

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: P332825-935

Luminaire Tested: **S124DIW-S1020D1340U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332825-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S1020D1340U935-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1340 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8246.8 lumens
Efficiency: N/A
Efficacy: 118.1 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: General Diffuse

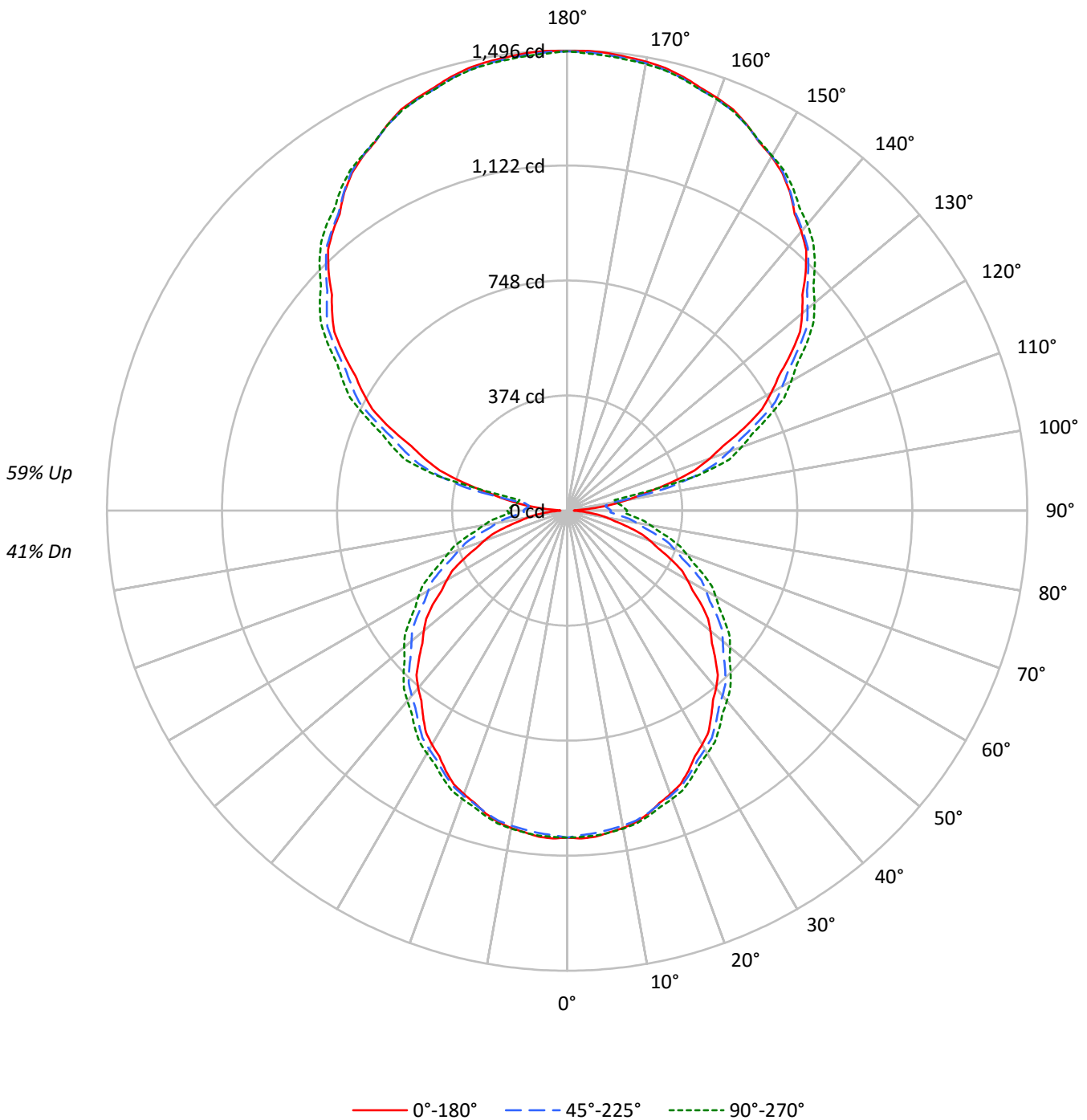
Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332825-935

CATALOG NUMBER: S124DIW-S1020D1340U935-4F0-1E-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	96	96	96	96	78	78	78	62	62	62	48	48	48	41
1	95	90	86	82	86	82	79	75	67	65	62	53	52	50	41	40	38	33
2	86	78	72	67	78	71	66	61	58	54	51	46	44	41	35	33	32	27
3	78	68	61	55	71	62	56	51	51	46	42	41	37	34	31	29	27	22
4	71	60	52	46	65	55	48	43	45	40	36	36	32	29	28	25	23	19
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	25	22	20	16
6	60	48	40	34	54	44	37	31	36	31	27	29	25	22	22	19	17	14
7	55	43	35	29	50	40	32	27	33	27	23	26	22	19	20	17	15	12
8	51	39	31	26	47	36	29	24	30	24	20	24	20	17	19	16	13	11
9	48	36	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10
10	45	32	25	20	41	30	23	19	25	20	16	20	16	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8582	8582	8582
5°	8608	8387	8412
10°	8556	8250	8244
15°	8479	8091	8047
20°	8364	7916	7856
25°	8233	7719	7645
30°	8093	7524	7428
35°	7933	7324	7239
40°	7804	7134	7041
45°	7615	6958	6871
50°	7455	6755	6692
55°	7289	6565	6482
60°	7031	6322	6290
65°	6747	6061	6055
70°	6405	5763	5780
75°	5924	5435	5533
80°	5397	5119	5288
85°	4721	4842	5146



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.7	1.2
10°-20°	288.4	3.5
20°-30°	436.1	5.3
30°-40°	527.7	6.4
40°-50°	557.9	6.8
50°-60°	525.0	6.4
60°-70°	435.6	5.3
70°-80°	306.0	3.7
80°-90°	177.3	2.1
90°-100°	153.8	1.9
100°-110°	401.6	4.9
110°-120°	673.9	8.2
120°-130°	819.5	9.9
130°-140°	858.4	10.4
140°-150°	793.6	9.6
150°-160°	638.0	7.7
160°-170°	411.5	5.0
170°-180°	141.8	1.7
0°-30°	825.2	10.0
0°-40°	1352.9	16.4
0°-60°	2435.8	29.5
0°-90°	3354.6	40.7
90°-120°	1229.3	14.9
90°-150°	3700.9	44.9
90°-180°	4892.0	59.3
0°-180°	8246.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1063	1063	1063	1063	1063	
5°	1064	1060	1052	1061	1061	101
15°	1020	1021	1018	1028	1027	287
25°	933	940	944	956	958	430
35°	817	831	843	859	863	511
45°	681	704	726	746	752	526
55°	533	559	594	617	625	475
65°	369	407	448	476	487	366
75°	205	249	299	331	343	218
85°	63	113	167	201	214	67
90°	22	82	142	182	195	15
95°	77	81	128	165	179	91
105°	347	378	427	463	436	364
115°	635	650	686	713	723	625
125°	887	892	918	943	952	792
135°	1097	1096	1108	1129	1139	845
145°	1263	1265	1265	1274	1281	789
155°	1384	1385	1382	1385	1383	638
165°	1460	1454	1454	1462	1453	412
175°	1493	1487	1488	1496	1484	142
180°	1493	1493	1493	1493	1493	



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CATALOG NUMBER: S124DIW-S1020D1340U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1
2.5°	1066.9	1066.3	1065.6	1065.0	1064.3	1063.2	1061.4	1059.8	1058.1	1056.4	1057.8
5°	1064.2	1063.4	1062.6	1061.9	1061.1	1059.7	1057.9	1056.0	1054.2	1052.3	1054.5
7.5°	1055.2	1054.7	1054.2	1053.8	1053.3	1052.3	1050.8	1049.2	1047.7	1046.1	1048.5
10°	1047.6	1047.3	1047.1	1046.8	1046.5	1045.7	1044.4	1043.1	1041.7	1040.4	1042.8
12.5°	1037.1	1037.1	1037.0	1036.9	1036.9	1036.4	1035.5	1034.6	1033.7	1032.8	1035.0
15°	1020.2	1020.5	1020.7	1021.0	1021.2	1021.0	1020.2	1019.4	1018.6	1017.8	1020.2
17.5°	997.1	997.9	998.7	999.4	1000.3	1000.6	1000.4	1000.3	1000.1	1000.0	1002.4
20°	980.9	981.7	982.5	983.3	984.1	984.6	984.9	985.2	985.4	985.7	988.3
22.5°	962.8	963.8	964.8	965.9	966.8	967.6	968.0	968.5	969.0	969.5	972.2
25°	933.3	934.9	936.4	938.1	939.6	940.8	941.6	942.5	943.2	944.0	946.9
27.5°	900.4	902.8	905.1	907.4	909.7	911.5	912.7	914.0	915.2	916.4	919.1
30°	878.6	880.6	882.8	884.8	887.0	889.0	890.8	892.7	894.5	896.4	899.3
32.5°	854.7	857.3	859.8	862.4	864.9	867.2	869.3	871.3	873.4	875.5	878.7
35°	816.7	819.8	822.9	826.1	829.3	832.2	834.9	837.5	840.2	842.8	846.5
37.5°	778.3	782.0	785.6	789.3	792.9	796.3	799.6	802.9	806.2	809.5	813.2
40°	753.5	757.0	760.4	763.9	767.3	770.9	774.6	778.3	782.0	785.7	789.6
42.5°	725.0	728.8	732.7	736.6	740.4	744.5	748.8	753.2	757.5	761.9	766.3
45°	680.9	686.0	691.0	696.0	701.0	706.0	711.1	716.1	721.1	726.2	730.6
47.5°	638.8	643.9	649.1	654.4	659.5	665.0	670.8	676.7	682.5	688.3	692.9
50°	608.3	614.2	619.9	625.8	631.5	637.4	643.3	649.0	654.9	660.6	666.0
52.5°	577.8	583.7	589.4	595.3	601.2	607.3	614.0	620.7	627.3	634.0	639.3
55°	533.3	538.9	544.4	550.0	555.5	562.2	570.2	578.2	586.1	594.0	599.3
57.5°	483.5	490.4	497.3	504.2	511.1	518.4	526.3	534.3	542.1	550.0	556.3
60°	451.2	458.1	464.9	471.8	478.7	486.5	495.2	503.9	512.6	521.4	527.4
62.5°	419.7	427.2	434.8	442.3	449.8	457.9	466.7	475.4	484.1	492.8	498.9
65°	369.0	377.5	386.0	394.4	402.9	411.6	420.6	429.6	438.6	447.6	454.2
67.5°	320.2	329.2	338.2	347.2	356.2	365.5	375.1	384.8	394.4	404.1	410.8
70°	286.9	295.9	304.9	313.8	322.9	332.4	342.4	352.5	362.6	372.6	379.8
72.5°	254.5	263.7	272.9	282.1	291.4	301.3	311.9	322.6	333.4	344.1	350.9
75°	204.7	214.6	224.3	234.1	243.9	254.3	265.4	276.6	287.7	298.8	306.2
77.5°	158.3	168.7	179.1	189.4	199.8	210.8	222.5	234.1	245.7	257.4	264.8
80°	129.8	140.3	150.9	161.5	172.1	183.2	194.8	206.5	218.1	229.7	237.7
82.5°	101.2	112.2	123.2	134.2	145.2	156.5	168.2	179.8	191.5	203.1	211.2
85°	63.1	74.2	85.3	96.4	107.5	119.1	131.0	142.8	154.7	166.7	174.6
87.5°	35.9	47.3	58.5	69.9	81.3	92.9	104.9	116.9	128.9	140.9	148.9
90°	22.4	35.7	49.0	62.3	75.7	88.9	102.4	115.7	129.1	142.4	151.6
92.5°	32.2	41.8	51.5	61.2	70.9	82.4	95.7	109.1	122.4	135.8	144.7
95°	76.9	77.2	77.5	77.7	78.1	83.8	94.9	106.0	117.0	128.1	136.7
97.5°	144.5	157.2	170.0	182.8	195.6	193.5	176.5	159.5	142.6	125.7	132.8
100°	196.2	207.6	219.0	230.3	241.6	235.3	211.4	187.4	163.5	139.6	142.5
102.5°	255.2	264.5	273.8	283.1	292.5	299.9	305.6	311.2	316.8	322.4	283.9
105°	346.9	353.6	360.4	367.2	374.0	382.9	393.9	404.9	415.9	427.0	435.8
107.5°	433.9	439.0	444.1	449.2	454.3	462.3	473.2	484.2	495.2	506.1	513.7
110°	492.0	496.5	500.8	505.3	509.8	517.4	528.1	538.8	549.6	560.3	567.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	548.2	552.8	557.4	562.1	566.7	573.8	583.2	592.8	602.4	611.9	617.7
115°	634.7	637.9	641.0	644.1	647.3	652.9	661.2	669.3	677.6	685.8	692.2
117.5°	713.9	716.3	718.7	721.1	723.5	728.9	737.4	745.8	754.2	762.7	768.0
120°	766.5	768.3	770.1	771.8	773.6	778.3	785.7	793.1	800.5	807.9	813.7
122.5°	816.5	817.3	818.0	818.7	819.5	823.7	831.3	838.9	846.4	854.1	859.6
125°	887.0	887.8	888.5	889.2	889.9	893.4	899.5	905.6	911.7	917.8	923.6
127.5°	954.7	954.7	954.7	954.6	954.6	957.7	963.9	970.2	976.4	982.6	987.2
130°	997.5	997.5	997.5	997.5	997.5	999.9	1004.9	1009.9	1014.9	1019.9	1024.8
132.5°	1037.7	1037.8	1038.0	1038.3	1038.5	1040.7	1045.0	1049.3	1053.7	1058.0	1062.8
135°	1096.8	1096.6	1096.3	1096.1	1095.8	1097.1	1099.9	1102.8	1105.6	1108.5	1113.2
137.5°	1150.2	1150.0	1149.9	1149.7	1149.5	1150.5	1152.4	1154.4	1156.4	1158.4	1162.8
140°	1185.0	1185.3	1185.5	1185.8	1185.9	1186.5	1187.2	1188.0	1188.8	1189.5	1193.7
142.5°	1215.4	1216.2	1217.0	1217.9	1218.7	1219.2	1219.3	1219.5	1219.6	1219.8	1223.3
145°	1263.2	1263.6	1264.1	1264.6	1265.1	1265.3	1265.3	1265.3	1265.3	1265.3	1267.1
147.5°	1301.3	1302.4	1303.6	1304.7	1305.8	1306.3	1306.1	1305.8	1305.5	1305.3	1305.7
150°	1329.0	1329.7	1330.5	1331.2	1332.0	1332.1	1332.0	1331.7	1331.5	1331.2	1331.2
152.5°	1351.3	1352.0	1352.8	1353.5	1354.3	1354.4	1354.0	1353.5	1353.1	1352.6	1353.1
155°	1383.7	1383.9	1384.1	1384.4	1384.7	1384.4	1383.7	1382.9	1382.2	1381.5	1382.4
157.5°	1411.2	1411.0	1410.8	1410.7	1410.6	1410.1	1409.2	1408.3	1407.6	1406.7	1408.0
160°	1427.2	1426.5	1425.7	1425.0	1424.3	1423.7	1423.5	1423.2	1423.0	1422.8	1424.3
162.5°	1441.5	1440.5	1439.7	1438.7	1437.8	1437.2	1436.9	1436.7	1436.4	1436.1	1437.6
165°	1459.7	1458.4	1457.2	1455.9	1454.7	1454.1	1454.1	1454.1	1454.1	1454.1	1456.0
167.5°	1473.9	1472.7	1471.4	1470.1	1468.8	1468.0	1467.9	1467.7	1467.6	1467.4	1469.6
170°	1482.0	1480.5	1478.9	1477.5	1476.0	1475.4	1475.6	1475.8	1476.1	1476.4	1478.3
172.5°	1487.3	1485.8	1484.4	1482.8	1481.4	1480.7	1481.0	1481.3	1481.4	1481.7	1483.7
175°	1493.1	1491.6	1490.1	1488.7	1487.1	1486.5	1486.8	1487.0	1487.3	1487.5	1489.8
177.5°	1495.8	1494.4	1493.0	1491.6	1490.2	1489.7	1490.1	1490.6	1490.9	1491.3	1492.9
180°	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1
2.5°	1059.4	1060.8	1062.3	1062.9	1062.7	1062.5	1062.3	1062.1
5°	1056.5	1058.7	1060.8	1061.7	1061.4	1061.2	1060.9	1060.7
7.5°	1050.9	1053.3	1055.7	1056.7	1056.4	1056.2	1055.9	1055.7
10°	1045.2	1047.6	1050.0	1051.0	1050.8	1050.5	1050.2	1050.0
12.5°	1037.2	1039.3	1041.5	1042.6	1042.5	1042.4	1042.4	1042.3
15°	1022.6	1024.9	1027.3	1028.4	1028.1	1027.9	1027.6	1027.3
17.5°	1004.8	1007.3	1009.7	1010.8	1010.6	1010.4	1010.1	1010.0
20°	990.9	993.6	996.3	997.6	997.6	997.6	997.6	997.6
22.5°	974.7	977.4	980.1	981.6	982.1	982.4	982.8	983.3
25°	949.9	952.7	955.6	957.3	957.5	957.8	958.0	958.3
27.5°	921.8	924.5	927.2	928.7	929.0	929.4	929.6	930.0
30°	902.2	905.1	908.0	909.7	910.2	910.8	911.4	911.9
32.5°	882.1	885.5	888.8	890.7	891.2	891.7	892.3	892.9
35°	850.2	853.9	857.6	859.9	860.7	861.4	862.3	863.1
37.5°	817.0	820.8	824.5	826.8	827.7	828.5	829.3	830.2
40°	793.6	797.5	801.6	804.1	805.1	806.2	807.3	808.3
42.5°	770.7	775.1	779.5	782.0	782.9	783.8	784.6	785.4
45°	735.1	739.7	744.2	747.1	748.4	749.7	751.1	752.3
47.5°	697.6	702.2	707.0	710.1	711.6	713.3	714.8	716.4
50°	671.2	676.6	681.8	685.3	686.9	688.5	690.0	691.6
52.5°	644.6	649.9	655.2	658.6	660.2	661.8	663.4	665.0
55°	604.6	609.9	615.2	618.6	620.2	621.8	623.4	625.0
57.5°	562.6	568.9	575.1	579.0	580.5	582.0	583.5	585.0
60°	533.6	539.7	545.7	549.8	552.0	554.1	556.2	558.3
62.5°	505.0	511.1	517.2	521.2	523.4	525.5	527.6	529.8
65°	460.8	467.4	474.1	478.5	480.5	482.7	484.7	486.9
67.5°	417.5	424.2	430.9	435.3	437.4	439.5	441.5	443.6
70°	386.8	394.0	401.1	405.7	407.5	409.4	411.2	413.1
72.5°	357.9	364.8	371.8	376.3	378.3	380.4	382.5	384.5
75°	313.6	321.0	328.4	333.3	335.7	338.1	340.4	342.9
77.5°	272.4	279.9	287.4	292.5	295.0	297.6	300.1	302.6
80°	245.6	253.6	261.5	266.5	268.6	270.8	272.9	275.0
82.5°	219.4	227.6	235.7	240.9	243.2	245.6	247.9	250.2
85°	182.5	190.5	198.4	203.7	206.4	209.0	211.6	214.3
87.5°	156.8	164.8	172.7	178.0	180.4	182.8	185.2	187.6
90°	160.7	169.9	179.1	184.9	187.5	190.2	192.8	195.4
92.5°	153.7	162.6	171.6	177.2	179.4	181.6	183.8	186.1
95°	145.4	154.0	162.6	168.3	170.9	173.6	176.2	178.8
97.5°	139.8	146.9	153.9	158.8	161.4	163.8	166.3	168.8
100°	145.4	148.4	151.3	153.8	155.9	158.0	160.1	162.2
102.5°	245.3	206.7	168.2	149.9	152.0	154.1	156.3	158.3
105°	444.7	453.6	462.4	463.4	456.6	449.8	443.0	436.1
107.5°	521.2	528.9	536.5	541.7	544.6	547.4	550.3	553.1
110°	573.5	580.1	586.7	591.4	594.3	597.1	599.9	602.9



TEST NUMBER: P332825-935

CATALOG NUMBER: S124DIW-S1020D1340U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	623.5	629.2	635.0	639.4	642.5	645.5	648.6	651.6
115°	698.4	704.7	711.1	715.1	717.0	718.8	720.7	722.6
117.5°	773.4	778.9	784.3	788.0	790.0	792.0	794.0	796.0
120°	819.5	825.3	831.0	834.7	836.4	838.0	839.6	841.3
122.5°	865.2	870.8	876.4	879.9	881.3	882.8	884.2	885.5
125°	929.4	935.1	940.9	944.7	946.5	948.4	950.2	952.0
127.5°	991.8	996.4	1001.0	1004.2	1005.7	1007.4	1008.9	1010.6
130°	1029.8	1034.8	1039.8	1043.2	1044.7	1046.3	1047.9	1049.5
132.5°	1067.6	1072.4	1077.2	1080.3	1081.7	1083.1	1084.4	1085.8
135°	1117.9	1122.7	1127.4	1130.8	1132.9	1135.0	1137.0	1139.2
137.5°	1167.3	1171.6	1176.0	1178.8	1180.0	1181.2	1182.3	1183.5
140°	1197.9	1202.0	1206.3	1209.1	1210.7	1212.3	1213.8	1215.4
142.5°	1226.9	1230.5	1234.0	1236.4	1237.5	1238.7	1239.8	1241.0
145°	1268.9	1270.8	1272.6	1274.4	1275.9	1277.5	1279.0	1280.6
147.5°	1306.1	1306.5	1306.9	1307.7	1308.8	1309.8	1311.0	1312.1
150°	1331.2	1331.2	1331.2	1331.3	1331.5	1331.8	1332.1	1332.3
152.5°	1353.4	1353.8	1354.2	1354.4	1354.2	1354.0	1353.9	1353.8
155°	1383.5	1384.4	1385.4	1385.5	1384.8	1384.1	1383.3	1382.6
157.5°	1409.3	1410.6	1411.9	1411.9	1410.6	1409.3	1408.0	1406.7
160°	1425.7	1427.2	1428.7	1428.7	1427.2	1425.7	1424.3	1422.8
162.5°	1439.2	1440.6	1442.1	1442.0	1440.4	1438.6	1436.9	1435.3
165°	1458.0	1460.0	1462.0	1461.8	1459.7	1457.4	1455.2	1452.9
167.5°	1471.8	1473.9	1476.2	1476.0	1473.5	1471.0	1468.6	1466.1
170°	1480.3	1482.3	1484.3	1484.0	1481.6	1479.1	1476.6	1474.1
172.5°	1485.7	1487.7	1489.7	1489.4	1486.6	1483.9	1481.3	1478.6
175°	1492.0	1494.3	1496.5	1496.1	1493.1	1490.1	1487.1	1484.2
177.5°	1494.5	1496.1	1497.7	1497.3	1494.9	1492.5	1490.1	1487.7
180°	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1

(END OF REPORT)