

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

Luminaire Tested: **SA4XXRDIP-C1195D365U835-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332989
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-C1195D365U835-4F0-1E-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: 6087.3 lumens
Efficiency: N/A
Efficacy: 122.2 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

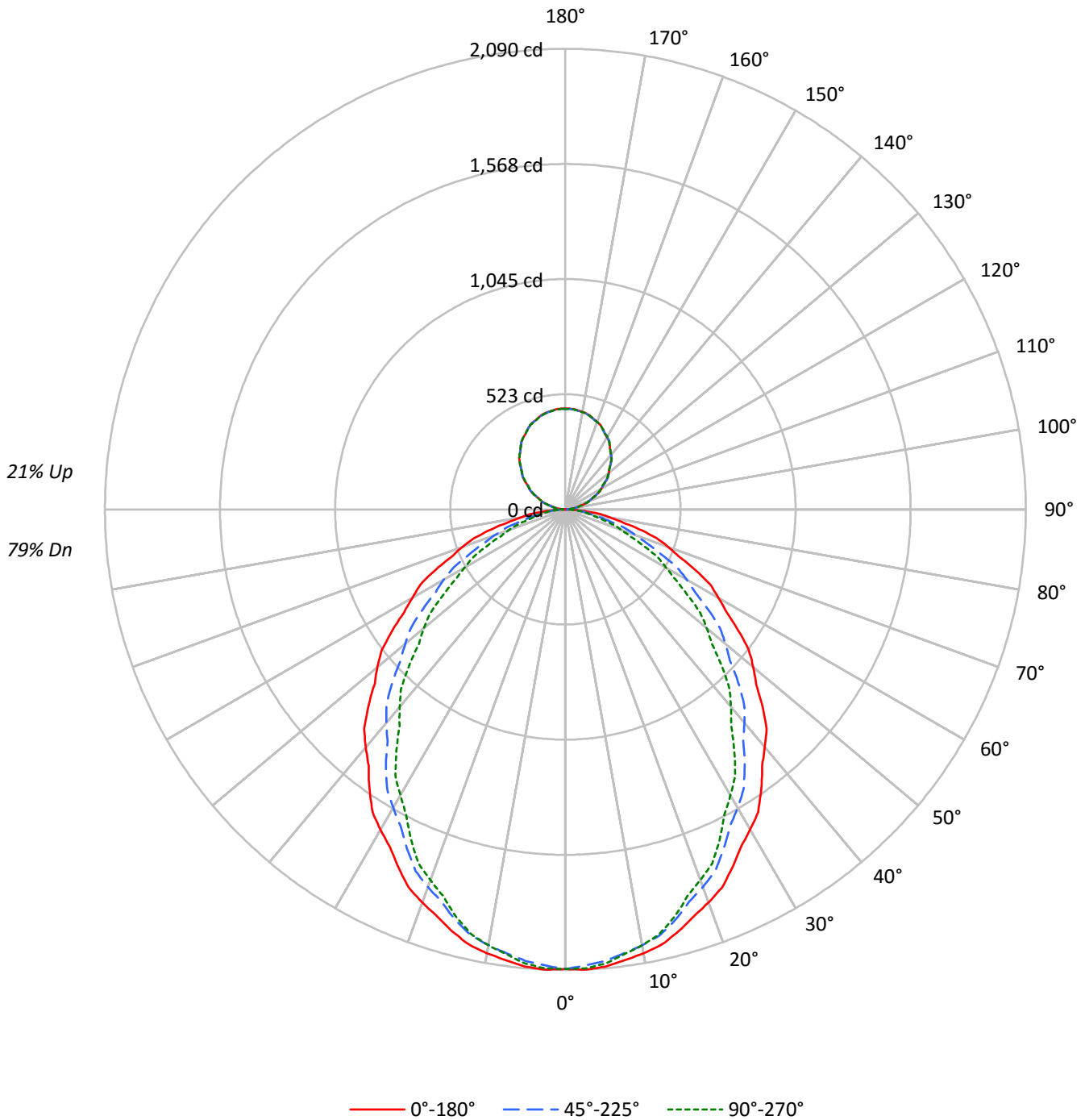
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	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	3.2
10°-20°	546.3	9.0
20°-30°	788.8	13.0
30°-40°	894.2	14.7
40°-50°	863.5	14.2
50°-60°	718.0	11.8
60°-70°	495.8	8.1
70°-80°	251.3	4.1
80°-90°	65.8	1.1
90°-100°	30.1	0.5
100°-110°	89.3	1.5
110°-120°	151.5	2.5
120°-130°	199.8	3.3
130°-140°	224.4	3.7
140°-150°	220.5	3.6
150°-160°	185.4	3.0
160°-170°	123.4	2.0
170°-180°	43.2	0.7
0°-30°	1531.0	25.2
0°-40°	2425.2	39.8
0°-60°	4006.7	65.8
0°-90°	4819.6	79.2
90°-120°	270.9	4.5
90°-150°	915.6	15.0
90°-180°	1268.0	20.8
0°-180°	6087.3	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°	1	5	8	10	11	5
95°	21	24	27	28	28	24
105°	82	83	84	85	86	87
115°	154	154	153	153	153	152
125°	224	224	224	223	223	200
135°	289	291	292	291	290	224
145°	352	353	353	353	352	220
155°	403	403	402	404	402	185
165°	438	438	437	439	438	124
175°	456	454	454	456	454	43
180°	457	457	457	457	457	



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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°	29.6	27.5	25.4	23.3	21.2	20.1	19.9	19.8	19.6	19.4	19.2
90°	1.1	1.9	2.8	3.7	4.5	5.3	5.9	6.5	7.1	7.8	8.2
92.5°	7.6	8.6	9.5	10.5	11.5	12.2	12.7	13.1	13.6	14.0	14.3
95°	21.2	21.9	22.6	23.3	24.0	24.7	25.2	25.8	26.3	26.9	27.1
97.5°	37.0	37.6	38.2	38.7	39.3	39.9	40.5	41.2	41.8	42.5	42.8
100°	49.5	49.8	50.1	50.4	50.7	51.2	51.9	52.7	53.4	54.1	54.2
102.5°	62.5	62.6	62.7	62.9	63.0	63.4	64.0	64.7	65.3	65.9	66.2
105°	82.3	82.4	82.5	82.6	82.6	82.8	83.2	83.5	83.8	84.1	84.3
107.5°	103.2	103.3	103.4	103.5	103.6	103.6	103.7	103.7	103.8	103.8	104.0
110°	117.3	117.5	117.6	117.8	117.9	118.0	117.9	117.8	117.7	117.7	117.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	132.0	132.0	132.1	132.1	132.1	132.1	131.9	131.8	131.7	131.5	131.5
115°	154.1	154.1	154.1	154.1	154.1	154.0	153.8	153.7	153.5	153.4	153.3
117.5°	174.8	174.9	175.0	175.0	175.1	175.1	175.0	174.9	174.7	174.6	174.4
120°	188.7	189.0	189.3	189.6	190.0	190.0	189.8	189.5	189.3	189.1	188.7
122.5°	203.1	203.2	203.4	203.5	203.6	203.6	203.5	203.4	203.3	203.2	202.9
125°	224.4	224.4	224.4	224.4	224.4	224.3	224.3	224.2	224.1	224.0	223.9
127.5°	243.7	243.9	244.2	244.4	244.6	244.7	244.6	244.4	244.3	244.2	244.0
130°	257.3	257.5	257.7	258.0	258.2	258.3	258.3	258.3	258.3	258.3	258.2
132.5°	271.1	271.3	271.4	271.6	271.8	271.8	271.8	271.7	271.7	271.6	271.4
135°	289.4	289.9	290.3	290.8	291.3	291.5	291.5	291.5	291.5	291.5	291.4
137.5°	309.3	309.6	309.8	310.0	310.2	310.4	310.5	310.6	310.8	310.9	310.7
140°	322.6	322.8	322.9	323.1	323.3	323.3	323.3	323.3	323.3	323.3	323.3
142.5°	334.8	334.9	335.1	335.2	335.4	335.5	335.4	335.3	335.3	335.2	335.2
145°	351.6	351.9	352.2	352.5	352.9	353.1	353.1	353.2	353.3	353.4	353.3
147.5°	368.3	368.7	369.0	369.4	369.8	369.9	369.9	369.8	369.8	369.7	369.6
150°	378.5	378.8	379.1	379.4	379.7	379.9	379.9	379.9	379.9	379.9	379.9
152.5°	388.1	388.3	388.4	388.6	388.8	388.9	389.0	389.1	389.1	389.2	389.4
155°	402.8	402.8	402.8	402.8	402.8	402.8	402.7	402.6	402.6	402.5	402.8
157.5°	415.3	415.1	415.0	414.9	414.7	414.6	414.6	414.6	414.6	414.6	414.8
160°	422.6	422.5	422.5	422.4	422.3	422.2	422.2	422.1	422.0	421.9	422.2
162.5°	429.4	429.2	429.0	428.8	428.6	428.5	428.4	428.3	428.2	428.1	428.6
165°	438.5	438.3	438.1	437.8	437.6	437.4	437.2	437.1	436.9	436.8	437.2
167.5°	445.5	445.2	444.9	444.5	444.2	444.0	444.1	444.1	444.1	444.1	444.6
170°	449.5	449.1	448.7	448.3	447.9	447.8	447.8	447.9	448.0	448.1	448.5
172.5°	452.3	452.0	451.6	451.3	451.0	450.8	450.8	450.9	450.9	450.9	451.4
175°	456.2	455.8	455.4	455.0	454.6	454.4	454.3	454.2	454.2	454.1	454.6
177.5°	457.5	457.2	456.8	456.5	456.2	456.1	456.1	456.1	456.1	456.1	456.5
180°	456.9	456.9	456.9	456.9	456.9	456.9	456.9	456.9	456.9	456.9	456.9



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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°	19.1	18.9	18.7	18.7	19.1	19.4	19.7	20.0
90°	8.7	9.2	9.7	10.0	10.1	10.3	10.4	10.6
92.5°	14.6	14.8	15.1	15.3	15.4	15.5	15.6	15.7
95°	27.3	27.6	27.8	27.9	27.9	27.9	27.9	27.9
97.5°	43.0	43.3	43.6	43.7	43.7	43.7	43.7	43.7
100°	54.4	54.5	54.7	54.8	54.8	54.8	54.8	54.8
102.5°	66.4	66.6	66.8	67.0	67.0	67.1	67.1	67.2
105°	84.6	84.8	85.0	85.3	85.5	85.8	86.0	86.2
107.5°	104.3	104.5	104.7	104.8	104.8	104.8	104.8	104.7
110°	117.4	117.2	117.0	117.1	117.3	117.6	117.8	118.0



TEST NUMBER: P332989

CATALOG NUMBER: SA4XXRDIP-C1195D365U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	131.5	131.4	131.4	131.4	131.5	131.5	131.5	131.6
115°	153.2	153.1	153.0	153.0	152.9	152.8	152.7	152.7
117.5°	174.1	173.8	173.6	173.4	173.2	173.0	172.9	172.7
120°	188.3	187.9	187.5	187.4	187.5	187.7	187.8	188.0
122.5°	202.7	202.4	202.1	201.8	201.6	201.3	201.0	200.7
125°	223.7	223.6	223.4	223.2	223.1	222.9	222.8	222.6
127.5°	243.9	243.7	243.5	243.4	243.3	243.2	243.0	242.9
130°	258.0	257.8	257.7	257.4	257.1	256.8	256.5	256.2
132.5°	271.3	271.1	271.0	270.8	270.7	270.6	270.5	270.3
135°	291.2	291.1	290.9	290.7	290.5	290.2	290.0	289.8
137.5°	310.5	310.3	310.1	310.0	310.0	310.1	310.1	310.2
140°	323.2	323.1	323.0	322.9	322.9	322.8	322.7	322.6
142.5°	335.2	335.2	335.1	335.1	335.1	335.1	335.1	335.1
145°	353.2	353.1	353.1	352.9	352.7	352.4	352.2	352.0
147.5°	369.6	369.5	369.4	369.4	369.3	369.2	369.1	369.1
150°	379.9	379.9	379.9	379.8	379.8	379.7	379.6	379.5
152.5°	389.6	389.8	390.0	389.9	389.7	389.5	389.3	389.1
155°	403.1	403.4	403.7	403.7	403.4	403.1	402.8	402.5
157.5°	415.0	415.3	415.5	415.5	415.2	415.0	414.7	414.4
160°	422.4	422.6	422.9	422.8	422.4	422.0	421.6	421.2
162.5°	429.0	429.4	429.8	429.8	429.5	429.1	428.7	428.3
165°	437.7	438.2	438.6	438.7	438.4	438.1	437.8	437.5
167.5°	445.1	445.5	446.0	446.0	445.5	445.0	444.5	444.0
170°	449.0	449.5	450.0	449.9	449.4	448.8	448.3	447.7
172.5°	452.0	452.5	453.0	453.0	452.5	451.9	451.4	450.8
175°	455.2	455.7	456.3	456.3	455.7	455.2	454.6	454.1
177.5°	456.9	457.4	457.8	457.8	457.3	456.8	456.3	455.8
180°	456.9	456.9	456.9	456.9	456.9	456.9	456.9	456.9

(END OF REPORT)