

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: P331553-840

Luminaire Tested: **S122DIW-S675D1440U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331553-840
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-S675D1440U840-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 675 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: 8549.5 lumens
Efficiency: N/A
Efficacy: 125.5 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

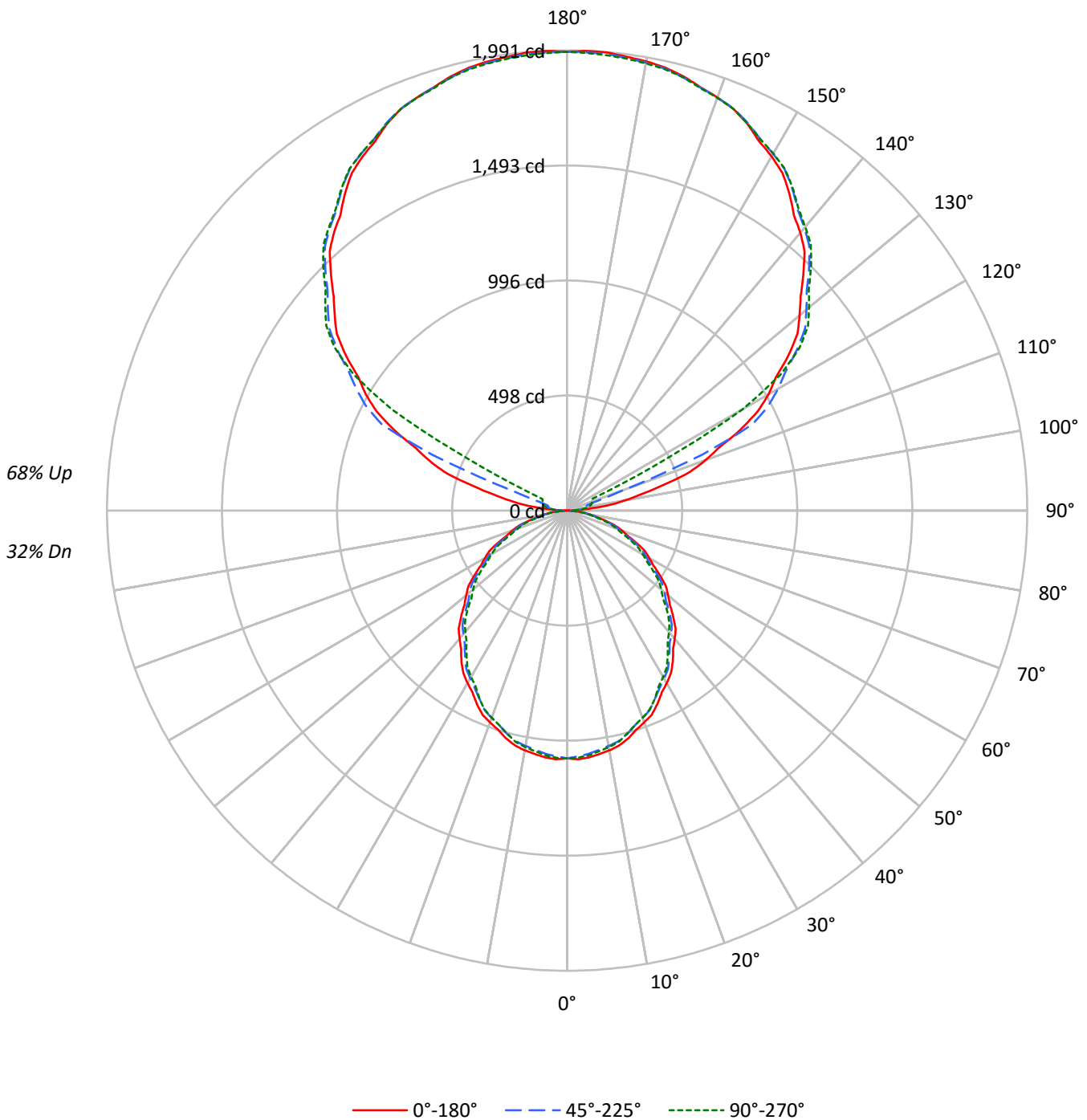
Input Watts (W): 68.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	103	103	103	103	93	93	93	93	73	73	73	56	56	56	40	40	40
1	94	90	86	82	84	81	78	75	64	62	60	49	48	46	35	34	33
2	85	78	72	67	77	70	65	61	56	53	50	43	41	39	31	29	28
3	78	69	62	56	70	62	56	51	49	45	42	38	35	33	27	25	24
4	71	61	53	47	64	55	48	43	44	39	35	34	31	28	24	22	21
5	65	54	46	40	58	49	42	37	39	34	30	30	27	24	22	20	18
6	60	48	40	35	54	44	37	32	35	30	26	27	24	21	20	18	16
7	55	43	36	30	50	39	33	28	32	27	23	25	21	19	18	16	14
8	51	39	32	27	46	36	29	25	29	24	20	23	19	16	17	14	12
9	48	36	29	24	43	33	26	22	26	22	18	21	17	15	15	13	11
10	44	33	26	21	40	30	24	19	24	20	16	19	16	13	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17312	17312	17312
5°	17378	17126	17227
10°	17274	16952	17038
15°	17060	16732	16715
20°	16756	16402	16385
25°	16456	15998	15998
30°	16067	15627	15491
35°	15707	15179	14954
40°	15253	14731	14450
45°	14805	14289	13935
50°	14320	13828	13335
55°	13813	13292	12797
60°	13249	12649	12184
65°	12642	12015	11461
70°	11877	11240	10707
75°	10805	10356	10100
80°	9586	9298	8815
85°	7836	7447	6688



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.8	1.2
10°-20°	283.7	3.3
20°-30°	417.0	4.9
30°-40°	484.3	5.7
40°-50°	483.8	5.7
50°-60°	421.9	4.9
60°-70°	312.0	3.6
70°-80°	176.7	2.1
80°-90°	52.4	0.6
90°-100°	66.2	0.8
100°-110°	242.8	2.8
110°-120°	649.0	7.6
120°-130°	1071.4	12.5
130°-140°	1139.4	13.3
140°-150°	1059.0	12.4
150°-160°	851.5	10.0
160°-170°	548.7	6.4
170°-180°	188.9	2.2
0°-30°	801.5	9.4
0°-40°	1285.8	15.0
0°-60°	2191.5	25.6
0°-90°	2732.6	32.0
90°-120°	958.1	11.2
90°-150°	4227.9	49.5
90°-180°	5817.0	68.0
0°-180°	8549.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1072	1072	1072	1072	1072	
5°	1072	1068	1057	1064	1063	102
15°	1021	1014	1001	1005	1000	287
25°	924	915	898	900	898	425
35°	797	786	770	764	759	497
45°	648	641	626	615	610	500
55°	491	484	472	460	455	439
65°	331	324	314	305	300	327
75°	173	171	166	160	162	185
85°	42	41	40	37	36	48
90°	1	17	29	36	39	6
95°	93	49	56	63	62	114
105°	437	456	88	103	109	467
115°	826	851	886	252	118	813
125°	1168	1187	1214	1223	1228	1041
135°	1445	1467	1481	1494	1492	1116
145°	1676	1676	1699	1708	1702	1048
155°	1846	1834	1850	1857	1847	850
165°	1945	1937	1940	1949	1940	549
175°	1989	1980	1982	1991	1978	189
180°	1985	1985	1985	1985	1985	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2
2.5°	1077.1	1076.2	1075.3	1074.4	1073.5	1072.0	1070.0	1067.9	1065.9	1063.9	1065.7
5°	1072.2	1071.3	1070.4	1069.4	1068.5	1066.8	1064.3	1061.8	1059.2	1056.7	1058.5
7.5°	1062.7	1061.3	1059.9	1058.4	1057.0	1055.0	1052.5	1049.9	1047.3	1044.7	1046.5
10°	1053.6	1052.0	1050.4	1048.7	1047.2	1045.0	1042.3	1039.6	1036.7	1034.0	1035.8
12.5°	1041.3	1039.9	1038.3	1036.9	1035.5	1033.5	1030.7	1027.9	1025.2	1022.5	1023.8
15°	1020.6	1019.3	1017.8	1016.5	1015.1	1012.9	1010.0	1006.9	1004.0	1001.0	1002.0
17.5°	994.2	992.8	991.5	990.1	988.8	986.5	983.5	980.5	977.4	974.4	975.5
20°	975.2	973.9	972.5	971.1	969.8	967.5	964.2	961.1	957.9	954.6	955.3
22.5°	956.2	954.3	952.4	950.5	948.6	946.1	943.1	940.1	937.1	934.0	934.1
25°	923.7	921.9	920.1	918.2	916.4	913.5	909.6	905.7	901.8	898.0	898.4
27.5°	886.6	884.9	883.3	881.6	880.0	877.7	874.5	871.5	868.4	865.4	864.6
30°	861.8	860.0	858.2	856.4	854.5	851.9	848.5	845.1	841.6	838.2	837.5
32.5°	835.5	833.9	832.5	831.0	829.6	827.1	823.4	819.8	816.2	812.5	811.3
35°	796.9	794.7	792.3	790.0	787.7	784.8	781.1	777.4	773.8	770.1	768.7
37.5°	753.4	751.3	749.3	747.3	745.4	742.5	738.8	735.2	731.5	727.8	726.1
40°	723.7	721.9	720.0	718.2	716.4	713.7	709.9	706.3	702.7	698.9	696.9
42.5°	694.9	693.0	691.2	689.3	687.5	684.8	681.1	677.4	673.8	670.1	667.8
45°	648.4	646.8	645.2	643.7	642.1	639.5	636.1	632.7	629.2	625.8	623.3
47.5°	602.3	600.8	599.3	597.7	596.2	593.7	590.1	586.5	583.0	579.4	576.7
50°	570.1	569.0	567.8	566.6	565.5	563.3	560.2	556.9	553.7	550.5	547.3
52.5°	538.8	537.2	535.7	534.2	532.7	530.5	527.5	524.4	521.4	518.4	515.7
55°	490.7	489.4	488.0	486.6	485.2	483.1	480.4	477.7	474.9	472.2	469.4
57.5°	442.4	441.4	440.3	439.2	438.1	436.1	433.0	430.0	427.0	423.9	421.2
60°	410.3	409.4	408.5	407.6	406.7	404.6	401.4	398.2	395.0	391.7	389.2
62.5°	379.0	377.5	376.1	374.6	373.1	371.1	368.7	366.2	363.8	361.2	358.9
65°	330.9	329.5	328.2	326.8	325.4	323.6	321.3	319.0	316.7	314.5	312.4
67.5°	282.1	280.9	279.8	278.7	277.6	276.1	274.0	272.0	269.9	267.8	266.2
70°	251.6	250.6	249.7	248.8	247.9	246.4	244.3	242.3	240.2	238.1	236.5
72.5°	220.3	219.2	218.3	217.4	216.5	215.4	214.1	212.8	211.5	210.1	208.5
75°	173.2	172.7	172.3	171.8	171.4	170.6	169.5	168.2	167.1	166.0	164.6
77.5°	131.2	130.4	129.6	128.8	128.1	127.4	126.9	126.4	126.0	125.5	124.9
80°	103.1	102.9	102.6	102.4	102.2	101.8	101.4	100.9	100.5	100.0	99.3
82.5°	76.7	76.6	76.6	76.5	76.5	76.3	76.0	75.8	75.5	75.2	74.4
85°	42.3	42.0	41.8	41.6	41.3	41.1	40.9	40.7	40.4	40.2	39.5
87.5°	15.1	15.5	15.8	16.2	16.5	16.8	16.9	17.0	17.2	17.3	17.1
90°	1.4	4.9	8.5	12.0	15.5	18.5	21.1	23.6	26.2	28.7	30.3
92.5°	29.0	28.7	28.4	28.1	27.8	28.2	29.5	30.8	32.0	33.3	34.1
95°	93.3	82.8	72.3	61.8	51.2	47.1	49.3	51.5	53.8	56.0	57.6
97.5°	185.3	155.6	125.9	96.2	66.6	54.3	59.5	64.6	69.8	74.9	76.2
100°	254.2	210.5	166.7	123.0	79.3	60.2	65.5	71.0	76.4	81.9	84.4
102.5°	330.0	320.8	311.5	302.3	293.1	265.7	220.4	174.9	129.6	84.1	87.5
105°	436.7	446.2	455.8	465.3	474.9	436.2	349.0	261.9	174.7	87.7	91.1
107.5°	558.2	565.8	573.6	581.3	589.1	540.7	436.2	331.6	227.1	122.7	119.1
110°	636.3	643.0	649.6	656.4	663.1	620.3	528.1	435.9	343.6	251.4	219.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	709.8	715.7	721.6	727.6	733.6	725.1	702.4	679.5	656.7	634.0	517.6
115°	825.9	831.3	836.7	842.1	847.6	854.2	862.2	870.2	878.2	886.2	738.4
117.5°	929.6	935.6	941.7	947.8	953.8	959.6	965.0	970.6	976.0	981.6	945.8
120°	1005.4	1010.2	1014.9	1019.8	1024.5	1029.8	1035.5	1041.3	1047.0	1052.8	1056.6
122.5°	1069.8	1074.8	1079.8	1084.9	1089.9	1095.6	1101.8	1108.0	1114.3	1120.5	1122.9
125°	1167.7	1171.8	1176.0	1180.1	1184.3	1189.4	1195.5	1201.5	1207.6	1213.7	1215.9
127.5°	1256.5	1261.0	1265.7	1270.2	1274.9	1279.4	1283.9	1288.5	1293.0	1297.6	1300.8
130°	1312.7	1317.9	1322.9	1328.1	1333.2	1337.5	1341.0	1344.5	1348.0	1351.5	1355.0
132.5°	1370.2	1374.5	1378.9	1383.2	1387.6	1391.5	1395.0	1398.5	1402.0	1405.5	1408.6
135°	1444.9	1450.0	1455.1	1460.2	1465.3	1469.3	1472.2	1475.0	1477.9	1480.8	1484.0
137.5°	1520.5	1524.0	1527.6	1531.2	1534.7	1538.1	1541.4	1544.7	1547.9	1551.2	1554.3
140°	1569.8	1572.4	1575.0	1577.5	1580.0	1583.1	1586.6	1590.1	1593.7	1597.1	1600.0
142.5°	1611.2	1613.5	1615.8	1618.1	1620.4	1623.6	1627.6	1631.6	1635.6	1639.6	1642.2
145°	1676.2	1675.8	1675.5	1675.2	1674.9	1677.4	1682.8	1688.3	1693.6	1699.1	1701.3
147.5°	1732.7	1731.5	1730.3	1729.1	1727.9	1729.9	1735.3	1740.7	1746.1	1751.4	1753.0
150°	1769.5	1767.3	1765.0	1762.8	1760.5	1762.0	1767.1	1772.2	1777.3	1782.4	1784.3
152.5°	1800.5	1798.1	1795.5	1793.0	1790.6	1791.7	1796.5	1801.4	1806.2	1811.1	1813.0
155°	1845.6	1842.7	1839.9	1836.9	1834.1	1834.6	1838.5	1842.3	1846.1	1849.9	1851.8
157.5°	1881.0	1878.6	1876.1	1873.7	1871.3	1871.4	1874.0	1876.7	1879.4	1882.1	1884.3
160°	1901.6	1899.7	1897.8	1895.9	1894.0	1894.0	1895.9	1897.8	1899.7	1901.6	1903.5
162.5°	1920.0	1918.1	1916.2	1914.3	1912.4	1912.2	1913.9	1915.5	1917.2	1918.8	1921.1
165°	1944.7	1942.8	1940.9	1938.9	1937.0	1936.6	1937.5	1938.4	1939.4	1940.4	1942.7
167.5°	1963.1	1961.2	1959.2	1957.3	1955.4	1954.9	1955.8	1956.7	1957.6	1958.5	1960.8
170°	1973.5	1971.6	1969.6	1967.7	1965.8	1965.1	1965.8	1966.4	1967.0	1967.7	1969.9
172.5°	1980.3	1978.4	1976.5	1974.6	1972.7	1972.1	1972.7	1973.3	1974.0	1974.6	1976.8
175°	1989.2	1987.0	1984.8	1982.6	1980.3	1979.5	1980.1	1980.7	1981.5	1982.1	1984.3
177.5°	1990.6	1988.9	1987.1	1985.3	1983.5	1982.8	1983.0	1983.3	1983.5	1983.8	1985.6
180°	1984.9	1984.9	1984.9	1984.9	1984.9	1984.9	1984.9	1984.9	1984.9	1984.9	1984.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2
2.5°	1067.5	1069.4	1071.3	1072.0	1071.6	1071.3	1070.9	1070.6
5°	1060.4	1062.2	1064.0	1064.7	1064.3	1063.8	1063.4	1062.9
7.5°	1048.4	1050.3	1052.1	1052.7	1052.2	1051.8	1051.3	1050.8
10°	1037.6	1039.6	1041.4	1041.9	1041.3	1040.6	1039.9	1039.2
12.5°	1025.0	1026.3	1027.6	1027.9	1027.4	1027.0	1026.5	1026.0
15°	1002.9	1003.8	1004.7	1004.6	1003.4	1002.3	1001.2	1000.0
17.5°	976.5	977.5	978.7	978.7	977.5	976.4	975.3	974.2
20°	956.0	956.7	957.4	957.3	956.3	955.4	954.5	953.6
22.5°	934.3	934.4	934.5	934.3	933.8	933.2	932.7	932.2
25°	898.9	899.3	899.8	899.8	899.3	898.9	898.4	898.0
27.5°	863.9	863.3	862.6	861.7	860.6	859.5	858.4	857.3
30°	836.8	836.1	835.4	834.6	833.6	832.7	831.8	830.9
32.5°	810.1	808.9	807.6	806.6	805.7	804.8	803.8	802.8
35°	767.4	766.0	764.6	763.4	762.2	761.0	759.9	758.7
37.5°	724.5	722.8	721.0	719.6	718.5	717.4	716.4	715.3
40°	694.9	692.8	690.7	689.2	688.3	687.4	686.5	685.6
42.5°	665.6	663.4	661.2	659.3	658.0	656.8	655.5	654.2
45°	620.8	618.2	615.7	614.0	613.1	612.2	611.3	610.3
47.5°	574.1	571.4	568.8	566.7	565.4	564.1	562.8	561.5
50°	544.1	540.9	537.7	535.5	534.3	533.2	532.1	530.9
52.5°	513.0	510.4	507.8	505.6	504.1	502.6	501.1	499.6
55°	466.7	463.9	461.2	459.2	458.1	457.0	455.8	454.6
57.5°	418.5	415.8	413.1	411.3	410.4	409.6	408.7	407.8
60°	386.7	384.2	381.6	380.1	379.4	378.7	378.0	377.3
62.5°	356.6	354.3	351.9	350.3	349.4	348.5	347.7	346.8
65°	310.3	308.2	306.2	304.6	303.5	302.3	301.1	300.0
67.5°	264.6	263.1	261.5	260.1	259.2	258.3	257.4	256.5
70°	234.9	233.4	231.8	230.5	229.5	228.6	227.7	226.8
72.5°	206.9	205.3	203.7	202.5	201.8	201.1	200.4	199.5
75°	163.2	161.9	160.5	160.1	160.5	161.0	161.4	161.9
77.5°	124.2	123.5	122.8	122.2	121.5	120.9	120.3	119.6
80°	98.7	98.0	97.3	96.6	96.2	95.7	95.3	94.8
82.5°	73.5	72.6	71.8	71.3	71.2	71.1	71.0	70.9
85°	38.9	38.2	37.5	37.0	36.8	36.6	36.4	36.1
87.5°	16.9	16.6	16.4	16.3	16.2	16.2	16.1	16.0
90°	31.9	33.5	35.1	36.3	36.9	37.5	38.2	38.8
92.5°	34.9	35.9	36.7	37.3	37.7	38.0	38.4	38.8
95°	59.2	60.8	62.4	63.0	62.7	62.4	62.1	61.8
97.5°	77.6	78.8	80.1	80.9	81.3	81.7	82.1	82.4
100°	86.9	89.6	92.1	93.7	94.3	94.9	95.6	96.2
102.5°	90.8	94.1	97.5	99.6	100.5	101.3	102.2	103.1
105°	94.6	98.2	101.7	104.0	105.3	106.6	107.9	109.2
107.5°	115.5	111.9	108.4	107.2	108.5	109.8	111.1	112.3
110°	187.5	155.6	123.7	108.4	109.7	110.9	112.2	113.5



TEST NUMBER: P331553-840

CATALOG NUMBER: S122DIW-S675D1440U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	401.1	284.7	168.2	110.5	111.6	112.6	113.6	114.6
115°	590.7	442.8	295.1	209.6	186.7	163.7	140.8	117.8
117.5°	910.1	874.3	838.6	782.9	707.4	631.9	556.3	480.9
120°	1060.5	1064.3	1068.1	1048.4	1005.4	962.3	919.2	876.2
122.5°	1125.2	1127.5	1129.7	1126.7	1118.3	1110.0	1101.7	1093.3
125°	1218.1	1220.3	1222.5	1224.2	1225.2	1226.1	1227.1	1228.0
127.5°	1304.0	1307.3	1310.5	1312.3	1312.4	1312.6	1312.8	1313.0
130°	1358.6	1362.1	1365.5	1367.2	1366.9	1366.5	1366.2	1365.8
132.5°	1411.5	1414.5	1417.5	1418.9	1418.6	1418.3	1418.0	1417.5
135°	1487.1	1490.4	1493.6	1494.8	1494.2	1493.6	1492.9	1492.3
137.5°	1557.4	1560.5	1563.7	1564.7	1563.6	1562.6	1561.5	1560.3
140°	1602.9	1605.8	1608.6	1609.2	1607.7	1606.1	1604.5	1602.9
142.5°	1644.9	1647.5	1650.1	1650.6	1649.0	1647.4	1645.9	1644.3
145°	1703.5	1705.8	1708.1	1708.4	1706.8	1705.2	1703.5	1702.0
147.5°	1754.7	1756.4	1758.1	1758.2	1756.9	1755.5	1754.1	1752.8
150°	1786.2	1788.2	1790.1	1790.2	1788.7	1787.1	1785.4	1783.8
152.5°	1814.9	1816.8	1818.8	1818.7	1816.5	1814.5	1812.4	1810.3
155°	1853.7	1855.6	1857.5	1857.2	1854.7	1852.2	1849.6	1847.0
157.5°	1886.4	1888.5	1890.8	1890.6	1888.1	1885.6	1883.1	1880.7
160°	1905.4	1907.3	1909.3	1909.1	1906.9	1904.6	1902.4	1900.2
162.5°	1923.2	1925.4	1927.5	1927.2	1924.5	1921.8	1919.0	1916.3
165°	1944.9	1947.1	1949.3	1949.3	1947.1	1944.9	1942.7	1940.4
167.5°	1963.0	1965.2	1967.4	1967.1	1964.3	1961.4	1958.5	1955.6
170°	1972.2	1974.4	1976.6	1976.3	1973.5	1970.5	1967.7	1964.8
172.5°	1979.0	1981.3	1983.5	1983.2	1980.3	1977.4	1974.6	1971.7
175°	1986.5	1988.7	1990.9	1990.5	1987.3	1984.1	1981.0	1977.7
177.5°	1987.3	1989.1	1990.9	1990.6	1988.3	1986.1	1983.8	1981.5
180°	1984.9	1984.9	1984.9	1984.9	1984.9	1984.9	1984.9	1984.9

(END OF REPORT)