

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: P332825-940

Luminaire Tested: **S124DIW-S1020D1340U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332825-940
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-S1020D1340U940-4F0-1E-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: 8540.9 lumens
Efficiency: N/A
Efficacy: 122.4 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

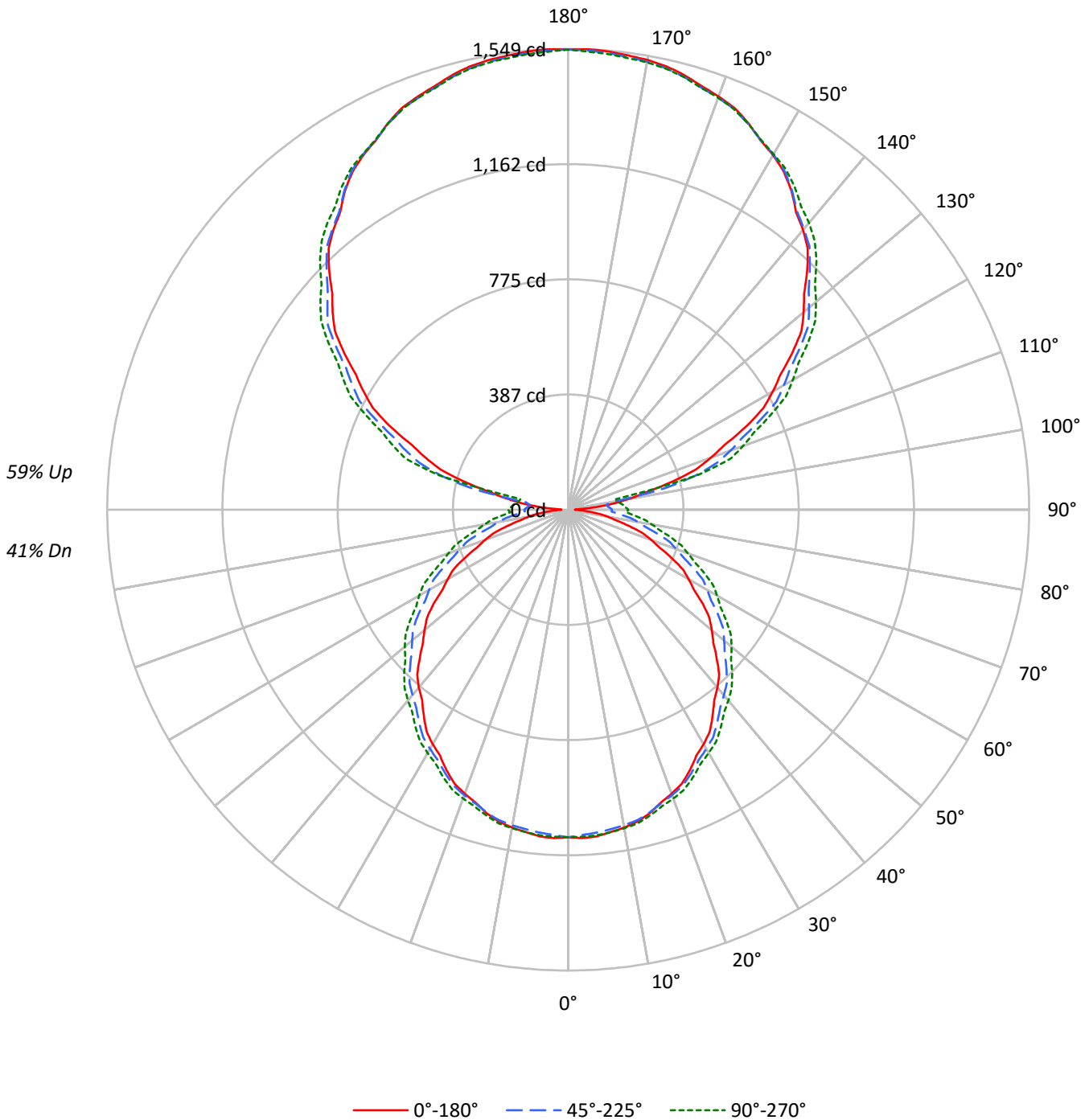
Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332825-940

CATALOG NUMBER: S124DIW-S1020D1340U940-4F0-1E-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°	8888	8888	8888
5°	8916	8686	8711
10°	8861	8544	8538
15°	8782	8380	8334
20°	8662	8198	8135
25°	8527	7995	7918
30°	8381	7793	7693
35°	8216	7585	7497
40°	8083	7388	7292
45°	7887	7207	7117
50°	7721	6996	6931
55°	7549	6799	6714
60°	7282	6547	6515
65°	6989	6278	6271
70°	6633	5968	5986
75°	6136	5628	5730
80°	5588	5302	5476
85°	4893	5013	5328



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.3	1.2
10°-20°	298.7	3.5
20°-30°	451.7	5.3
30°-40°	546.5	6.4
40°-50°	577.7	6.8
50°-60°	543.7	6.4
60°-70°	451.1	5.3
70°-80°	316.9	3.7
80°-90°	183.6	2.1
90°-100°	159.3	1.9
100°-110°	416.0	4.9
110°-120°	697.9	8.2
120°-130°	848.7	9.9
130°-140°	889.1	10.4
140°-150°	821.9	9.6
150°-160°	660.8	7.7
160°-170°	426.2	5.0
170°-180°	146.9	1.7
0°-30°	854.6	10.0
0°-40°	1401.1	16.4
0°-60°	2522.6	29.5
0°-90°	3474.2	40.7
90°-120°	1273.2	14.9
90°-150°	3832.9	44.9
90°-180°	5067.0	59.3
0°-180°	8540.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1101	1101	1101	1101	1101	
5°	1102	1098	1090	1099	1098	105
15°	1057	1058	1054	1065	1064	298
25°	967	974	978	991	992	445
35°	846	860	873	889	894	529
45°	705	729	752	772	779	545
55°	552	579	615	639	647	492
65°	382	422	464	493	504	379
75°	212	258	309	343	355	226
85°	65	117	173	208	222	70
90°	23	85	148	188	202	16
95°	80	84	133	171	185	94
105°	359	392	442	479	452	377
115°	657	673	710	739	748	647
125°	919	923	951	976	986	820
135°	1136	1136	1148	1169	1180	875
145°	1308	1310	1310	1319	1326	817
155°	1433	1434	1431	1435	1432	661
165°	1512	1506	1506	1514	1505	427
175°	1546	1540	1541	1550	1537	147
180°	1546	1546	1546	1546	1546	



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CATALOG NUMBER: S124DIW-S1020D1340U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0
2.5°	1104.9	1104.3	1103.6	1103.0	1102.2	1101.1	1099.3	1097.6	1095.8	1094.0	1095.6
5°	1102.2	1101.4	1100.5	1099.7	1098.9	1097.5	1095.6	1093.7	1091.8	1089.8	1092.1
7.5°	1092.8	1092.3	1091.8	1091.4	1090.8	1089.8	1088.2	1086.6	1085.0	1083.4	1085.9
10°	1084.9	1084.7	1084.4	1084.1	1083.9	1083.0	1081.6	1080.3	1078.9	1077.5	1080.0
12.5°	1074.1	1074.1	1074.0	1073.9	1073.9	1073.4	1072.5	1071.5	1070.6	1069.6	1071.9
15°	1056.6	1056.9	1057.1	1057.4	1057.7	1057.4	1056.6	1055.8	1054.9	1054.1	1056.6
17.5°	1032.7	1033.5	1034.3	1035.1	1036.0	1036.3	1036.1	1036.0	1035.8	1035.6	1038.1
20°	1015.9	1016.7	1017.5	1018.3	1019.2	1019.8	1020.0	1020.3	1020.6	1020.8	1023.6
22.5°	997.1	998.2	999.3	1000.3	1001.3	1002.1	1002.6	1003.1	1003.5	1004.1	1006.8
25°	966.6	968.2	969.8	971.5	973.1	974.4	975.2	976.1	976.9	977.7	980.7
27.5°	932.6	935.0	937.4	939.8	942.2	944.1	945.3	946.6	947.8	949.0	951.9
30°	909.9	912.0	914.3	916.4	918.6	920.7	922.6	924.5	926.4	928.4	931.4
32.5°	885.2	887.9	890.5	893.1	895.7	898.1	900.3	902.4	904.6	906.7	910.1
35°	845.8	849.1	852.3	855.6	858.9	861.9	864.7	867.4	870.1	872.9	876.7
37.5°	806.0	809.9	813.6	817.4	821.2	824.7	828.1	831.5	835.0	838.4	842.2
40°	780.4	784.0	787.6	791.1	794.7	798.3	802.2	806.0	809.9	813.7	817.8
42.5°	750.8	754.8	758.8	762.9	766.8	771.1	775.5	780.1	784.5	789.1	793.6
45°	705.2	710.4	715.6	720.9	726.0	731.2	736.5	741.6	746.8	752.1	756.7
47.5°	661.6	666.9	672.3	677.7	683.1	688.8	694.7	700.8	706.9	712.8	717.6
50°	630.0	636.1	642.0	648.1	654.1	660.1	666.2	672.2	678.2	684.2	689.7
52.5°	598.4	604.5	610.5	616.5	622.6	629.0	635.9	642.8	649.7	656.7	662.1
55°	552.3	558.1	563.8	569.6	575.3	582.3	590.6	598.8	607.0	615.2	620.7
57.5°	500.8	507.9	515.1	522.2	529.3	536.9	545.1	553.3	561.4	569.6	576.1
60°	467.3	474.4	481.5	488.7	495.8	503.8	512.9	521.9	530.9	540.0	546.3
62.5°	434.7	442.5	450.3	458.1	465.8	474.2	483.3	492.3	501.4	510.4	516.7
65°	382.2	390.9	399.8	408.5	417.2	426.3	435.6	445.0	454.2	463.6	470.4
67.5°	331.6	341.0	350.3	359.6	368.9	378.5	388.5	398.5	408.5	418.5	425.4
70°	297.1	306.5	315.8	325.0	334.4	344.3	354.6	365.1	375.5	385.9	393.3
72.5°	263.6	273.1	282.7	292.2	301.8	312.0	323.1	334.1	345.3	356.3	363.5
75°	212.0	222.2	232.3	242.5	252.6	263.4	274.9	286.4	297.9	309.4	317.1
77.5°	164.0	174.7	185.5	196.2	207.0	218.3	230.4	242.5	254.5	266.5	274.3
80°	134.4	145.3	156.3	167.3	178.3	189.8	201.8	213.8	225.9	237.9	246.2
82.5°	104.8	116.2	127.6	139.0	150.3	162.1	174.2	186.2	198.3	210.4	218.7
85°	65.4	76.9	88.4	99.9	111.4	123.3	135.6	147.9	160.2	172.6	180.8
87.5°	37.2	49.0	60.6	72.4	84.2	96.2	108.6	121.1	133.5	145.9	154.2
90°	23.2	37.0	50.7	64.6	78.4	92.1	106.0	119.8	133.7	147.5	157.0
92.5°	33.3	43.3	53.3	63.4	73.4	85.3	99.2	113.0	126.8	140.6	149.9
95°	79.6	80.0	80.3	80.5	80.9	86.8	98.3	109.8	121.2	132.7	141.6
97.5°	149.6	162.8	176.1	189.3	202.6	200.4	182.8	165.2	147.7	130.2	137.5
100°	203.2	215.0	226.8	238.5	250.2	243.7	218.9	194.1	169.3	144.5	147.6
102.5°	264.3	273.9	283.6	293.2	302.9	310.6	316.5	322.3	328.1	333.9	294.0
105°	359.3	366.2	373.3	380.3	387.4	396.5	408.0	419.4	430.8	442.2	451.4
107.5°	449.4	454.7	459.9	465.2	470.5	478.8	490.1	501.5	512.8	524.1	532.0
110°	509.5	514.2	518.7	523.3	528.0	535.8	547.0	558.0	569.2	580.3	587.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	567.8	572.6	577.3	582.1	586.9	594.2	604.0	613.9	623.8	633.7	639.7
115°	657.4	660.7	663.9	667.1	670.4	676.2	684.7	693.2	701.8	710.2	716.8
117.5°	739.3	741.8	744.3	746.8	749.3	754.9	763.7	772.4	781.1	789.9	795.4
120°	793.8	795.7	797.5	799.3	801.2	806.0	813.7	821.4	829.0	836.7	842.8
122.5°	845.6	846.4	847.2	847.9	848.7	853.1	860.9	868.8	876.6	884.6	890.3
125°	918.6	919.4	920.2	920.9	921.7	925.2	931.6	937.9	944.2	950.6	956.5
127.5°	988.7	988.7	988.7	988.6	988.6	991.8	998.3	1004.8	1011.2	1017.6	1022.4
130°	1033.0	1033.0	1033.0	1033.0	1033.0	1035.5	1040.7	1045.9	1051.1	1056.2	1061.4
132.5°	1074.7	1074.9	1075.0	1075.3	1075.5	1077.8	1082.3	1086.7	1091.3	1095.7	1100.7
135°	1136.0	1135.7	1135.4	1135.1	1134.9	1136.2	1139.2	1142.1	1145.0	1148.1	1152.9
137.5°	1191.2	1191.1	1190.9	1190.7	1190.5	1191.5	1193.6	1195.6	1197.7	1199.7	1204.3
140°	1227.3	1227.5	1227.8	1228.1	1228.2	1228.8	1229.6	1230.4	1231.2	1231.9	1236.3
142.5°	1258.7	1259.5	1260.4	1261.3	1262.2	1262.7	1262.8	1263.0	1263.1	1263.3	1266.9
145°	1308.2	1308.7	1309.2	1309.7	1310.2	1310.5	1310.5	1310.5	1310.5	1310.5	1312.3
147.5°	1347.7	1348.9	1350.1	1351.2	1352.4	1352.9	1352.6	1352.4	1352.1	1351.8	1352.3
150°	1376.4	1377.2	1378.0	1378.7	1379.5	1379.7	1379.5	1379.2	1378.9	1378.7	1378.7
152.5°	1399.5	1400.3	1401.1	1401.8	1402.6	1402.8	1402.3	1401.8	1401.3	1400.9	1401.3
155°	1433.1	1433.2	1433.5	1433.8	1434.0	1433.8	1433.1	1432.3	1431.5	1430.7	1431.7
157.5°	1461.5	1461.3	1461.2	1461.0	1460.9	1460.4	1459.5	1458.6	1457.8	1456.9	1458.2
160°	1478.1	1477.4	1476.6	1475.8	1475.1	1474.5	1474.3	1474.0	1473.7	1473.6	1475.1
162.5°	1492.9	1491.9	1491.0	1490.0	1489.1	1488.4	1488.2	1487.9	1487.6	1487.4	1488.9
165°	1511.7	1510.4	1509.1	1507.8	1506.5	1505.9	1505.9	1505.9	1505.9	1505.9	1508.0
167.5°	1526.5	1525.2	1523.8	1522.5	1521.2	1520.4	1520.3	1520.1	1519.9	1519.7	1522.1
170°	1534.8	1533.3	1531.7	1530.2	1528.7	1528.0	1528.2	1528.5	1528.7	1529.0	1531.1
172.5°	1540.3	1538.8	1537.3	1535.7	1534.2	1533.6	1533.8	1534.1	1534.3	1534.5	1536.6
175°	1546.4	1544.8	1543.3	1541.8	1540.2	1539.5	1539.8	1540.1	1540.3	1540.6	1542.9
177.5°	1549.2	1547.7	1546.2	1544.8	1543.4	1542.8	1543.3	1543.7	1544.1	1544.5	1546.1
180°	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0
2.5°	1097.2	1098.7	1100.2	1100.8	1100.6	1100.4	1100.2	1100.0
5°	1094.2	1096.4	1098.7	1099.6	1099.3	1099.0	1098.8	1098.5
7.5°	1088.4	1090.8	1093.3	1094.4	1094.1	1093.9	1093.6	1093.3
10°	1082.4	1084.9	1087.4	1088.5	1088.2	1088.0	1087.7	1087.4
12.5°	1074.2	1076.4	1078.6	1079.8	1079.7	1079.6	1079.6	1079.5
15°	1059.1	1061.5	1064.0	1065.1	1064.8	1064.5	1064.3	1064.0
17.5°	1040.6	1043.2	1045.7	1046.9	1046.6	1046.4	1046.2	1046.0
20°	1026.3	1029.0	1031.8	1033.1	1033.1	1033.1	1033.1	1033.1
22.5°	1009.5	1012.3	1015.0	1016.6	1017.1	1017.4	1017.9	1018.3
25°	983.7	986.7	989.7	991.4	991.7	991.9	992.2	992.5
27.5°	954.7	957.4	960.3	961.8	962.2	962.5	962.8	963.1
30°	934.4	937.4	940.4	942.2	942.7	943.3	943.9	944.4
32.5°	913.6	917.0	920.5	922.5	923.0	923.5	924.1	924.7
35°	880.6	884.4	888.2	890.6	891.4	892.2	893.0	893.9
37.5°	846.1	850.1	853.9	856.3	857.2	858.1	858.9	859.8
40°	821.9	826.0	830.2	832.8	833.8	834.9	836.1	837.1
42.5°	798.2	802.7	807.3	809.9	810.8	811.7	812.6	813.4
45°	761.3	766.1	770.7	773.7	775.1	776.4	777.8	779.2
47.5°	722.5	727.3	732.2	735.4	737.0	738.7	740.3	742.0
50°	695.2	700.7	706.1	709.7	711.4	713.0	714.6	716.3
52.5°	667.6	673.1	678.6	682.1	683.8	685.4	687.1	688.7
55°	626.2	631.7	637.1	640.7	642.3	644.0	645.6	647.3
57.5°	582.6	589.2	595.7	599.7	601.2	602.8	604.3	605.8
60°	552.6	558.9	565.2	569.4	571.7	573.8	576.0	578.2
62.5°	523.0	529.3	535.7	539.8	542.1	544.2	546.4	548.7
65°	477.2	484.1	491.0	495.5	497.7	499.9	502.0	504.3
67.5°	432.4	439.3	446.3	450.8	453.0	455.1	457.3	459.4
70°	400.6	408.0	415.4	420.2	422.0	424.0	425.9	427.8
72.5°	370.7	377.8	385.0	389.7	391.8	394.0	396.1	398.2
75°	324.8	332.4	340.1	345.2	347.7	350.2	352.6	355.1
77.5°	282.1	289.9	297.7	302.9	305.5	308.2	310.8	313.4
80°	254.4	262.6	270.8	276.0	278.2	280.4	282.6	284.8
82.5°	227.2	235.7	244.1	249.5	251.9	254.3	256.7	259.1
85°	189.0	197.2	205.5	211.0	213.7	216.4	219.2	221.9
87.5°	162.4	170.7	178.9	184.3	186.8	189.3	191.8	194.3
90°	166.5	175.9	185.5	191.5	194.2	197.0	199.7	202.3
92.5°	159.2	168.4	177.7	183.5	185.8	188.1	190.4	192.7
95°	150.6	159.5	168.4	174.3	177.0	179.8	182.4	185.2
97.5°	144.8	152.1	159.4	164.4	167.1	169.7	172.3	174.9
100°	150.6	153.6	156.7	159.3	161.5	163.6	165.9	168.0
102.5°	254.0	214.1	174.2	155.2	157.4	159.6	161.8	164.0
105°	460.6	469.8	478.8	479.9	472.9	465.8	458.8	451.7
107.5°	539.8	547.8	555.6	561.1	564.0	566.9	569.9	572.8
110°	594.0	600.7	607.6	612.5	615.5	618.4	621.3	624.4



TEST NUMBER: P332825-940

CATALOG NUMBER: S124DIW-S1020D1340U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	645.7	651.7	657.6	662.2	665.4	668.5	671.7	674.8
115°	723.4	729.9	736.5	740.7	742.6	744.5	746.5	748.3
117.5°	801.0	806.6	812.3	816.1	818.1	820.3	822.3	824.4
120°	848.7	854.7	860.7	864.5	866.2	867.9	869.6	871.3
122.5°	896.1	901.9	907.7	911.3	912.8	914.3	915.7	917.1
125°	962.5	968.5	974.5	978.4	980.3	982.2	984.1	986.0
127.5°	1027.2	1032.0	1036.7	1040.0	1041.6	1043.3	1044.9	1046.6
130°	1066.6	1071.7	1076.9	1080.4	1082.0	1083.6	1085.3	1086.9
132.5°	1105.6	1110.6	1115.6	1118.8	1120.3	1121.7	1123.1	1124.5
135°	1157.8	1162.7	1167.6	1171.2	1173.3	1175.5	1177.6	1179.8
137.5°	1208.9	1213.4	1218.0	1220.8	1222.1	1223.3	1224.5	1225.7
140°	1240.6	1244.9	1249.3	1252.2	1253.8	1255.5	1257.1	1258.7
142.5°	1270.7	1274.3	1278.0	1280.5	1281.7	1282.9	1284.1	1285.3
145°	1314.2	1316.2	1318.0	1319.8	1321.4	1323.0	1324.6	1326.2
147.5°	1352.7	1353.1	1353.5	1354.3	1355.5	1356.6	1357.7	1358.9
150°	1378.7	1378.7	1378.7	1378.8	1379.0	1379.3	1379.6	1379.8
152.5°	1401.7	1402.1	1402.5	1402.7	1402.5	1402.3	1402.2	1402.0
155°	1432.8	1433.8	1434.9	1434.9	1434.2	1433.4	1432.6	1431.9
157.5°	1459.6	1460.9	1462.2	1462.2	1460.9	1459.6	1458.2	1456.9
160°	1476.6	1478.1	1479.7	1479.7	1478.1	1476.6	1475.1	1473.6
162.5°	1490.5	1492.0	1493.5	1493.4	1491.7	1490.0	1488.2	1486.5
165°	1510.0	1512.1	1514.1	1513.9	1511.7	1509.4	1507.1	1504.8
167.5°	1524.3	1526.5	1528.8	1528.7	1526.1	1523.5	1521.0	1518.4
170°	1533.1	1535.2	1537.2	1537.0	1534.5	1531.9	1529.3	1526.7
172.5°	1538.6	1540.8	1542.8	1542.5	1539.6	1536.9	1534.1	1531.3
175°	1545.2	1547.6	1549.9	1549.4	1546.4	1543.3	1540.2	1537.1
177.5°	1547.8	1549.4	1551.1	1550.7	1548.2	1545.8	1543.3	1540.8
180°	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4

(END OF REPORT)