

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: P331553-935

Luminaire Tested: **S122DIW-S675D1440U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331553-935  
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-S675D1440U935-4F0-1E-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: 7289.2 lumens  
Efficiency: N/A  
Efficacy: 107.0 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

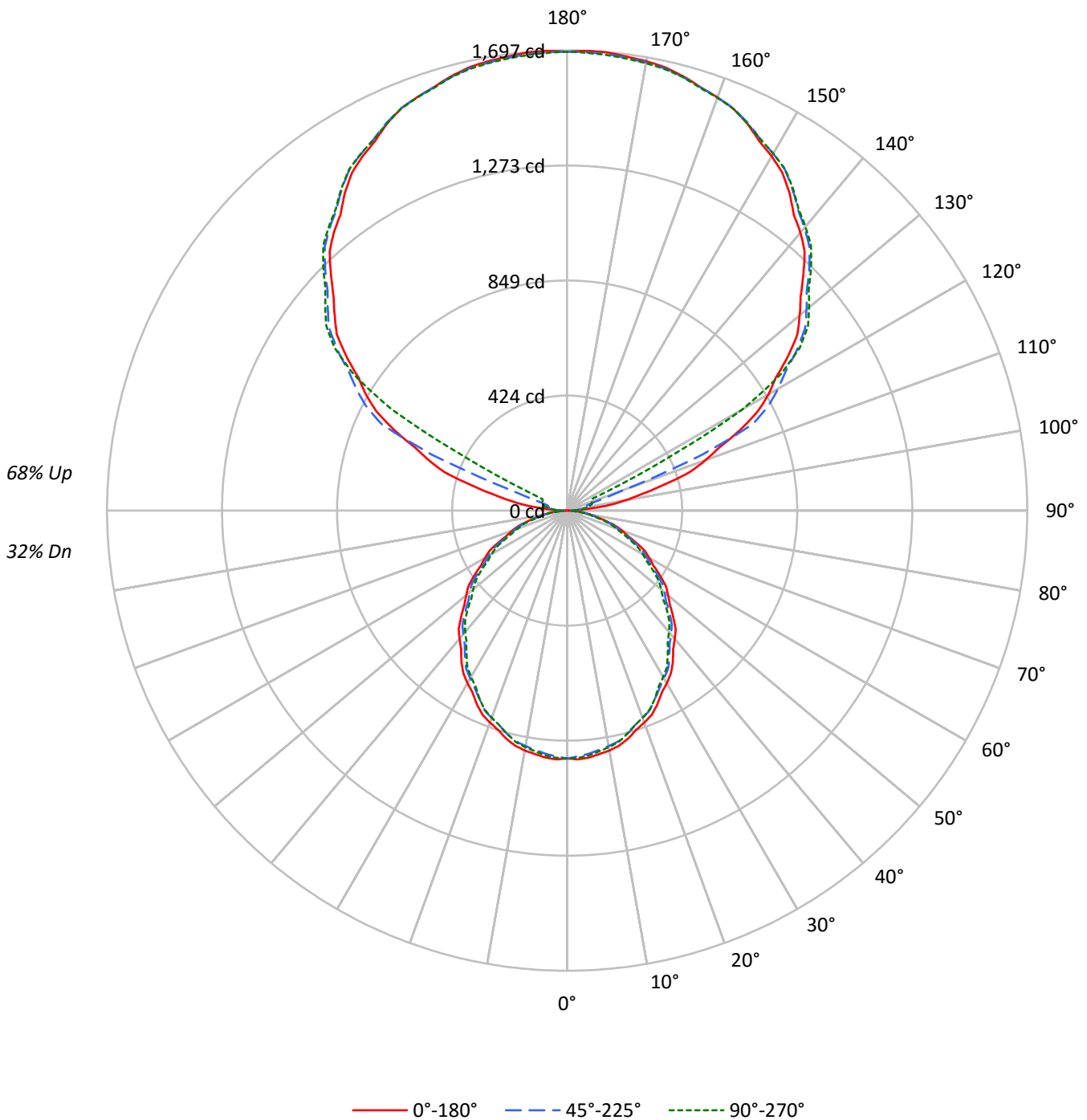
Input Watts (W): 68.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

	0°	45°	90°
0°	14759	14759	14759
5°	14815	14603	14687
10°	14728	14454	14526
15°	14544	14265	14252
20°	14287	13984	13969
25°	14031	13639	13639
30°	13699	13323	13207
35°	13391	12942	12751
40°	13004	12560	12319
45°	12622	12184	11880
50°	12208	11788	11369
55°	11778	11333	10911
60°	11296	10785	10388
65°	10777	10243	9773
70°	10126	9583	9130
75°	9214	8827	8609
80°	8173	7922	7513
85°	6688	6354	5687



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.0	1.2
10°-20°	241.9	3.3
20°-30°	355.5	4.9
30°-40°	412.9	5.7
40°-50°	412.5	5.7
50°-60°	359.7	4.9
60°-70°	266.0	3.6
70°-80°	150.6	2.1
80°-90°	44.7	0.6
90°-100°	56.5	0.8
100°-110°	207.0	2.8
110°-120°	553.4	7.6
120°-130°	913.5	12.5
130°-140°	971.4	13.3
140°-150°	902.9	12.4
150°-160°	726.0	10.0
160°-170°	467.8	6.4
170°-180°	161.0	2.2
0°-30°	683.3	9.4
0°-40°	1096.3	15.0
0°-60°	1868.5	25.6
0°-90°	2329.8	32.0
90°-120°	816.8	11.2
90°-150°	3604.6	49.5
90°-180°	4959.0	68.0
0°-180°	7289.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	914	914	914	914	914	
5°	914	910	901	907	906	87
15°	870	865	853	857	853	245
25°	788	780	766	767	766	362
35°	679	670	657	651	647	424
45°	553	546	534	524	520	426
55°	418	413	403	392	388	374
65°	282	277	268	260	256	279
75°	148	146	142	137	138	158
85°	36	35	34	32	31	41
90°	1	14	24	30	33	5
95°	80	42	48	53	53	97
105°	372	388	75	88	93	398
115°	704	725	756	215	100	693
125°	996	1012	1035	1043	1047	887
135°	1232	1251	1262	1274	1272	951
145°	1429	1429	1449	1456	1451	893
155°	1574	1564	1577	1584	1575	725
165°	1658	1651	1654	1662	1654	468
175°	1696	1688	1690	1697	1686	161
180°	1692	1692	1692	1692	1692	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	914.1	914.1	914.1	914.1	914.1	914.1	914.1	914.1	914.1	914.1	914.1
2.5°	918.3	917.6	916.8	916.0	915.2	914.0	912.2	910.5	908.8	907.1	908.6
5°	914.1	913.3	912.6	911.8	911.0	909.6	907.4	905.3	903.1	901.0	902.5
7.5°	906.0	904.8	903.6	902.4	901.2	899.5	897.3	895.1	892.9	890.7	892.3
10°	898.3	896.9	895.5	894.1	892.9	891.0	888.6	886.3	883.9	881.6	883.1
12.5°	887.8	886.6	885.3	884.1	882.9	881.1	878.7	876.4	874.1	871.8	872.9
15°	870.1	869.0	867.8	866.7	865.5	863.6	861.1	858.5	856.0	853.4	854.3
17.5°	847.7	846.4	845.3	844.1	843.0	841.1	838.5	835.9	833.4	830.8	831.7
20°	831.5	830.3	829.1	827.9	826.8	824.8	822.1	819.4	816.7	813.9	814.5
22.5°	815.3	813.6	812.0	810.4	808.7	806.7	804.1	801.5	798.9	796.3	796.4
25°	787.6	786.0	784.5	782.8	781.3	778.9	775.5	772.2	768.9	765.6	765.9
27.5°	755.9	754.5	753.1	751.7	750.3	748.3	745.6	743.0	740.4	737.8	737.2
30°	734.8	733.2	731.7	730.1	728.6	726.3	723.4	720.5	717.6	714.6	714.0
32.5°	712.3	711.0	709.8	708.5	707.3	705.2	702.1	699.0	695.9	692.8	691.7
35°	679.4	677.5	675.5	673.6	671.6	669.1	666.0	662.8	659.7	656.6	655.4
37.5°	642.3	640.6	638.9	637.1	635.5	633.0	629.9	626.8	623.7	620.5	619.1
40°	617.0	615.4	613.9	612.3	610.8	608.5	605.3	602.2	599.1	595.9	594.2
42.5°	592.5	590.8	589.3	587.7	586.2	583.8	580.7	577.6	574.5	571.4	569.4
45°	552.8	551.5	550.1	548.8	547.4	545.3	542.3	539.4	536.5	533.6	531.4
47.5°	513.5	512.2	510.9	509.6	508.3	506.2	503.1	500.1	497.1	494.0	491.7
50°	486.0	485.1	484.1	483.1	482.2	480.3	477.6	474.8	472.1	469.3	466.7
52.5°	459.3	458.1	456.8	455.5	454.2	452.3	449.7	447.1	444.5	442.0	439.7
55°	418.4	417.2	416.0	414.8	413.7	411.9	409.6	407.3	404.9	402.6	400.2
57.5°	377.2	376.3	375.4	374.4	373.5	371.8	369.2	366.6	364.0	361.4	359.1
60°	349.8	349.0	348.3	347.5	346.7	344.9	342.2	339.5	336.7	334.0	331.8
62.5°	323.1	321.8	320.6	319.3	318.1	316.4	314.4	312.2	310.1	308.0	306.0
65°	282.1	280.9	279.8	278.6	277.4	275.9	274.0	272.0	270.0	268.1	266.3
67.5°	240.5	239.5	238.6	237.6	236.7	235.4	233.6	231.9	230.1	228.3	227.0
70°	214.5	213.7	212.9	212.2	211.4	210.1	208.3	206.6	204.8	203.0	201.6
72.5°	187.8	186.9	186.1	185.4	184.6	183.7	182.5	181.4	180.3	179.1	177.8
75°	147.7	147.2	146.9	146.5	146.1	145.4	144.5	143.4	142.5	141.5	140.3
77.5°	111.8	111.2	110.5	109.8	109.2	108.7	108.2	107.8	107.5	107.0	106.5
80°	87.9	87.7	87.5	87.3	87.1	86.8	86.4	86.0	85.7	85.2	84.6
82.5°	65.4	65.3	65.3	65.3	65.3	65.1	64.8	64.7	64.4	64.1	63.5
85°	36.1	35.8	35.6	35.5	35.2	35.0	34.9	34.7	34.4	34.3	33.7
87.5°	12.9	13.2	13.4	13.8	14.0	14.3	14.4	14.5	14.6	14.7	14.6
90°	1.2	4.2	7.2	10.2	13.2	15.8	18.0	20.1	22.3	24.5	25.8
92.5°	24.7	24.5	24.2	23.9	23.7	24.0	25.1	26.3	27.3	28.4	29.1
95°	79.6	70.6	61.6	52.7	43.7	40.1	42.0	43.9	45.9	47.8	49.1
97.5°	158.0	132.7	107.4	82.1	56.7	46.3	50.7	55.1	59.5	63.9	65.0
100°	216.7	179.4	142.2	104.9	67.6	51.3	55.9	60.5	65.2	69.8	72.0
102.5°	281.4	273.5	265.6	257.7	249.9	226.5	187.9	149.1	110.5	71.7	74.6
105°	372.3	380.4	388.6	396.7	404.9	371.9	297.6	223.3	149.0	74.7	77.7
107.5°	475.9	482.4	489.0	495.6	502.2	461.0	371.9	282.8	193.6	104.6	101.5
110°	542.5	548.2	553.9	559.6	565.3	528.8	450.2	371.6	292.9	214.3	187.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	605.2	610.2	615.3	620.4	625.4	618.2	598.8	579.4	559.9	540.5	441.3
115°	704.1	708.8	713.3	718.0	722.6	728.3	735.1	741.9	748.7	755.5	629.6
117.5°	792.6	797.7	802.9	808.0	813.2	818.1	822.8	827.5	832.2	836.9	806.4
120°	857.2	861.3	865.3	869.4	873.5	878.0	882.9	887.8	892.7	897.6	900.9
122.5°	912.1	916.4	920.7	925.0	929.3	934.1	939.4	944.7	950.0	955.4	957.3
125°	995.6	999.1	1002.6	1006.2	1009.7	1014.1	1019.3	1024.4	1029.6	1034.7	1036.6
127.5°	1071.3	1075.1	1079.1	1083.0	1086.9	1090.8	1094.7	1098.5	1102.4	1106.3	1109.1
130°	1119.2	1123.6	1127.9	1132.3	1136.7	1140.3	1143.3	1146.3	1149.3	1152.3	1155.3
132.5°	1168.2	1171.9	1175.6	1179.3	1183.0	1186.4	1189.4	1192.3	1195.3	1198.3	1200.9
135°	1231.9	1236.2	1240.6	1244.9	1249.3	1252.7	1255.2	1257.6	1260.1	1262.5	1265.2
137.5°	1296.3	1299.3	1302.4	1305.4	1308.5	1311.4	1314.1	1317.0	1319.7	1322.5	1325.2
140°	1338.4	1340.6	1342.8	1345.0	1347.1	1349.7	1352.7	1355.7	1358.7	1361.7	1364.2
142.5°	1373.7	1375.6	1377.6	1379.6	1381.6	1384.2	1387.7	1391.1	1394.5	1397.9	1400.2
145°	1429.1	1428.7	1428.5	1428.2	1428.0	1430.1	1434.8	1439.4	1444.0	1448.6	1450.5
147.5°	1477.3	1476.3	1475.2	1474.2	1473.2	1474.9	1479.5	1484.1	1488.7	1493.2	1494.6
150°	1508.6	1506.8	1504.9	1503.0	1501.0	1502.3	1506.6	1511.0	1515.3	1519.7	1521.3
152.5°	1535.1	1533.0	1530.9	1528.7	1526.6	1527.6	1531.7	1535.9	1540.0	1544.1	1545.8
155°	1573.6	1571.1	1568.7	1566.2	1563.7	1564.2	1567.5	1570.7	1574.0	1577.2	1578.8
157.5°	1603.7	1601.6	1599.6	1597.5	1595.4	1595.5	1597.8	1600.1	1602.3	1604.6	1606.5
160°	1621.3	1619.6	1618.1	1616.4	1614.8	1614.8	1616.4	1618.1	1619.6	1621.3	1622.9
162.5°	1636.9	1635.4	1633.7	1632.1	1630.5	1630.3	1631.8	1633.1	1634.6	1636.0	1637.9
165°	1658.0	1656.4	1654.8	1653.1	1651.5	1651.1	1651.9	1652.7	1653.6	1654.3	1656.3
167.5°	1673.7	1672.1	1670.4	1668.8	1667.2	1666.7	1667.5	1668.3	1669.0	1669.8	1671.7
170°	1682.6	1680.9	1679.3	1677.7	1676.0	1675.4	1676.0	1676.5	1677.1	1677.7	1679.6
172.5°	1688.4	1686.8	1685.1	1683.5	1681.9	1681.4	1681.9	1682.4	1683.0	1683.5	1685.4
175°	1696.0	1694.1	1692.2	1690.3	1688.4	1687.7	1688.2	1688.8	1689.4	1689.9	1691.8
177.5°	1697.2	1695.7	1694.2	1692.6	1691.1	1690.5	1690.7	1690.9	1691.1	1691.3	1692.9
180°	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	914.1	914.1	914.1	914.1	914.1	914.1	914.1	914.1
2.5°	910.2	911.8	913.3	914.0	913.6	913.3	913.0	912.7
5°	904.0	905.6	907.1	907.8	907.4	907.0	906.6	906.2
7.5°	893.9	895.4	897.0	897.5	897.1	896.7	896.3	895.9
10°	884.7	886.3	887.9	888.3	887.8	887.2	886.6	886.0
12.5°	873.9	875.0	876.2	876.4	876.0	875.6	875.2	874.8
15°	855.1	855.8	856.6	856.5	855.5	854.5	853.6	852.6
17.5°	832.6	833.4	834.4	834.4	833.4	832.5	831.6	830.6
20°	815.1	815.7	816.2	816.1	815.4	814.6	813.8	813.0
22.5°	796.6	796.7	796.8	796.6	796.2	795.7	795.2	794.8
25°	766.4	766.7	767.2	767.2	766.7	766.4	765.9	765.6
27.5°	736.6	736.1	735.5	734.7	733.7	732.8	731.8	730.9
30°	713.4	712.8	712.2	711.5	710.8	710.0	709.2	708.4
32.5°	690.7	689.7	688.5	687.7	686.9	686.1	685.3	684.5
35°	654.3	653.1	651.9	650.8	649.9	648.8	647.9	646.9
37.5°	617.7	616.2	614.8	613.5	612.6	611.7	610.8	609.8
40°	592.5	590.6	588.9	587.6	586.9	586.1	585.3	584.5
42.5°	567.5	565.6	563.7	562.1	561.0	560.0	558.9	557.8
45°	529.3	527.1	525.0	523.5	522.7	521.9	521.2	520.3
47.5°	489.5	487.2	484.9	483.2	482.1	481.0	479.8	478.7
50°	463.9	461.2	458.4	456.6	455.6	454.6	453.7	452.6
52.5°	437.4	435.1	432.9	431.1	429.8	428.5	427.2	425.9
55°	397.9	395.5	393.2	391.5	390.5	389.6	388.6	387.6
57.5°	356.8	354.5	352.2	350.7	349.9	349.2	348.4	347.7
60°	329.7	327.5	325.4	324.1	323.5	322.9	322.3	321.7
62.5°	304.0	302.0	300.1	298.7	297.9	297.1	296.4	295.7
65°	264.6	262.8	261.1	259.7	258.7	257.7	256.8	255.8
67.5°	225.6	224.3	222.9	221.8	221.0	220.2	219.5	218.7
70°	200.3	199.0	197.6	196.5	195.7	194.9	194.2	193.4
72.5°	176.4	175.0	173.7	172.6	172.0	171.4	170.8	170.1
75°	139.1	138.0	136.8	136.5	136.8	137.2	137.6	138.0
77.5°	105.9	105.3	104.7	104.2	103.6	103.1	102.5	101.9
80°	84.1	83.5	82.9	82.4	82.1	81.6	81.3	80.8
82.5°	62.7	61.9	61.2	60.8	60.7	60.6	60.5	60.4
85°	33.1	32.5	31.9	31.5	31.3	31.2	31.0	30.7
87.5°	14.4	14.1	13.9	13.9	13.8	13.8	13.7	13.6
90°	27.2	28.6	30.0	30.9	31.4	31.9	32.5	33.1
92.5°	29.8	30.6	31.3	31.8	32.1	32.4	32.7	33.1
95°	50.5	51.8	53.2	53.7	53.5	53.2	53.0	52.7
97.5°	66.1	67.2	68.3	69.0	69.3	69.7	70.0	70.3
100°	74.1	76.4	78.5	79.9	80.4	80.9	81.5	82.1
102.5°	77.4	80.2	83.1	84.9	85.7	86.4	87.1	87.9
105°	80.7	83.7	86.7	88.7	89.8	90.9	92.0	93.1
107.5°	98.5	95.4	92.4	91.4	92.5	93.6	94.7	95.7
110°	159.9	132.7	105.5	92.4	93.5	94.5	95.7	96.8





TEST NUMBER: P331553-935

CATALOG NUMBER: S122DIW-S675D1440U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	342.0	242.7	143.4	94.2	95.1	96.0	96.9	97.7
115°	503.6	377.5	251.6	178.7	159.2	139.6	120.0	100.4
117.5°	775.9	745.5	715.0	667.5	603.1	538.7	474.3	410.0
120°	904.1	907.4	910.7	893.9	857.2	820.4	783.7	747.0
122.5°	959.3	961.3	963.2	960.6	953.5	946.4	939.3	932.1
125°	1038.5	1040.4	1042.3	1043.7	1044.6	1045.3	1046.2	1047.0
127.5°	1111.8	1114.6	1117.3	1118.9	1119.0	1119.1	1119.3	1119.5
130°	1158.3	1161.3	1164.2	1165.6	1165.4	1165.1	1164.8	1164.5
132.5°	1203.4	1206.0	1208.6	1209.7	1209.4	1209.2	1208.9	1208.6
135°	1267.9	1270.7	1273.4	1274.5	1273.9	1273.4	1272.8	1272.3
137.5°	1327.8	1330.5	1333.2	1334.0	1333.1	1332.2	1331.3	1330.3
140°	1366.6	1369.1	1371.5	1372.0	1370.7	1369.3	1368.0	1366.6
142.5°	1402.4	1404.6	1406.9	1407.3	1405.9	1404.5	1403.3	1401.9
145°	1452.4	1454.3	1456.3	1456.6	1455.2	1453.8	1452.4	1451.1
147.5°	1496.1	1497.5	1498.9	1499.0	1497.9	1496.8	1495.6	1494.4
150°	1522.9	1524.6	1526.2	1526.3	1525.0	1523.6	1522.2	1520.9
152.5°	1547.4	1549.0	1550.7	1550.6	1548.8	1547.0	1545.2	1543.4
155°	1580.5	1582.1	1583.7	1583.5	1581.3	1579.2	1576.9	1574.8
157.5°	1608.3	1610.2	1612.1	1611.9	1609.8	1607.7	1605.5	1603.4
160°	1624.5	1626.2	1627.8	1627.7	1625.8	1623.8	1622.0	1620.1
162.5°	1639.7	1641.6	1643.4	1643.1	1640.8	1638.5	1636.2	1633.8
165°	1658.2	1660.1	1662.0	1662.0	1660.1	1658.2	1656.3	1654.3
167.5°	1673.6	1675.5	1677.4	1677.1	1674.7	1672.2	1669.8	1667.3
170°	1681.4	1683.3	1685.2	1685.0	1682.6	1680.1	1677.7	1675.2
172.5°	1687.3	1689.2	1691.1	1690.8	1688.4	1685.9	1683.5	1681.0
175°	1693.7	1695.6	1697.5	1697.1	1694.4	1691.6	1688.9	1686.2
177.5°	1694.4	1695.9	1697.5	1697.2	1695.2	1693.3	1691.3	1689.4
180°	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3

(END OF REPORT)