

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: P331552-930

Luminaire Tested: **S122DIW-S675D1440U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331552-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
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-D1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1440 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6269.4 lumens  
Efficiency: N/A  
Efficacy: 92.1 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

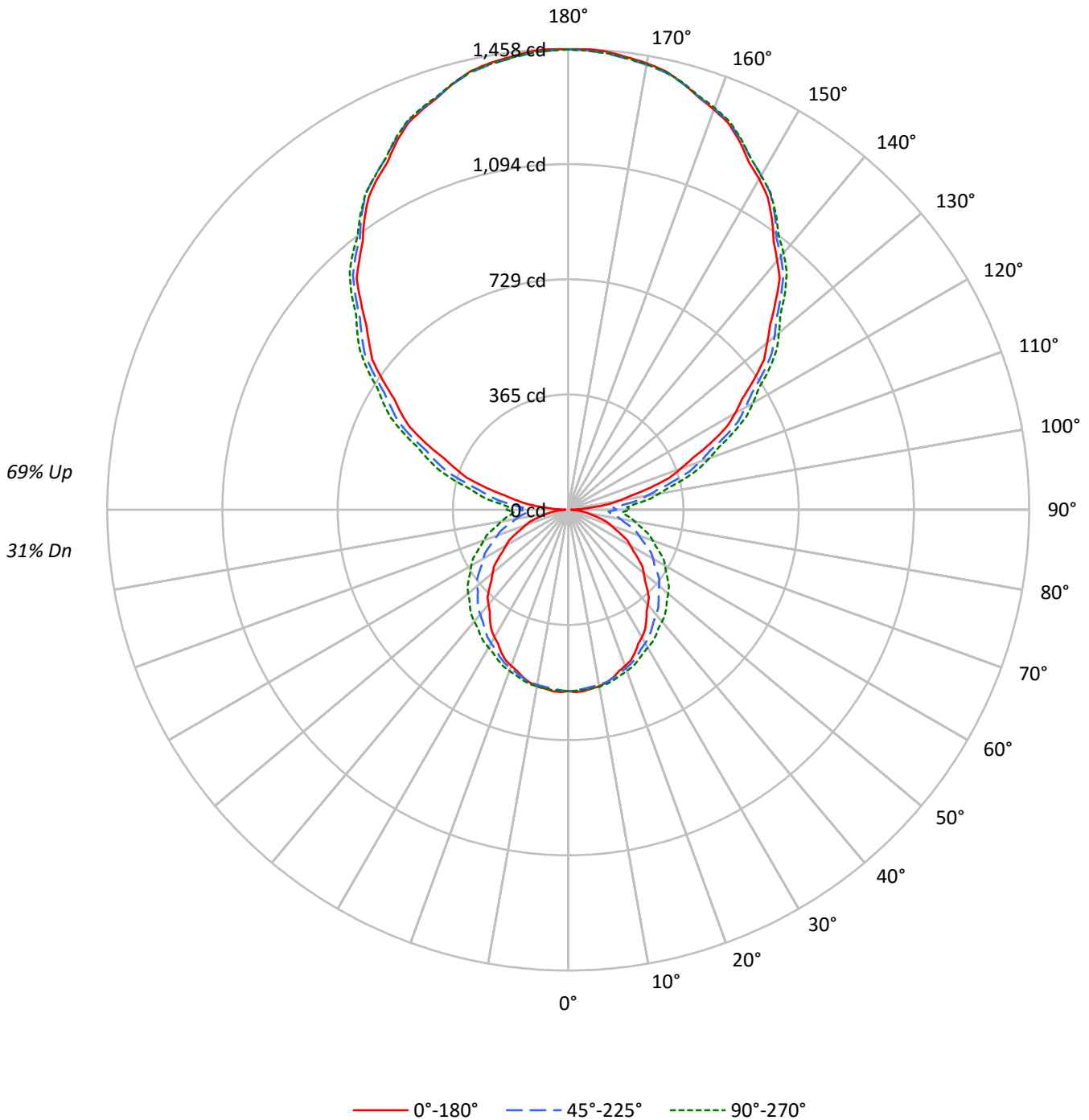
Input Watts (W): 68.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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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	92	92	92	92	73	73	73	55	55	55	39	39	39	31
1	93	88	84	80	83	79	76	72	62	60	58	47	45	44	33	32	31	24
2	84	76	70	65	75	69	63	59	54	50	47	41	38	36	28	27	25	20
3	76	67	59	53	68	60	54	48	47	43	39	36	32	30	25	23	21	16
4	70	59	51	45	62	53	46	41	42	37	33	31	28	25	22	20	18	14
5	64	52	44	38	57	47	40	35	37	32	28	28	24	22	20	17	15	12
6	58	46	38	33	52	42	35	30	33	28	24	25	22	19	18	15	13	10
7	54	42	34	28	48	38	31	26	30	25	21	23	19	16	16	14	12	9
8	50	38	30	25	45	34	27	23	27	22	19	21	17	14	15	12	10	8
9	46	34	27	22	41	31	25	20	25	20	16	19	15	13	14	11	9	7
10	43	31	24	19	39	28	22	18	23	18	15	18	14	12	13	10	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	0.9
10°-20°	156.0	2.5
20°-30°	236.5	3.8
30°-40°	288.0	4.6
40°-50°	309.9	4.9
50°-60°	300.9	4.8
60°-70°	262.7	4.2
70°-80°	202.3	3.2
80°-90°	141.6	2.3
90°-100°	185.8	3.0
100°-110°	354.9	5.7
110°-120°	535.1	8.5
120°-130°	669.5	10.7
130°-140°	733.7	11.7
140°-150°	710.9	11.3
150°-160°	594.8	9.5
160°-170°	394.5	6.3
170°-180°	137.9	2.2
0°-30°	446.9	7.1
0°-40°	734.9	11.7
0°-60°	1345.7	21.5
0°-90°	1952.3	31.1
90°-120°	1075.8	17.2
90°-150°	3190.0	50.9
90°-180°	4317.0	68.9
0°-180°	6269.4	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	74	153	183	195	9
95°	71	122	174	205	214	79
105°	268	297	342	372	383	284
115°	495	512	546	569	576	489
125°	717	729	751	769	776	641
135°	926	940	951	966	970	716
145°	1123	1132	1139	1145	1145	702
155°	1284	1288	1292	1297	1294	591
165°	1398	1396	1396	1404	1399	394
175°	1454	1450	1448	1456	1449	138
180°	1456	1456	1456	1456	1456	



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**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	28.2	39.9	51.6	63.3	75.7	88.7	101.7	114.7	127.8	135.3
90°	9.5	23.6	37.6	51.5	65.6	81.5	99.3	117.2	135.0	152.9	159.7
92.5°	29.5	41.9	54.3	66.7	79.1	91.7	104.5	117.3	130.1	142.9	150.3
95°	70.6	82.0	93.4	104.8	116.3	127.8	139.4	151.1	162.7	174.4	181.4
97.5°	122.6	132.7	142.8	153.0	163.1	174.1	185.7	197.5	209.1	220.8	227.6
100°	161.9	171.0	180.0	189.0	198.0	208.1	219.3	230.5	241.7	252.8	259.7
102.5°	202.5	210.6	218.6	226.6	234.6	244.1	255.2	266.3	277.4	288.5	295.4
105°	268.4	274.6	280.8	287.0	293.2	301.3	311.5	321.6	331.8	342.0	349.0
107.5°	335.6	341.1	346.6	352.1	357.6	364.9	374.1	383.4	392.6	401.8	408.2
110°	378.2	383.5	388.9	394.2	399.6	406.8	415.8	424.9	434.0	443.0	448.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	425.4	430.2	434.9	439.6	444.4	450.9	459.3	467.7	476.1	484.5	489.8
115°	495.0	498.6	502.3	506.0	509.6	515.4	523.2	530.9	538.7	546.5	551.8
117.5°	563.5	567.0	570.5	574.1	577.6	582.4	588.6	594.7	600.9	607.0	611.9
120°	609.7	612.6	615.6	618.5	621.3	625.4	630.6	635.9	641.1	646.3	651.5
122.5°	652.0	654.8	657.8	660.7	663.7	667.8	673.2	678.7	684.1	689.5	693.9
125°	717.0	719.5	721.9	724.4	726.8	730.6	735.7	740.8	745.9	751.1	755.2
127.5°	781.1	784.1	787.0	789.9	792.9	796.2	800.1	803.8	807.6	811.4	815.0
130°	821.5	824.8	828.2	831.6	834.9	838.3	841.6	845.0	848.3	851.7	855.6
132.5°	866.7	869.4	872.1	874.8	877.6	880.4	883.5	886.6	889.8	892.9	896.0
135°	926.3	929.4	932.4	935.4	938.4	941.1	943.5	945.8	948.3	950.6	954.2
137.5°	990.0	992.5	994.8	997.3	999.7	1001.7	1003.2	1004.7	1006.2	1007.8	1011.0
140°	1028.3	1030.6	1032.9	1035.2	1037.5	1039.5	1041.2	1042.9	1044.6	1046.4	1049.4
142.5°	1067.7	1070.0	1072.3	1074.5	1076.8	1078.4	1079.5	1080.4	1081.4	1082.5	1085.0
145°	1123.4	1125.4	1127.2	1129.1	1131.1	1132.9	1134.5	1136.1	1137.8	1139.4	1140.8
147.5°	1173.8	1176.1	1178.4	1180.7	1183.0	1184.7	1185.8	1186.8	1188.0	1189.0	1189.8
150°	1208.2	1209.8	1211.5	1213.2	1214.8	1216.1	1217.2	1218.3	1219.4	1220.5	1221.3
152.5°	1238.7	1240.3	1241.9	1243.6	1245.3	1246.8	1248.1	1249.4	1250.7	1252.0	1253.0
155°	1284.4	1285.2	1286.1	1286.9	1287.7	1288.5	1289.3	1290.1	1290.9	1291.8	1293.1
157.5°	1323.5	1324.0	1324.6	1325.2	1325.7	1326.2	1326.7	1327.2	1327.7	1328.2	1330.0
160°	1347.1	1347.7	1348.2	1348.7	1349.3	1349.7	1350.0	1350.2	1350.5	1350.8	1352.4
162.5°	1368.7	1368.9	1369.0	1369.1	1369.2	1369.4	1369.6	1369.9	1370.2	1370.4	1372.3
165°	1397.5	1397.3	1396.9	1396.7	1396.4	1396.3	1396.3	1396.3	1396.3	1396.3	1398.2
167.5°	1421.6	1420.7	1419.9	1419.1	1418.3	1417.9	1417.8	1417.8	1417.7	1417.6	1419.6
170°	1434.4	1433.5	1432.7	1431.9	1431.1	1430.5	1430.3	1430.0	1429.7	1429.5	1431.3
172.5°	1443.2	1442.4	1441.6	1440.8	1440.0	1439.4	1439.2	1438.8	1438.6	1438.3	1440.2
175°	1454.0	1453.2	1452.4	1451.6	1450.7	1450.1	1449.5	1448.9	1448.5	1447.9	1449.8
177.5°	1458.5	1457.8	1457.2	1456.5	1455.9	1455.3	1454.8	1454.4	1454.0	1453.5	1454.8
180°	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5



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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°	142.7	150.1	157.5	162.5	164.9	167.3	169.7	172.2
90°	166.6	173.4	180.3	185.0	187.4	190.0	192.4	194.9
92.5°	157.7	165.0	172.4	177.2	179.4	181.7	184.0	186.3
95°	188.4	195.4	202.5	206.8	208.6	210.2	211.9	213.5
97.5°	234.5	241.3	248.2	252.7	254.8	256.9	259.0	261.1
100°	266.5	273.4	280.2	284.5	286.3	288.0	289.8	291.6
102.5°	302.3	309.2	316.2	320.5	322.3	324.0	325.8	327.5
105°	356.0	363.1	370.1	374.5	376.6	378.6	380.7	382.7
107.5°	414.7	421.1	427.5	431.1	431.9	432.7	433.4	434.2
110°	454.9	460.8	466.7	470.3	471.5	472.7	473.9	475.1





TEST NUMBER: P331552-930

CATALOG NUMBER: S122DIW-S675D1440U930-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	495.1	500.3	505.6	509.0	510.4	511.8	513.2	514.7
115°	557.0	562.3	567.6	570.9	572.1	573.2	574.5	575.7
117.5°	616.7	621.5	626.3	629.2	630.3	631.4	632.4	633.5
120°	656.6	661.9	667.0	670.2	671.4	672.6	673.8	675.1
122.5°	698.2	702.6	707.0	709.8	710.9	712.0	713.1	714.3
125°	759.4	763.5	767.7	770.5	771.9	773.3	774.7	776.1
127.5°	818.6	822.2	825.8	828.0	828.8	829.5	830.2	831.0
130°	859.4	863.3	867.2	869.4	869.8	870.2	870.5	870.9
132.5°	899.0	902.1	905.2	907.1	907.7	908.3	908.9	909.5
135°	957.9	961.5	965.1	967.3	967.9	968.6	969.2	969.9
137.5°	1014.2	1017.3	1020.5	1022.2	1022.4	1022.5	1022.7	1022.9
140°	1052.3	1055.3	1058.3	1059.7	1059.7	1059.8	1059.8	1059.8
142.5°	1087.6	1090.2	1092.8	1094.1	1093.9	1093.7	1093.6	1093.5
145°	1142.2	1143.5	1144.9	1145.5	1145.3	1145.2	1145.0	1144.8
147.5°	1190.6	1191.3	1192.0	1192.1	1191.6	1190.9	1190.3	1189.8
150°	1222.1	1222.9	1223.8	1223.8	1222.9	1222.1	1221.3	1220.5
152.5°	1254.0	1255.1	1256.1	1256.1	1255.1	1254.0	1253.0	1252.0
155°	1294.5	1295.9	1297.2	1297.5	1296.7	1295.9	1295.1	1294.3
157.5°	1331.9	1333.7	1335.6	1335.9	1334.6	1333.3	1332.0	1330.6
160°	1354.0	1355.7	1357.3	1357.6	1356.5	1355.4	1354.4	1353.2
162.5°	1374.2	1376.1	1377.9	1378.2	1376.9	1375.6	1374.3	1372.9
165°	1400.1	1402.0	1403.9	1404.2	1402.8	1401.5	1400.1	1398.7
167.5°	1421.5	1423.4	1425.3	1425.6	1424.2	1422.7	1421.3	1419.8
170°	1433.3	1435.2	1437.1	1437.2	1435.6	1433.9	1432.3	1430.7
172.5°	1442.1	1444.1	1445.9	1446.1	1444.5	1442.8	1441.2	1439.6
175°	1451.7	1453.6	1455.6	1455.7	1454.0	1452.4	1450.7	1449.1
177.5°	1456.2	1457.5	1458.8	1458.8	1457.5	1456.2	1454.8	1453.5
180°	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5

(END OF REPORT)