

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

Luminaire Tested: **SA4XXRDIP-C1195D810U835-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P333000
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-C1195D810U835-4F0-1E-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

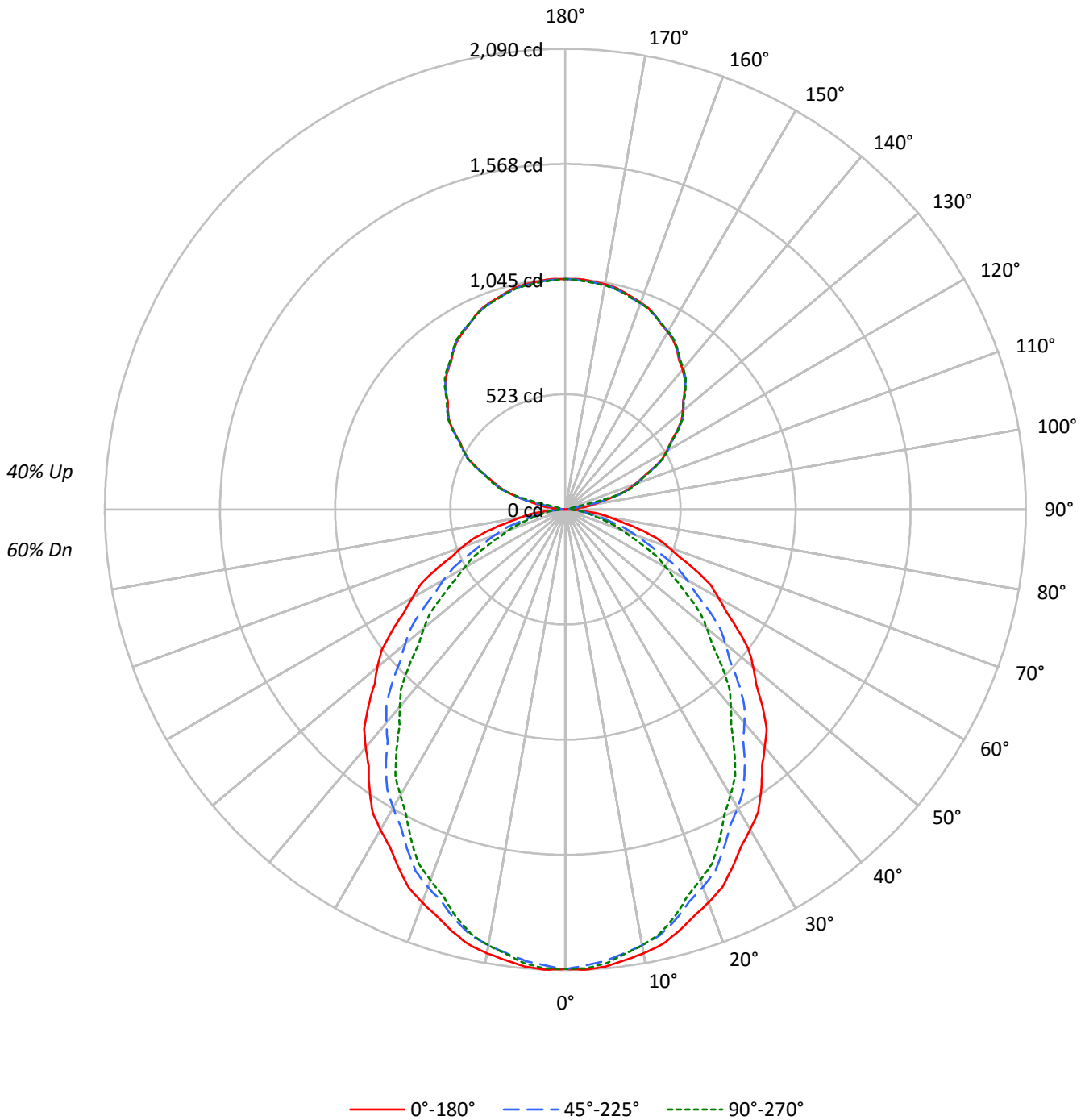
Lumens per Lamp: N/A
Luminaire Lumens: 8055.0 lumens
Efficiency: N/A
Efficacy: 132.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

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°	16835	16835	16835
5°	16874	16667	16771
10°	16768	16467	16467
15°	16575	16121	16002
20°	16311	15667	15378
25°	15973	15134	14750
30°	15645	14573	13962
35°	15281	13991	13172
40°	14842	13328	12318
45°	14439	12670	11449
50°	13978	11912	10528
55°	13485	11125	9529
60°	12943	10261	8507
65°	12445	9181	7503
70°	11722	7990	6371
75°	10808	6625	5181
80°	9428	5049	4751
85°	7984	4585	4289



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	195.9	2.4
10°-20°	546.3	6.8
20°-30°	788.8	9.8
30°-40°	894.2	11.1
40°-50°	863.5	10.7
50°-60°	718.0	8.9
60°-70°	495.8	6.2
70°-80°	251.3	3.1
80°-90°	67.5	0.8
90°-100°	35.8	0.4
100°-110°	228.0	2.8
110°-120°	436.1	5.4
120°-130°	553.6	6.9
130°-140°	592.3	7.4
140°-150°	553.9	6.9
150°-160°	446.7	5.5
160°-170°	288.1	3.6
170°-180°	99.3	1.2
0°-30°	1531.0	19.0
0°-40°	2425.2	30.1
0°-60°	4006.7	49.7
0°-90°	4821.2	59.9
90°-120°	699.8	8.7
90°-150°	2399.6	29.8
90°-180°	3234.0	40.1
0°-180°	8055.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2085	2085	2085	2085	2085	
5°	2082	2075	2057	2072	2070	197
15°	1983	1967	1929	1925	1915	559
25°	1793	1762	1699	1672	1656	826
35°	1550	1498	1420	1367	1336	968
45°	1265	1204	1110	1034	1003	975
55°	958	892	790	710	677	857
65°	652	581	481	415	393	643
75°	346	287	212	177	166	366
85°	86	56	50	46	46	97
90°	2	11	17	22	24	6
95°	43	18	17	22	23	55
105°	235	240	244	249	223	246
115°	439	442	441	442	443	432
125°	618	621	619	622	622	551
135°	766	766	769	770	772	590
145°	884	886	886	887	888	552
155°	969	969	967	970	968	446
165°	1022	1018	1018	1024	1017	289
175°	1045	1041	1042	1048	1039	100
180°	1045	1045	1045	1045	1045	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4
2.5°	2090.5	2089.4	2088.3	2087.1	2086.0	2083.9	2080.8	2077.6	2074.5	2071.4	2074.5
5°	2082.2	2080.8	2079.4	2078.0	2076.6	2073.7	2069.5	2065.2	2061.0	2056.7	2060.2
7.5°	2063.4	2061.9	2060.4	2058.9	2057.4	2053.9	2048.4	2042.9	2037.3	2031.8	2034.1
10°	2045.5	2043.7	2042.0	2040.2	2038.4	2034.3	2028.0	2021.6	2015.2	2008.8	2010.2
12.5°	2022.5	2020.5	2018.4	2016.3	2014.3	2009.5	2002.0	1994.5	1986.9	1979.4	1980.3
15°	1983.2	1980.0	1976.9	1973.7	1970.5	1964.4	1955.6	1946.7	1937.8	1928.9	1928.2
17.5°	1935.7	1931.0	1926.4	1921.8	1917.2	1909.6	1898.9	1888.3	1877.6	1867.0	1865.0
20°	1898.6	1894.0	1889.4	1884.8	1880.2	1871.8	1859.8	1847.7	1835.6	1823.6	1820.7
22.5°	1857.7	1852.6	1847.4	1842.2	1837.0	1828.0	1815.0	1802.1	1789.2	1776.3	1772.0
25°	1793.2	1786.8	1780.4	1774.1	1767.7	1757.2	1742.7	1728.1	1713.6	1699.0	1693.0
27.5°	1725.5	1717.5	1709.5	1701.5	1693.4	1681.7	1666.1	1650.6	1635.0	1619.5	1612.0
30°	1678.3	1669.4	1660.5	1651.6	1642.8	1630.0	1613.3	1596.6	1580.0	1563.3	1554.4
32.5°	1628.4	1618.4	1608.4	1598.4	1588.4	1574.8	1557.5	1540.3	1523.0	1505.8	1495.5
35°	1550.5	1539.1	1527.8	1516.4	1505.1	1490.5	1472.8	1455.1	1437.3	1419.6	1407.5
37.5°	1467.2	1455.4	1443.7	1432.0	1420.3	1404.6	1385.0	1365.3	1345.7	1326.0	1312.5
40°	1408.4	1396.7	1385.0	1373.3	1361.5	1345.6	1325.4	1305.1	1284.9	1264.7	1249.8
42.5°	1352.2	1339.9	1327.6	1315.3	1303.1	1286.4	1265.3	1244.2	1223.2	1202.1	1186.9
45°	1264.7	1251.5	1238.4	1225.3	1212.2	1194.9	1173.7	1152.4	1131.1	1109.8	1092.4
47.5°	1174.3	1160.7	1147.2	1133.6	1120.1	1102.2	1080.1	1057.9	1035.8	1013.7	995.6
50°	1113.0	1099.1	1085.3	1071.5	1057.6	1039.3	1016.6	993.9	971.2	948.5	930.8
52.5°	1050.4	1036.8	1023.3	1009.7	996.2	977.7	954.5	931.2	907.9	884.6	866.6
55°	958.1	943.9	929.7	915.5	901.3	882.7	859.6	836.6	813.5	790.4	772.0
57.5°	866.7	852.0	837.2	822.5	807.7	789.0	766.3	743.5	720.8	698.1	679.4
60°	801.6	787.4	773.2	759.0	744.8	726.4	703.7	681.0	658.2	635.5	617.1
62.5°	742.8	728.1	713.3	698.6	683.8	664.8	641.5	618.2	594.9	571.7	554.6
65°	651.5	636.2	621.0	605.7	590.5	571.5	548.8	526.1	503.4	480.6	465.4
67.5°	556.6	542.0	527.4	512.8	498.2	480.3	459.2	438.2	417.1	396.0	382.9
70°	496.6	481.7	466.8	451.9	437.0	419.4	399.2	379.0	358.8	338.5	326.8
72.5°	432.7	419.3	405.8	392.3	378.8	362.5	343.4	324.3	305.2	286.1	276.1
75°	346.5	333.4	320.2	307.1	294.0	279.1	262.4	245.7	229.1	212.4	204.2
77.5°	259.0	247.9	236.7	225.6	214.4	202.1	188.6	175.2	161.7	148.2	143.4
80°	202.8	192.5	182.2	171.9	161.6	151.2	140.5	129.9	119.2	108.6	107.5
82.5°	154.3	144.8	135.4	125.9	116.5	108.7	102.6	96.5	90.4	84.3	83.5
85°	86.2	79.1	72.0	64.9	57.8	53.8	52.7	51.6	50.6	49.5	48.8
87.5°	29.9	28.0	26.1	24.2	22.3	21.3	21.3	21.3	21.3	21.3	21.2
90°	2.3	4.3	6.2	8.1	10.0	11.6	13.0	14.4	15.8	17.2	18.2
92.5°	9.9	10.0	10.1	10.2	10.3	11.0	12.4	13.8	15.2	16.6	17.6
95°	43.0	37.1	31.2	25.3	19.4	16.5	16.7	16.9	17.0	17.2	18.2
97.5°	91.3	95.0	98.7	102.4	106.1	98.2	78.8	59.4	40.0	20.6	20.7
100°	128.2	131.4	134.5	137.6	140.7	130.3	106.3	82.4	58.4	34.4	31.4
102.5°	169.5	171.8	174.1	176.4	178.7	178.3	175.1	172.0	168.9	165.8	133.9
105°	235.3	236.4	237.4	238.5	239.5	240.5	241.3	242.2	243.1	243.9	245.5
107.5°	296.5	297.0	297.5	298.1	298.6	299.4	300.6	301.8	303.0	304.2	304.9
110°	337.8	338.3	338.8	339.3	339.9	340.6	341.7	342.7	343.8	344.8	345.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	377.8	378.7	379.7	380.6	381.6	382.3	382.8	383.2	383.7	384.2	384.2
115°	439.4	439.9	440.5	441.0	441.5	441.7	441.5	441.3	441.2	441.0	441.3
117.5°	494.9	495.6	496.3	497.0	497.7	498.3	498.6	499.0	499.4	499.8	499.7
120°	532.5	533.2	533.9	534.6	535.2	535.5	535.3	535.2	535.0	534.8	535.2
122.5°	567.5	567.9	568.3	568.7	569.2	569.5	569.7	570.0	570.2	570.5	570.7
125°	617.7	618.4	619.1	619.8	620.5	620.6	620.3	620.0	619.6	619.3	619.8
127.5°	665.2	665.4	665.6	665.8	665.9	666.4	667.2	668.0	668.8	669.6	669.5
130°	695.9	696.1	696.2	696.4	696.6	696.9	697.4	698.0	698.5	699.0	699.2
132.5°	724.0	724.3	724.7	725.0	725.3	725.8	726.4	727.1	727.7	728.4	728.6
135°	766.3	766.1	765.9	765.7	765.6	765.8	766.5	767.2	767.9	768.6	768.9
137.5°	803.6	803.7	803.8	803.8	803.9	804.3	805.1	805.9	806.6	807.4	807.8
140°	828.0	828.4	828.7	829.1	829.4	829.8	830.1	830.5	830.8	831.1	831.7
142.5°	849.9	850.5	851.2	851.8	852.4	852.8	853.0	853.3	853.5	853.7	854.1
145°	883.5	884.1	884.6	885.1	885.6	885.9	885.9	885.9	885.9	885.9	886.1
147.5°	910.3	911.3	912.2	913.2	914.2	914.6	914.4	914.2	914.0	913.9	914.0
150°	929.7	930.4	931.1	931.8	932.4	932.7	932.5	932.4	932.2	932.0	932.0
152.5°	945.9	946.5	947.0	947.6	948.2	948.3	948.0	947.7	947.3	947.0	947.3
155°	968.8	968.9	969.1	969.3	969.5	969.3	968.8	968.2	967.7	967.2	967.9
157.5°	988.0	987.9	987.8	987.7	987.6	987.2	986.6	986.1	985.5	984.9	985.8
160°	999.3	998.7	998.2	997.7	997.2	996.8	996.7	996.5	996.3	996.1	997.2
162.5°	1009.3	1008.6	1007.9	1007.3	1006.6	1006.2	1006.0	1005.9	1005.7	1005.5	1006.6
165°	1021.9	1021.1	1020.2	1019.3	1018.5	1018.0	1018.0	1018.0	1018.0	1018.0	1019.4
167.5°	1031.9	1031.0	1030.1	1029.2	1028.3	1027.8	1027.7	1027.6	1027.5	1027.4	1028.9
170°	1037.6	1036.5	1035.5	1034.4	1033.4	1033.0	1033.1	1033.3	1033.5	1033.7	1035.0
172.5°	1041.3	1040.3	1039.2	1038.2	1037.2	1036.7	1036.9	1037.1	1037.2	1037.4	1038.8
175°	1045.4	1044.3	1043.3	1042.3	1041.2	1040.8	1041.0	1041.1	1041.3	1041.5	1043.0
177.5°	1047.3	1046.3	1045.3	1044.3	1043.4	1043.0	1043.3	1043.6	1043.9	1044.1	1045.2
180°	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4
2.5°	2077.6	2080.8	2083.9	2085.3	2085.0	2084.7	2084.4	2084.2
5°	2063.8	2067.3	2070.9	2072.3	2071.6	2070.9	2070.2	2069.5
7.5°	2036.3	2038.6	2040.9	2041.4	2040.3	2039.2	2038.0	2036.9
10°	2011.6	2013.0	2014.5	2014.5	2013.0	2011.6	2010.2	2008.8
12.5°	1981.1	1982.0	1982.8	1982.2	1980.3	1978.3	1976.3	1974.3
15°	1927.5	1926.8	1926.1	1924.5	1922.0	1919.5	1917.1	1914.6
17.5°	1863.0	1861.0	1859.0	1856.2	1852.4	1848.6	1844.9	1841.1
20°	1817.9	1815.0	1812.2	1808.5	1803.9	1799.3	1794.6	1790.0
22.5°	1767.8	1763.5	1759.3	1755.3	1751.5	1747.7	1744.0	1740.2
25°	1686.9	1680.9	1674.9	1670.1	1666.5	1663.0	1659.4	1655.9
27.5°	1604.6	1597.1	1589.7	1583.4	1578.3	1573.2	1568.1	1563.0
30°	1545.5	1536.7	1527.8	1520.5	1514.8	1509.2	1503.5	1497.8
32.5°	1485.2	1474.9	1464.6	1456.8	1451.4	1446.0	1440.6	1435.2
35°	1395.4	1383.4	1371.3	1362.1	1355.7	1349.3	1342.9	1336.5
37.5°	1299.0	1285.5	1272.1	1262.1	1255.7	1249.3	1243.0	1236.6
40°	1234.9	1220.0	1205.1	1194.4	1188.0	1181.6	1175.3	1168.9
42.5°	1171.7	1156.5	1141.3	1130.4	1123.7	1117.1	1110.4	1103.7
45°	1075.0	1057.6	1040.2	1028.3	1022.0	1015.6	1009.2	1002.8
47.5°	977.6	959.6	941.6	929.0	922.0	915.0	907.9	900.9
50°	913.0	895.3	877.5	865.3	858.6	851.8	845.1	838.3
52.5°	848.6	830.6	812.5	800.0	793.0	786.0	778.9	771.9
55°	753.5	735.1	716.6	704.0	697.3	690.5	683.8	677.0
57.5°	660.7	641.9	623.2	611.3	606.2	601.0	595.9	590.8
60°	598.6	580.2	561.7	549.7	544.0	538.3	532.6	526.9
62.5°	537.6	520.6	503.5	492.7	488.2	483.7	479.1	474.6
65°	450.1	434.9	419.6	409.8	405.6	401.3	397.1	392.8
67.5°	369.8	356.6	343.5	334.6	329.9	325.2	320.5	315.8
70°	315.1	303.4	291.7	284.1	280.5	277.0	273.4	269.9
72.5°	266.1	256.1	246.1	239.5	236.2	233.0	229.7	226.4
75°	196.1	187.9	179.7	174.6	172.5	170.3	168.2	166.1
77.5°	138.7	133.9	129.2	126.5	125.8	125.2	124.6	123.9
80°	106.5	105.4	104.3	103.6	103.3	102.9	102.6	102.2
82.5°	82.8	82.0	81.2	80.6	80.3	79.9	79.6	79.2
85°	48.1	47.4	46.7	46.3	46.3	46.3	46.3	46.3
87.5°	21.2	21.1	21.0	21.2	21.5	21.9	22.2	22.6
90°	19.3	20.3	21.4	22.1	22.4	22.8	23.1	23.5
92.5°	18.7	19.7	20.7	21.3	21.4	21.4	21.5	21.6
95°	19.3	20.3	21.4	22.0	22.2	22.3	22.5	22.7
97.5°	20.9	21.0	21.1	21.2	21.4	21.5	21.7	21.9
100°	28.5	25.5	22.6	21.2	21.4	21.5	21.7	21.9
102.5°	102.0	70.2	38.3	22.4	22.4	22.4	22.5	22.5
105°	247.1	248.6	250.2	247.9	241.6	235.3	229.1	222.8
107.5°	305.7	306.4	307.2	307.9	308.6	309.2	309.9	310.6
110°	345.5	345.9	346.2	346.6	347.2	347.7	348.2	348.7



TEST NUMBER: P333000

CATALOG NUMBER: SA4XXRDIP-C1195D810U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	384.1	384.0	383.9	384.2	384.9	385.6	386.2	386.9
115°	441.7	442.0	442.4	442.6	442.6	442.6	442.6	442.6
117.5°	499.6	499.6	499.5	499.4	499.4	499.3	499.2	499.2
120°	535.5	535.9	536.2	536.2	535.9	535.5	535.2	534.8
122.5°	570.9	571.1	571.3	571.2	570.9	570.5	570.2	569.8
125°	620.3	620.8	621.3	621.7	621.9	622.0	622.2	622.4
127.5°	669.4	669.3	669.2	669.1	668.9	668.8	668.7	668.5
130°	699.4	699.5	699.7	699.8	699.8	699.8	699.8	699.8
132.5°	728.8	728.9	729.1	729.1	729.0	728.8	728.7	728.6
135°	769.3	769.6	770.0	770.3	770.7	771.0	771.4	771.7
137.5°	808.1	808.5	808.9	809.0	808.9	808.8	808.7	808.6
140°	832.2	832.7	833.2	833.6	833.8	833.9	834.1	834.3
142.5°	854.4	854.8	855.2	855.4	855.4	855.5	855.5	855.5
145°	886.2	886.4	886.6	886.8	887.2	887.5	887.9	888.2
147.5°	914.2	914.3	914.4	914.6	914.8	914.9	915.1	915.3
150°	932.0	932.0	932.0	932.1	932.3	932.4	932.6	932.8
152.5°	947.6	947.9	948.1	948.2	948.1	948.0	947.9	947.8
155°	968.6	969.3	970.0	970.1	969.5	969.0	968.5	968.0
157.5°	986.7	987.6	988.5	988.5	987.6	986.7	985.8	984.9
160°	998.2	999.3	1000.3	1000.3	999.3	998.2	997.2	996.1
162.5°	1007.6	1008.6	1009.7	1009.6	1008.4	1007.2	1006.1	1004.9
165°	1020.8	1022.2	1023.6	1023.5	1021.9	1020.4	1018.8	1017.2
167.5°	1030.5	1032.0	1033.5	1033.4	1031.7	1029.9	1028.2	1026.5
170°	1036.4	1037.8	1039.2	1039.0	1037.3	1035.6	1033.8	1032.1
172.5°	1040.2	1041.6	1043.0	1042.7	1040.9	1039.0	1037.1	1035.2
175°	1044.6	1046.2	1047.7	1047.5	1045.4	1043.3	1041.2	1039.1
177.5°	1046.4	1047.5	1048.6	1048.3	1046.6	1045.0	1043.3	1041.6
180°	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4

(END OF REPORT)