

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: P331605-940

Luminaire Tested: **S122DIW-S1005D1240U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331605-940  
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-S1005D1240U940-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1240 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8018.8 lumens  
Efficiency: N/A  
Efficacy: 105.2 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

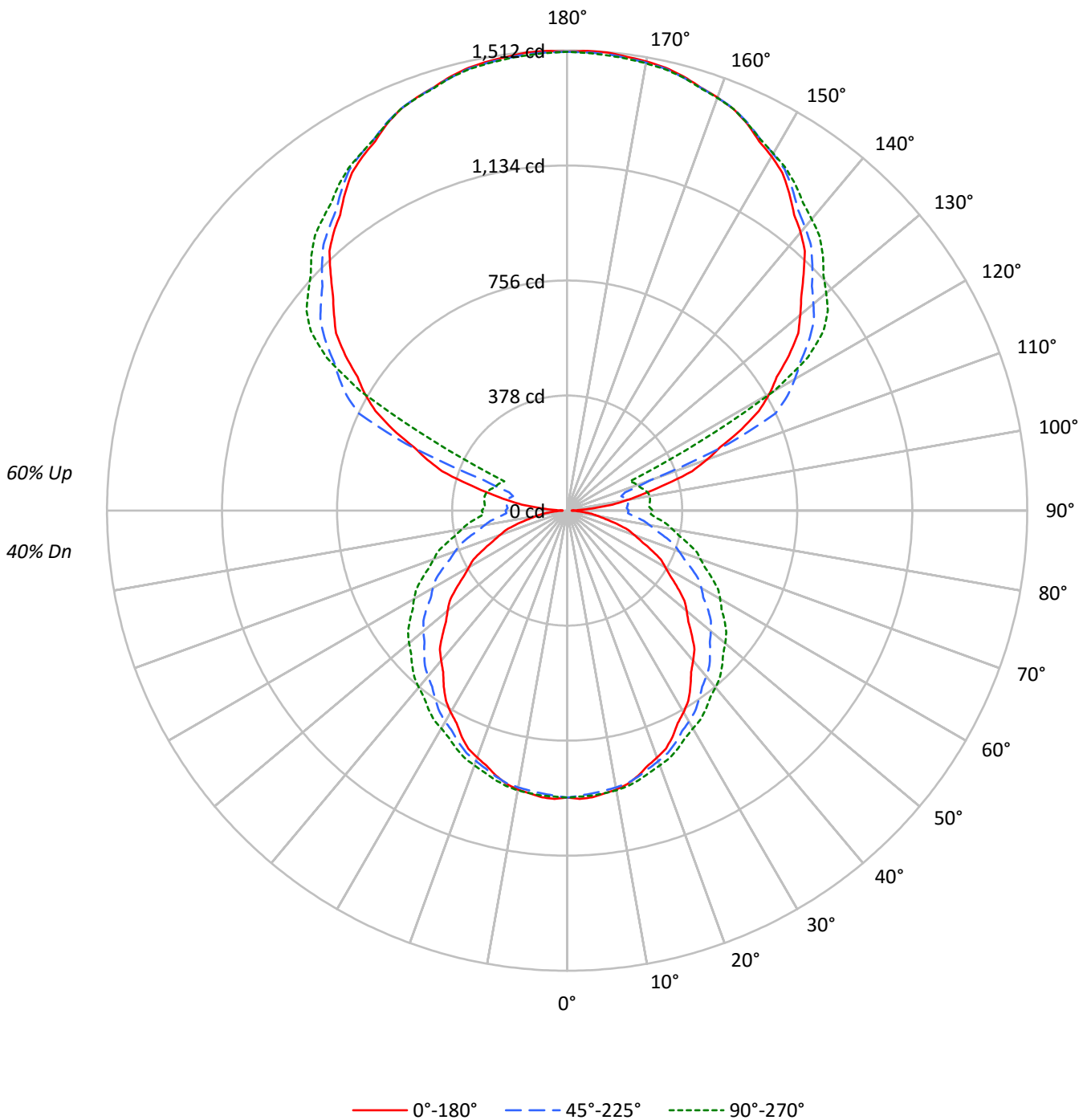
Input Watts (W): 76.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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CATALOG NUMBER: S122DIW-S1005D1240U940-4F0-1E-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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	94	90	85	81	86	81	78	74	66	64	61	52	50	49	39	38	37	31
2	85	77	71	65	77	70	65	60	57	53	50	45	42	40	34	32	30	25
3	78	68	60	54	70	62	55	50	50	45	41	40	36	33	30	27	25	21
4	71	60	51	45	64	54	47	42	44	39	35	35	31	28	26	24	21	17
5	65	53	45	38	58	48	41	35	39	34	30	31	27	24	24	21	18	15
6	60	47	39	33	54	43	36	31	35	30	26	28	24	21	21	18	16	13
7	55	42	34	29	50	39	32	27	32	26	22	25	21	18	19	16	14	11
8	51	38	31	25	46	35	28	23	29	24	20	23	19	16	18	15	13	10
9	47	35	27	22	43	32	25	21	27	21	18	21	17	14	16	13	11	9
10	44	32	25	20	40	29	23	18	24	19	16	20	16	13	15	12	10	8

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

	0°	45°	90°
0°	15224	15224	15224
5°	15300	14656	14600
10°	15203	14222	14063
15°	14994	13763	13496
20°	14728	13272	12952
25°	14466	12799	12457
30°	14098	12312	11962
35°	13725	11842	11611
40°	13332	11442	11262
45°	12960	11082	10962
50°	12561	10760	10668
55°	12143	10411	10368
60°	11628	10049	10051
65°	11095	9625	9675
70°	10498	9170	9268
75°	9730	8725	8894
80°	8523	8267	8514
85°	7361	7873	8218



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	89.3	1.1
10°-20°	256.2	3.2
20°-30°	388.3	4.8
30°-40°	472.9	5.9
40°-50°	508.8	6.3
50°-60°	494.1	6.2
60°-70°	431.4	5.4
70°-80°	332.1	4.1
80°-90°	226.6	2.8
90°-100°	203.8	2.5
100°-110°	296.5	3.7
110°-120°	567.0	7.1
120°-130°	855.0	10.7
130°-140°	882.7	11.0
140°-150°	807.3	10.1
150°-160°	646.7	8.1
160°-170°	416.7	5.2
170°-180°	143.4	1.8
0°-30°	733.8	9.2
0°-40°	1206.7	15.0
0°-60°	2209.5	27.6
0°-90°	3199.6	39.9
90°-120°	1067.4	13.3
90°-150°	3612.4	45.0
90°-180°	4819.0	60.1
0°-180°	8018.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	943	943	943	943	943	
5°	946	941	933	941	940	90
15°	902	904	905	916	916	254
25°	820	830	842	858	862	377
35°	706	730	756	785	795	441
45°	579	617	664	705	720	447
55°	444	495	564	612	631	397
65°	303	371	451	505	525	301
75°	168	245	332	389	409	178
85°	49	134	221	277	298	53
90°	15	106	202	260	281	12
95°	82	113	200	255	272	95
105°	338	394	184	242	263	362
115°	633	669	755	313	228	622
125°	890	906	968	1011	1028	793
135°	1099	1116	1140	1178	1188	849
145°	1273	1273	1290	1305	1308	796
155°	1402	1393	1405	1411	1403	646
165°	1477	1471	1474	1480	1474	417
175°	1511	1504	1505	1512	1502	144
180°	1507	1507	1507	1507	1507	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9
2.5°	948.4	947.7	946.9	946.2	945.5	944.2	942.5	940.8	939.1	937.5	938.7
5°	945.7	944.8	943.9	942.9	942.0	940.7	938.9	937.0	935.2	933.4	935.2
7.5°	937.2	936.6	935.9	935.4	934.8	933.8	932.4	930.9	929.6	928.2	930.3
10°	930.7	930.1	929.4	928.8	928.2	927.5	926.6	925.6	924.7	923.8	926.2
12.5°	919.7	919.8	920.0	920.1	920.2	919.9	919.3	918.6	917.9	917.2	919.7
15°	902.0	902.6	903.1	903.7	904.4	904.6	904.6	904.6	904.6	904.6	907.4
17.5°	879.0	880.3	881.5	882.8	884.0	885.2	886.2	887.2	888.1	889.1	892.0
20°	863.7	865.2	866.7	868.3	869.8	871.1	872.4	873.5	874.8	876.0	879.3
22.5°	847.3	849.0	850.8	852.6	854.3	856.0	857.7	859.4	861.1	862.8	866.2
25°	819.9	822.1	824.2	826.3	828.5	830.9	833.6	836.3	839.1	841.8	845.4
27.5°	787.1	790.6	794.1	797.5	801.0	804.3	807.5	810.7	814.0	817.3	821.8
30°	765.3	769.2	773.2	777.1	781.0	785.1	789.0	792.9	796.8	800.8	805.7
32.5°	741.2	745.6	750.1	754.6	758.9	763.5	768.2	772.8	777.6	782.2	787.8
35°	706.5	711.7	716.8	722.0	727.2	732.6	738.4	744.1	749.9	755.7	762.4
37.5°	668.8	674.8	680.7	686.6	692.6	699.3	706.8	714.3	721.8	729.2	736.6
40°	643.6	650.3	657.0	663.7	670.4	677.8	686.0	694.2	702.4	710.6	718.5
42.5°	619.6	626.2	632.9	639.6	646.3	654.3	663.8	673.2	682.6	692.1	700.6
45°	579.4	587.6	595.8	604.0	612.2	621.6	632.3	642.9	653.5	664.1	673.6
47.5°	539.8	548.8	557.7	566.6	575.5	586.2	598.7	611.1	623.6	636.0	645.9
50°	512.5	521.9	531.3	540.7	550.1	561.7	575.3	589.0	602.6	616.4	626.7
52.5°	486.2	496.1	506.0	515.9	525.8	538.0	552.3	566.8	581.1	595.6	606.1
55°	444.2	455.0	466.0	477.0	487.9	501.2	517.0	532.8	548.6	564.4	575.3
57.5°	402.6	414.9	427.2	439.6	451.9	466.1	482.2	498.3	514.4	530.5	542.2
60°	373.1	386.1	399.2	412.2	425.3	440.5	457.8	475.1	492.4	509.7	521.3
62.5°	346.9	360.3	373.9	387.4	401.0	416.4	433.7	451.0	468.4	485.7	497.9
65°	303.4	318.3	333.1	348.0	362.9	379.3	397.3	415.1	433.0	450.9	463.4
67.5°	263.5	279.0	294.5	310.1	325.7	342.6	361.0	379.3	397.6	416.0	428.6
70°	235.1	250.8	266.6	282.4	298.2	315.5	334.4	353.2	372.0	390.8	403.9
72.5°	208.8	225.1	241.4	257.6	273.9	291.6	310.7	329.8	348.8	367.9	380.7
75°	168.1	185.1	202.1	219.1	236.1	254.3	273.8	293.2	312.6	332.1	345.1
77.5°	128.8	146.5	164.3	182.1	199.9	218.6	238.4	258.2	277.9	297.7	310.7
80°	102.5	121.0	139.6	158.1	176.6	195.7	215.4	235.2	254.9	274.6	287.4
82.5°	80.6	98.9	117.2	135.5	153.7	172.9	192.9	212.9	232.8	252.8	265.6
85°	49.2	68.0	86.9	105.7	124.5	143.7	163.1	182.5	202.0	221.4	234.2
87.5°	27.0	45.7	64.3	82.9	101.6	120.7	140.6	160.4	180.2	200.1	212.7
90°	14.7	35.0	55.3	75.6	95.9	116.7	138.0	159.4	180.8	202.2	215.5
92.5°	34.6	50.7	66.9	83.1	99.2	117.2	136.8	156.5	176.2	195.8	208.4
95°	81.9	88.1	94.3	100.7	106.9	120.0	139.9	159.9	179.8	199.7	212.4
97.5°	150.3	140.4	130.5	120.7	110.8	116.6	138.1	159.5	180.9	202.3	214.5
100°	202.6	180.7	158.7	136.7	114.8	114.3	135.5	156.6	177.7	198.9	212.0
102.5°	259.1	262.3	265.6	268.9	272.1	264.7	246.7	228.8	210.9	193.0	206.4
105°	338.4	354.5	370.6	386.6	402.8	385.6	335.2	284.8	234.4	184.0	197.3
107.5°	430.4	443.4	456.3	469.2	482.1	456.5	392.2	328.0	263.7	199.5	207.0
110°	488.7	499.9	511.0	522.2	533.3	511.3	456.2	401.0	345.8	290.6	276.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	544.6	554.1	563.7	573.4	583.0	586.2	583.1	579.9	576.8	573.5	494.9
115°	632.7	640.2	647.6	655.1	662.5	676.1	695.8	715.6	735.3	755.0	651.9
117.5°	710.1	716.8	723.6	730.4	737.3	749.0	765.8	782.7	799.4	816.3	798.1
120°	767.7	772.5	777.4	782.2	787.0	797.7	814.2	830.7	847.3	863.8	875.2
122.5°	816.5	820.8	825.2	829.5	833.7	844.0	860.2	876.4	892.5	908.7	918.7
125°	889.6	892.7	895.8	899.0	902.1	910.9	925.2	939.5	953.9	968.2	978.1
127.5°	957.0	960.1	963.3	966.5	969.7	977.0	988.2	999.5	1010.8	1022.1	1032.1
130°	999.7	1003.3	1006.8	1010.5	1014.1	1020.3	1029.4	1038.4	1047.5	1056.5	1066.5
132.5°	1043.4	1046.3	1049.4	1052.3	1055.3	1060.6	1068.2	1075.8	1083.3	1090.9	1100.3
135°	1098.7	1102.6	1106.4	1110.4	1114.2	1118.7	1124.0	1129.2	1134.4	1139.6	1148.4
137.5°	1156.1	1158.8	1161.4	1164.0	1166.7	1169.9	1173.8	1177.5	1181.3	1185.2	1193.1
140°	1193.6	1195.2	1196.9	1198.5	1200.2	1202.6	1205.9	1209.2	1212.5	1215.7	1222.7
142.5°	1225.0	1226.5	1227.9	1229.3	1230.8	1233.1	1236.3	1239.5	1242.6	1245.8	1251.7
145°	1272.9	1272.7	1272.5	1272.2	1272.0	1273.9	1278.1	1282.2	1286.3	1290.4	1294.0
147.5°	1315.9	1315.0	1314.1	1313.1	1312.2	1313.8	1317.9	1322.0	1326.1	1330.1	1331.6
150°	1343.9	1342.2	1340.5	1338.7	1337.0	1338.2	1342.0	1345.9	1349.8	1353.7	1355.1
152.5°	1367.4	1365.6	1363.6	1361.7	1359.9	1360.8	1364.4	1368.2	1371.8	1375.5	1377.0
155°	1401.7	1399.5	1397.3	1395.1	1392.9	1393.3	1396.2	1399.1	1402.0	1405.0	1406.4
157.5°	1428.5	1426.6	1424.8	1423.0	1421.1	1421.2	1423.3	1425.3	1427.4	1429.4	1431.0
160°	1444.2	1442.8	1441.3	1439.8	1438.4	1438.4	1439.8	1441.3	1442.8	1444.2	1445.6
162.5°	1458.2	1456.7	1455.3	1453.8	1452.3	1452.2	1453.5	1454.7	1456.1	1457.3	1458.9
165°	1476.9	1475.5	1474.0	1472.6	1471.1	1470.8	1471.5	1472.2	1472.9	1473.6	1475.3
167.5°	1490.9	1489.4	1488.0	1486.6	1485.1	1484.7	1485.4	1486.0	1486.7	1487.4	1489.1
170°	1498.8	1497.3	1495.8	1494.4	1492.9	1492.5	1492.9	1493.4	1493.9	1494.4	1496.1
172.5°	1504.0	1502.5	1501.1	1499.6	1498.2	1497.7	1498.2	1498.6	1499.1	1499.6	1501.3
175°	1510.7	1509.0	1507.3	1505.7	1504.0	1503.3	1503.9	1504.3	1504.9	1505.3	1507.0
177.5°	1511.8	1510.5	1509.1	1507.8	1506.4	1505.8	1506.0	1506.2	1506.4	1506.6	1508.0
180°	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9
2.5°	939.9	941.1	942.4	942.7	942.2	941.7	941.2	940.8
5°	937.0	938.9	940.7	941.4	941.1	940.8	940.5	940.2
7.5°	932.6	934.8	936.9	937.9	937.5	937.3	936.9	936.7
10°	928.6	931.1	933.5	934.6	934.2	934.0	933.7	933.4
12.5°	922.1	924.5	926.9	928.0	927.7	927.4	927.1	926.8
15°	910.2	912.8	915.6	916.9	916.5	916.2	915.9	915.6
17.5°	894.8	897.7	900.5	902.0	902.0	902.0	902.0	902.0
20°	882.6	886.0	889.3	891.0	891.0	891.0	891.0	891.0
22.5°	869.5	872.9	876.2	878.2	878.6	879.1	879.6	880.1
25°	849.1	852.7	856.4	858.6	859.6	860.5	861.4	862.3
27.5°	826.4	831.1	835.7	838.3	839.0	839.6	840.3	841.0
30°	810.6	815.4	820.3	823.1	824.0	824.9	825.9	826.8
32.5°	793.4	799.0	804.6	808.2	809.9	811.5	813.2	814.8
35°	769.1	775.8	782.5	786.8	789.0	791.1	793.3	795.3
37.5°	744.0	751.4	758.8	763.7	765.9	768.2	770.4	772.7
40°	726.4	734.3	742.2	747.5	750.3	753.0	755.7	758.5
42.5°	709.3	717.9	726.6	732.2	734.9	737.7	740.4	743.2
45°	683.0	692.4	701.8	708.0	711.1	714.1	717.1	720.1
47.5°	655.7	665.5	675.4	682.0	685.3	688.7	692.0	695.4
50°	636.9	647.3	657.6	664.5	667.8	671.1	674.5	677.8
52.5°	616.7	627.2	637.8	644.9	648.5	652.1	655.7	659.2
55°	586.3	597.2	608.1	615.5	619.5	623.5	627.4	631.3
57.5°	554.1	565.9	577.7	585.5	589.5	593.5	597.5	601.5
60°	532.8	544.4	555.9	563.8	568.0	572.3	576.6	580.8
62.5°	510.2	522.5	534.8	542.9	546.9	550.9	554.9	558.9
65°	475.9	488.3	500.8	509.0	512.9	516.8	520.8	524.8
67.5°	441.1	453.7	466.3	474.7	478.8	482.9	487.1	491.2
70°	417.0	430.0	443.1	451.4	455.0	458.7	462.4	466.0
72.5°	393.5	406.4	419.1	427.8	432.1	436.5	440.9	445.2
75°	358.2	371.2	384.3	392.8	396.7	400.7	404.7	408.6
77.5°	323.6	336.6	349.6	358.3	362.5	366.8	371.0	375.2
80°	300.1	313.0	325.7	334.2	338.5	342.7	347.0	351.2
82.5°	278.3	291.1	303.8	312.2	316.2	320.2	324.2	328.2
85°	246.9	259.7	272.4	280.9	285.2	289.4	293.6	297.9
87.5°	225.3	238.0	250.6	258.9	262.9	266.9	270.8	274.8
90°	228.9	242.3	255.7	264.4	268.5	272.7	276.8	280.9
92.5°	221.0	233.4	246.0	254.2	258.2	262.1	266.0	270.0
95°	225.2	238.0	250.7	258.8	262.2	265.6	269.0	272.4
97.5°	226.8	239.0	251.2	259.2	263.1	267.0	270.8	274.7
100°	225.2	238.4	251.6	260.0	263.9	267.7	271.5	275.4
102.5°	220.0	233.4	247.0	255.7	259.8	263.8	267.8	271.8
105°	210.6	223.9	237.3	246.0	250.4	254.7	259.0	263.3
107.5°	214.5	221.9	229.4	235.3	239.6	244.0	248.3	252.5
110°	261.6	247.1	232.6	227.5	231.8	236.0	240.4	244.7





TEST NUMBER: P331605-940

CATALOG NUMBER: S122DIW-S1005D1240U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	416.2	337.4	258.8	221.4	225.6	229.7	233.8	237.9
115°	548.8	445.7	342.5	283.9	269.8	255.7	241.6	227.5
117.5°	779.9	761.8	743.6	707.4	653.2	598.9	544.7	490.4
120°	886.6	898.0	909.5	900.4	871.0	841.7	812.3	782.9
122.5°	928.7	938.7	948.7	952.0	948.5	945.0	941.5	938.0
125°	988.0	997.9	1007.8	1014.4	1017.9	1021.4	1024.8	1028.3
127.5°	1042.1	1052.0	1062.0	1068.4	1071.3	1074.1	1076.9	1079.8
130°	1076.4	1086.4	1096.4	1102.4	1104.6	1106.8	1108.9	1111.2
132.5°	1109.6	1118.9	1128.3	1134.0	1136.2	1138.4	1140.6	1142.7
135°	1157.3	1166.0	1174.8	1180.2	1182.1	1184.1	1186.1	1188.0
137.5°	1201.1	1209.1	1217.0	1221.6	1222.9	1224.1	1225.3	1226.5
140°	1229.8	1236.8	1243.8	1247.7	1248.3	1248.9	1249.6	1250.1
142.5°	1257.6	1263.5	1269.3	1272.4	1272.8	1273.2	1273.5	1273.9
145°	1297.4	1301.0	1304.5	1306.4	1306.7	1307.0	1307.3	1307.6
147.5°	1333.1	1334.6	1336.1	1336.8	1336.4	1336.1	1335.9	1335.6
150°	1356.6	1358.1	1359.5	1359.6	1358.4	1357.2	1355.9	1354.8
152.5°	1378.4	1379.8	1381.3	1381.3	1379.7	1378.0	1376.4	1374.8
155°	1407.8	1409.3	1410.8	1410.5	1408.5	1406.7	1404.7	1402.8
157.5°	1432.7	1434.3	1436.0	1435.8	1434.0	1432.1	1430.2	1428.3
160°	1447.2	1448.6	1450.0	1449.9	1448.2	1446.5	1444.8	1443.1
162.5°	1460.6	1462.2	1463.9	1463.7	1461.6	1459.5	1457.4	1455.4
165°	1477.0	1478.7	1480.4	1480.4	1478.7	1477.0	1475.3	1473.6
167.5°	1490.8	1492.5	1494.2	1494.0	1491.7	1489.6	1487.4	1485.2
170°	1497.8	1499.5	1501.2	1500.9	1498.8	1496.6	1494.4	1492.2
172.5°	1503.0	1504.7	1506.4	1506.2	1504.0	1501.8	1499.6	1497.4
175°	1508.7	1510.4	1512.1	1511.7	1509.3	1506.9	1504.4	1502.0
177.5°	1509.3	1510.6	1512.1	1511.8	1510.1	1508.3	1506.6	1504.9
180°	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4	1507.4

(END OF REPORT)