

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: P332664-940

Luminaire Tested: **S124DIP-S1020D1205U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332664-940
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: S124DIP-S1020D1205U940-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1205 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8042.2 lumens
Efficiency: N/A
Efficacy: 123.0 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

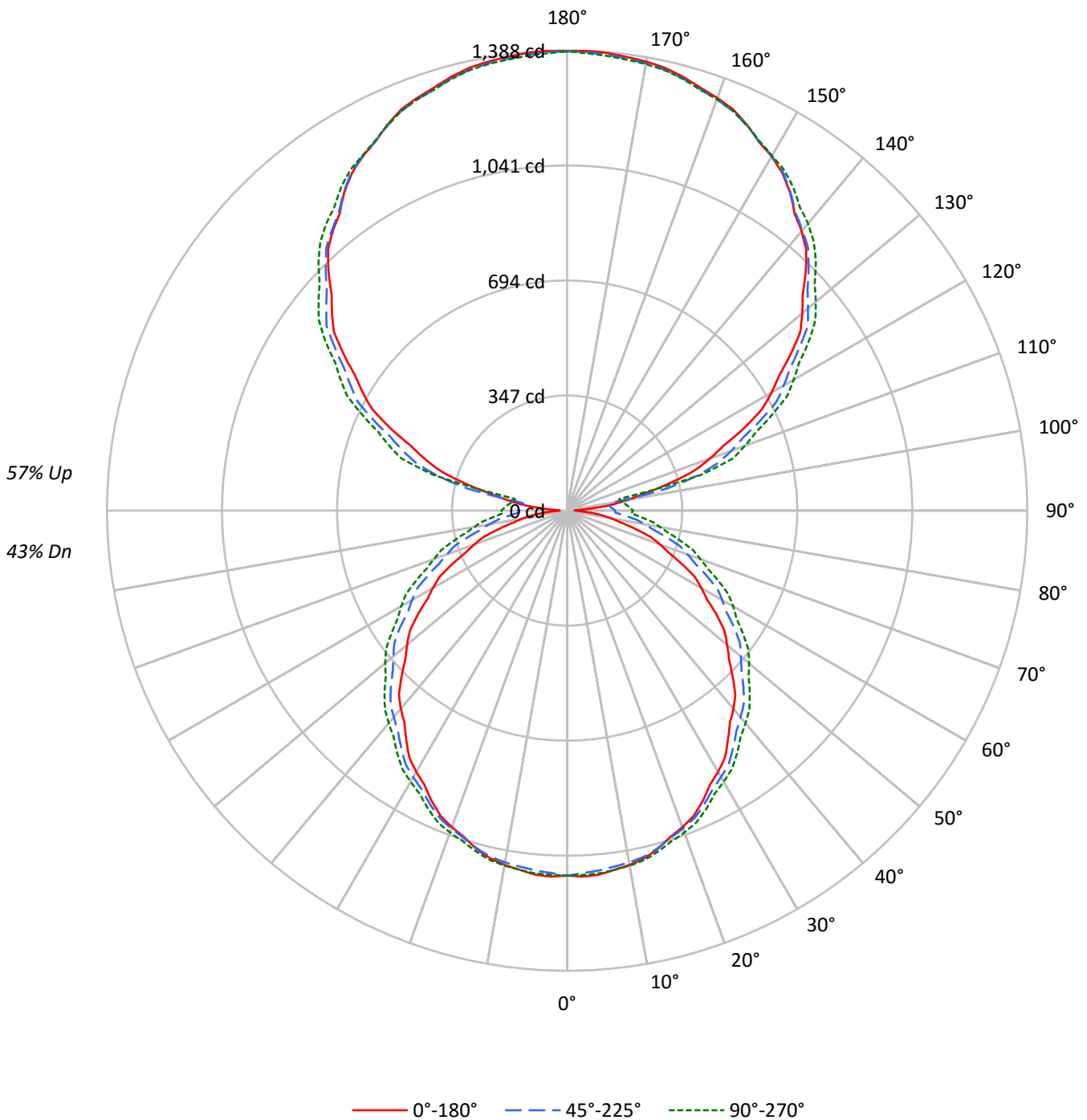
Input Watts (W): 65.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332664-940

CATALOG NUMBER: S124DIP-S1020D1205U940-4F0-1E-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	50	30	10	0	
RCR																						
0	106	106	106	106	96	96	96	96	80	80	80	64	64	64	50	50	50	43				43
1	95	91	87	83	87	83	79	76	68	66	63	55	53	52	43	41	40				35	
2	86	79	72	67	79	72	66	62	59	55	52	48	45	42	37	35	33				28	
3	79	69	61	55	71	63	56	51	52	47	43	42	38	35	32	30	28				23	
4	72	61	53	46	65	56	48	43	46	41	36	37	33	30	29	26	24				20	
5	66	54	46	39	60	49	42	37	41	35	31	33	29	26	26	23	21				17	
6	60	48	40	34	55	44	37	32	37	31	27	30	26	22	23	20	18				15	
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	21	18	16				13	
8	52	39	31	26	47	36	29	24	30	25	21	25	21	17	19	16	14				12	
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13				10	
10	45	33	25	21	41	30	24	19	25	20	17	21	17	14	17	14	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	1.3
10°-20°	298.7	3.7
20°-30°	451.7	5.6
30°-40°	546.5	6.8
40°-50°	577.7	7.2
50°-60°	543.7	6.8
60°-70°	451.1	5.6
70°-80°	316.9	3.9
80°-90°	183.1	2.3
90°-100°	153.7	1.9
100°-110°	380.8	4.7
110°-120°	630.7	7.8
120°-130°	763.4	9.5
130°-140°	797.8	9.9
140°-150°	736.6	9.2
150°-160°	591.9	7.4
160°-170°	381.8	4.7
170°-180°	131.6	1.6
0°-30°	854.6	10.6
0°-40°	1401.1	17.4
0°-60°	2522.6	31.4
0°-90°	3473.8	43.2
90°-120°	1165.3	14.5
90°-150°	3463.1	43.1
90°-180°	4568.0	56.8
0°-180°	8042.2	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	84	145	185	199	16
95°	73	81	130	168	182	86
105°	323	355	405	441	417	339
115°	590	605	642	670	680	581
125°	824	828	855	881	890	735
135°	1018	1018	1030	1051	1061	784
145°	1172	1174	1174	1182	1189	732
155°	1284	1285	1282	1285	1283	592
165°	1354	1349	1349	1356	1348	383
175°	1385	1379	1380	1388	1377	132
180°	1385	1385	1385	1385	1385	



TEST NUMBER: P332664-940

CATALOG NUMBER: S124DIP-S1020D1205U940-4F0-1E-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°	37.1	48.8	60.5	72.1	83.8	95.9	108.3	120.6	133.0	145.3	153.6
90°	22.8	36.3	49.8	63.3	76.8	90.3	104.0	117.6	131.3	144.8	154.2
92.5°	31.8	41.8	51.8	61.8	71.8	83.6	97.2	110.8	124.5	138.1	147.2
95°	73.0	74.2	75.4	76.7	77.8	84.2	95.7	107.1	118.6	130.0	138.8
97.5°	135.5	148.2	160.9	173.5	186.2	185.3	170.7	156.1	141.5	127.0	134.3
100°	183.5	194.7	206.0	217.3	228.5	223.6	202.6	181.5	160.4	139.3	142.8
102.5°	238.2	247.4	256.7	266.1	275.4	283.1	289.4	295.8	302.1	308.4	273.4
105°	323.0	329.8	336.7	343.6	350.4	359.4	370.8	382.1	393.3	404.7	413.6
107.5°	403.8	408.9	414.1	419.3	424.5	432.7	443.8	455.0	466.1	477.2	485.0
110°	457.4	462.0	466.5	471.1	475.5	483.3	494.3	505.2	516.2	527.2	534.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	509.5	514.2	518.8	523.4	528.1	535.3	545.1	554.9	564.7	574.5	580.5
115°	589.7	592.9	596.0	599.1	602.4	608.1	616.7	625.3	633.8	642.3	648.8
117.5°	663.0	665.4	667.8	670.2	672.6	678.1	686.8	695.5	704.2	712.8	718.5
120°	711.8	713.5	715.2	717.0	718.7	723.4	731.2	738.9	746.6	754.3	760.3
122.5°	758.2	758.9	759.6	760.4	761.1	765.4	773.1	781.0	788.8	796.7	802.4
125°	823.5	824.1	824.7	825.5	826.1	829.6	836.0	842.4	848.7	855.2	861.0
127.5°	886.2	886.2	886.1	886.1	886.0	889.2	895.5	901.8	908.1	914.4	919.3
130°	925.9	925.8	925.8	925.7	925.7	928.2	933.3	938.3	943.4	948.5	953.7
132.5°	963.1	963.3	963.4	963.6	963.7	966.0	970.4	974.7	979.1	983.5	988.5
135°	1017.9	1017.6	1017.4	1017.2	1016.9	1018.2	1021.1	1024.0	1026.8	1029.6	1034.5
137.5°	1067.4	1067.2	1067.0	1066.8	1066.7	1067.6	1069.5	1071.5	1073.4	1075.3	1079.9
140°	1099.7	1099.9	1100.1	1100.3	1100.5	1100.9	1101.7	1102.4	1103.1	1103.8	1108.1
142.5°	1127.7	1128.5	1129.3	1130.1	1130.9	1131.3	1131.4	1131.5	1131.6	1131.8	1135.3
145°	1172.1	1172.5	1172.9	1173.3	1173.8	1173.9	1173.9	1173.9	1173.9	1173.9	1175.8
147.5°	1207.5	1208.5	1209.5	1210.5	1211.6	1211.9	1211.7	1211.5	1211.2	1211.0	1211.4
150°	1233.1	1233.9	1234.5	1235.1	1235.7	1236.0	1235.7	1235.6	1235.3	1235.0	1235.0
152.5°	1253.7	1254.5	1255.1	1255.8	1256.5	1256.6	1256.2	1255.8	1255.4	1255.0	1255.4
155°	1283.8	1284.0	1284.2	1284.4	1284.7	1284.4	1283.8	1283.1	1282.4	1281.7	1282.6
157.5°	1309.2	1309.1	1308.9	1308.9	1308.7	1308.2	1307.4	1306.7	1305.9	1305.1	1306.3
160°	1324.2	1323.5	1322.8	1322.1	1321.4	1321.0	1320.7	1320.4	1320.3	1320.0	1321.4
162.5°	1337.4	1336.6	1335.7	1334.8	1333.9	1333.4	1333.1	1332.9	1332.7	1332.5	1333.8
165°	1354.2	1353.1	1351.9	1350.8	1349.6	1349.1	1349.1	1349.1	1349.1	1349.1	1350.9
167.5°	1367.4	1366.3	1365.1	1363.9	1362.7	1362.0	1361.9	1361.7	1361.6	1361.5	1363.5
170°	1374.9	1373.6	1372.2	1370.8	1369.4	1368.9	1369.0	1369.3	1369.5	1369.8	1371.6
172.5°	1379.9	1378.5	1377.2	1375.7	1374.4	1373.8	1374.0	1374.3	1374.5	1374.8	1376.5
175°	1385.3	1383.9	1382.5	1381.2	1379.7	1379.2	1379.4	1379.7	1379.9	1380.1	1382.2
177.5°	1387.8	1386.5	1385.2	1383.9	1382.6	1382.2	1382.5	1382.9	1383.3	1383.7	1385.1
180°	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3



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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°	161.8	170.0	178.3	183.6	186.1	188.6	191.1	193.6
90°	163.5	172.8	182.2	188.2	190.8	193.4	196.1	198.8
92.5°	156.3	165.4	174.5	180.2	182.5	184.8	187.1	189.4
95°	147.6	156.4	165.1	170.9	173.6	176.3	179.0	181.7
97.5°	141.6	148.9	156.2	161.2	163.8	166.4	169.0	171.6
100°	146.2	149.7	153.2	156.0	158.2	160.3	162.5	164.6
102.5°	238.4	203.3	168.3	151.8	154.0	156.1	158.4	160.5
105°	422.5	431.4	440.3	441.8	435.6	429.5	423.5	417.3
107.5°	492.8	500.5	508.3	513.6	516.4	519.2	522.1	525.0
110°	540.7	547.5	554.3	559.1	562.0	564.8	567.8	570.6



TEST NUMBER: P332664-940

CATALOG NUMBER: S124DIP-S1020D1205U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	586.5	592.5	598.4	603.0	606.0	609.1	612.2	615.3
115°	655.3	661.8	668.2	672.4	674.4	676.3	678.2	680.1
117.5°	724.1	729.7	735.3	739.1	741.2	743.3	745.4	747.5
120°	766.2	772.1	778.1	781.9	783.6	785.4	787.1	788.8
122.5°	808.2	814.0	819.7	823.3	824.8	826.3	827.9	829.4
125°	866.9	872.8	878.7	882.6	884.5	886.4	888.2	890.1
127.5°	924.1	928.8	933.6	936.8	938.5	940.2	941.9	943.6
130°	958.9	963.9	969.1	972.5	974.2	975.8	977.5	979.1
132.5°	993.4	998.4	1003.3	1006.5	1007.9	1009.4	1010.8	1012.3
135°	1039.3	1044.1	1049.0	1052.5	1054.5	1056.7	1058.7	1060.9
137.5°	1084.3	1088.9	1093.3	1096.2	1097.4	1098.7	1099.9	1101.2
140°	1112.4	1116.6	1120.9	1123.8	1125.4	1127.0	1128.6	1130.2
142.5°	1139.0	1142.6	1146.3	1148.7	1149.9	1151.0	1152.3	1153.4
145°	1177.7	1179.6	1181.4	1183.1	1184.7	1186.2	1187.8	1189.4
147.5°	1211.8	1212.2	1212.6	1213.4	1214.5	1215.6	1216.7	1217.8
150°	1235.0	1235.0	1235.0	1235.2	1235.4	1235.6	1235.9	1236.1
152.5°	1255.7	1256.1	1256.4	1256.5	1256.4	1256.2	1256.2	1256.0
155°	1283.5	1284.4	1285.4	1285.5	1284.8	1284.1	1283.4	1282.7
157.5°	1307.5	1308.7	1309.9	1309.9	1308.7	1307.5	1306.3	1305.1
160°	1322.8	1324.2	1325.5	1325.5	1324.2	1322.8	1321.4	1320.0
162.5°	1335.2	1336.6	1338.0	1337.9	1336.3	1334.8	1333.2	1331.6
165°	1352.7	1354.6	1356.4	1356.3	1354.2	1352.1	1350.1	1348.0
167.5°	1365.6	1367.5	1369.6	1369.4	1367.2	1364.9	1362.5	1360.2
170°	1373.4	1375.3	1377.2	1376.9	1374.6	1372.3	1370.0	1367.7
172.5°	1378.4	1380.3	1382.1	1381.8	1379.3	1376.8	1374.3	1371.8
175°	1384.3	1386.3	1388.4	1388.0	1385.3	1382.5	1379.7	1377.0
177.5°	1386.6	1388.0	1389.6	1389.2	1387.0	1384.7	1382.5	1380.4
180°	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3

(END OF REPORT)