238.5	235.3	232.0	228.6
75°	198.0	189.8	181.5	176.3	174.2	172.0	169.9	167.7
77.5°	140.1	135.2	130.5	127.7	127.0	126.4	125.8	125.1
80°	107.6	106.4	105.3	104.6	104.3	103.9	103.6	103.2
82.5°	83.6	82.8	82.0	81.4	81.1	80.7	80.4	80.0
85°	48.6	47.9	47.2	46.8	46.8	46.8	46.8	46.8
87.5°	19.3	19.1	18.9	18.9	19.3	19.6	19.9	20.2
90°	8.8	9.3	9.8	10.1	10.2	10.4	10.5	10.7
92.5°	14.7	14.9	15.2	15.5	15.6	15.7	15.8	15.9
95°	27.6	27.9	28.1	28.2	28.2	28.2	28.2	28.2
97.5°	43.4	43.7	44.0	44.1	44.1	44.1	44.1	44.1
100°	54.9	55.0	55.2	55.3	55.3	55.3	55.3	55.3
102.5°	67.1	67.3	67.5	67.7	67.7	67.8	67.8	67.9
105°	85.4	85.6	85.8	86.1	86.3	86.6	86.8	87.1
107.5°	105.3	105.5	105.7	105.8	105.8	105.8	105.8	105.7
110°	118.6	118.4	118.2	118.3	118.5	118.8	119.0	119.2





TEST NUMBER: P332989-840

CATALOG NUMBER: SA4XXRDIP-C1195D365U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	132.8	132.7	132.7	132.7	132.8	132.8	132.8	132.9
115°	154.7	154.6	154.5	154.5	154.4	154.3	154.2	154.2
117.5°	175.8	175.5	175.3	175.1	174.9	174.7	174.6	174.4
120°	190.2	189.8	189.3	189.2	189.3	189.6	189.7	189.9
122.5°	204.7	204.4	204.1	203.8	203.6	203.3	203.0	202.7
125°	225.9	225.8	225.6	225.4	225.3	225.1	225.0	224.8
127.5°	246.3	246.1	245.9	245.8	245.7	245.6	245.4	245.3
130°	260.5	260.3	260.2	259.9	259.6	259.3	259.0	258.7
132.5°	274.0	273.8	273.7	273.5	273.4	273.3	273.2	273.0
135°	294.1	294.0	293.8	293.6	293.4	293.1	292.9	292.7
137.5°	313.6	313.4	313.2	313.1	313.1	313.2	313.2	313.3
140°	326.4	326.3	326.2	326.1	326.1	326.0	325.9	325.8
142.5°	338.5	338.5	338.4	338.4	338.4	338.4	338.4	338.4
145°	356.7	356.6	356.6	356.4	356.2	355.9	355.7	355.5
147.5°	373.2	373.1	373.0	373.0	372.9	372.8	372.7	372.7
150°	383.6	383.6	383.6	383.5	383.5	383.4	383.3	383.2
152.5°	393.4	393.6	393.8	393.7	393.5	393.3	393.1	392.9
155°	407.1	407.4	407.7	407.7	407.4	407.1	406.8	406.5
157.5°	419.1	419.4	419.6	419.6	419.3	419.1	418.8	418.5
160°	426.6	426.8	427.1	427.0	426.6	426.2	425.8	425.4
162.5°	433.2	433.6	434.0	434.0	433.7	433.3	432.9	432.5
165°	442.0	442.5	442.9	443.0	442.7	442.4	442.1	441.8
167.5°	449.5	449.9	450.4	450.4	449.9	449.4	448.9	448.4
170°	453.4	453.9	454.4	454.3	453.8	453.2	452.7	452.1
172.5°	456.5	457.0	457.5	457.5	457.0	456.4	455.9	455.2
175°	459.7	460.2	460.8	460.8	460.2	459.7	459.1	458.6
177.5°	461.4	461.9	462.3	462.3	461.8	461.3	460.8	460.3
180°	461.4	461.4	461.4	461.4	461.4	461.4	461.4	461.4

(END OF REPORT)