

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: P331551-930

Luminaire Tested: **S122DIW-S675D1440U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331551-930  
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-S675D1440U930-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1440 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6891.1 lumens  
Efficiency: N/A  
Efficacy: 101.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

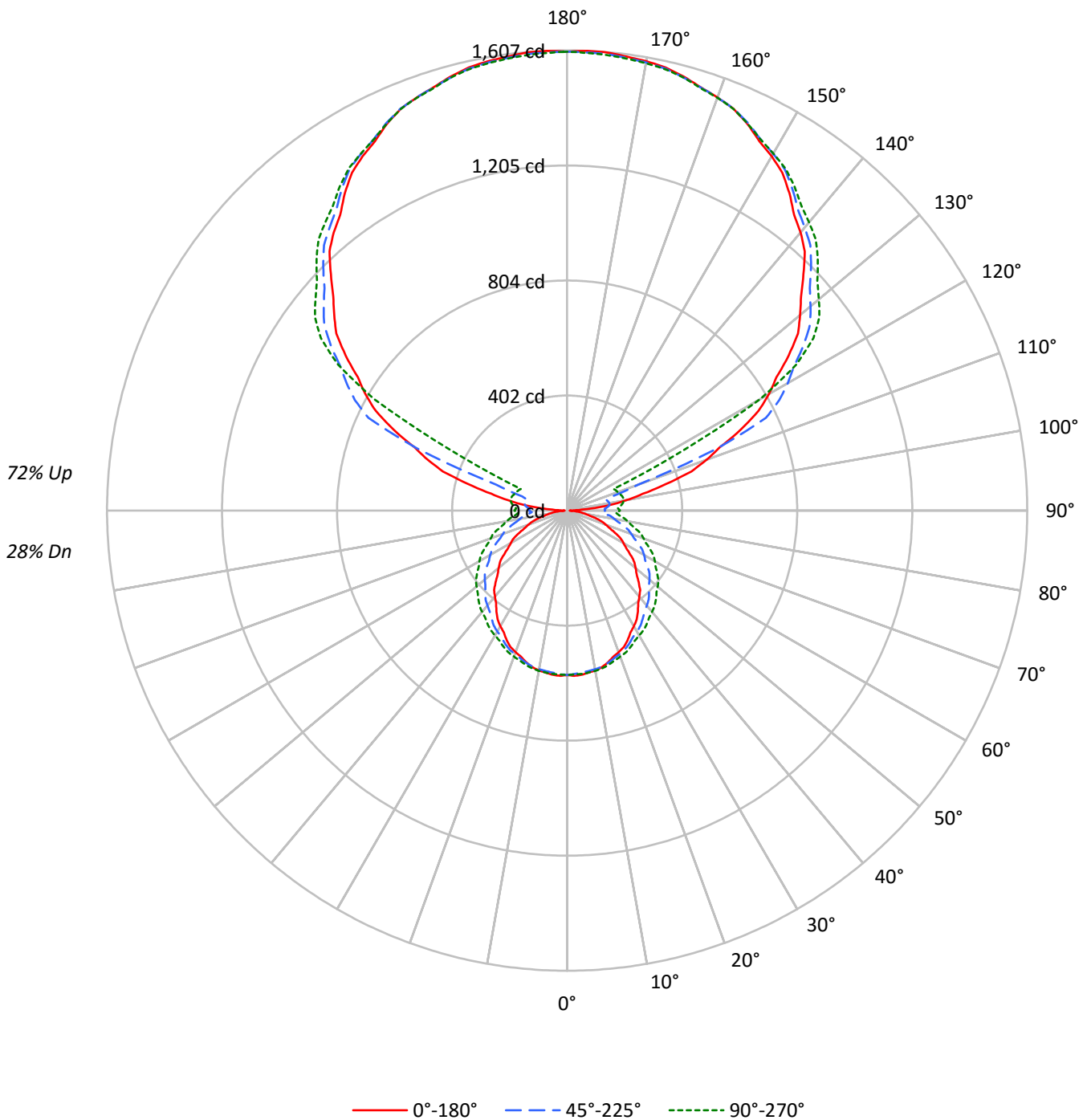
Input Watts (W): 68.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P331551-930

CATALOG NUMBER: S122DIW-S675D1440U930-4F0-1E-UDD-D

**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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	28
1	92	88	83	80	82	78	75	72	61	59	57	45	44	42	31	30	29	22
2	83	76	70	64	74	68	63	58	53	49	46	39	37	35	26	25	24	18
3	76	66	59	53	67	59	53	48	46	42	38	34	31	29	23	21	20	15
4	69	58	51	45	61	52	46	40	41	36	32	30	27	24	20	18	17	12
5	63	52	44	38	56	46	40	34	36	31	28	27	24	21	18	16	14	11
6	58	46	38	32	52	42	35	30	33	28	24	24	21	18	17	14	13	9
7	54	42	34	28	48	37	31	26	29	24	21	22	18	16	15	13	11	8
8	50	37	30	25	44	34	27	22	27	22	18	20	17	14	14	11	10	7
9	46	34	27	22	41	31	24	20	24	19	16	18	15	12	13	10	9	6
10	43	31	24	19	38	28	22	18	22	18	14	17	13	11	12	9	8	6

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

	0°	45°	90°
0°	9273	9273	9273
5°	9317	8925	8891
10°	9259	8661	8564
15°	9131	8383	8221
20°	8970	8083	7889
25°	8811	7795	7587
30°	8587	7498	7284
35°	8359	7211	7072
40°	8120	6969	6858
45°	7894	6750	6677
50°	7650	6553	6497
55°	7394	6340	6314
60°	7081	6122	6123
65°	6755	5864	5892
70°	6394	5587	5644
75°	5927	5315	5415
80°	5197	5036	5185
85°	4489	4797	5004



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.4	0.8
10°-20°	156.0	2.3
20°-30°	236.5	3.4
30°-40°	288.0	4.2
40°-50°	309.9	4.5
50°-60°	300.9	4.4
60°-70°	262.7	3.8
70°-80°	202.3	2.9
80°-90°	139.7	2.0
90°-100°	147.0	2.1
100°-110°	264.3	3.8
110°-120°	569.1	8.3
120°-130°	890.1	12.9
130°-140°	930.4	13.5
140°-150°	856.8	12.4
150°-160°	687.4	10.0
160°-170°	443.0	6.4
170°-180°	152.5	2.2
0°-30°	446.9	6.5
0°-40°	734.9	10.7
0°-60°	1345.7	19.5
0°-90°	1950.4	28.3
90°-120°	980.4	14.2
90°-150°	3657.8	53.1
90°-180°	4941.0	71.7
0°-180°	6891.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	574	574	574	574	574	
5°	576	573	568	573	573	55
15°	549	551	551	558	558	155
25°	499	505	513	522	525	229
35°	430	445	460	478	484	269
45°	353	376	404	429	439	272
55°	270	301	344	373	384	242
65°	185	226	275	308	320	183
75°	102	149	202	237	249	108
85°	30	82	135	168	181	32
90°	10	71	133	171	184	9
95°	82	86	141	177	187	97
105°	357	397	142	183	198	381
115°	670	701	765	278	179	659
125°	944	961	1008	1038	1050	842
135°	1167	1186	1205	1232	1238	902
145°	1353	1353	1372	1384	1383	846
155°	1490	1481	1494	1500	1491	686
165°	1570	1564	1566	1574	1566	443
175°	1606	1598	1600	1607	1597	153
180°	1602	1602	1602	1602	1602	



TEST NUMBER: P331551-930

CATALOG NUMBER: S122DIW-S675D1440U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	574.3	574.3	574.3	574.3	574.3	574.3	574.3	574.3	574.3	574.3	574.3
2.5°	577.6	577.2	576.7	576.3	575.8	575.1	574.1	573.0	572.0	571.0	571.7
5°	575.9	575.4	574.9	574.3	573.7	572.9	571.8	570.7	569.6	568.4	569.6
7.5°	570.8	570.4	570.1	569.6	569.3	568.7	567.9	567.0	566.1	565.3	566.6
10°	566.8	566.4	566.1	565.7	565.3	564.8	564.3	563.8	563.2	562.6	564.1
12.5°	560.1	560.2	560.3	560.4	560.4	560.3	559.9	559.5	559.1	558.6	560.1
15°	549.3	549.7	550.1	550.4	550.8	551.0	551.0	551.0	551.0	551.0	552.6
17.5°	535.3	536.1	536.9	537.7	538.4	539.2	539.7	540.3	540.9	541.5	543.2
20°	526.0	526.9	527.8	528.8	529.7	530.5	531.2	532.1	532.8	533.5	535.6
22.5°	516.0	517.1	518.2	519.3	520.3	521.4	522.4	523.4	524.5	525.5	527.6
25°	499.4	500.7	502.0	503.3	504.6	506.1	507.7	509.4	511.0	512.7	514.9
27.5°	479.4	481.5	483.6	485.8	487.9	489.9	491.9	493.8	495.8	497.7	500.5
30°	466.1	468.5	470.9	473.3	475.7	478.1	480.5	482.9	485.3	487.7	490.6
32.5°	451.4	454.1	456.8	459.5	462.3	465.0	467.9	470.7	473.5	476.4	479.8
35°	430.3	433.4	436.6	439.7	442.9	446.2	449.7	453.2	456.7	460.2	464.3
37.5°	407.3	411.0	414.6	418.2	421.8	425.9	430.5	435.0	439.5	444.1	448.7
40°	392.0	396.1	400.1	404.2	408.3	412.8	417.8	422.8	427.8	432.8	437.6
42.5°	377.4	381.4	385.5	389.6	393.6	398.5	404.3	410.0	415.7	421.5	426.7
45°	352.9	357.9	362.9	367.9	372.8	378.6	385.1	391.6	398.0	404.5	410.3
47.5°	328.7	334.2	339.7	345.0	350.5	357.0	364.6	372.2	379.8	387.3	393.4
50°	312.1	317.9	323.6	329.3	335.0	342.1	350.4	358.7	367.0	375.4	381.6
52.5°	296.1	302.1	308.2	314.2	320.2	327.7	336.4	345.2	353.9	362.7	369.2
55°	270.5	277.1	283.8	290.5	297.1	305.2	314.9	324.5	334.1	343.7	350.4
57.5°	245.2	252.7	260.2	267.7	275.2	283.9	293.7	303.5	313.3	323.1	330.3
60°	227.2	235.1	243.1	251.1	259.0	268.3	278.8	289.3	299.9	310.5	317.5
62.5°	211.2	219.5	227.7	235.9	244.3	253.6	264.2	274.7	285.3	295.8	303.3
65°	184.7	193.8	202.9	212.0	221.0	231.0	241.9	252.8	263.7	274.7	282.3
67.5°	160.5	169.9	179.4	188.9	198.4	208.6	219.8	231.0	242.1	253.3	261.0
70°	143.2	152.8	162.4	172.0	181.6	192.2	203.7	215.1	226.6	238.1	246.0
72.5°	127.2	137.1	147.0	156.9	166.8	177.6	189.2	200.8	212.5	224.0	231.9
75°	102.4	112.8	123.1	133.5	143.8	154.9	166.7	178.6	190.4	202.3	210.2
77.5°	78.4	89.3	100.1	110.9	121.7	133.2	145.2	157.3	169.3	181.2	189.2
80°	62.5	73.7	85.0	96.3	107.5	119.2	131.3	143.2	155.2	167.3	175.0
82.5°	49.1	60.3	71.3	82.5	93.7	105.3	117.5	129.6	141.8	154.0	161.8
85°	30.0	41.4	52.9	64.3	75.8	87.5	99.3	111.1	123.0	134.9	142.6
87.5°	16.6	28.1	39.7	51.3	62.9	74.8	87.1	99.3	111.6	123.8	131.6
90°	9.5	23.1	36.6	50.1	63.8	77.5	91.4	105.3	119.1	133.1	141.8
92.5°	31.1	40.8	50.5	60.3	70.0	81.0	93.5	105.9	118.4	130.8	138.7
95°	82.0	82.2	82.4	82.6	82.8	89.4	102.2	115.1	128.0	141.0	149.3
97.5°	155.4	139.2	122.9	106.7	90.5	89.8	104.6	119.4	134.3	149.1	156.9
100°	211.1	182.6	154.2	125.7	97.3	90.3	105.1	119.8	134.6	149.4	158.2
102.5°	271.7	270.4	269.2	268.0	266.8	252.8	226.2	199.7	173.1	146.5	155.9
105°	356.7	369.7	382.9	395.9	409.0	385.2	324.5	263.7	203.0	142.3	151.6
107.5°	454.6	465.1	475.6	486.2	496.7	464.4	389.2	314.1	239.0	163.8	167.1
110°	517.0	526.1	535.2	544.4	553.4	525.3	459.9	394.5	329.1	263.7	243.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	576.4	584.2	592.2	600.1	608.0	607.1	597.3	587.5	577.7	567.9	479.8
115°	670.1	676.5	682.9	689.3	695.7	706.3	721.1	735.9	750.6	765.4	651.6
117.5°	752.9	759.2	765.4	771.7	777.9	787.0	799.2	811.3	823.5	835.5	812.2
120°	814.2	818.8	823.4	828.0	832.6	840.9	853.0	865.0	877.0	889.1	897.3
122.5°	866.1	870.5	874.9	879.2	883.6	891.8	903.8	915.8	927.8	939.8	946.7
125°	944.4	947.7	951.0	954.4	957.8	964.8	975.7	986.5	997.3	1008.1	1014.9
127.5°	1016.0	1019.5	1023.1	1026.6	1030.1	1036.1	1044.6	1053.0	1061.4	1069.8	1077.1
130°	1061.5	1065.4	1069.3	1073.3	1077.3	1082.6	1089.3	1096.0	1102.7	1109.5	1116.7
132.5°	1107.9	1111.2	1114.5	1117.9	1121.1	1125.8	1131.6	1137.4	1143.2	1149.1	1155.8
135°	1167.3	1171.4	1175.6	1179.7	1183.8	1188.0	1192.1	1196.3	1200.4	1204.7	1211.1
137.5°	1228.3	1231.2	1234.0	1236.9	1239.7	1242.8	1246.3	1249.8	1253.2	1256.6	1262.6
140°	1268.2	1270.1	1271.9	1273.8	1275.7	1278.2	1281.5	1284.7	1287.8	1291.1	1296.3
142.5°	1301.6	1303.3	1305.0	1306.6	1308.3	1310.8	1314.1	1317.4	1320.8	1324.0	1328.5
145°	1353.2	1352.9	1352.7	1352.4	1352.2	1354.2	1358.6	1363.0	1367.3	1371.7	1374.7
147.5°	1398.9	1397.9	1396.9	1396.0	1395.0	1396.6	1400.9	1405.3	1409.7	1414.0	1415.4
150°	1428.6	1426.8	1425.0	1423.2	1421.3	1422.5	1426.6	1430.8	1434.8	1439.0	1440.6
152.5°	1453.6	1451.6	1449.6	1447.6	1445.6	1446.5	1450.4	1454.3	1458.2	1462.2	1463.7
155°	1490.0	1487.7	1485.4	1483.0	1480.7	1481.2	1484.3	1487.4	1490.4	1493.5	1495.0
157.5°	1518.6	1516.6	1514.7	1512.7	1510.7	1510.8	1513.0	1515.2	1517.3	1519.5	1521.3
160°	1535.2	1533.7	1532.2	1530.6	1529.1	1529.1	1530.6	1532.2	1533.7	1535.2	1536.8
162.5°	1550.0	1548.6	1547.0	1545.5	1543.9	1543.8	1545.2	1546.5	1547.8	1549.2	1550.9
165°	1570.0	1568.5	1566.9	1565.4	1563.8	1563.5	1564.2	1565.0	1565.8	1566.5	1568.4
167.5°	1584.9	1583.3	1581.8	1580.2	1578.7	1578.3	1579.0	1579.7	1580.5	1581.2	1583.0
170°	1593.3	1591.7	1590.2	1588.6	1587.1	1586.5	1587.1	1587.6	1588.0	1588.6	1590.4
172.5°	1598.8	1597.3	1595.7	1594.2	1592.6	1592.1	1592.6	1593.1	1593.7	1594.2	1595.9
175°	1606.0	1604.2	1602.4	1600.6	1598.8	1598.1	1598.6	1599.1	1599.7	1600.2	1602.0
177.5°	1607.1	1605.7	1604.3	1602.8	1601.3	1600.8	1600.9	1601.2	1601.3	1601.6	1603.0
180°	1602.5	1602.5	1602.5	1602.5	1602.5	1602.5	1602.5	1602.5	1602.5	1602.5	1602.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	574.3	574.3	574.3	574.3	574.3	574.3	574.3	574.3
2.5°	572.4	573.2	573.9	574.1	573.8	573.6	573.2	573.0
5°	570.7	571.8	572.9	573.4	573.2	573.0	572.8	572.6
7.5°	567.9	569.3	570.6	571.2	571.0	570.8	570.6	570.5
10°	565.6	567.0	568.6	569.2	569.0	568.8	568.7	568.4
12.5°	561.6	563.0	564.6	565.2	565.0	564.8	564.7	564.4
15°	554.3	556.0	557.7	558.4	558.2	558.0	557.8	557.7
17.5°	544.9	546.7	548.5	549.3	549.3	549.3	549.3	549.3
20°	537.6	539.6	541.6	542.7	542.7	542.7	542.7	542.7
22.5°	529.6	531.7	533.6	534.8	535.1	535.4	535.7	536.0
25°	517.1	519.3	521.5	522.9	523.5	524.1	524.6	525.2
27.5°	503.4	506.1	509.0	510.5	510.9	511.4	511.8	512.2
30°	493.7	496.6	499.5	501.3	501.9	502.5	503.0	503.5
32.5°	483.2	486.7	490.0	492.2	493.3	494.2	495.2	496.2
35°	468.4	472.5	476.5	479.2	480.5	481.8	483.1	484.4
37.5°	453.1	457.6	462.2	465.1	466.5	467.8	469.2	470.6
40°	442.4	447.2	452.0	455.3	456.9	458.6	460.2	461.9
42.5°	431.9	437.2	442.5	446.0	447.6	449.3	450.9	452.6
45°	416.0	421.7	427.5	431.2	433.1	435.0	436.8	438.6
47.5°	399.3	405.4	411.3	415.3	417.4	419.4	421.4	423.5
50°	387.9	394.2	400.6	404.7	406.8	408.8	410.7	412.8
52.5°	375.6	382.0	388.5	392.8	394.9	397.1	399.3	401.5
55°	357.0	363.7	370.4	374.9	377.3	379.7	382.1	384.5
57.5°	337.5	344.6	351.8	356.6	359.1	361.5	363.9	366.4
60°	324.5	331.5	338.6	343.4	345.9	348.5	351.1	353.8
62.5°	310.7	318.2	325.7	330.7	333.0	335.5	337.9	340.4
65°	289.8	297.4	305.0	310.0	312.4	314.8	317.2	319.6
67.5°	268.6	276.3	284.0	289.1	291.6	294.1	296.6	299.1
70°	254.0	261.9	269.9	274.9	277.1	279.4	281.6	283.8
72.5°	239.7	247.4	255.3	260.5	263.2	265.9	268.5	271.2
75°	218.2	226.1	234.1	239.2	241.7	244.0	246.5	248.8
77.5°	197.1	205.0	213.0	218.2	220.8	223.4	225.9	228.5
80°	182.8	190.6	198.4	203.6	206.1	208.7	211.3	213.9
82.5°	169.5	177.2	185.1	190.1	192.6	195.0	197.5	199.9
85°	150.3	158.2	165.9	171.0	173.7	176.3	178.9	181.4
87.5°	139.4	147.2	155.1	160.2	162.7	165.1	167.6	170.1
90°	150.4	159.1	167.8	173.5	176.3	179.0	181.7	184.4
92.5°	146.6	154.5	162.5	167.7	170.2	172.8	175.3	177.8
95°	157.6	165.9	174.2	179.4	181.3	183.3	185.2	187.2
97.5°	164.9	172.7	180.6	185.7	188.3	190.8	193.2	195.8
100°	167.1	176.0	184.9	190.7	193.2	195.8	198.3	200.9
102.5°	165.3	174.6	184.0	190.0	192.8	195.6	198.4	201.1
105°	160.9	170.2	179.5	185.7	188.8	191.8	194.9	198.0
107.5°	170.4	173.7	177.1	180.3	183.4	186.5	189.5	192.6
110°	224.0	204.2	184.3	175.9	179.0	182.1	185.1	188.2





TEST NUMBER: P331551-930

CATALOG NUMBER: S122DIW-S675D1440U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	391.8	303.7	215.6	173.0	175.9	178.7	181.6	184.4
115°	537.9	424.1	310.4	245.2	228.7	212.2	195.7	179.1
117.5°	788.8	765.4	742.0	700.7	641.7	582.6	523.5	464.5
120°	905.6	913.9	922.2	909.9	877.2	844.4	811.6	778.9
122.5°	953.6	960.4	967.4	968.2	963.3	958.2	953.2	948.3
125°	1021.7	1028.5	1035.3	1039.9	1042.4	1044.8	1047.3	1049.7
127.5°	1084.3	1091.5	1098.7	1103.2	1105.0	1106.8	1108.6	1110.4
130°	1124.0	1131.2	1138.6	1142.8	1144.0	1145.3	1146.5	1147.7
132.5°	1162.5	1169.2	1175.9	1179.9	1181.1	1182.3	1183.6	1184.8
135°	1217.6	1224.0	1230.5	1234.2	1235.2	1236.2	1237.1	1238.0
137.5°	1268.5	1274.4	1280.3	1283.5	1283.9	1284.3	1284.7	1285.1
140°	1301.6	1306.9	1312.2	1314.8	1314.6	1314.4	1314.2	1314.0
142.5°	1333.0	1337.5	1342.0	1344.1	1343.8	1343.5	1343.1	1342.8
145°	1377.6	1380.5	1383.4	1384.7	1384.3	1384.0	1383.6	1383.2
147.5°	1416.9	1418.5	1419.9	1420.3	1419.7	1419.0	1418.4	1417.8
150°	1442.1	1443.7	1445.2	1445.3	1444.1	1442.8	1441.4	1440.1
152.5°	1465.3	1466.8	1468.4	1468.3	1466.6	1464.9	1463.2	1461.5
155°	1496.6	1498.1	1499.7	1499.4	1497.4	1495.3	1493.2	1491.2
157.5°	1523.0	1524.7	1526.5	1526.3	1524.4	1522.3	1520.3	1518.3
160°	1538.3	1539.9	1541.4	1541.3	1539.5	1537.7	1535.9	1534.1
162.5°	1552.7	1554.4	1556.2	1555.9	1553.7	1551.5	1549.3	1547.1
165°	1570.2	1572.0	1573.8	1573.8	1572.0	1570.2	1568.4	1566.5
167.5°	1584.8	1586.6	1588.4	1588.1	1585.8	1583.5	1581.2	1578.8
170°	1592.2	1594.0	1595.8	1595.5	1593.3	1590.9	1588.6	1586.2
172.5°	1597.7	1599.5	1601.3	1601.1	1598.8	1596.4	1594.2	1591.8
175°	1603.8	1605.6	1607.4	1607.0	1604.4	1601.8	1599.3	1596.7
177.5°	1604.4	1605.9	1607.4	1607.1	1605.2	1603.4	1601.6	1599.7
180°	1602.5	1602.5	1602.5	1602.5	1602.5	1602.5	1602.5	1602.5

(END OF REPORT)